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Record High 2010 Global Carbon Dioxide Emissions from Fossil-Fuel Combustion and Cement Manufacture Posted on CDIAC Site

Contributors

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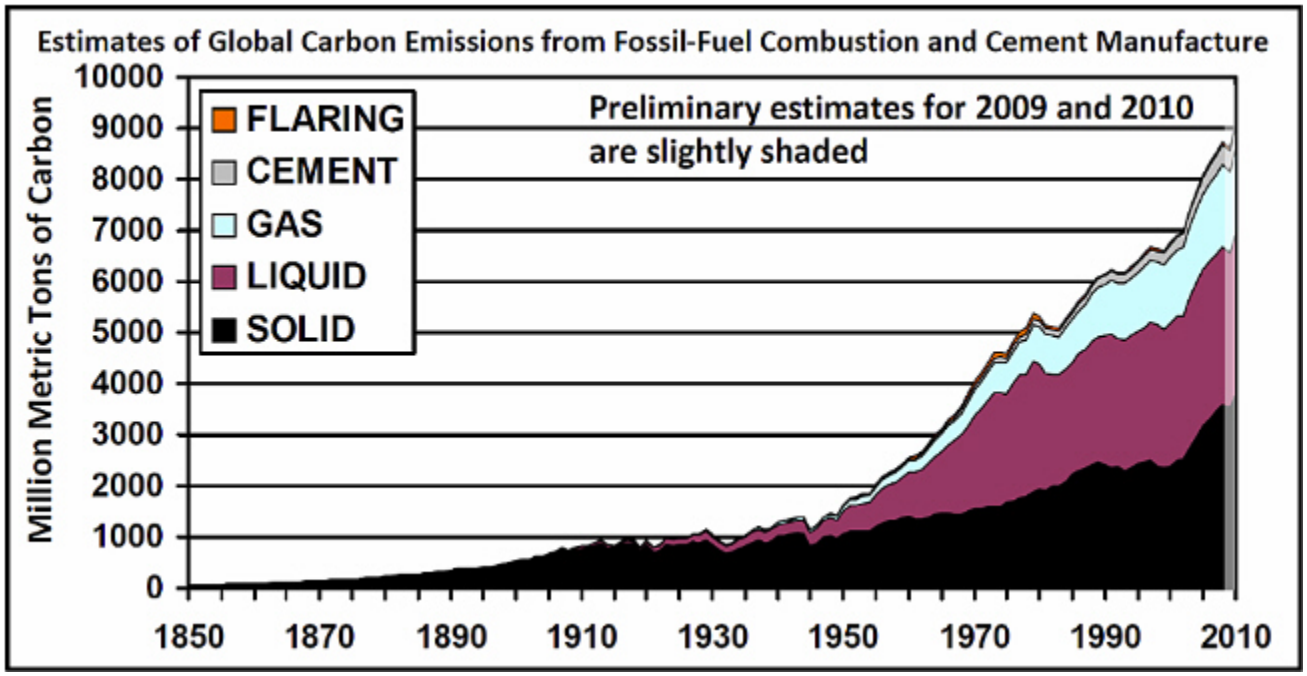
Preliminary 2009 and 2010 global and national estimates of carbon emissions from fossil-fuel combustion and cement manufacture are available at the link below:

http://cdiac.ornl.gov/ftp/trends/co2_emis/Preliminary_CO2_emissions_2010.xlsx

These estimates show that 2010 was by far a record year for CO_2 emissions from fossil-fuel combustion and cement manufacture. Globally 9,139 Teragrams of oxidized carbon (Tg-C) were emitted from these sources. A teragram is a million metric tons. Converted to carbon dioxide, so as to include the mass of the oxygen molecules, this amounts to over 33.5 billion metric tons of carbon dioxide. The increase alone is about 512 Tg-C, or 5.9%, over the 2009 global estimate. The previous record year was 2008, with 8,749 Tg-C emitted; the 2010 estimate is about 104.5% of that, or 391 Tg-C more.



Preliminary 2009 and 2010 global fossil fuel emissions estimates. Click on this image to see a larger image.

Much of the 5.9% global increase from 2009 to 2010 is due to increased emissions from the world's largest fossil-fuel emitter, the People's Republic of China, where emissions rose 10% to 2.247 Tg-C.

Emissions from the United States were 1,498 Tg-C, up by almost 60 Tg-C, or 4%, of the 2009 estimates of 1,438 Tg-C. The record year for the United States was 2007, with estimated emissions of 1,589 Tg-C. The 2010 total is about 94% of that value, reflecting economic conditions.

The general methodology used to produce the 2009 and 2010 estimates is described at:

 http://cdiac.ornl.gov/ftp/trends/emissions/Preliminary_CO2_Emissions_Explaination.doc

A manuscript report on these latest numbers has been submitted for peer review. A report on last year's update with some of the methodology involved was published in:

- Friedlingstein P., R.A. Houghton, G. Marland, J. Hacker, T.A. Boden, et al. 2010. Update on CO_2 emissions. *Nature Geoscience*. **3** 811-812, doi 10-1038/ngeo1022.