



Global Consensus on Climate Change Is a Good Start

By Scott Barrett ¹
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The new Paris Agreement on climate change is a remarkable diplomatic achievement – remarkable mainly for representing a consensus among 195 states. But is it a true breakthrough or was a consensus possible because the agreement asks countries to do very little?

The world doesn't typically negotiate agreements by consensus. But the rule for decision-making on climate change was sealed in 1995, when the parties to the United Nations Framework Convention on Climate Change could not agree on another decision rule – and consensus was the default. Given this, the outcome of COP21 is significant: The world's people agree on little, and in Paris, countries agreed that climate change is a real threat and that every country must play a role in addressing it.

Had these negotiations failed to secure consensus, the UNFCCC process for a global approach to climate change may have come to an end in Paris. The process nearly ended in Copenhagen in 2009, when countries attending COP15 could not agree on how to strengthen the Kyoto Protocol. What saved the Copenhagen conference was a decision, made on the spot, to abandon the idea of a "top down" agreement with negotiated emission reductions and replace it with one in which reductions were pledged voluntarily. To rally countries around the cause of limiting climate change, the legally non-binding Copenhagen Accord set a collective target of limiting global mean temperature change to 2 degrees Celsius. Nationally determined emission limits were to be offered voluntarily and publicly, allowing every country to see what others had pledged and whether the total could possibly achieve the collective goal. The Paris Agreement essentially formalizes the approach taken so unexpectedly in Copenhagen.

The voluntary approach corrects for Kyoto's biggest mistakes: first, singling out the rich countries as being responsible for acting, with poor countries allowed to develop as the rich countries had done previously, an arrangement that legitimized development around fossil fuel energy, and second, to negotiate strict emission limits without providing a means for enforcement.

People who cheer the Paris Agreement see it as reducing emissions relative to a forecast of "business as usual." Critics see the agreement as being unable to achieve the collective goal of limiting climate change. But business as usual is never observed – so we can't easily tell whether Paris will improve on what countries would have done anyway. My reading of an analysis prepared by the UNFCCC's secretariat suggests that the only way the voluntary contributions pledged thus far

¹ Scott Barrett is the Lenfest-Earth Institute Professor of Natural Resource Economics at Columbia University's School of International and Public Affairs and Earth Institute.

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could achieve the collective 2-degree goal is if a miracle occurs around 2030, some technological breakthrough forcing global emissions to plummet. Even then, the chances of staying within the 2 degree goal are no better than 50-50.

My research, especially laboratory experiments done jointly with Astrid Dannenberg of the University of Kassel in Germany, explores the behavioral effects of this kind of negotiation process. It shows that groups choose a goal that is too weak relative to what's required to make them as well off as possible, individual pledges fall short of the group goal, and individual contributions fall short of pledges. The UNFCCC analysis assumes that countries will fulfill their voluntary pledges, but over the past 25 years, many countries have made similar promises and failed to meet them.

Far from representing a radical break from the past, the Paris Agreement embodies the same approach tried again and again – setting targets and timetables for emission limits at the national level. The approach has problems: One is that countries haven't adopted policies that limit their emissions directly. Instead, they have adopted policies like carbon taxes and renewable energy targets that cause emissions to be limited indirectly. Another problem: The emissions of individual countries don't matter; only global emissions matter. Because of globalization, when one country acts to limit emissions, prices for commodities like fossil fuels change, usually causing other countries' emissions to increase. It's easy for an agreement structured this way to move emissions around rather than limit emissions overall.

In 1995, when negotiators first agreed that only the rich countries had to act, little concern was expressed about China's emissions. China's emissions have since gone through the roof, and the government's pledge to begin limiting its overall emissions by around 2030 was seen as a major breakthrough. Perhaps, though, we should be more concerned today about other emerging economies, the countries that will become tomorrow's big emitters. India, for example, is planning to double coal consumption over the next decade or so – an outcome that the Paris Agreement will not stop.

The biggest challenge with agreements to limit countries' emissions is enforcement. This is not only because countries are tempted to free ride. It's also because each country may be unwilling to reduce emissions without assurances that other countries will do likewise. Only global emissions will determine whether the collective goal of limiting climate change is achieved.

Unfortunately, the international system is particularly bad at enforcement. It is sometimes argued that an agreement must be "legally binding" to be effective, but the Kyoto Protocol was "legally binding," and that didn't stop the United States from declining to participate or Canada from withdrawing once its compliance was in doubt. Sovereignty finds ways to wrangle out of legally binding obligations. To be effective, enforcement provisions must be built into an agreement.

The Paris Agreement is self-enforcing because it is a voluntary agreement. But to limit climate change, emissions must be reduced by much more than countries pledged in Paris.

How to enforce a more ambitious agreement? Recent research by William Nordhaus of Yale University shows that a club of likeminded countries could enforce more demanding obligations using a generalized tariff. However, the use of such a tariff could spark retaliation. Even if a trade



war is avoided, Nordhaus's analysis shows that a tariff loses its effectiveness once the cost of reducing emissions rises to the level needed to bring about a transformation in the global energy system.

Paris doesn't foreclose parallel options that are designed strategically. One such approach is already underway: an effort to amend the Montreal Protocol, an agreement to protect the ozone layer, to limit HFCs, a potent greenhouse gas. This approach will work because Montreal is enforced by an effective but limited trade restriction. We need to develop more agreements focused on individual sectors and gases, such as ones that limit the emissions from aluminum manufacture and international aviation and shipping. Often, these agreements rely on technical standards.

Unfortunately, even this approach is not enough to stabilize concentrations. To be sure we can do this, a coalition of willing countries should undertake joint research into “game-changing” technologies, including the only true backstop technology for reducing emissions – removing CO₂ directly from the air. Such a technology would likely be expensive, but the collective action needed to develop and apply it on a large scale is potentially easier than trying to change behavior worldwide.

The Paris Agreement won't achieve much just for existing. If the agreement is really to pay off, countries need to invest in its implementation. We should also work to build parallel agreements like an amended Montreal Protocol and similar efforts targeted at specific sectors and gases. But unless a miracle technology appears unexpectedly, making fossil fuels uncompetitive, stabilization of the climate will ultimately require more radical approaches – enforcement mechanisms like trade restrictions and new technologies like industrial air capture. The problem of climate change is unprecedented. Addressing it fully requires actions that go beyond the measures that negotiators have so far dared to contemplate.