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## The Princeton Proposal: a review

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A research team led by Princeton University scientists recently presented a new approach to divide the responsibility for carbon dioxide emissions among countries. The “Princeton Proposal”<sup>1</sup> was published in the 21 July 2009 Proceedings of the National Academies of Sciences. This proposal came just a few months before world leaders are scheduled to meet to agree on a new international treaty on climate change in Copenhagen in December 2009.

In this publication, the team strives to tackle the long-standing and intractable problem of how to divide responsibility for carbon emissions. Since climate change was first discussed in the global arena, there has been a hot debate concerning responsibility split between “developed” and “developing” nations. Generally, the argument has been that developing nations should not have to pay to correct and safeguard against further global warming, when it was historically the developed nations who caused this issue to reach a tipping point.

### What is the Princeton Proposal?

The authors of the Princeton Proposal suggest looking at the requirements of “common but differentiated responsibilities” across individuals’ carbon emissions rather than the typical national views. Yet, according to the research team the “proposal moves beyond per capita considerations to identify the world’s high-emitting individuals, who are present in all countries”.

This process is sensible considering the fact that, as Chakavarty states: “most of the world’s emissions come disproportionately from the wealthy citizens of the world, irrespective of their nationality”. Many emissions come from lifestyles that involve airplane flights, automobile use and heating and cooling large homes. The Princeton team estimated “that in 2008, half of the world’s emissions came from just 700 million people”.

### Why the Princeton Proposal?

The proposal would use individual emissions as the fairest way of calculating a nation’s responsibility to curb its output of carbon dioxide. Such a methodology does not mean that individuals would be singled out literally, but that such calculations would form the basis of a more equitable formula overall. Currently, strategies that employ energy use averages in a country are widely regarded as unfair. Additionally, averaging aggregate emissions for each country to come to per capita valuations are consistently rejected by developed nations.

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<sup>1</sup> Chakravarty, S., Chikkatur, A., et al., 2009, ‘Sharing global CO2 emission reductions among one billion high emitters’, *PNAS*, Vol.106 (29), <http://www.pnas.org/content/106/29/11884.full.pdf+html>.



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## What is novel about the Princeton Proposal approach?

Under this new proposal, emission reduction targets for each country are calculated in a multi-step fashion. The researchers utilize a strong correlation between income and emissions to estimate the emissions of individuals in every country. They began by looking at the distribution of global emissions in 2003 across 6.2 billion people; they constructed national income distributions from World Bank data; finally, they combined these factors to see how individual emissions are distributed globally. Nations are then compared by their “national carbon intensities”. Looking forward to 2030, the researchers estimated first individual emissions, and then a global emission total at that future time, based on projections of income, population and energy use.

The researchers believe that this framework is useful in that it establishes a uniform "cap" on emissions that individuals should not exceed. For example, assume that there is global agreement to curtail emissions so that carbon levels in 2030 are approximately at present levels. Then, according to the researchers' calculations, the necessary reductions in global emissions could be achieved if no individual's emissions would exceed approximately 11 tons of carbon dioxide a year. Furthermore, by counting the emissions of all the individuals who are projected to exceed that level, the world leaders could provide target emissions reductions for every country. For this specific example, there will be about 1 billion such "high emitters" in 2030, out of 8.1 billion people.

## Does the Proposal *really* address the stalemate between developing and developed nations?

Chakravarty points out that developing countries currently contribute more than half of global emissions. At present, the world average of carbon dioxide emitted per individual per year is about five tons. Individuals in the EU produce about 10 tons each per year, while on average each American produces about 20 tons. The Princeton Proposal discusses that it is possible to reduce poverty and cut carbon emissions at the same time. The researchers demonstrate that allowing the 3 billion poorest individuals to satisfy basic energy needs with fossil fuels would not interfere with overall emissions reductions. This would require the global cap to be set lower, and subsequently, to make up this difference, the highest emitting individuals would need to reduce their energy consumption by a higher percentage.

The Princeton Proposal was designed to address the stalemate between developed and developing nations, as discussed earlier. Ultimately, the Princeton Proposal appears to make the calculations in a new fashion following from important motivations, but the outcome is effectively national targets. True, these national targets are based on individual actions, but ultimately the agreement is at the global level; the individual estimations were effectively made by looking at national-level targets. Accounting for the global spread of poor and rich (some very rich and high level emitters in traditionally “developing” nations) is an admirable aspect of this proposal. It is reasonable to have concern for the fact that implementation on the national level, no matter how fair the targets, may not play out due to continued global disagreement. For example, no matter how the national levels are derived, developed nations may still be frustrated with the aggregate levels of reduction offered. In truth, will the offered emissions levels and timeframes for reductions really be considered “common, but



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differentiated"? Additionally, it will require strong systems to allow the implicit "caps" in the proposal to be followed internationally.

As Socolow relates, "over the next several decades, global environmental rulemaking will need new wisdom to accommodate developing countries whose per capita data belie the presence of both large populations of the very poor and upper and middle classes that are major consumers of resources. [The] proposal is a start down this road".

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## **About Climatico**

Climatico is a network of researchers and experts providing independent analysis of climate change policy. We cover national and international policy and negotiations focusing on policy developments in the G20 countries.

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