

04 GLOBAL EMISSIONS

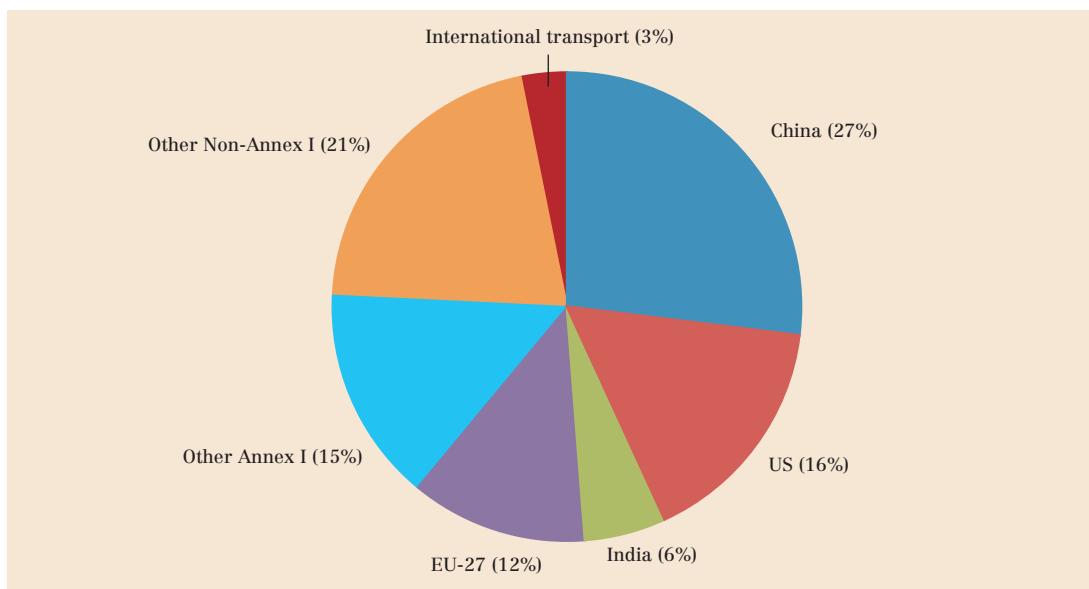
Centre for Science and Environment
41, Tughlakabad Institutional Area, New Delhi 110 062, INDIA
Ph: +91-11-29956110 - 5124 - 6394- 6399 Fax: +91-11-29955879
E-mail: cse@cseindia.org Website: www.cseindia.org

A report by the Netherlands Environmental Assessment Agency says global emissions have increased 5.8 per cent in 2010 compared to 2009. The report holds China and India responsible for the bulk of this increase and says that the developed countries that ratified the Kyoto Protocol and the US collectively remain on target to meet their Kyoto Protocol target. But the report fails to highlight the emissions increase in the developed countries and how some major developed countries are failing to meet their Kyoto targets. Centre for Science and Environment (CSE) analyzed the numbers in the report to present a clear picture of global emissions in 2010. Presented below is a graphical representation of the numbers game.

NOTE:

- The report's estimates have been made by the PBL Netherlands Environmental Assessment Agency and the European Commission's Joint Research Centre on the basis of energy consumption data for 2008 to 2010 published by British Petroleum (BP)
- This assessment includes fossil fuel combustion based on BP's data on global fossil fuel consumption. It also incorporates all other relevant CO₂ emissions sources including flaring of waste gas during oil production, cement clinker production and other limestone uses, feedstock and other non-energy uses of fuels, and several other small sources
- This assessment excludes CO₂ emissions from deforestation and logging, forest and peat fires, from post-burn decay of remaining above-ground biomass, and from decomposition of organic carbon in drained peat soils

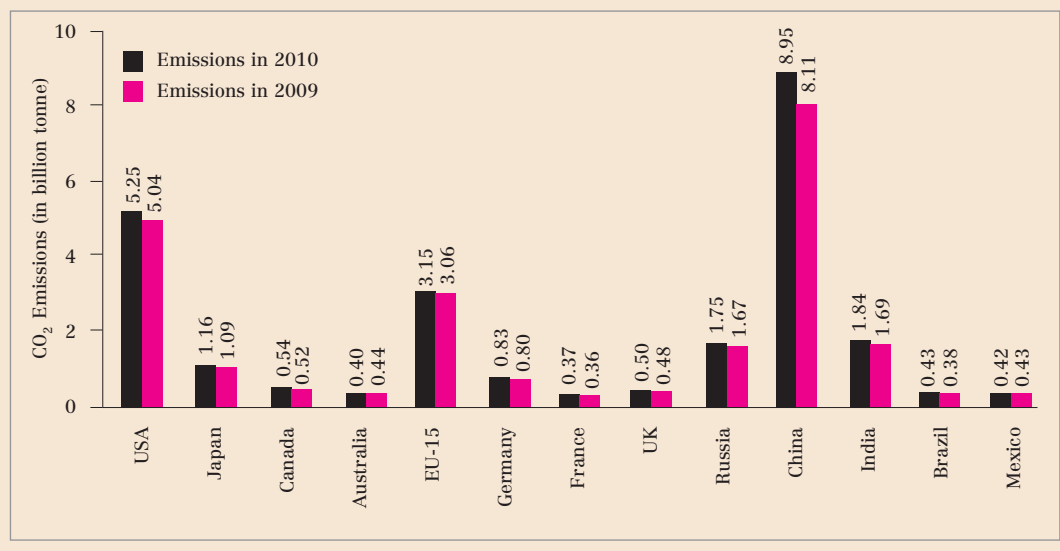
Distribution of global emissions: 2010



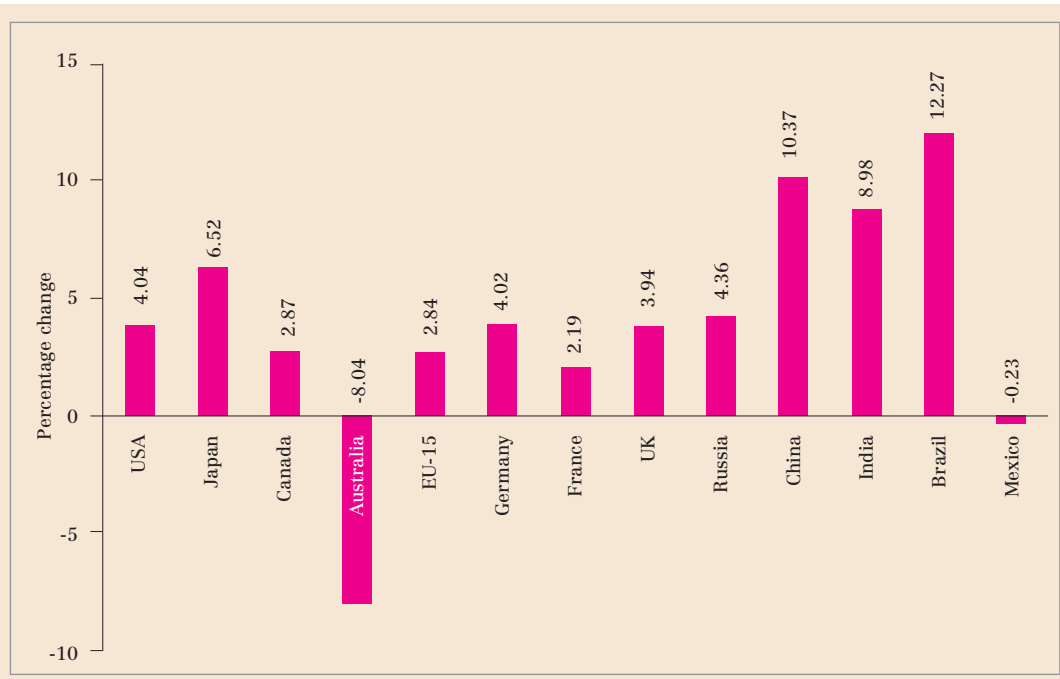
- The total global CO₂ emissions increased 5.8 per cent in 2010 over 2009 to an absolute maximum of 33 billion tonnes, the maximum increase in two decades. Continued growth in the developing nations and economic recovery in the developed countries are the main reasons for this increase, the report says
- The total global CO₂ emissions increased 45 per cent in 2010 since 1990
- In 2010, Annex I countries, which accounts for above 20 per cent of global population emitted 43 per cent of the emissions. Non-Annex I countries, which accounted for 80 per cent of the population emitted 57 per cent of the global CO₂ emissions. India's share is 6 per cent, US's share is 16 per cent and China's share is 27 per cent in global emissions in 2010



Country-wise emissions in 2009/10

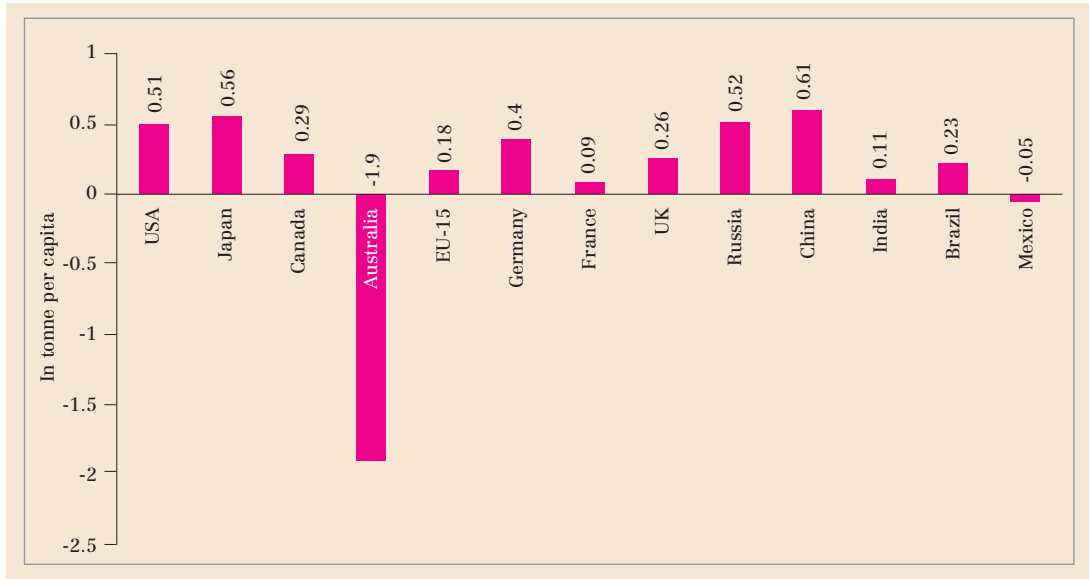


Change in emissions in 2010 over 2009 (in per cent)



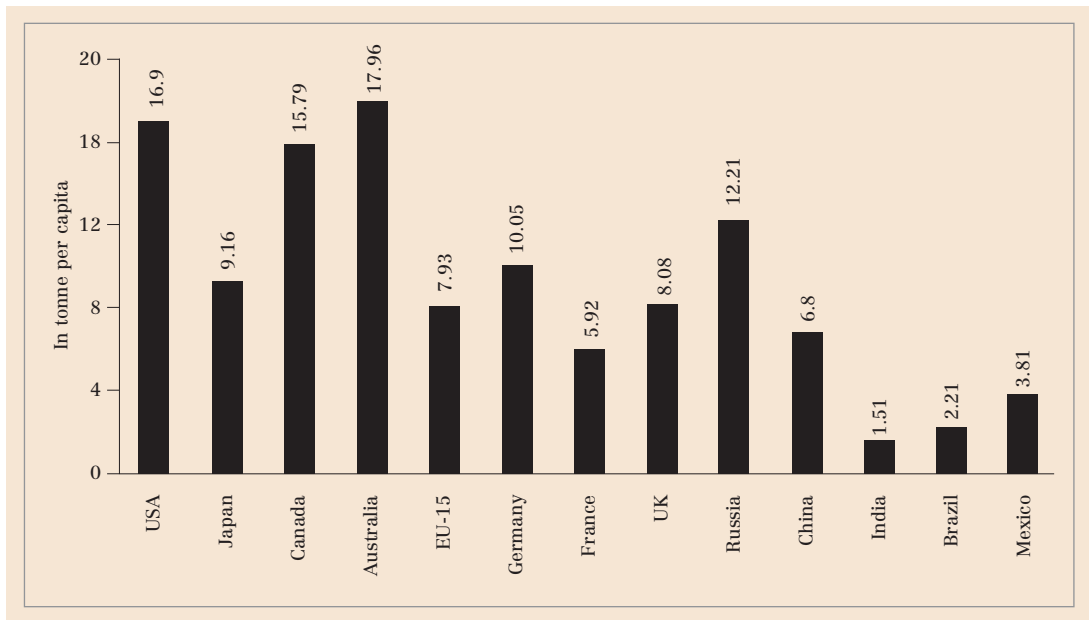
- Most countries emitted more CO₂ in 2010 compared to 2009, except for Australia and Mexico that emitted less
- China emitted 10.37 per cent above 2009 levels
- India emitted 8.98 per cent above 2009 levels
- Japan emitted 6.52 per cent above 2009 levels
- USA emitted 4 per cent above 2009 levels
- EU-15 emitted increased 2.84 per cent above 2009 levels. The emissions in Germany and UK increased by about 4 per cent each from 2009 levels
- In totality, the emissions of Annex I countries increased by 3.5 per cent. However, the report holds India and China responsible for the emissions increase in 2010 over 2009. A re-examination of the numbers shows the bias of the report. Presented below are India and US's numbers:
- India's base year (2009) emissions is 1.6 billion tonnes of CO₂ and that of the US is 5.04 billion tonnes of CO₂. Even though India's emissions increased by 9 per cent, in absolute terms, India emissions increased only by 0.15 billion tonnes in 2010 over 2009. In case of the US, with a 4 per cent increase, it emitted 0.2 billion tonnes more in 2010 over 2009. Therefore, the US is more responsible for increase in emissions in 2010 than India

Change in per capita emissions in 2010 over 2009



Like the emissions growth story in 2010, the same can be seen in per capita emissions change between 2009 and 2010. The per capita emissions between 2009 and 2010 increased by 0.5 tonnes in the US, 0.6 tonnes in Japan, 0.2 tonnes in EU 15, 0.6 tonnes in China and 0.5 tonnes in Russia. In comparison, the per capita emissions increase in India was just 0.1 tonne. In fact, in per capita terms, emissions from China was of the same order as that of the US

Per capita emissions in 2010

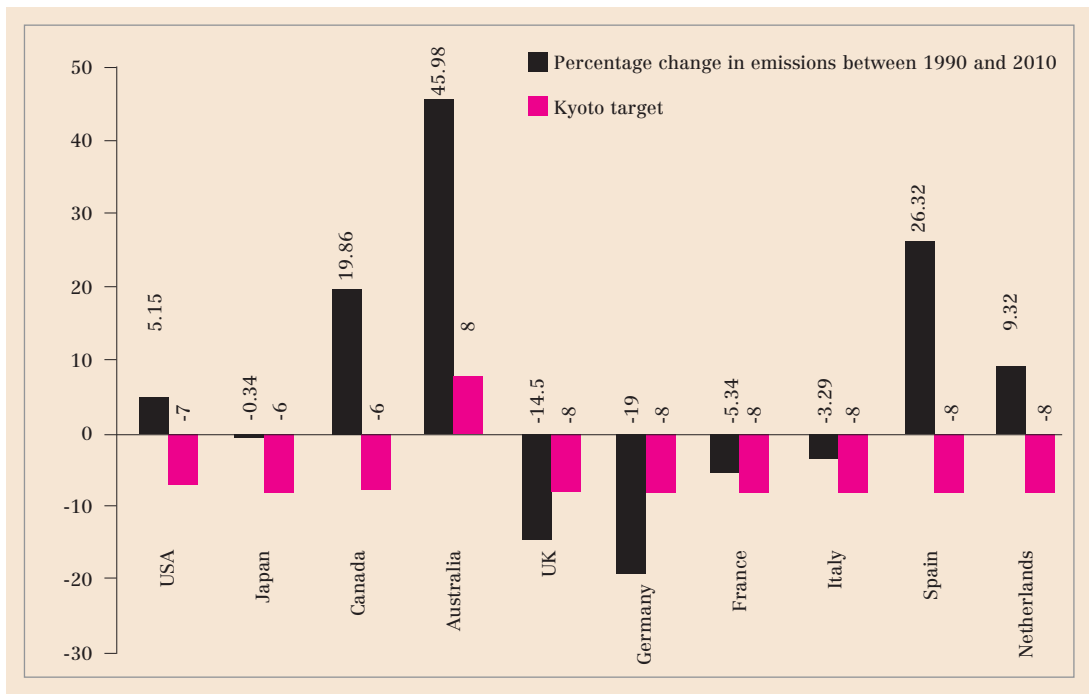


The inequalities in per capita emissions remain very high. In 2010, the per capita emission of:

- US was 16.9 tonnes
- Japan was 9.16 tonnes
- Canada was 15.79 tonnes
- Australia was 17.96 tonnes
- EU 15 was 7.93 tonnes
- Russia was 12.21 tonnes
- China was 6.8 tonnes
- India was 1.51 tonnes

An Indian citizen in 2010 still emitted 11 times lower than an American citizen

Meeting Kyoto targets?



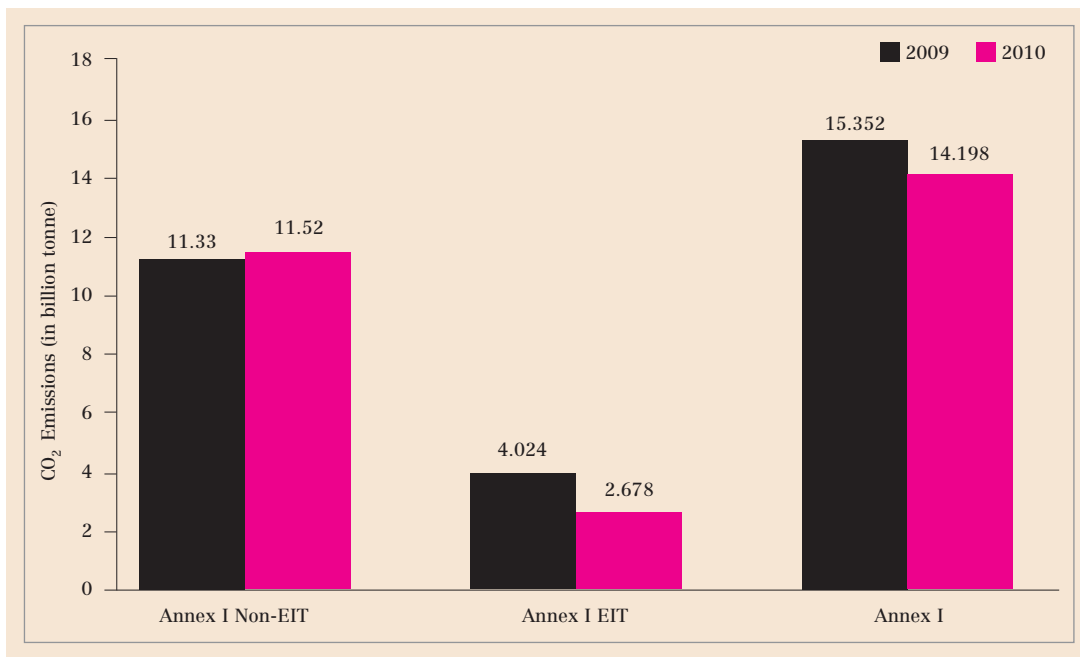
According to the Kyoto Protocol (Article 3): “The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases do not exceed their assigned amounts...with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.”

The report says that developed countries that have ratified the Kyoto Protocol and the USA have emitted about 7.5 per cent less CO₂ than 1990 levels and they collectively remain on target to meet the original Kyoto Protocol objective of a 5.2 per cent reduction.

CSE compared individual countries' emissions reduction targets under the Kyoto Protocol with the 1990 emissions and found:

- Instead of lowering 7 per cent relative to 1990 levels, the USA is 5 per cent higher than 1990 levels. Thus, it is 12 per cent off its Kyoto target
- Instead of lowering 6 per cent relative to 1990 levels, Japan has lowered its emissions by just 0.34 per cent
- Instead of lowering 6 per cent relative to 1990 levels, Canada is almost 20 per cent higher
- Instead of lowering 8 per cent relative to 1990 levels, France has lowered 5.34 per cent
- Instead of lowering 8 per cent relative to 1990 levels, Italy has lowered 3.29 per cent
- Instead of lowering 8 per cent relative to 1990 levels, Spain saw an increase of 26 per cent
- Instead of lowering 8 per cent relative to 1990 levels, Netherlands saw an increase of 9 per cent in emissions relative to 1990 levels
- The UK has lowered emissions by 14.5 per cent instead of lowering 8 per cent relative to 1990 levels
- Germany has lowered emissions by 19 per cent instead of lowering 8 per cent relative to 1990 levels
- Australia is 38 per cent above its Kyoto Protocol target

Rich countries hiding behind collapsed economies

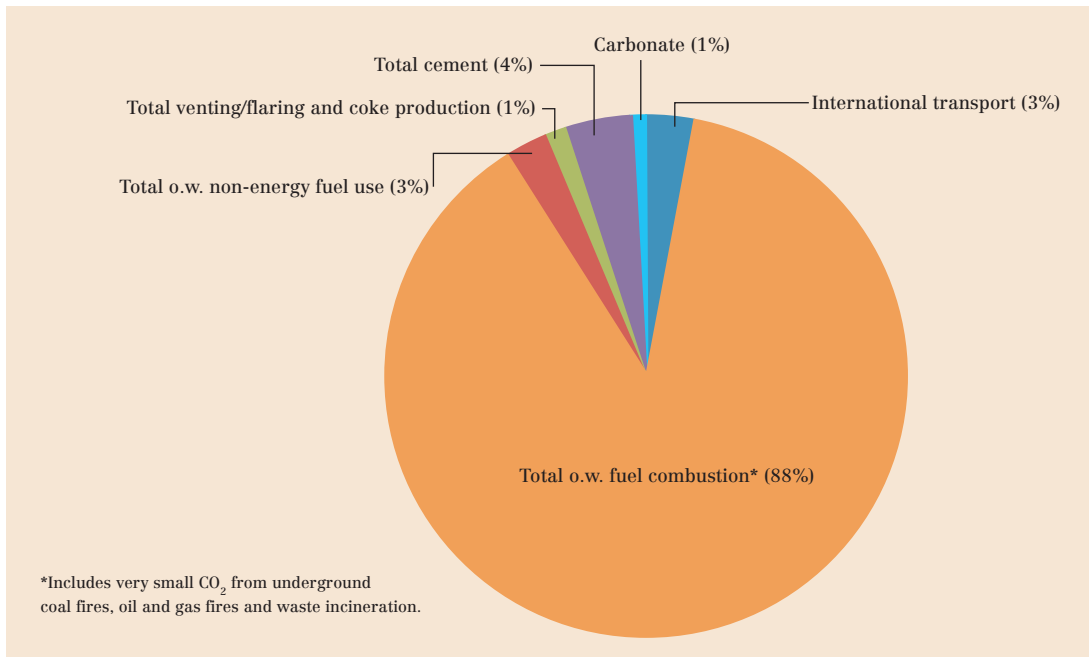


When the emissions of Annex I Non-EIT countries (rich developed countries), Annex I-EIT countries (Economies in Transition: Erstwhile USSR and eastern European countries) and Annex I countries were compared, CSE found that:

- Annex I total emissions in 2010 is 7.5 per cent below 1990 levels
- Annex I EIT emissions in 2010 is 33.4 per cent below 1990 levels because of the collapse of the erstwhile USSR and eastern European countries
- Annex I non-EIT in 2010 is actually 1.7 per cent above 1990 levels

The rich developed countries are hiding behind the collapsed economy of the erstwhile USSR and eastern Europe to meet their Kyoto targets.

Sectoral emissions



- Fuel combustion accounts for the maximum CO₂ emissions — 88 per cent — among the sectors
- International transport accounts for 3 per cent emissions
- Cement accounts for 4 per cent emissions
- Venting/flaring and coke production accounts for 1 per cent emissions
- Emissions from global coal consumption increased by more than 7 per cent, the fastest global growth since 2003
- Natural gas consumption grew globally by 7 per cent, the largest increase since 1984, with CO₂ emissions following suit. Colder winter months than in 2009 in many regions increased the demand for gas for space heating, which too contributed to the increase
- Fossil oil consumption increased by 3 per cent globally where the fraction biofuels in road transport increased from 3.1 to 3.4 per cent
- CO₂ emissions from the cement clinker production process, the largest of non-combustion sources of CO₂, increased globally by 11 per cent, mainly due to a 16 per cent increase in China.
- Since 1990 these emissions increased from 0.5 to 1.4 billion tonnes of CO₂. Including related combustion emissions, the cement industry accounts globally for about 8 per cent of global CO₂ emissions, a share that has doubled since 1990
- In Europe, CO₂ emissions from industries regulated by the EU Emissions Trading Scheme (ETS) increased in 2010 by 3 per cent, which is substantially lower than the rebound in output, after an exceptional decline of CO₂ emissions of 11.8 per cent in 2009
- In the USA, industry emissions from fuel combustion increased by 3.8 per cent
- The annual growth in total renewable energy supply accelerated after 2003 from a few per cent to an average of 6 per cent, and 2010 had the highest growth rate since 1990 of over 7 per cent
- Renewable energy's share of the global energy supply has increased from 7 per cent by 2004 to over 8 per cent by 2009 and 2010 (excluding traditional biofuels such as fuelwood and charcoal).
- The share of nuclear power, the other non-fossil energy source, remained constant at about 6 per cent, for many years, with nuclear capacity increasing in line with increasing global energy consumption
- Taken together nuclear and renewable energy sources have led to a decline in overall share of fossil fuels from 88 per cent in 1990 to about 86 per cent, the lowest in decades. However, in absolute terms both energy demand and the share being met by fossil fuel are growing faster since 1990 than the growth in new renewable energy sources, which is accelerating, but not yet fast enough to curb the increasing global CO₂ trend