An International Carbon-Price Commitment Promotes Cooperation

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Executive Summary

The Kyoto process started with a natural approach to breaking the free-rider deadlock in climate negotiations: agree on a *common commitment*. A common commitment helps realign self-interest with the common good by assuring all parties that they will only be required to contribute to the common good if all are required to follow the same commitment rule. Such reciprocity is the basis for cooperation in repeated public goods games, and a uniform price would provide a natural focal point for a common international commitment.

Under a uniform global carbon-price commitment, countries would retain flexibility concerning how to implement the price—with cap-and-trade, a carbon tax, or a hybrid approach. A country that commits to the global price only needs to meet the commitment on average. The average carbon price is simply the country's carbon revenues divided by its emissions.

Importantly, cap-and-trade advocates and tax proponents nearly always agree that a uniform global price is the desired outcome. So unlike quantity, for which there is little if any agreement on the appropriate common commitment rule, there is nearly universal agreement that a common price commitment should be a uniform price commitment (or more precisely a uniform price floor).

Monitoring

Local corruption will impose an inefficiency on the country involved, but will not disrupt the enforcement of the international commitment, which only requires information of a more aggregate nature. National-level monitoring could, however, be a serious problem in a number of countries, but there are several ways to mitigate such problems. There could be monitoring by the IMF, World Bank, IEA or WTO, all of which do some similar monitoring already. Countries receiving green funds could be required to open their national accounting books in order to receive such funds. Also, many fossil-fuel prices affect publically observable prices, such as the price of gasoline.

At a global level, the corruption problem is asymmetric. If a kleptocratic ruler sells supposedly-surplus international carbon permits to a perfectly honest country, both the kleptocrat and private company that was allowed to emit without permits will benefit, because this shifts money from honest to corrupt countries. It also crowds out the honest country's abatements. This problem cannot occur under an international price commitment.

Pricing Carbon Emissions

Although international cap-and-trade is said to create uniform carbon price, in fact it does not require countries to implement any carbon pricing. Hence it is possible, as happened under the Kyoto agreement, that the price of international permits will lead to very little pricing of carbon emissions, and climate policies will remain largely of the highly inefficient command-and-control variety. In contrast global carbon-pricing does require countries to price carbon emissions in order to meet their international price commitment.

Committing to a price is less risky

Accepting a quantity commitment entails risk, because future business-as-usual (BAU) emissions and abatement costs are both highly uncertain. To illustrate this we provide an example of a country that experiences an unexpected 10% increase in BAU emissions. The result is an unexpected increase of $10M in abatement cost under either international carbon pricing or an equivalent international cap-and-trade commitment. But under cap-and-trade there is also an unexpected increase of $180 M in the cost of purchasing carbon permits. Hence, in this case, cap-and-trade is 19 times riskier than international carbon pricing.

This example does not exaggerate. In 2000, the US DOE's International Energy Outlook predicted China's 2010 emissions would be 1.5 Gt. Actual emissions were nearly 400% greater. If China had made anything like the quantity commitments desired of it by cap-and-trade advocates at that time, it could have ended up paying the US and EU $100 billion a year for carbon permits. This would likely have destroyed any such cap-and-trade treaty. China was right to reject such quantity commitments.

Enforcement and a Green Fund

As with any international climate agreement, a global carbon-price commitment will require both enforcement and burden sharing transfers from rich to poor countries. Enforcement could be accomplished with the standard approaches, such a trade sanctions. Burden sharing presents a more difficult negotiation process which could have difficulties similar to negotiating a different allocation of free permits for each country. To circumvent this problem, we recommend reducing the dimensionality of the problem by finding a focal formula which simplifies negotiations much like switching to a single price commitment.

Conclusions

Despite much rhetoric, there is almost no hope that the Paris negotiations, if based on individual pledges, can solve the climate dilemma. Promoting cooperation in international climate negotiations is *the* crux of the climate problem. After over 20 years of failure, surely it is

worth attempting a fresh approach, one that is guided by insights from the science of cooperation.