The Coming Collapse of the Paris Agreement

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THE COMING COLLAPSE OF THE PARIS CLIMATE AGREEMENT

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ABSTRACT

Now that the US has abandoned the Paris Climate Agreement the question is whether the agreement will collapse. This essay argues that the agreement will likely unravel, perhaps not immediately, but eventually. While the world’s leaders have been quick to reaffirm their continued resolve to implement the agreement, the problem is that multilateral environmental agreements are uniquely fragile because their value depends directly upon the number of states that are party to it. Environmental agreements have a certain ‘all or nothing’ quality to them. They are thus extremely reliant on unanimity of agreement and uniquely sensitive to the loss of it. This dynamic renders multilateral environmental agreements extremely ‘tippy’ and highly susceptible to collapse. It is argued that the US’ withdrawal from the Paris Agreement—a reckless abdication of global leadership—is a powerful signal to the international system that coordination has faltered. The perception that commitment to the agreement may now also be flagging among other states will likely cause parties to not comply, becoming a self-fulfilling prophesy. As such, the essay concludes, while not yet manifest, a process of collapse has already been triggered, most likely irreversibly.

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I. INTRODUCTION

Now that the Trump administration has abandoned the Paris Climate Agreement, the question is whether the agreement will collapse. A strong case can be made that it will indeed unravel—perhaps not immediately, but eventually. Although the world’s leaders have been quick to reaffirm their continued resolve to implement the agreement, the problem is that multilateral environmental agreements are uniquely fragile because their value depends directly upon the number of states that are party to it and the collective perceptions that surround this. Environmental agreements have a certain “all or nothing” quality to them. For example, an agreement to reduce carbon emissions between only two states provides little value. The value of the same agreement, however, increases dramatically with twenty, ninety, or 195 governments in hand. They are thus extremely reliant on unanimity of agreement and uniquely sensitive to the loss of it.

This is why it was so vital that the Paris Agreement lock down the participation of all the states in the international system. For all of its flaws, the Paris Agreement had the strength of unanimity. Countries that remain in an environmental agreement while other states pull out understandably grow reluctant to assume the burden of their commitments. Because of this, withdrawal—

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3 The impact of the free riding problem in environmental conservation is central to the well-known *tragedy of the commons*, a concept first formulated in a rigorous way by Garrett Hardin. See G. Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1248 (1968). It is also captured formally in game theory by the prisoner’s dilemma. For a good overview of the structural conditions that produce the dynamic, see MARGARET FODDY, ET AL., RESOLVING SOCIAL DILEMMAS: DYNAMIC, STRUCTURAL, AND INTERGROUP ASPECTS 9 (2013).
particularly of a major player such as the U.S.—can create a knock-on effect, causing other states to follow. A slow trickle can become a flood. This dynamic renders multilateral environmental agreements extremely “tippy” and highly susceptible to collapse. For international environmental cooperation to succeed everyone needs to be onboard and everyone needs to stay onboard.

Many hold hope that the U.S. will ultimately not withdraw from the Paris Agreement, noting that under Article 28(1) the U.S. cannot exit the agreement until three years from the date on which the agreement entered into force for the party, which in the case of the U.S. was November 4, 2016. Article 28(2) mandates that withdrawal will then take effect one year after notification is received, putting the earliest date of actual withdrawal after the next presidential election, which is to be held on November 3, 2020. However, this ignores that, while not yet manifest, the process of collapse has in fact already begun. The issue now is whether further erosion can be prevented. Because the agreement depends so much on international unanimity, the Paris Agreement was dealt a potentially fatal blow the moment the U.S. signaled its intention to withdraw.

II. MULTILATERAL ENVIRONMENTAL AGREEMENTS TURN ON NETWORK EFFECTS

A multilateral environmental agreement’s value increases as more parties comply with the agreement, and the inverse is equally true: a multilateral environmental agreement’s value decreases commensurate with the number of actors who either do not comply or leave the agreement altogether. This is a classic example of a network effect. The larger the network of adopters,

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6 Network effects emerge where the value of a product or service increases as the number of other agents using the same product or service grows, which in turn draws more users. See S.J. Liebowitz, et al., Network Externalities, in The New Palgrave Dictionary of Economics and the Law 671, 671 (Peter
the greater value the agreement provides and vice versa. Language is a commonly employed example of a network effect. The more people who speak a language the greater its value. As its value increases, more people learn the language, and on it goes, increasing in value. This dynamic, however, can operate in either direction—it can thunder towards success or it can plunge towards failure.

Collective perceptions are immensely consequential under such conditions. Indeed, they reign supreme. Because the value of a multilateral environmental agreement depends upon how many other actors adopt it, agents’ choices are largely based on the expected size of the network. In markets exhibiting network effects (as with any game with multiple equilibria), expectations are thus of paramount importance. As such, the network effect character of a multilateral environmental agreement renders it uniquely vulnerable to “bandwagons.” A positive bandwagon of actors joining the treaty is a case of increasing returns. A negative bandwagon of actors abandoning the treaty—a sort of “jumping ship” effect—is a case of the opposite, a death spiral towards escalating destabilization and eventual collapse.


III. MULTILATERAL ENVIRONMENTAL AGREEMENTS ARE UNIQUELY FRAGILE

The unique nature of a multilateral environmental agreement—that its value is contingent upon other parties also complying—must be fully appreciated to understand the potential destructive impact of the U.S.’s withdrawal from the Paris Agreement. This dynamic is markedly different than those at play with most other kinds of international agreements. For example, in the case of a multilateral trade agreement, even if a large number of signatories exit the treaty, the agreement will still retain a substantial degree of value for the remaining treaty members. While such agreements may reap benefits from an increase in network size, unanimity, or near unanimity, is not such an essential element. They do not possess an “all or nothing” quality to them. As such, they can better withstand the blow of one or more parties withdrawing from the agreement. This logic does not hold for multilateral environmental agreements—even a trickle of nations exiting can trigger the withdrawal of more governments and bring about the agreement’s collapse.

Multilateral environmental agreements are not the only type of agreement that possess this “tippy” quality. For instance, in the case of International Labour Organization (ILO) treaties that impose international labor standards, the withdrawal of a state renders the states that remain in the treaty relatively less competitive. A similar process of decreasing value may metastasize in, for instance, treaties concerning intellectual property rights. Treaties, however, range in how vulnerable they are to negative bandwagons. Upon this spectrum of “tippiness,” multilateral environmental agreements clearly sit on the furthest end of fragility. There are several reasons that combine to render multilateral environmental agreements uniquely tippy. First, unlike other tippy agreements, multilateral environmental agreements offer no immediate advantages, only burden.9 Such agreements

9 While public figures may see benefits to their political reputation and the international standing of their country, such action also imposes personal political costs, as environmental protection typically conflicts with powerful private interests. Such interests may be corporate; however, elected political figures may also suffer a backlash from individual constituents affected by these measures.
usually require significant economic sacrifice with merely the promise of future benefit in the form of a negative gain (i.e. preventing environmental damage) and are typically public goods vulnerable to free riding. Compounding this, the sheer enormity of the challenge posed by climate change combined with the fact that states share a common environment that is oblivious to political borders demands that collective action be taken on a comprehensive scale.

Because the value of a multilateral environmental agreement is so dependent upon sweeping collective action, parties are uniquely sensitive to a loss in numbers and thus such agreements are highly susceptible to this pattern of failure. A strong argument could be made that the Kyoto Protocol’s lack of success stemmed from its failure to secure an equal commitment from all the world’s states, thereby undermining its chances at success from its very inception. The U.S.’s failure to ratify the Kyoto Protocol initiated a negative bandwagon, tipping the agreement towards inevitable failure. Canada’s subsequent withdrawal from Kyoto in 2011, citing as its primary justification the absence of the U.S. and China, furthered this erosion. The Kyoto Protocol was a far more comprehensive agreement than what effectively replaced it; however, it suffered from the same lack of unanimous participation the Paris Agreement is now facing. More than 100 countries, including China and India, were exempted—the Kyoto Protocol never achieved an equal global contribution. It fell, as it were, stillborn from the discordant consensus that created it.

10 Bilateral environmental agreements are also vulnerable to this model of collapse. However, because the dynamic involves only two players, the pattern plays out in a less obvious sequential fashion.

11 The developed nations of the world accepted the initial reductions called for under the Protocol even though the reductions did not bind the developing world. See A.W. GALSTON, CHRISTIANA Z. PEPPARD, EXPANDING HORIZONS IN BIOETHICS (2005). For a good general discussion of the failure of the Kyoto Protocol, see generally GERALD KUTNEY, CARBON POLITICS AND THE FAILURE OF THE KYOTO PROTOCOL (2014) (examining the political gamesmanship throughout the Protocol’s negotiation process); DAVID G. VICTOR, THE COLLAPSE OF THE KYOTO PROTOCOL AND THE STRUGGLE TO SLOW GLOBAL WARMING (2011) (arguing that the Protocol did not provide for adequate monitoring and enforcement of emissions trading).
IV. Now What?

U.S. participation in the Paris Agreement was crucial. The U.S. is historically responsible for more carbon emissions than any other nation.\footnote{Justin Gillis & Nadja Popovich, The U.S. Is the Biggest Carbon Polluter in History. It Just Walked Away From the Paris Climate Deal, N.Y. TIMES (June 1, 2017), https://www.nytimes.com/interactive/2017/06/01/climate/us-biggest-carbon-polluter-in-history-will-it-walk-away-from-the-paris-climate-deal.html} While the U.S. comprises roughly four percent of the world’s population, it is responsible for close to a third of the total excess carbon dioxide that is warming the earth.\footnote{Id.} The U.S. is the biggest carbon polluter in history, and it simply unilaterally withdrew from the 195-nation agreement.

In the wake of the United States’s sudden withdrawal from the Paris Agreement, an exodus of other states may emerge as a negative bandwagon takes hold. Even if this does not occur in the short term, the U.S.’s withdrawal from the Paris Agreement will substantially weaken the agreement’s cohesion because confidence in other parties’ commitment has now been deeply undermined. At the present moment, perception can quickly become reality. If actors believe others will comply, they are likely to comply, but if actors believe others may not comply, they are in turn less likely to comply. Public international declarations of continuing commitment aside, each state is undoubtedly afraid other states will abandon the agreement. All is in doubt. The Trump administration’s decision to discard the U.S.’s commitment to the world has destabilized the agreement and has potentially already initiated a negative bandwagon that will likely cause the treaty to “tip” irreversibly towards collapse.

The fact that the Paris Agreement, possessing no compliance mechanisms, was already widely greeted with skepticism and perceived by many to be a weak foundation for cooperation only increases the likelihood that a collapse will occur. The Paris Agreement’s legislative underpinnings were never sturdy, and this was by design. While the agreement was technically binding in that it required participating governments to work towards decreasing their emissions, the key commitment—namely, the emission targets—were intentionally left non-
binding. This was to encourage the unanimous participation of the world’s nations, particularly key emerging economies like India and China who might have otherwise wavered. Given the urgent need to subpoena the conscience of the world’s nations and move them to action, the hope was merely that the Paris accord would serve as a durable framework for binding future agreement.

But is there no small margin for optimism? The hope that the U.S. will eventually recommit to the agreement may be one. If global leaders perceive today that the U.S. will change its position four years from now, their commitment to the agreement may hold firm, averting a negative bandwagon. Four years, however, is a long stretch of time to keep such a massive agreement on life support now thrown into uncertainty. The world’s governments would have to be very confident in this political calculation and even more crucially, convinced that other countries share their certainty. Maybe other factors involved in the geopolitics of environmental protection may intervene. Despite the costs that the U.S.’s absence will bring, leaders like Emmanuel Macron, Angela Merkel, Justin Trudeau, and Xi Jinping have seized the opportunity to present themselves as responsible statesmen before global (and domestic) audiences by reaffirming their commitment to the agreement.

Perhaps opposing the Trump administration may be more valuable to these political figures than securing a competitive advantage for their economies. To be sure, there are political points to be scored in establishing oneself as the global counterpoint to Trump. However, absent immediate and tangible demonstrations of commitment, these declarations ring hollow and are likely to be mutually perceived as little more than political theatre by the very

15 Todd Stern, Mr. Trump’s climate decision, BROOKINGS (March 6, 2017), https://www.brookings.edu/blog/planetpolicy/2017/03/06/mr-trumps-climate-decision/
16 Emmanuel Macron’s appeal (in English) to ‘make our planet great again’ stands out in this regard. See Vivienne Walt, France's Emmanuel Macron Reaps the Benefits of Being the Anti-Trump, TIME (June 12, 2017), http://time.com/4814715/emmanuel-macron-president-donald-trump-assembly/
governments that are making these noises. Talk was already cheap, but with the sudden departure of the U.S. it has been made even cheaper. Unfortunately, a loss of consensus is a powerfully disruptive force. As such, a negative bandwagon may be difficult to prevent.

When the Paris Agreement was reached in the winter of 2015, I argued that the international community needed to seize that rare moment of global consensus and move quickly to graft a compliance framework onto the agreement precisely to avert the potential collapse of the accord, should the withdrawal of a significant player trigger a negative bandwagon. This brief window of opportunity, it seems, has now closed. A major power has withdrawn from the agreement, and now there is no choice but to await the consequences of our inaction. A process of collapse may have been irreversibly triggered. Most likely the Paris Agreement will now sputter along in its new incapacitated form for some time, similar to the Kyoto Protocol. But even if the Paris Agreement never fully collapses, with the most powerful actor in the international system absent, the Paris Agreement has now been profoundly enfeebled as a viable scaffolding for future environmental cooperation.

17 A similar process may play out on the sub-state level. Scores of states, municipalities and private institutions within the US are pledging to respect the agreement despite the national withdrawal. Hiroko Tabuchi & Henry Fountain, Bucking Trump, These Cities, States and Companies Commit to Paris Accord, N.Y. TIMES (June 1, 2017), https://www.nytimes.com/2017/06/01/climate/american-cities-climate-standards.html. However, the same dynamic pertains—without immediate powerful displays of commitment, a negative bandwagon will be difficult to avoid.

18 See generally Bryan Druzin, A Plan to Strengthen the Paris Climate Agreement 84 FORDHAM L. REV. RES GESTAE 101 (2016) (proposing the creation of an international bond as a mechanism through which to signal commitment and thereby reinforce the Paris Agreement). I also published a more expansive and more rigorous examination of the proposal with Duke University. See generally Druzin, supra note 8 (proposing the use of a signaling game to sustain cooperation and preempt the tragedy of the commons in international environmental governance).

19 The compliance framework I articulated in those two pieces could still be grafted onto the Paris Agreement. The absence of the US, however, would now make this task extremely difficult.
V. CONCLUSION

The U.S.’s jarring withdrawal from the Paris Agreement—a reckless abdication of global leadership—is a powerful signal to the international system that coordination has faltered. It has infused the agreement with a sudden miasma of doubt. The perception that commitment to the agreement may now also be flagging among other states will likely undermine compliance, becoming a self-fulfilling prophecy. As such, the possibility of a negative bandwagon taking hold now looms over the agreement. Substantial concrete action beyond mere declarations of support must be swiftly taken if we are to prevent the Paris Agreement from unraveling. Yet the international system is ensnared in a prisoner’s dilemma of historic proportion and consequence that constrains the actions of nations. We have seen this movie before with the failure of Kyoto. The Paris Agreement now faces a period of potential stagnation as parties either peel away from the agreement or fail to meet its terms. In an international system that lacks a central coercive authority, international environmental governance is exceedingly fragile. A small spark can incinerate cooperation. And the withdrawal of the U.S. from the Paris Agreement is no small spark—not by any stretch of the imagination. It is a lacerating blow.