





## World Climate

Negotiating a Global Climate Agreement using the C-ROADS Climate Policy Simulation Written by John Sterman (MIT Sloan School); updates by Juliette Rooney-Varga (UMass Lowell CCI)

## CONFIDENTIAL Briefing for Upcoming Climate Negotiation

**TO:** Negotiators for *India* at UN conference on Climate Change

**SUBJECT:** Our negotiating goals

You head the Indian delegation at the upcoming negotiations on climate change.

The best available science shows the risks of climate change are real and serious. India seeks to negotiate a global agreement to reduce greenhouse gas (GHG) emissions that can limit those risks, but seeks the best outcome for our economy and vital national interests. Many people in our country believe climate change is real, though fewer support agreements to address the climate change issue. Besides environmental benefits, reaching an agreement to limit climate change would have some political benefits for India, including trade negotiations with the developed nations. Our economy is growing rapidly and we are emerging as a global power. However, our average standard of living is far less than that in the US, Europe, other developed nations and even China. Our top priority is economic development. Our people, like people everywhere, want to live in a healthy environment, but also want to increase their standard of living: a healthy environment includes having the means to provide for decent jobs, housing, food, healthcare, mobility and national security.

As we learned at past climate change summits, the developed nations will pressure us to reduce our emissions because our population exceeds one billion, and because our economy and greenhouse gas (GHG) emissions are growing faster than theirs. However, emissions per capita in these nations are far higher than ours (US emissions per capita are an astounding 12.5 times higher than India's). Any agreement that puts the greatest burden of limiting climate change on us is simply not acceptable.

The developed nations are threatened by the rapid economic development we are now, finally, beginning to enjoy, and may use a global climate agreement to slow our growth, limit markets for our products, and constrain our growing diplomatic and military influence around the world.

The developed nations of the world created the climate crisis and must take responsibility for their past actions. Approximately three-quarters of the total CO<sub>2</sub> released by burning fossil fuels since the start of the industrial revolution came from the developed nations. These nations used that energy to build their economies and enrich their populations, often by exploiting our natural resources. The developed nations will demand that we cut our emissions before our people have the chance to reach even the level of economic development now enjoyed in the west while many of our people continue to live in poverty. We are prepared to do our share, but the rich nations of the world must agree to significant action, commensurate with their past contribution to the problem. We will not pay the price for their past emissions. We expect developed nations like the US to take the lead in emissions reductions. Point out that research, including the bipartisan "Risky Business" report (http://riskybusiness.org), endorsed by former US Treasury Secretaries of both parties, shows that the costs of delay are high while most regions in the US will benefit from emissions reductions policies. See also the new US National Climate Assessment report showing that climate change is harming every one of the 50 states today; without large emissions reductions, the damage will become far more severe (www.globalchange.gov).

We also have an opportunity to limit our GHG emissions through REDD policies (Reductions in Emissions from Deforestation and land Degradation). The developing nations of the world, including India, contain most of the world's remaining tropical forests, and, unfortunately, there is substantial deforestation in these areas. Programs to protect the forests can reduce our contribution to global CO<sub>2</sub> emissions. We should be allowed to count reductions in deforestation and increases in afforestation (planting trees in previously deforested areas) towards the emissions targets we agree to in any treaty.

On the reverse of this page you will find some data that may be helpful in your negotiations. Good luck!

Prepared by John Sterman, jsterman@mit.edu, April 2008; last revision July 2014.

The graph below shows per capita  $CO_2$  emissions from energy use (primarily fossil fuels) for the world and selected nations/regions. Percentages are the total change for the period 1980-2013.  $CO_2$  emissions per capita in the US and EU-27 are far higher than world averages and far higher than emissions in the developing and less-developed nations. For example, US emissions per capita are roughly two times higher than those in China, ~9 times higher than those in India and 16 times higher than in Africa. The imbalance is far worse for the least developed nations. For example, US per capita emissions are more than 275 times greater than those of Mali. The developed nations generate more than half of global  $CO_2$  emissions from fossil fuel consumption. With less than 5% of the world's population, the US alone generates 15% of global emissions.

## World Per Capita Carbon Emissions from Fossil Fuels + Cement 25 (metric tons CO2/person/year) Global recession Per capita CO2 emissions •US 20 EU-27 15 China 10 India 5 Other Developed Other Developing 0 1980 1985 1990 1995 2000 2005 2010 Global Year

The graph below shows cumulative  $CO_2$  emissions from the use of fossil fuels from 1910 to 2013. The vast majority of all the  $CO_2$  released into the atmosphere over this period came from the developed nations of the world (about three-quarters). Therefore nearly all the warming observed so far was caused by these nations. Under the Business As Usual (BAU) scenario (RCP 8.5), the share of cumulative emissions from our nations is projected to rise throughout the remainder of this century. However, cumulative emissions from the developed nations will still be more than half of the total by 2050, and roughly 43% by 2100. Since  $CO_2$  remains in the atmosphere for roughly a century, much of the warming, sea level rise and other impacts of climate change we will experience in the  $21^{\rm st}$  century will be caused by the emissions of the rich nations.

## Cumulative CO<sub>2</sub> Emissions from Fossil Fuel Combustion (GtCO<sub>2</sub>)

