

01 WHO IS EMITTING?

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Current global emissions

As per World Resources Institute's Climate Analysis Indicators Tools (CAIT) version 8.0, USA had less than 5 per cent of the world's population, but accounted for 20 per cent of the global carbon dioxide emissions in 2007. India, with almost 17 per cent of global population accounted for less than 5 per cent of the emissions. China stood at the top of the chart with over 22 per cent emissions and almost 20 per cent of global population.

Table 1: Share of global CO₂ emissions and population, 2007

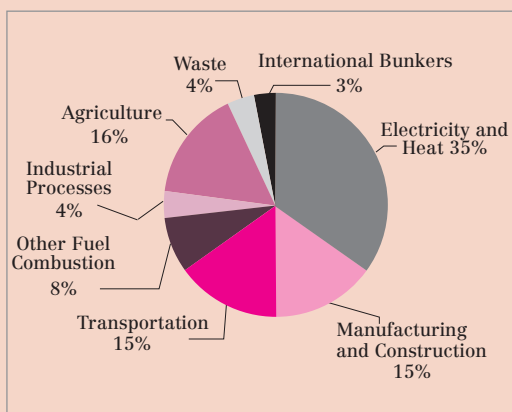
Country	Total CO ₂ emissions in 2007 (Million tCO ₂)	Share of global CO ₂ emissions in 2007 (%)	Share of world population in 2007 (%)
China	6,702.6	22.7	19.91
United States of America	5,826.7	19.73	4.55
European Union (27)	4,064.5	13.76	7.47
Germany	817.2	2.77	1.24
United Kingdom	530.2	1.8	0.92
France	380.4	1.29	0.94
Spain	371.9	1.26	0.68
Poland	313.2	1.06	0.58
Netherlands	183.7	0.62	0.25
Russian Federation	1,626.3	5.51	2.15
India	1,410.4	4.78	16.99
Japan	1,270.1	4.3	1.93
Canada	583.9	1.98	0.5
South Korea	517.1	1.75	0.73
Iran	512.1	1.73	1.07
Italy	461.3	1.56	0.9
Mexico	467.3	1.58	1.59
Australia	401.1	1.36	0.32
Indonesia	400.4	1.36	3.39
Brazil	373.7	1.27	2.87
Saudi Arabia	373.4	1.26	0.36
South Africa	352.6	1.19	0.72
Ukraine	321.4	1.09	0.7
Taiwan	285.6	0.97	0.35
Turkey	289.7	0.98	1.1
Thailand	243.5	0.82	1.01
Kazakhstan	193.3	0.65	0.23
Rest of the world	4,261.4	14.46	33.71

Source: Climate Analysis Indicators Tool (CAIT) Version 8.0. (Washington, DC: World Resources Institute, 2011)

Sectors: Where emissions come from

WRI and International Energy Agency (IEA) also examined global, national and sectoral CO₂ emissions. The following graphical representations and sectoral analysis are based on this data.

Graph 1: World GHG emissions by sector in 2007 (excludes land use change)



Source: Climate Analysis Indicators Tool (CAIT) Version 6.0 & 7.0. (Washington, DC: World Resources Institute, 2011).

Table 2: World GHG emissions by sector in 2007 (excludes land use change)

Sector	Percentage share of global GHG emissions
Energy	74
<i>Electricity & Heat</i>	35
<i>Manufacturing & Construction</i>	15
<i>Transportation</i>	15
<i>Other Fuel Combustion</i>	8
Industrial Processes	4
Agriculture	16
Waste	4
International Bunkers	3

Source: Climate Analysis Indicators Tool (CAIT) Version 8.0. (Washington, DC: World Resources Institute, 2011)

Electricity and heat

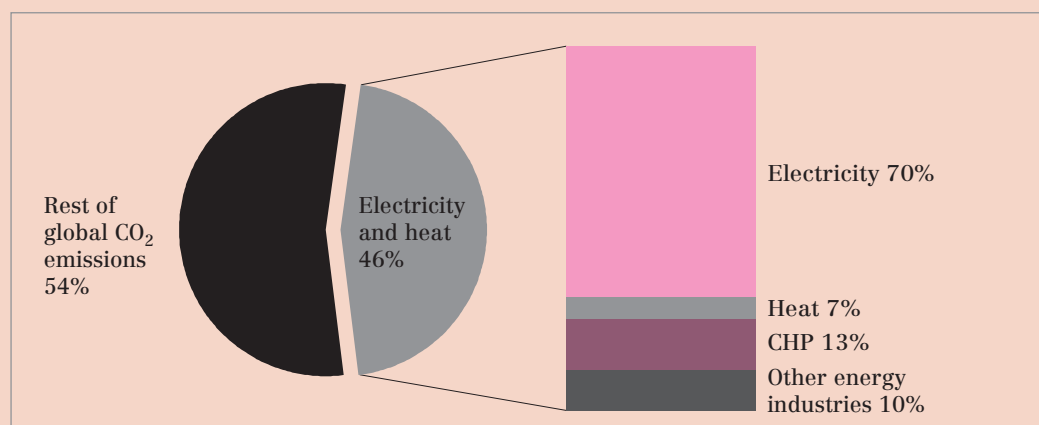
Electricity and heat accounted for about 41 per cent of global GHG emissions, making it the largest sector. In terms of global share of emissions from electricity and heat, China, US and EU-27 took up the top spots with 27, 18, and 11 per cent, respectively, of the global total, with India following at the fifth position. The 10 largest emitters accounted for 81 per cent of the emissions from this sector. The major per capita emitters, in order, were Middle East countries, Australia and the US.

Table 3: Share of CO₂ emissions from electricity and heat

Country	Percentage of world total (2009)
China	27.0
USA	18.4
EU-27	11.1
Russia	6.8
India	6.6
Japan	3.6
South Korea	2.1
Australia	1.8
Canada	1.7
South Africa	1.3
Brazil	0.4
Rest of World	19.1

Source: International Energy Agency (IEA): CO₂ emissions from fuel combustion highlights (2011 edition): CO₂ emissions by sector in 2009, p 67 to 69

Graph 2: Emissions from electricity and heat

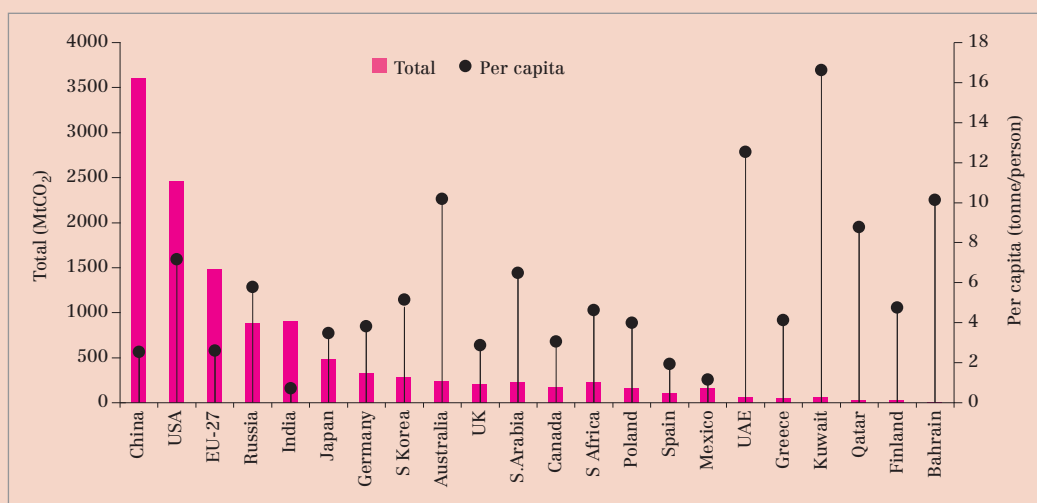


Note: CHP - Combined heat and power

Source: International Energy Agency (IEA): CO₂ emissions from fuel combustion highlights (2010 Edition): CO₂ emissions by sector in 2008



Graph 3: Per capita CO₂ emissions from electricity and heat, 2009

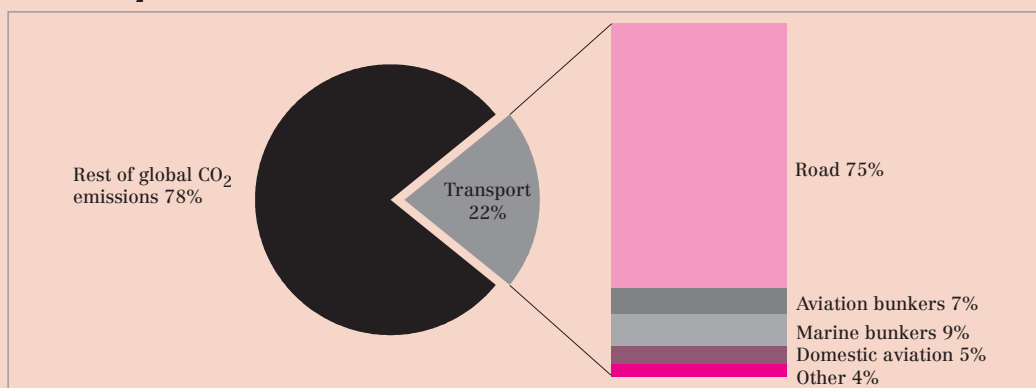


Source: International Energy Agency(IEA): CO₂ emissions from fuel combustion highlights (2011 Edition): CO₂ emissions by sector in 2009

Transport

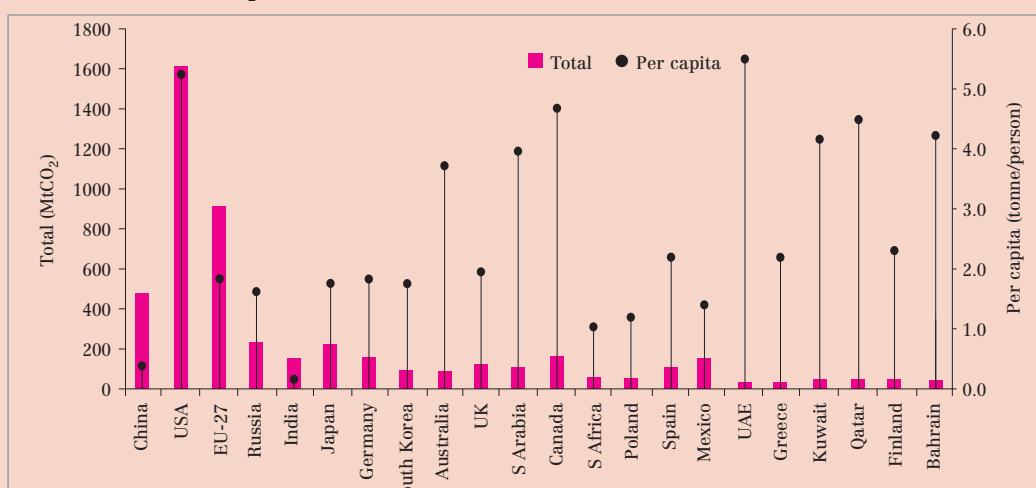
Transport accounted for about 22 per cent of global CO₂ emissions. Within this sector, road transport, at 75 per cent of CO₂ emissions accounted for the largest share. Aviation amounted to about 12 per cent. Interventions in this sector tend to be oriented around safety and fuel efficiency regulations and development of transportation infrastructure like roads, highways, seaports, and airports. However, difficulties arise in attributing emissions to countries. Ground transport is relatively easy to attribute although there some exceptions, such as in Europe, where emissions almost always occur within the same national boundaries where fuels are purchased. Nearly all emissions for international transport, however, occur in or over international territory, raising ambiguities concerning attribution.

Graph 4: CO₂ emissions from transportation



Source: International Energy Agency(IEA): CO₂ emissions from fuel combustion highlights (2010 Edition): CO₂ emissions by sector in 2008

Graph 5: Per capita CO₂ emissions from transportation, 2009



Source: International Energy Agency(IEA): CO₂ emissions from fuel combustion highlights (2011 Edition): CO₂ emissions by sector in 2009

Emissions: India

The reliable estimate of India's inventory comes from the government's 2010 report produced by Indian Network of Climate Change Assessment (INCCA) – a research body commissioned by Union ministry of environment and forests. The data pertains to the year 2007. The government is working on its National Communication which has to be submitted to the UN secretariat in the coming years.

