Global Energy Policy Center
April 5, 2010
Issue Brief 10-03
www.global-energy.org

Carbon Price: A Better Climate Commitment

Peter Cramton
is Professor of Economics at the University of Maryland and an expert on market design.

Steven Stoft
is Director of the Global Energy Policy Center and the author of Carbonomics.

Climate is a global public good, and climate policy a public-goods game. Such games deserve their notoriety for difficulties with cooperation. A treaty is essential and at its heart will be a commitment. The default choice to date, commitment to a cap, exacerbates the problem of cooperation. Commitment to a global carbon price best facilitates the cooperation needed for the strong actions required to stabilize the climate.

A national commitment to an emissions cap can be honored without cap and trade. Similarly, commitment to a global carbon price does not require carbon taxes, nor does it interfere with distant goals for global temperature or emissions.

The question of which international commitment to prefer, a cap or a price, should not be confused with the domestic debate over whether to cap or tax carbon. Either will work for either commitment, as will feebates, properly accounted. This flexibility solves a crucial problem. Developing countries reject commitment to an emissions cap, even to a trend-line cap. But a global target price avoids their two main objections. However, a national commitment to a price, rather than a tax, allows developed countries to use cap and trade.

Besides avoiding major objections, a price commitment has other intrinsic advantages. The predictability of its cost makes its remarkable affordability more apparent. It provides a focal point for comparable effort. It requires negotiating only a single target instead of a hundred, and it internalizes much of the climate externality.

But cooperation also requires that incentives aligned with cooperation, and since no natural focal point will command sufficient agreement, an adjustable equity parameter is required. We begin by describing this package and then discuss its advantages in more detail.

Flexible Global Carbon Pricing

The proposal rests on two internationally negotiated global parameters, *P*, the global carbon price target, and *G*, the Green-Fund rate. All countries are required to price carbon at *P* on average or to buy carbon-revenue credits supplied by countries which exceed their pricing commitment. This trade is analogous to trading emission credits under international cap-and-trade, except that is takes place through a central exchange.

The price target, *P*, will be taken as $30/ton for illustrative purposes. The Green-Fund rate is expected to be much smaller, say, $2/ton, and it applies only to deviations in emissions from the global per-capita average. For the United States, this would come to roughly $30 per person-year. Below-average countries would receive similar payments, with India, for example, receiving about $8 per person year.

Unlike commitment to a cap, which can produce large surprises when emissions change unpredictably, as they have for Canada and China, the cost of commitment to a price can be estimated quite reliably using a formula provided by the Environmental Protection Agency. The social cost of abatement is one half the carbon price times the amount abated. This allows us to compute the values

in the following illustrative table.

Table 1. $30/ton carbon pricing with a $2/ton Green Fund

	Starting Emissions per capita	Emission Abatement Cost	Green Fund Cost
	tons/year	cents per capita per day	
India	1	0.8 ¢	−1.7 ¢
Avg. Country	5	4.1 ¢	0.0 ¢
United States	20	16.4 ¢	6.6 ¢

Carbon pricing is assumed to reduce admissions by 20 percent from the amount shown. China has nearly average per-capita emissions.

Notice that India is likely to agree to such a commitment since the Green Fund more than covers its cost of imposing a $30/ton price on carbon. An average country, like China would see a small cost, but China's growth would only be slowed by 12 days by 2020. The most problematic cost is likely the 6.6¢ per person-day that the United States would need to spend.

Selling points for such a contribution include that it is considerably cheaper than the Waxman-Markey offsets, that if the poor countries do not comply with carbon pricing, we will not have to pay it, and that there could be a requirement to spend it on U.S. exports. But likely, even more creativity will be required.

Advantages

Besides being demonstrably affordable, carbon pricing—even without the Green-Fund—is far less offensive to poor countries. How could an Indian politician ever explain to his constituency that he had accepted the U.S. request to cap India at half the per-capita emissions of the United States in 1880? With a price commitment, which is identical for all countries, Indians can plainly see that nothing stops them from becoming as rich as Americans.

If China had accepted a "trend-line" cap in 2000, it would have been spending roughly $100 billion per year buying carbon reduction credits from foreign countries by 2010. Again this is politically infeasible.

Even without outright rejection by developing countries, emissions caps are intrinsically difficult to negotiate. In each negotiation, the party with the strongest interest is the party being capped, whose self interest is in weakening the cap as much as possible. Unlike national caps, the global price target internalizes much of the climate externality. If countries were identical, they would all want the target to be ideal. Since even in their variety, countries will, on average, favor a reasonable value for the global carbon price. Each knows that a higher target requires more of them, but also requires more of all others, which is to their benefit.

The Green Fund's rate parameter provides scope for adjusting the level of transfers to induce the most cooperation. Emissions per capita correspond quite closely with income, providing intrinsic fairness. At the same time, linking payment only to actual emissions and not to income or historical emissions, maximizes the incentive value of the Green-Fund charges and payments.

The Green Fund serves two other purposes as well. First, in stark contrast to the Clean Development Mechanism, which inadvertently rewards countries for *not* adopting any commitment to caps or other forms of carbon pricing, the Green Fund rewards commitment. A low-emission country must fully comply with carbon pricing to receive its full Green-Fund payment. Second, the Green Fund rewards government programs such as informational and research programs that reduce emissions but are not susceptible to pricing.

Finally global carbon pricing calls for the use of trade sanctions against countries that shirk their commitments and thereby threaten the stability of the treaty. Sanctions are powerful. If their threat is credible it should almost never be needed. Instead the inexpensive but proportionate penalties inherent in the carbon-revenue market and the inducement of the Green Fund, should keep the system on track with few exceptions.

Conclusion

Strong targets and unpredictable caps, especially when they are obviously unenforceable, discourage commitment in a game that is already notorious for its uncooperative outcome. Instead we need a systematic approach to treaty design that focuses on solving the commitment problem. Only then can we expect strong action.

Further Reading

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