

Fixing the Paris Climate-Negotiation Failure

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For updates and background information see ClimateParis.org

Climate change is a problem of the commons. Nearly all agree. But the insidious nature of this problem is being largely ignored in Paris, and this has led to a self-contradictory approach. The current agreement has produced pledges based on narrow economic self-interest. If left in place these will rule out any possible 2°C scenario^b by 2030. So an add-on “ratchet mechanism” is proposed to increase ambition. But ambition and narrow self-interest are contradictory, and so the forces that have shaped the current pledges will defeat any add-on ambition mechanism.

The idea that the world’s countries are negotiating an agreement to enhance economic self-interest is curious enough to require some proof. Here’s the UN climate chief’s view of this curious idea.

Why are they doing this [agreeing to their pledges]? Frankly, none of them are doing it 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.

—UN climate chief Christiana Figueres, [CNN, 2 December 2015](http://CNN.com).

This is the emphatic opening statement from a short explanatory video produced by CNN, and it reiterates thinking that Figueres shared with [CBS on 2 October 2015](http://CBS.com). At that time she further explained that China is focusing on its domestic interests and not on the climate.¹ The self-interest view fits perfectly with voluntary, unenforced pledges that nearly every country in the world is content to sign.

Here we examine the contradictions between the current approach to pledges, the global nature of the climate problem, and any ambition mechanism. We then show how to merge the Paris approach to negotiation with the previous approach and arrive at the one strategy that behavioral science finds most promising.

Countries face two problems—maximizing domestic benefit and deciding how much to help with global climate. So far, the Paris approach assumes that solving the first problem will solve the second far more difficult problem. If this were true, the Paris talks would be a success.

But if it were true it would also pose the question of why international negotiations are needed to induce countries to act selfishly. If countries are ignorant of the hazards of smog and the falling costs of solar, then by all means, the UN should provide such information—but why would that require UN negotiations?

Understanding why solving the easy problem will not solve the harder problem requires an understanding of the problem of the commons.

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^b This is defined as a scenario with a 66% chance of limiting global warming to 2°C.

An example. Imagine ten countries that all suffer from both local pollution and global warming, and imagine that spending reduces both problems at once. The first dollar spent provides \$1 of pollution benefit for the spender, the second dollar provides only \$0.90 of pollution benefit, and so on. The warming benefit is simpler. Every dollar spent by any country provides nine cents of warming benefit for each country, and 90 cents in total for the ten countries.

Here is how narrow self-interest plays out. Every country spends only \$1 and gets \$1 of benefit from pollution reduction with an additional \$0.90 of benefit (coming from all 10 countries) due to warming reduction, for a *net* benefit of \$0.90.²

Cooperation would produce a different result. Cooperation induces all countries to spend \$10 and produces \$5.50 of pollution benefit and \$9.00 of warming benefit, for a net benefit of \$4.50. Compared with narrow self-interest, cooperation produces net benefits that are five times greater, pollution benefits that are 5.5 times greater, and climate benefits that are 10 times greater.³

The example is stylized, but the general principle is clear. The benefits of self-interest always fall short of the benefits from cooperation when there is a problem of the commons.^a And they may fall far short.^b

Are the Paris pledges ambitious? If ambition means anything, it must mean this:

Ambition: Going beyond what a party would do if it did nothing for the purpose of saving the planet and only did things “for the benefit of its own economy.”

By this definition, Figueres’ statement tells us that precisely none of the Paris pledges are ambitious. This seems to contradict the UN’s October 30th report on the pledges,⁴ which tells us that they will have a moderately strong effect on emissions.

But China’s pledge confirms Figueres’ view. China is in the process of dramatically reducing its emissions growth rate. Between 2002 and 2011, China’s CO₂ emissions grew by more than the current CO₂ emissions of the US.⁵ But by 2030 it will bring this growth to a halt. Figueres correctly explained to [CBS](#) that this slowing of emissions growth is caused by (1) China’s interest in reducing deaths from air pollution and (2) China’s economic interest in being a provider of renewable energy technology. According to both Figueres and the Chinese press in 2014,⁶ China’s pledge simply records what it intended to do anyway.

So Figueres is right. The UN’s request for pledges did not cause China to reduce its emissions as presumed by the UN report. And since China simply acted in its self-interest and not “to save the planet,” the Chinese pledge shows no obvious ambition. As argued below, this is bad news for any new “ambition mechanism.”

Increasing ambition with a “[ratchet mechanism](#).” By definition, a ratchet mechanism is one that has one-way teeth to prevent back-sliding and insure forward movement. The mechanisms being discussed for the Paris agreement have no such teeth. In fact, they appear equivalent to mechanisms that are known in the behavioral sciences to actually *cause* back-sliding.

^a In reality, although not in this example, narrow self-interest is part of the problem as well as part of the solution.

^b Remember that CO₂ is not unhealthy, so countries can curb unhealthy pollution, without reducing CO₂.

An effective mechanism is crucially important, because the current Paris pledges are far too weak. According to the UN report on the pledges, the *most optimistic* possible outcome of current pledges would be to emit 723 Gt (gigatonnes) of CO₂ by 2030. That's out of the 1000 Gt CO₂ budget limit that must be respected by any 2°C scenario. This optimistic outcome also increases CO₂ emissions to 40 Gt per year. At that rate there would be only seven years of CO₂ emissions left in the budget. This means that current pledges place *every* 2°C scenario far beyond reach.

Behavioral scientists frequently test similar “ratchet mechanisms” experimentally. Typically, players contribute to the public good in the first round, which produces a collective benefit that is distributed evenly to all. This allows players to review the collective contribution, and often they are informed of individual contributions. The contribute-and-review process is then repeated several times. The most common outcome by far is that some ambition is shown in the first round, but less is shown in each subsequent round until ambition nearly vanishes. These “ratchet-mechanisms” cause a downward spiral of ambition.

A ratchet mechanism for the Paris agreement can be expected to perform similarly. As in the experiments, the pledges are only voluntary and not enforced except by peer pressure. But how strong is peer pressure for ambition when the exercise of narrow self-interest is seen by the UN climate chief as countries “putting their best foot forward”?^a During the ambition review, parties will observe that most (if not all) others are acting only in their narrow self-interest. They would be fools to offer more—to increase ambition, as others would just take advantage of them. If the Paris ratchet has any teeth, they will be pointing in the wrong direction.

Fixing the negotiations requires clearing up the confusion regarding ambition, altruism and self-interest. This is especially critical because, as Figueres points out, where we are now “is fundamentally different from where we were three or four years ago.” Back then, the focus was on altruistic ambition. Now, it is on enhancing narrow self-interest. The right approach draws from the strengths of both. It is the approach recommend by Elinor Ostrom, the political scientist who won the Nobel Prize in economics for a lifetime of work on common-pool resources such as the atmosphere. Here are the three approaches.

Altruism: Countries should show altruistic ambition, spontaneously doing more than is in their narrow self-interest.

Selfishness: We should convince the world that clean technology is cheap. Then all countries will adopt it out of narrow economic self-interest, even though they ignore global warming.

Reciprocity: Countries should agree to abide by rules that specify ambitious behavior, provided others abide by the same rules.

Ostrom found that all successful solutions to the commons problem involved rules that create reciprocity.^b Positive reciprocity takes the form of “We will do more than our narrow self-interest if you will.” Remarkably, this changes the self-interest of the parties from narrow self-interest (ignoring the climate) to enlightened self-interest, which is aligned with the common good.

^a Figueres on [CBS, 2 October 2015](#).

^b This applies when there is no higher authority, which is missing internationally.

In other words, reciprocity combines the best parts of the first two approaches. It relies on the strength of (enlightened) self-interest rather than on altruism, which is weak. And it induces ambitious behavior instead of selfish behavior, which ignores all but local climate benefits. This can be seen in our example [if spending is made reciprocal](#)—each contributing as much, but only as much, as the others. Then the cooperative outcome will result from pure self-interest. This is enlightened (not narrow) self-interest.

In conclusion. The most promising reciprocity rules involve pricing carbon. Such rules must be flexible and must not attempt to dictate specific national policies. As the IMF and World Bank point out, cap-and-trade, fossil fuel taxes, carbon taxes and other mechanisms all can price carbon. The reciprocity rule must also involve transfers from rich to poor. Fortunately, there are many new ideas on both carbon pricing and transfers. But will Paris make room for them?

Designing the Paris agreement for narrow self-interest has precluded any effective ambition mechanism, and left the world locked into pledges confirmed by the UN's climate chief to lack ambition. If we are also locked into a false belief that we have “turned the corner” and found the true path, Paris will prove a greater disaster than Copenhagen. At least then, we knew where we stood.

The Paris negotiations will not change course, but they could open the door to a scientific approach to cooperation. Reciprocity and pricing carbon are ideas that must now be welcomed by the UN if the world is to have any chance of coming close to a 2°C scenario. This is easy to do if realism replaces the current fog of false optimism.

Endnotes

¹ Transcripts of both interviews are available on ClimateParis.org.

² Each country would spend \$1 because that would give it a benefit of \$1 from reducing local pollution and it would capture \$0.09 of the total benefit from reducing warming (its share of the global benefit). But no country would spend \$2 because the second dollar would only benefit their economy by \$0.90 from reduced pollution and again by \$0.09 from reduced warming. So the second dollar spent would cost them \$1.00 to gain only a \$0.99 benefit.

³ In the cooperative case, every country takes full account of the benefit it creates for all others. So when a country spends its tenth dollar it gets only \$0.10 of local pollution benefit, but it counts all of the climate benefit to others; that is 10 times 9-cents, or \$0.90. This approach is adopted by cooperators because it maximizes the total net benefit.

So, from its tenth dollar, a country sees a total benefit of \$1.00 (\$0.10 + \$0.90) and breaks even. But its eleventh dollar produces no local pollution benefit so it only counts the \$0.90 global warming benefit. This implies a net loss of ten cents, so it does not spend the eleventh dollar.

The result is a total pollution benefit for each country of $\$1.00 + \$0.90 + \dots \$0.10 = \5.50 . And the climate benefit for each country is 100 times \$0.09, since a total of \$100 is spent. So the total benefit is $\$5.50 + \$9.00 = \$14.50$ per country. Subtracting the spending by any one country (\$10) gives a net benefit of \$4.50, which is five times the net benefit of \$0.90 in the self-interest case. The climate benefit is \$9.00, which is ten times greater than the \$0.90 benefit found under narrow self-interest.

⁴ Synthesis report on the aggregate effect of the intended nationally determined contributions. [ADVANCE VERSION](#), FCCC/CP/2015/7, 30 October 2015. To find cited data, search for “722.8”.

⁵ According to World Bank data.

⁶ Information of the origins of China's INDC is [available here](#).