



# U.S. withdrawal from the Paris Agreement: Reasons, impacts, and China's response

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## Abstract

Applying qualitative and quantitative methods, this article explains the driving forces behind U.S. President Donald Trump's decision to withdraw from the Paris Agreement, assesses the impacts of this withdrawal on the compliance prospects of the agreement, and proposes how China should respond. The withdrawal undercuts the foundation of global climate governance and upsets the process of climate cooperation, and the impacts are manifold. The withdrawal undermines the universality of the Paris Agreement and impairs states' confidence in climate cooperation; it aggravates the leadership deficit in addressing global climate issues and sets a bad precedent for international climate cooperation. The withdrawal reduces other countries' emission space and raises their emission costs, and refusal to contribute to climate aid makes it more difficult for developing countries to mitigate and adapt to climate change. Cutting climate research funding will compromise the quality of future IPCC reports and ultimately undermine the scientific authority of future climate negotiations. China faces mounting pressure from the international community to assume global climate leadership after the U.S. withdraws, and this article proposes that China should reach the high ends of its domestic climate targets under the current Nationally Determined Contributions; internationally, China should facilitate the rebuilding of shared climate leadership, replacing the G2 with C5. Meanwhile, China needs to keep the U.S. engaged in climate cooperation.

**Keywords:** U.S. withdrawal from the Paris Agreement; Compliance; Global climate governance; China

## 1. Introduction

The U.S. President Donald Trump announced on 1 June, 2017, that the U.S. would withdraw from the Paris Agreement and immediately cease implementing the agreement including implementing the Nationally Determined Contributions (NDCs) and financial contributions. Mr. Trump's decision to back out has drawn strong criticism both at home and abroad, with world leaders, international organizations, civil society,

and media voicing disappointment and protest. On 4 August, 2017, the U.S. State Department sent a formal communication to the United Nations that the U.S. would be leaving the agreement, and three questions have been raised about the withdrawal decision: Why did Mr. Trump eventually decide to back out when he was staying on the fence about the deal, knowing that his withdrawal decision would be subject to extensive criticism both home and abroad? What is the prospect for compliance with the Paris Agreement after the U.S. leaves? How should China respond? Answers to these questions abound. First, it is suggested that the withdrawal decision was a victory for Stephen Bannon, Mr. Trump's ex-chief strategist, and Scott Pruitt, the U.S. Environmental Protection Agency (EPA) administrator, but the decision brings no

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benefits to either the U.S. or global climate governance (Stavins, 2017). Second, the withdrawal decision makes it almost impossible for the U.S. to achieve its mitigation goals, rendering the compliance prospects for the Paris Agreement bleaker (Haas, 2017). Third, the U.S. withdrawal decision leaves a large gap in the climate aid that the developed countries have promised to developing countries on the one hand, and it creates opportunities for China and the European Union (EU) to exert their leadership on the other hand (Kemp, 2017). Fourth, the biggest impact lies in the U.S. absence from future negotiations (Schreurs, 2017). Fifth, the U.S. can no longer single-handedly dismantle an international institution, and China is expected to emerge as the global leader on climate change (Hilton and Kerr, 2017). Sixth, preliminary quantitative studies argue that if other countries follow the U.S. lead in postponing their mitigation efforts for eight years or substantially defunding their research and development of renewable energy, the cumulative CO<sub>2</sub> emissions in the 21st century will increase by 350–450 Gt—the 2 °C goal of the Paris Agreement will become unattainable (Sanderson and Knutti, 2017). Seventh, the bottom-up global climate partnership and civil society's participation in climate governance are strong and determined, and neither will be disrupted by the withdrawal (Brookings, 2017). Eighth, global climate governance may enter a transitional era that features shifts in leadership (Chai et al., 2017). These analyses tend to speak in generic terms and are often short of quantitative analysis and concrete policy suggestions. With this respect, we seek to approach the three questions both quantitatively and qualitatively at a more in-depth level.

## 2. Why did Trump decide to withdraw from the Paris Agreement?

On his 2016 presidential campaign trail, Donald Trump talked skeptically about or even denied climate change, and he vowed to pull out from the Paris Agreement once he was elected. Following his win in the election, Trump softened his position, stating that he had “an open mind” (Milman, 2017) toward climate change. He put off deciding what to do with the Paris Agreement, indicating that he knew very well that the decision to exit would draw strong criticism both at home and abroad. Despite being on the fence briefly, Trump eventually chose to back out of the agreement. In Section 2, we explain the driving forces behind Trump's withdrawal decision.

First, the Trump Administration is closely tied to the fossil fuel industry, and interest groups are a defining feature of American politics. The fossil fuel industries hold powerful political clout over the Trump Administration and the Republican Party: It has been reported that Trump himself, Vice President Pence and EPA Administrator Pruitt are all personally closely associated with the petrochemical mogul Koch Industries (Mayer, 2017). Once the U.S. withdraws from the Paris Agreement, the Trump Administration will seek to repeal climate regulations to benefit energy companies including Koch Industries. EPA Administrator Pruitt, who led the legal fight against former President Obama's Clean Power

Plan, repeatedly denied anthropogenic causes of global warming, and insisted withdrawing from the Paris Agreement, and on May 25, 2017, twenty-two Republican senators wrote a letter to the President urging him to leave the agreement. It is reported that the campaigns of these 22 senators have collected more than US\$ 10 million in oil, gas, and coal since 2012 (McCarthy and Gambino, 2017).

Second, current political and social polarization embolden Trump's withdrawal decision; the partisanship, social tension, and ideological antagonism that define today's U.S. leave little room for bipartisan cooperation (Jonathan and Sam, 2015), and the Charlottesville riot on 21 August, 2017, is just the latest incident that testifies to the current polarization. Seeing that his constituency was not going to react negatively to his withdrawal decision, Trump was emboldened to announce the exit, hoping that it would help him in the next election.

Third, Trump is skeptical of climate change, and he refuses to acknowledge the fundamental principle of common but differentiated responsibility in global climate cooperation. He has also never publicly acknowledged that climate change is happening and is mainly caused by human beings, a consensus shared by most U.S. scientists. In his withdrawal speech, Trump stated that “the Paris Accord is very unfair at the highest level to the U.S. and compared China and India's mitigation obligations with U.S., taking no notice of the common but differentiated responsibility principle. It would be extremely difficult to change Trump's unyielding ideas on climate change and international affairs.

Fourth, Trump's undue emphasis on America First departs significantly from Obama's foreign policy philosophy. Economically, Obama believes that the Paris Agreement enhances America's climate security, promotes America's low-carbon economy and renewable energy industry, and is indispensable for securing employment and maintaining the U.S. competitive edge (Obama, 2017). On the contrary, Trump believes that the Paris Agreement undermines U.S. competitive edge and impairs both employment and traditional energy industries (TWH, 2017). Politically, Obama believes that the Paris Agreement strengthens the U.S. leadership in international affairs, whereas Trump believes that the agreement weakens the U.S. sovereignty. A climate skeptic, Trump puts overwhelming weight on mitigation's economic costs and belittles its ecological and economic benefits, which is consistent with his nationalistic and isolationist America First world view.

Fifth, Trump holds personal acrimony against Obama (Liptak and Jones, 2017) and relishes destroying Obama's political legacy; during the 2016 Presidential campaign, Trump and Obama openly attacked each other with a high degree of animosity. “There have been instances in the past where the current President and a former President do not get along at all,” said Timothy Naftali, a historian at New York University; “What's different this time is that the two are showing it. That the animosity is so clear” (Liptak and Jones, 2017). Known for a strong personality, Trump takes an anything-but-Obama stance and decided to roll back most of Obama's policies after he took office, including acceding to the

Paris Agreement, one of Obama's strongest political legacies.<sup>1</sup>

In summary, Trump's withdrawal decision was mainly driven by the U.S. domestic politics and his personal preferences rather than any burdens on the U.S. imposed by the Paris Agreement. Under America's tripartite system, the President, the Congress, and the Supreme Court share the authority to make climate policies, and as clean energy has become increasingly profitable and growing popular pressure (Gallup, 2017) has forced politicians to take actions on climate change, the Trump Administration is facing an uphill battle in rolling back Obama-era climate regulations (Brian, 2017). Uncertainties remain regarding what can be achieved with climate deregulation under the Trump Administration.

### 3. Prospects for compliance with the Paris Agreement

Trump's Paris Agreement withdrawal has profound implications for the prospects for compliance with the agreement.

First, U.S. withdrawal substantially undermines the universality of the Paris Agreement, which is perceived as the backbone of global climate regime. The agreement is primarily distinguished from the Kyoto Protocol by the universal participation of both developed and developing countries (Rosenzweig, 2016), and this universality brings legitimacy that enhances the effectiveness of climate governance: U.S. exit as a key climate negotiator considerably diminishes the Paris Agreement's universality. Though the ill-fated Kyoto Protocol was made in a different context than the Paris Agreement, the absence of the U.S. from both agreements may point to a similar direction for the Paris Agreement (IPCC, 2014).

Second, U.S. abdication of responsibilities aggravates the leadership deficit in global climate governance. The concerted leadership of the U.S., the EU, and China was essential to the making of the Paris Agreement and any associated compliance. The bottom-up approach in the Paris Agreement relies on strong leadership that leads by example to achieve compliance, in contrast with the top-down approach by which parties face more stringent constraints. With the EU mired in the Brexit negotiations and other crises, implementing the Paris Agreement will be frustrated in the absence of U.S. leadership.

Third, U.S. backing out sets a bad precedent for global climate cooperation; the U.S. will essentially be free-riding on other countries' mitigation efforts if it fails to achieve its NDCs. Although most countries reaffirmed their commitment to the Paris Agreement after Trump's announcement, it will not be surprising to see changes in these countries' climate politics. If other countries were to follow the same path by delaying mitigation for eight years (the longest possible term for a U.S. President) or cutting renewable energy research, about 350–450 Gt of additional CO<sub>2</sub> would be emitted, and

the 2 °C target of the Paris Agreement would be rendered unachievable.

Fourth, by withdrawing from the Paris Agreement, the U.S. gains itself more emission space and lower mitigation costs while squeezing other countries' emission space and raising their mitigation costs, and this will in turn make it more difficult and expensive to achieve the 2 °C target of the Paris Agreement. The global computable general equilibrium model in Dai et al. (2017) predicts that 1) under the NDCs target,<sup>2</sup> if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, the CO<sub>2</sub> emissions space will decrease by 1.1%, 1.8%, and 3.3% in the EU, and by 0.9%, 1.8%, and 3.7% in Japan, both respectively, in the year 2030. Under the 2 °C target, if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, the CO<sub>2</sub> emissions space will decrease by 1.7%, 2.9%, and 5.5% in the EU, and 1.5%, 3.0%, and 4.5% in Japan, also both respectively, in 2030. 2) In 2030, under the NDCs target, if the U.S. only reduces its emissions by 20%, 13%, and 0 below the 2005 levels by 2025, the carbon price will rise by 3.6–14.9 US\$ t<sup>-1</sup> in the EU, and by 1.8–7.6 US\$ t<sup>-1</sup> in Japan; under the 2 °C target, the carbon price will rise by 9.7–35.4 US\$ t<sup>-1</sup> in the EU, and by 16.0–53.5 US\$ t<sup>-1</sup> in Japan. 3) In 2030, under the NDCs target, if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, the additional GDP loss will be US\$ 3.14–13.22 billion (per capita GDP loss of US\$ 6.9–29.3) in the EU and US\$ 0.53–2.31 billion (per capita GDP loss of US\$ 4.4–19.2) in Japan. Under the 2 °C target, the additional GDP loss will be US\$ 9.35–32.14 billion (per capita GDP loss of US\$ 20.7–71.1) in the EU and US\$ 4.13–13.45 billion (per capita GDP loss of US\$ 34.3–111.7) in Japan.

Fifth, cutting U.S. climate aid will make it more difficult for developing countries to mitigate and adapt to climate change and less likely for these countries to achieve the 2 °C target of the Paris Agreement. Financing is essential to implementing the Paris Agreement, and under the principle of common but differentiated responsibility, developed countries are obligated to provide climate financing to developing countries. The U.S. has been the top donor to the Global Environmental Facility, contributing around 21% of its total shares.<sup>3</sup> Among the top eight donors of climate financing to developing countries (the U.S., Japan, France, the UK, Germany, the Netherlands, Sweden, and Norway), the U.S. contributed US\$ 9.6 billion between 2011 and 2012, the largest donation by any country. In 2014 alone, the Obama Administration pledged US\$ 3 billion to the Green Climate Fund and has appropriated US\$ 1 billion so far, accounting for 40% of the total US\$ 2.42 billion fund. The Trump Administration decided to terminate the donation to the Green Climate Fund, which will reduce America's share to 6.4%. The Green Climate Fund plays an essential leveraging role in

<sup>1</sup> President Obama's Farewell Address: Full Video and Text. The New York Times. 2017. <https://www.nytimes.com/2017/01/10/us/politics/obama-farewell-address-speech.html>.

<sup>2</sup> It refers to the total carbon reduction by all the parties' NDCs, which lags behind the 2 °C target.

<sup>3</sup> GEF Replenishment. [https://www.thegef.org/gef/GEF\\_Replenishment](https://www.thegef.org/gef/GEF_Replenishment).

global climate financing<sup>4</sup> (UNFCCC, 2017). The U.S. promised to significantly increase its climate funding for developing countries at the 2009 Copenhagen Climate Change Conference and appropriated \$15.6 billion for international climate aid for adaptation, clean energy, and sustainable landscape activities (USDOS, 2015). Admittedly, this contribution is by no means close to the US\$ 300 billion in renewable energy investment, the US\$ 700 billion in climate finance, or the US\$ 100 billion that developed countries have pledged for long-term support. Its real impact, however, lies in its power to shape investors' confidence; it has been estimated that due to uncertainties in policies, the total investment and its returns in renewable energy in 2016 were down 18% from the 2015 level (FS and UNEP, 2017).

Sixth, Trump's delayed action may cost the world a window of opportunity in climate mitigation. Studies show that the next ten years are critical for achieving the target of the Paris Agreement in that anthropogenic emissions need to peak within the next ten years in order to meet the targets without unforeseen and transformative technological advancement. Achieving the target also means that fossil fuel consumption will have to decrease to below a quarter of the primary energy supply by the year 2100 if negative emission technologies remain technologically or economically unfeasible at a global scale (Walsh et al., 2017).

Seventh, the Trump Administration's steep cut in climate research funding will compromise the quality of future IPCC reports and ultimately undermine the authority of future climate negotiations. The U.S. leads the world in the fundamental research on climate change; by the year 2015, America accounted 58% of the 100 most cited climate papers, and among all 120,000 papers that have been published on climate change, 23% are from the U.S., far more than any other country (McSweeney, 2015). Between 2010 and 2016, U.S. scientists contributed to 2247 out of 4089 (54.95%) articles on climate change published in the seven leading scientific journals,<sup>5</sup> an unparalleled lead that demonstrated the weight of the U.S. in climate science (Zhang et al., 2017). If Trump's proposed budget cuts are approved, climate funding at multiple federal agencies will be at risk, and in the long run, climate negotiations and international climate cooperation will be crippled.

To add to the aforementioned uncertainties, the U.S. remains a party to the United Nations Framework Convention on Climate Change and will continue attending negotiations under the framework. The U.S. State Department in its 4 August, 2017, statement made it clear that “the U.S. will continue to participate in international climate change negotiations and meetings, including the 23rd Conference of the Parties of the UN Framework Convention on Climate Change, to protect U.S. interests and ensure all future policy options

remain open to the administration. Such participation will include ongoing negotiations related to guidance for implementing the Paris Agreement.”

To sum up, the U.S. withdrawal will considerably diminish the likelihood of achieving the Paris Agreement's target and may even render the target unachievable. The withdrawal undercuts the foundation of global climate governance and upsets the process of global climate cooperation.

#### 4. How does the withdrawal decision impact China?

First, global warming will be intensified after the U.S. withdraws from the Paris Agreement, putting China under greater ecological vulnerability and climate risks. China is one of the countries that is most vulnerable to climate change, and U.S. withdrawal from the agreement is a heavy blow to global efforts against climate change—it will make the consequences of global warming more disastrous, and as a result, China's ecological vulnerability and climate risk will increase markedly.

Second, U.S. withdrawal from the agreement will diminish China's emission space and raise China's mitigation costs. The global computable general equilibrium model (Dai et al., 2017) predicts that 1) under the NDCs target, if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, the CO<sub>2</sub> emissions space will decrease by 0.8%, 1.6%, and 3.2% in China in the year 2030. Under the 2 °C target, if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, it will decrease CO<sub>2</sub> emissions space by 1.7%, 2.8%, and 5.0% in China in 2030. 2) In that year, under the NDCs target if the U.S. only reduces its emissions by 20%, 13%, and 0% below the 2005 levels by 2025, the carbon price will rise by 1.1–4.6 US\$ t<sup>-1</sup> in China; under the 2 °C target, the carbon price will rise by 4.4–14.6 US\$ t<sup>-1</sup>. 3) In 2030, under the NDCs target, the additional GDP loss will be US\$ 4.75–19.77 billion (per capita GDP loss of US\$ 3.5–14.8) in China; under the 2 °C target, the additional GDP loss will be US\$ 21.98–71.1 billion (per capita GDP loss of US\$ 16.4–53.1).

Third, the importance of climate cooperation has been considerably diminished in the Sino–U.S. relationship. Xi and Obama made serious headway in prioritizing climate change as the highlight of their bilateral agenda, and to a certain extent, climate cooperation enhances mutual trust between the two. But the issue of climate change did not come up at either the Xi–Tillerson meeting on 19 March, 2017, or the Xi–Trump meeting at Mar-a-Lago in April 2017. This sharp contrast between the Obama and Trump Administrations suggests that climate change no longer has a foundational role.

Fourth, China will reinforce its existing dominance in the clean energy sector. China and the U.S. were neck and neck in clean energy capacity in 2007, producing 148,446 MW and 107,917 MW, respectively, and those figures changed to 545,206 MW and 214,766 MW in 2016 (IRENA, 2017), also respectively. Many U.S. scholars are worried that the U.S. will fall further behind China in the race to develop renewable energy if it retreats on climate efforts (Sivaram and Saha, 2017).

<sup>4</sup> An interview with the Secretariat of Green Climate Fund in Incheon, Korea on June 23, 2017 by the authors.

<sup>5</sup> Proceedings of the National Academy of Sciences (PNAS), Nature, Science, Nature Climate Change, Natural Hazards, Nature Geoscience, Nature Communications.

Fifth, China faces mounting pressure to redefine its role in global climate governance, and America's sudden renouncement of climate leadership departs strikingly from its joint efforts with China underlying the Paris Agreement, leading the world to pin its hopes on China. Many comment that the U.S. is ceding climate leadership to China and that China should thus step into the leadership vacuum. However, leadership is costly: China sees itself as a developing country and believes in that contribution should be commensurate with capabilities in climate governance. As such, it remains a thorny diplomatic challenge for China to respond to the leadership call on climate change.

## 5. How should China respond?

The Trump Administration's climate policy has become one of the greatest uncertainties for global climate governance, but America's withdrawal from the Paris Agreement is also both a challenge and an opportunity for China. If China rises to the challenge of the uncertainties brought by the U.S. withdrawal from the agreement and global climate governance, China will enhance its soft power markedly and play a greater role in global governance. If not, China may lose a precious window of opportunity or even be hurt both economically and strategically.

China's position on the Paris Agreement was explicitly stated in President Xi's speech,<sup>6</sup> "Work Together to Build a Community of Shared Future for Mankind," delivered at the UN Office of Geneva in January 2017:

The Paris Agreement is a milestone in the history of climate governance. We must ensure this endeavor is not derailed. All parties should work together to implement the Paris Agreement. China will continue to take steps to tackle climate change and fully honor its obligations.

Domestically, China should not make additional mitigation commitments in addition to its NDCs, but it should reach the high ends of its climate targets under the current NDCs, that is, to peak CO<sub>2</sub> emissions before 2030 and to lower the carbon intensity of per unit of GDP by 65% below 2005 levels before the scheduled year of 2030.

Internationally, China should respond to the leadership call by rebuilding a collective leadership, the most pressing challenge facing global climate governance today. China is neither well positioned to single-handedly fill the leadership vacuum left by the U.S. nor capable of doing so. Instead, China should help rebuild global shared leadership by replacing the Sino–U.S. G2 partnership with a Climate 5 (C5) partnership that comprises China, the EU, India, Brazil, and South Africa.

Under the G2 partnership, the joint efforts by China and the U.S. during the Paris negotiations laid the groundwork for the Paris Agreement, but with Trump's withdrawal, the G2

partnership came to an end. Proposals have been made that China and the EU step forward and forge a new G2 for climate action, but a China–EU G2 will hardly fill the vacuum left by U.S. withdrawal. Separate from the drop in its emission shares, the EU is entangled in multiple crises of refugees, debt, finance, terrorism, and the Brexit. The Brexit and its ongoing negotiations, in particular, will eat away the EU's attention to climate change and weaken the EU's position as a global leader. China, despite being a rising power, is still a developing country that lacks experience in agenda setting, global governance, and climate research. The potential China–EU G2 is further complicated by disagreements between the two over the approach to climate governance. Therefore, a China–EU G2 cannot compose the new leadership for global climate actions.

The C5 partnership is a better alternative. First, the C5 will effectively fill the vacuum left by the U.S. The implications for the U.S. exit from the Paris Agreement and its abdication of global climate cooperation are so profound that the major emitters should engage and react in a concerted manner. The new partnership should be inclusive, gathering both developed countries such as France and Italy and developing countries such as India, Brazil, and South Africa. India, with its current emissions and enormous potential in future emissions, will have an important say over future climate efforts. Second, the C5 partnership will facilitate cooperation between developed countries and developing countries; the partnership features diversity, with India, Brazil, and South Africa representing their continents. These countries are also powerful regional leaders in international affairs, contending for new Permanent Member status in the UN Security Council reform; their engagement will facilitate North–South climate cooperation by fostering unity among countries of the Global South. Third, the C5 partnership will help moderate the unduly high expectation that the international community holds for China; the pressure on China to be the next global leader on climate change is disproportionately high given that global leadership currently exceeds China's capacity and development level. Shared leadership will work better than single-nation governance, and we suggest that China convene a C5 partnership ministerial conference soon.

It must be emphasized that the U.S. is not to be left out; no global climate institution works effectively in the absence of the U.S. The U.S. has caused substantial loss to other members by pulling out of the Paris Agreement, and it is in every country's interest to bring the U.S. back. For now, China may keep the U.S. engaged in three ways. It can change the discourse, focusing more on energy efficiency and energy security and less on climate change through the G20. It can pragmatically push for Sino–U.S. cooperation on nuclear energy, natural gas, and clean coal. And finally, it can also promote Sino–U.S. cooperation at the sub-national levels of provinces, states, and cities.

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<sup>6</sup> Work together to build a community of shared future for mankind. People's Daily Online. 2017 <http://politics.people.com.cn/n1/2017/0119/c1001-29033860.html>.

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