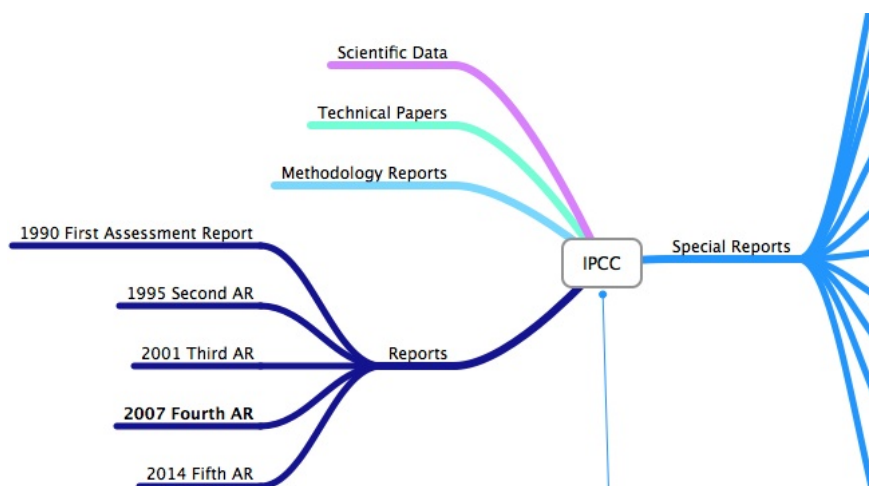


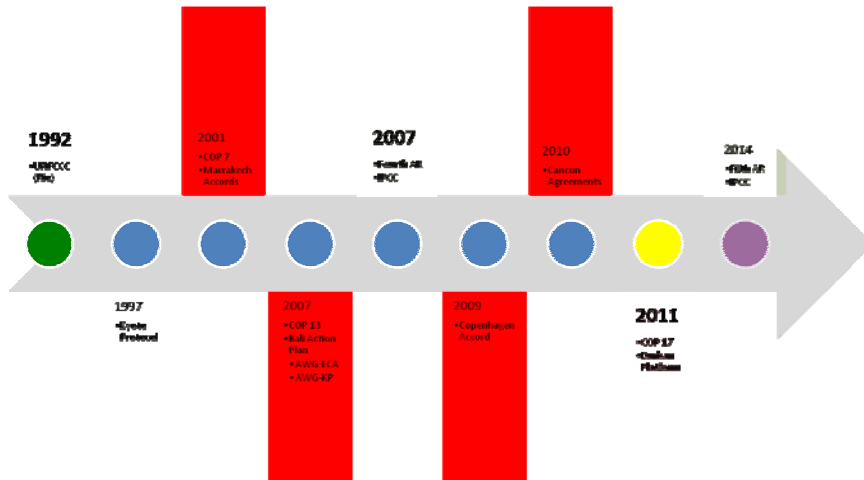
# Where are the Gaps after Durban?

Dr Dannie Jost  
NCCR Trade Regulation, Science Advisor

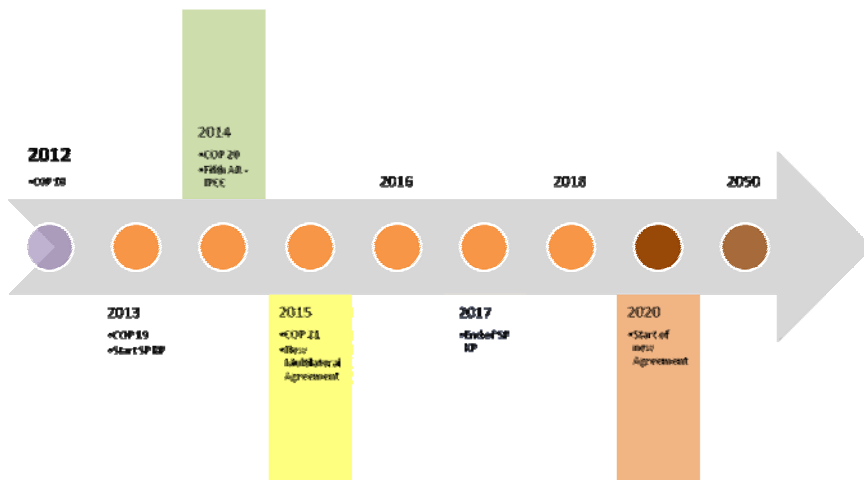
## Data, Information and Knowledge

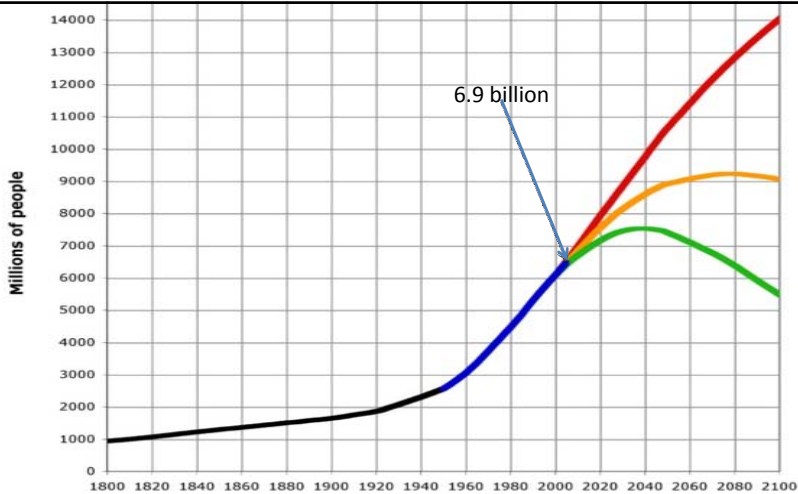


## Climate Change International Legal Framework UNFCCC / IPCC



## Climate Change International Legal Framework UNFCCC / IPCC

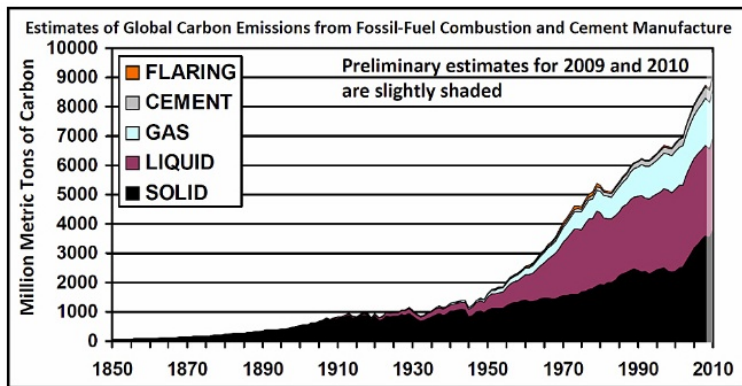




### World Human Population

World population estimates from 1800 to 2100, based on [UN 2004 projections](#) (red, orange, green) and [US Census Bureau historical estimates](#) (black) (Wikipedia; 28.1.2012).

### Preliminary 2009 and 2010 global and national estimates of carbon emissions from fossil-fuel combustion and cement manufacture



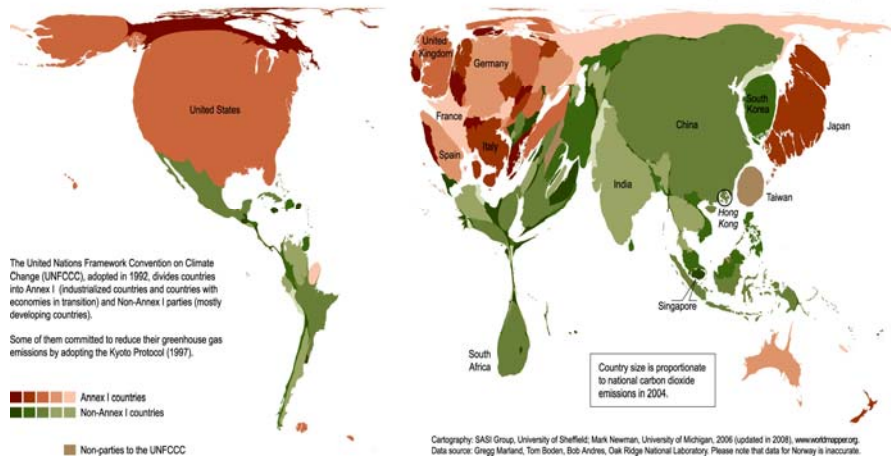
Preliminary 2009 and 2010 global fossil fuel emissions estimates. Click on this image to see a larger image.

*Record High 2010 Global Carbon Dioxide Emissions from Fossil-Fuel Combustion and Cement Manufacture Posted on CDIAC Site,* retrieved 28. 1. 2012,  
 <[http://cdiac.ornl.gov/trends/emis/perlim\\_2009\\_2010\\_estimates.htm](http://cdiac.ornl.gov/trends/emis/perlim_2009_2010_estimates.htm)>

Global emissions in 2010: 9,139 Teragrams of oxidized carbon (Tg-C) from these sources. A teragram is a million metric tons. +5.9%(2009)

# KP Annex I and Non-Annex I emitters

Total CO<sub>2</sub> emissions  
from fossil-fuel burning, cement production and gas flaring



30.01.2012

7



## Carbon Footprint Summit

Jacobs, Michael. "Climate Policy: Deadline 2015." *Nature News* 481, no. 7380 (January 11, 2012): 137–138.

Jacobs, Michael. "Climate Policy: Deadline 2015." *Nature News* 481, no. 7380 (January 11, 2012): 137–138.

“countries have committed to raising their collective ambition for capping greenhouse-gas emissions, in order to close the gap between their present emissions targets and the pathway likely to achieve the globally agreed goal of limiting global warming to 2 °C above pre-industrial temperatures”

Jacobs, Michael. "Climate Policy: Deadline 2015." *Nature News* 481, no. 7380 (January 11, 2012): 137–138.

“Bringing these ‘legal’ and ‘ambition’ strands of global climate policy together in 2015 will require more than the usual UN conference attended by environment ministers. International decisions of this magnitude can only be made by heads of government. 2015 must be a leaders’ summit.”

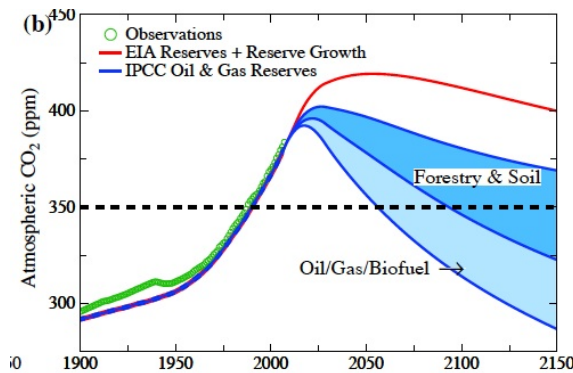
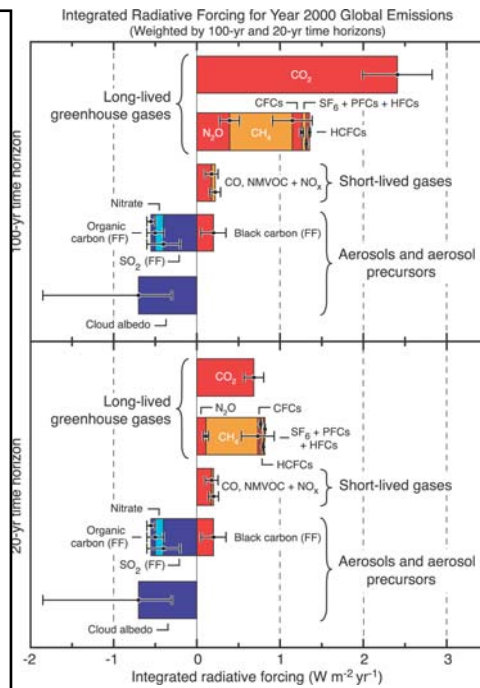
Jacobs, Michael. "Climate Policy: Deadline 2015." *Nature News* 481, no. 7380 (January 11, 2012): 137–138.

"International agreement is limited by the feasibility of domestic policy in the major economies, but international pressure helps to determine national ambition."

## Greenhouse Gases

GHG	Global Warming Effect	
Carbon dioxide (CO <sub>2</sub> )	50%	
Methane (CH <sub>4</sub> )	18%	
Nitrous oxide (N <sub>2</sub> O)	6%	
Hydrofluorocarbons (HFCs)		
Perfluorocarbons (PFCs)		
Sulphur hexafluoride (SF <sub>6</sub> )		

4AR 2007: Figure 2.22. Integrated Radiative Forcing (RF) of year 2000 emissions over two time horizons (20 and 100 years). The figure gives an indication of the future climate impact of current emissions. The values for aerosols and aerosol precursors are essentially equal for the two time horizons. It should be noted that the RFs of short-lived gases and aerosol depend critically on both when and where they are emitted; the values given in the figure apply only to total global annual emissions. For organic carbon and BC, both fossil fuel (FF) and biomass burning emissions are included. The uncertainty estimates are based on the uncertainties in emission sources, lifetime and radiative efficiency estimates.



**Resulting atmospheric CO<sub>2</sub> based on use of a dynamic-sink pulse response function representation of the Bern carbon cycle model [78, 79].**

Hansen, James, Makiko Sato, Pushker Kharecha, David Beerling, Robert Berner, Valerie Masson-Delmotte, Mark Pagani, Maureen Raymo, Dana L Royer, and James C Zachos. "Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?." *The Open Atmospheric Science Journal*, November 5, 2008. <http://benthamscience.com/open/openaccess.php?toascj/articles/V002/217TOASCJ.htm>.

Hansen, James, Makiko Sato, Pushker Kharecha, David Beerling, Robert Berner, Valerie Masson-Delmotte, Mark Pagani, Maureen Raymo, Dana L Royer, and James C Zachos. "Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?." *The Open Atmospheric Science Journal*, November 5, 2008.  
<http://benthamsience.com/open/openaccess.php?toascj/articles/V002/217TOASCJ.htm>.

"Paleoclimate evidence and ongoing global changes imply that today's CO<sub>2</sub>, about 385 ppm, is already too high to maintain the climate to which humanity, wildlife, and the rest of the biosphere are adapted. Realization that we must reduce the current CO<sub>2</sub> amount has a bright side: effects that had begun to seem inevitable, including impacts of ocean acidification, loss of fresh water supplies, and shifting of climatic zones, may be averted by the necessity of finding an energy course beyond fossil fuels sooner than would otherwise have occurred."

## We Have Questions

- The answers are in the decisions taken
- Decisions need to be informed by the best data and science available
- To manage risks associated with climate change vulnerability, governance beyond climate change mitigation must be tackled
- Are we doing enough?