

## **No Proof Required**

China CO2 cut – Much ado about nothing?

By

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*Blurb: A detailed comparative analysis of countries that have promised cuts in emissions shows that China is promising a near zero cut over business as usual.*

It is well understood that vis-à-vis climate policy, every country must do what it is in its own self-interest - and in the interests of the world community. As preparation for the Copenhagen climate talks, and as a sign of commitment, at least 11 countries/regions, had announced emission cuts for 2020. Unfortunately, the promises come in all sizes. The European Union has promised a cut of 20 percent from the emission levels prevailing in 1990; the Brazilians have a larger number – 36 percent cut – but the fine print states that it is from “projected levels in 2020”. Indonesia has promised a 26 percent cut but from “forecast trends”. US announced a paltry cut of 17 percent from 2005 levels, and China signed on with the biggest promise of all – 40 to 45 percent cut, but this cut was stated in intensity levels i.e. the ratio of CO2 emissions to constant GDP in 2020 would be 40 to 45 percent lower than the same ratio in 2005. India has just joined with seemingly a much lower cut - 20-25 percent over 2005 levels in 2020.

Predictably, and lamentably, the response of “expert commentators and climatologists” has been along well worn Cold War lines. According to the dictates of this ancient wisdom, anything that the West does, especially US, is suspect; anything that the developing country set does is “good”. Thus, the 17 percent cut by the US is denounced as pitiful, while the Chinese cut is hailed as the emergence of the “Brave New Order”.

But maybe the Cold Warriors are right. The only way to establish the veracity of the ancient warriors is to convert all promises onto a common scale. Because of high physics that is involved in the climate debate (are the glaciers really receding? Is the temperature really high?) the assumed assumption is that simple numbers about emission cuts are really intractable. Else why would senior ministers engaged in possibly the most important decision regarding our lives go to such lengths to obfuscate? Agreed that negotiations are involved, but the fact remains that

data pertaining to emissions and output and trends are readily available for most countries of the world.

There is a straightforward method to convert all promises into a common metric. There is a reasonably tight relationship between CO2 emission and GDP. It is different for different broad ranges of income, but a good fit nevertheless (for the econometrically inclined, the R-squared is close to 90 percent). Assuming a trend rate of growth in GDP can yield broadly agreeable estimates of GDP till 2020. These growth rates are likely to be close to 8 percent for both China and India, and close to 2.5 percent for the Western world. Thus, one obtains estimates of GDP and CO2 emissions for 2020, estimates that all reasonable women can agree on. There is one further twist – what about technical change, where technical change is defined as gains in the CO2 intensity of output? Here again, past trends are a useful guide for the future. Reductions in intensity have been near universal for the last 20 years, and over the next 20 years, with heightened sensitivity and increased policy action, reductions in this intensity will be larger, hopefully much larger, than those observed to date.

Assuming the past trends in technical change is therefore a conservative assumption. With this input, one has all the data one needs to compare all of the commitments. Given that past is past, what the whole world will watch is what happens in the future – in 2020 or whatever the target date. The table reports each of the committers and explores their commitments. Columns 2-4 report on emissions for 1990, 2005 and 2020; columns 5-7 the intensity of emissions i.e. ratio of emissions to GDP (in constant 2007 PPP \$ - the choice of a constant series does not matter); column 8 is the targeted intensity of emissions in 2020. Column 9 is the Chinese metric i.e. percentage decline in intensity in 2020 from 2005 levels.

Contrary to the impression that China was offering the most cuts, it is offering the least – and by a wide margin. China is promising to cut the intensity of its emissions by only 10 percent from the level that would have happened anyway. And as mentioned above, this is according to no change in conservation policies over the next decade – an unrealistic assumption. In English, China's offer is that it will contribute zilch to the CO2 reduction over the next decade. If the world's biggest polluter is offering this as its negotiating position, then Copenhagen is dead on arrival.

The star performer is Norway with a promise of a 60 percent decline. Contrary to the impression in the media (especially Cold War media), the European and American positions are near identical – a 20 or 18 percent reduction in intensity. Australia, Brazil and Japan are clustered

around the high 30s reduction or a promise whose worth is almost 4 times that of China. India's announced reductions of 20-25 percent means that it's promised emissions in 2020 amount to almost a zero amount of burden sharing. But note the fact that India's emission ratio, at 19 in 2020, is among the lowest in the world and almost half that of China. Clearly, the giant twins have less in common than commonly believed.

Contrary to China's official position that "developed countries must shoulder most carbon emission cuts" (a position followed meekly by leading developing countries, including India), it is the case that the developing nations are promising cuts about *three times* the level promised by China. The moral of the story – don't jump to conclusions about a cat just because its color matches your ideology. Look at how many rats (CO<sub>2</sub>) the cat can catch.

**Table: Deconstructing Targets for CO2 Emission Cuts in 2020**

	Emissions, CO2 (bil tons)			Intensity of Emissions				Burden Sharing
	1990	2005	2020	1990	2005	2020	Target 2020	
China	2.2	5.1	11.1	86	49	31	28	-10
USA	4.9	5.8	5.8	58	43	31	26	-18
India	0.59	1.15	3.39	33	26	19	20	5
Europe	3.2	3.3	3.2	35	28	20	16	-21
Russia	2.2	1.5	2.3	119	76	39	30	-25
Indonesia	0.14	0.33	0.60	21	27	21	16	-26
Canada	0.43	0.56	0.62	55	46	36	26	-29
Korea	0.23	0.47	0.69	42	39	29	21	-30
Brazil	0.19	0.33	0.55	16	18	16	11	-36
Japan	1.1	1.2	1.3	30	29	23	14	-37
Australia	0.26	0.39	0.46	60	52	40	25	-38
Norway	0.03	0.04	0.04	26	20	15	6	-59

Notes: (1) 2020 numbers are forecasts based on trend assumptions.

(2) Intensity of emissions is the ratio of CO2 emissions (in kg) to GDP (in 2007 PPP \$) multiplied by 100. Total PPP GDP in the world was 67 trillion in 2005, and CO2 emissions 26 billion tons yielding an average intensity of 0.38 or  $.38 \times 100 = 38$ .

3) The target for 2020 is the official target of CO2, however stated, converted into intensity in 2020.

4) Burden sharing: This is the “sacrifice” that each country is making when it announces emission cuts – it is the percentage decline in intensity of output from business as usual estimates of intensity (estimate of emissions in 2020 as a ratio of GDP in 2020).

*This article is part of a paper “Climate Change – What’s it all about and what is to be done”, forthcoming and available, with past articles, at [www.oxusinvestments.com](http://www.oxusinvestments.com).*