

Policy Brief

Translating the Collective Climate Goal Into a Common Climate Commitment

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By Itself, a Collective Goal Will Not Solve the Climate Problem

The climate agreement reached at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP21) in Paris in December 2015 formulates important global climate goals: warming should stay “well below 2 °C” and net greenhouse gas emissions should go down to zero in the second half of this century. This is important progress, but only if the collective climate goals are translated into a common climate commitment. Without such a commitment, the collective goals may obscure the true nature of the climate problem, and actually delay or prevent a solution.

The Paris climate conference elicited largely independent and individual (as opposed to common) commitments from the participating countries. These commitments are called “intended nationally determined contributions” (INDCs) and outline what post-2020 climate actions each country intends to take under the agreement. This approach appeared to be based at least partly on the assumption that countries’ pursuit of narrow self-interest is sufficient for addressing climate change. As Christina Figueres, then Executive Secretary of the UNFCCC, put it in 2015: “Frankly, none of them are doing it [agreeing to their pledges] to save the planet. Let us be very clear. They’re doing it for what I think is a much more powerful political driving force, which is for the benefit of their own economy” (Krever 2015).

However, pursuing narrow self-interest will not solve the climate problem (Cooper et al. 2017; Cramton, Ockenfels, and Stoft 2017). Rather, international cooperation is needed. Cooperation research shows that the key mechanism for promoting cooperation is a reciprocal,

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common commitment—which has thus far been missing from the process initiated by the Paris climate conference.

A Problem of the Commons

Climate change is a problem of the commons. If each country had its own climate, narrowly self-interested countries would reach the climate goal—much like self-interested countries provide education, transportation infrastructure, parks, and other public goods. The problem is that because the climate is shared, a carbon dioxide (CO₂)-abating country receives only a small fraction of the benefits, yet incurs the full costs of its abatement effort. The selfish response is to free ride—to let others do what is in the common interest. This is particularly true in a globalized economy, where the costs of energy substantially affect economic competitiveness.

This is why countries can sincerely agree to an ambitious collective climate goal (one that involves substantial and global abatement efforts and costs), as occurred at the Paris climate conference, but at the same time not commit to similarly ambitious individual abatement strategies. For example, many African countries are striving to become net exporters of oil within the next decade; Australia is sometimes predicted to be the world's largest coal exporter by 2020; Canada will continue to exploit tar sands; China's emissions level will continue to increase until around 2030; India expressed no intention to have its CO₂ emissions peak or decline, and coal production is sometimes predicted to double in the next decade; and the United States is focusing on shale gas, which may reduce domestic emissions but leads to rising coal exports (see, e.g., Edenhofer and Ockenfels 2017). Indeed, there is no sign of an end to the global “coal renaissance,” and the large amounts of coal-fired capacity that have been built recently and are planned for the future appear to be inconsistent with many of the INDCs (Steckel, Edenhofer, and Jakob 2015; Edenhofer et al. 2016). All of this shows that countries, when asked for individual and independent commitments, prefer to let others make the costly efforts needed to achieve the collective climate goal.

As a result, even if all intended contributions are actually delivered, total emissions as well as emissions per year will continue to increase until 2030. Reaching the collective goal after 2030 would then require drastic and rapid emission reductions, making cooperation even more costly and free riding an even more attractive option.¹

The lack of ambition at the Paris meetings when it comes to individual commitments, as opposed to collective goals, explains why negotiators established a review process to strengthen action on a regular basis every 5 years. The hope behind this review process is that as the lack of cooperation to reach the collective goal becomes more apparent, there will be an upward spiral of countries' ambition. But unless the Paris review process leads to a common climate commitment, which is a prerequisite for reciprocity (MacKay et al. 2015), this hope is based on wishful thinking rather than on what we actually know about cooperation.

What We Know About Cooperation

Scientists who study the determinants of cooperation frequently examine the role that individual commitments can play in the promotion of cooperation, and they do so in theory, in the

¹The hope that, in the future, cheap negative-emission technologies will be available to help achieve the collective climate goals is politically appealing, but relying on such technologies is a risky high-stakes gamble (Anderson and Peters 2016; Cooper et al. 2017).

laboratory, and in the field. Virtually all of this research finds that individual commitments alone fail to promote stable cooperation. In a typical laboratory experiment, for instance, players can contribute to the public good, which produces a collective benefit that is distributed evenly to all players but comes at an individual cost to the contributor. In the first round of the experiment, all players independently submit their contributions. Players are then able to look at others' contributions and decide what they would individually like to contribute in the next round. This contribute-and-review process is then repeated several times. The most common outcome by far is that players have some ambition regarding their contributions in the first round, but ambition declines in subsequent rounds because players observe others acting in their narrow self-interest (i.e., free riding) and they then follow suit, because nobody likes being taken advantage of. That is, any initial ambition among some players to cooperate tends to vanish (Ledyard 1995; Barrett and Dannenberg 2016). The failed Kyoto process provides another example of ambition vanishing over time. Unfortunately, the chances of achieving stable cooperation seem to be even worse for the Paris review process. One reason for our pessimism is that for cooperation to be stable, there needs to be both comparability and reliable monitoring of efforts (Ostrom 1990). However, the individual pledges and intended efforts submitted as INDCs as part of the Paris agreement are not comparable and they are monitored, reported, and verified differently in different regions of the world.

A Reciprocal, Common Commitment Is Needed

To promote cooperation and to discourage free riding, a collective goal must be translated into a reciprocal, common commitment. A reciprocal, common commitment is an agreement to abide by rules that specify cooperation efforts, provided others abide by the same rules. A reciprocal, common commitment is needed for practically all cooperation problems, from dish washing in shared apartments to international trade and disarmament. The commonality of the commitment creates a shared understanding of what is to be expected from each other. Once we agree on what we can expect from each other, the reciprocity principle (“I will if you will”) ensures that mutual trust will be rewarded and that one's cooperation cannot be exploited (Cramton and Stoft 2012; Weitzman 2014, 2017; Cramton, Ockenfels, and Stoft 2015, 2017).²

Advantages of Global Carbon Pricing

The best candidate for a common commitment in international climate policy is carbon pricing. Indeed, carbon pricing is recommended by the vast majority of economists and many policymakers as the preferred climate policy instrument. This is because a carbon price directly, efficiently, and transparently addresses the central problem of overusing the atmosphere's limited storage space as a free dumping ground for greenhouse gases. This advantage of carbon pricing has been known for a long time. What is less known, however, is that carbon pricing is also useful for promoting international cooperation.

²For more on the critical role of reciprocity for the promotion of cooperation in the various areas of theoretical and empirical cooperation research, see Axelrod (1984), Ostrom (1990), Fudenberg and Tirole (1991), Bowles and Gintis (2013), and Kraft-Todd et al. (2015).

One advantage of carbon pricing in international negotiations is that carbon prices can serve as a measure and standard of comparison for abatement efforts. As a result, it naturally lends itself to a system of reciprocal commitments. A global carbon price would also stop the “waiting game” that is being played in the pledge-and-review process, which creates incentives to postpone a country’s commitment to reducing its emissions (Gollier and Tirole 2015). Another advantage of carbon pricing in international negotiations is that the means for achieving a global carbon price are flexible, for example, through national or international emissions trading. Today, more than 40 countries and regions, including the United States, China, and Europe, have cap-and-trade systems, although the caps in these markets are typically too generous and the price floors are inadequate, which means carbon prices are too low. These cap-and-trade systems could be connected to form a more coherent, efficient, and ambitious international market (Gollier and Tirole 2017). Countries that are not using cap and trade can achieve a common price commitment by implementing fuel taxes. Because a common carbon price is efficient, by itself it reduces free-riding incentives. When the carbon price is lower in some countries than in others, firms with emission-intensive production will have an incentive to relocate to countries (or regions) with lower carbon prices, thus offsetting the efforts of countries that have undertaken more ambitious abatement efforts. A common minimum carbon price would also help to make additional abatement efforts more effective. For instance, due to a lack of a price commitment, the European Union (EU) Emissions Trading Scheme (ETS) cancels out the abatement effect of idiosyncratic national and local climate policies in participating countries because any additional climate policy, beyond the ETS, tends to reduce the carbon price and thus abatement by everyone else (Edenhofer and Ockenfels 2017).

A final advantage of carbon pricing is that despite its net cost to the country that has established the carbon price, it generates revenues that could be used to fight poverty, build new infrastructure, fund climate research, and offset undesired burdens from the climate policy, all of which can help to increase its acceptability (Franks, Edenhofer, and Lessmann 2015).

Addressing Equity Concerns

Poorer countries, which are fighting poverty and thus likely prioritizing current economic growth over addressing climate change, will not want to agree on a price commitment without transfers from developed countries. The Green Climate Fund, a fund established within the framework of the UNFCCC to assist developing countries in their abatement efforts, may turn out to be an effective institution for channeling such transfers. But again, relying on voluntary, individual commitments to support the fund will encourage free riding, resulting in a shortage of funding. Thus it is important for the green fund to be closely connected to a common carbon price commitment that is capable of actually achieving the climate goal. Only when green fund transfers are used to incentivize a common carbon price will they be politically acceptable to the rich countries and at the same time help to promote effective international climate policy (Cramton and Stoft 2012).

A Proposal for Moving Forward

While it is important to maintain a dialogue at the global level, the international negotiations through the UNFCCC, which strives for universal consensus, have their limitations. For instance,

the idea of carbon pricing is a nonstarter for some countries that stand to lose considerable revenues from the sale of oil, coal, and gas. Thus carbon pricing was taken off the table by negotiators, since a universal agreement required accepting the lowest common denominator. In fact, carbon pricing is largely absent from the COP21 final agreement.

COP21 has set a collective goal. To actually achieve that goal, we propose moving forward with a “coalition of the willing” (Nordhaus 2015) to build a global carbon price initiative.³ The coalition would considerably reduce the complexities and roadblocks that have characterized the UN negotiations, thus allowing its members to focus on building the initiative. The coalition would monitor carbon prices across countries and strive to design more efficient and coherent international policies. If successful, the coalition could become a building block for something akin to what Elinor Ostrom referred to as “polycentric governance,” where independent players interact with one another under a general system of rules to transform the common goal into a common commitment (Ostrom 2010). However, to stabilize the coalition, its members would need to increasingly adopt elements of reciprocity. For instance, the coalition could try to convince the World Trade Organization to impose an environmental dumping–based border tax on countries that refuse to impose a carbon price and to reward poor countries that are willing to join the global carbon price coalition.

Similar initiatives have been undertaken in the past. For example, the German government made carbon pricing a climate policy priority for its G7 presidency in 2014–2015, and a few years ago the G20 decided to phase out fossil fuel subsidies. The World Bank and the International Monetary Fund also promote carbon pricing as the preferred international policy instrument. While these initiatives have helped to communicate the merits of carbon pricing, they have yet to have much impact. The likely reason for the failure of previous carbon price initiatives, as well as more than 20 years of climate negotiations, to promote serious international cooperation is that none of them have combined the three fundamental, complementary elements and principles of successful global climate policy: a collective goal, a common carbon price commitment, and reciprocity.⁴

Clearly, more theoretical and empirical work is needed to address the various complexities of international climate negotiations that result from the heterogeneity of interests, political obstacles, and the design of monitoring and reciprocity mechanisms (Cramton, Ockenfels, and Stoff 2017). However, now that the COP21 has reached a consensus on a collective goal, there is a chance—perhaps the last chance—to bring together what is needed to overcome selfish interests and to initiate serious global climate cooperation to achieve what is needed—a reciprocal, common commitment based on carbon pricing.

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³Our proposal can also build on the literature that discusses incentive issues associated with linking emission trading systems. See, for example, Green et al. (2014) and Keohane, Petsonk, and Hanafi (2015).

⁴Ostrom’s (1990) work on governing the commons laid the groundwork for establishing an empirical foundation for these underlying mechanisms to promote cooperation.

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