

# **PART III**

# **GREENHOUSE GAS EMISSIONS STATISTICS**



# 1. TRENDS IN GHG EMISSIONS

CO<sub>2</sub> emissions from fuel combustion represent the majority of anthropogenic GHG emissions. However, comprehensive analysis of emission trends considers other sources of CO<sub>2</sub> as well as other gases, knowing that data on gases and sources other than CO<sub>2</sub> from fuel combustion are much more uncertain. Country-specific estimates of CO<sub>2</sub> from biomass burning and F-gas emissions are particularly difficult to ascertain.

To complement work regarding the emissions of CO<sub>2</sub> from fuel combustion, the IEA also included EDGAR data on other CO<sub>2</sub> sources and on five other greenhouse gases; methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and the fluorinated gases (or “F-gases”) HFCs, PFCs and SF<sub>6</sub>, all gases addressed by the Kyoto Protocol.

The information in Part III (with the exception of CO<sub>2</sub> emissions from fuel combustion) has been provided by and Greet Janssens-Maenhout and Monica Crippa from the Joint Research Centre (JRC) of the European Commission and Jos G.J. Olivier from the PBL Netherlands Environmental Assessment Agency, using the EDGAR database (version 4.3.2 for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions and 4.2FT2010 for the F-gases) developed jointly by JRC and PBL.

In this edition, the global warming potentials (GWP-100) for the non-CO<sub>2</sub> gases are taken from the IPCC Fourth Assessment Report and no longer from the second. The data in this dataset may differ from previous editions also due to changes in the methodology used for the accounting of large-scale biomass burning.

Please note that the GHG emissions totals presented here will differ from those shown in countries’ official national inventory submissions to the UNFCCC, primarily due to differences in coverage for the category *Other*. Differences may also occur due to differences in allocation, methodologies and underlying data sources for activities and emission factors, as specified in Part III. Details on possible differences between IEA and UNFCCC CO<sub>2</sub> emissions from fuel combustion estimates can be found in Part I.

## Global and regional trends

Dominated by emissions related to fossil fuels, total emissions of all greenhouse gases - weighted by their GWP-100 (from the fourth Assessment Report)<sup>1</sup> - increased by about 77% at the end of the first Kyoto Protocol period in 2012 since 1970 (Figure 1). Significant increases were observed for all gases in the 1970-2012 period: CO<sub>2</sub>, excluding large-scale biomass burning (118%); CH<sub>4</sub> (33%), N<sub>2</sub>O (68%), and the F-gases (about 580%).

Global total GHG emissions increased during the period 1990-2012 by 41% when including large-scale biomass burning (and by 45% when large scale biomass burning is excluded) driven again by a 50% growth in CO<sub>2</sub> emissions from fuel combustion. Over the same period, although highly variable over time, CO<sub>2</sub> emissions from biomass burning and post-burn decay – based on satellite observations – are assumed to have decreased by about 14%. Increases in CO<sub>2</sub> emissions from industrial processes (mainly cement production) (93%), CH<sub>4</sub> and CO<sub>2</sub> emissions from fossil fuel production (44%) and from waste (30%), CH<sub>4</sub> and N<sub>2</sub>O emissions from agriculture (16%), and the F-gases (about 178%, mainly from HFC use) also contributed to the total increase. The industrial process emissions increased their share with more than

1. Global warming potential: see Box 1.

one third from 4% in 1990 to 6% in 2012 and the F-gases even doubled their share of global emissions from 1% in 1990 to 2% in 2012.

The picture varies significantly across regions and gases, even without the large scale biomass burning, which we leave out in the rest of this section. In 2012, most **methane** (CH<sub>4</sub>) emissions originated in non-Annex I regions such as China (19%), India (9%) and Brazil (5%). Emissions from Annex I countries contributed 25% of total emissions, with the largest contribution coming from USA (7%) and Russia (5%). Rest of Asia (excl. China, India, Russia) contributed 19% whereas the rest of Latin America (excl. Brazil) 7%.

CH<sub>4</sub> emissions from animals and their waste are dominant in Latin America and South Asia, while emissions from rice cultivation are common in South, East and Southeast Asia. Fugitive methane emissions are concentrated at coal production sites in East Asia (mainly China), North America, Europe and Eurasia, and at gas production and distribution systems in the Former Soviet Union countries and North America. Methane from waste stems mainly from landfills in Annex I countries and from wastewater disposal predominantly in non-Annex I countries.

Non-Annex I regions produced 68% of global **nitrous oxide** (N<sub>2</sub>O) emissions in 2012: China (19%), India (9%),

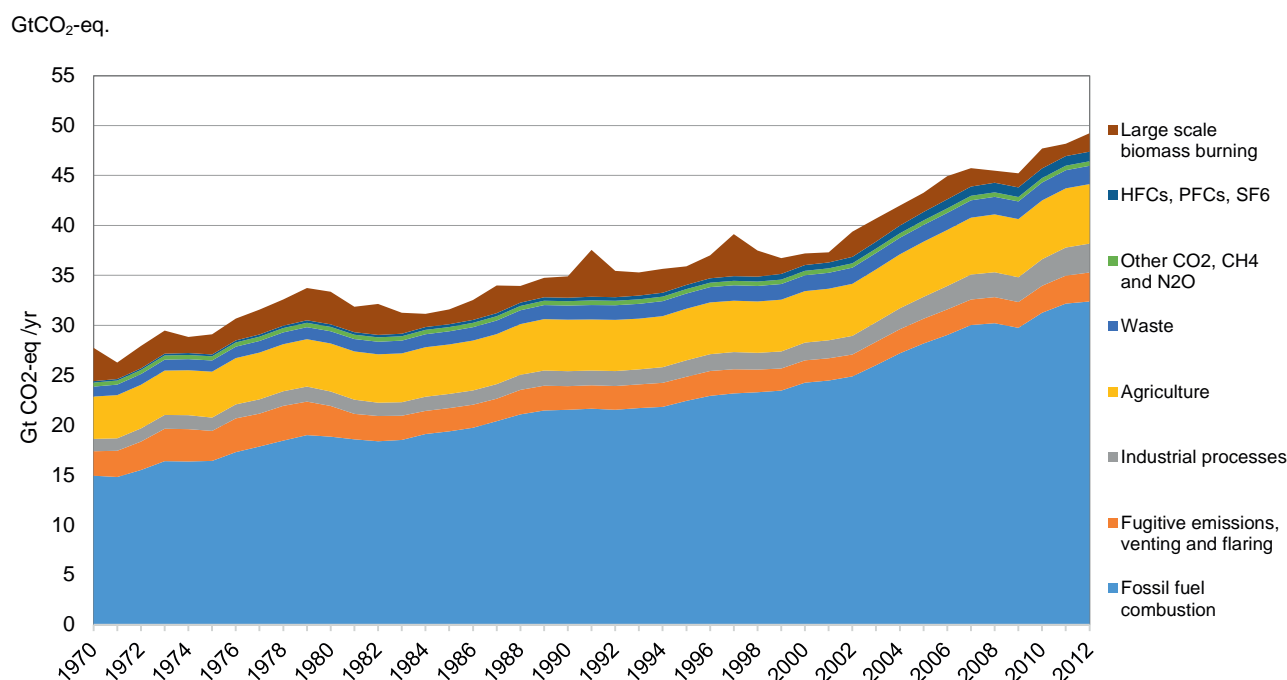
Brazil (6%) and Mexico (4%). N<sub>2</sub>O emissions from Annex I countries contributed 31% to the global total, with most emissions originating in North America (12%) and Europe (10%) and less from Russia (2%). Rest of Asia (excl. China, India, Russia) contributed 16%, Africa 10% and rest of Latin America (excl. Brazil and Mexico) 5%.

N<sub>2</sub>O emissions from animal waste are dominant in the non-Annex I regions of Latin America, Africa and South Asia; N<sub>2</sub>O from fertiliser use is largest in East Asia (mainly China) and Latin America followed by North America, Europe and South Asia (mainly India). N<sub>2</sub>O emissions from crop production are largest in North America, Latin America, South Asia and East Asia. Industrial processes also emit significant volumes of N<sub>2</sub>O.

The 2012 shares of Annex I countries in total CH<sub>4</sub> and total N<sub>2</sub>O emissions (25% and 31% respectively) are significantly lower than their share in global fossil CO<sub>2</sub> emissions (40%).

In 2012, most **fluorinated gas** (F-gas) emissions originated in Annex I countries (62%), with North America contributing 35%, OECD Europe 13%, OECD Asia 14% and Oceania 1%. Non Annex I countries contributed about 38% to global F-gas emissions.

**Figure 1. Global GHG emissions 1970-2012**

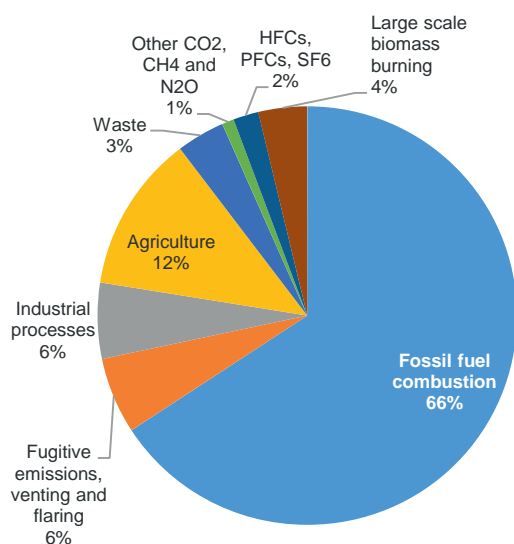


Sources: IEA/OECD CO<sub>2</sub> Emissions from Fuel Combustion 2016; JRC/PBL, EDGAR 4.3.2 for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O and 4.2 FT2010 for the F-gases, 2017

## Trends by gas

In 2012, CO<sub>2</sub> contributed 75% of global GHG emissions, CH<sub>4</sub> about 18%, N<sub>2</sub>O about 6% and the combined F-gases about 2% (Figure 2). The largest sources of GHG emissions were the fossil fuel combustion (66%, mainly CO<sub>2</sub>), and agriculture (12%, mainly CH<sub>4</sub> and N<sub>2</sub>O). Other sources of greenhouse gases were CO<sub>2</sub> from biomass burning (4%, mostly forest fires in non-Annex I countries), and CO<sub>2</sub> from industrial processes (6%, of which mostly cement production). Please note that emissions from large scale biomass burning are highly variable over the years.

**Figure 2. Global GHG emissions by gas/source in 2012**



## CO<sub>2</sub> emission trends

We discuss long cycle carbon CO<sub>2</sub>, excluding CO<sub>2</sub> from biofuels, which is accounted in the land-use sector and neutral under a sustainable biomass growth. Energy (power and manufacturing, but also energy for transport and buildings) increasingly dominates the trend in global CO<sub>2</sub> emissions, accounting for 86% of the global total in 2012, up from 76% in 1970. This share varies between 90-99% in most Annex I countries (in average 94% in 2012), whereas it varies more widely in non-Annex I countries (in average 80% in 2012 but lower than 10% in some African, Latin American and Asian countries).

Over the 1990-2012 period, total fossil fuel combustion emissions of CO<sub>2</sub> increased about 51% worldwide (by about 176% in non-Annex I countries while decreasing 6% in Annex I countries). Emissions from

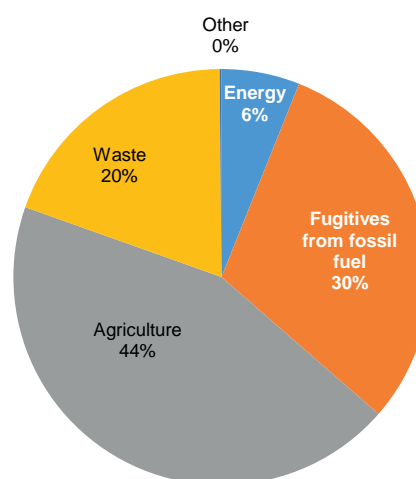
electricity and heat production and from road transport dominated global trends. Between 1990 and 2012, CO<sub>2</sub> emissions from electricity and heat production did not significantly change for Annex I countries whereas it increased by 322% for the non-Annex I countries. Over the same period, road transport emissions rose 19% in Annex I countries and 189% in non-Annex I countries. By 2012, these two sectors together accounted for 59% of global total CO<sub>2</sub> emissions from fuel combustion. For an analysis and discussion of recent trends in CO<sub>2</sub> emissions, especially those energy related, we refer to the introduction of this publication and for the trend until 2016 we refer to Janssens-Maenhout et al. (2017b).

In 2012, the highly variable emissions from large scale biomass burning accounted for about 5% of global CO<sub>2</sub> emissions. The share of large scale biomass burning in global CO<sub>2</sub> emissions was about 9% in 1990. This share has decreased due to rapidly increasing emissions from fossil fuel combustion. In 2012, CO<sub>2</sub> emissions from processes emissions (in particular cement clinker production – i.e. excluding fossil fuel use) represented almost 5% of total CO<sub>2</sub> emissions worldwide. Between 1990 and 2012, CO<sub>2</sub> from cement production increased by almost 120%.

## CH<sub>4</sub> emission trends

As seen in Figure 3, the major global sources of methane (CH<sub>4</sub>) emissions in 2010 were (a) agriculture (43%), mainly from enteric fermentation by animals and animal waste, from rice cultivation and from savannah burning; (b) energy production and transmission/distribution (38%), mainly from coal production, and gas production, transmission and distribution; and (c) waste (17%), from landfills and wastewater.

**Figure 3. Global CH<sub>4</sub> emissions in 2012**



Between 1970 and 2012, global methane emissions (excluding biomass burning) increased by 33%. In the 1970s emissions increased with an average growth rate of 1.3% per year. In the 1980s, this growth rate slowed down and even decreased to an average of -0.2% per year, determined mainly by the growth rates of emissions in Other Europe and Eurasia (from increased gas production and transmission) and in East Asia (where coal production shifted towards surface mining, which releases less methane than underground mining). In addition, enteric fermentation by ruminants and waste and wastewater disposal contributed to the increased emissions, particularly in non-Annex I regions. Emissions from rice cultivation are estimated to have decreased due to changes in types of rice grown and to other organic amendment practices.

In the 1990s, an average decrease of 0.3% per year was observed. The economic decline of Former Soviet Union countries in the early 1990s strongly influenced this global methane trend. Their emissions from coal production, from gas transmission and from animals (enteric fermentation) decreased substantially between 1990 and 1995. It should be stressed, however, that detailed statistics for this region are uncertain over this period. Despite the overall decline in the 1990s, increases were observed regionally: for gas production in the Middle East and North America, for landfills in Latin America and wastewater in South Asia, for large-scale biomass burning in developing countries and for coal production in China.

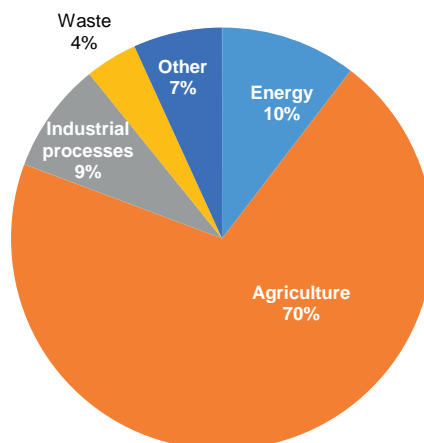
Since 2000, emissions started increasing again, with an average growth rate of 1.7% per year, yielding a faster increase than in the last four decades. This led to a global increase of about 20% over the period 2000-2012, driven by increased coal mining in China and increased cattle numbers in Brazil.

Between 1990 and 2012, country-specific trends of activity data and emission factors lead to an increase of global total methane emissions of about 17%. During this period, emissions in non-Annex I countries increased about 38%, with the largest absolute growth occurring in Asia and Africa. Emissions in Annex I countries decreased by 18%, mainly driven by the countries of the Former Soviet Union. OECD Europe decreased by about 21%, mainly as a result of the policies of the United Kingdom and Germany, with reduced coal production and increased methane recovery from coal mines (up to 50%). In North America and OECD Europe, methane from landfills also decreased by about 50% due to enhanced waste separation and methane recovery.

## N<sub>2</sub>O emission trends

For **nitrous oxide** (N<sub>2</sub>O), agriculture contributed 70% of emissions in 2012, mainly from synthetic fertilisers, animal waste dropped on soils (either as animal manure or on pasture during grazing) and agricultural waste burning (Figure 3). Much smaller sources are energy (10%, mainly from coal and fuelwood combustion and road transport) and industrial processes (9%), mostly in Annex I countries. Between 1970 and 2012, global emissions of N<sub>2</sub>O (excluding large scale biomass burning) increased by about 68%. Increased use of synthetic fertilisers and manure from livestock since the 1970s caused agricultural emissions in South Asia and East Asia to increase on average by 3-4% annually. These regional emission trends continued into the 2000s (Figure 7). Emissions from Latin America and Africa also increased in the 1990s, predominantly from the same sources and from forest fires.

Figure 4. Global N<sub>2</sub>O emissions in 2012



In contrast, N<sub>2</sub>O emissions from industrial processes decreased by 40% during the 1980s. This decrease resulted from the gradual upgrade of global production facilities for nitric acid. By 1990 about 20% of the facilities were equipped for non-selective catalytic reduction limiting NO<sub>x</sub> emissions while simultaneously reducing N<sub>2</sub>O emissions. Since 1990 further reductions occurred due to emission abatement in adipic acid production.

During the 1970s, North America and Japan introduced catalytic converters in cars with gasoline engines to reduce emissions of precursors of tropospheric ozone, but with higher N<sub>2</sub>O emissions as a side effect. Since the 1990s this technology was also introduced in Europe and Australia. Until about 2000

these catalytic converters contributed to an increase in N<sub>2</sub>O emissions in these countries, however, in the late 1990s newer types were introduced with lower specific N<sub>2</sub>O emissions.

In the period 1990-2012, global N<sub>2</sub>O emissions are estimated to have increased by only about 27%, thanks to only a 2% increase in industrial process emissions. Over this period, emissions in non-Annex I countries increased by over 63%, mainly in the agricultural sectors of South Asia, East Asia and Latin America. The increase was partially offset by decreasing emissions of the Former Soviet Union countries (-30%). In OECD Europe, N<sub>2</sub>O decreased by 31% since 1990, mainly due to emissions abatement in the chemical industry, and to decreased use of nitrogen fertilisers.

### Box 1: Global warming potential

The contribution of non-CO<sub>2</sub> gases to total emissions can be estimated by expressing the emissions of all the gases in CO<sub>2</sub>-equivalent units. For a given gas, emissions expressed in mass are multiplied by its specific weighting factor, the Global warming potential (GWP). The GWP-100 is an estimate of the relative contribution of 1 kg of that gas to global radiative forcing, as compared to 1 kg of CO<sub>2</sub>, integrated over a fixed period of 100 years.

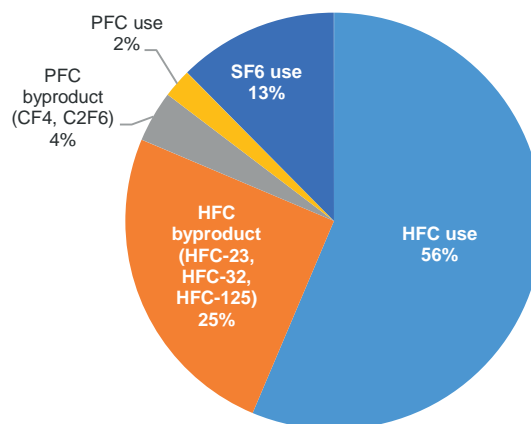
The data in this chapter use the updated GWP-100 values from IPCC's Fourth Assessment Report (IPCC, 2007), as the Parties to the Climate Convention do for their emissions inventory reporting from 2015 onwards. These GWP-100 values give a higher GWP-100 value for CH<sub>4</sub> (25), and a lower GWP-100 value for N<sub>2</sub>O (298). In addition, for the F-gases, the GWP-100 values have been adjusted to a lower value of 22800 for SF<sub>6</sub>, but higher values for HFC-134a (1430) and HFC-23 (14800).

### HFC, PFC and SF<sub>6</sub> emission trends

For the **fluorinated gases** ("F-gases") (Figure 4), emissions are split between "use" and "by-products" because of the different ways in which they are produced. HFC use represented 56% of the total in 2012, of which HFC 134a alone represented 42%. Total by-product emissions of HFC contributed 25% and of

PFCs another 4%. SF<sub>6</sub> use represented 13% and the remaining PFC use contributes only 2% to the total of F-gas emissions. Most F-gas emissions are emitted by Annex I countries.

Figure 5. Global F-gas emissions in 2012



Between 1990 and 2012, the estimated emissions of F-gases increased by about 126%, mainly due to an increase in HFC emissions: emissions of HFC in 2012 were about 525% higher than in 1990. During the same period, PFCs emissions decreased by about 65% while SF<sub>6</sub> emissions increased by about 7%. Annex I regions experienced large growth in F-gas emissions, with regional increases on the order of 126% except for North America which showed an increase of 185%. On a regional basis, total F-gas emission trends varied between 10% and 1900% for the non-Annex I regions, with the largest absolute increases coming from East Asia, driven by an almost twenty-fold increase in China, which is here included in East Asia.

Since 1995, global F-gas emissions have increased more rapidly. The increase in HFC emissions (3.5 times higher) more than offset with a 51% reduction in PFCs emissions. The small reductions in global SF<sub>6</sub> emissions observed in the period 1996-2004 were mainly due to reductions in emissions from the manufacture and use of switchgear for the electricity sector. The large reduction in PFC emissions in recent years is due to the phasing-out of old Söderberg technology for aluminium production in China. Global emissions of HFCs other than HFC-134a now exceed emissions of HFC-134a, widely used for refrigeration and air-conditioning.





## 2. SOURCES AND METHODS

The information in Part III (with the exception of CO<sub>2</sub> emissions from fossil fuel combustion) has been provided by Greet Janssens-Maenhout and Jos G.J. Olivier based on the EDGAR version v4.3.2. JRC and PBL are responsible for these datasets.

### General note on EDGAR

The *Emission Database for Global Atmospheric Research (EDGAR4)* has been developed jointly by the European Commission's Joint Research Centre (JRC) and the PBL Netherlands Environmental Assessment Agency and is hosted at [edgar.jrc.ec.europa.eu](http://edgar.jrc.ec.europa.eu). EDGAR v4.3.2 is providing global anthropogenic emissions of greenhouse gases CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub> and of precursor gases and air pollutants CO, NO<sub>x</sub>, NMVOC, SO<sub>2</sub> and the aerosols PM<sub>10</sub>, PM<sub>2.5</sub>, BC, OC, per source category, both at country level as well as on a 0.1 x 0.1° grid online to its large community of users. EDGAR data are used for policy applications and scientific studies such as atmospheric modelling and were used for the *Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2014)* (Working Group III).

Activity data were mostly taken from international statistics (checked for completeness and consistency and where required gap filled) and greenhouse gas emission factors were selected mostly from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC, 2006) to ensure a consistent approach across countries and complete and consistent time series. It is stressed that the uncertainty in the resulting dataset at national level may be substantial, especially for methane and nitrous oxide, and even more so for the F-gases (see Box 2 for more details). However, this

dataset provides a sound basis for comparability with national emissions reports and other studies since the methods used are either IPCC methodologies or comparable to them (see below), global totals are obtained in a transparent way and comply with budgets used in atmospheric studies, and the data were based on international information sources. For recent estimates of the GHG emissions, reports of Annex I countries to the *UN Convention on Climate Change (UNFCCC)* and the recent and significant impact of *Clean Development Mechanism* projects in developing countries to reduce CH<sub>4</sub>, N<sub>2</sub>O and HFC-23 emissions were taken into account. This applies to sources such as coal mines and landfills (CH<sub>4</sub> recovery), nitric acid and adipic acid production (N<sub>2</sub>O) and the production of HCFC-22 (HFC-23).

The EDGAR v4.3.2 dataset covers 1970-2012 time-series for all sector-specific and country-specific totals of greenhouse gases. Thereto new activity data statistics (with updated and revised time series) were uploaded [for energy-related emissions using IEA (2014)] and emission factors revised where appropriate. Although this dataset has been constructed with great care, JRC and PBL do not accept any liability from use of the data provided in this report including any inaccuracies or omissions in the data provided. For details on uncertainty and caveats identified in the dataset, as well as more detailed source category estimates, we refer to Janssens-Maenhout et al. (2017a) and the EDGAR v4.3.2 website at <http://edgar.jrc.ec.europa.eu/overview.php?v=432&SECURE=123>. Note that estimates for other more recent years than 2012 are also made publicly available through this website. Most recent trends for CO<sub>2</sub> emissions through 2016 are discussed in Olivier et al. (2017) and Janssens-Maenhout et al. (2017b).

## Box 2: Uncertainty in greenhouse gas emissions.

When considering comparative shares and trends in greenhouse-gas emissions, data on gases and sources other than CO<sub>2</sub> from fuel combustion are much more uncertain. Country-specific estimates of CO<sub>2</sub> from biomass burning and F-gas emissions are particularly difficult to ascertain. The uncertainty in these emissions is caused by the limited accuracy of international activity data used and in particular of emission factors selected for calculating emissions on a country level (Olivier, 2002; Olivier *et al.*, 2005). For a detailed evaluation of emission uncertainties using international statistics and IPCC and other emission factors we refer to the *2006 IPCC Guidelines* (2006), and for comparisons between countries and datasets to Olivier *et al.* (2005, 2010, 2015).

For global total anthropogenic CO<sub>2</sub> emissions the calculated uncertainty in the total ranges from about -10% to +10%, including large-scale biomass burning. For global emissions of CH<sub>4</sub>, N<sub>2</sub>O and the F-gases uncertainty estimates of 25%, 30% and 20%, respectively, were assumed based on default uncertainty estimates for the 2006 IPCC methodologies (IPCC, 2006), which correspond with emissions estimates inferred from atmospheric concentration measurements (UNEP, 2012).

When considering emission shares and trends of countries one should note that:

**CO<sub>2</sub>:** Fossil fuel combustion, which is often the largest source of CO<sub>2</sub> in a country, is estimated to have an uncertainty of about 5% (95% confidence interval) for OECD countries. However, for many non-OECD countries the uncertainty is estimated at about 10%. This is often regarded as the most accurate source of GHG emissions.

**CH<sub>4</sub>:** Uncertainties are particularly large for methane emissions from fugitive sources (coal mining and from oil and gas production and transmission) and from landfills and wastewater.

**N<sub>2</sub>O:** Uncertainties of most N<sub>2</sub>O sources are very large, e.g. the uncertainty for agricultural sources may sometimes exceed 100%.

**F-gases:** Uncertainties in annual emissions of most sources of F-gases are very large, e.g. at a country level they may well exceed 100%. Therefore, the figures provided for individual countries should be considered solely as order-of-magnitude estimates.

## Source definitions

The source definitions for *Fuel combustion* refer to the categories and codes used in the 2006 IPCC guidelines, Chapter 8 of Vol. 1: *General guidance and reporting* (IPCC, 2006). For other categories and codes the definitions refer to the Revised 1996 IPCC guidelines, Chapter 1 of Vol. 1: *Reporting instructions* (IPCC, 1996).

Note that the IPCC guidelines are sometimes ambiguous in where to report emissions from particular sources e.g. when reporting to the UNFCCC, countries may opt to report CO<sub>2</sub> emissions from integrated steel plants (including coke ovens and blast furnaces), wholly under IPCC Source/Sink Category 1A, or also under 1B1 and 2C.

### For carbon dioxide:

*Fuel combustion* refers to fossil fuel combustion only. Emissions have been estimated by the IEA using the methodology as described in the chapter *IEA estimates: Changes under the 2006 IPCC Guidelines* in Part I. (2006 IPCC Source/Sink Category 1A)

*Fugitive* refers mainly to flaring of associated gas in oil and gas production (in some cases including indirect CO<sub>2</sub> from methane venting) (IPCC Source/Sink Category 1B).

*Industrial Processes* refer to production of cement, lime, soda ash, carbides, ammonia, methanol, ethylene and other chemicals, metals and to the use of soda ash, limestone and dolomite, and non-energy use of lubricants and waxes. Emissions exclude *Fuel combustion* emissions. (IPCC Source/Sink Category 2).

*Other* refers to direct emissions from forest fires and peat fires, emissions from decay (decomposition) of aboveground biomass that remains after logging & deforestation and emissions from the decay of drained peat soils (IPCC Source/Sink Category 5). CO<sub>2</sub> from solvent use (IPCC Source/Sink Category 3), from application of urea and agricultural lime (IPCC Source/Sink Category 4) and from fossil fuel fires (coal fires & the Kuwait oil fires) (IPCC Source/Sink Category 7) is also included here.

### For methane:

*Energy* comprises production, handling, transmission and combustion of fossil fuels and biofuels (IPCC Source/Sink Categories 1A and 1B).

*Agriculture* comprises enteric fermentation, rice production, manure management, agricultural waste burning (non-energy, on-site) and savannah burning (IPCC Source/Sink Category 4).

*Waste* comprises landfills, wastewater treatment, wastewater disposal and waste incineration (non-energy) (IPCC Source/Sink Category 6).

*Other* includes industrial process emissions e.g. methanol production, and forest and peat fires and other vegetation fires (IPCC Source/Sink Categories 2 and 5).

### For nitrous oxide:

*Energy* comprises combustion of fossil fuels and bio-fuels (IPCC Source/Sink Categories 1A and 1B).

*Agriculture* comprises fertiliser use (synthetic and manure), animal waste (manure) management, agricultural waste burning (non-energy, on-site) and savannah burning (IPCC Source/Sink Category 4).

*Industrial Processes* comprise non-combustion emissions from manufacturing of adipic acid, nitric acid, caprolactam and glyoxal (IPCC Source/Sink Category 2).

*Other* includes N<sub>2</sub>O usage, forest and peat fires (including post-burn decay emissions from remaining biomass) and other vegetation fires, human sewage discharge and waste incineration (non-energy) and indirect N<sub>2</sub>O from atmospheric deposition of NO<sub>x</sub> and NH<sub>3</sub> from non-agricultural sources (IPCC Source/Sink Categories 3, 5, 6 and 7).

### For fluorinated gases:

*HFC emissions* comprise by-product emissions of HFC-23 from HCFC-22 manufacture and the use of HFCs (IPCC Source/Sink Categories 2E and 2F).

*PFC emissions* comprise by-product emissions of CF<sub>4</sub> and C<sub>2</sub>F<sub>6</sub> from primary aluminium production and the use of PFCs, in particular for the manufacture of semiconductors, flat panel displays and photovoltaic cells) (IPCC Source/Sink Categories 2C, 2E and 2F). *SF<sub>6</sub> emissions* stem from various sources of SF<sub>6</sub> use (mainly manufacturing of Gas Insulated Switchgear (GIS) used in the electricity distribution networks) (IPCC Source/Sink Categories 2C and 2F) and from SF<sub>6</sub> production (Category 2E).

## Data sources and methodology for EDGAR v4.3.2 and EDGAR v4.2FT2010

The **EDGAR v4.2FT2010** has been available online since October 2013<sup>2</sup> and **EDGAR v4.3.2** since July 2017<sup>3</sup>. For greenhouse gases, the default emission factors from the *2006 IPCC Guidelines* (IPCC, 2006) were used, except for CH<sub>4</sub> and N<sub>2</sub>O from road transport where technology-specific factors were used from the EMEP-EEA emission inventory guidebook (EEA, 2009).

The **EDGAR v4.3.2** dataset covers the entire period 1970-2012 and is largely based on IEA(2014) energy statistics and FAO(2014) agriculture statistics. The EDGAR v4.3.2 dataset was used in this publication as data input for the CO<sub>2</sub> emissions for *Fugitives* and *Industrial Processes*, the CH<sub>4</sub> emissions and the N<sub>2</sub>O emissions. The emissions of the F-gases are taken from the EDGAR v4.2FT2010 dataset. The methods, data sources and emission factors used for this new dataset are documented in Janssens-Maenhout et al. (2017a). For the documentation of the EDGAR v4.2FT2010 dataset we refer to a previous publication of this report (part III) in 2015. Large scale biomass burning estimates are taken from GFED4 (Randerson et al., 2015) and RETRO trends (Schultz et al., 2008) from 1997 backwards in time.

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3. See <http://edgar.jrc.ec.europa.eu/overview.php?v=432&SECURE=123>

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# **GHG EMISSIONS STATISTICS**

## **SUMMARY TABLES**



## 1990 Greenhouse-gas emissions

 million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>World <sup>1</sup></b>	<b>20 509.0</b>	<b>424.1</b>	<b>1 332.7</b>	<b>9 478.9</b>	<b>31 744.7</b>	<b>65.9%</b>	<b>2 646.6</b>	<b>4 086.1</b>	<b>1 332.4</b>	<b>168.9</b>	<b>8 234.0</b>	<b>32.1%</b>
<i>Annex I Parties</i>	13 722.6	163.2	773.0	1 179.2	15 838.0	87.7%	914.2	1 020.7	633.2	33.4	2 601.4	35.1%
<i>Annex II Parties</i>	9 658.1	84.9	486.2	838.9	11 068.2	88.0%	484.5	671.0	497.1	15.3	1 667.9	29.0%
<i>North America</i>	5 222.0	33.0	177.9	268.4	5 701.3	92.2%	314.3	231.7	229.8	10.0	785.7	40.0%
<i>Europe</i>	3 112.7	42.0	204.4	73.2	3 432.3	91.9%	133.8	250.9	224.2	0.8	609.7	21.9%
<i>Asia Oceania</i>	1 323.4	9.9	104.0	497.3	1 934.7	68.9%	36.4	188.5	43.0	4.6	272.5	13.4%
<i>Annex I EIT</i>	3 930.8	74.0	268.9	337.6	4 611.3	86.8%	421.8	320.1	120.1	18.0	880.0	47.9%
<i>Non-Annex I Parties</i>	6 155.8	261.0	559.7	8 299.7	15 276.2	42.0%	1 724.0	3 065.4	699.2	135.5	5 624.1	30.7%
<i>Annex B Kyoto Parties</i>	5 383.4	99.4	351.2	681.5	6 515.6	84.2%	348.4	561.0	300.4	7.9	1 217.6	28.6%
<b>Intl. aviation bunkers</b>	<b>258.9</b>	-	-	-	<b>258.9</b>	<b>100.0%</b>	<b>0.0</b>	-	-	-	<b>0.0</b>	<b>100.0%</b>
<b>Intl. marine bunkers</b>	<b>371.6</b>	-	-	-	<b>371.6</b>	<b>100.0%</b>	<b>8.4</b>	-	-	-	<b>8.4</b>	<b>100.0%</b>
<b>Non-OECD Total</b>	<b>8 858.0</b>	<b>306.0</b>	<b>738.9</b>	<b>8 453.6</b>	<b>18 356.6</b>	<b>49.9%</b>	<b>2 022.5</b>	<b>3 237.5</b>	<b>756.6</b>	<b>148.1</b>	<b>6 164.7</b>	<b>32.8%</b>
<b>OECD Total</b>	<b>11 020.3</b>	<b>118.1</b>	<b>593.8</b>	<b>1 025.3</b>	<b>12 757.6</b>	<b>87.3%</b>	<b>615.6</b>	<b>848.6</b>	<b>575.8</b>	<b>20.8</b>	<b>2 060.8</b>	<b>29.9%</b>
Canada	419.5	6.0	25.1	59.2	509.8	83.5%	58.4	22.6	25.8	4.4	111.2	52.5%
Chile	29.4	0.8	2.4	0.3	33.0	91.7%	5.6	7.0	4.7	0.0	17.3	32.4%
Mexico	256.9	2.6	25.8	168.0	453.3	57.2%	32.8	68.6	19.3	5.1	125.9	26.1%
United States	4 802.5	27.0	152.8	209.2	5 191.4	93.0%	255.9	209.1	204.0	5.6	674.6	37.9%
<b>OECD Americas</b>	<b>5 508.3</b>	<b>36.5</b>	<b>206.1</b>	<b>436.7</b>	<b>6 187.5</b>	<b>89.6%</b>	<b>352.7</b>	<b>307.3</b>	<b>253.9</b>	<b>15.1</b>	<b>928.9</b>	<b>38.0%</b>
Australia	259.7	5.9	10.5	491.7	767.8	34.6%	27.5	112.1	17.6	4.5	161.7	17.0%
Israel <sup>2</sup>	32.8	-	2.3	0.2	35.3	93.0%	0.1	0.9	2.7	0.0	3.7	3.8%
Japan	1 042.0	4.1	92.0	4.8	1 142.9	91.5%	7.9	48.2	21.6	0.1	77.9	10.1%
Korea	231.7	13.8	21.9	2.1	269.5	91.1%	9.9	18.4	10.3	0.0	38.6	25.7%
New Zealand	21.7	0.0	1.5	0.7	24.0	90.7%	1.0	28.1	3.8	0.0	33.0	3.1%
<b>OECD Asia Oceania</b>	<b>1 588.0</b>	<b>23.8</b>	<b>128.2</b>	<b>499.5</b>	<b>2 239.5</b>	<b>72.0%</b>	<b>46.5</b>	<b>207.8</b>	<b>55.9</b>	<b>4.6</b>	<b>314.8</b>	<b>14.8%</b>
Austria	56.3	0.5	4.9	1.2	62.9	90.3%	2.0	5.9	5.1	0.0	13.0	15.3%
Belgium	106.2	1.3	7.5	0.8	115.8	92.8%	4.4	7.5	5.5	0.0	17.3	25.5%
Czech Republic	150.3	3.3	7.3	2.1	163.0	94.2%	7.3	9.0	3.4	0.0	19.7	37.2%
Denmark	51.0	0.2	1.0	1.4	53.6	95.6%	0.7	6.5	2.0	-	9.2	7.3%
Estonia	36.0	0.7	1.0	0.3	37.9	96.8%	0.6	1.9	1.4	0.0	3.9	14.9%
Finland	53.8	0.1	2.2	1.3	57.4	93.8%	1.1	3.1	8.9	0.0	13.1	8.1%
France	345.5	3.0	29.5	9.7	387.7	89.9%	11.6	48.6	16.4	0.2	76.8	15.1%
Germany	940.3	20.8	44.6	14.6	1 020.2	94.2%	40.4	49.9	52.8	0.1	143.2	28.2%
Greece	69.9	0.1	7.7	2.4	80.2	87.3%	12.3	4.5	3.2	0.0	20.1	61.5%
Hungary	65.7	0.5	4.6	1.3	72.1	91.7%	2.8	6.4	3.5	0.0	12.6	21.9%
Iceland	1.9	-	0.4	0.0	2.3	80.9%	0.0	0.3	0.2	0.0	0.5	1.8%
Ireland	30.1	0.1	1.9	0.8	32.9	92.0%	1.5	12.9	1.7	-	16.1	9.5%
Italy	389.3	3.8	29.8	11.7	434.5	90.5%	6.7	25.3	22.7	0.1	54.8	12.2%
Latvia	18.8	0.0	1.0	3.2	22.9	82.0%	0.7	3.8	0.6	0.1	5.2	13.4%
Luxembourg	10.7	-	1.0	0.0	11.7	91.4%	0.1	0.4	0.1	-	0.6	11.6%
Netherlands	147.7	0.7	14.5	1.3	164.2	90.4%	6.8	13.8	15.9	0.1	36.6	18.6%
Norway	27.5	2.3	6.5	1.1	37.4	79.8%	7.2	2.6	3.3	0.0	13.1	54.8%
Poland	344.8	6.8	17.5	4.1	373.2	94.2%	60.6	27.2	14.8	0.0	102.6	59.0%
Portugal	37.9	0.2	4.8	3.8	46.7	81.6%	0.6	5.0	5.1	0.0	10.7	5.8%
Slovak Republic	54.8	0.4	5.1	0.2	60.6	91.2%	1.5	3.9	1.9	0.0	7.4	20.9%
Slovenia	13.5	0.0	1.4	2.0	16.9	80.1%	1.3	1.4	1.0	0.0	3.7	34.7%
Spain	202.6	2.3	20.5	10.9	236.2	86.7%	4.8	21.4	10.2	0.1	36.6	13.0%
Sweden	52.1	0.9	3.5	1.8	58.2	90.9%	0.9	4.1	8.7	0.0	13.6	6.3%
Switzerland	40.7	0.0	3.5	0.7	45.0	90.6%	0.6	4.4	1.5	0.0	6.4	9.0%
Turkey	127.5	4.2	17.3	2.7	151.6	86.9%	7.9	29.2	15.2	0.0	52.3	15.1%
United Kingdom	549.3	5.7	20.6	9.7	585.3	94.8%	32.2	34.7	60.9	0.1	127.9	25.2%
<b>OECD Europe</b>	<b>3 924.1</b>	<b>57.9</b>	<b>259.5</b>	<b>89.1</b>	<b>4 330.6</b>	<b>92.0%</b>	<b>216.5</b>	<b>333.5</b>	<b>266.0</b>	<b>1.0</b>	<b>817.0</b>	<b>26.5%</b>
<i>IEA/Accession/Association</i>	13 823.1	150.7	861.2	1 195.3	16 030.2	87.2%	1 035.2	1 592.5	781.9	27.5	3 437.0	30.1%
<i>European Union - 28</i>	4 028.2	52.9	262.0	92.9	4 436.0	92.0%	216.8	329.8	259.3	1.2	807.1	26.9%
<i>G20</i>	16 783.2	212.9	1 058.6	2 872.5	20 927.1	81.2%	1 456.9	2 044.1	903.7	91.5	4 496.3	32.4%
<i>Africa</i>	529.0	98.2	40.3	4 955.4	5 622.9	11.2%	481.8	638.8	101.7	17.9	1 240.1	38.8%
<i>Americas</i>	6 061.5	60.5	257.6	2 751.8	9 130.9	67.0%	495.5	903.1	353.9	85.0	1 837.5	27.0%
<i>Asia</i>	5 829.7	142.5	541.5	866.9	7 368.5	81.1%	1 069.8	1 819.0	504.7	42.6	3 419.7	31.3%
<i>Europe</i>	7 176.7	117.1	481.3	412.3	8 187.4	89.1%	562.6	584.9	350.7	18.9	1 517.0	37.1%
<i>Oceania</i>	281.5	5.9	12.0	492.5	791.8	36.3%	28.5	140.3	21.4	4.5	194.7	14.7%

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2. Please refer to the chapter *Geographical Coverage* in Part I.  
Sources: IEA, CO<sub>2</sub> emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

## 1990 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>204.6</b>	<b>206.0</b>	<b>1 855.6</b>	<b>338.0</b>	<b>2 604.2</b>	<b>7.9%</b>	<b>95.9</b>	<b>140.1</b>	<b>108.9</b>	<b>42 927.8</b>	<b>55.4%</b>	<b>0.94</b>	<b>World<sup>1</sup></b>	
126.8	176.5	607.8	128.6	1 039.7	12.2%	77.8	106.5	80.0	19 743.5	75.6%	0.65	Annex I Parties	
102.3	137.6	406.9	87.4	734.2	13.9%	71.4	81.2	73.3	13 696.3	75.4%	0.55	Annex II Parties	
71.9	34.9	166.6	44.8	318.1	22.6%	37.4	36.1	44.0	6 922.7	81.5%	0.70	North America	
23.1	92.5	162.5	29.6	307.8	7.5%	21.6	31.6	15.1	4 418.0	75.0%	0.41	Europe	
7.3	10.2	77.9	13.0	108.3	6.7%	12.4	13.5	14.2	2 355.6	58.5%	0.57	Asia Oceania	
22.9	38.7	179.2	36.7	277.5	8.3%	6.4	24.7	4.8	5 804.6	76.7%	1.23	Annex I EIT	
72.8	29.5	1 247.8	195.2	1 545.3	4.7%	18.1	33.6	28.9	22 526.1	36.5%	1.45	Non-Annex I Parties	
36.8	116.9	340.5	50.1	544.3	6.8%	22.4	42.2	15.6	8 357.7	70.2%	0.62	Annex B Kyoto Parties	
<b>2.2</b>	-	-	<b>1.7</b>	<b>3.9</b>	<b>55.7%</b>	-	-	-	<b>262.9</b>	<b>99.3%</b>	<b>..</b>	<b>Intl. aviation bunkers</b>	
<b>2.9</b>	-	-	<b>12.4</b>	<b>15.2</b>	<b>18.7%</b>	-	-	-	<b>395.3</b>	<b>96.9%</b>	<b>..</b>	<b>Intl. marine bunkers</b>	
<b>87.3</b>	<b>57.0</b>	<b>1 347.8</b>	<b>216.9</b>	<b>1 708.9</b>	<b>5.1%</b>	<b>20.0</b>	<b>54.4</b>	<b>28.4</b>	<b>26 333.0</b>	<b>42.8%</b>	<b>1.49</b>	<b>Non-OECD Total</b>	
<b>112.3</b>	<b>149.0</b>	<b>507.9</b>	<b>107.0</b>	<b>876.2</b>	<b>12.8%</b>	<b>75.9</b>	<b>85.8</b>	<b>80.5</b>	<b>15 936.6</b>	<b>74.5%</b>	<b>0.57</b>	<b>OECD Total</b>	
6.0	11.3	16.5	6.1	40.0	15.1%	0.5	10.0	3.8	675.3	72.5%	0.79	Canada	
0.3	0.0	4.0	0.5	4.8	5.7%	-	0.0	0.0	55.1	65.6%	0.51	Chile	
2.1	1.0	34.7	6.9	44.6	4.6%	2.0	0.6	0.8	627.3	46.9%	0.62	Mexico	
65.9	23.6	150.0	38.7	278.2	23.7%	36.9	26.0	40.2	6 247.3	82.5%	0.69	United States	
<b>74.3</b>	<b>35.9</b>	<b>205.2</b>	<b>52.1</b>	<b>367.6</b>	<b>20.2%</b>	<b>39.5</b>	<b>36.7</b>	<b>44.9</b>	<b>7 605.0</b>	<b>78.5%</b>	<b>0.69</b>	<b>OECD Americas</b>	
2.1	0.8	59.0	5.2	67.0	3.1%	0.8	4.5	0.4	1 002.2	29.4%	2.05	Australia	
0.1	0.2	0.7	0.7	1.8	7.4%	0.0	0.1	1.0	41.8	79.2%	0.47	Israel <sup>2</sup>	
5.0	9.4	9.4	7.5	31.3	16.0%	11.6	7.9	13.8	1 285.3	82.4%	0.36	Japan	
1.4	1.1	4.9	2.1	9.4	14.4%	2.4	1.0	3.3	324.2	79.2%	0.65	Korea	
0.2	-	9.5	0.3	10.0	2.0%	0.0	1.0	0.0	68.1	33.8%	0.89	New Zealand	
<b>8.7</b>	<b>11.5</b>	<b>83.5</b>	<b>15.8</b>	<b>119.5</b>	<b>7.3%</b>	<b>14.8</b>	<b>14.6</b>	<b>18.4</b>	<b>2 721.6</b>	<b>61.2%</b>	<b>0.57</b>	<b>OECD Asia Oceania</b>	
0.5	0.8	2.8	0.7	4.8	10.4%	0.0	1.2	0.4	82.3	72.0%	0.35	Austria	
0.6	3.7	3.1	0.9	8.2	6.8%	0.0	0.0	0.1	141.5	79.5%	0.47	Belgium	
1.2	1.2	4.6	1.1	8.1	15.0%	0.0	0.0	0.0	190.8	85.0%	0.95	Czech Republic	
0.4	1.0	5.6	0.5	7.6	5.6%	0.0	0.0	0.1	70.5	74.2%	0.41	Denmark	
0.2	-	1.1	0.2	1.5	13.6%	-	0.0	0.0	43.3	86.6%	1.96	Estonia	
1.3	1.5	3.7	0.6	7.1	18.8%	0.0	0.0	0.1	77.7	72.5%	0.55	Finland	
3.2	20.4	34.3	3.8	61.7	5.1%	5.9	2.0	3.1	537.2	67.6%	0.32	France	
6.5	21.9	32.4	6.7	67.5	9.7%	3.3	5.2	5.3	1 244.7	81.0%	0.52	Germany	
0.7	1.1	4.4	0.8	6.9	9.9%	0.6	2.0	0.1	110.0	75.5%	0.53	Greece	
0.5	3.1	5.3	0.5	9.4	5.5%	0.0	0.8	0.0	94.9	73.2%	0.55	Hungary	
0.0	0.0	0.3	0.0	0.4	3.5%	-	1.2	0.0	4.4	43.4%	0.60	Iceland	
0.2	0.9	6.4	0.3	7.8	2.9%	0.0	0.0	0.0	56.8	56.3%	0.77	Ireland	
2.2	6.9	15.3	4.1	28.4	7.6%	2.5	1.2	1.2	522.5	76.9%	0.31	Italy	
0.2	-	2.4	0.3	2.9	6.7%	0.0	0.0	-	31.1	63.4%	0.89	Latvia	
0.0	-	0.1	0.1	0.2	17.3%	0.0	0.0	-	12.6	86.2%	0.64	Luxembourg	
0.6	4.7	6.9	1.2	13.4	4.4%	3.5	3.8	0.3	221.8	70.2%	0.47	Netherlands	
0.4	2.1	1.8	0.4	4.6	8.1%	-	7.3	2.2	64.6	57.9%	0.38	Norway	
2.0	3.6	18.3	2.4	26.4	7.6%	0.0	0.5	0.1	502.7	82.4%	1.33	Poland	
0.5	0.4	2.8	0.6	4.3	10.6%	0.0	0.0	0.1	61.8	63.4%	0.31	Portugal	
0.5	1.0	2.5	0.3	4.3	10.9%	-	0.1	-	72.3	79.1%	0.94	Slovak Republic	
0.1	-	0.9	0.2	1.2	6.7%	-	0.9	0.0	22.7	65.7%	0.62	Slovenia	
1.8	2.9	15.3	2.7	22.6	7.8%	2.5	4.5	0.4	302.7	69.8%	0.33	Spain	
1.0	0.8	3.9	0.8	6.4	15.2%	0.0	0.8	0.2	79.3	69.1%	0.31	Sweden	
0.4	0.1	1.6	0.5	2.5	16.8%	0.0	0.4	0.6	54.9	76.1%	0.18	Switzerland	
1.5	0.1	21.5	4.4	27.6	5.6%	0.0	0.6	1.9	234.1	60.3%	0.39	Turkey	
2.9	23.6	22.0	4.9	53.5	5.5%	3.3	1.9	1.0	772.8	76.4%	0.51	United Kingdom	
<b>29.4</b>	<b>101.6</b>	<b>219.1</b>	<b>39.1</b>	<b>389.1</b>	<b>7.5%</b>	<b>21.6</b>	<b>34.5</b>	<b>17.2</b>	<b>5 610.0</b>	<b>75.4%</b>	<b>0.46</b>	<b>OECD Europe</b>	
138.6	165.9	784.6	142.8	1 231.9	11.3%	83.4	89.1	84.5	20 956.2	72.3%	..	IEA/Accession/Association	
28.7	106.1	218.3	36.2	389.4	7.4%	21.6	28.4	12.5	5 695.0	76.0%	0.49	European Union - 28	
157.4	188.0	1 019.6	206.3	1 571.3	10.0%	92.5	112.0	90.2	27 289.2	68.2%	0.73	G20	
11.8	3.6	372.2	26.9	414.5	2.8%	0.0	3.8	2.6	7 283.9	15.4%	3.46	Africa	
82.1	38.3	455.1	107.8	683.3	12.0%	43.4	47.1	46.8	11 788.0	56.8%	0.84	Americas	
56.8	31.4	611.7	116.3	813.9	7.0%	23.7	25.8	39.2	11 690.9	60.7%	0.88	Asia	
46.6	131.9	348.1	67.3	594.0	7.8%	28.0	57.9	19.9	10 404.2	76.0%	0.67	Europe	
2.3	0.8	68.5	5.5	77.0	2.9%	0.8	5.6	0.4	1 070.3	29.7%	1.89	Oceania	

1. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 1990 Greenhouse-gas emissions

 million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>Non-OECD Total</b>	<b>8 858.0</b>	<b>306.0</b>	<b>738.9</b>	<b>8 453.6</b>	<b>18 356.6</b>	<b>49.9%</b>	<b>2 022.5</b>	<b>3 237.5</b>	<b>756.6</b>	<b>148.1</b>	<b>6 164.7</b>	<b>32.8%</b>
Albania	5.7	0.2	0.6	0.2	6.6	88.3%	0.6	1.8	0.9	0.0	3.3	16.6%
Armenia	19.8	-	0.7	0.2	20.7	95.9%	0.6	1.4	0.3	-	2.3	25.1%
Azerbaijan	53.5	3.5	0.8	0.3	58.1	98.1%	18.6	4.8	1.4	0.0	24.8	74.9%
Belarus	99.8	0.3	4.9	36.6	141.6	70.7%	1.2	17.5	3.5	1.4	23.6	5.1%
Bosnia and Herzegovina	24.0	-	0.5	0.4	24.8	96.7%	3.0	1.5	0.3	0.0	4.8	62.3%
Bulgaria	74.6	0.2	7.1	0.6	82.4	90.7%	2.0	6.6	7.1	0.0	15.6	12.6%
Croatia	20.3	0.2	4.2	0.8	25.5	80.4%	1.3	1.9	0.9	0.0	4.1	32.6%
Cyprus <sup>2</sup>	3.9	-	0.6	0.1	4.6	85.1%	0.0	0.3	0.8	-	1.1	1.5%
FYR of Macedonia	8.6	0.0	2.6	0.1	11.3	76.2%	0.3	1.1	0.4	0.0	1.9	16.2%
Georgia	33.5	0.0	0.9	0.3	34.7	96.4%	0.7	3.0	0.6	0.0	4.2	17.1%
Gibraltar	0.1	-	0.0	-	0.1	99.6%	0.0	-	0.0	-	0.0	4.9%
Kazakhstan	237.2	3.6	11.6	8.0	260.4	92.5%	47.9	29.8	3.7	0.0	81.5	58.7%
Kosovo <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	22.8	0.0	0.7	0.3	23.7	96.1%	0.7	5.0	1.2	-	6.8	9.7%
Lithuania	32.2	0.0	2.7	3.8	38.7	83.2%	0.8	5.8	1.4	0.1	8.0	9.6%
Malta	2.3	-	0.0	0.0	2.4	98.4%	0.0	0.1	0.0	-	0.1	3.7%
Republic of Moldova	30.5	-	1.2	0.2	31.9	95.5%	0.6	3.2	0.4	-	4.2	13.7%
Montenegro <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Romania	168.3	1.1	15.7	2.9	188.1	90.1%	12.0	18.3	3.2	0.1	33.5	35.7%
Russian Federation	2 163.2	26.0	144.8	229.1	2 563.1	85.4%	282.6	152.3	66.1	15.5	516.4	54.7%
Serbia <sup>1</sup>	62.0	0.9	3.2	0.5	66.6	94.4%	2.6	6.2	4.2	0.0	13.0	20.0%
Tajikistan	11.0	0.0	1.1	0.1	12.3	89.8%	0.5	3.3	0.6	-	4.4	12.2%
Turkmenistan	44.6	0.0	0.6	0.4	45.6	97.8%	26.7	3.3	0.6	-	30.5	87.4%
Ukraine	688.4	34.5	51.8	50.5	825.1	87.6%	47.2	64.4	11.3	0.8	123.7	38.1%
Uzbekistan	114.9	0.3	7.1	1.1	123.4	93.3%	15.6	15.1	2.5	-	33.2	46.8%
<b>Non-OECD Europe and Eurasia</b>	<b>3 921.3</b>	<b>70.7</b>	<b>263.2</b>	<b>336.6</b>	<b>4 591.8</b>	<b>86.9%</b>	<b>465.3</b>	<b>346.5</b>	<b>111.5</b>	<b>17.9</b>	<b>941.2</b>	<b>49.4%</b>
Algeria	51.2	12.7	3.8	0.3	68.0	94.0%	70.1	4.4	4.9	0.0	79.4	88.3%
Angola	3.9	7.2	0.1	926.1	937.4	1.2%	33.4	73.0	1.7	1.5	109.6	30.5%
Benin	0.3	0.0	0.1	13.6	14.0	1.8%	0.8	2.2	0.8	-	3.7	20.8%
Botswana	2.8	-	0.0	49.6	52.4	5.4%	0.4	7.3	0.3	0.1	8.0	5.1%
Cameroon	2.6	1.7	0.4	285.1	289.8	1.5%	8.4	24.4	1.9	2.8	37.6	22.5%
Congo	0.6	1.7	0.0	24.5	26.8	8.8%	7.7	1.9	0.4	0.1	10.2	76.0%
Côte d'Ivoire	2.7	0.0	0.2	43.7	46.7	5.8%	1.9	5.1	1.9	0.2	9.1	20.8%
Dem. Rep. of the Congo	3.0	0.0	0.3	1 364.5	1 367.8	0.2%	3.0	102.8	5.6	6.3	117.7	2.6%
Egypt	77.8	3.0	9.3	1.7	91.9	88.0%	16.7	12.5	9.3	0.0	38.5	43.4%
Eritrea <sup>1</sup>	..	-	0.0	0.1	..	..	..	1.7	0.4	-	..	..
Ethiopia <sup>1</sup>	2.2	-	0.2	289.1	291.4	0.7%	7.3	47.7	6.3	1.7	63.0	11.6%
Gabon	0.9	5.2	0.0	8.2	14.3	42.6%	22.3	0.7	0.2	0.0	23.2	96.1%
Ghana	2.5	-	0.6	36.7	39.9	6.4%	1.8	4.5	2.3	0.1	8.6	20.8%
Kenya	5.5	-	0.8	21.5	27.8	19.8%	5.9	17.2	3.3	0.2	26.6	22.2%
Libya	25.8	8.4	2.7	0.2	37.1	92.3%	39.8	1.3	1.3	0.0	42.4	93.9%
Mauritius	1.2	-	0.0	0.0	1.2	97.8%	0.1	0.1	0.2	-	0.3	20.3%
Morocco	19.6	-	4.7	0.4	24.7	79.4%	0.4	6.4	4.5	-	11.3	3.4%
Mozambique	1.1	-	0.0	93.5	94.7	1.1%	2.0	8.8	2.1	0.0	12.8	15.2%
Namibia	..	-	0.0	10.5	10.5	..	0.0	4.0	0.2	0.0	4.3	0.9%
Niger <sup>1</sup>	..	-	0.0	1.1	1.1	..	0.7	6.3	1.1	-	8.1	8.8%
Nigeria	28.1	43.8	2.2	57.0	131.0	54.8%	202.6	26.9	13.6	0.2	243.4	83.3%
Senegal	2.1	-	0.2	3.7	6.0	35.3%	0.9	3.8	1.2	0.0	5.9	15.7%
South Africa	243.8	14.4	9.9	69.6	337.7	76.5%	28.6	27.9	10.3	0.3	67.2	42.6%
South Sudan <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Sudan <sup>1</sup>	5.3	-	0.1	464.5	469.8	1.1%	5.7	62.8	3.9	0.5	73.0	7.8%
United Rep. of Tanzania	1.7	-	0.3	81.4	83.4	2.0%	3.4	19.7	3.8	0.1	27.0	12.6%
Togo	0.6	-	0.2	12.7	13.5	4.3%	0.7	1.7	0.6	0.0	3.0	23.0%
Tunisia	12.2	0.1	2.4	0.1	14.8	83.1%	1.3	2.1	1.7	-	5.0	24.9%
Zambia	2.6	-	0.4	216.1	219.1	1.2%	2.3	19.5	1.4	0.2	23.4	9.9%
Zimbabwe	16.2	-	0.9	20.2	37.3	43.6%	2.3	9.3	1.6	0.0	13.2	17.2%
Other Africa	12.6	-	0.4	859.7	872.8	1.4%	11.2	132.7	15.0	3.7	162.6	6.9%
<b>Africa</b>	<b>529.0</b>	<b>98.2</b>	<b>40.3</b>	<b>4 955.4</b>	<b>5 622.9</b>	<b>11.2%</b>	<b>481.8</b>	<b>638.8</b>	<b>101.7</b>	<b>17.9</b>	<b>1 240.1</b>	<b>38.8%</b>

 1. Please refer to the chapter *Country notes* in Part I.

 2. Please refer to the chapter *Geographical Coverage* in Part I.



## 1990 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>87.3</b>	<b>57.0</b>	<b>1 347.8</b>	<b>216.9</b>	<b>1 708.9</b>	<b>5.1%</b>	<b>20.0</b>	<b>54.4</b>	<b>28.4</b>	<b>26 333.0</b>	<b>42.8%</b>	<b>1.49</b>	<b>Non-OECD Total</b>	
0.0	-	1.0	0.1	1.2	3.2%	-	-	-	11.2	57.7%	0.79	Albania	
0.1	-	0.5	0.1	0.8	12.6%	-	-	-	23.7	86.4%	1.83	Armenia	
0.3	-	2.0	0.3	2.6	11.6%	-	0.2	-	85.7	88.5%	1.43	Azerbaijan	
0.7	0.3	12.5	1.6	15.1	4.8%	-	0.0	-	180.4	56.6%	2.24	Belarus	
0.1	-	0.8	0.2	1.1	10.2%	-	0.7	-	31.4	86.2%	4.63	Bosnia and Herzegovina	
0.5	1.3	5.5	0.6	7.8	6.0%	-	0.0	-	105.9	72.9%	1.32	Bulgaria	
0.2	0.9	2.0	0.2	3.3	6.3%	-	1.1	-	34.0	64.9%	0.42	Croatia	
0.0	-	0.2	0.1	0.3	5.6%	-	-	-	5.9	66.1%	0.44	Cyprus <sup>2</sup>	
0.1	-	0.5	0.1	0.7	8.6%	-	-	-	13.8	64.8%	0.70	FYR of Macedonia	
0.1	0.7	1.5	0.3	2.6	4.0%	-	-	-	41.6	82.5%	1.10	Georgia	
0.0	-	-	0.0	0.0	22.0%	-	-	-	0.2	89.3%	0.28	Gibraltar	
1.4	-	16.3	1.8	19.5	7.3%	-	-	-	361.4	80.3%	1.66	Kazakhstan	
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo <sup>1</sup>	
0.1	-	2.0	0.2	2.3	4.0%	-	-	-	32.8	71.7%	2.19	Kyrgyzstan	
0.3	0.7	3.7	0.4	5.1	5.1%	0.0	0.0	-	51.8	64.2%	1.14	Lithuania	
0.0	-	0.0	0.0	0.1	12.3%	-	-	-	2.5	92.4%	0.47	Malta	
0.1	-	1.4	0.2	1.6	5.0%	-	-	-	37.8	82.5%	1.61	Republic of Moldova	
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro <sup>1</sup>	
0.8	3.9	13.0	1.2	18.9	4.2%	-	2.4	0.0	242.8	75.0%	0.98	Romania	
12.7	15.2	76.6	23.3	127.9	10.0%	6.4	18.7	4.7	3 237.1	76.8%	1.19	Russian Federation	
0.3	0.6	2.7	0.4	4.0	7.2%	0.0	0.9	-	84.6	77.8%	1.58	Serbia <sup>1</sup>	
0.0	-	1.1	0.1	1.2	2.3%	-	3.3	-	21.2	54.6%	1.13	Tajikistan	
0.1	0.1	1.7	0.2	2.0	3.1%	-	-	-	78.2	91.3%	2.60	Turkmenistan	
3.0	7.5	30.8	4.4	45.7	6.7%	0.0	0.3	-	994.8	77.7%	1.87	Ukraine	
0.2	0.2	7.3	0.6	8.3	2.1%	0.0	-	-	164.9	79.4%	2.71	Uzbekistan	
<b>21.1</b>	<b>31.5</b>	<b>183.0</b>	<b>36.3</b>	<b>272.0</b>	<b>7.8%</b>	<b>6.4</b>	<b>27.6</b>	<b>4.7</b>	<b>5 843.7</b>	<b>76.6%</b>	<b>1.34</b>	<b>Non-OECD Europe and Eurasia</b>	
0.2	0.4	2.4	0.7	3.6	4.7%	-	-	0.3	151.3	88.7%	0.58	Algeria	
0.2	-	46.7	1.2	48.1	0.4%	-	-	-	1 095.1	4.1%	20.90	Angola	
0.1	-	1.4	0.1	1.5	4.6%	-	-	-	19.2	5.7%	2.69	Benin	
0.0	-	4.1	0.1	4.2	1.0%	-	-	-	64.6	5.0%	5.90	Botswana	
0.2	-	15.2	2.0	17.4	1.1%	-	1.1	-	345.9	3.7%	10.56	Cameroon	
0.0	-	1.4	0.1	1.6	1.8%	-	-	-	38.6	26.2%	3.14	Congo	
0.1	-	3.0	0.3	3.5	3.9%	-	-	-	59.3	8.0%	1.54	Côte d'Ivoire	
0.5	-	65.3	4.5	70.3	0.7%	-	-	-	1 555.8	0.4%	35.83	Dem. Rep. of the Congo	
0.3	1.3	8.3	1.5	11.3	2.2%	-	1.5	0.7	143.9	68.0%	0.43	Egypt	
..	-	0.7	0.0	..	..	-	-	-	..	..	..	Eritrea <sup>1</sup>	
0.9	-	26.6	1.9	29.5	3.1%	-	-	-	383.9	2.7%	12.50	Ethiopia <sup>1</sup>	
0.1	-	0.5	0.0	0.6	10.8%	-	-	-	38.1	74.7%	2.09	Gabon	
0.2	-	2.7	0.3	3.2	5.9%	-	0.7	-	52.3	8.6%	1.90	Ghana	
0.3	-	9.0	0.6	9.9	3.5%	-	-	-	64.3	18.3%	1.18	Kenya	
0.1	-	0.8	0.2	1.1	9.0%	-	-	0.3	80.9	91.7%	0.72	Libya	
0.0	-	0.1	0.0	0.2	16.1%	-	-	-	1.7	74.6%	0.22	Mauritius	
0.2	-	4.3	0.6	5.0	3.3%	-	-	-	41.1	49.2%	0.43	Morocco	
0.2	-	5.5	0.3	6.0	4.0%	-	-	-	113.5	2.9%	23.10	Mozambique	
0.0	-	2.0	0.0	2.1	0.5%	-	-	-	16.8	0.3%	..	Namibia	
0.1	-	2.5	0.1	2.7	3.7%	-	-	-	11.9	6.8%	..	Niger <sup>1</sup>	
3.1	-	14.0	2.6	19.7	15.6%	-	-	0.2	394.3	70.4%	1.39	Nigeria	
0.0	-	1.7	0.1	1.9	2.6%	-	-	-	13.9	22.4%	1.01	Senegal	
1.9	0.9	15.9	2.6	21.3	8.8%	0.0	0.5	1.0	427.7	67.5%	1.20	South Africa	
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan <sup>1</sup>	
0.3	-	35.4	0.8	36.5	0.7%	-	-	-	579.3	1.9%	13.08	Sudan <sup>1</sup>	
0.4	-	10.6	0.7	11.7	3.6%	-	-	-	122.1	4.5%	3.42	United Rep. of Tanzania	
0.0	-	1.1	0.1	1.2	3.2%	-	-	-	17.6	7.4%	3.51	Togo	
0.1	0.4	1.1	0.2	1.9	6.7%	-	-	-	21.7	62.9%	0.48	Tunisia	
0.2	0.5	15.6	0.3	16.6	1.1%	-	-	-	259.1	2.0%	14.07	Zambia	
0.4	-	4.8	0.4	5.6	6.5%	-	-	-	56.1	33.7%	2.16	Zimbabwe	
1.7	-	69.4	4.4	75.5	2.2%	-	-	-	1 110.9	2.3%	8.24	Other Africa	
<b>11.8</b>	<b>3.6</b>	<b>372.2</b>	<b>26.9</b>	<b>414.5</b>	<b>2.8%</b>	<b>0.0</b>	<b>3.8</b>	<b>2.6</b>	<b>7 283.9</b>	<b>15.4%</b>	<b>3.46</b>	<b>Africa</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 1990 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	11.4	0.0	1.5	3.2	16.1	70.8%	3.7	82.6	13.1	0.1	99.5	3.7%
Brunei Darussalam	3.3	0.1	0.0	0.6	4.0	83.5%	3.7	0.0	0.1	0.0	3.8	96.9%
Cambodia	..	-	0.0	12.1	..	..	..	14.9	1.2	0.3	..	..
DPR of Korea	116.8	7.0	43.0	108.4	275.3	45.0%	68.4	438.3	111.2	5.2	623.1	11.0%
India	530.4	0.8	12.5	2.3	546.0	97.3%	1.1	4.8	5.1	0.0	11.1	10.0%
Indonesia	133.9	2.9	10.4	1.5	148.6	92.0%	14.4	6.6	5.2	0.0	26.1	55.0%
Malaysia	49.6	11.2	14.1	305.9	380.8	16.0%	81.7	98.4	30.2	19.7	230.0	35.5%
Mongolia	12.9	2.2	3.9	25.6	44.6	33.7%	17.0	7.6	3.4	1.2	29.2	58.1%
Myanmar	3.9	-	0.3	5.6	9.8	39.8%	0.6	7.7	0.4	0.3	9.0	7.1%
Nepal	0.9	0.4	0.4	56.5	58.3	2.3%	5.8	47.0	6.4	1.7	60.9	9.5%
Pakistan	56.0	-	0.1	2.1	58.1	96.3%	1.7	20.4	2.1	0.1	24.4	7.0%
Philippines	38.0	0.6	6.3	0.6	45.5	84.7%	12.4	77.2	14.2	0.0	103.8	11.9%
Singapore	29.0	0.0	3.4	8.5	40.9	70.8%	6.3	34.4	11.7	0.0	52.4	12.1%
Sri Lanka	3.7	-	2.4	0.2	6.2	58.8%	0.4	0.0	1.0	0.0	1.4	25.4%
Chinese Taipei	111.1	-	0.3	3.7	115.0	96.6%	1.1	10.4	2.2	0.0	13.8	8.1%
Thailand	80.9	0.0	10.9	36.3	128.1	63.2%	15.7	73.5	9.4	0.3	99.0	15.9%
Viet Nam	17.4	0.0	2.1	14.0	33.5	51.9%	5.7	55.8	9.7	0.2	71.5	8.0%
Other non-OECD Asia	10.3	0.0	0.3	129.7	140.4	7.4%	1.2	17.6	3.2	6.4	28.4	4.2%
<b>Asia (excl. China)</b>	<b>1 209.4</b>	<b>25.3</b>	<b>112.0</b>	<b>716.8</b>	<b>2 063.5</b>	<b>59.8%</b>	<b>240.8</b>	<b>997.3</b>	<b>230.0</b>	<b>35.8</b>	<b>1 503.9</b>	<b>16.0%</b>
People's Rep. of China	2 075.9	28.9	230.5	126.4	2 461.7	85.5%	383.8	624.7	174.4	6.5	1 189.4	32.3%
Hong Kong, China	33.3	1.0	0.9	0.1	35.4	97.0%	0.1	0.0	1.6	-	1.7	5.3%
<b>China</b>	<b>2 109.2</b>	<b>29.9</b>	<b>231.4</b>	<b>126.5</b>	<b>2 497.1</b>	<b>85.7%</b>	<b>383.9</b>	<b>624.7</b>	<b>176.1</b>	<b>6.5</b>	<b>1 191.2</b>	<b>32.2%</b>
Argentina	99.4	8.5	3.0	217.4	328.3	32.9%	34.6	103.2	9.9	6.2	153.9	22.5%
Bolivia	5.2	1.1	0.2	495.5	502.0	1.3%	6.2	34.1	1.3	12.8	54.4	11.4%
Brazil	184.3	5.9	26.2	1 194.8	1 411.1	13.5%	37.3	284.5	51.3	42.1	415.2	9.0%
Colombia	45.8	1.9	4.0	10.3	62.1	76.9%	11.3	42.9	7.2	0.1	61.6	18.4%
Costa Rica	2.6	-	0.2	3.5	6.4	40.9%	0.1	4.0	0.6	0.0	4.7	1.7%
Cuba	34.1	0.0	2.2	0.8	37.1	92.0%	0.6	9.5	4.8	-	14.9	4.3%
Curaçao <sup>2</sup>	2.7	-	-	0.0	2.7	99.8%	0.1	0.0	0.0	-	0.1	87.7%
Dominican Republic	7.4	-	0.5	0.1	8.0	92.1%	0.5	5.0	2.1	-	7.6	6.1%
Ecuador	13.3	3.4	0.7	0.2	17.6	95.0%	14.8	8.6	1.9	-	25.3	58.4%
El Salvador	2.1	-	0.3	0.5	2.8	74.0%	0.3	1.9	0.9	0.0	3.1	10.7%
Guatemala	3.2	0.0	0.5	5.1	8.7	36.7%	0.9	3.5	1.4	0.1	6.0	15.3%
Haiti	0.9	-	0.2	0.0	1.1	81.5%	0.9	2.0	1.4	-	4.3	20.9%
Honduras	2.2	-	0.1	0.0	2.4	92.6%	0.4	3.3	0.8	-	4.5	9.3%
Jamaica	7.2	-	0.3	0.0	7.5	96.3%	0.3	0.7	0.6	-	1.6	16.0%
Nicaragua	1.8	-	0.1	0.1	2.0	93.4%	0.3	4.3	0.7	-	5.3	6.3%
Panama	2.6	-	0.1	0.0	2.7	93.7%	0.1	2.7	0.4	-	3.2	4.0%
Paraguay	1.9	-	0.2	327.1	329.3	0.6%	0.9	29.9	0.8	7.5	39.1	2.3%
Peru	19.1	0.5	1.2	19.9	40.8	48.1%	3.4	10.6	4.6	0.3	18.9	18.0%
Suriname <sup>1</sup>	..	0.0	0.1	0.5	..	..	0.0	0.7	0.1	0.0	0.8	3.5%
Trinidad and Tobago	7.9	0.6	4.2	0.0	12.8	66.6%	4.7	0.1	0.5	0.0	5.3	87.8%
Uruguay	3.6	0.0	0.2	0.1	3.9	93.0%	0.1	17.8	0.9	-	18.8	0.7%
Venezuela	93.6	2.1	6.0	34.0	135.7	70.5%	24.7	24.0	5.1	0.6	54.4	45.5%
Other non-OECD Americas	12.4	0.0	0.9	5.2	18.5	66.9%	0.1	2.7	2.7	0.1	5.6	2.7%
<b>Non-OECD Americas</b>	<b>553.2</b>	<b>24.0</b>	<b>51.5</b>	<b>2 315.2</b>	<b>2 943.9</b>	<b>19.6%</b>	<b>142.8</b>	<b>595.8</b>	<b>100.1</b>	<b>69.9</b>	<b>908.6</b>	<b>15.7%</b>
Bahrain	10.7	0.0	1.3	0.0	12.0	89.3%	1.9	0.0	0.3	0.0	2.3	83.0%
Islamic Republic of Iran	171.2	23.4	9.2	1.3	205.0	94.9%	111.3	21.0	15.8	0.0	148.1	75.2%
Iraq	52.4	9.4	7.2	0.3	69.3	89.2%	45.0	3.9	5.3	0.0	54.3	82.9%
Jordan	9.3	-	0.9	0.0	10.2	91.1%	0.1	0.4	1.1	-	1.5	5.6%
Kuwait	27.8	2.8	1.8	0.1	32.6	94.1%	15.1	0.1	1.1	0.0	16.3	92.8%
Lebanon	5.5	-	0.5	0.0	6.0	92.3%	0.1	0.2	1.0	-	1.2	5.9%
Oman	10.2	5.3	0.0	0.0	15.6	99.5%	24.6	0.4	0.5	-	25.4	96.6%
Qatar	12.4	2.6	2.0	0.0	17.1	87.9%	13.9	0.1	0.4	0.0	14.4	96.9%
Saudi Arabia	151.1	8.1	12.9	0.8	172.8	92.1%	57.3	2.2	6.4	0.1	66.0	86.8%
Syrian Arab Republic	27.2	3.7	1.7	0.4	33.0	93.8%	16.8	3.0	2.8	-	22.7	74.2%
United Arab Emirates	51.9	2.5	2.4	0.1	56.9	95.7%	21.1	0.3	0.7	-	22.1	95.2%
Yemen	6.3	0.0	0.5	0.0	6.9	91.8%	0.8	2.7	1.9	-	5.3	14.5%
<b>Middle East</b>	<b>535.9</b>	<b>57.9</b>	<b>40.4</b>	<b>3.0</b>	<b>637.3</b>	<b>93.2%</b>	<b>308.0</b>	<b>34.3</b>	<b>37.2</b>	<b>0.1</b>	<b>379.6</b>	<b>81.1%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 1990 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
0.5	-	12.1	1.2	13.8	3.4%	-	-	-	129.5	12.1%	0.97	Bangladesh	
0.0	-	0.1	0.0	0.1	4.8%	-	-	-	7.9	88.8%	0.41	Brunei Darussalam	
..	-	2.1	0.3	..	..	-	-	-	..	..	..	Cambodia	
9.9	1.1	119.9	19.2	150.1	6.6%	2.2	2.4	5.5	1 058.6	19.1%	6.61	DPR of Korea	
0.4	0.4	2.5	0.8	4.0	9.1%	0.0	0.2	1.9	563.2	94.6%	0.37	India	
0.6	-	5.5	0.9	6.9	8.0%	0.0	-	-	181.6	83.5%	0.22	Indonesia	
2.9	0.1	53.8	16.4	73.2	3.9%	-	0.8	1.0	685.8	21.2%	3.68	Malaysia	
0.2	-	7.2	1.4	8.9	2.8%	0.0	0.0	0.6	83.2	38.7%	7.59	Mongolia	
0.1	-	3.2	0.3	3.6	2.7%	-	-	-	22.5	20.7%	0.55	Myanmar	
0.4	-	8.5	1.6	10.5	4.1%	-	-	-	129.7	5.8%	5.89	Nepal	
0.3	-	2.7	0.4	3.4	8.4%	-	-	-	85.9	67.4%	0.27	Pakistan	
1.3	0.6	13.4	2.1	17.3	7.4%	-	-	1.0	167.6	31.2%	0.69	Philippines	
0.6	-	7.0	1.3	8.9	7.0%	-	-	0.2	102.4	35.1%	1.00	Singapore	
0.1	-	0.0	0.7	0.8	8.3%	0.0	0.2	0.3	9.0	45.5%	0.15	Sri Lanka	
0.2	-	1.4	0.3	1.9	11.6%	-	-	-	130.7	86.0%	0.43	Chinese Taipei	
1.4	-	13.6	1.6	16.6	8.5%	-	-	1.4	245.0	40.0%	0.66	Thailand	
0.7	-	9.1	1.1	10.9	6.4%	-	-	-	115.9	20.5%	1.19	Viet Nam	
0.2	-	6.6	4.6	11.5	1.4%	-	-	-	180.3	6.5%	2.77	Other non-OECD Asia	
<b>19.7</b>	<b>2.3</b>	<b>268.7</b>	<b>54.3</b>	<b>344.9</b>	<b>5.7%</b>	<b>2.2</b>	<b>3.5</b>	<b>11.8</b>	<b>3 929.8</b>	<b>38.0%</b>	<b>0.88</b>	<b>Asia (excl. China)</b>	
23.6	16.8	248.1	32.0	320.5	7.4%	7.6	5.4	1.6	3 986.3	63.0%	2.37	People's Rep. of China	
0.1	-	0.0	0.3	0.4	34.5%	-	-	0.4	37.9	91.2%	0.25	Hong Kong, China	
<b>23.7</b>	<b>16.8</b>	<b>248.2</b>	<b>32.3</b>	<b>320.9</b>	<b>7.4%</b>	<b>7.6</b>	<b>5.4</b>	<b>2.0</b>	<b>4 024.2</b>	<b>63.3%</b>	<b>2.20</b>	<b>China</b>	
0.9	0.1	37.5	5.2	43.7	2.0%	0.3	2.3	0.1	528.5	27.1%	1.75	Argentina	
0.1	-	19.3	8.4	27.7	0.3%	-	-	-	584.2	2.2%	23.46	Bolivia	
4.1	1.1	116.0	31.8	153.1	2.7%	2.4	5.8	1.4	1 989.0	11.6%	1.31	Brazil	
0.6	0.2	15.4	0.9	17.1	3.4%	-	0.0	0.0	140.8	42.3%	0.56	Colombia	
0.0	0.1	1.6	0.1	1.8	1.7%	-	-	-	12.9	21.0%	0.56	Costa Rica	
0.5	0.7	6.7	0.5	8.4	6.1%	-	-	-	60.3	58.4%	0.43	Cuba	
0.0	-	0.0	0.0	0.0	24.2%	-	-	-	2.8	98.5%	1.81	Curaçao <sup>2</sup>	
0.1	-	1.6	0.2	1.9	3.8%	-	-	-	17.5	45.4%	0.47	Dominican Republic	
0.1	-	2.6	0.3	3.0	4.4%	-	-	-	45.9	68.9%	0.61	Ecuador	
0.1	-	1.1	0.1	1.2	5.6%	-	-	-	7.2	34.8%	0.31	El Salvador	
0.2	-	1.9	0.3	2.3	7.4%	0.0	-	-	17.1	25.2%	0.37	Guatemala	
0.1	-	0.7	0.1	0.9	6.2%	-	-	-	6.3	29.8%	0.45	Haiti	
0.1	-	1.7	0.1	1.9	4.4%	-	-	-	8.7	30.8%	0.56	Honduras	
0.1	-	0.3	0.1	0.5	12.2%	-	-	-	9.6	78.9%	0.55	Jamaica	
0.1	-	2.5	0.1	2.7	2.4%	-	-	-	10.0	22.4%	0.81	Nicaragua	
0.0	-	0.9	0.1	1.0	3.4%	-	-	-	6.9	39.3%	0.37	Panama	
0.1	-	15.7	5.0	20.8	0.6%	-	-	-	389.2	0.8%	15.62	Paraguay	
0.2	0.2	4.5	0.7	5.6	4.0%	-	-	-	65.2	35.6%	0.58	Peru	
0.0	-	0.1	0.1	0.2	12.0%	-	-	-	..	..	..	Suriname <sup>1</sup>	
0.0	-	5.6	0.1	5.8	0.7%	-	-	-	23.9	55.4%	1.70	Trinidad and Tobago	
0.3	0.0	9.1	1.2	10.7	3.1%	1.3	2.3	0.3	37.3	11.0%	1.24	Uruguay	
0.1	-	2.4	0.2	2.7	2.8%	-	0.0	0.0	192.8	62.5%	0.69	Venezuela	
0.1	-	2.4	0.2	2.7	2.8%	-	0.0	0.0	26.8	47.0%	0.89	Other non-OECD Americas	
<b>7.8</b>	<b>2.3</b>	<b>249.9</b>	<b>55.7</b>	<b>315.7</b>	<b>2.5%</b>	<b>4.0</b>	<b>10.4</b>	<b>1.9</b>	<b>4 184.5</b>	<b>17.4%</b>	<b>1.39</b>	<b>Non-OECD Americas</b>	
0.0	-	0.0	0.1	0.1	14.3%	-	3.0	-	17.4	72.6%	1.01	Bahrain	
1.9	0.3	14.0	4.4	20.6	9.0%	-	0.2	2.3	376.2	81.8%	0.67	Islamic Republic of Iran	
0.2	-	2.9	1.4	4.6	4.9%	-	-	0.2	128.4	83.4%	0.65	Iraq	
0.0	-	0.3	0.3	0.6	5.0%	-	-	-	12.3	76.4%	0.56	Jordan	
0.1	-	0.1	0.3	0.4	17.5%	0.0	-	0.3	49.5	92.6%	0.64	Kuwait	
0.0	-	0.2	0.2	0.5	5.9%	-	-	-	7.7	73.1%	0.37	Lebanon	
0.0	-	0.2	0.2	0.4	10.6%	-	-	-	41.4	96.8%	0.67	Oman	
0.0	-	0.0	0.1	0.2	17.7%	-	-	-	31.6	91.6%	0.95	Qatar	
0.5	-	3.1	2.4	6.0	9.0%	0.0	-	2.3	247.2	87.8%	0.44	Saudi Arabia	
0.2	0.2	3.1	0.9	4.4	4.3%	-	-	-	60.0	79.9%	1.12	Syrian Arab Republic	
0.1	-	0.2	0.5	0.8	14.2%	-	0.4	0.4	80.7	93.7%	0.40	United Arab Emirates	
0.0	-	1.7	0.7	2.5	1.2%	-	-	-	14.7	48.5%	0.38	Yemen	
<b>3.2</b>	<b>0.5</b>	<b>25.9</b>	<b>11.4</b>	<b>40.9</b>	<b>7.7%</b>	<b>0.0</b>	<b>3.7</b>	<b>5.5</b>	<b>1 067.0</b>	<b>84.8%</b>	<b>0.58</b>	<b>Middle East</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2000 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>World <sup>1</sup></b>	<b>23 144.3</b>	<b>454.2</b>	<b>1 623.1</b>	<b>5 942.2</b>	<b>31 163.8</b>	<b>75.7%</b>	<b>2 401.7</b>	<b>3 770.9</b>	<b>1 484.4</b>	<b>95.6</b>	<b>7 752.6</b>	<b>31.0%</b>
<i>Annex I Parties</i>	13 548.3	132.4	712.2	988.0	15 380.9	88.9%	768.1	835.0	597.6	31.3	2 232.0	34.4%
<i>Annex II Parties</i>	10 825.1	58.1	519.3	690.6	12 093.1	90.0%	460.0	655.6	436.2	10.8	1 562.6	29.4%
<i>North America</i>	6 158.8	29.6	210.5	209.4	6 608.2	93.6%	308.6	250.9	192.1	6.9	758.6	40.7%
<i>Europe</i>	3 161.3	22.4	205.5	66.3	3 455.6	92.1%	113.2	230.9	210.2	0.7	555.0	20.4%
<i>Asia Oceania</i>	1 504.9	6.1	103.3	415.0	2 029.3	74.5%	38.1	173.7	33.9	3.2	248.9	15.3%
<i>Annex I EIT</i>	2 513.3	71.8	169.9	295.1	3 050.1	84.8%	300.2	152.3	117.4	20.4	590.3	50.9%
<i>Non-Annex I Parties</i>	8 741.9	321.8	910.9	4 954.2	14 928.7	60.7%	1 622.6	2 935.8	886.8	64.3	5 509.6	29.5%
<i>Annex B Kyoto Parties</i>	4 655.6	78.3	305.5	494.6	5 534.0	85.5%	260.0	432.8	285.9	3.8	982.5	26.5%
<b>Intl. aviation bunkers</b>	<b>355.8</b>	-	-	-	<b>355.8</b>	<b>100.0%</b>	<b>0.1</b>	-	-	-	<b>0.1</b>	<b>100.0%</b>
<b>Intl. marine bunkers</b>	<b>498.4</b>	-	-	-	<b>498.4</b>	<b>100.0%</b>	<b>10.9</b>	-	-	-	<b>10.9</b>	<b>100.0%</b>
<b>Non-OECD Total</b>	<b>9 832.3</b>	<b>371.9</b>	<b>974.6</b>	<b>5 166.9</b>	<b>16 345.7</b>	<b>62.4%</b>	<b>1 827.4</b>	<b>2 968.4</b>	<b>926.8</b>	<b>82.7</b>	<b>5 805.3</b>	<b>31.5%</b>
<b>OECD Total</b>	<b>12 457.9</b>	<b>82.3</b>	<b>648.5</b>	<b>775.3</b>	<b>13 963.9</b>	<b>89.8%</b>	<b>563.3</b>	<b>802.4</b>	<b>557.6</b>	<b>12.9</b>	<b>1 936.3</b>	<b>29.1%</b>
Canada	516.2	6.2	30.1	40.9	593.3	88.0%	68.6	27.8	28.4	2.9	127.7	53.7%
Chile	48.6	0.9	3.9	0.4	53.9	91.9%	4.4	8.1	8.2	0.1	20.7	21.0%
Mexico	359.6	6.6	25.0	72.0	463.2	79.1%	37.0	63.9	23.0	1.8	125.6	29.4%
United States	5 642.6	23.4	180.4	168.5	6 014.9	94.2%	240.0	223.1	163.7	4.0	630.9	38.0%
<b>OECD Americas</b>	<b>6 567.0</b>	<b>37.1</b>	<b>239.4</b>	<b>281.8</b>	<b>7 125.3</b>	<b>92.7%</b>	<b>350.0</b>	<b>322.9</b>	<b>223.3</b>	<b>8.8</b>	<b>905.0</b>	<b>38.7%</b>
Australia	334.7	3.5	12.9	409.2	760.3	44.5%	30.9	107.8	15.3	2.9	156.9	19.7%
Israel <sup>2</sup>	54.8	-	4.2	0.3	59.4	92.3%	0.2	1.0	3.8	0.0	5.0	3.4%
Japan	1 141.2	2.5	87.2	4.3	1 235.3	92.6%	6.0	37.9	14.1	0.1	58.1	10.3%
Korea	431.7	4.5	41.6	3.1	480.9	90.7%	5.6	15.7	15.8	0.1	37.3	15.0%
New Zealand	29.0	0.1	3.2	1.4	33.7	86.2%	1.2	28.0	4.5	0.1	33.9	3.7%
<b>OECD Asia Oceania</b>	<b>1 991.5</b>	<b>10.6</b>	<b>149.2</b>	<b>418.4</b>	<b>2 569.6</b>	<b>77.9%</b>	<b>43.9</b>	<b>190.5</b>	<b>53.5</b>	<b>3.3</b>	<b>291.2</b>	<b>15.1%</b>
Austria	61.9	0.4	4.6	1.2	68.1	91.4%	2.1	5.3	3.9	0.0	11.3	18.4%
Belgium	113.7	0.0	10.1	1.0	124.8	91.1%	4.6	7.8	4.9	0.0	17.3	26.4%
Czech Republic	121.3	2.3	5.9	1.4	131.0	94.4%	4.4	5.1	4.2	0.0	13.7	32.1%
Denmark	50.8	0.5	1.7	1.2	54.1	94.7%	1.2	6.4	1.7	-	9.3	13.0%
Estonia	14.5	0.5	0.8	0.2	16.0	94.1%	0.3	0.7	1.6	0.0	2.7	12.3%
Finland	54.6	0.4	2.4	0.8	58.1	94.6%	1.2	2.5	9.5	0.0	13.2	9.3%
France	364.5	1.4	27.6	8.5	402.1	91.0%	7.9	45.6	18.9	0.1	72.6	10.9%
Germany	812.4	6.4	40.1	13.4	872.3	93.9%	24.4	37.8	36.1	0.1	98.4	24.8%
Greece	88.0	0.1	7.9	2.2	98.2	89.7%	14.7	4.5	4.2	0.0	23.3	62.8%
Hungary	53.3	0.5	3.9	0.8	58.4	92.0%	2.3	3.5	3.9	0.0	9.7	23.4%
Iceland	2.2	-	0.7	0.0	2.9	75.4%	0.0	0.3	0.2	0.0	0.5	1.3%
Ireland	40.8	0.1	2.6	0.7	44.2	92.5%	2.0	14.1	1.8	0.0	17.9	11.0%
Italy	420.3	4.0	28.6	7.9	460.8	92.1%	7.0	22.0	25.5	0.1	54.4	12.8%
Latvia	6.8	0.0	0.4	0.4	7.6	89.7%	0.5	1.0	0.6	0.0	2.1	24.3%
Luxembourg	8.1	-	0.7	0.1	8.8	91.5%	0.1	0.4	0.1	-	0.6	11.4%
Netherlands	161.5	0.6	14.2	1.1	177.4	91.4%	6.2	12.1	11.1	0.1	29.6	20.9%
Norway	31.9	1.9	8.1	0.9	42.9	78.8%	14.1	2.6	3.0	0.1	19.8	71.3%
Poland	289.7	5.3	16.0	3.1	314.0	93.9%	38.5	17.5	13.8	0.0	69.9	55.1%
Portugal	57.8	0.2	5.7	3.7	67.5	86.0%	0.7	5.0	7.2	0.0	12.9	5.3%
Slovak Republic	36.9	1.0	4.2	0.1	42.2	89.7%	1.2	2.1	2.6	0.0	5.9	19.6%
Slovenia	14.1	0.0	1.0	0.7	15.7	89.4%	1.2	1.3	1.0	0.0	3.6	34.3%
Spain	278.5	2.3	24.8	14.4	320.1	87.8%	3.7	24.3	13.7	0.1	41.9	8.9%
Sweden	52.0	1.4	3.8	1.4	58.5	91.2%	0.9	3.9	8.9	0.0	13.7	6.7%
Switzerland	42.0	0.0	2.4	0.5	44.9	93.5%	0.5	3.8	1.1	0.0	5.4	8.8%
Turkey	201.5	2.5	22.3	2.2	228.5	89.3%	7.8	26.8	42.9	0.0	77.5	10.1%
United Kingdom	520.4	2.9	19.5	7.2	550.0	95.1%	22.0	32.5	58.3	0.1	112.9	19.5%
<b>OECD Europe</b>	<b>3 899.4</b>	<b>34.6</b>	<b>260.0</b>	<b>75.1</b>	<b>4 269.0</b>	<b>92.2%</b>	<b>169.5</b>	<b>289.0</b>	<b>280.8</b>	<b>0.7</b>	<b>740.1</b>	<b>22.9%</b>
<i>IEA/Accession/Association</i>	16 836.4	129.3	1 146.7	921.3	19 033.7	89.1%	974.0	1 496.6	804.8	18.3	3 293.7	29.6%
<i>European Union - 28</i>	3 785.8	32.1	243.9	75.2	4 137.0	92.3%	156.8	272.3	247.5	0.7	677.3	23.2%
<i>G20</i>	19 107.1	187.7	1 283.2	1 661.6	22 239.6	86.8%	1 296.7	1 845.6	934.4	57.0	4 133.7	31.4%
<i>Africa</i>	658.1	129.0	56.4	3 559.9	4 403.4	17.9%	429.9	589.7	135.0	14.3	1 168.9	36.8%
<i>Americas</i>	7 347.8	60.5	310.8	1 053.0	8 772.1	84.5%	487.2	895.3	346.9	35.8	1 765.2	27.6%
<i>Asia</i>	8 163.4	166.4	861.4	552.1	9 743.3	85.5%	1 024.4	1 756.5	648.3	21.3	3 450.4	29.7%
<i>Europe</i>	5 757.1	94.8	378.4	366.6	6 591.8	88.8%	417.0	393.5	334.4	21.2	1 166.2	35.8%
<i>Oceania</i>	363.7	3.6	16.1	410.6	794.0	46.3%	32.2	135.9	19.8	3.1	190.9	16.9%

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2. Please refer to the chapter *Geographical Coverage* in Part I.  
Sources: IEA, CO<sub>2</sub> emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

## 2000 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>237.8</b>	<b>194.5</b>	<b>1 821.0</b>	<b>323.1</b>	<b>2 576.5</b>	<b>9.2%</b>	<b>341.3</b>	<b>125.6</b>	<b>111.7</b>	<b>42 071.5</b>	<b>62.4%</b>	<b>0.69</b>	<b>World<sup>1</sup></b>	
138.8	99.6	530.6	119.9	888.9	15.6%	259.9	93.2	80.7	18 935.5	77.0%	0.52	Annex I Parties	
122.0	68.0	416.9	83.9	690.8	17.7%	236.0	60.9	70.8	14 714.1	77.9%	0.46	Annex II Parties	
86.7	21.6	187.4	45.2	340.9	25.4%	137.3	28.2	48.5	7 921.8	83.1%	0.57	North America	
24.1	41.6	151.7	26.9	244.4	9.9%	60.5	17.9	14.9	4 348.3	76.4%	0.32	Europe	
11.2	4.7	77.8	11.8	105.5	10.6%	38.2	14.8	7.3	2 444.0	63.8%	0.51	Asia Oceania	
14.7	29.1	92.6	30.6	167.0	8.8%	22.6	31.7	9.0	3 870.7	74.9%	1.06	Annex I EIT	
92.2	94.9	1 290.4	184.4	1 661.9	5.5%	81.5	32.4	31.0	22 245.2	48.5%	0.91	Non-Annex I Parties	
36.5	61.6	277.9	40.2	416.2	8.8%	66.4	22.0	15.7	7 036.9	71.5%	0.44	Annex B Kyoto Parties	
<b>3.0</b>	-	-	<b>2.2</b>	<b>5.2</b>	<b>57.3%</b>	-	-	-	<b>361.1</b>	<b>99.4%</b>	..	<b>Intl. aviation bunkers</b>	
<b>3.8</b>	-	-	<b>16.6</b>	<b>20.5</b>	<b>18.7%</b>	-	-	-	<b>529.8</b>	<b>96.9%</b>	..	<b>Intl. marine bunkers</b>	
<b>94.8</b>	<b>67.4</b>	<b>1 313.8</b>	<b>200.4</b>	<b>1 676.4</b>	<b>5.7%</b>	<b>86.5</b>	<b>59.0</b>	<b>34.2</b>	<b>24 007.1</b>	<b>50.5%</b>	<b>0.99</b>	<b>Non-OECD Total</b>	
<b>136.2</b>	<b>127.1</b>	<b>507.2</b>	<b>103.9</b>	<b>874.4</b>	<b>15.6%</b>	<b>254.8</b>	<b>66.6</b>	<b>77.5</b>	<b>17 173.6</b>	<b>77.1%</b>	<b>0.47</b>	<b>OECD Total</b>	
7.2	1.3	21.9	5.8	36.3	20.0%	7.0	8.3	4.7	777.4	77.0%	0.69	Canada	
0.4	0.7	5.0	0.7	6.8	6.0%	-	0.0	0.0	81.5	66.7%	0.39	Chile	
2.7	41.0	32.2	5.7	81.5	3.3%	4.2	0.9	0.8	676.1	60.0%	0.47	Mexico	
79.4	20.3	165.5	39.4	304.6	26.1%	130.2	19.9	43.8	7 144.4	83.8%	0.56	United States	
<b>89.8</b>	<b>63.3</b>	<b>224.6</b>	<b>51.6</b>	<b>429.2</b>	<b>20.9%</b>	<b>141.4</b>	<b>29.0</b>	<b>49.3</b>	<b>8 679.3</b>	<b>81.2%</b>	<b>0.56</b>	<b>OECD Americas</b>	
3.1	1.7	59.0	4.1	67.9	4.6%	2.9	1.4	0.4	989.8	37.6%	1.43	Australia	
0.3	0.2	0.8	1.0	2.2	11.3%	0.8	0.1	1.0	68.5	80.7%	0.43	Israel <sup>2</sup>	
7.7	3.1	8.4	7.3	26.5	29.2%	35.0	12.9	6.8	1 374.6	84.2%	0.34	Japan	
3.0	6.5	4.7	3.4	17.6	17.0%	10.6	2.7	3.9	553.0	80.4%	0.57	Korea	
0.4	-	10.4	0.3	11.1	3.2%	0.4	0.4	0.1	79.6	38.5%	0.77	New Zealand	
<b>14.4</b>	<b>11.5</b>	<b>83.3</b>	<b>16.1</b>	<b>125.3</b>	<b>11.5%</b>	<b>49.6</b>	<b>17.6</b>	<b>12.2</b>	<b>3 065.5</b>	<b>67.2%</b>	<b>0.52</b>	<b>OECD Asia Oceania</b>	
0.5	0.8	2.5	0.7	4.5	12.2%	1.2	0.2	0.3	85.5	75.9%	0.28	Austria	
0.7	4.6	3.0	0.8	9.1	7.5%	1.1	0.0	0.1	152.5	78.0%	0.41	Belgium	
1.5	1.2	3.1	0.9	6.6	22.6%	0.5	0.0	0.0	151.8	85.4%	0.72	Czech Republic	
0.5	1.0	4.7	0.5	6.7	7.3%	0.7	0.0	0.1	70.9	74.6%	0.32	Denmark	
0.1	-	0.5	0.1	0.7	14.9%	0.0	0.0	0.0	19.4	79.7%	0.93	Estonia	
1.5	1.2	3.1	0.6	6.3	23.1%	0.4	0.1	0.1	78.2	73.7%	0.44	Finland	
3.4	6.4	32.4	3.3	45.5	7.5%	11.0	1.6	2.3	535.1	70.5%	0.26	France	
5.2	4.4	29.4	5.3	44.3	11.8%	13.2	2.3	5.3	1 035.9	81.9%	0.35	Germany	
0.8	0.7	3.6	0.9	6.0	12.8%	2.9	0.4	0.1	131.0	79.0%	0.50	Greece	
0.3	1.7	3.9	0.5	6.4	5.2%	0.5	0.4	0.0	75.4	74.7%	0.43	Hungary	
0.0	-	0.3	0.0	0.4	4.8%	0.0	0.1	0.0	3.9	56.2%	0.41	Iceland	
0.3	0.7	6.7	0.3	8.0	3.8%	0.5	0.5	0.1	71.2	60.6%	0.48	Ireland	
2.6	7.8	13.7	4.1	28.3	9.3%	8.3	0.8	1.2	553.8	78.3%	0.27	Italy	
0.1	-	0.9	0.1	1.1	10.6%	0.2	0.0	-	11.1	67.5%	0.43	Latvia	
0.1	-	0.1	0.1	0.3	28.4%	0.1	0.0	-	9.7	84.4%	0.29	Luxembourg	
0.8	4.9	6.0	1.2	12.9	6.0%	7.6	1.3	0.3	229.0	73.8%	0.35	Netherlands	
0.3	1.7	1.8	0.4	4.2	7.2%	0.2	5.4	0.9	73.4	65.6%	0.30	Norway	
3.4	4.2	16.4	2.0	26.0	13.0%	0.8	0.6	0.2	411.4	81.9%	0.75	Poland	
0.7	0.3	2.7	0.7	4.4	15.3%	0.4	0.0	0.1	85.4	69.6%	0.32	Portugal	
0.3	1.0	1.2	0.3	2.8	11.3%	0.1	0.1	-	51.1	76.9%	0.61	Slovak Republic	
0.1	-	0.8	0.2	1.1	12.1%	0.2	0.2	0.0	20.8	74.3%	0.47	Slovenia	
2.4	2.4	17.2	3.2	25.2	9.6%	3.9	2.8	2.3	396.1	72.4%	0.33	Spain	
1.1	0.7	3.6	0.7	6.1	17.7%	0.6	0.8	0.2	80.1	69.2%	0.25	Sweden	
0.5	0.0	1.4	0.4	2.3	19.5%	1.0	0.1	0.3	54.0	79.5%	0.16	Switzerland	
2.0	2.5	20.9	5.4	30.7	6.4%	1.1	0.6	0.9	339.4	63.0%	0.40	Turkey	
2.9	3.8	19.5	3.9	30.0	9.5%	7.4	1.3	1.1	702.7	78.0%	0.37	United Kingdom	
<b>32.0</b>	<b>52.3</b>	<b>199.4</b>	<b>36.2</b>	<b>319.9</b>	<b>10.0%</b>	<b>63.8</b>	<b>19.9</b>	<b>16.1</b>	<b>5 428.7</b>	<b>76.2%</b>	<b>0.35</b>	<b>OECD Europe</b>	
167.6	154.0	833.5	152.0	1 307.2	12.8%	303.8	80.7	89.0	24 108.2	75.1%	..	IEA/Accession/Association	
30.4	53.7	186.5	32.0	302.6	10.0%	62.2	14.5	13.9	5 207.4	76.9%	0.36	European Union - 28	
180.6	170.8	1 008.9	196.5	1 556.8	11.6%	323.6	110.4	99.0	28 463.1	73.0%	0.57	G20	
15.6	6.0	336.3	29.5	387.4	4.0%	0.6	2.9	2.7	5 965.8	20.7%	2.21	Africa	
99.3	66.0	460.7	82.4	708.5	14.0%	142.7	34.6	50.5	11 473.6	69.7%	0.59	Americas	
73.2	49.6	705.6	129.7	958.1	7.6%	109.5	35.9	34.2	14 331.4	65.8%	0.69	Asia	
39.4	71.2	249.1	58.3	418.0	9.4%	85.2	50.3	23.9	8 335.3	75.6%	0.48	Europe	
3.5	1.7	69.4	4.4	79.0	4.4%	3.3	1.8	0.5	1 069.4	37.7%	1.34	Oceania	

1. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2000 Greenhouse-gas emissions

 million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>Non-OECD Total</b>	<b>9 832.3</b>	<b>371.9</b>	<b>974.6</b>	<b>5 166.9</b>	<b>16 345.7</b>	<b>62.4%</b>	<b>1 827.4</b>	<b>2 968.4</b>	<b>926.8</b>	<b>82.7</b>	<b>5 805.3</b>	<b>31.5%</b>
Albania	3.1	0.0	0.1	0.2	3.4	91.8%	0.1	2.1	0.9	0.0	3.2	4.4%
Armenia	3.4	-	0.1	0.2	3.8	90.9%	0.3	1.1	0.2	0.0	1.6	19.5%
Azerbaijan	27.3	0.3	0.2	0.5	28.3	97.6%	3.6	4.8	1.5	0.0	9.9	36.0%
Belarus	52.1	0.2	3.5	2.5	58.2	89.8%	0.8	10.0	3.8	0.0	14.6	5.5%
Bosnia and Herzegovina	13.7	-	0.5	2.7	16.9	81.0%	0.9	1.4	0.3	0.0	2.7	35.2%
Bulgaria	42.2	1.0	4.4	0.4	47.9	90.1%	1.2	2.8	6.1	0.0	10.1	12.1%
Croatia	16.8	0.0	2.4	1.6	20.8	80.7%	1.1	1.4	1.0	0.0	3.6	32.0%
Cyprus <sup>2</sup>	6.3	-	0.7	0.0	7.0	89.7%	0.0	0.3	1.1	-	1.4	1.7%
FYR of Macedonia	8.5	0.0	0.5	1.0	9.9	85.8%	0.3	0.9	0.5	0.0	1.8	18.6%
Georgia	4.6	0.0	0.5	0.2	5.4	86.4%	0.5	2.6	0.4	0.0	3.5	13.2%
Gibraltar	0.3	-	0.0	-	0.3	99.8%	0.0	-	0.0	-	0.0	5.5%
Kazakhstan	112.0	8.7	5.0	3.0	128.7	93.8%	24.4	11.3	4.2	0.0	39.9	61.1%
Kosovo <sup>1</sup>	5.1	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	4.5	0.0	0.2	0.4	5.1	87.8%	0.1	3.0	1.3	-	4.4	2.8%
Lithuania	10.2	0.0	1.3	0.3	11.9	85.9%	0.7	2.3	1.5	0.0	4.4	16.1%
Malta	2.1	-	0.0	0.0	2.2	98.5%	0.0	0.1	0.1	-	0.1	2.5%
Republic of Moldova	6.5	-	0.1	0.1	6.8	96.2%	0.4	1.3	0.4	-	2.1	18.2%
Montenegro <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Romania	86.2	1.0	8.8	1.4	97.3	89.6%	6.7	9.8	4.2	0.0	20.7	32.2%
Russian Federation	1 474.2	28.0	88.5	279.2	1 869.9	80.3%	208.8	69.9	62.3	20.2	361.2	57.8%
Serbia <sup>1</sup>	43.0	0.6	1.8	1.2	46.5	93.7%	1.8	4.5	4.6	0.0	10.9	16.5%
Tajikistan	2.2	-	0.5	0.2	2.8	76.9%	0.1	2.5	0.7	-	3.3	3.7%
Turkmenistan	36.7	2.1	0.4	0.4	39.5	98.1%	19.4	5.2	0.7	-	25.3	76.7%
Ukraine	295.0	31.9	29.0	3.2	359.1	91.0%	32.5	24.8	10.7	0.1	68.1	47.7%
Uzbekistan	114.0	2.4	3.8	1.1	121.3	95.9%	24.1	13.1	3.1	0.0	40.3	59.8%
<b>Non-OECD Europe and Eurasia</b>	<b>2 370.1</b>	<b>76.2</b>	<b>152.2</b>	<b>299.7</b>	<b>2 898.3</b>	<b>84.4%</b>	<b>328.0</b>	<b>175.3</b>	<b>109.7</b>	<b>20.5</b>	<b>633.4</b>	<b>51.8%</b>
Algeria	61.5	17.5	5.1	2.4	86.5	91.3%	68.3	5.2	6.3	0.0	79.8	85.6%
Angola	4.6	11.8	0.1	553.1	569.7	2.9%	29.6	46.3	2.5	0.9	79.3	37.3%
Benin	1.4	-	0.1	23.9	25.4	5.6%	0.8	3.4	1.1	-	5.3	14.6%
Botswana	4.0	-	0.1	29.4	33.6	12.0%	0.5	5.5	0.4	0.0	6.4	7.7%
Cameroon	2.8	6.4	0.5	131.4	141.1	6.5%	15.2	14.9	2.7	1.8	34.7	43.9%
Congo	0.5	4.0	0.0	22.0	26.5	17.0%	9.4	1.8	0.6	0.1	11.8	79.6%
Côte d'Ivoire	6.3	0.2	0.3	55.5	62.3	10.4%	3.4	5.9	2.7	0.3	12.3	27.5%
Dem. Rep. of the Congo	0.9	0.8	0.1	921.9	923.7	0.2%	6.9	67.9	8.0	6.0	88.9	7.8%
Egypt	99.7	4.1	17.1	2.1	123.1	84.4%	15.9	15.8	10.8	0.0	42.4	37.4%
Eritrea <sup>1</sup>	0.6	-	0.0	0.1	0.7	84.3%	0.3	2.6	0.5	-	3.4	8.9%
Ethiopia <sup>1</sup>	3.2	-	0.4	81.0	84.6	3.8%	9.3	36.4	8.9	0.7	55.3	16.8%
Gabon	1.5	5.0	0.1	3.3	9.9	65.4%	11.4	0.3	0.3	-	12.0	94.8%
Ghana	5.0	-	1.1	57.1	63.2	7.9%	2.5	6.4	3.1	0.3	12.4	20.5%
Kenya	7.8	-	0.7	12.4	20.9	37.2%	7.9	15.5	4.5	0.2	28.1	27.9%
Libya	36.8	9.0	3.8	0.2	49.7	92.1%	24.3	0.9	1.6	0.0	26.8	90.5%
Mauritius	2.4	0.0	0.0	0.0	2.4	99.4%	0.1	0.1	0.2	-	0.4	25.2%
Morocco	29.5	-	5.5	0.5	35.6	83.1%	0.2	6.4	5.6	-	12.2	2.0%
Mozambique	1.3	-	0.2	227.4	228.9	0.6%	2.2	19.5	3.0	0.1	24.8	9.0%
Namibia	1.9	-	0.0	24.8	26.7	7.1%	0.1	5.7	0.3	0.0	6.0	1.0%
Niger <sup>1</sup>	0.6	0.0	0.0	0.8	1.5	44.6%	1.0	9.5	1.6	-	12.1	8.6%
Nigeria	43.8	53.9	1.5	65.9	165.0	59.1%	143.5	34.5	18.3	0.3	196.5	73.0%
Senegal	3.5	-	0.4	1.7	5.6	62.9%	1.0	4.6	1.6	0.0	7.1	13.9%
South Africa	280.5	12.9	13.8	31.1	338.3	86.7%	33.5	25.1	13.5	0.2	72.3	46.3%
South Sudan <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Sudan <sup>1</sup>	5.5	0.3	0.1	268.8	274.6	2.1%	7.7	67.2	5.5	0.3	80.7	9.5%
United Rep. of Tanzania	2.6	-	0.4	130.2	133.1	2.0%	5.4	27.0	5.2	0.2	37.8	14.4%
Togo	0.9	-	0.3	11.3	12.6	7.6%	1.3	1.6	0.7	0.0	3.7	36.0%
Tunisia	17.6	0.5	2.8	0.4	21.3	85.2%	3.1	2.5	2.1	-	7.7	40.1%
Zambia	1.7	-	0.3	295.5	297.4	0.6%	3.0	25.1	1.8	0.5	30.4	10.0%
Zimbabwe	13.3	0.3	1.0	18.1	32.6	41.7%	2.4	9.4	2.1	0.0	13.9	17.4%
Other Africa	16.4	2.4	0.7	587.3	606.7	3.1%	19.6	122.5	19.8	2.4	164.3	12.0%
<b>Africa</b>	<b>658.1</b>	<b>129.0</b>	<b>56.4</b>	<b>3 559.9</b>	<b>4 403.4</b>	<b>17.9%</b>	<b>429.9</b>	<b>589.7</b>	<b>135.0</b>	<b>14.3</b>	<b>1 168.9</b>	<b>36.8%</b>

 1. Please refer to the chapter *Country notes* in Part I.

 2. Please refer to the chapter *Geographical Coverage* in Part I.



## 2000 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>94.8</b>	<b>67.4</b>	<b>1 313.8</b>	<b>200.4</b>	<b>1 676.4</b>	<b>5.7%</b>	<b>86.5</b>	<b>59.0</b>	<b>34.2</b>	<b>24 007.1</b>	<b>50.5%</b>	<b>0.99</b>	<b>Non-OECD Total</b>	
0.1	-	0.7	0.1	0.8	7.1%	0.0	-	-	7.4	44.2%	0.47	Albania	
0.0	-	0.3	0.1	0.4	1.3%	0.0	-	-	5.9	63.8%	0.67	Armenia	
0.1	-	1.5	0.3	1.8	4.0%	0.0	0.0	-	40.1	77.9%	1.14	Azerbaijan	
0.4	0.3	7.8	0.5	9.0	4.6%	0.1	0.0	-	82.0	65.3%	1.15	Belarus	
0.1	-	0.8	0.2	1.0	7.9%	0.1	0.4	-	21.1	69.9%	0.93	Bosnia and Herzegovina	
0.3	0.6	2.1	0.4	3.4	8.2%	0.1	0.0	-	61.6	72.5%	0.85	Bulgaria	
0.2	0.8	1.5	0.2	2.7	5.8%	0.0	0.1	-	27.2	66.5%	0.41	Croatia	
0.0	-	0.2	0.1	0.3	8.1%	0.1	-	-	8.8	71.9%	0.42	Cyprus <sup>2</sup>	
0.1	-	0.5	0.1	0.6	8.9%	0.1	-	-	12.3	72.2%	0.69	FYR of Macedonia	
0.1	0.6	1.1	0.1	1.9	3.2%	0.0	-	-	10.7	48.1%	0.76	Georgia	
0.0	-	-	0.0	0.0	31.1%	-	-	-	0.4	94.6%	0.47	Gibraltar	
0.7	-	9.6	0.9	11.2	6.4%	0.1	-	-	179.9	81.0%	1.19	Kazakhstan	
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo <sup>1</sup>	
0.0	-	1.1	0.1	1.3	1.3%	0.0	-	-	10.7	42.8%	1.08	Kyrgyzstan	
0.1	1.3	1.9	0.2	3.5	2.9%	0.2	0.0	-	20.1	55.0%	0.49	Lithuania	
0.0	-	0.0	0.0	0.1	11.7%	0.1	-	-	2.4	89.1%	0.27	Malta	
0.0	-	0.6	0.1	0.7	5.2%	0.0	-	-	9.6	72.6%	1.15	Republic of Moldova	
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro <sup>1</sup>	
0.6	3.1	5.8	1.0	10.4	5.3%	0.1	0.8	0.0	129.3	73.0%	0.59	Romania	
6.3	10.8	35.2	22.4	74.7	8.4%	19.8	29.0	8.6	2 363.2	72.7%	1.29	Russian Federation	
0.2	0.5	2.2	0.4	3.3	7.4%	1.9	0.4	-	63.1	72.4%	1.13	Serbia <sup>1</sup>	
0.0	-	0.9	0.1	1.0	0.3%	0.0	0.9	-	8.1	28.5%	1.12	Tajikistan	
0.1	0.5	2.0	0.2	2.7	2.1%	0.0	-	-	67.5	86.2%	2.86	Turkmenistan	
1.1	4.1	11.5	1.9	18.6	5.7%	0.1	0.4	0.1	446.4	80.8%	1.93	Ukraine	
0.5	0.1	7.2	0.6	8.4	5.8%	0.2	-	-	170.3	82.8%	2.85	Uzbekistan	
<b>10.8</b>	<b>22.6</b>	<b>94.5</b>	<b>29.8</b>	<b>157.7</b>	<b>6.8%</b>	<b>22.9</b>	<b>32.1</b>	<b>8.8</b>	<b>3 753.2</b>	<b>74.2%</b>	<b>1.25</b>	<b>Non-OECD Europe and Eurasia</b>	
0.2	0.6	2.7	0.8	4.3	4.9%	0.1	-	0.3	171.0	86.3%	0.55	Algeria	
0.3	-	29.3	0.9	30.5	0.9%	0.0	-	-	679.5	6.8%	12.02	Angola	
0.1	-	2.2	0.1	2.3	3.0%	-	-	-	33.1	6.9%	2.95	Benin	
0.1	-	3.0	0.1	3.2	1.8%	-	-	-	43.2	10.6%	2.45	Botswana	
0.3	-	9.0	1.5	10.7	2.6%	-	0.6	-	187.1	13.2%	4.99	Cameroon	
0.0	-	1.3	0.1	1.5	2.7%	0.0	-	-	39.8	35.1%	2.81	Congo	
0.2	-	3.9	0.5	4.6	4.0%	-	-	-	79.2	12.7%	1.64	Côte d'Ivoire	
0.8	-	43.2	4.5	48.5	1.6%	-	-	-	1 061.1	0.9%	43.47	Dem. Rep. of the Congo	
0.3	3.1	12.0	2.0	17.4	1.9%	0.1	1.6	1.1	185.7	64.6%	0.37	Egypt	
0.0	-	1.2	0.0	1.2	1.8%	-	-	-	5.4	17.5%	0.96	Eritrea <sup>1</sup>	
1.2	-	19.3	1.7	22.1	5.3%	0.0	-	-	162.0	8.4%	4.02	Ethiopia <sup>1</sup>	
0.1	-	0.2	0.1	0.4	19.9%	0.0	-	-	22.3	80.5%	1.04	Gabon	
0.3	-	3.8	0.5	4.7	6.2%	0.0	0.2	-	80.4	9.7%	1.92	Ghana	
0.4	-	8.1	0.7	9.3	4.8%	-	0.0	-	58.3	27.5%	0.89	Kenya	
0.2	-	0.7	0.4	1.2	13.0%	-	-	0.2	77.8	90.1%	0.68	Libya	
0.0	-	0.1	0.0	0.2	10.3%	0.0	-	-	3.0	84.4%	0.24	Mauritius	
0.3	-	4.4	0.7	5.4	5.1%	-	-	-	53.1	56.6%	0.41	Morocco	
0.3	-	12.5	0.5	13.2	1.9%	0.0	0.0	-	267.0	1.4%	26.86	Mozambique	
0.1	-	3.0	0.1	3.1	1.9%	-	-	-	35.9	5.6%	3.16	Namibia	
0.2	-	4.1	0.2	4.5	3.5%	-	-	-	18.1	10.2%	2.15	Niger <sup>1</sup>	
4.1	-	17.1	3.7	24.9	16.3%	0.1	-	0.2	386.7	63.4%	1.13	Nigeria	
0.0	-	2.2	0.2	2.4	2.0%	-	-	-	15.2	30.1%	0.82	Senegal	
2.3	1.4	14.6	2.9	21.3	11.0%	0.3	0.5	1.0	433.7	75.9%	1.01	South Africa	
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan <sup>1</sup>	
0.4	-	35.0	0.9	36.2	1.0%	-	-	-	391.5	3.5%	5.15	Sudan <sup>1</sup>	
0.6	-	14.7	1.0	16.2	3.6%	-	-	-	187.2	4.6%	3.88	United Rep. of Tanzania	
0.1	-	1.1	0.1	1.2	4.7%	-	-	-	17.5	13.4%	2.81	Togo	
0.2	0.4	1.5	0.3	2.4	8.2%	-	-	-	31.3	68.4%	0.43	Tunisia	
0.2	0.4	19.3	0.6	20.6	1.1%	0.0	-	-	348.4	1.4%	16.06	Zambia	
0.4	-	4.9	0.4	5.6	6.6%	-	-	-	52.1	31.4%	1.69	Zimbabwe	
2.2	-	61.9	4.2	68.3	3.3%	0.0	-	-	839.4	4.8%	5.06	Other Africa	
<b>15.6</b>	<b>6.0</b>	<b>336.3</b>	<b>29.5</b>	<b>387.4</b>	<b>4.0%</b>	<b>0.6</b>	<b>2.9</b>	<b>2.7</b>	<b>5 965.8</b>	<b>20.7%</b>	<b>2.21</b>	<b>Africa</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2000 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	20.9	0.0	4.3	10.1	35.3	59.3%	5.5	77.6	16.8	0.4	100.3	5.5%
Brunei Darussalam	4.4	0.4	0.1	0.1	5.0	96.5%	4.8	0.0	0.1	0.0	4.9	98.0%
Cambodia	2.0	-	0.0	4.7	6.7	29.3%	1.7	14.6	1.7	0.1	18.1	9.3%
DPR of Korea	70.0	6.7	76.4	68.8	221.8	34.6%	87.1	445.6	139.7	3.1	675.5	12.9%
India	890.4	1.0	14.8	1.5	907.7	98.2%	1.2	3.4	5.7	0.0	10.4	11.6%
Indonesia	255.3	-	3.3	3.1	261.7	97.6%	11.6	4.7	5.8	0.2	22.3	52.1%
Malaysia	115.0	9.6	23.7	79.1	227.5	54.8%	74.7	89.4	45.1	4.8	214.0	34.9%
Mongolia	9.0	4.1	9.7	11.6	34.3	38.1%	26.4	6.1	5.2	0.4	38.1	69.2%
Myanmar	9.3	-	0.1	11.6	20.9	44.4%	0.3	10.3	0.4	0.7	11.8	2.6%
Nepal	3.1	0.2	0.4	86.6	90.3	3.6%	5.6	55.2	7.4	2.8	71.1	7.9%
Pakistan	94.4	-	0.2	2.9	97.4	96.8%	2.2	20.8	2.7	0.2	25.9	8.5%
Philippines	68.1	2.2	8.9	2.0	81.1	86.6%	20.6	92.0	18.9	0.0	131.4	15.6%
Singapore	42.1	0.0	6.0	3.7	51.8	81.3%	4.7	37.5	14.7	0.0	56.9	8.3%
Sri Lanka	10.5	-	2.8	0.2	13.6	77.6%	0.4	0.0	1.4	0.0	1.8	22.3%
Chinese Taipei	214.3	-	0.5	1.0	215.8	99.3%	1.2	7.4	2.4	0.0	11.0	11.0%
Thailand	152.3	0.3	16.5	34.7	203.8	74.9%	17.4	66.4	12.1	0.2	96.2	18.1%
Viet Nam	44.2	1.4	7.9	25.9	79.4	57.5%	12.9	62.4	12.3	0.3	87.9	14.7%
Other non-OECD Asia	11.4	0.6	0.4	79.7	92.0	13.0%	2.8	20.4	4.6	2.4	30.2	9.2%
<b>Asia (excl. China)</b>	<b>2 016.7</b>	<b>26.5</b>	<b>175.8</b>	<b>427.3</b>	<b>2 646.3</b>	<b>77.2%</b>	<b>281.2</b>	<b>1 013.8</b>	<b>297.0</b>	<b>15.7</b>	<b>1 607.7</b>	<b>17.5%</b>
People's Rep. of China	3 086.7	45.6	458.5	103.8	3 694.7	84.8%	377.4	579.2	209.0	5.0	1 170.6	32.2%
Hong Kong, China	40.3	1.3	0.7	0.2	42.5	98.0%	0.1	0.0	1.9	-	2.1	6.0%
<b>China</b>	<b>3 127.1</b>	<b>47.0</b>	<b>459.2</b>	<b>104.0</b>	<b>3 737.2</b>	<b>84.9%</b>	<b>377.5</b>	<b>579.2</b>	<b>211.0</b>	<b>5.0</b>	<b>1 172.7</b>	<b>32.2%</b>
Argentina	139.3	2.1	4.9	57.5	203.8	69.4%	21.4	87.7	11.2	1.4	121.8	17.6%
Bolivia	7.1	0.7	0.4	117.1	125.3	6.2%	3.1	16.7	1.6	3.6	25.0	12.4%
Brazil	292.3	7.8	34.6	408.8	743.5	40.4%	38.6	297.7	64.9	17.2	418.4	9.2%
Colombia	54.2	1.9	5.0	11.6	72.7	77.2%	12.5	43.3	8.7	0.1	64.7	19.3%
Costa Rica	4.5	-	0.5	0.5	5.5	81.7%	0.0	2.6	0.8	0.0	3.4	1.5%
Cuba	27.3	0.2	1.1	2.4	31.0	88.8%	1.2	8.1	4.8	0.1	14.2	8.4%
Curaçao <sup>2</sup>	5.6	-	0.0	0.0	5.7	99.1%	0.1	0.0	0.0	-	0.1	87.8%
Dominican Republic	18.4	-	1.2	1.0	20.6	89.1%	0.3	4.4	2.7	0.0	7.5	4.4%
Ecuador	18.1	2.5	1.0	2.4	24.1	85.6%	6.4	9.9	2.5	0.0	18.8	34.0%
El Salvador	5.2	-	0.4	0.5	6.1	85.4%	0.4	1.7	1.0	0.0	3.1	12.5%
Guatemala	8.6	0.0	0.8	65.3	74.6	11.5%	1.2	6.7	1.9	2.3	12.0	9.9%
Haiti	1.4	-	0.2	0.0	1.6	84.9%	0.9	2.7	1.9	0.0	5.5	16.2%
Honduras	4.5	-	0.4	10.7	15.6	28.8%	0.4	3.2	1.0	0.2	4.8	7.6%
Jamaica	9.8	-	0.4	0.1	10.3	95.0%	0.6	0.8	0.7	0.0	2.0	27.2%
Nicaragua	3.5	-	0.2	0.1	3.8	93.1%	0.4	4.9	0.9	0.0	6.2	6.0%
Panama	4.9	-	0.3	0.7	5.9	82.3%	0.2	2.6	0.6	0.0	3.3	5.0%
Paraguay	3.3	-	0.3	38.9	42.5	7.7%	0.8	16.3	1.1	0.8	18.9	4.0%
Peru	26.4	0.4	1.7	3.6	32.2	83.4%	2.3	11.7	5.3	0.1	19.5	11.8%
Suriname <sup>1</sup>	1.5	0.0	0.0	0.1	1.6	92.5%	0.0	0.5	0.1	0.0	0.6	6.0%
Trinidad and Tobago	10.1	0.2	8.8	0.1	19.2	53.6%	5.7	0.1	1.0	0.1	6.9	82.0%
Uruguay	5.1	0.0	0.3	0.1	5.5	93.2%	0.1	20.5	0.9	-	21.6	0.6%
Venezuela	116.2	7.5	8.0	44.3	176.0	70.3%	40.5	27.9	6.8	0.8	75.9	53.3%
Other non-OECD Americas	13.6	0.0	0.9	5.2	19.7	69.1%	0.2	2.5	3.0	0.2	5.9	4.0%
<b>Non-OECD Americas</b>	<b>780.8</b>	<b>23.4</b>	<b>71.4</b>	<b>771.2</b>	<b>1 646.7</b>	<b>48.8%</b>	<b>137.2</b>	<b>572.4</b>	<b>123.6</b>	<b>27.0</b>	<b>860.2</b>	<b>16.0%</b>
Bahrain	15.8	0.0	1.8	0.0	17.6	90.0%	2.5	0.0	0.4	0.0	2.9	83.9%
Islamic Republic of Iran	312.2	21.4	17.4	2.2	353.2	94.4%	78.0	23.5	20.5	0.0	122.0	63.9%
Iraq	70.5	14.1	1.4	0.7	86.7	97.6%	37.4	3.3	7.0	0.0	47.6	78.5%
Jordan	14.2	-	1.1	0.1	15.4	92.3%	0.2	0.4	1.8	-	2.4	6.4%
Kuwait	46.3	5.6	2.8	0.1	54.8	94.6%	19.9	0.1	1.1	0.0	21.1	94.2%
Lebanon	14.0	-	1.2	0.1	15.2	91.9%	0.1	0.3	1.2	-	1.6	6.4%
Oman	20.4	4.3	0.6	0.0	25.3	97.6%	15.3	0.6	0.7	-	16.6	92.3%
Qatar	21.3	6.6	4.2	0.0	32.0	86.9%	23.6	0.1	0.7	0.0	24.5	96.5%
Saudi Arabia	234.6	7.6	20.8	0.9	263.9	91.8%	51.3	2.6	9.2	0.2	63.3	81.1%
Syrian Arab Republic	37.0	6.1	2.2	0.5	45.8	94.1%	16.2	3.2	3.8	-	23.2	69.7%
United Arab Emirates	79.8	2.9	5.4	0.2	88.3	93.7%	25.0	0.6	1.3	0.0	26.9	92.9%
Yemen	13.3	1.4	0.7	0.0	15.5	95.1%	4.3	3.2	3.0	-	10.4	40.9%
<b>Middle East</b>	<b>879.4</b>	<b>70.0</b>	<b>59.6</b>	<b>4.9</b>	<b>1 013.8</b>	<b>93.6%</b>	<b>273.6</b>	<b>38.0</b>	<b>50.5</b>	<b>0.3</b>	<b>362.4</b>	<b>75.5%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.



## 2000 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
0.6	-	16.2	1.9	18.6	3.3%	-	-	-	154.3	17.5%	0.73	Bangladesh	
0.0	-	0.1	0.0	0.1	8.0%	0.1	-	-	10.1	95.1%	0.42	Brunei Darussalam	
0.1	-	2.3	0.3	2.7	5.5%	-	-	-	27.5	13.8%	1.68	Cambodia	
13.2	1.6	147.0	22.3	184.0	7.2%	10.3	2.3	3.3	1 097.2	16.1%	9.82	DPR of Korea	
0.9	0.5	2.2	1.2	4.8	18.3%	0.1	5.3	1.5	929.8	96.1%	0.36	India	
0.4	-	2.0	0.7	3.1	12.1%	2.0	-	-	289.1	92.5%	0.24	Indonesia	
4.1	0.2	55.0	8.1	67.4	6.1%	-	0.2	0.8	509.8	39.9%	1.38	Malaysia	
0.5	0.5	7.6	1.3	9.9	4.9%	0.0	0.1	0.4	82.9	48.2%	7.58	Mongolia	
0.1	-	4.5	0.5	5.1	1.2%	-	-	-	37.8	25.5%	0.47	Myanmar	
0.5	-	11.8	2.6	14.9	3.5%	-	-	-	176.3	5.3%	4.92	Nepal	
0.4	-	3.1	0.6	4.1	9.5%	-	-	-	127.4	76.1%	0.27	Pakistan	
1.7	0.7	17.5	3.0	22.8	7.4%	-	-	0.3	235.7	39.3%	0.73	Philippines	
0.6	0.0	8.6	1.7	10.9	5.7%	-	-	0.2	119.9	39.6%	0.59	Singapore	
0.1	5.4	0.0	0.9	6.4	1.8%	0.8	0.5	0.2	23.4	47.2%	0.23	Sri Lanka	
0.3	-	1.4	0.5	2.1	12.9%	-	-	-	228.9	94.3%	0.40	Chinese Taipei	
2.0	0.4	14.1	1.9	18.3	10.7%	-	-	0.4	318.7	54.0%	0.56	Thailand	
0.9	-	17.1	1.8	19.8	4.7%	-	-	-	187.1	31.8%	0.93	Viet Nam	
0.2	-	7.4	2.3	9.9	2.5%	0.0	-	-	132.1	11.3%	1.69	Other non-OECD Asia	
<b>26.6</b>	<b>9.2</b>	<b>317.7</b>	<b>51.4</b>	<b>405.0</b>	<b>6.6%</b>	<b>13.3</b>	<b>8.4</b>	<b>7.2</b>	<b>4 687.9</b>	<b>50.1%</b>	<b>0.65</b>	<b>Asia (excl. China)</b>	
27.8	26.3	297.9	43.2	395.1	7.0%	48.1	9.3	10.3	5 328.1	66.4%	1.18	People's Rep. of China	
0.2	-	0.0	0.4	0.5	31.3%	-	-	0.1	45.3	92.7%	0.20	Hong Kong, China	
<b>28.0</b>	<b>26.3</b>	<b>297.9</b>	<b>43.5</b>	<b>395.7</b>	<b>7.1%</b>	<b>48.1</b>	<b>9.3</b>	<b>10.4</b>	<b>5 373.4</b>	<b>66.6%</b>	<b>1.13</b>	<b>China</b>	
1.4	0.1	36.2	2.5	40.1	3.4%	0.1	0.2	0.2	366.2	44.8%	0.78	Argentina	
0.1	-	7.6	2.5	10.2	1.3%	-	-	-	160.5	6.9%	4.45	Bolivia	
5.0	1.6	118.9	17.1	142.6	3.5%	0.2	4.9	0.7	1 310.3	26.2%	0.67	Brazil	
0.6	0.3	16.1	1.1	18.0	3.2%	-	0.0	0.0	155.4	44.5%	0.47	Colombia	
0.1	0.1	1.3	0.1	1.5	5.2%	0.0	-	-	10.5	44.2%	0.28	Costa Rica	
0.3	0.6	5.2	0.4	6.6	4.6%	0.0	-	-	51.8	56.1%	0.42	Cuba	
0.0	-	0.0	0.0	0.1	30.8%	-	-	-	5.8	98.2%	2.77	Curaçao <sup>2</sup>	
0.1	-	1.5	0.3	2.0	7.0%	-	-	-	30.0	62.7%	0.45	Dominican Republic	
0.1	-	3.3	0.4	3.8	3.3%	0.0	-	-	46.7	58.1%	0.51	Ecuador	
0.1	-	1.0	0.2	1.3	7.1%	0.0	-	-	10.5	53.8%	0.29	El Salvador	
0.3	-	4.0	1.8	6.0	4.2%	0.2	-	-	92.8	10.8%	1.34	Guatemala	
0.1	-	1.2	0.1	1.4	5.2%	-	-	-	8.5	27.6%	0.58	Haiti	
0.1	-	2.9	0.3	3.3	2.5%	-	-	-	23.7	20.8%	1.12	Honduras	
0.1	-	0.4	0.2	0.6	8.6%	0.0	-	-	13.0	80.3%	0.63	Jamaica	
0.1	-	2.7	0.1	2.9	2.6%	-	-	-	12.9	31.0%	0.75	Nicaragua	
0.0	-	0.9	0.1	1.0	4.4%	-	-	-	10.3	49.6%	0.33	Panama	
0.1	-	6.7	0.7	7.5	1.7%	-	-	-	68.9	6.0%	2.18	Paraguay	
0.2	0.0	5.3	0.7	6.3	3.7%	0.1	-	-	58.0	50.6%	0.35	Peru	
0.0	-	0.1	0.1	0.2	12.0%	-	-	-	2.4	63.4%	0.53	Suriname <sup>1</sup>	
0.0	-	5.9	0.1	6.0	0.7%	0.0	-	-	32.2	49.7%	1.48	Trinidad and Tobago	
0.5	0.0	10.3	1.5	12.3	3.7%	0.6	0.6	0.2	40.6	14.1%	0.97	Uruguay	
0.1	-	2.3	0.4	2.8	5.2%	0.0	0.0	0.0	254.7	64.5%	0.74	Venezuela	
0.1	-	2.3	0.4	2.8	5.2%	0.0	0.0	0.0	28.5	49.2%	0.83	Other non-OECD Americas	
<b>9.6</b>	<b>2.7</b>	<b>236.1</b>	<b>30.9</b>	<b>279.3</b>	<b>3.4%</b>	<b>1.3</b>	<b>5.6</b>	<b>1.2</b>	<b>2 794.2</b>	<b>34.0%</b>	<b>0.70</b>	<b>Non-OECD Americas</b>	
0.0	-	0.0	0.1	0.1	19.2%	-	0.3	-	21.0	87.5%	0.71	Bahrain	
2.0	0.5	18.0	5.7	26.2	7.7%	-	0.2	1.6	503.2	82.2%	0.66	Islamic Republic of Iran	
0.3	-	3.3	1.9	5.5	5.7%	-	-	0.1	140.0	87.4%	0.50	Iraq	
0.0	-	0.3	0.4	0.8	6.0%	0.0	-	-	18.6	77.7%	0.51	Jordan	
0.1	-	0.1	0.3	0.6	23.6%	0.2	-	0.3	77.0	93.4%	0.55	Kuwait	
0.1	-	0.3	0.3	0.7	10.4%	-	-	-	17.5	80.8%	0.44	Lebanon	
0.1	-	0.3	0.2	0.6	10.7%	0.0	-	-	42.5	94.2%	0.44	Oman	
0.1	-	0.1	0.1	0.3	24.3%	-	-	-	56.7	90.8%	0.89	Qatar	
0.8	-	2.9	3.1	6.8	12.2%	0.1	-	1.2	335.4	87.8%	0.45	Saudi Arabia	
0.3	0.2	3.5	1.2	5.1	5.1%	-	-	-	74.1	80.3%	0.87	Syrian Arab Republic	
0.2	-	0.5	0.7	1.3	12.6%	-	0.3	0.6	117.4	91.9%	0.37	United Arab Emirates	
0.2	-	2.0	1.1	3.3	6.3%	-	-	-	29.2	65.7%	0.44	Yemen	
<b>4.2</b>	<b>0.6</b>	<b>31.3</b>	<b>15.3</b>	<b>51.4</b>	<b>8.2%</b>	<b>0.3</b>	<b>0.7</b>	<b>3.9</b>	<b>1 432.6</b>	<b>85.7%</b>	<b>0.54</b>	<b>Middle East</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>World <sup>1</sup></b>	<b>27 045.0</b>	<b>445.6</b>	<b>2 027.6</b>	<b>7 189.3</b>	<b>36 707.5</b>	<b>74.9%</b>	<b>2 731.6</b>	<b>4 008.2</b>	<b>1 568.5</b>	<b>154.3</b>	<b>8 462.5</b>	<b>32.3%</b>
<i>Annex I Parties</i>	13 875.9	121.5	732.0	914.0	15 643.3	89.5%	774.1	803.5	579.8	38.1	2 195.5	35.3%
<i>Annex II Parties</i>	11 100.7	54.7	510.4	701.6	12 367.5	90.2%	424.5	639.0	404.3	24.4	1 492.3	28.4%
<i>North America</i>	6 243.5	23.6	199.4	393.7	6 860.1	91.4%	278.9	258.9	192.6	22.4	752.8	37.0%
<i>Europe</i>	3 273.9	14.2	209.4	63.4	3 561.0	92.3%	103.8	220.2	181.8	0.7	506.5	20.5%
<i>Asia Oceania</i>	1 583.3	17.0	101.7	244.5	1 946.4	82.2%	41.9	159.9	29.9	1.3	233.0	18.0%
<i>Annex I EIT</i>	2 548.8	64.5	194.1	209.8	3 017.3	86.6%	342.1	138.7	129.8	13.7	624.4	54.8%
<i>Non-Annex I Parties</i>	12 174.4	324.1	1 295.7	6 275.3	20 069.5	62.3%	1 944.8	3 204.7	988.7	116.1	6 254.3	31.1%
<i>Annex B Kyoto Parties</i>	4 879.7	65.4	325.2	321.9	5 592.2	88.4%	261.0	406.4	260.1	2.1	929.6	28.1%
<b>Intl. aviation bunkers</b>	<b>422.8</b>	-	-	-	<b>422.8</b>	<b>100.0%</b>	<b>0.1</b>	-	-	-	<b>0.1</b>	<b>100.0%</b>
<b>Intl. marine bunkers</b>	<b>571.9</b>	-	-	-	<b>571.9</b>	<b>100.0%</b>	<b>12.6</b>	-	-	-	<b>12.6</b>	<b>100.0%</b>
<b>Non-OECD Total</b>	<b>13 203.3</b>	<b>365.4</b>	<b>1 381.2</b>	<b>6 391.8</b>	<b>21 341.8</b>	<b>63.6%</b>	<b>2 195.3</b>	<b>3 223.8</b>	<b>1 036.8</b>	<b>127.0</b>	<b>6 582.9</b>	<b>33.3%</b>
<b>OECD Total</b>	<b>12 847.0</b>	<b>80.2</b>	<b>646.4</b>	<b>797.4</b>	<b>14 371.0</b>	<b>90.0%</b>	<b>523.5</b>	<b>784.4</b>	<b>531.7</b>	<b>27.3</b>	<b>1 866.9</b>	<b>28.0%</b>
Canada	541.2	3.8	31.3	157.6	733.8	74.3%	60.8	30.9	29.9	12.0	133.5	45.5%
Chile	54.4	0.5	4.4	0.5	59.9	91.8%	3.7	7.9	9.6	0.2	21.4	17.4%
Mexico	412.3	4.6	25.5	84.1	526.4	79.2%	37.2	64.6	24.6	2.6	129.0	28.9%
United States	5 702.3	19.8	168.1	236.1	6 126.3	93.4%	218.1	228.0	162.8	10.4	619.3	35.2%
<b>OECD Americas</b>	<b>6 710.2</b>	<b>28.7</b>	<b>229.3</b>	<b>478.3</b>	<b>7 446.4</b>	<b>90.5%</b>	<b>319.8</b>	<b>331.4</b>	<b>226.9</b>	<b>25.1</b>	<b>903.2</b>	<b>35.4%</b>
Australia	371.9	12.1	15.4	238.5	637.9	60.2%	35.8	94.5	14.0	1.1	145.4	24.6%
Israel <sup>2</sup>	58.8	0.0	2.8	0.5	62.2	94.6%	0.8	1.0	4.0	0.0	5.8	13.3%
Japan	1 177.7	4.8	84.5	4.3	1 271.3	93.0%	4.9	35.9	11.3	0.1	52.2	9.4%
Korea	457.5	11.0	43.9	2.5	515.0	91.0%	4.2	15.5	16.7	0.1	36.4	11.4%
New Zealand	33.7	0.1	1.7	1.7	37.2	90.7%	1.2	29.5	4.6	0.0	35.3	3.3%
<b>OECD Asia Oceania</b>	<b>2 099.6</b>	<b>28.0</b>	<b>148.5</b>	<b>247.5</b>	<b>2 523.6</b>	<b>84.3%</b>	<b>46.8</b>	<b>176.4</b>	<b>50.6</b>	<b>1.4</b>	<b>275.1</b>	<b>17.0%</b>
Austria	74.1	0.5	5.1	1.3	81.0	92.1%	2.2	4.9	3.7	0.0	10.7	20.1%
Belgium	107.3	-	10.3	1.0	118.7	90.4%	6.3	6.8	4.1	0.0	17.1	36.5%
Czech Republic	118.5	1.8	5.9	1.0	127.1	94.6%	4.3	4.6	4.4	0.0	13.4	32.2%
Denmark	48.4	0.4	1.6	0.9	51.4	95.1%	1.5	6.2	1.5	-	9.2	16.6%
Estonia	16.8	0.7	0.8	0.2	18.5	94.7%	0.4	0.7	1.5	0.0	2.6	13.7%
Finland	54.9	0.4	2.6	0.6	58.5	94.5%	2.2	2.4	8.2	0.0	12.8	17.4%
France	371.8	2.4	26.2	7.0	407.4	91.8%	7.6	44.0	18.2	0.1	69.9	10.9%
Germany	786.8	2.6	38.0	10.9	838.3	94.2%	17.1	35.2	29.2	0.1	81.6	21.0%
Greece	95.2	0.1	8.4	1.2	104.9	90.9%	14.8	4.3	4.5	0.0	23.6	62.8%
Hungary	54.7	0.3	4.2	0.6	59.8	91.9%	2.3	3.2	4.2	0.0	9.7	23.8%
Iceland	2.2	-	0.9	0.0	3.2	70.5%	0.0	0.3	0.2	0.0	0.5	0.9%
Ireland	44.2	0.5	2.3	0.6	47.6	93.9%	2.3	14.5	1.7	-	18.5	12.3%
Italy	456.3	0.4	33.8	7.5	497.9	91.7%	6.5	19.5	21.3	0.0	47.4	13.8%
Latvia	7.6	-	0.4	0.3	8.3	91.8%	0.6	1.0	0.6	0.0	2.2	27.3%
Luxembourg	11.5	-	0.6	0.1	12.2	94.4%	0.1	0.4	0.1	-	0.5	12.4%
Netherlands	167.0	0.6	13.1	1.0	181.8	92.2%	6.3	11.1	7.2	0.1	24.7	25.5%
Norway	34.5	1.4	7.5	0.9	44.2	81.1%	16.1	2.6	2.7	0.1	21.5	75.2%
Poland	296.5	3.4	14.6	2.7	317.2	94.5%	35.6	18.3	13.2	0.0	67.1	53.0%
Portugal	61.4	0.0	5.9	11.2	78.5	78.1%	0.8	5.1	7.2	0.1	13.3	6.3%
Slovak Republic	37.3	0.9	4.5	0.2	42.8	89.0%	1.2	1.9	3.2	0.0	6.2	19.1%
Slovenia	15.5	-	2.2	0.7	18.4	84.2%	1.4	1.3	1.1	0.0	3.8	36.7%
Spain	333.6	1.4	27.5	10.2	372.7	89.9%	3.3	24.8	14.9	0.1	43.1	7.7%
Sweden	49.1	0.8	4.4	1.6	55.9	89.3%	1.0	3.8	8.6	0.0	13.3	7.2%
Switzerland	44.0	0.0	2.6	0.5	47.1	93.3%	0.6	3.8	1.4	0.0	5.8	9.7%
Turkey	216.5	2.3	26.6	2.5	247.9	88.3%	7.4	25.3	44.3	0.0	77.1	9.6%
United Kingdom	531.5	2.7	18.6	6.7	559.5	95.5%	15.1	30.5	47.1	0.1	92.9	16.3%
<b>OECD Europe</b>	<b>4 037.2</b>	<b>23.5</b>	<b>268.6</b>	<b>71.7</b>	<b>4 401.0</b>	<b>92.3%</b>	<b>156.9</b>	<b>276.6</b>	<b>254.3</b>	<b>0.8</b>	<b>688.6</b>	<b>22.8%</b>
<i>IEA/Accession/Association</i>	19 796.0	127.9	1 413.2	962.5	22 299.7	89.3%	1 128.2	1 505.2	802.9	32.9	3 469.2	32.5%
<i>European Union - 28</i>	3 921.2	20.9	251.2	70.9	4 264.3	92.4%	142.5	261.4	220.4	0.7	625.1	22.8%
<i>G20</i>	22 209.6	202.1	1 576.4	2 288.6	26 276.7	85.3%	1 504.3	1 932.4	950.9	99.9	4 487.6	33.5%
<i>Africa</i>	857.3	124.2	73.0	3 898.3	4 952.8	19.8%	445.1	655.0	154.4	16.7	1 271.2	35.0%
<i>Americas</i>	7 566.2	45.4	314.6	2 057.6	9 983.8	76.2%	467.9	1 012.6	365.6	92.6	1 938.6	24.1%
<i>Asia</i>	11 300.8	184.3	1 215.2	718.7	13 419.0	85.6%	1 319.3	1 848.3	711.3	29.4	3 908.3	33.8%
<i>Europe</i>	5 920.4	79.6	407.8	274.4	6 673.5	89.9%	449.6	368.3	318.6	14.5	1 150.9	39.1%
<i>Oceania</i>	405.6	12.1	17.1	240.2	675.1	61.9%	37.0	124.0	18.6	1.1	180.8	20.4%

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2. Please refer to the chapter *Geographical Coverage* in Part I.  
Sources: IEA, CO<sub>2</sub> emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.

## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>257.4</b>	<b>212.1</b>	<b>2 001.6</b>	<b>382.2</b>	<b>2 853.3</b>	<b>9.0%</b>	<b>620.0</b>	<b>99.0</b>	<b>125.2</b>	<b>48 867.5</b>	<b>62.4%</b>	<b>0.66</b>	<b>World<sup>1</sup></b>	
130.4	101.8	526.8	120.6	879.6	14.8%	385.4	69.9	70.1	19 243.8	77.4%	0.46	Annex I Parties	
112.9	64.9	412.9	88.5	679.2	16.6%	346.8	42.7	59.2	14 987.6	78.0%	0.42	Annex II Parties	
76.4	19.3	197.7	53.1	346.5	22.0%	229.0	18.2	44.0	8 250.6	80.3%	0.53	North America	
24.5	41.8	143.8	25.3	235.4	10.4%	78.0	12.8	10.4	4 404.0	77.6%	0.30	Europe	
12.1	3.8	71.3	10.1	97.3	12.4%	39.8	11.7	4.8	2 333.0	70.9%	0.45	Asia Oceania	
15.1	35.9	92.7	26.3	170.0	8.9%	34.9	26.6	9.4	3 882.6	76.5%	0.82	Annex I EIT	
119.1	110.2	1 474.8	239.7	1 943.9	6.1%	234.6	29.0	55.1	28 586.5	50.9%	0.88	Non-Annex I Parties	
38.4	64.8	266.1	38.0	407.3	9.4%	93.5	15.5	11.3	7 049.4	74.4%	0.39	Annex B Kyoto Parties	
<b>3.5</b>	-	-	<b>2.6</b>	<b>6.2</b>	<b>57.3%</b>	-	-	-	<b>429.0</b>	<b>99.4%</b>	<b>..</b>	<b>Intl. aviation bunkers</b>	
<b>4.4</b>	-	-	<b>19.3</b>	<b>23.7</b>	<b>18.7%</b>	-	-	-	<b>608.2</b>	<b>96.8%</b>	<b>..</b>	<b>Intl. marine bunkers</b>	
<b>120.9</b>	<b>79.2</b>	<b>1 497.0</b>	<b>250.8</b>	<b>1 948.0</b>	<b>6.2%</b>	<b>246.9</b>	<b>51.1</b>	<b>58.9</b>	<b>30 229.6</b>	<b>52.5%</b>	<b>0.93</b>	<b>Non-OECD Total</b>	
<b>128.5</b>	<b>132.9</b>	<b>504.6</b>	<b>109.5</b>	<b>875.5</b>	<b>14.7%</b>	<b>373.0</b>	<b>47.9</b>	<b>66.3</b>	<b>17 600.6</b>	<b>77.2%</b>	<b>0.43</b>	<b>OECD Total</b>	
6.2	1.4	22.9	11.3	41.8	15.0%	13.6	6.4	4.0	933.1	65.6%	0.73	Canada	
0.4	0.8	5.5	0.7	7.5	5.7%	-	0.0	0.0	88.8	66.6%	0.34	Chile	
3.2	53.9	32.1	6.5	95.7	3.3%	8.8	0.2	0.4	760.5	60.1%	0.48	Mexico	
70.1	17.9	174.9	41.9	304.7	23.0%	215.4	11.8	40.0	7 317.5	82.1%	0.51	United States	
<b>80.0</b>	<b>74.1</b>	<b>235.3</b>	<b>60.4</b>	<b>449.7</b>	<b>17.8%</b>	<b>237.7</b>	<b>18.4</b>	<b>44.4</b>	<b>9 099.9</b>	<b>78.4%</b>	<b>0.52</b>	<b>OECD Americas</b>	
3.9	1.7	51.8	3.0	60.4	6.4%	5.9	0.9	0.4	850.9	49.8%	1.04	Australia	
0.3	0.2	0.8	1.0	2.3	11.5%	1.5	0.1	0.5	72.4	82.7%	0.41	Israel <sup>2</sup>	
7.8	2.1	8.0	6.8	24.7	31.5%	33.1	10.7	4.3	1 396.2	85.6%	0.33	Japan	
3.0	2.2	4.7	3.0	12.8	23.2%	6.2	3.1	4.4	578.0	82.3%	0.47	Korea	
0.4	-	11.5	0.3	12.2	3.5%	0.8	0.2	0.1	85.8	41.2%	0.68	New Zealand	
<b>15.3</b>	<b>6.2</b>	<b>76.8</b>	<b>14.1</b>	<b>112.4</b>	<b>13.6%</b>	<b>47.6</b>	<b>15.0</b>	<b>9.7</b>	<b>2 983.3</b>	<b>73.4%</b>	<b>0.45</b>	<b>OECD Asia Oceania</b>	
0.7	0.3	2.2	0.7	3.9	17.0%	2.2	0.3	0.2	98.2	78.8%	0.30	Austria	
0.7	3.8	2.8	0.8	8.0	8.4%	2.2	0.0	0.1	146.1	78.2%	0.36	Belgium	
1.4	1.1	3.2	0.8	6.5	22.0%	1.3	0.0	0.0	148.3	84.9%	0.58	Czech Republic	
0.5	0.5	4.5	0.5	6.0	8.4%	1.4	0.0	0.0	68.0	74.8%	0.29	Denmark	
0.1	-	0.6	0.1	0.8	17.3%	0.0	0.0	0.0	22.0	82.0%	0.75	Estonia	
1.7	1.6	2.9	0.5	6.6	25.2%	0.9	0.0	0.0	78.9	75.0%	0.39	Finland	
3.3	4.3	31.9	3.1	42.6	7.8%	14.7	1.0	1.5	537.2	71.7%	0.24	France	
4.8	4.7	28.5	4.4	42.4	11.3%	16.9	1.9	5.2	986.3	82.3%	0.33	Germany	
0.8	0.5	3.3	0.9	5.6	14.7%	2.3	0.1	0.1	136.7	81.2%	0.43	Greece	
0.3	2.9	4.0	0.7	7.9	3.9%	1.4	0.4	0.0	79.2	72.7%	0.37	Hungary	
0.0	0.0	0.3	0.0	0.4	4.3%	0.1	0.1	0.0	4.2	53.7%	0.36	Iceland	
0.3	0.0	6.6	0.3	7.2	4.3%	1.0	0.3	0.1	74.8	63.3%	0.39	Ireland	
3.2	6.5	12.0	3.8	25.4	12.5%	10.5	0.8	0.8	583.0	80.0%	0.28	Italy	
0.1	-	0.9	0.1	1.2	11.9%	1.0	0.0	-	12.7	65.6%	0.34	Latvia	
0.1	-	0.1	0.1	0.3	31.5%	0.1	0.0	-	13.1	89.0%	0.34	Luxembourg	
0.8	6.5	5.6	1.1	13.9	5.6%	3.6	0.5	0.1	224.6	77.8%	0.32	Netherlands	
0.3	1.8	1.8	0.4	4.3	7.1%	0.4	4.0	0.3	74.7	70.1%	0.28	Norway	
3.9	4.7	16.9	1.9	27.4	14.1%	2.0	0.5	0.2	414.4	81.9%	0.65	Poland	
0.6	0.4	2.8	0.7	4.5	13.3%	0.7	0.0	0.1	97.2	64.6%	0.35	Portugal	
0.4	1.2	1.2	0.3	3.1	11.9%	0.4	0.1	-	52.5	75.5%	0.49	Slovak Republic	
0.1	-	0.8	0.2	1.1	11.7%	0.4	0.1	0.0	23.8	71.4%	0.45	Slovenia	
2.8	1.6	16.1	3.4	23.8	11.6%	7.4	2.1	0.7	449.8	75.8%	0.32	Spain	
1.1	7.2	3.4	0.7	12.3	8.6%	1.3	0.7	0.2	83.8	62.0%	0.23	Sweden	
0.4	0.0	1.4	0.4	2.2	17.2%	1.9	0.1	0.3	57.5	78.2%	0.15	Switzerland	
2.3	1.0	21.0	5.7	30.0	7.8%	3.3	0.5	1.5	360.4	63.4%	0.33	Turkey	
2.5	2.1	17.7	3.7	26.1	9.8%	10.4	0.8	0.5	690.1	80.0%	0.31	United Kingdom	
<b>33.2</b>	<b>52.7</b>	<b>192.5</b>	<b>35.1</b>	<b>313.5</b>	<b>10.6%</b>	<b>87.7</b>	<b>14.5</b>	<b>12.1</b>	<b>5 517.4</b>	<b>77.0%</b>	<b>0.32</b>	<b>OECD Europe</b>	
177.9	162.4	874.9	168.7	1 383.9	12.9%	558.8	61.1	97.9	27 870.6	76.2%	..	IEA/Accession/Association	
31.3	55.9	179.7	30.6	297.5	10.5%	84.2	10.1	9.9	5 291.1	77.8%	0.33	European Union - 28	
191.8	183.8	1 095.2	231.7	1 702.5	11.3%	588.4	87.6	109.6	33 252.3	72.5%	0.55	G20	
18.0	6.5	373.8	34.0	432.3	4.2%	1.8	2.3	3.4	6 663.8	21.7%	1.91	Africa	
91.2	76.8	526.8	118.5	813.4	11.2%	242.4	23.8	46.2	13 048.1	62.6%	0.59	Americas	
95.9	48.8	796.3	152.0	1 093.0	8.8%	250.4	32.1	55.3	18 758.2	68.8%	0.68	Asia	
40.1	78.2	241.4	52.5	412.3	9.7%	118.6	39.7	19.7	8 414.8	77.0%	0.43	Europe	
4.3	1.7	63.3	3.3	72.6	5.9%	6.7	1.1	0.5	936.7	49.0%	0.99	Oceania	

1. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>Non-OECD Total</b>	<b>13 203.3</b>	<b>365.4</b>	<b>1 381.2</b>	<b>6 391.8</b>	<b>21 341.8</b>	<b>63.6%</b>	<b>2 195.3</b>	<b>3 223.8</b>	<b>1 036.8</b>	<b>127.0</b>	<b>6 582.9</b>	<b>33.3%</b>
Albania	3.8	0.0	0.3	0.1	4.2	91.1%	0.2	2.0	1.0	0.0	3.1	5.3%
Armenia	4.1	-	0.3	0.2	4.6	89.6%	0.4	1.3	0.3	0.0	1.9	19.2%
Azerbaijan	29.0	0.4	0.9	0.5	30.7	95.6%	4.3	5.9	1.7	0.0	11.8	36.4%
Belarus	55.0	2.1	4.3	2.1	63.6	89.9%	0.9	9.7	5.8	0.0	16.4	5.2%
Bosnia and Herzegovina	15.9	0.2	0.6	0.2	17.0	94.8%	1.2	1.4	0.5	0.0	3.1	39.1%
Bulgaria	46.5	0.5	5.0	0.2	52.2	90.1%	1.2	2.4	5.9	0.0	9.5	12.8%
Croatia	19.9	0.0	2.7	1.2	23.8	83.6%	1.4	1.5	1.1	0.0	4.0	35.4%
Cyprus <sup>2</sup>	7.0	-	0.8	0.0	7.9	89.4%	0.0	0.3	1.2	-	1.6	1.0%
FYR of Macedonia	8.9	0.0	0.7	0.1	9.7	91.7%	0.3	0.8	0.6	0.0	1.7	19.1%
Georgia	4.1	0.0	0.7	0.2	5.0	82.1%	0.4	2.5	0.4	0.0	3.3	12.5%
Gibraltar	0.4	-	0.0	-	0.4	99.9%	0.0	-	0.0	-	0.0	3.4%
Kazakhstan	156.9	7.3	7.9	5.7	177.8	92.3%	29.6	14.6	4.5	0.0	48.6	60.8%
Kosovo <sup>1</sup>	6.6	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	4.9	0.0	0.4	0.6	5.9	83.4%	0.1	3.2	1.3	-	4.6	2.3%
Lithuania	12.4	0.0	1.5	0.5	14.4	86.4%	0.8	2.2	1.5	0.0	4.5	16.7%
Malta	2.7	-	0.0	0.0	2.8	98.4%	0.0	0.1	0.1	-	0.1	1.7%
Republic of Moldova	7.7	-	0.3	0.1	8.1	94.7%	0.4	1.2	0.4	-	2.0	19.8%
Montenegro <sup>1</sup>	2.0	..	..	..	..	..	..	..	..	..	..	..
Romania	92.7	0.5	10.3	1.2	104.7	89.0%	6.2	10.2	5.1	0.0	21.6	28.9%
Russian Federation	1 481.7	32.7	102.4	195.6	1 812.4	83.6%	250.3	62.0	71.3	13.5	397.1	63.0%
Serbia <sup>1</sup>	49.6	0.6	2.3	0.6	53.0	94.6%	1.6	4.0	4.3	0.0	9.9	15.8%
Tajikistan	2.3	0.0	0.8	0.2	3.3	71.2%	0.2	3.2	0.8	-	4.1	3.9%
Turkmenistan	48.1	4.1	0.5	0.6	53.3	97.9%	29.0	8.1	0.8	-	37.9	76.6%
Ukraine	293.9	21.6	35.3	3.3	354.1	89.1%	35.6	19.6	11.0	0.1	66.3	53.7%
Uzbekistan	107.1	3.6	4.6	1.2	116.5	95.1%	27.8	15.9	3.4	0.0	47.2	59.0%
<b>Non-OECD Europe and Eurasia</b>	<b>2 463.4</b>	<b>73.7</b>	<b>182.6</b>	<b>214.4</b>	<b>2 934.0</b>	<b>86.5%</b>	<b>391.8</b>	<b>171.9</b>	<b>122.9</b>	<b>13.8</b>	<b>700.4</b>	<b>55.9%</b>
Algeria	77.4	13.2	7.3	1.1	99.1	91.5%	62.9	5.3	7.0	0.0	75.2	83.6%
Angola	6.1	9.5	0.5	624.7	640.8	2.4%	26.7	50.1	3.1	2.8	82.7	32.3%
Benin	2.7	-	0.1	27.7	30.5	8.8%	0.9	4.0	1.3	-	6.2	14.4%
Botswana	4.3	-	0.2	9.0	13.4	31.8%	0.5	3.3	0.4	0.0	4.2	11.1%
Cameroon	2.9	5.6	0.6	111.2	120.3	7.1%	13.7	14.6	3.2	0.8	32.3	42.5%
Congo	0.8	3.5	0.0	30.4	34.8	12.6%	8.5	2.5	0.7	0.1	11.8	72.2%
Côte d'Ivoire	5.8	0.1	0.3	53.7	59.8	9.8%	4.3	6.0	3.0	0.1	13.4	32.0%
Dem. Rep. of the Congo	1.3	0.8	0.2	866.0	868.4	0.2%	7.9	63.3	9.6	6.2	87.0	9.1%
Egypt	144.6	3.5	23.5	2.5	174.1	85.1%	26.0	17.7	11.8	0.0	55.5	46.9%
Eritrea <sup>1</sup>	0.6	-	0.0	0.0	0.6	89.1%	0.4	2.5	0.6	-	3.5	10.6%
Ethiopia <sup>1</sup>	4.5	-	0.7	92.2	97.4	4.6%	14.8	45.5	10.3	0.9	71.5	20.7%
Gabon	1.7	4.7	0.1	2.9	9.4	68.1%	10.7	0.3	0.3	-	11.4	94.4%
Ghana	6.4	0.0	0.8	56.3	63.5	10.1%	3.0	6.8	3.7	0.1	13.6	22.2%
Kenya	7.5	-	1.2	5.1	13.7	54.4%	9.0	17.3	5.3	0.1	31.6	28.3%
Libya	43.0	9.3	4.2	0.2	56.6	92.3%	27.7	1.3	1.7	0.0	30.7	90.1%
Mauritius	3.0	0.0	0.0	0.0	3.0	99.5%	0.2	0.0	0.2	-	0.4	39.0%
Morocco	39.2	-	6.4	0.5	46.1	85.0%	0.4	6.5	5.9	-	12.8	2.8%
Mozambique	1.5	0.0	1.1	317.1	319.7	0.5%	3.3	26.2	3.5	0.5	33.5	9.9%
Namibia	2.5	-	0.0	12.9	15.4	16.2%	0.1	5.6	0.3	0.0	6.0	1.1%
Niger <sup>1</sup>	0.7	0.0	0.0	1.1	1.9	39.3%	1.5	11.8	1.9	-	15.3	10.1%
Nigeria	56.4	42.2	1.7	76.0	176.3	55.9%	129.5	38.7	21.6	0.3	190.2	68.1%
Senegal	4.6	-	1.1	1.7	7.5	62.0%	1.0	4.9	1.8	-	7.7	12.8%
South Africa	372.3	27.3	16.2	33.2	449.0	89.0%	37.2	26.7	14.2	0.2	78.3	47.5%
South Sudan <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Sudan <sup>1</sup>	9.9	0.6	0.2	313.1	323.7	3.2%	8.5	77.7	6.4	0.4	93.0	9.1%
United Rep. of Tanzania	5.1	0.0	0.6	215.3	221.0	2.3%	7.3	34.8	6.2	0.8	49.1	14.9%
Togo	1.0	-	0.3	17.4	18.7	5.1%	1.5	2.2	0.9	0.0	4.6	33.1%
Tunisia	19.5	0.6	3.1	0.2	23.4	85.8%	3.4	2.5	2.2	-	8.1	42.4%
Zambia	2.1	-	0.3	386.5	388.9	0.5%	3.4	31.7	2.1	0.9	38.2	9.0%
Zimbabwe	10.3	0.4	0.7	21.6	32.9	32.4%	2.4	8.1	2.2	0.1	12.8	18.7%
Other Africa	19.6	2.9	1.4	618.6	642.5	3.5%	28.4	137.0	23.2	2.3	191.0	14.9%
<b>Africa</b>	<b>857.3</b>	<b>124.2</b>	<b>73.0</b>	<b>3 898.3</b>	<b>4 952.8</b>	<b>19.8%</b>	<b>445.1</b>	<b>655.0</b>	<b>154.4</b>	<b>16.7</b>	<b>1 271.2</b>	<b>35.0%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>120.9</b>	<b>79.2</b>	<b>1 497.0</b>	<b>250.8</b>	<b>1 948.0</b>	<b>6.2%</b>	<b>246.9</b>	<b>51.1</b>	<b>58.9</b>	<b>30 229.6</b>	<b>52.5%</b>	<b>0.93</b>	<b>Non-OECD Total</b>	
0.1	-	0.7	0.1	0.8	6.5%	0.1	-	-	8.2	49.2%	0.39	Albania	
0.0	-	0.5	0.1	0.5	1.4%	0.4	-	-	7.5	60.4%	0.48	Armenia	
0.1	-	2.0	0.3	2.4	4.8%	0.1	0.1	-	45.1	74.9%	0.68	Azerbaijan	
0.5	0.3	8.6	0.5	9.8	4.7%	0.5	0.0	-	90.3	64.7%	0.88	Belarus	
0.1	-	0.7	0.2	0.9	9.3%	0.5	0.1	-	21.7	80.4%	0.73	Bosnia and Herzegovina	
0.3	0.7	2.0	0.4	3.4	8.9%	0.4	0.0	-	65.5	74.1%	0.68	Bulgaria	
0.2	0.8	1.5	0.2	2.6	5.9%	0.1	0.0	-	30.5	70.5%	0.37	Croatia	
0.0	-	0.2	0.1	0.3	10.9%	0.2	-	-	10.0	70.9%	0.40	Cyprus <sup>2</sup>	
0.0	-	0.4	0.1	0.5	9.4%	0.1	-	-	12.1	77.0%	0.61	FYR of Macedonia	
0.0	0.6	1.1	0.1	1.9	2.6%	0.0	-	-	10.2	44.6%	0.50	Georgia	
0.0	-	-	0.0	0.0	37.5%	-	-	-	0.4	95.2%	0.48	Gibraltar	
0.9	-	10.9	1.0	12.8	6.8%	0.4	-	-	239.7	81.2%	0.97	Kazakhstan	
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo <sup>1</sup>	
0.0	-	1.1	0.1	1.2	1.2%	0.0	-	-	11.7	43.0%	0.97	Kyrgyzstan	
0.1	1.9	2.0	0.2	4.3	2.7%	0.7	0.0	-	23.9	55.7%	0.41	Lithuania	
0.0	-	0.0	0.0	0.1	11.4%	0.1	-	-	3.1	88.0%	0.31	Malta	
0.0	-	0.6	0.1	0.7	6.2%	0.0	-	-	10.9	74.8%	0.93	Republic of Moldova	
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro <sup>1</sup>	
0.5	2.8	6.1	1.0	10.3	4.7%	0.5	0.3	0.0	137.4	72.7%	0.47	Romania	
6.0	14.6	33.3	17.8	71.7	8.4%	26.0	24.9	8.9	2 340.9	75.6%	0.95	Russian Federation	
0.3	0.5	2.5	0.4	3.8	8.0%	4.9	0.1	-	71.8	72.5%	0.95	Serbia <sup>1</sup>	
0.0	-	1.1	0.1	1.2	0.3%	0.0	0.3	-	9.0	28.0%	0.78	Tajikistan	
0.1	0.6	3.6	0.2	4.5	1.9%	0.1	-	-	95.7	84.9%	3.16	Turkmenistan	
1.2	5.0	11.7	2.0	20.0	6.0%	0.3	0.3	0.3	441.1	79.9%	1.32	Ukraine	
0.4	0.1	8.1	0.6	9.2	4.2%	0.7	-	-	173.6	80.1%	2.23	Uzbekistan	
<b>10.8</b>	<b>27.9</b>	<b>98.4</b>	<b>25.7</b>	<b>162.9</b>	<b>6.6%</b>	<b>36.1</b>	<b>26.3</b>	<b>9.1</b>	<b>3 868.8</b>	<b>76.0%</b>	<b>0.94</b>	<b>Non-OECD Europe and Eurasia</b>	
0.2	0.7	2.9	0.9	4.7	4.4%	0.2	-	0.3	179.5	85.7%	0.45	Algeria	
0.3	-	31.8	2.2	34.3	0.9%	0.0	-	-	757.8	5.6%	10.02	Angola	
0.1	-	2.6	0.2	2.8	3.1%	-	-	-	39.5	9.2%	2.91	Benin	
0.1	-	1.7	0.1	1.9	2.8%	-	-	-	19.5	24.6%	0.92	Botswana	
0.3	-	8.8	0.9	10.0	3.0%	-	0.4	-	163.0	13.8%	3.62	Cameroon	
0.0	-	1.8	0.1	1.9	2.2%	0.0	-	-	48.5	26.7%	2.81	Congo	
0.2	-	4.0	0.4	4.7	5.3%	-	-	-	77.9	13.4%	1.62	Côte d'Ivoire	
0.9	-	40.3	4.6	45.8	2.0%	-	-	-	1 001.2	1.1%	34.03	Dem. Rep. of the Congo	
1.0	3.1	14.5	2.2	20.8	4.8%	0.4	1.4	1.1	253.1	69.2%	0.42	Egypt	
0.0	-	1.2	0.0	1.2	1.6%	-	-	-	5.4	18.0%	0.85	Eritrea <sup>1</sup>	
1.4	-	23.9	2.0	27.4	5.1%	0.0	-	-	196.3	10.6%	3.57	Ethiopia <sup>1</sup>	
0.1	-	0.2	0.1	0.4	21.7%	0.0	-	-	21.1	81.4%	0.90	Gabon	
0.3	-	4.2	0.4	4.9	5.5%	0.0	0.0	-	82.1	11.8%	1.53	Ghana	
0.5	-	8.8	0.8	10.1	4.9%	-	0.0	-	55.5	30.5%	0.71	Kenya	
0.2	-	0.7	0.4	1.3	14.4%	-	-	0.3	88.9	90.1%	0.60	Libya	
0.0	-	0.1	0.1	0.2	15.0%	0.0	-	-	3.6	88.4%	0.24	Mauritius	
0.3	-	4.5	0.8	5.6	5.8%	-	-	-	64.6	61.8%	0.40	Morocco	
0.3	-	17.0	0.8	18.1	1.6%	0.1	0.2	-	371.5	1.4%	24.41	Mozambique	
0.1	-	2.8	0.1	2.9	2.8%	-	-	-	24.3	10.9%	1.68	Namibia	
0.2	-	5.2	0.3	5.6	3.0%	-	-	-	22.7	10.7%	2.23	Niger <sup>1</sup>	
4.4	-	19.5	4.2	28.0	15.6%	0.4	-	0.3	395.2	58.8%	0.70	Nigeria	
0.1	-	2.3	0.2	2.6	2.0%	-	-	-	17.7	32.0%	0.76	Senegal	
2.6	2.1	15.1	3.2	22.9	11.3%	0.6	0.4	1.4	552.7	79.5%	1.07	South Africa	
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan <sup>1</sup>	
0.5	-	40.6	1.1	42.2	1.1%	-	-	-	458.8	4.2%	4.42	Sudan <sup>1</sup>	
0.7	-	19.6	1.5	21.8	3.2%	-	-	-	291.9	4.5%	4.28	United Rep. of Tanzania	
0.1	-	1.4	0.1	1.6	4.1%	-	-	-	24.9	10.2%	3.79	Togo	
0.2	0.3	1.5	0.3	2.3	9.1%	-	-	-	33.8	70.2%	0.39	Tunisia	
0.3	0.4	23.6	0.9	25.2	1.0%	0.0	-	-	452.3	1.3%	15.44	Zambia	
0.4	-	4.3	0.5	5.2	7.2%	-	-	-	50.9	26.4%	2.42	Zimbabwe	
2.4	-	69.0	4.6	76.0	3.2%	0.1	-	-	909.6	5.9%	3.97	Other Africa	
<b>18.0</b>	<b>6.5</b>	<b>373.8</b>	<b>34.0</b>	<b>432.3</b>	<b>4.2%</b>	<b>1.8</b>	<b>2.3</b>	<b>3.4</b>	<b>6 663.8</b>	<b>21.7%</b>	<b>1.91</b>	<b>Africa</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	32.0	0.0	5.3	6.1	43.4	73.7%	7.2	79.5	19.0	0.1	105.8	6.8%
Brunei Darussalam	4.8	0.2	0.1	0.1	5.3	95.5%	4.7	0.0	0.1	0.0	4.9	97.7%
Cambodia	2.6	-	0.0	6.6	9.2	28.6%	1.6	17.6	1.9	0.2	21.3	7.3%
DPR of Korea	75.3	18.4	97.4	57.4	248.4	37.7%	101.5	459.6	155.5	2.1	718.7	14.1%
India	1 079.6	0.7	15.4	1.5	1 097.2	98.5%	1.2	2.9	6.0	0.0	10.2	12.0%
Indonesia	318.5	-	3.9	2.3	324.7	98.1%	13.5	5.1	6.1	0.1	24.7	54.4%
Malaysia	155.8	6.4	29.6	191.8	383.6	42.3%	83.5	94.9	49.9	12.9	241.2	34.6%
Mongolia	11.0	4.9	15.0	18.2	49.1	32.4%	32.4	6.3	6.1	0.7	45.4	71.3%
Myanmar	10.6	0.0	0.1	6.1	16.8	63.1%	1.2	7.3	0.5	0.2	9.2	12.9%
Nepal	3.1	0.0	0.3	121.2	124.7	2.5%	7.8	69.6	7.9	3.3	88.6	8.8%
Pakistan	115.0	-	0.1	3.9	119.0	96.6%	2.5	21.7	2.9	0.3	27.3	9.1%
Philippines	71.5	0.3	12.3	4.6	88.7	80.9%	21.5	104.0	21.2	-	146.7	14.6%
Singapore	37.9	0.4	8.2	6.2	52.7	72.7%	7.0	39.4	16.0	0.0	62.4	11.2%
Sri Lanka	13.4	-	4.8	0.2	18.4	72.9%	0.5	0.0	1.8	0.0	2.3	22.1%
Chinese Taipei	253.6	-	0.7	1.6	256.0	99.1%	1.2	8.0	2.5	0.0	11.7	10.4%
Thailand	200.2	0.5	23.0	46.7	270.4	74.2%	21.1	69.5	13.5	0.8	104.9	20.1%
Viet Nam	79.1	1.2	17.2	31.5	129.0	62.3%	22.4	66.4	13.4	0.8	102.9	21.8%
Other non-OECD Asia	15.5	0.8	0.5	79.2	96.0	17.0%	3.6	21.9	5.4	2.4	33.4	10.8%
<b>Asia (excl. China)</b>	<b>2 479.4</b>	<b>33.8</b>	<b>234.0</b>	<b>585.2</b>	<b>3 332.5</b>	<b>75.4%</b>	<b>334.2</b>	<b>1 073.7</b>	<b>329.6</b>	<b>23.9</b>	<b>1 761.5</b>	<b>19.0%</b>
People's Rep. of China	5 357.7	46.1	716.2	109.4	6 229.4	86.7%	564.3	601.0	229.6	4.7	1 399.6	40.3%
Hong Kong, China	41.3	1.5	0.5	0.2	43.5	98.3%	0.1	0.0	1.9	-	2.0	5.7%
<b>China</b>	<b>5 399.0</b>	<b>47.6</b>	<b>716.7</b>	<b>109.6</b>	<b>6 273.0</b>	<b>86.8%</b>	<b>564.4</b>	<b>601.0</b>	<b>231.5</b>	<b>4.7</b>	<b>1 401.6</b>	<b>40.3%</b>
Argentina	149.4	1.4	7.6	41.2	199.6	75.6%	23.8	97.0	11.6	0.9	133.4	17.9%
Bolivia	9.1	0.3	0.6	237.9	247.9	3.8%	5.5	22.6	1.8	7.9	37.9	14.6%
Brazil	310.5	4.9	35.3	1 107.8	1 458.5	21.6%	42.2	378.7	75.1	53.0	549.0	7.7%
Colombia	53.6	1.1	5.2	4.8	64.7	84.5%	11.4	46.2	9.4	0.0	67.0	17.0%
Costa Rica	5.4	-	0.8	0.5	6.7	81.7%	0.1	2.3	0.8	0.0	3.2	3.9%
Cuba	25.0	0.2	0.7	3.1	29.1	86.7%	1.2	6.7	4.7	0.1	12.7	9.4%
Curaçao <sup>2</sup>	6.0	-	0.0	0.0	6.0	99.1%	0.1	0.0	0.0	-	0.1	87.9%
Dominican Republic	18.2	-	1.1	4.8	24.0	75.7%	0.3	5.0	3.2	0.3	8.8	3.6%
Ecuador	23.9	2.8	1.4	1.6	29.7	89.9%	7.5	11.9	2.7	0.0	22.1	33.9%
El Salvador	6.3	-	0.4	0.5	7.2	87.0%	0.4	2.0	1.1	0.0	3.5	12.1%
Guatemala	10.6	0.0	0.9	33.2	44.7	23.8%	1.2	5.3	2.1	1.4	10.1	11.8%
Haiti	2.0	-	0.2	0.1	2.3	86.6%	2.7	2.7	2.4	0.0	7.8	34.9%
Honduras	7.2	-	0.5	13.9	21.6	33.2%	0.4	5.4	1.1	0.4	7.3	6.0%
Jamaica	10.3	-	0.3	0.1	10.7	95.7%	0.6	0.7	0.8	-	2.0	28.9%
Nicaragua	4.0	-	0.2	0.1	4.4	92.1%	0.3	5.3	1.0	0.0	6.6	5.3%
Panama	6.8	-	0.4	0.3	7.5	90.7%	0.1	3.0	0.6	-	3.7	3.5%
Paraguay	3.5	-	0.3	60.4	64.2	5.4%	0.9	17.0	1.2	1.9	21.0	4.2%
Peru	28.6	0.2	2.4	19.4	50.6	57.0%	2.5	13.6	5.7	0.4	22.1	11.1%
Suriname <sup>1</sup>	1.7	0.0	0.0	0.6	2.3	72.2%	0.0	0.5	0.1	0.0	0.6	6.4%
Trinidad and Tobago	17.5	0.3	16.7	0.1	34.7	51.5%	11.1	0.1	1.8	0.3	13.3	83.5%
Uruguay	5.2	-	0.2	0.1	5.5	92.9%	0.2	22.0	0.9	-	23.2	0.7%
Venezuela	137.1	5.4	8.9	43.8	195.2	73.0%	35.1	30.8	7.5	0.8	74.2	47.3%
Other non-OECD Americas	14.2	0.0	0.9	5.1	20.3	70.3%	0.3	2.5	3.0	0.1	5.9	4.4%
<b>Non-OECD Americas</b>	<b>856.0</b>	<b>16.7</b>	<b>85.2</b>	<b>1 579.4</b>	<b>2 537.3</b>	<b>34.4%</b>	<b>148.1</b>	<b>681.1</b>	<b>138.7</b>	<b>67.4</b>	<b>1 035.4</b>	<b>14.3%</b>
Bahrain	20.6	0.0	2.3	0.0	22.9	89.8%	3.7	0.0	0.5	0.0	4.2	87.1%
Islamic Republic of Iran	417.6	24.4	25.0	2.2	469.3	94.2%	100.6	23.4	23.6	0.1	147.7	68.1%
Iraq	73.2	14.1	1.8	0.4	89.5	97.5%	35.2	3.3	7.9	0.0	46.4	75.8%
Jordan	17.9	-	1.8	0.1	19.7	90.7%	0.2	0.5	2.0	-	2.7	7.4%
Kuwait	64.7	6.4	4.0	0.1	75.3	94.5%	24.0	0.2	1.3	0.0	25.5	94.2%
Lebanon	14.5	-	2.0	0.1	16.5	87.6%	0.1	0.3	1.5	-	1.9	5.4%
Oman	25.2	5.1	2.8	0.1	33.1	91.4%	20.3	0.7	1.0	-	21.9	92.6%
Qatar	33.2	4.5	5.9	0.0	43.6	86.5%	26.8	0.1	1.0	0.0	27.9	96.2%
Saudi Arabia	298.0	8.2	32.2	1.0	339.4	90.2%	60.9	3.0	11.2	0.3	75.3	80.8%
Syrian Arab Republic	53.4	2.3	2.3	0.5	58.6	95.2%	8.3	4.2	4.3	-	16.8	49.0%
United Arab Emirates	111.1	2.1	8.9	0.3	122.4	92.6%	26.1	0.8	1.9	0.0	28.9	90.4%
Yemen	18.8	2.1	0.8	0.1	21.8	96.1%	5.6	4.4	3.5	-	13.6	41.6%
<b>Middle East</b>	<b>1 148.2</b>	<b>69.3</b>	<b>89.7</b>	<b>4.9</b>	<b>1 312.1</b>	<b>92.8%</b>	<b>311.7</b>	<b>40.9</b>	<b>59.6</b>	<b>0.5</b>	<b>412.7</b>	<b>75.5%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.



## 2005 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
0.8	-	17.9	1.9	20.6	3.8%	-	-	-	169.7	23.5%	0.63	Bangladesh	
0.0	-	0.1	0.0	0.1	8.0%	0.3	-	-	10.6	92.8%	0.39	Brunei Darussalam	
0.1	-	2.6	0.4	3.1	4.7%	-	-	-	33.6	12.9%	1.31	Cambodia	
15.1	1.7	161.2	23.5	201.6	7.5%	12.5	1.7	4.4	1 187.3	17.7%	10.96	DPR of Korea	
1.3	0.7	1.8	1.4	5.1	24.5%	0.1	3.9	3.1	1 119.6	96.7%	0.31	India	
0.4	-	1.9	0.7	3.0	13.2%	3.2	-	-	355.7	93.4%	0.23	Indonesia	
4.6	0.2	59.3	14.0	78.1	5.9%	-	0.1	0.8	703.9	35.6%	1.51	Malaysia	
0.7	0.4	8.8	1.6	11.4	6.1%	0.0	0.4	0.6	107.0	45.8%	7.14	Mongolia	
0.1	-	3.5	0.3	3.8	2.1%	-	-	-	29.8	39.8%	0.20	Myanmar	
0.6	-	15.0	3.0	18.6	3.1%	-	-	-	231.9	4.9%	5.48	Nepal	
0.4	-	3.1	0.7	4.2	10.3%	-	-	-	150.5	78.3%	0.25	Pakistan	
1.8	0.7	34.4	3.3	40.2	4.5%	-	-	0.8	276.3	34.4%	0.68	Philippines	
0.6	0.0	9.4	1.7	11.7	5.0%	-	-	0.3	127.1	36.1%	0.49	Singapore	
0.1	0.7	0.0	0.9	1.7	5.4%	1.6	0.9	0.3	25.3	55.3%	0.20	Sri Lanka	
0.3	-	1.4	0.5	2.2	13.3%	-	-	-	269.9	94.5%	0.38	Chinese Taipei	
2.4	0.5	14.4	2.6	19.7	11.9%	-	-	1.1	396.1	56.6%	0.54	Thailand	
1.1	-	17.0	2.5	20.6	5.4%	-	-	-	252.5	41.1%	0.90	Viet Nam	
0.3	-	7.9	2.5	10.6	2.5%	0.1	-	-	140.1	14.4%	1.25	Other non-OECD Asia	
<b>30.6</b>	<b>4.8</b>	<b>359.5</b>	<b>61.5</b>	<b>456.4</b>	<b>6.7%</b>	<b>17.8</b>	<b>7.1</b>	<b>11.4</b>	<b>5 586.8</b>	<b>51.5%</b>	<b>0.59</b>	<b>Asia (excl. China)</b>	
45.0	28.6	341.2	53.3	468.1	9.6%	185.4	9.7	27.7	8 319.8	72.3%	1.15	People's Rep. of China	
0.2	-	0.0	0.3	0.4	37.5%	-	-	0.1	46.1	93.4%	0.17	Hong Kong, China	
<b>45.2</b>	<b>28.6</b>	<b>341.2</b>	<b>53.6</b>	<b>468.6</b>	<b>9.6%</b>	<b>185.4</b>	<b>9.7</b>	<b>27.8</b>	<b>8 366.0</b>	<b>72.4%</b>	<b>1.11</b>	<b>China</b>	
1.7	0.2	45.3	2.2	49.3	3.5%	0.3	0.1	0.3	383.1	46.0%	0.74	Argentina	
0.2	-	11.4	5.3	16.9	1.1%	-	-	-	302.6	5.0%	7.21	Bolivia	
5.9	1.6	158.3	40.8	206.7	2.9%	2.1	4.9	1.1	2 222.3	16.4%	0.99	Brazil	
0.6	0.3	17.2	1.0	19.0	3.0%	-	0.0	0.1	150.8	44.2%	0.38	Colombia	
0.1	0.0	1.1	0.1	1.3	6.6%	0.1	-	-	11.2	50.2%	0.25	Costa Rica	
0.2	0.6	4.6	0.4	5.9	3.3%	0.1	-	-	47.9	55.7%	0.30	Cuba	
0.0	-	0.0	0.0	0.1	31.5%	-	-	-	6.2	98.2%	2.76	Curaçao <sup>2</sup>	
0.1	-	1.8	0.5	2.5	5.8%	-	-	-	35.3	52.9%	0.44	Dominican Republic	
0.1	-	3.4	0.5	4.0	3.5%	0.1	-	-	55.9	61.5%	0.48	Ecuador	
0.1	-	1.0	0.2	1.3	7.8%	0.1	-	-	12.1	56.2%	0.29	El Salvador	
0.2	-	2.7	1.3	4.2	5.9%	0.5	-	-	59.6	20.2%	0.74	Guatemala	
0.1	-	1.2	0.1	1.4	7.9%	-	-	-	11.5	41.8%	0.81	Haiti	
0.1	-	2.7	0.5	3.3	3.4%	-	-	-	32.1	24.0%	1.20	Honduras	
0.1	-	0.4	0.2	0.6	12.0%	0.1	-	-	13.4	81.6%	0.59	Jamaica	
0.1	-	2.8	0.1	3.0	2.5%	-	-	-	14.0	31.8%	0.70	Nicaragua	
0.1	-	1.0	0.1	1.2	5.0%	-	-	-	12.3	56.4%	0.32	Panama	
0.1	-	7.5	1.4	9.0	1.4%	-	-	-	94.1	4.8%	2.71	Paraguay	
0.2	-	6.2	0.9	7.3	3.0%	0.4	-	-	80.4	39.2%	0.39	Peru	
0.0	-	0.1	0.1	0.2	12.5%	-	-	-	3.2	54.7%	0.53	Suriname <sup>1</sup>	
0.0	-	6.6	0.1	6.7	0.6%	0.1	-	-	54.7	52.9%	1.70	Trinidad and Tobago	
0.7	0.0	11.6	1.7	14.0	5.2%	0.9	0.3	0.2	44.1	13.7%	1.04	Uruguay	
0.1	-	2.4	0.3	2.9	5.1%	0.0	0.0	0.0	272.3	65.3%	0.69	Venezuela	
0.1	-	2.4	0.3	2.9	5.1%	0.0	0.0	0.0	29.0	50.5%	0.76	Other non-OECD Americas	
<b>11.2</b>	<b>2.7</b>	<b>291.5</b>	<b>58.2</b>	<b>363.6</b>	<b>3.1%</b>	<b>4.7</b>	<b>5.3</b>	<b>1.8</b>	<b>3 948.2</b>	<b>26.1%</b>	<b>0.86</b>	<b>Non-OECD Americas</b>	
0.0	-	0.0	0.1	0.1	19.9%	-	0.2	-	27.5	88.3%	0.73	Bahrain	
2.4	8.3	18.3	6.9	35.9	6.7%	-	0.1	2.2	655.4	83.2%	0.65	Islamic Republic of Iran	
0.4	-	2.6	2.2	5.1	6.9%	-	-	0.1	141.1	87.1%	0.49	Iraq	
0.1	-	0.4	0.4	0.8	6.6%	0.1	-	-	23.4	77.6%	0.48	Jordan	
0.2	-	0.1	0.4	0.7	23.8%	0.6	-	0.4	102.5	93.0%	0.49	Kuwait	
0.1	-	0.4	0.4	0.8	9.4%	-	-	-	19.2	76.2%	0.40	Lebanon	
0.1	-	0.4	0.3	0.8	11.5%	0.2	-	-	56.0	90.4%	0.55	Oman	
0.1	-	0.0	0.2	0.3	23.5%	-	-	-	71.8	90.0%	0.76	Qatar	
0.9	-	3.2	3.4	7.5	12.3%	0.2	-	1.9	424.3	86.7%	0.45	Saudi Arabia	
0.4	0.2	4.4	1.4	6.4	6.2%	-	-	-	81.8	78.7%	0.79	Syrian Arab Republic	
0.2	-	0.5	0.9	1.6	13.8%	-	0.2	0.8	153.9	90.7%	0.37	United Arab Emirates	
0.4	-	2.3	1.3	4.0	8.9%	-	-	-	39.3	68.5%	0.48	Yemen	
<b>5.1</b>	<b>8.6</b>	<b>32.6</b>	<b>17.9</b>	<b>64.2</b>	<b>8.0%</b>	<b>1.2</b>	<b>0.5</b>	<b>5.3</b>	<b>1 796.1</b>	<b>85.4%</b>	<b>0.53</b>	<b>Middle East</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>World <sup>1</sup></b>	<b>30 434.4</b>	<b>439.7</b>	<b>2 563.2</b>	<b>6 945.3</b>	<b>40 382.6</b>	<b>76.5%</b>	<b>3 012.5</b>	<b>4 196.2</b>	<b>1 675.5</b>	<b>162.6</b>	<b>9 046.9</b>	<b>33.3%</b>
<i>Annex I Parties</i>	13 222.9	103.7	700.2	886.5	14 913.3	89.4%	815.5	771.5	569.2	46.0	2 202.2	37.0%
<i>Annex II Parties</i>	10 398.5	51.3	476.0	578.7	11 504.5	90.8%	440.0	613.4	375.6	24.7	1 453.7	30.3%
<i>North America</i>	5 875.5	29.8	177.5	379.0	6 461.8	91.4%	295.9	257.4	188.4	23.3	764.9	38.7%
<i>Europe</i>	2 991.7	17.1	192.4	53.1	3 254.3	92.5%	99.3	215.3	158.4	0.5	473.5	21.0%
<i>Asia Oceania</i>	1 531.3	4.4	106.1	146.6	1 788.4	85.9%	44.7	140.7	28.8	0.9	215.2	20.8%
<i>Annex I EIT</i>	2 548.7	51.2	183.7	304.3	3 087.9	84.2%	362.2	131.2	143.5	21.3	658.3	55.0%
<i>Non-Annex I Parties</i>	16 090.9	336.0	1 863.1	6 058.7	24 348.7	67.5%	2 184.7	3 424.7	1 106.3	116.6	6 832.4	32.0%
<i>Annex B Kyoto Parties</i>	4 631.6	51.9	297.4	211.3	5 192.1	90.2%	263.7	381.1	241.0	1.4	887.2	29.7%
<b>Intl. aviation bunkers</b>	<b>457.7</b>	-	-	-	<b>457.7</b>	<b>100.0%</b>	<b>0.1</b>	-	-	-	<b>0.1</b>	<b>100.0%</b>
<b>Intl. marine bunkers</b>	<b>662.9</b>	-	-	-	<b>662.9</b>	<b>100.0%</b>	<b>12.2</b>	-	-	-	<b>12.2</b>	<b>100.0%</b>
<b>Non-OECD Total</b>	<b>16 977.3</b>	<b>368.6</b>	<b>1 938.4</b>	<b>6 315.0</b>	<b>25 599.3</b>	<b>67.8%</b>	<b>2 450.6</b>	<b>3 433.5</b>	<b>1 167.5</b>	<b>136.8</b>	<b>7 188.5</b>	<b>34.1%</b>
<b>OECD Total</b>	<b>12 336.4</b>	<b>71.1</b>	<b>624.8</b>	<b>630.3</b>	<b>13 662.6</b>	<b>90.8%</b>	<b>549.6</b>	<b>762.7</b>	<b>508.0</b>	<b>25.8</b>	<b>1 846.0</b>	<b>29.8%</b>
Canada	528.4	6.7	26.7	264.4	826.2	64.8%	61.6	27.5	27.3	20.1	136.5	45.1%
Chile	68.6	0.2	5.1	0.5	74.4	92.5%	3.3	7.6	10.3	0.2	21.5	15.5%
Mexico	440.3	7.3	25.2	39.7	512.5	87.3%	43.7	66.2	26.1	0.7	136.7	31.9%
United States	5 347.0	23.1	150.8	114.7	5 635.6	95.3%	234.3	229.9	161.1	3.2	628.5	37.3%
<b>OECD Americas</b>	<b>6 384.4</b>	<b>37.3</b>	<b>207.8</b>	<b>419.2</b>	<b>7 048.7</b>	<b>91.1%</b>	<b>342.9</b>	<b>331.2</b>	<b>224.8</b>	<b>24.2</b>	<b>923.1</b>	<b>37.1%</b>
Australia	389.1	3.3	16.5	140.2	549.1	71.5%	38.7	77.0	15.0	0.7	131.4	29.5%
Israel <sup>2</sup>	68.4	0.1	3.3	0.5	72.2	94.8%	1.4	1.2	4.4	0.0	6.9	19.6%
Japan	1 111.8	1.0	87.5	4.1	1 204.5	92.4%	4.7	34.7	9.5	0.1	49.0	9.5%
Korea	550.7	4.0	43.9	2.3	601.0	92.3%	4.4	17.4	14.8	0.1	36.7	12.1%
New Zealand	30.3	0.1	2.1	2.4	34.9	87.2%	1.4	29.1	4.3	0.1	34.8	4.0%
<b>OECD Asia Oceania</b>	<b>2 150.4</b>	<b>8.5</b>	<b>153.3</b>	<b>149.4</b>	<b>2 461.6</b>	<b>87.7%</b>	<b>50.5</b>	<b>159.3</b>	<b>48.0</b>	<b>1.0</b>	<b>258.9</b>	<b>19.5%</b>
Austria	68.7	0.3	5.0	1.2	75.2	91.7%	2.4	4.9	3.1	0.0	10.5	23.2%
Belgium	103.6	0.5	10.7	0.8	115.6	90.1%	6.5	6.7	3.6	0.0	16.9	38.7%
Czech Republic	112.6	1.7	5.3	0.8	120.4	94.9%	3.8	4.3	4.8	0.0	12.9	29.6%
Denmark	47.2	0.2	0.9	0.6	49.0	96.8%	1.5	6.4	1.4	-	9.3	16.1%
Estonia	18.7	0.3	0.3	0.1	19.4	97.8%	0.4	0.7	1.7	0.0	2.8	14.7%
Finland	62.0	0.4	2.6	0.5	65.4	95.3%	4.5	2.3	7.7	0.0	14.5	30.8%
France	340.8	2.0	28.2	6.5	377.4	90.8%	7.5	43.3	17.3	0.1	68.1	11.0%
Germany	758.9	5.5	40.0	12.5	816.9	93.6%	13.9	35.3	21.8	0.2	71.2	19.6%
Greece	83.4	0.0	5.5	1.1	90.1	92.6%	14.6	4.5	4.6	0.0	23.8	61.6%
Hungary	47.1	0.4	3.4	0.5	51.4	92.5%	2.3	2.9	4.0	0.0	9.3	24.6%
Iceland	1.9	-	1.7	0.0	3.7	53.1%	0.0	0.3	0.2	0.0	0.5	0.8%
Ireland	39.3	1.0	1.3	0.7	42.2	95.4%	2.2	13.5	1.3	-	17.1	13.1%
Italy	391.9	1.3	27.5	6.8	427.5	92.0%	6.8	19.9	18.2	0.0	45.0	15.2%
Latvia	8.1	-	0.4	0.4	8.9	90.6%	0.6	1.0	0.6	0.0	2.3	26.5%
Luxembourg	10.6	-	0.6	0.0	11.2	94.7%	0.1	0.4	0.1	-	0.6	10.7%
Netherlands	170.0	0.7	13.7	1.6	185.9	91.8%	6.5	11.9	5.7	0.1	24.2	26.7%
Norway	37.5	0.9	7.5	0.8	46.8	82.2%	16.0	2.4	2.5	0.1	21.0	76.0%
Poland	307.6	3.6	15.1	2.6	328.9	94.6%	33.6	18.5	13.1	0.0	65.3	51.5%
Portugal	47.5	0.0	5.2	4.2	56.9	83.6%	0.8	4.4	7.4	0.0	12.6	6.6%
Slovak Republic	34.6	1.1	5.2	0.2	41.0	87.0%	1.2	1.7	3.1	0.0	6.0	20.4%
Slovenia	15.5	-	1.8	0.6	17.9	86.3%	1.5	1.4	0.7	0.0	3.6	43.4%
Spain	262.0	0.2	20.3	6.9	289.3	90.6%	3.0	23.2	16.4	0.1	42.7	7.1%
Sweden	46.0	1.4	4.1	1.8	53.4	88.9%	1.1	3.6	7.9	0.0	12.5	8.5%
Switzerland	43.2	0.0	2.6	0.6	46.5	93.1%	0.7	3.7	6.6	0.0	11.1	6.6%
Turkey	265.8	1.2	39.8	3.5	310.2	86.1%	13.3	26.5	48.6	0.0	88.4	15.0%
United Kingdom	477.0	2.7	15.1	6.3	501.1	95.7%	11.1	28.3	32.5	0.1	71.9	15.4%
<b>OECD Europe</b>	<b>3 801.6</b>	<b>25.3</b>	<b>263.7</b>	<b>61.7</b>	<b>4 152.3</b>	<b>92.2%</b>	<b>156.1</b>	<b>272.2</b>	<b>235.1</b>	<b>0.6</b>	<b>664.1</b>	<b>23.5%</b>
<i>IEA/Accession/Association</i>	22 233.7	174.0	1 804.2	806.5	25 018.3	89.6%	1 263.8	1 543.4	814.1	34.4	3 655.7	34.6%
<i>European Union - 28</i>	3 612.6	24.0	227.9	59.2	3 923.7	92.7%	135.8	255.1	192.4	0.6	583.9	23.3%
<b>G20</b>	<b>24 864.0</b>	<b>236.6</b>	<b>2 000.3</b>	<b>2 389.2</b>	<b>29 490.2</b>	<b>85.1%</b>	<b>1 652.4</b>	<b>1 958.9</b>	<b>977.9</b>	<b>109.6</b>	<b>4 698.8</b>	<b>35.2%</b>
<i>Africa</i>	996.1	105.0	85.7	3 491.4	4 678.1	23.5%	437.5	680.5	177.6	13.0	1 308.6	33.4%
<i>Americas</i>	7 407.2	53.7	311.3	2 324.6	10 096.8	73.9%	498.3	1 034.7	378.3	101.9	2 013.3	24.7%
<i>Asia</i>	14 849.7	208.3	1 767.0	628.5	17 453.6	86.3%	1 558.9	2 019.8	790.4	25.1	4 394.1	35.5%
<i>Europe</i>	5 641.3	69.3	380.7	358.3	6 430.2	88.7%	465.5	355.2	310.0	21.8	1 152.4	40.4%
<i>Oceania</i>	419.5	3.4	18.6	142.5	583.9	72.4%	40.1	106.0	19.3	0.7	166.2	24.1%

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2. Please refer to the chapter *Geographical Coverage* in Part I.  
Sources: IEA, CO<sub>2</sub> emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.



## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>278.2</b>	<b>172.2</b>	<b>2 124.9</b>	<b>407.1</b>	<b>2 982.4</b>	<b>9.3%</b>	<b>746.6</b>	<b>60.5</b>	<b>157.3</b>	<b>53 376.3</b>	<b>64.0%</b>	<b>0.60</b>	<b>World<sup>1</sup></b>	
121.1	85.1	515.3	118.7	840.2	14.4%	488.7	43.2	73.7	18 561.2	76.8%	0.42	Annex I Parties	
103.2	46.2	403.9	81.9	635.3	16.3%	439.3	26.8	62.0	14 121.5	77.8%	0.38	Annex II Parties	
68.8	18.9	200.7	49.9	338.2	20.3%	284.1	11.1	45.0	7 905.1	79.3%	0.48	North America	
23.6	23.7	141.3	23.0	211.6	11.2%	102.4	8.0	12.4	4 062.2	77.1%	0.27	Europe	
10.8	3.7	61.9	9.1	85.5	12.7%	52.7	7.8	4.7	2 154.2	73.9%	0.40	Asia Oceania	
14.7	37.4	90.2	30.7	173.1	8.5%	44.3	16.1	9.8	3 989.5	74.6%	0.71	Annex I EIT	
148.1	87.1	1 609.6	263.3	2 108.1	7.0%	258.0	17.4	83.6	33 648.1	55.8%	0.75	Non-Annex I Parties	
37.3	44.6	255.3	35.6	372.8	10.0%	124.8	9.5	13.7	6 600.1	75.5%	0.34	Annex B Kyoto Parties	
<b>3.9</b>	-	-	<b>2.9</b>	<b>6.7</b>	<b>57.3%</b>	-	-	-	<b>464.5</b>	<b>99.4%</b>	<b>..</b>	<b>Intl. aviation bunkers</b>	
<b>5.1</b>	-	-	<b>22.2</b>	<b>27.3</b>	<b>18.7%</b>	-	-	-	<b>702.5</b>	<b>96.8%</b>	<b>..</b>	<b>Intl. marine bunkers</b>	
<b>148.7</b>	<b>46.0</b>	<b>1 628.6</b>	<b>279.6</b>	<b>2 102.9</b>	<b>7.1%</b>	<b>277.5</b>	<b>30.8</b>	<b>85.8</b>	<b>35 284.8</b>	<b>56.5%</b>	<b>0.78</b>	<b>Non-OECD Total</b>	
<b>120.6</b>	<b>126.1</b>	<b>496.3</b>	<b>102.4</b>	<b>845.4</b>	<b>14.3%</b>	<b>469.2</b>	<b>29.8</b>	<b>71.5</b>	<b>16 924.5</b>	<b>77.3%</b>	<b>0.39</b>	<b>OECD Total</b>	
6.0	0.8	23.7	16.4	46.9	12.8%	17.0	3.8	4.0	1 034.5	58.3%	0.76	Canada	
0.5	0.7	5.8	0.9	7.8	6.6%	-	0.0	0.0	103.6	70.1%	0.33	Chile	
3.7	69.0	33.3	5.5	111.4	3.3%	11.0	0.1	0.5	772.3	64.1%	0.45	Mexico	
62.8	18.1	177.1	33.4	291.3	21.5%	267.1	7.3	40.9	6 870.7	82.5%	0.46	United States	
<b>73.0</b>	<b>88.5</b>	<b>239.8</b>	<b>56.2</b>	<b>457.5</b>	<b>16.0%</b>	<b>295.2</b>	<b>11.2</b>	<b>45.4</b>	<b>8 781.1</b>	<b>77.9%</b>	<b>0.48</b>	<b>OECD Americas</b>	
3.5	1.8	42.5	2.8	50.6	7.0%	8.7	0.5	0.6	740.8	58.7%	0.79	Australia	
0.2	0.0	0.9	1.1	2.2	11.1%	2.0	0.1	0.6	84.1	83.4%	0.38	Israel <sup>2</sup>	
7.0	1.9	7.6	6.0	22.5	31.1%	42.8	7.1	4.1	1 330.0	84.5%	0.31	Japan	
3.6	1.1	5.3	3.0	13.0	27.5%	3.2	1.9	6.1	662.0	85.0%	0.44	Korea	
0.3	-	11.8	0.3	12.4	2.6%	1.1	0.1	0.1	83.5	38.5%	0.61	New Zealand	
<b>14.7</b>	<b>4.7</b>	<b>68.1</b>	<b>13.1</b>	<b>100.7</b>	<b>14.6%</b>	<b>57.9</b>	<b>9.8</b>	<b>11.5</b>	<b>2 900.3</b>	<b>76.7%</b>	<b>0.41</b>	<b>OECD Asia Oceania</b>	
0.7	0.3	2.2	0.6	3.8	18.1%	2.9	0.2	0.2	92.9	77.6%	0.26	Austria	
0.7	4.6	2.8	0.8	8.8	7.7%	2.9	0.0	0.1	144.4	77.2%	0.33	Belgium	
1.5	0.6	3.0	0.8	6.0	24.8%	1.7	0.0	0.0	141.0	84.8%	0.49	Czech Republic	
0.5	0.0	4.4	0.5	5.4	10.0%	1.9	0.0	0.0	65.7	75.3%	0.27	Denmark	
0.2	-	0.5	0.1	0.8	21.0%	0.1	0.0	0.0	23.0	84.8%	0.80	Estonia	
2.1	1.3	2.7	0.5	6.6	32.2%	1.2	0.0	0.1	87.9	78.5%	0.42	Finland	
3.5	2.5	32.2	3.0	41.2	8.4%	20.3	0.6	1.8	509.4	69.4%	0.22	France	
4.6	3.5	28.9	4.1	41.0	11.3%	21.9	1.2	6.5	958.8	81.7%	0.30	Germany	
0.6	0.4	3.2	0.8	5.0	12.6%	1.2	0.1	0.1	120.3	82.1%	0.38	Greece	
0.3	1.3	3.6	0.6	5.8	5.8%	1.9	0.0	0.0	68.5	73.3%	0.32	Hungary	
0.0	0.0	0.3	0.0	0.4	3.6%	0.1	0.1	0.0	4.7	41.8%	0.39	Iceland	
0.3	-	6.6	0.3	7.1	3.6%	1.4	0.2	0.1	68.0	62.9%	0.35	Ireland	
2.9	0.4	11.6	3.2	18.1	16.2%	14.0	0.6	1.0	506.2	79.6%	0.24	Italy	
0.1	-	1.0	0.1	1.2	12.1%	1.4	0.0	-	13.9	63.7%	0.38	Latvia	
0.1	-	0.1	0.1	0.3	32.5%	0.2	0.0	-	12.2	88.3%	0.28	Luxembourg	
0.8	1.3	5.7	1.0	8.7	8.7%	4.7	0.3	0.1	223.9	79.4%	0.30	Netherlands	
0.3	1.0	1.8	0.4	3.4	9.1%	0.5	2.4	0.2	74.3	73.7%	0.26	Norway	
3.7	4.6	16.3	2.0	26.7	13.8%	2.8	0.3	0.3	424.2	82.2%	0.53	Poland	
0.5	0.5	2.4	0.5	3.9	12.6%	1.0	0.0	0.1	74.6	65.5%	0.26	Portugal	
0.3	1.2	1.2	0.3	3.0	9.9%	0.5	0.1	-	50.5	73.5%	0.37	Slovak Republic	
0.1	-	0.6	0.2	0.9	15.0%	0.6	0.1	0.0	23.0	74.5%	0.40	Slovenia	
2.3	1.2	15.5	2.7	21.7	10.6%	10.3	1.3	0.9	366.2	73.0%	0.25	Spain	
1.1	5.3	3.2	0.7	10.2	10.7%	1.8	0.4	0.1	78.6	63.2%	0.20	Sweden	
0.3	0.1	1.3	0.4	2.2	16.2%	2.5	0.1	0.5	62.7	70.7%	0.15	Switzerland	
3.1	1.4	20.9	6.0	31.4	9.9%	4.6	0.3	1.9	436.9	64.9%	0.35	Turkey	
2.2	1.4	16.5	3.5	23.6	9.5%	13.8	0.4	0.5	611.4	80.6%	0.27	United Kingdom	
<b>33.0</b>	<b>32.9</b>	<b>188.3</b>	<b>33.1</b>	<b>287.3</b>	<b>11.5%</b>	<b>116.1</b>	<b>8.8</b>	<b>14.6</b>	<b>5 243.2</b>	<b>76.6%</b>	<b>0.29</b>	<b>OECD Europe</b>	
185.1	128.4	913.3	170.1	1 397.0	13.3%	664.9	37.7	125.6	30 899.1	77.2%	..	IEA/Accession/Association	
30.3	36.3	176.1	28.1	270.8	11.2%	111.3	6.2	12.0	4 908.0	77.5%	0.29	European Union - 28	
198.2	151.5	1 149.2	239.8	1 738.8	11.4%	702.1	53.7	138.3	36 821.8	73.2%	0.52	G20	
20.8	7.3	382.7	34.9	445.7	4.7%	2.5	1.4	4.2	6 440.5	24.2%	1.43	Africa	
86.0	90.2	561.8	123.6	861.6	10.0%	302.4	14.3	47.6	13 336.0	60.3%	0.55	Americas	
119.5	11.6	890.0	165.9	1 187.0	10.1%	276.9	20.0	82.7	23 414.3	71.5%	0.62	Asia	
39.0	61.3	236.1	54.6	391.0	10.0%	154.9	24.2	22.2	8 182.9	75.8%	0.39	Europe	
3.9	1.8	54.3	3.1	63.0	6.1%	9.8	0.6	0.6	824.2	56.6%	0.77	Oceania	

1. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>Non-OECD Total</b>	<b>16 977.3</b>	<b>368.6</b>	<b>1 938.4</b>	<b>6 315.0</b>	<b>25 599.3</b>	<b>67.8%</b>	<b>2 450.6</b>	<b>3 433.5</b>	<b>1 167.5</b>	<b>136.8</b>	<b>7 188.5</b>	<b>34.1%</b>
Albania	3.9	0.0	0.6	0.1	4.6	85.5%	0.2	1.7	0.9	0.0	2.8	6.3%
Armenia	4.0	-	0.2	0.7	5.0	81.1%	0.4	1.3	0.2	0.0	2.0	21.4%
Azerbaijan	23.5	0.4	0.6	1.0	25.6	93.4%	9.2	6.8	1.9	0.0	17.9	51.4%
Belarus	59.9	4.3	5.1	2.2	71.4	89.9%	0.8	10.3	7.9	0.0	19.0	4.2%
Bosnia and Herzegovina	20.5	0.6	1.0	0.2	22.2	94.7%	1.4	1.5	0.9	0.0	3.8	37.5%
Bulgaria	44.4	0.4	3.9	0.2	48.9	91.5%	1.2	2.0	5.7	0.0	8.9	13.6%
Croatia	18.2	0.1	2.6	0.8	21.7	84.4%	1.7	1.4	1.3	0.0	4.4	38.1%
Cyprus <sup>2</sup>	7.3	-	0.7	0.0	8.0	90.9%	0.0	0.3	1.3	-	1.6	0.9%
FYR of Macedonia	8.3	0.0	0.8	0.0	9.2	90.8%	0.3	0.7	1.0	0.0	2.1	16.0%
Georgia	5.0	0.0	1.0	0.2	6.2	80.6%	0.4	2.1	0.4	0.0	3.0	15.1%
Gibraltar	0.5	-	0.0	-	0.5	99.9%	0.0	-	0.0	-	0.0	3.2%
Kazakhstan	221.1	5.8	9.1	5.6	241.6	93.9%	35.7	17.2	4.9	0.0	57.8	61.7%
Kosovo <sup>1</sup>	8.7	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	6.0	0.0	0.3	0.3	6.7	90.2%	0.2	3.9	1.3	-	5.4	2.8%
Lithuania	12.3	0.0	1.4	0.3	14.0	88.2%	0.8	2.1	1.5	0.0	4.4	17.7%
Malta	2.6	-	0.0	0.0	2.6	98.3%	0.0	0.1	0.1	-	0.2	1.0%
Republic of Moldova	7.9	-	0.4	0.1	8.4	93.9%	0.4	1.0	0.5	-	1.8	22.2%
Montenegro <sup>1</sup>	2.6	..	..	..	..	..	..	..	..	..	..	..
Romania	74.8	0.3	7.1	1.1	83.3	90.1%	6.0	9.9	5.4	0.0	21.3	28.0%
Russian Federation	1 528.9	25.5	105.0	291.9	1 951.3	79.7%	272.3	59.9	82.2	21.1	435.5	62.5%
Serbia <sup>1</sup>	45.9	0.4	1.8	0.4	48.6	95.3%	1.6	3.8	4.5	0.0	9.9	16.4%
Tajikistan	2.3	0.0	0.7	0.1	3.1	73.2%	0.2	4.4	0.9	-	5.5	3.7%
Turkmenistan	56.9	3.2	1.2	1.1	62.4	96.3%	22.0	8.7	0.9	-	31.6	69.6%
Ukraine	266.2	13.7	27.0	2.6	309.5	90.4%	36.0	15.2	11.4	0.1	62.6	57.5%
Uzbekistan	97.1	2.8	6.6	1.1	107.5	92.8%	26.0	20.3	3.9	0.0	50.3	51.7%
<b>Non-OECD Europe and Eurasia</b>	<b>2 528.7</b>	<b>57.3</b>	<b>177.2</b>	<b>310.4</b>	<b>3 073.6</b>	<b>84.1%</b>	<b>416.8</b>	<b>174.6</b>	<b>139.1</b>	<b>21.3</b>	<b>751.8</b>	<b>55.4%</b>
Algeria	95.5	11.4	9.1	0.9	116.9	91.4%	57.9	6.1	7.8	0.0	71.9	80.5%
Angola	15.1	8.3	0.5	635.7	659.7	3.5%	26.3	52.5	3.9	1.9	84.7	31.1%
Benin	4.6	-	0.5	16.0	21.1	21.7%	1.1	3.4	1.6	-	6.0	18.0%
Botswana	3.3	-	0.2	47.3	50.8	6.4%	0.5	6.8	0.5	0.0	7.8	6.9%
Cameroon	5.0	5.0	0.5	63.7	74.3	13.6%	12.3	10.1	3.7	0.3	26.4	46.5%
Congo	1.8	3.5	0.0	27.0	32.4	16.6%	8.7	2.3	0.8	0.1	12.0	72.8%
Côte d'Ivoire	6.2	0.2	0.1	32.2	38.7	16.6%	4.7	4.7	3.0	0.0	12.4	37.8%
Dem. Rep. of the Congo	1.9	0.7	0.2	845.7	848.6	0.3%	8.7	62.3	11.6	5.6	88.2	9.8%
Egypt	176.4	3.3	28.4	3.5	216.6	84.9%	27.6	16.8	12.9	0.0	57.2	48.2%
Eritrea <sup>1</sup>	0.5	-	0.0	0.0	0.5	90.4%	0.4	2.7	0.7	-	3.8	11.6%
Ethiopia <sup>1</sup>	6.0	-	0.7	54.8	61.4	9.7%	20.6	57.7	12.0	0.3	90.5	22.7%
Gabon	2.6	3.3	0.1	3.3	9.3	63.9%	8.0	0.3	0.4	-	8.7	91.7%
Ghana	10.4	0.3	0.8	37.4	48.8	21.9%	3.9	5.9	4.3	0.0	14.2	27.6%
Kenya	11.2	-	1.7	2.5	15.4	72.9%	10.2	27.0	6.1	0.0	43.3	23.6%
Libya	48.1	7.8	5.5	0.2	61.5	90.8%	26.6	1.6	1.9	0.1	30.1	88.3%
Mauritius	3.7	0.0	0.0	0.0	3.7	99.5%	0.2	0.0	0.2	-	0.5	47.2%
Morocco	46.4	-	5.1	0.4	51.9	89.4%	0.4	6.9	6.5	-	13.7	2.9%
Mozambique	2.4	0.0	1.2	351.7	355.3	0.7%	3.9	29.0	4.0	0.7	37.6	10.5%
Namibia	3.1	-	0.0	20.9	24.0	12.8%	0.1	5.3	0.4	-	5.8	1.2%
Niger <sup>1</sup>	1.4	0.0	0.0	1.2	2.6	52.7%	1.8	14.6	2.3	-	18.7	9.7%
Nigeria	55.8	29.8	4.7	42.9	133.2	64.2%	112.0	38.0	25.8	0.2	176.1	63.6%
Senegal	5.5	-	1.5	1.5	8.4	64.7%	1.5	5.4	2.1	-	9.0	16.6%
South Africa	406.7	27.2	16.7	28.2	478.8	90.6%	37.8	26.2	15.4	0.2	79.7	47.5%
South Sudan <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Sudan <sup>1</sup>	15.0	0.8	0.7	216.6	233.0	6.8%	8.9	72.2	7.4	0.7	89.2	10.0%
United Rep. of Tanzania	6.1	0.0	0.8	213.4	220.4	2.8%	8.3	37.6	7.4	0.9	54.1	15.3%
Togo	2.1	-	0.4	11.0	13.5	15.3%	1.8	1.9	1.0	0.0	4.6	38.4%
Tunisia	23.3	0.9	3.2	0.2	27.6	87.6%	4.3	2.5	2.2	-	9.0	48.1%
Zambia	1.6	-	0.5	365.8	368.0	0.4%	3.9	30.7	2.5	1.0	38.2	10.3%
Zimbabwe	9.2	0.2	0.6	28.7	38.6	24.3%	2.3	8.7	2.2	0.1	13.3	17.5%
Other Africa	25.3	2.4	2.0	438.6	468.3	5.9%	32.7	141.3	27.1	0.9	202.0	16.2%
<b>Africa</b>	<b>996.1</b>	<b>105.0</b>	<b>85.7</b>	<b>3 491.4</b>	<b>4 678.1</b>	<b>23.5%</b>	<b>437.5</b>	<b>680.5</b>	<b>177.6</b>	<b>13.0</b>	<b>1 308.6</b>	<b>33.4%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>148.7</b>	<b>46.0</b>	<b>1 628.6</b>	<b>279.6</b>	<b>2 102.9</b>	<b>7.1%</b>	<b>277.5</b>	<b>30.8</b>	<b>85.8</b>	<b>35 284.8</b>	<b>56.5%</b>	<b>0.78</b>	<b>Non-OECD Total</b>	
0.0	-	0.6	0.1	0.8	5.2%	0.1	-	-	8.2	50.3%	0.30	Albania	
0.0	-	0.6	0.1	0.7	2.4%	0.5	-	-	8.2	54.5%	0.44	Armenia	
0.2	-	2.1	0.3	2.6	6.6%	0.1	0.1	-	46.2	72.0%	0.33	Azerbaijan	
0.4	0.3	10.1	0.5	11.4	3.9%	0.7	0.0	-	102.5	63.8%	0.70	Belarus	
0.1	-	0.7	0.2	1.0	11.2%	0.7	0.1	-	27.8	81.2%	0.81	Bosnia and Herzegovina	
0.3	0.2	1.9	0.4	2.7	10.0%	0.6	0.0	-	61.2	75.6%	0.55	Bulgaria	
0.2	0.9	1.4	0.2	2.7	6.1%	0.1	0.0	-	28.9	69.7%	0.34	Croatia	
0.0	-	0.2	0.1	0.3	11.3%	0.3	-	-	10.2	71.5%	0.36	Cyprus <sup>2</sup>	
0.0	-	0.3	0.1	0.5	10.0%	0.2	-	-	11.9	73.1%	0.49	FYR of Macedonia	
0.0	0.8	1.0	0.1	1.9	2.2%	0.0	-	-	11.1	49.5%	0.43	Georgia	
0.0	-	-	0.0	0.0	39.6%	-	-	-	0.5	95.6%	0.55	Gibraltar	
1.0	-	11.7	1.3	14.0	7.2%	0.6	-	-	313.9	83.9%	0.94	Kazakhstan	
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo <sup>1</sup>	
0.0	-	1.4	0.1	1.6	1.6%	0.0	-	-	13.6	45.6%	0.92	Kyrgyzstan	
0.1	2.0	2.0	0.2	4.3	2.7%	1.1	0.0	-	23.7	55.7%	0.38	Lithuania	
0.0	-	0.0	0.0	0.1	11.9%	0.2	-	-	3.1	84.7%	0.28	Malta	
0.0	-	0.5	0.1	0.6	6.1%	0.0	-	-	10.8	76.5%	0.79	Republic of Moldova	
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro <sup>1</sup>	
0.6	2.8	6.5	0.9	10.8	5.3%	0.7	0.2	0.0	116.3	70.2%	0.35	Romania	
5.7	18.2	30.6	22.3	76.9	7.4%	31.7	15.1	9.1	2 519.6	72.7%	0.86	Russian Federation	
0.4	0.2	2.4	0.4	3.4	12.5%	7.0	0.1	-	68.9	70.1%	0.80	Serbia <sup>1</sup>	
0.0	-	1.4	0.1	1.5	0.5%	0.0	0.2	-	10.4	24.3%	0.66	Tajikistan	
0.1	0.9	4.0	0.2	5.2	1.9%	0.1	-	-	99.3	82.7%	2.00	Turkmenistan	
1.2	5.2	11.5	2.1	20.0	6.2%	0.4	0.2	0.4	393.2	80.7%	1.12	Ukraine	
0.3	0.1	9.5	0.6	10.5	3.1%	1.0	-	-	169.3	74.5%	1.45	Uzbekistan	
<b>10.9</b>	<b>31.5</b>	<b>100.6</b>	<b>30.3</b>	<b>173.3</b>	<b>6.3%</b>	<b>46.1</b>	<b>16.0</b>	<b>9.5</b>	<b>4 070.4</b>	<b>74.0%</b>	<b>0.82</b>	<b>Non-OECD Europe and Eurasia</b>	
0.3	1.2	3.3	1.1	5.9	4.7%	0.3	-	0.4	195.4	84.5%	0.43	Algeria	
0.4	-	33.3	1.8	35.5	1.1%	0.0	-	-	779.9	6.4%	5.78	Angola	
0.1	-	2.1	0.2	2.4	4.6%	-	-	-	29.5	19.5%	1.80	Benin	
0.1	-	3.9	0.1	4.0	1.4%	-	-	-	62.6	6.2%	2.38	Botswana	
0.3	-	6.0	0.6	6.9	3.8%	-	0.2	-	107.8	21.0%	2.07	Cameroon	
0.0	-	1.7	0.2	1.9	2.6%	0.0	-	-	46.3	30.6%	2.08	Congo	
0.3	-	3.2	0.4	3.9	6.6%	-	-	-	55.0	20.7%	1.02	Côte d'Ivoire	
1.0	-	39.7	4.4	45.1	2.3%	-	-	-	981.8	1.3%	25.48	Dem. Rep. of the Congo	
1.7	5.4	15.5	2.4	25.0	6.6%	0.5	0.8	1.3	296.5	70.5%	0.37	Egypt	
0.0	-	1.2	0.0	1.3	1.8%	-	-	-	5.6	16.9%	0.91	Eritrea <sup>1</sup>	
1.7	-	29.9	2.0	33.5	4.9%	0.0	-	-	185.5	15.2%	2.01	Ethiopia <sup>1</sup>	
0.1	-	0.2	0.1	0.4	20.4%	0.0	-	-	18.4	76.0%	0.75	Gabon	
0.3	-	3.5	0.5	4.3	7.0%	0.0	-	-	67.4	22.2%	0.92	Ghana	
0.6	-	12.7	0.8	14.1	4.1%	-	0.0	-	72.7	30.3%	0.73	Kenya	
0.2	-	0.8	0.6	1.6	14.0%	-	-	0.3	93.5	88.4%	0.52	Libya	
0.0	-	0.1	0.1	0.2	15.4%	0.0	-	-	4.3	90.0%	0.23	Mauritius	
0.4	-	4.8	0.9	6.0	6.6%	-	-	-	71.6	65.9%	0.34	Morocco	
0.3	-	18.6	1.0	19.8	1.6%	0.1	0.1	-	412.9	1.6%	18.96	Mozambique	
0.1	-	2.8	0.1	3.0	3.9%	-	-	-	32.7	10.0%	1.82	Namibia	
0.2	-	6.5	0.4	7.0	2.7%	-	-	-	28.2	11.9%	2.16	Niger <sup>1</sup>	
5.0	-	20.1	4.7	29.8	16.8%	0.6	0.0	0.4	340.0	59.6%	0.42	Nigeria	
0.1	-	2.5	0.2	2.8	2.3%	-	-	-	20.3	34.6%	0.73	Senegal	
2.7	0.0	15.2	3.3	21.2	12.8%	0.8	0.3	1.7	582.5	81.4%	0.97	South Africa	
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan <sup>1</sup>	
0.4	-	36.4	1.4	38.3	1.1%	-	-	-	360.5	7.0%	2.46	Sudan <sup>1</sup>	
0.8	-	20.5	1.7	23.0	3.5%	-	-	-	297.4	5.1%	3.24	United Rep. of Tanzania	
0.1	-	1.2	0.1	1.4	5.7%	-	-	-	19.5	20.1%	2.54	Togo	
0.2	0.3	1.6	0.3	2.4	8.9%	-	-	-	39.0	73.6%	0.36	Tunisia	
0.3	0.3	22.9	1.0	24.5	1.1%	0.0	-	-	430.7	1.4%	9.68	Zambia	
0.4	-	4.7	0.5	5.5	6.6%	-	-	-	57.5	21.0%	3.02	Zimbabwe	
2.8	-	68.1	4.2	75.1	3.8%	0.1	-	-	745.5	8.5%	2.48	Other Africa	
<b>20.8</b>	<b>7.3</b>	<b>382.7</b>	<b>34.9</b>	<b>445.7</b>	<b>4.7%</b>	<b>2.5</b>	<b>1.4</b>	<b>4.2</b>	<b>6 440.5</b>	<b>24.2%</b>	<b>1.43</b>	<b>Africa</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	49.9	0.0	7.3	3.9	61.1	81.6%	9.7	87.7	20.7	0.0	118.3	8.2%
Brunei Darussalam	6.9	0.4	0.1	0.2	7.5	96.2%	5.1	0.0	0.1	0.0	5.2	97.4%
Cambodia	4.6	-	0.4	6.5	11.5	40.1%	2.5	19.7	2.1	0.2	24.5	10.2%
DPR of Korea	49.3	7.4	130.3	79.3	266.2	21.3%	128.1	495.4	170.3	3.5	797.2	16.1%
India	1 594.3	0.7	15.9	1.6	1 612.4	98.9%	1.1	2.6	6.3	0.0	10.0	10.8%
Indonesia	376.2	-	3.4	0.6	380.2	98.9%	12.5	5.0	6.3	0.0	23.8	52.6%
Malaysia	189.8	4.7	31.3	23.8	249.7	77.9%	110.6	111.9	56.8	0.4	279.8	39.5%
Mongolia	14.2	4.0	17.6	17.9	53.7	33.9%	30.1	6.4	7.1	0.7	44.3	67.9%
Myanmar	7.9	0.1	0.2	3.1	11.3	70.5%	7.8	7.6	0.5	0.1	16.1	48.5%
Nepal	4.1	0.1	0.4	131.3	135.8	3.1%	8.0	77.3	8.4	4.6	98.3	8.1%
Pakistan	129.6	-	0.6	4.5	134.7	96.2%	2.7	22.9	3.1	0.3	29.0	9.3%
Philippines	77.1	0.2	18.2	5.0	100.5	76.9%	22.7	120.8	24.0	0.0	167.5	13.6%
Singapore	44.3	0.7	7.0	8.3	60.3	74.6%	9.0	41.7	17.1	0.1	67.9	13.2%
Sri Lanka	12.4	-	6.4	0.2	19.0	65.2%	0.5	0.0	2.1	0.0	2.6	19.2%
Chinese Taipei	256.2	-	1.2	1.1	258.5	99.1%	1.3	9.1	2.6	0.0	13.0	10.2%
Thailand	223.4	0.4	23.7	37.6	285.1	78.5%	26.5	81.0	14.9	0.8	123.2	21.5%
Viet Nam	126.1	1.0	27.0	31.5	185.6	68.5%	26.7	69.4	14.5	0.7	111.3	24.0%
Other non-OECD Asia	22.1	0.1	1.2	115.2	138.6	16.0%	4.0	27.0	6.2	4.6	41.7	9.5%
<b>Asia (excl. China)</b>	<b>3 188.3</b>	<b>19.8</b>	<b>292.1</b>	<b>471.8</b>	<b>3 972.0</b>	<b>80.8%</b>	<b>408.9</b>	<b>1 185.6</b>	<b>362.9</b>	<b>16.2</b>	<b>1 973.7</b>	<b>20.7%</b>
People's Rep. of China	7 706.7	101.1	1 131.4	129.2	9 068.4	86.1%	668.3	647.3	261.0	7.6	1 584.2	42.2%
Hong Kong, China	42.0	-	0.7	0.2	42.9	97.9%	0.1	0.0	1.9	-	2.1	5.7%
<b>China</b>	<b>7 748.6</b>	<b>101.1</b>	<b>1 132.2</b>	<b>129.4</b>	<b>9 111.3</b>	<b>86.2%</b>	<b>668.4</b>	<b>647.3</b>	<b>263.0</b>	<b>7.6</b>	<b>1 586.3</b>	<b>42.1%</b>
Argentina	173.7	1.2	9.7	39.8	224.4	77.9%	22.3	84.6	10.1	1.5	118.4	18.8%
Bolivia	13.7	0.2	0.9	460.9	475.7	2.9%	6.2	29.2	2.0	20.0	57.4	10.9%
Brazil	370.5	2.5	47.5	1 268.7	1 689.1	22.1%	38.5	396.2	86.3	53.2	574.1	6.7%
Colombia	60.2	1.9	3.8	4.2	70.1	88.6%	15.3	48.8	10.2	0.0	74.4	20.6%
Costa Rica	6.6	-	0.5	0.4	7.5	88.4%	0.1	2.7	0.8	-	3.7	3.8%
Cuba	32.7	0.1	0.8	1.4	35.0	93.8%	1.0	7.5	4.7	0.0	13.2	7.6%
Curaçao <sup>2</sup>	4.4	-	0.1	0.0	4.4	98.7%	0.0	0.0	0.0	-	0.0	70.7%
Dominican Republic	19.6	-	1.5	1.0	22.1	88.6%	0.3	6.2	3.7	0.0	10.3	3.3%
Ecuador	32.0	3.5	1.9	1.0	38.6	92.2%	8.9	12.8	2.8	-	24.6	36.3%
El Salvador	5.8	-	0.5	0.5	6.8	85.2%	0.2	1.9	1.0	-	3.1	5.9%
Guatemala	10.3	0.0	1.1	6.5	17.9	57.8%	1.9	5.7	2.4	0.1	10.0	18.7%
Haiti	2.1	-	0.2	0.0	2.4	88.0%	3.2	2.7	2.9	0.0	8.8	36.2%
Honduras	7.3	-	0.6	3.3	11.2	65.3%	0.5	5.3	1.2	0.0	7.0	7.5%
Jamaica	6.9	-	0.5	0.2	7.6	90.6%	0.5	0.4	0.8	0.0	1.7	29.5%
Nicaragua	4.3	-	0.3	0.1	4.7	91.2%	0.4	5.5	1.1	0.0	7.0	5.0%
Panama	8.8	-	0.6	0.3	9.7	91.4%	0.1	3.1	0.7	-	3.9	3.7%
Paraguay	4.7	-	0.3	31.5	36.5	12.8%	1.4	19.5	1.3	0.7	23.0	6.3%
Peru	41.1	0.2	3.4	17.9	62.6	66.0%	5.0	14.3	5.5	0.1	25.0	20.2%
Suriname <sup>1</sup>	1.7	0.0	0.0	0.6	2.3	72.9%	0.0	0.5	0.1	-	0.7	5.5%
Trinidad and Tobago	22.3	0.1	18.7	0.3	41.4	54.3%	14.1	0.1	2.1	0.3	16.7	84.7%
Uruguay	6.0	-	0.3	0.1	6.4	92.8%	0.2	21.3	2.7	-	24.2	0.8%
Venezuela	171.5	6.7	9.7	64.2	252.1	70.7%	34.7	32.6	8.1	1.8	77.1	45.0%
Other non-OECD Americas	16.4	0.0	0.6	2.5	19.5	84.4%	0.2	2.6	3.0	0.0	5.9	4.1%
<b>Non-OECD Americas</b>	<b>1 022.8</b>	<b>16.4</b>	<b>103.5</b>	<b>1 905.3</b>	<b>3 048.1</b>	<b>34.1%</b>	<b>155.4</b>	<b>703.5</b>	<b>153.5</b>	<b>77.8</b>	<b>1 090.2</b>	<b>14.3%</b>
Bahrain	25.5	0.0	2.7	0.0	28.3	90.3%	4.5	0.0	0.7	0.0	5.2	86.6%
Islamic Republic of Iran	498.4	23.5	45.7	3.4	571.1	91.4%	114.5	22.9	26.6	0.3	164.3	69.7%
Iraq	103.5	18.1	4.0	0.7	126.4	96.3%	45.7	4.6	9.0	0.0	59.4	77.0%
Jordan	18.8	-	1.8	0.1	20.6	91.2%	0.2	0.5	2.5	-	3.2	5.6%
Kuwait	77.0	4.5	4.7	0.1	86.3	94.4%	19.2	0.2	1.7	0.0	21.1	91.1%
Lebanon	18.2	-	2.3	0.1	20.6	88.5%	0.1	0.3	1.6	-	2.0	5.0%
Oman	42.4	3.3	6.9	0.1	52.6	86.9%	19.2	0.7	1.5	0.1	21.5	88.9%
Qatar	57.1	3.8	9.2	0.0	70.1	86.9%	51.3	0.1	1.6	0.1	53.0	96.7%
Saudi Arabia	419.1	8.0	51.7	1.0	479.7	89.0%	63.0	2.8	13.5	0.4	79.8	79.0%
Syrian Arab Republic	55.9	1.9	3.0	0.8	61.6	93.9%	8.2	3.7	5.1	-	17.0	48.3%
United Arab Emirates	154.5	2.1	14.9	0.3	171.8	91.1%	27.0	1.0	3.5	0.0	31.5	85.8%
Yemen	22.4	3.8	0.9	0.1	27.2	96.3%	10.9	5.0	4.2	-	20.1	54.3%
<b>Middle East</b>	<b>1 492.8</b>	<b>69.0</b>	<b>147.7</b>	<b>6.7</b>	<b>1 716.2</b>	<b>91.0%</b>	<b>363.7</b>	<b>41.9</b>	<b>71.4</b>	<b>1.0</b>	<b>478.0</b>	<b>76.1%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2010 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
0.8	-	19.3	2.3	22.4	3.7%	-	-	-	201.8	30.0%	0.55	Bangladesh	
0.0	-	0.1	0.0	0.1	10.2%	0.4	-	-	13.3	92.7%	0.48	Brunei Darussalam	
0.2	-	2.8	0.4	3.4	6.0%	-	-	-	39.5	18.6%	1.12	Cambodia	
20.5	0.3	189.4	29.4	239.6	8.6%	17.3	1.0	5.3	1 326.7	15.5%	13.19	DPR of Korea	
1.3	0.7	2.0	1.2	5.2	24.5%	0.1	2.4	4.5	1 634.6	97.7%	0.31	India	
0.4	-	1.7	0.6	2.7	13.3%	4.4	-	-	411.1	94.6%	0.21	Indonesia	
5.2	0.2	63.1	6.8	75.3	6.9%	-	0.1	1.0	605.8	51.2%	1.04	Malaysia	
1.3	0.8	9.0	1.6	12.8	10.1%	0.1	0.2	0.7	111.8	44.3%	5.46	Mongolia	
0.1	-	3.6	0.2	3.9	3.0%	-	-	-	31.3	50.8%	0.15	Myanmar	
0.6	-	16.2	4.0	20.8	3.0%	-	-	-	254.9	5.0%	4.85	Nepal	
0.5	-	3.4	0.8	4.7	10.4%	-	-	-	168.4	78.9%	0.24	Pakistan	
2.0	0.0	38.9	3.9	44.8	4.5%	-	-	1.0	313.7	32.5%	0.61	Philippines	
0.6	0.0	9.4	1.9	11.9	5.0%	-	-	0.4	140.5	38.8%	0.39	Singapore	
0.1	0.7	0.0	0.9	1.7	5.9%	2.2	0.6	0.4	26.6	49.0%	0.16	Sri Lanka	
0.3	-	1.8	0.5	2.6	11.9%	-	-	-	274.1	94.1%	0.32	Chinese Taipei	
4.4	0.5	16.0	2.6	23.6	18.8%	-	-	1.3	433.2	58.8%	0.49	Thailand	
1.3	-	17.4	3.0	21.7	6.0%	-	-	-	318.7	48.7%	0.83	Viet Nam	
0.3	-	9.1	4.0	13.4	2.3%	0.1	-	-	193.8	13.7%	1.16	Other non-OECD Asia	
<b>40.0</b>	<b>3.2</b>	<b>403.2</b>	<b>64.2</b>	<b>510.6</b>	<b>7.8%</b>	<b>24.6</b>	<b>4.2</b>	<b>14.6</b>	<b>6 499.7</b>	<b>56.3%</b>	<b>0.51</b>	<b>Asia (excl. China)</b>	
58.0	1.1	385.8	61.9	506.8	11.4%	195.2	5.7	48.6	11 409.1	74.8%	0.92	People's Rep. of China	
0.2	-	0.0	0.3	0.4	37.5%	-	-	0.1	45.6	92.8%	0.14	Hong Kong, China	
<b>58.2</b>	<b>1.1</b>	<b>385.8</b>	<b>62.1</b>	<b>507.3</b>	<b>11.5%</b>	<b>195.2</b>	<b>5.7</b>	<b>48.8</b>	<b>11 454.6</b>	<b>74.9%</b>	<b>0.90</b>	<b>China</b>	
1.7	0.1	47.7	2.7	52.3	3.2%	0.4	0.1	0.4	396.0	50.2%	0.60	Argentina	
0.3	-	15.3	13.2	28.7	1.0%	-	-	-	561.7	3.6%	10.69	Bolivia	
7.3	1.0	177.2	42.4	228.0	3.2%	3.2	2.9	1.4	2 498.7	16.8%	0.89	Brazil	
0.7	0.1	18.4	1.1	20.2	3.3%	-	0.0	0.1	164.8	47.4%	0.34	Colombia	
0.1	0.0	1.3	0.1	1.5	6.4%	0.1	-	-	12.8	53.6%	0.23	Costa Rica	
0.2	0.5	4.8	0.4	5.8	2.7%	0.2	-	-	54.2	62.6%	0.27	Cuba	
0.0	-	0.0	0.0	0.1	29.7%	-	-	-	4.5	97.6%	1.89	Curaçao <sup>2</sup>	
0.1	-	2.2	0.3	2.6	4.7%	-	-	-	35.1	57.2%	0.32	Dominican Republic	
0.2	-	4.0	0.6	4.8	4.2%	0.1	-	-	68.1	65.7%	0.50	Ecuador	
0.1	-	1.2	0.2	1.4	4.5%	0.1	-	-	11.5	52.7%	0.26	El Salvador	
0.4	-	2.8	0.5	3.7	10.4%	0.8	-	-	32.3	38.9%	0.34	Guatemala	
0.1	-	1.2	0.2	1.5	8.0%	-	-	-	12.6	42.7%	0.86	Haiti	
0.1	-	2.5	0.3	2.9	4.3%	-	-	-	21.2	37.7%	0.66	Honduras	
0.1	-	0.3	0.1	0.5	11.8%	0.1	-	-	9.8	75.9%	0.45	Jamaica	
0.1	-	3.1	0.2	3.4	2.3%	-	-	-	15.1	31.2%	0.67	Nicaragua	
0.1	-	1.0	0.1	1.2	5.2%	-	-	-	14.8	61.1%	0.27	Panama	
0.1	-	8.6	0.6	9.3	1.5%	-	-	-	68.8	9.1%	1.55	Paraguay	
0.3	-	6.5	0.9	7.6	3.6%	0.5	-	-	95.7	48.7%	0.34	Peru	
0.0	-	0.1	0.1	0.3	12.7%	-	-	-	3.3	53.7%	0.45	Suriname <sup>1</sup>	
0.1	-	6.9	0.1	7.1	0.9%	0.1	-	-	65.3	56.2%	1.68	Trinidad and Tobago	
0.7	0.0	12.3	2.6	15.7	4.4%	1.6	0.2	0.3	48.3	14.2%	0.86	Uruguay	
0.2	-	2.4	0.3	2.9	6.3%	0.0	0.0	0.0	332.1	64.2%	0.71	Venezuela	
0.2	-	2.4	0.3	2.9	6.3%	0.0	0.0	0.0	28.3	59.7%	0.71	Other non-OECD Americas	
<b>13.0</b>	<b>1.7</b>	<b>322.0</b>	<b>67.4</b>	<b>404.1</b>	<b>3.2%</b>	<b>7.3</b>	<b>3.1</b>	<b>2.2</b>	<b>4 555.0</b>	<b>26.5%</b>	<b>0.79</b>	<b>Non-OECD Americas</b>	
0.0	-	0.0	0.1	0.2	17.0%	-	0.1	-	33.7	89.1%	0.68	Bahrain	
2.8	0.8	19.8	7.6	31.0	8.9%	-	0.1	2.7	769.2	83.1%	0.60	Islamic Republic of Iran	
0.4	-	3.4	2.6	6.5	6.5%	-	-	0.1	192.3	87.2%	0.50	Iraq	
0.0	-	0.4	0.5	0.9	5.1%	0.2	-	-	24.9	76.3%	0.37	Jordan	
0.2	-	0.1	0.5	0.8	23.4%	0.9	-	0.5	109.5	92.1%	0.50	Kuwait	
0.1	-	0.3	0.4	0.8	8.8%	-	-	-	23.4	78.6%	0.34	Lebanon	
0.1	-	0.5	0.4	1.0	10.8%	0.3	0.0	-	75.4	86.1%	0.56	Oman	
0.1	-	0.1	0.3	0.5	19.3%	-	-	-	123.6	90.8%	0.56	Qatar	
1.0	-	2.5	4.0	7.4	13.6%	0.3	-	2.3	569.6	86.2%	0.47	Saudi Arabia	
0.3	0.3	4.0	1.4	5.9	5.0%	-	-	-	84.6	78.5%	0.64	Syrian Arab Republic	
0.2	-	0.6	1.2	2.1	11.4%	-	0.1	1.0	206.5	89.0%	0.44	United Arab Emirates	
0.5	-	2.6	1.5	4.6	10.3%	-	-	-	51.8	72.4%	0.51	Yemen	
<b>5.8</b>	<b>1.1</b>	<b>34.3</b>	<b>20.6</b>	<b>61.8</b>	<b>9.3%</b>	<b>1.7</b>	<b>0.3</b>	<b>6.6</b>	<b>2 264.6</b>	<b>85.3%</b>	<b>0.52</b>	<b>Middle East</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>World <sup>1</sup></b>	<b>32 323.1</b>	<b>562.2</b>	<b>2 666.6</b>	<b>6 492.3</b>	<b>42 044.2</b>	<b>78.2%</b>	<b>3 277.2</b>	<b>4 234.4</b>	<b>1 755.4</b>	<b>173.1</b>	<b>9 440.2</b>	<b>34.7%</b>
<i>Annex I Parties</i>	12 631.8	154.4	562.1	1 571.9	14 920.2	85.7%	880.1	784.8	547.0	77.2	2 289.2	38.4%
<i>Annex II Parties</i>	9 917.9	64.0	345.0	1 129.9	11 456.8	87.1%	503.8	625.9	334.8	45.2	1 509.7	33.4%
<i>North America</i>	5 722.5	39.5	124.2	701.8	6 588.1	87.5%	373.3	247.5	170.3	41.6	832.7	44.8%
<i>Europe</i>	2 606.4	17.6	130.5	24.3	2 778.8	94.4%	94.4	213.4	139.6	0.6	448.0	21.1%
<i>Asia Oceania</i>	1 588.9	7.0	90.3	403.8	2 090.0	76.4%	36.2	165.0	24.8	2.9	229.0	15.8%
<i>Annex I EIT</i>	2 399.2	89.1	174.6	437.4	3 100.3	80.3%	364.2	126.2	155.3	32.0	677.7	53.7%
<i>Non-Annex I Parties</i>	18 559.1	407.8	2 104.5	4 920.4	25 991.8	73.0%	2 384.6	3 449.6	1 208.4	95.9	7 138.5	33.4%
<i>Annex B Kyoto Parties</i>	4 130.0	55.3	226.6	432.2	4 844.1	86.4%	279.8	401.4	220.9	3.7	905.7	30.9%
<b>Intl. aviation bunkers</b>	<b>504.5</b>	..	..	..	<b>504.5</b>	<b>100.0%</b>	<b>0.1</b>	..	..	..	<b>0.1</b>	<b>100.0%</b>
<b>Intl. marine bunkers</b>	<b>627.7</b>	..	..	..	<b>627.7</b>	<b>100.0%</b>	<b>12.4</b>	..	..	..	<b>12.4</b>	<b>100.0%</b>
<b>Non-OECD Total</b>	<b>19 342.7</b>	<b>470.6</b>	<b>2 168.7</b>	<b>5 333.4</b>	<b>27 315.4</b>	<b>72.5%</b>	<b>2 655.9</b>	<b>3 456.0</b>	<b>1 277.3</b>	<b>127.3</b>	<b>7 516.5</b>	<b>35.3%</b>
<b>OECD Total</b>	<b>11 848.2</b>	<b>91.6</b>	<b>498.0</b>	<b>1 158.8</b>	<b>13 596.6</b>	<b>87.8%</b>	<b>608.8</b>	<b>778.4</b>	<b>478.1</b>	<b>45.8</b>	<b>1 911.1</b>	<b>31.9%</b>
Canada	554.4	4.7	21.2	611.5	1 191.8	46.9%	83.6	26.4	27.0	36.8	173.8	48.1%
Chile	75.8	0.1	5.4	0.2	81.4	93.2%	3.3	6.5	11.9	0.2	21.9	15.0%
Mexico	434.1	11.5	29.5	19.5	494.6	90.1%	38.5	66.0	27.9	0.2	132.6	29.0%
United States	5 168.1	34.7	103.0	90.4	5 396.2	96.4%	289.7	221.1	143.4	4.8	659.0	44.0%
<b>OECD Americas</b>	<b>6 232.4</b>	<b>51.0</b>	<b>159.1</b>	<b>721.6</b>	<b>7 164.1</b>	<b>87.7%</b>	<b>415.0</b>	<b>320.0</b>	<b>210.1</b>	<b>42.1</b>	<b>987.3</b>	<b>42.0%</b>
Australia	373.3	3.9	14.2	394.4	785.9	48.0%	30.4	100.5	12.4	2.7	146.1	20.8%
Israel <sup>2</sup>	61.3	0.0	3.5	0.3	65.1	94.2%	2.8	1.2	4.8	0.0	8.9	31.9%
Japan	1 184.4	2.9	74.1	7.5	1 268.8	93.6%	4.5	33.0	8.5	0.1	46.0	9.7%
Korea	567.8	8.8	42.2	1.6	620.4	92.9%	4.5	16.5	15.2	0.1	36.2	12.4%
New Zealand	31.2	0.1	2.0	1.9	35.3	89.0%	1.3	31.5	4.0	0.1	36.9	3.6%
<b>OECD Asia Oceania</b>	<b>2 218.0</b>	<b>15.8</b>	<b>136.0</b>	<b>405.7</b>	<b>2 775.5</b>	<b>80.5%</b>	<b>43.5</b>	<b>182.7</b>	<b>44.8</b>	<b>3.1</b>	<b>274.1</b>	<b>15.9%</b>
Austria	60.6	0.3	4.1	0.5	65.5	93.1%	2.4	4.8	2.7	0.0	9.9	24.1%
Belgium	87.3	0.5	6.1	0.4	94.3	93.1%	6.7	6.5	3.6	0.0	16.9	40.0%
Czech Republic	98.4	1.6	5.4	0.8	106.3	94.1%	3.3	4.3	4.9	0.0	12.6	26.3%
Denmark	34.4	0.2	1.1	0.3	36.0	96.2%	1.2	6.2	1.4	0.0	8.8	14.0%
Estonia	18.6	0.9	0.4	0.1	20.0	97.4%	0.4	0.7	1.8	0.0	2.9	13.9%
Finland	45.5	0.3	1.7	0.3	47.7	95.8%	6.1	2.3	7.5	0.0	15.9	38.2%
France	284.0	2.4	20.1	5.1	311.5	91.9%	6.5	41.4	17.3	0.1	65.3	10.0%
Germany	723.3	5.7	30.3	5.5	764.9	95.3%	13.7	35.7	18.1	0.2	67.8	20.3%
Greece	65.8	..	3.9	0.4	70.1	93.8%	14.7	4.5	4.1	0.0	23.4	63.0%
Hungary	40.0	0.4	3.4	0.3	44.2	91.5%	2.2	3.0	3.9	0.0	9.1	24.1%
Iceland	2.0	..	1.7	0.0	3.8	54.0%	0.0	0.3	0.2	0.0	0.5	0.9%
Ireland	33.9	0.5	1.3	0.3	35.9	95.6%	2.1	14.5	1.4	..	18.0	11.9%
Italy	319.7	0.4	14.0	4.2	338.3	94.6%	6.5	19.2	15.2	0.0	40.9	16.0%
Latvia	6.7	..	0.6	0.1	7.5	90.1%	0.5	1.1	0.7	0.0	2.3	22.8%
Luxembourg	9.3	..	0.5	0.0	9.7	95.2%	0.1	0.4	0.1	..	0.5	10.0%
Netherlands	148.5	0.7	5.1	0.6	154.9	96.3%	5.2	12.2	4.9	0.1	22.4	23.4%
Norway	35.4	0.6	6.8	0.1	43.0	83.9%	15.4	2.4	2.0	0.1	19.9	77.5%
Poland	279.1	2.8	15.2	1.0	298.1	94.6%	34.8	18.0	12.7	0.0	65.5	53.1%
Portugal	42.8	..	3.1	0.4	46.4	92.4%	0.9	4.4	8.2	0.0	13.5	6.9%
Slovak Republic	29.2	0.2	4.5	0.3	34.1	86.0%	1.1	1.6	3.3	0.0	6.0	18.2%
Slovenia	12.8	..	0.8	0.0	13.6	93.7%	1.5	1.3	0.6	0.0	3.4	44.5%
Spain	232.0	0.9	14.1	2.6	249.7	93.3%	2.8	22.8	16.6	0.1	42.3	6.7%
Sweden	37.3	0.5	4.2	1.2	43.2	87.5%	1.1	3.4	7.6	0.1	12.2	9.2%
Switzerland	37.9	..	2.3	0.5	40.6	93.3%	0.7	3.7	5.1	0.0	9.4	7.8%
Turkey	306.6	1.2	42.1	4.5	354.4	86.9%	12.1	32.3	55.6	0.0	100.0	12.1%
United Kingdom	406.8	4.6	10.1	1.7	423.1	97.2%	7.9	28.7	23.8	0.1	60.4	13.2%
<b>OECD Europe</b>	<b>3 397.8</b>	<b>24.8</b>	<b>202.9</b>	<b>31.6</b>	<b>3 657.0</b>	<b>93.6%</b>	<b>150.3</b>	<b>275.7</b>	<b>223.1</b>	<b>0.7</b>	<b>649.8</b>	<b>23.1%</b>
<i>IEA/Accession/Association</i>	23 598.3	238.0	1 877.9	1 316.2	27 030.4	88.2%	1 414.5	1 553.2	817.6	56.1	3 841.3	36.8%
<i>European Union - 28</i>	3 159.4	23.4	166.5	27.4	3 376.7	94.3%	131.2	251.1	175.6	0.6	558.5	23.5%
<i>G20</i>	26 375.0	340.3	2 076.8	2 228.9	31 021.0	86.1%	1 815.6	1 951.4	994.0	104.0	4 865.1	37.3%
<i>Africa</i>	1 120.3	84.3	88.1	3 190.8	4 483.4	26.9%	433.4	687.9	199.2	11.9	1 332.4	32.5%
<i>Americas</i>	7 398.7	85.1	254.0	1 380.9	9 118.7	82.1%	589.9	985.8	367.5	63.0	2 006.3	29.4%
<i>Asia</i>	17 170.7	280.7	1 998.2	1 062.2	20 511.8	85.1%	1 746.5	2 080.8	868.8	62.7	4 758.9	36.7%
<i>Europe</i>	5 096.7	108.0	310.1	462.1	5 967.3	87.2%	463.1	347.9	303.6	32.6	1 147.2	40.4%
<i>Oceania</i>	404.6	4.1	16.2	396.3	821.2	49.8%	31.7	132.0	16.4	2.8	182.9	17.3%

1. Total World includes Non-OECD total, OECD total as well as international bunkers. 2. Please refer to the chapter *Geographical Coverage* in Part I.  
Sources: IEA, CO<sub>2</sub> emissions from fuel combustion. EDGAR 4.3.2 and 4.2 FT2010 databases for other emissions.



## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>292.6</b>	<b>122.7</b>	<b>2 153.2</b>	<b>434.4</b>	<b>3 003.0</b>	<b>9.7%</b>	<b>745.4</b>	<b>43.8</b>	<b>165.5</b>	<b>55 442.1</b>	<b>65.8%</b>	<b>0.54</b>	<b>World<sup>1</sup></b>	
117.8	41.6	538.7	141.5	839.6	14.0%	482.7	32.1	74.8	18 638.7	74.0%	0.40	Annex I Parties	
99.6	29.3	423.8	96.1	648.8	15.3%	431.4	20.8	62.9	14 130.4	74.9%	0.36	Annex II Parties	
66.9	19.4	194.8	62.8	344.0	19.5%	275.3	8.9	45.3	8 094.3	76.6%	0.46	North America	
21.5	6.1	149.6	22.4	199.7	10.8%	102.7	5.8	13.0	3 547.9	77.2%	0.23	Europe	
11.1	3.7	79.4	10.9	105.1	10.5%	53.3	6.1	4.6	2 488.1	66.0%	0.44	Asia Oceania	
14.9	10.5	92.0	38.8	156.2	9.5%	46.2	11.0	9.9	4 001.4	71.7%	0.66	Annex I EIT	
165.8	81.2	1 614.5	269.4	2 130.9	7.8%	262.7	11.7	90.7	35 626.2	60.4%	0.65	Non-Annex I Parties	
35.0	13.1	283.3	36.9	368.3	9.5%	126.0	7.0	14.4	6 265.5	71.8%	0.31	Annex B Kyoto Parties	
<b>4.2</b>	..	..	<b>3.2</b>	<b>7.4</b>	<b>57.3%</b>	..	..	..	<b>512.0</b>	<b>99.4%</b>	..	<b>Intl. aviation bunkers</b>	
<b>4.7</b>	..	..	<b>20.4</b>	<b>25.1</b>	<b>18.7%</b>	..	..	..	<b>665.2</b>	<b>96.9%</b>	..	<b>Intl. marine bunkers</b>	
<b>166.9</b>	<b>18.2</b>	<b>1 634.4</b>	<b>293.7</b>	<b>2 113.3</b>	<b>7.9%</b>	<b>283.8</b>	<b>20.7</b>	<b>92.5</b>	<b>37 342.3</b>	<b>60.6%</b>	<b>0.68</b>	<b>Non-OECD Total</b>	
<b>116.7</b>	<b>104.6</b>	<b>518.8</b>	<b>117.2</b>	<b>857.2</b>	<b>13.6%</b>	<b>461.6</b>	<b>23.0</b>	<b>72.9</b>	<b>16 922.5</b>	<b>74.8%</b>	<b>0.36</b>	<b>OECD Total</b>	
6.5	0.9	27.8	27.3	62.4	10.4%	17.4	2.5	4.1	1 452.0	44.7%	0.97	Canada	
0.5	0.1	5.1	0.9	6.7	8.0%	..	0.0	0.0	110.0	72.4%	0.30	Chile	
3.6	71.0	33.4	5.5	113.5	3.1%	11.2	0.1	0.5	752.5	64.8%	0.39	Mexico	
60.5	18.5	167.0	35.5	281.5	21.5%	257.9	6.5	41.2	6 642.3	83.6%	0.41	United States	
<b>71.0</b>	<b>90.5</b>	<b>233.3</b>	<b>69.2</b>	<b>464.1</b>	<b>15.3%</b>	<b>286.5</b>	<b>9.0</b>	<b>45.8</b>	<b>8 956.8</b>	<b>75.6%</b>	<b>0.45</b>	<b>OECD Americas</b>	
3.7	1.8	60.1	4.3	69.9	5.3%	9.6	0.4	0.6	1 012.3	40.6%	0.97	Australia	
0.2	0.1	0.8	1.2	2.3	9.6%	2.0	0.1	0.7	78.9	81.5%	0.31	Israel <sup>2</sup>	
7.0	1.9	7.2	6.4	22.6	31.1%	42.6	5.7	3.9	1 389.6	86.3%	0.31	Japan	
3.6	0.7	4.9	2.9	12.2	29.9%	3.3	1.4	6.6	680.1	86.0%	0.40	Korea	
0.3	..	12.1	0.3	12.7	2.7%	1.1	0.1	0.1	86.2	38.4%	0.57	New Zealand	
<b>14.9</b>	<b>4.5</b>	<b>85.1</b>	<b>15.0</b>	<b>119.6</b>	<b>12.5%</b>	<b>58.6</b>	<b>7.6</b>	<b>11.8</b>	<b>3 247.2</b>	<b>70.6%</b>	<b>0.43</b>	<b>OECD Asia Oceania</b>	
0.7	0.1	2.2	0.6	3.6	18.7%	2.9	0.2	0.2	82.3	77.8%	0.22	Austria	
0.6	1.1	2.7	0.7	5.1	11.9%	2.9	0.0	0.1	119.4	79.7%	0.26	Belgium	
1.4	0.4	2.8	0.8	5.3	25.5%	1.7	0.0	0.0	126.0	83.1%	0.42	Czech Republic	
0.5	..	4.3	0.5	5.3	9.3%	1.9	0.0	0.0	52.1	69.8%	0.21	Denmark	
0.2	..	0.5	0.1	0.8	20.9%	0.1	0.0	0.0	23.8	84.3%	0.71	Estonia	
1.9	0.2	2.8	0.5	5.4	34.6%	1.2	0.0	0.1	70.3	76.3%	0.34	Finland	
3.1	0.7	35.8	3.0	42.5	7.2%	20.3	0.5	1.8	442.0	67.0%	0.18	France	
4.7	1.5	29.9	4.2	40.2	11.7%	21.9	0.9	7.0	902.7	82.8%	0.26	Germany	
0.5	0.0	4.1	0.7	5.3	8.9%	1.2	0.1	0.1	100.2	80.8%	0.39	Greece	
0.3	0.1	3.4	0.6	4.4	6.8%	1.9	0.0	0.0	59.7	72.0%	0.26	Hungary	
0.0	0.0	0.3	0.0	0.4	3.8%	0.1	0.0	0.0	4.8	43.3%	0.35	Iceland	
0.2	..	6.3	0.2	6.8	3.2%	1.4	0.1	0.1	62.2	58.9%	0.29	Ireland	
2.6	0.1	11.1	3.1	16.8	15.4%	14.0	0.4	1.1	411.6	80.0%	0.21	Italy	
0.1	..	1.0	0.1	1.3	10.9%	1.4	0.0	..	12.5	59.1%	0.29	Latvia	
0.1	..	0.1	0.1	0.3	29.1%	0.2	0.0	..	10.7	87.9%	0.22	Luxembourg	
0.7	1.6	5.5	0.9	8.7	8.2%	4.7	0.2	0.2	191.2	81.1%	0.25	Netherlands	
0.3	0.3	1.8	0.4	2.8	10.5%	0.5	1.6	0.2	67.9	76.2%	0.22	Norway	
3.5	1.0	18.5	2.0	25.0	14.1%	2.8	0.3	0.3	392.0	81.7%	0.44	Poland	
0.4	0.1	2.5	0.5	3.4	12.6%	1.0	0.0	0.1	64.5	68.5%	0.24	Portugal	
0.3	0.1	1.3	0.3	2.0	13.2%	0.5	0.0	..	42.7	72.0%	0.29	Slovak Republic	
0.1	..	0.5	0.2	0.8	13.9%	0.6	0.0	0.0	18.4	78.0%	0.32	Slovenia	
2.0	0.4	17.2	2.5	22.1	8.8%	10.3	1.0	1.0	326.2	72.8%	0.23	Spain	
1.0	0.1	3.3	0.7	5.0	18.9%	1.8	0.3	0.1	62.7	63.7%	0.15	Sweden	
0.3	..	1.4	0.5	2.1	14.5%	2.5	0.1	0.5	55.2	70.5%	0.12	Switzerland	
3.3	1.8	22.7	6.4	34.3	9.7%	4.7	0.2	2.0	495.6	65.2%	0.30	Turkey	
2.1	0.0	18.2	3.4	23.8	9.0%	13.8	0.4	0.5	522.0	80.7%	0.22	United Kingdom	
<b>30.7</b>	<b>9.5</b>	<b>200.4</b>	<b>32.9</b>	<b>273.6</b>	<b>11.2%</b>	<b>116.5</b>	<b>6.4</b>	<b>15.3</b>	<b>4 718.5</b>	<b>76.4%</b>	<b>0.25</b>	<b>OECD Europe</b>	
191.0	107.6	944.0	194.3	1 436.9	13.3%	661.2	28.3	132.7	33 130.9	76.8%	..	IEA/Accession/Association	
27.9	8.5	186.7	27.5	250.6	11.1%	111.7	4.7	12.6	4 314.9	77.5%	0.25	European Union - 28	
204.9	113.4	1 167.6	248.6	1 734.5	11.8%	700.3	39.2	145.6	38 505.8	74.6%	0.47	G20	
21.8	1.0	384.4	35.8	443.0	4.9%	2.5	0.9	4.4	6 266.7	26.5%	1.21	Africa	
85.2	91.3	536.2	101.5	814.2	10.5%	293.9	11.1	48.1	12 292.2	66.4%	0.47	Americas	
135.5	11.8	914.8	207.0	1 269.1	10.7%	281.1	14.4	89.5	26 924.8	71.8%	0.58	Asia	
37.1	16.8	245.7	62.1	361.7	10.3%	157.2	16.9	22.9	7 673.1	74.2%	0.35	Europe	
4.1	1.8	72.2	4.5	82.6	4.9%	10.7	0.4	0.6	1 098.5	40.5%	0.92	Oceania	

1. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
<b>Non-OECD Total</b>	<b>19 342.7</b>	<b>470.6</b>	<b>2 168.7</b>	<b>5 333.4</b>	<b>27 315.4</b>	<b>72.5%</b>	<b>2 655.9</b>	<b>3 456.0</b>	<b>1 277.3</b>	<b>127.3</b>	<b>7 516.5</b>	<b>35.3%</b>
Albania	4.1	0.0	0.9	0.0	5.1	80.7%	0.3	1.7	0.9	0.0	2.9	8.8%
Armenia	5.2	..	0.2	0.1	5.5	95.0%	0.4	1.5	0.3	..	2.2	19.4%
Azerbaijan	30.8	0.6	1.3	0.2	32.9	95.4%	10.1	7.1	2.1	0.0	19.3	52.2%
Belarus	57.4	2.2	5.6	2.5	67.7	88.0%	0.8	10.7	8.1	0.1	19.7	4.2%
Bosnia and Herzegovina	21.6	0.6	1.0	0.1	23.4	95.1%	1.9	1.4	1.0	0.0	4.3	45.1%
Bulgaria	41.6	0.3	4.0	0.1	46.1	91.1%	1.4	2.0	5.4	0.0	8.7	15.6%
Croatia	15.1	0.0	2.1	0.2	17.4	87.0%	1.3	1.4	1.4	0.0	4.0	31.9%
Cyprus <sup>2</sup>	5.8	..	0.5	0.0	6.3	91.5%	0.0	0.3	1.4	..	1.7	0.8%
FYR of Macedonia	7.4	..	0.8	0.0	8.3	90.2%	0.3	0.7	1.0	0.0	2.0	14.4%
Georgia	7.7	0.0	1.3	0.1	9.2	84.2%	0.6	2.5	0.4	0.0	3.5	16.1%
Gibraltar	0.5	..	..	0.0	0.5	99.7%	0.0	..	0.0	..	0.0	4.8%
Kazakhstan	229.8	14.0	10.5	3.2	257.6	94.7%	65.8	18.6	5.3	0.1	89.8	73.3%
Kosovo <sup>1</sup>	7.4	..	..	..	..	..	..	..	..	..	..	..
Kyrgyzstan	9.0	..	0.7	0.2	9.9	90.9%	0.3	4.5	1.2	..	5.9	4.5%
Lithuania	10.5	0.0	2.1	0.1	12.7	82.5%	0.7	1.9	1.5	0.0	4.2	17.6%
Malta	2.4	..	0.0	0.0	2.4	99.6%	0.0	0.0	0.0	..	0.1	1.7%
Republic of Moldova	7.2	..	0.5	0.0	7.8	93.1%	0.4	0.9	0.5	..	1.8	20.1%
Montenegro <sup>1</sup>	2.2	..	..	..	..	..	..	..	..	..	..	..
Romania	68.2	0.1	7.7	0.6	76.6	89.2%	5.8	8.5	5.6	0.0	20.0	29.2%
Russian Federation	1 486.9	69.3	103.7	427.3	2 087.2	74.6%	275.0	57.7	93.1	31.7	457.5	60.1%
Serbia <sup>1</sup>	38.1	0.6	1.9	0.1	40.8	95.0%	1.7	3.5	5.1	0.0	10.3	16.3%
Tajikistan	4.1	..	0.7	0.0	4.8	85.1%	0.5	5.1	1.1	..	6.6	7.1%
Turkmenistan	67.0	3.9	1.7	0.3	73.0	97.1%	33.0	8.9	1.0	..	42.9	76.8%
Ukraine	234.7	11.2	19.0	3.9	268.9	91.5%	35.4	14.1	12.3	0.1	61.8	57.2%
Uzbekistan	97.9	2.5	5.8	0.7	106.9	93.9%	24.6	24.7	4.5	0.0	53.8	45.7%
<b>Non-OECD Europe and Eurasia</b>	<b>2 462.8</b>	<b>105.5</b>	<b>172.0</b>	<b>440.1</b>	<b>3 180.4</b>	<b>80.8%</b>	<b>460.1</b>	<b>177.7</b>	<b>153.3</b>	<b>32.0</b>	<b>823.1</b>	<b>55.9%</b>
Algeria	123.1	15.6	9.9	1.0	149.6	92.7%	57.6	7.3	8.7	0.0	73.7	78.1%
Angola	19.3	6.7	0.9	566.4	593.3	4.4%	27.5	47.5	4.6	2.1	81.7	33.7%
Benin	4.8	..	0.5	12.7	18.0	26.6%	1.2	3.4	1.8	..	6.4	18.7%
Botswana	7.0	..	0.1	13.0	20.1	34.6%	0.8	3.5	0.5	..	4.8	16.0%
Cameroon	5.6	1.8	0.6	50.7	58.7	12.6%	13.1	10.5	4.2	0.3	28.1	46.5%
Congo	2.6	2.5	0.2	33.1	38.3	13.4%	7.8	2.8	0.9	0.1	11.7	67.1%
Côte d'Ivoire	8.9	0.2	0.9	26.1	36.1	25.2%	6.0	4.3	3.4	0.0	13.7	43.7%
Dem. Rep. of the Congo	4.7	0.4	0.1	767.8	773.1	0.7%	9.4	56.8	13.4	5.4	85.0	11.1%
Egypt	193.3	5.3	26.9	3.4	228.9	86.8%	28.2	17.1	14.8	0.0	60.0	46.9%
Eritrea <sup>1</sup>	0.6	..	0.1	0.1	0.7	78.4%	0.5	2.7	0.7	..	4.0	12.3%
Ethiopia <sup>1</sup>	10.1	..	1.9	58.0	70.0	14.5%	24.3	62.4	13.4	0.4	100.6	24.2%
Gabon	3.3	2.9	0.1	4.5	10.8	57.4%	7.4	0.4	0.4	..	8.3	89.6%
Ghana	13.2	0.2	1.1	39.4	53.9	24.9%	6.9	6.6	4.9	0.1	18.4	37.2%
Kenya	12.4	..	2.2	2.6	17.2	71.8%	11.3	28.6	6.8	..	46.7	24.2%
Libya	47.9	5.1	2.0	0.1	55.0	96.3%	12.1	1.6	1.9	0.1	15.7	76.9%
Mauritius	4.0	..	0.0	0.0	4.0	99.7%	0.2	0.0	0.2	..	0.4	45.2%
Morocco	53.5	..	5.2	0.8	59.5	90.0%	0.4	7.6	7.0	..	15.0	2.8%
Mozambique	3.9	0.0	1.4	315.0	320.4	1.2%	5.8	27.0	4.5	0.5	37.8	15.3%
Namibia	3.6	..	0.3	13.2	17.0	21.1%	0.1	4.6	0.5	..	5.1	1.5%
Niger <sup>1</sup>	2.0	0.2	0.0	0.7	2.9	74.8%	2.3	16.3	2.6	..	21.2	10.9%
Nigeria	60.1	16.3	6.9	32.3	115.6	66.1%	107.2	43.0	29.5	0.1	179.8	59.6%
Senegal	6.3	..	1.7	1.7	9.7	64.8%	1.4	5.8	2.3	0.0	9.5	14.3%
South Africa	434.6	23.1	14.2	31.7	503.6	90.9%	38.7	26.7	15.9	0.2	81.6	47.5%
South Sudan <sup>1</sup>	..	..	..	..	..	..	..	..	..	..	..	..
Sudan <sup>1</sup>	13.4	0.9	1.2	287.3	302.8	4.7%	8.5	79.6	8.2	0.2	96.6	8.8%
United Rep. of Tanzania	10.4	0.0	1.0	141.7	153.0	6.8%	9.2	35.9	8.5	0.3	53.8	17.0%
Togo	1.8	..	0.6	7.2	9.6	18.6%	2.0	1.7	1.1	0.0	4.8	41.2%
Tunisia	25.0	1.3	3.3	0.2	29.9	88.2%	4.2	2.5	2.3	..	9.0	46.5%
Zambia	3.2	..	0.9	336.0	340.0	0.9%	4.4	28.9	2.9	0.7	36.9	11.9%
Zimbabwe	11.5	0.1	0.8	20.8	33.3	35.0%	2.9	8.2	2.4	0.1	13.6	21.3%
Other Africa	30.3	1.7	3.1	423.2	458.3	7.0%	32.2	144.5	30.8	1.2	208.6	15.4%
<b>Africa</b>	<b>1 120.3</b>	<b>84.3</b>	<b>88.1</b>	<b>3 190.8</b>	<b>4 483.4</b>	<b>26.9%</b>	<b>433.4</b>	<b>687.9</b>	<b>199.2</b>	<b>11.9</b>	<b>1 332.4</b>	<b>32.5%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.



## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
<b>166.9</b>	<b>18.2</b>	<b>1 634.4</b>	<b>293.7</b>	<b>2 113.3</b>	<b>7.9%</b>	<b>283.8</b>	<b>20.7</b>	<b>92.5</b>	<b>37 342.3</b>	<b>60.6%</b>	<b>0.68</b>	<b>Non-OECD Total</b>	
0.0	..	0.6	0.1	0.8	5.7%	0.1	..	..	8.9	49.8%	0.31	Albania	
0.0	..	0.7	0.1	0.8	1.9%	0.6	..	..	9.0	62.9%	0.40	Armenia	
0.2	..	2.2	0.3	2.7	7.0%	0.1	0.1	..	55.0	75.7%	0.35	Azerbaijan	
0.5	0.3	9.5	0.5	10.8	4.4%	0.7	0.0	..	99.0	61.5%	0.61	Belarus	
0.2	..	0.7	0.2	1.1	17.2%	0.7	0.1	..	29.5	82.5%	0.83	Bosnia and Herzegovina	
0.3	0.1	2.1	0.4	2.9	9.7%	0.6	0.0	..	58.3	74.7%	0.50	Bulgaria	
0.1	0.3	1.4	0.2	2.0	7.3%	0.1	0.0	..	23.5	70.4%	0.29	Croatia	
0.0	..	0.2	0.1	0.3	10.1%	0.3	..	..	8.6	67.5%	0.34	Cyprus <sup>2</sup>	
0.0	..	0.3	0.1	0.5	8.5%	0.2	..	..	10.9	71.1%	0.42	FYR of Macedonia	
0.1	0.8	1.1	0.1	2.1	3.4%	0.0	..	..	14.8	56.6%	0.46	Georgia	
0.0	..	..	0.0	0.0	33.3%	..	..	..	0.6	95.8%	0.58	Gibraltar	
1.1	..	11.4	1.5	14.0	7.7%	0.6	..	..	361.9	85.9%	0.87	Kazakhstan	
..	..	..	..	..	..	..	..	..	..	..	..	Kosovo <sup>1</sup>	
0.0	..	1.3	0.2	1.5	2.3%	0.0	..	..	17.5	53.5%	0.96	Kyrgyzstan	
0.1	0.3	2.5	0.2	3.1	3.6%	1.1	0.0	..	21.0	53.8%	0.29	Lithuania	
0.0	..	0.0	0.0	0.1	9.1%	0.2	..	..	2.7	87.5%	0.22	Malta	
0.0	..	0.5	0.1	0.6	5.1%	0.0	..	..	10.2	74.6%	0.61	Republic of Moldova	
..	..	..	..	..	..	..	..	..	..	..	..	Montenegro <sup>1</sup>	
0.5	0.4	6.4	0.9	8.2	6.6%	0.7	0.2	0.0	105.6	70.7%	0.29	Romania	
6.3	5.3	30.0	30.2	71.8	8.8%	33.5	10.2	9.1	2 669.4	68.8%	0.83	Russian Federation	
0.3	0.2	1.9	0.4	2.8	12.2%	7.0	0.0	..	60.9	66.9%	0.70	Serbia <sup>1</sup>	
0.0	..	1.5	0.1	1.6	0.7%	0.0	0.1	..	13.2	34.5%	0.63	Tajikistan	
0.1	0.9	3.9	0.3	5.1	2.0%	0.1	..	..	121.2	85.8%	1.58	Turkmenistan	
1.2	2.2	12.1	2.3	17.7	6.6%	0.4	0.2	0.5	349.5	80.8%	1.00	Ukraine	
0.3	0.1	11.1	0.7	12.1	2.3%	1.0	..	..	173.7	72.1%	1.08	Uzbekistan	
<b>11.5</b>	<b>10.9</b>	<b>101.3</b>	<b>38.8</b>	<b>162.5</b>	<b>7.1%</b>	<b>48.0</b>	<b>10.9</b>	<b>9.6</b>	<b>4 234.6</b>	<b>71.8%</b>	<b>0.77</b>	<b>Non-OECD Europe and Eurasia</b>	
0.3	0.1	4.7	1.2	6.3	5.2%	0.3	..	0.4	230.3	85.4%	0.45	Algeria	
0.4	..	30.3	2.0	32.8	1.3%	0.0	..	..	707.8	7.6%	4.29	Angola	
0.1	..	2.1	0.2	2.5	5.2%	..	..	..	26.8	22.8%	1.33	Benin	
0.1	..	2.3	0.1	2.5	2.9%	..	..	..	27.4	28.4%	0.83	Botswana	
0.3	..	5.9	0.7	6.9	4.1%	..	0.1	..	93.9	22.1%	1.48	Cameroon	
0.1	..	2.0	0.2	2.2	2.3%	0.0	..	..	52.2	24.9%	1.98	Congo	
0.3	..	3.2	0.4	3.9	8.2%	..	..	..	53.8	28.7%	0.80	Côte d'Ivoire	
1.2	..	36.1	4.3	41.5	2.8%	..	..	..	899.6	1.7%	17.25	Dem. Rep. of the Congo	
1.3	0.2	16.5	2.7	20.6	6.1%	0.5	0.5	1.4	312.0	73.1%	0.35	Egypt	
0.0	..	1.2	0.0	1.3	1.9%	..	..	..	6.0	18.3%	0.78	Eritrea <sup>1</sup>	
1.8	..	32.7	2.1	36.7	5.0%	0.0	..	..	207.3	17.5%	1.53	Ethiopia <sup>1</sup>	
0.1	..	0.3	0.1	0.5	21.3%	0.0	..	..	19.6	70.1%	0.64	Gabon	
0.3	..	3.8	0.6	4.7	7.0%	0.0	..	..	77.0	26.7%	0.75	Ghana	
0.6	..	13.1	0.9	14.7	4.4%	..	0.0	..	78.5	30.9%	0.63	Kenya	
0.2	..	0.7	0.4	1.3	15.0%	..	..	0.4	72.4	90.2%	0.79	Libya	
0.0	..	0.1	0.1	0.2	15.5%	0.0	..	..	4.6	90.8%	0.21	Mauritius	
0.4	..	5.3	0.9	6.6	6.6%	..	..	..	81.1	67.0%	0.34	Morocco	
0.4	..	17.3	0.9	18.5	2.0%	0.1	0.1	..	376.9	2.7%	13.09	Mozambique	
0.1	..	2.4	0.1	2.6	5.1%	..	..	..	24.7	15.4%	1.10	Namibia	
0.3	..	7.2	0.4	7.8	3.2%	..	..	..	31.9	14.8%	1.89	Niger <sup>1</sup>	
5.3	..	22.0	5.0	32.3	16.3%	0.6	0.0	0.4	328.7	57.5%	0.34	Nigeria	
0.1	..	2.8	0.3	3.1	1.9%	..	..	..	22.2	34.5%	0.70	Senegal	
2.9	0.2	15.2	3.2	21.4	13.4%	0.8	0.2	1.8	609.4	81.9%	0.92	South Africa	
..	..	..	..	..	..	..	..	..	..	..	..	South Sudan <sup>1</sup>	
0.4	..	40.6	1.2	42.2	1.1%	..	..	..	441.6	5.3%	2.85	Sudan <sup>1</sup>	
0.9	..	18.9	1.5	21.3	4.3%	..	..	..	228.2	9.0%	1.91	United Rep. of Tanzania	
0.1	..	1.1	0.1	1.3	6.1%	..	..	..	15.7	24.4%	1.69	Togo	
0.2	0.3	1.7	0.3	2.5	8.2%	..	..	..	41.4	74.3%	0.35	Tunisia	
0.3	0.3	21.3	0.9	22.8	1.4%	0.0	..	..	399.7	2.0%	7.19	Zambia	
0.4	..	4.4	0.5	5.3	7.2%	..	..	..	52.1	28.6%	2.04	Zimbabwe	
2.9	..	69.0	4.6	76.5	3.8%	0.1	..	..	743.7	9.0%	2.06	Other Africa	
<b>21.8</b>	<b>1.0</b>	<b>384.4</b>	<b>35.8</b>	<b>443.0</b>	<b>4.9%</b>	<b>2.5</b>	<b>0.9</b>	<b>4.4</b>	<b>6 266.7</b>	<b>26.5%</b>	<b>1.21</b>	<b>Africa</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.

## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

	CO <sub>2</sub>						CH <sub>4</sub>					
	Fuel comb.	Fugitive	Industrial processes	Other	Total	Share of energy	Energy	Agricult.	Waste	Other	Total	Share of energy
Bangladesh	62.9	0.0	7.6	5.1	75.6	83.2%	11.0	88.4	22.3	0.2	121.9	9.0%
Brunei Darussalam	6.7	0.2	0.1	0.1	7.1	96.9%	5.0	0.0	0.1	0.0	5.1	97.4%
Cambodia	6.1	..	0.6	7.9	14.6	41.9%	2.8	19.5	2.2	0.3	24.9	11.4%
DPR of Korea	28.7	12.8	145.9	64.2	251.6	16.5%	108.2	512.4	182.2	3.0	805.7	13.4%
India	2 018.8	2.6	16.2	1.1	2 038.8	99.2%	1.1	2.8	6.5	0.0	10.4	10.6%
Indonesia	434.9	..	3.8	2.0	440.7	98.7%	12.3	4.7	6.5	0.1	23.6	52.1%
Malaysia	220.5	5.7	34.2	536.8	797.3	28.4%	128.1	119.2	64.0	38.0	349.4	36.7%
Mongolia	17.9	6.5	17.6	17.5	59.6	41.1%	36.9	6.5	7.7	0.9	52.1	71.0%
Myanmar	20.0	0.1	0.2	9.0	29.4	68.6%	8.0	12.1	0.6	0.1	20.8	38.4%
Nepal	5.8	0.1	0.6	125.9	132.5	4.5%	9.0	80.5	8.9	4.9	103.3	8.8%
Pakistan	141.6	..	1.2	5.6	148.4	95.4%	3.1	23.7	3.3	0.4	30.5	10.2%
Philippines	95.7	1.0	16.7	2.7	116.1	83.3%	23.0	144.7	26.4	0.0	194.2	11.9%
Singapore	45.3	0.3	9.1	4.4	59.2	77.1%	9.9	43.2	18.0	0.0	71.1	13.9%
Sri Lanka	16.7	..	6.3	0.5	23.6	70.9%	0.5	0.0	2.3	0.0	2.8	18.4%
Chinese Taipei	249.7	..	0.7	1.7	252.2	99.0%	1.2	7.3	2.6	0.0	11.1	10.5%
Thailand	243.9	0.7	22.7	41.9	309.2	79.1%	27.2	74.2	15.7	1.0	118.1	23.1%
Viet Nam	143.4	2.1	26.1	32.1	203.7	71.4%	26.7	70.5	15.9	0.8	113.8	23.4%
Other non-OECD Asia	26.6	0.3	2.0	74.2	103.1	26.1%	4.2	26.4	6.9	2.3	39.7	10.5%
<b>Asia (excl. China)</b>	<b>3 785.2</b>	<b>32.7</b>	<b>311.8</b>	<b>932.9</b>	<b>5 062.5</b>	<b>75.4%</b>	<b>418.3</b>	<b>1 236.1</b>	<b>392.1</b>	<b>52.3</b>	<b>2 098.7</b>	<b>19.9%</b>
People's Rep. of China	9 036.5	142.8	1 329.7	107.5	10 616.4	86.5%	759.5	646.2	292.1	9.1	1 706.9	44.5%
Hong Kong, China	47.9	1.3	0.7	0.1	50.0	98.4%	0.1	0.0	2.0	..	2.1	5.6%
<b>China</b>	<b>9 084.4</b>	<b>144.1</b>	<b>1 330.4</b>	<b>107.6</b>	<b>10 666.5</b>	<b>86.5%</b>	<b>759.6</b>	<b>646.2</b>	<b>294.1</b>	<b>9.1</b>	<b>1 709.0</b>	<b>44.4%</b>
Argentina	185.8	3.1	9.2	23.1	221.2	85.4%	22.0	84.5	10.4	0.7	117.6	18.7%
Bolivia	18.3	0.1	1.2	50.7	70.4	26.1%	8.8	17.0	2.2	1.6	29.7	29.8%
Brazil	474.9	3.1	42.5	478.8	999.3	47.8%	41.1	378.0	86.3	16.2	521.7	7.9%
Colombia	72.7	2.1	4.6	7.3	86.6	86.3%	16.4	40.8	10.8	0.1	68.0	24.1%
Costa Rica	7.3	..	0.5	0.8	8.6	84.2%	0.1	3.0	0.9	0.0	4.1	3.3%
Cuba	29.4	0.2	0.8	2.8	33.1	89.2%	1.3	7.7	4.8	0.1	13.9	9.1%
Curaçao <sup>2</sup>	4.7	..	..	0.1	4.8	98.9%	0.1	0.0	0.0	..	0.1	79.3%
Dominican Republic	20.1	..	1.7	1.8	23.6	85.1%	0.4	6.7	4.1	0.1	11.3	3.2%
Ecuador	38.7	2.5	2.3	0.9	44.4	92.7%	10.0	10.8	3.0	..	23.8	41.8%
El Salvador	5.9	..	0.4	0.8	7.0	83.4%	0.2	1.7	1.0	0.0	3.0	7.6%
Guatemala	16.1	0.0	1.2	4.0	21.5	75.4%	2.1	5.8	2.7	0.1	10.6	19.7%
Haiti	2.8	..	0.3	0.0	3.0	90.8%	3.7	2.7	3.3	..	9.7	38.0%
Honduras	8.7	..	0.6	6.9	16.3	53.8%	0.6	5.8	1.3	0.1	7.8	7.1%
Jamaica	7.1	..	0.4	0.1	7.6	93.5%	0.5	0.4	0.8	..	1.7	30.0%
Nicaragua	4.5	..	0.3	0.1	4.9	92.4%	0.4	5.6	1.2	0.0	7.2	5.4%
Panama	10.6	..	0.8	0.5	11.9	89.0%	0.1	3.0	0.7	0.0	3.9	3.5%
Paraguay	5.2	..	0.5	23.6	29.2	17.7%	1.4	21.2	1.4	0.5	24.4	5.6%
Peru	48.1	0.4	4.2	6.0	58.7	82.6%	7.4	13.3	5.8	0.1	26.7	27.8%
Suriname <sup>1</sup>	2.0	..	0.0	1.0	3.1	64.6%	0.0	0.6	0.1	0.0	0.8	5.8%
Trinidad and Tobago	23.2	0.4	15.5	0.1	39.2	60.1%	13.5	0.1	1.9	0.3	15.8	85.4%
Uruguay	6.3	..	0.3	0.1	6.6	94.4%	0.2	22.2	2.9	..	25.3	0.8%
Venezuela	154.8	22.3	7.0	46.2	230.3	76.9%	44.3	31.9	8.6	0.9	85.7	51.7%
Other non-OECD Americas	19.0	0.0	0.6	3.4	23.1	82.5%	0.3	2.9	3.0	0.1	6.3	5.4%
<b>Non-OECD Americas</b>	<b>1 166.2</b>	<b>34.1</b>	<b>94.9</b>	<b>659.3</b>	<b>1 954.5</b>	<b>61.4%</b>	<b>174.9</b>	<b>665.8</b>	<b>157.4</b>	<b>20.9</b>	<b>1 019.0</b>	<b>17.2%</b>
Bahrain	29.7	0.1	3.2	0.0	33.0	90.2%	5.1	0.0	0.7	0.0	5.9	87.1%
Islamic Republic of Iran	556.5	24.6	47.2	1.1	629.4	92.3%	123.6	21.3	29.1	0.3	174.2	70.9%
Iraq	141.0	27.6	5.8	0.7	175.1	96.3%	52.3	4.4	10.3	..	67.0	78.0%
Jordan	24.0	0.0	1.9	0.0	25.9	92.6%	0.1	0.7	3.1	..	3.8	3.1%
Kuwait	79.0	2.8	6.1	0.1	87.9	93.0%	23.2	0.2	2.1	0.0	25.5	90.9%
Lebanon	22.4	..	2.3	0.0	24.7	90.6%	0.1	0.3	2.1	..	2.4	4.4%
Oman	59.9	5.0	8.0	0.1	73.0	89.0%	21.5	1.0	2.1	0.2	24.8	86.7%
Qatar	78.4	1.5	13.9	0.0	93.8	85.2%	69.2	0.1	2.2	0.1	71.6	96.6%
Saudi Arabia	506.6	3.8	64.1	0.4	575.0	88.8%	71.3	3.7	15.8	0.5	91.3	78.1%
Syrian Arab Republic	27.6	0.8	1.7	0.2	30.2	94.0%	3.7	4.2	4.9	..	12.8	28.7%
United Arab Emirates	176.3	1.5	16.3	0.2	194.3	91.5%	29.2	1.2	4.1	0.0	34.5	84.7%
Yemen	22.4	2.3	1.1	0.0	25.9	95.5%	10.2	5.2	4.8	..	20.3	50.3%
<b>Middle East</b>	<b>1 723.8</b>	<b>70.0</b>	<b>171.5</b>	<b>2.7</b>	<b>1 968.1</b>	<b>91.1%</b>	<b>409.5</b>	<b>42.3</b>	<b>81.4</b>	<b>1.1</b>	<b>534.3</b>	<b>76.6%</b>

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.

## 2014 Greenhouse-gas emissions

million tonnes of CO<sub>2</sub> equivalent using GWP-100

Energy	N <sub>2</sub> O					Share of energy	HFCs	PFCs	SF <sub>6</sub>	Total			
	Industrial processes	Agriculture	Other	Total	Industrial processes		Total	Share of energy	GHG / GDP PPP <sup>3</sup>				
0.9	..	16.4	2.5	19.7	4.4%	..	..	..	217.2	34.4%	0.47	Bangladesh	
0.0	..	0.1	0.0	0.1	8.9%	0.4	..	..	12.8	93.0%	0.46	Brunei Darussalam	
0.2	..	2.7	0.5	3.5	6.6%	..	..	..	42.9	21.3%	0.92	Cambodia	
25.0	0.5	199.9	33.1	258.4	9.7%	17.7	0.7	5.5	1 339.6	13.0%	13.42	DPR of Korea	
1.3	0.6	1.7	1.2	4.9	26.1%	0.1	1.7	4.8	2 060.7	98.2%	0.30	India	
0.3	..	1.9	0.6	2.7	9.4%	4.4	..	..	471.4	94.9%	0.19	Indonesia	
5.4	0.0	65.1	31.4	102.0	5.3%	..	0.0	1.1	1 249.8	28.8%	1.74	Malaysia	
1.4	1.0	9.4	1.9	13.6	10.0%	0.1	0.2	0.8	126.3	49.7%	3.88	Mongolia	
0.1	..	5.8	0.2	6.1	2.3%	..	..	..	56.2	50.2%	0.20	Myanmar	
0.7	..	16.9	4.3	21.9	3.4%	..	..	..	257.6	6.1%	4.10	Nepal	
0.6	..	3.7	0.9	5.1	11.1%	..	..	..	184.1	78.9%	0.22	Pakistan	
2.1	0.1	43.0	4.1	49.3	4.3%	..	..	1.0	360.6	33.8%	0.56	Philippines	
0.7	..	10.4	1.8	12.9	5.3%	..	..	0.4	143.7	39.1%	0.34	Singapore	
0.1	0.7	0.0	0.9	1.7	5.7%	2.2	0.4	0.4	31.2	55.6%	0.14	Sri Lanka	
0.3	..	2.0	0.6	2.9	10.8%	..	..	..	266.2	94.4%	0.27	Chinese Taipei	
5.2	0.5	15.4	3.0	24.2	21.7%	..	..	1.3	452.9	61.2%	0.46	Thailand	
1.5	..	18.9	3.3	23.7	6.2%	..	..	..	341.2	50.9%	0.71	Viet Nam	
0.3	..	8.6	2.5	11.5	2.7%	0.1	..	..	154.4	20.3%	0.70	Other non-OECD Asia	
<b>46.2</b>	<b>3.5</b>	<b>421.9</b>	<b>92.7</b>	<b>564.3</b>	<b>8.2%</b>	<b>25.0</b>	<b>2.9</b>	<b>15.4</b>	<b>7 768.7</b>	<b>55.1%</b>	<b>0.49</b>	<b>Asia (excl. China)</b>	
66.9	1.9	393.2	71.1	533.1	12.5%	199.1	3.8	53.8	13 113.1	76.3%	0.78	People's Rep. of China	
0.2	..	0.0	0.3	0.5	41.5%	..	..	0.1	52.8	93.8%	0.14	Hong Kong, China	
<b>67.1</b>	<b>1.9</b>	<b>393.2</b>	<b>71.4</b>	<b>533.6</b>	<b>12.6%</b>	<b>199.1</b>	<b>3.8</b>	<b>54.0</b>	<b>13 166.0</b>	<b>76.4%</b>	<b>0.76</b>	<b>China</b>	
1.6	0.1	50.4	2.4	54.6	3.0%	0.4	0.0	0.4	394.3	53.9%	0.57	Argentina	
0.4	..	7.3	1.4	9.0	4.3%	..	..	..	109.1	25.3%	1.67	Bolivia	
8.1	0.0	163.0	19.3	190.4	4.3%	3.2	1.9	1.5	1 718.0	30.7%	0.56	Brazil	
0.8	0.1	17.3	1.2	19.5	4.2%	..	0.0	0.1	174.2	52.8%	0.29	Colombia	
0.1	..	1.3	0.2	1.6	6.3%	0.1	..	..	14.3	52.3%	0.22	Costa Rica	
0.2	0.4	4.9	0.4	6.0	2.6%	0.2	..	..	53.2	58.2%	0.24	Cuba	
0.0	..	0.0	0.0	0.1	30.5%	..	..	..	4.9	97.6%	2.93	Curaçao <sup>2</sup>	
0.1	..	2.3	0.4	2.9	4.9%	..	..	..	37.8	54.5%	0.29	Dominican Republic	
0.2	..	4.3	0.7	5.3	4.7%	0.1	..	..	73.6	69.8%	0.43	Ecuador	
0.1	..	1.1	0.2	1.3	4.8%	0.1	..	..	11.4	53.9%	0.24	El Salvador	
0.4	..	2.9	0.5	3.8	11.3%	0.8	..	..	36.6	51.1%	0.33	Guatemala	
0.1	..	1.2	0.2	1.5	9.9%	..	..	..	14.2	46.3%	0.83	Haiti	
0.1	..	2.6	0.4	3.1	4.7%	..	..	..	27.2	34.7%	0.74	Honduras	
0.1	..	0.3	0.1	0.4	12.6%	0.1	..	..	9.9	78.0%	0.44	Jamaica	
0.1	..	3.1	0.2	3.3	2.5%	..	..	..	15.4	32.4%	0.56	Nicaragua	
0.1	..	1.2	0.2	1.4	5.2%	..	..	..	17.2	62.7%	0.23	Panama	
0.1	..	8.2	0.5	8.9	1.6%	..	..	..	62.5	10.7%	1.15	Paraguay	
0.3	..	6.0	0.9	7.3	3.9%	0.5	..	..	93.2	60.3%	0.27	Peru	
0.0	..	0.1	0.1	0.2	15.4%	..	..	..	4.1	50.4%	0.49	Suriname <sup>1</sup>	
0.1	..	8.2	0.1	8.4	0.9%	0.1	..	..	63.5	58.5%	1.58	Trinidad and Tobago	
0.7	0.0	12.6	2.1	15.4	4.4%	1.7	0.1	0.3	49.4	14.5%	0.74	Uruguay	
0.2	..	2.3	0.4	2.9	5.6%	0.0	0.0	0.0	318.8	69.5%	0.63	Venezuela	
0.2	..	2.3	0.4	2.9	5.6%	0.0	0.0	0.0	32.3	60.5%	0.80	Other non-OECD Americas	
<b>14.2</b>	<b>0.8</b>	<b>302.9</b>	<b>32.2</b>	<b>350.1</b>	<b>4.0%</b>	<b>7.3</b>	<b>2.1</b>	<b>2.3</b>	<b>3 335.3</b>	<b>41.7%</b>	<b>0.52</b>	<b>Non-OECD Americas</b>	
0.0	..	0.0	0.1	0.2	19.2%	..	0.1	..	39.1	89.3%	0.68	Bahrain	
2.9	0.0	17.2	8.0	28.1	10.2%	..	0.0	2.9	834.6	84.8%	0.66	Islamic Republic of Iran	
0.5	..	3.6	3.1	7.3	7.4%	..	..	0.1	249.5	88.8%	0.50	Iraq	
0.1	..	0.4	0.6	1.1	5.0%	0.2	..	..	31.0	78.0%	0.42	Jordan	
0.2	..	0.1	0.5	0.8	22.2%	0.9	..	0.5	115.7	90.9%	0.44	Kuwait	
0.1	..	0.4	0.5	1.0	7.9%	..	..	..	28.1	80.3%	0.38	Lebanon	
0.1	..	0.5	0.6	1.2	11.5%	0.3	0.0	..	99.3	87.2%	0.64	Oman	
0.1	..	0.1	0.3	0.5	20.2%	..	..	..	166.0	89.9%	0.58	Qatar	
1.2	..	2.4	4.7	8.3	14.7%	0.3	..	2.5	677.3	86.1%	0.45	Saudi Arabia	
0.2	0.0	2.5	1.3	4.0	4.9%	..	..	..	47.0	68.6%	0.90	Syrian Arab Republic	
0.3	..	0.6	1.5	2.3	12.4%	..	0.1	1.0	232.3	89.3%	0.41	United Arab Emirates	
0.5	..	3.0	1.5	5.1	10.0%	..	..	..	51.3	69.1%	0.54	Yemen	
<b>6.2</b>	<b>0.1</b>	<b>30.8</b>	<b>22.8</b>	<b>59.8</b>	<b>10.4%</b>	<b>1.7</b>	<b>0.2</b>	<b>6.9</b>	<b>2 571.0</b>	<b>85.9%</b>	<b>0.53</b>	<b>Middle East</b>	

1. Please refer to the chapter *Country notes* in Part I.2. Please refer to the chapter *Geographical Coverage* in Part I.3. GHG / GDP PPP ratio is expressed in kg of CO<sub>2</sub>-equivalent per 2010 USD.