

AFTER PARIS: A Climate Agenda that Serves U.S. Interests

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David F. Gordon, Divya P. Reddy, Elizabeth Rosenberg



## About the Authors



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## About the Energy, Economics, and Security Program

The Energy, Economics, and Security Program analyzes the changing global energy and economic landscape and its national security implications. From the shifting geopolitics of energy to tools of economic statecraft, such as trade policy and sanctions, to security concerns tied to a changing natural environment, the program develops strategies to help policymakers understand, anticipate, and respond. The program draws from the diverse expertise and backgrounds of its team and leverages other CNAS experts' strengths in regional knowledge, defense, and foreign policy to inform conversations in the nexus of energy markets, industry, and U.S. national security and economic policy.

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### Cover Photo

Lukas Schulze / Stringer



## Introduction

The dust is now settling on President Donald Trump's controversial decision to withdraw the United States from the 2015 Paris Agreement on climate change. This decision was a foreign policy mistake. It will make sustaining American credibility more difficult in other multilateral institutions and settings. It will exacerbate anti-American sentiment in Europe, making trans-Atlantic leadership collaboration more difficult well beyond climate policy. On climate, it threatens to undermine the balance achieved in Paris between the centralized and top-down approach favored by the Europeans and the more decentralized and market-friendly approach of the United States, which was supported by China. As a result, it also could lead to the creation of an uneven playing field for U.S. businesses.

While there is a need for the United States to deal with the geopolitical fallout from dropping out of the Paris Agreement, that is not the topic of this report. Rather, the report focuses more narrowly on climate policy issues facing the United States – both international and domestic – in the aftermath of leaving Paris. At this time, the starting point for effective policy should be to do what is principled yet practical. The strategic implication of this is to focus on *clean energy*, which is a concept that carries much broader support than other proposed

solutions, given the unfortunate polarization of public opinion and, especially, U.S. elite-level politics concerning climate change. In this report, the authors seek to outline what such a politically viable agenda would look like.

The U.S. record on carbon emissions, especially from energy sources, tells a reasonably positive story, as the power sector burns less carbon-intensive coal and more low-carbon natural gas.<sup>1</sup> According to the Energy Information Administration (EIA), U.S. energy-related carbon dioxide emissions are expected to fall to 5,134 million metric tons (MMT) in 2017, the lowest since 1992.<sup>2</sup> The all-time peak of 6,021 MMT was in 2007.<sup>3</sup> This momentum on cleaner energy remains, in our view, politically sustainable, even given the likelihood of less action at the federal level. The key elements of a strategy to sustain and increase this momentum are outlined in the recommendations section of this report.

President Trump's announcement on leaving the Paris Agreement was followed by a speech promising to implement measures to expand domestic oil and gas drilling, thus enabling U.S. "energy dominance" in hydrocarbons.<sup>4</sup> His budget proposal would slash funding for the Advanced Research Projects Agency-Energy (ARPA-E), which has incubated enhanced research on renewable energy technologies.<sup>5</sup> These factors have

caused a great deal of anxiety around a series of conflicting implications of the president's moves, and how they might negatively affect U.S. interests both directly and indirectly:

1. Will the Paris Agreement start to fragment, with the United States being blamed, as was the fate of the Kyoto Protocol after President George W. Bush pulled the United States out shortly after taking the reins of power in 2001?
2. Will U.S. businesses experience substantial reprisals and increased reputational risk from being associated with the president's move?
3. Will China be able to take advantage of the U.S. withdrawal to provide leadership on global climate change, reinforcing Beijing's increasing global status as a constructive stakeholder at the expense of U.S. "soft power," especially with America's traditional allies in Europe?
4. Does President Trump's move represent a hardening of his views of climate change as a "hoax" and a conspiracy against U.S. manufacturing,<sup>6</sup> and will that lead to a narrowing of the political space for climate action in the United States by actors other than the federal government?

## Momentum on cleaner energy remains politically sustainable, even given the likelihood of less action at the federal level.

There is reason to believe that worst-case outcomes are unlikely for any of these questions – even if some elements of each remain possible or even probable. In fact, there is still considerable scope for the administration to establish a position on climate change that advances U.S. interests under an "America First" paradigm. The administration can and should take more active steps to engage on the issue of climate change, even outside of the structure of the Paris Agreement. Recent statements by National Security Advisor H. R. McMaster cautioning against characterizing the president's decision on the Paris Agreement as "anti-climate" suggests there is still room for a post-Paris climate policy from the Trump administration.<sup>7</sup>

The first sections of this report focus on analyzing in some detail each of the four themes outlined above. Based on this analysis, the final section of the report offers a series of strategy and policy recommendations for carrying forward a climate-friendly clean energy agenda.



*National Security Advisor H. R. McMaster has cautioned against viewing President Trump's decision to withdraw the United States from the Paris Agreement as an anti-climate action. (Erin Scott/Erin Scott Photography)*

### The Paris Agreement Will Not Unravel

In the aftermath of the Trump decision, virtually all of the other key national governments – the major European powers, China, Russia, and India – each made definitive statements of continued commitment to the Paris Agreement and jointly reiterated their support during the G20 Summit in July 2017.<sup>8</sup> This was not inevitable; nor is it surprising. Because of the limited and varying degrees of commitment by different countries, Paris was structured as a voluntary agreement, with each country unilaterally determining its own actions. Framers of the agreement hoped that this feature of national determination of goals and actions would strengthen the commitment to implementation by each government, and perhaps even lead over time to a “race to the top” by incentivizing bolder action to enhance each country’s reputation in global public opinion.<sup>9</sup> Indeed, it was this feature of the Paris Agreement that was the main argument used by U.S. supporters of remaining inside of the accord – that is, that they were flexible enough to accommodate virtually any actions the United States sought to pursue.<sup>10</sup>

Critics of Paris are correct in stating that the agreement reflects little more than what individual countries were likely to do anyway.<sup>11</sup> China and India committed only to reducing the emission intensity of their economies, rather than carbon emissions themselves, at least until 2030.<sup>12</sup> And many observers believe that Russia’s convoluted method of measuring emissions will in practice lead to an increase in emissions.<sup>13</sup> Thus the unanimity of international support for Paris in the face of the U.S. withdrawal is really not so surprising; it was built into the design of the agreement. The implication: The Paris Agreement is not going away.<sup>14</sup> And, in contrast

**In contrast to the situation after the U.S. withdrawal from the Kyoto Protocol, President Trump’s hope that a U.S. withdrawal [from the Paris Agreement] will lead to a context where renegotiation becomes feasible is highly unlikely.**

to the situation after the U.S. withdrawal from the Kyoto Protocol, President Trump’s hope that a U.S. withdrawal will lead to a context where renegotiation becomes feasible is highly unlikely.

### Corporate America Can Partially Mitigate Its Own Fears

At the center of the business case for remaining in Paris were fears about the potential direct repercussions to which U.S. businesses might be vulnerable. The private sector also worried that, absent the U.S. presence at the Paris table, the evolution of thinking about how to respond to climate change would be dominated by the much more business-critical Europeans and the more statist Chinese and Indians. Because of this, despite the fact that many U.S. businesses support at least some of President Trump’s walking back of the Obama administration’s climate regulations (especially elements of the Environmental Protection Agency’s Clean Power Plan) that they see as inhibiting investment, most of the U.S. corporate and financial community supported remaining in Paris.<sup>15</sup> Among the groups representing the major

sectors of the U.S. business community, only the National Mining Association weighed in directly in support of exiting the Paris Agreement.<sup>16</sup>

What are the risks that U.S. businesses might face? To start, U.S. companies fear that they will be locked out of export opportunities if other countries decide to impose a border-adjusted carbon tax on manufactured goods from countries outside of the Paris Agreement (i.e., the



*During her closing remarks at the G20 Summit in Hamburg in July 2017, German Chancellor Angela Merkel criticized the U.S. decision to withdraw from the Paris Agreement and affirmed a commitment to the agreement from the group’s other 19 members. (Sean Gallup/Getty Images)*

United States). Top among these markets at risk would be Europe, where last year some French electoral candidates backed this idea,<sup>17</sup> but the concept has also been floated by officials in Canada and Mexico.<sup>18</sup> While the likelihood of such a border levy is realistically very low, there are other ways U.S. companies could be locked out of opportunities overseas. U.S. companies could both find themselves at a disadvantage in high-end manufacturing of clean energy products and be blocked from procurement opportunities, notably in clean technologies. The International Energy Agency estimates that renewable power investments in 2015 alone were \$313 billion,<sup>19</sup> and predicts that an additional \$8.8 trillion will be spent through 2040 on renewable energy investments.<sup>20</sup> Moreover, the Green Climate Fund (GCF), established at the 2009 Copenhagen climate conference and reinforced through the Paris Agreement, had a goal to mobilize \$100 billion annually in mitigation and adaptation efforts. The lack of U.S. participation in the GCF could preclude U.S. companies from participation in projects. At the very least, U.S. companies are worried that the U.S. withdrawal damages corporate America's brand and could hurt overseas sales, especially in countries or market segments that place a premium on environmental stewardship and sustainability (such as retail brands, and European markets).

But U.S. businesses' support for remaining in the Paris Agreement was not motivated narrowly by fear of reprisals. Even if most of these risks do not come to pass, the U.S. business community overwhelmingly believes that climate change is real, is committed to remaining

actively in the game of responding to climate change, and is convinced that the U.S. private sector is uniquely positioned to lead on developing energy and climate-related technologies relevant not only to the United States, but to the rest of the globe.<sup>21</sup> As always, these companies will continue to work with the Trump administration on a wide range of issues, and will continue to push ahead with both climate mitigation and adaptation technologies. In fact, though China has come to dominate in solar and wind manufacturing, U.S. experience and technological know-how can still outcompete in areas such as carbon capture and storage (CCS) and electric vehicles. U.S. companies will also continue to factor the cost of carbon emissions into their business models in order to maintain their competitive edge globally and to protect themselves from the very real risk of reputational guilt by association with the Trump administration's exit from the Paris Agreement.

#### **There Are Limits to China "Filling the Void"**

There is little doubt that China sees the U.S. withdrawal from the Paris Agreement in the same way that it looked at the Trump administration's decision to not move forward on the Trans-Pacific Partnership (TPP) – as an opportunity to portray itself as a global good citizen and to demonstrate support for addressing a widely shared global economic and security challenge.<sup>22</sup> In particular, European states, whose publics give far greater salience to climate issues than publics in any of the other major countries in the world, are looking to China to take up the mantle of leadership in the face of the U.S. withdrawal



*Even though they opposed U.S. withdrawal from the Paris Agreement, U.S. business leaders, including Apple CEO Tim Cook and Amazon CEO Jeff Bezos, pictured above, will continue to work with the Trump administration on a wide range of technology issues. (Chip Somodevilla/Getty Images)*



*Chinese subsidies for solar power generation led to a rapid ramp-up of solar photovoltaic manufacturing capacity. This caused a global oversupply and price crash. (Kevin Frayer/Getty Images)*

from Paris.<sup>23</sup> Europe knows that it cannot go at it alone on climate change, and that, as the world's largest emitter, China would make a good partner. In recent years, China has made a major – and successful – effort to become the global leader in several renewable energy sectors. In fact, Beijing's generous subsidies for solar power generation – and the over \$100 billion that it channeled into renewables in 2015 alone – led to a rapid ramp-up of Chinese solar photovoltaic manufacturing capacity, which in turn led to a global oversupply and price crash that lifted the viability of solar power in markets across the world.<sup>24</sup> And now China is stepping up its foreign investments in renewables, just as many countries are eager to boost their own investments in that space.

China is certainly poised to score some “soft power” points by highlighting its continued commitment to the Paris Agreement. But, as is the case on trade, Beijing is not prepared to take the policy steps that would allow it to move beyond symbolic statements into a more concrete leadership role on climate. The day following President Trump's statement withdrawing from Paris, visiting Chinese Premier Li Keqiang was unable to agree with his European hosts in Brussels on a joint statement on trade and climate change.<sup>25</sup>

Unlike in Europe and even in the United States, support for clean energy in China has been motivated much more

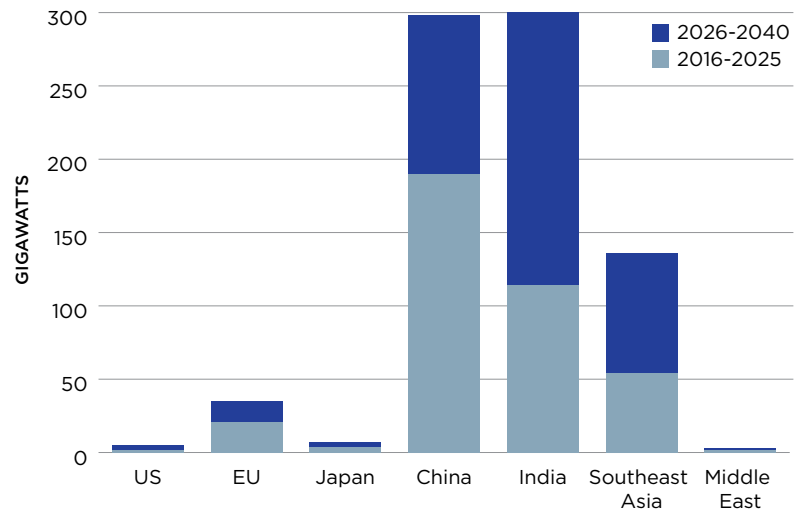
by concerns (and political pressure) about urban pollution than a commitment to addressing global climate change.<sup>26</sup> Indeed, China has always been worried that commitments on limiting emissions could restrain its freedom of action in promoting economic growth, which the leadership continues to see as central to its overwhelming goal of maintaining political stability. That is not surprising given that coal remains by far the predominant source of energy and that millions of jobs are in China's legacy carbon-intensive industries.

Moreover, China's energy institutional infrastructure is still heavily biased toward coal (albeit relatively efficient coal plants), as opposed to renewable energy sources. Even if China caps coal-fired capacity in line with its targets, it will still represent 55 percent of total power generation and a whopping 1,100 gigawatts of capacity by 2020.<sup>27</sup> The challenge to move off coal is multifold, but it centers on the large fleet of existing coal-fired generation power plants that is far from retirement age in the context of the vast low-cost power needs of China's large and urbanizing population. Renewables have also struggled to connect to the grid, where price incentives still favor coal. And cleaner-burning gas is harder to access and more expensive to either produce at home or import from abroad. Finally, the coal sector is a large employer, and drastic off-coal policies are simply not politically feasible or realistic.<sup>28</sup>



For Chinese President Xi Jinping, the lure of his 2014 agreement with President Barack Obama to work together on climate was that a U.S./China-driven joint framework based on voluntary and nationally driven objectives might be able to replace the much more top-down and binding mandates that the Europeans had always sought in any global agreement, and that China was unwilling to accept. Indeed, the political geometry of the Paris Agreement was that the United States and China were able to dominate the European side of the climate triangle of the three largest economies. So the U.S. exit from Paris has a risk element for China as well as being an opportunity. As long as the United States was in, there was little chance of the substantially more aggressive European approach to climate change dominating the Paris process. Beijing's concern will create continuing opportunities for the United States to work with China on climate-related issues even after the announced exit from Paris.

GROSS COAL POWER PLANT CAPACITY ADDITIONS BY REGION<sup>29</sup>



The International Energy Agency's "New Policies Scenario" forecast suggests that coal will continue to play a major role in China and India's power generation mix well into the future.

### U.S. Climate Action Should Be Viewed as More Than Just Paris

Did President Trump pull the plug on Paris because he continues to believe that climate change is a hoax designed to undermine U.S. competitiveness? Or, as suggested in his statement, because he wants to gain leverage to negotiate a better agreement? Just as likely, he could have been motivated by wishing to shore up the substantial nationalist/populist component of his political base in the face of the continuing pressures from the Russia investigations and his pique at the European leaders who were relentless with him on climate change at the recent G7 meeting. We will probably never know.

In a politically divided America, the distance between Republicans and Democrats on the imperative to address climate change has grown wider in recent years. The salience of climate issues has been substantially increasing in primarily Democratic geographies,<sup>30</sup> where there has been a host of efforts at the municipal and state government levels to promote energy conservation and renewable energy technologies and industries.<sup>31</sup> And national-level Republican thinking on climate change action turned sharply more skeptical after the 2008 presidential campaign in which Sen. John McCain ran on a platform that included doing more on climate.<sup>32</sup>

But Republican support for clean energy has been more resilient. In Republican-leaning states, such as Texas, state support for renewable energy has been strong, but it is not motivated by a mandate to address



Support for renewable energy in Republican states has been strong. Pictured above is a wind farm in Texas, the largest producer of wind energy in the United States. (Spencer Platt/Getty Images)

climate change.<sup>33</sup> With the federal government stepping back from Paris, the significance of state and local actions will grow. Already a coalition of governors and mayors has pledged that it will mandate actions that, in sum, will go a long way to meeting the U.S. commitment to reduce carbon emissions made by the Obama administration.<sup>34</sup>

These actions are in the best tradition of American federalism, with its substantial delegation of political authority to state and local governments. In recent years, we saw this at work in different geographies' responses to hydraulic fracturing, or "fracking," for shale gas and oil. Federalism enabled the resurgence of U.S. oil and gas production – and the economic and strategic benefits that accrued from this – by allowing growth in states that supported fracking. At the same time, federalism ensured that in those geographies where public opinion was opposed to such efforts, state and local authorities would have the ability to put in place effective restrictions. Before the November 2016 election, several states and localities were preparing a "federalist" defense of fracking in light of Hillary Clinton's stated intentions to further restrict oil and gas production.<sup>35</sup> They had the Constitution on their side. Now, so will more environmentally minded states and cities, which will increasingly become the focal point for climate activism, at least until the midterm elections in 2018.

## **President Trump's actions will likely lead to an increase in climate-related actions by state and local governments where support for such actions is strongest.**

Beyond state and municipal action, companies will continue to invest in clean technologies. One of the biggest advantages the United States has to address greenhouse gas emissions both at home and abroad is its abundance of natural gas from shale formations. Yet, the green credentials of natural gas are increasingly under threat by environmental groups that are concerned over methane emissions. Luckily for U.S. gas producers, the industry is already technologically well positioned to address the issue and prevent future administrations from targeting natural gas production over methane emissions.

So, despite the U.S. withdrawal, the Paris Agreement will remain in place. This is positive for U.S. interests, given that the negative backlash against the United States would have been much greater had the accord begun to disintegrate. U.S. businesses may face some limited reprisals, but the continued commitment of the U.S. corporate and financial communities to climate change action will minimize the risk, and U.S. businesses (along with state and local governments) will become the focal point for action on climate, especially in the technology sphere. While China will gain some "soft power" benefits from the U.S. withdrawal, Beijing is not really positioned to lead on climate, and it is not prepared to support Europe's much more aggressive climate agenda. Finally, President Trump's actions will likely lead to an increase in climate-related actions by state and local governments where support for such actions is strongest, which is precisely how the U.S. federal system is supposed to work.

### **Policy Recommendations**

The Trump administration can and should embrace the clean energy agenda, because it both supports a strong and resilient economy at home and advances a compelling set of U.S. interests abroad, consistent with the administration's articulation of its "America First" paradigm. The United States is a primary testing ground for CCS and a leader in fracking technology and methane capture; each of these technologies holds the potential for major positive impacts on the domestic economy, while enhancing U.S. global standing and attractiveness to other countries.

As was the case during the last administration, the biggest opportunity on the international side remains enhancing cooperation with China. While China will be eager to cooperate with European powers on climate issues, the country remains wary of the European approach and will want to keep the United States in the climate game.

Climate and clean energy are policy areas in which U.S. cities and states have expressed, and will continue to express, a range of preferences. This diversity has already been positive for the United States, and it will continue to provide room to maneuver for the new administration, even as it prevents the politics of climate from having a more corrosive impact on the broader body politic.

At the national government level, the report focuses on recommendations in three areas: addressing the methane issue in natural gas to enable this important

fuel to bolster both the U.S. economy and climate change efforts; maintaining a tax regime favorable for continued technological innovation for renewable energy sources; and ensuring that U.S. vehicle efficiency rules remain competitive for global markets.

**1. Rename, refocus, and elevate the U.S.-China Renewable Energy Partnership (USCREP) to become the U.S.-China Clean Energy Partnership.**

Despite the U.S. exit from the Paris Agreement, the United States-China-Europe climate triangle will still provide opportunities to support U.S. diplomatic, economic, and commercial interests, especially vis-à-vis China. Beijing will continue to remain somewhat wary of European intentions on climate and eager to cooperate, especially on the technology and investment side, with the United States.

While keeping one of its foci on renewables, what has been the technically focused USCREP partnership should be upgraded to a more political forum. Its focus should be broadened to include how U.S. clean coal technology and natural gas exports can help China achieve its clean air goals while at the same time fulfilling its Paris commitment to lowering the carbon intensity of its economy. On the clean coal front, the initiative should focus on facilitating the transfer and uptake of CCS technologies in China's still-enormous coal industry. At the same time, expanding trans-Pacific U.S. natural gas exports will give China increased confidence concerning the reliability and price competitiveness of natural gas, increasing the incentives to substitute gas for the more carbon-emission-intensive coal.

The new partnership would also focus on broader issues of clean energy, such as ensuring that international and Chinese investments in President Xi Jinping's Belt and Road Initiative are sensitive to the danger of it creating a dumping ground for greenhouse gases. Finally, clean energy themes should become one of the focal points of Treasury Secretary Steven Mnuchin's recent commitment to restart the stalled negotiations around creating a U.S.-China Bilateral Investment Treaty.

**2. Avoid restricting the political space for state and local action on climate.**

There is little doubt that opponents of action to prevent and mitigate the effects of climate change will seek to counter the recent groundswell of support for state and local governments becoming more directly engaged in climate activities. Most of this will be politics as usual,

reflecting the deep divisions in the country over the issues. As this paper has discussed, this division is substantially geographic, and one of the goals of the U.S. federal political structure is to enable different states and localities to express different political preferences and policy choices.

But some hardline opponents of climate change mitigation are likely to raise the argument that state and local action on climate is in violation of the constitutional principle that foreign policy decisions and choices reside at the federal level, and, in particular, with the executive branch. These voices will point to the likelihood that U.S. mayors and governors who are taking strong actions on climate will participate more heavily in various international fora around climate. And foreign leaders, committed to bolstering the Paris Agreement, will be seeking the validation of continuing U.S. engagement on climate despite the president's withdrawal from Paris. The recent meeting in Beijing between California Governor Jerry Brown and President Xi is the tip of what will be a very big iceberg.<sup>36</sup>

The important point of principle here is whether or not the direct actions taken by state and local authorities are beyond the scope of the competence that resides in those levels. State and local authorities have a great deal of discretion over air quality issues and thus over carbon emissions. What they cannot do, of course, is claim to be representing the foreign policy of the United States.

But the fact remains that taking action on climate change is supported by a substantial majority of the



State and local decisionmakers like California Governor Jerry Brown, pictured above meeting Chinese President Xi Jinping, are taking strong action on climate, including coordination with major emitting nations. (Pool/Getty Images)

American public,<sup>37</sup> and even the president has said that his views on the subject are “evolving.”<sup>38</sup> It would be unfortunate, and probably a major political mistake, were the federal authorities to make any attempt on constitutional grounds to restrict the rights of governors, state legislatures, and local authorities to take action on climate change.

Beyond purely constitutional grounds, the Department of Energy under Secretary Rick Perry launched a study into whether policy support for renewables, including at the state level, threatens baseload coal and nuclear generation and, along with it, grid reliability.<sup>39</sup> While the study may very well highlight vulnerabilities from intermittent renewables, it is still in the best interest of the federal government to avoid political intervention in state policies and instead defer to regulatory bodies, such as the Federal Energy Regulatory Commission, to address grid stability concerns in a purely technical context.

Importantly, state clean energy policies can also have the advantage of creating globally competitive companies in clean technology fields, including solar, wind, smart grids, and electric cars.

### **3. Develop an action plan for developing technologies to capture the methane released during the production, delivery, and use of natural gas.**

The increase in natural gas production globally – and the growing maturity and depth of natural gas markets from supply availability to trading and pricing – is making gas an attractive alternative to coal as an energy source. But the credibility of natural gas as a clean alternative to coal is being challenged by those who focus on the fact that natural gas leaks methane during its production and use.

Though methane lives in the atmosphere for a much shorter period than carbon dioxide, it has a much higher greenhouse gas potency, assigning it a significantly higher global warming score. As a result, the growth in methane emissions from oil and gas production in the United States has been a focus of environmental groups. The Obama administration took federal actions to impose methane limits on oil and gas wells and related infrastructure, raising concerns among producers about onerous costs. The current administration is keen to roll those policies back, but there is still an opportunity for the United States to take advantage of the notable progress to detect and capture methane already achieved by U.S. industry. In particular, the EPA's Natural Gas STAR program has helped encourage the development and deployment of methane reduction technologies.



*Methane leaks like the 2015 leak at a gas storage facility at Aliso Canyon near Los Angeles, pictured above, threaten natural gas's credibility as a clean alternative to coal. (Scott L/Getty Images)*

Beyond the environmental benefits of methane reduction is the revenue of the methane that many states and companies are eager to capture. This would otherwise be lost without sensible regulations. The Trump administration should allow states such as Colorado and Pennsylvania that have already imposed methane regulations on their oil and gas sectors to keep them in place. The technological advancements achieved in this area will be of great interest to other oil- and gas-producing countries that experience a considerable loss of natural gas revenues from methane releases. The Environmental Protection Agency should not only uphold the Global Methane Initiative, which extended the Natural Gas STAR program internationally in 2006, but also expand its reach to more countries.

### **4. Maintain federal support for renewable technologies.**

The Trump administration has already begun to scale back incentives for renewables put in place under President Obama's Clean Power Plan.<sup>40</sup> Though renewables technologies, namely solar and wind, are becoming more price-competitive, investment in new technologies still needs to be driven by policy support. Moreover, existing federal production tax credits for wind and investment tax credits for solar still drive new investment; without those credits, the investment pipeline would dry up considerably.<sup>41</sup> As a result, Congress should resist attempts to partially finance a reduction in the corporate income tax by eliminating these tax credits. Instead, as renewable technology gains further cost competitiveness against traditional power sources, the tax credits can be phased down, perhaps along an

accelerated trajectory, or diverted to new “breakthrough” technologies. Lazard’s latest estimate for levelized cost of electricity (LCOE) for unsubsidized onshore wind is \$32/megawatt-hours (MWh) to \$62/MWh, which makes it more competitive than a combined-cycle natural gas plant at \$42/MWh to \$85/MWh.<sup>42</sup> Solar has also made impressive headway at \$46-\$56/MWh for thin-film utility scale (with higher costs for other forms of solar technology).<sup>43</sup> Nonetheless, the LCOE calculation is simplistic and does not reflect the intermittency of renewables, which makes gas plants still more economical when capacity factors are taken into consideration.

Along these lines, both the administration and Congress should avoid the pitfalls of conflating the promotion of clean energy technologies with the debate on climate change. A number of Republican states are moving away from this association and supporting renewable energy policies, even if they do not support U.S. action on climate change from an international perspective. The reason for this trend is that the renewables sector has driven economic growth and job creation, especially in historically disadvantaged rural communities. The American Wind Energy Association estimates that rural landowners who lease property to wind farms earn over \$245 million annually.<sup>44</sup> Recent moves by Republican governors in Illinois and Michigan to advance renewables further highlight this trend. In both cases, the governors supported improvements to their states’ renewable portfolio standard as part of broader energy bills.<sup>45</sup> The administration should also heed the calls of the Governors’ Wind & Solar Energy Coalition, which represents a bipartisan group of state governors, to increase federal funding for grid modernization to support renewables, clean energy research, and promotion of offshore wind, and to facilitate easier permitting for renewables projects.<sup>46</sup> Such efforts will smooth the

integration of renewables into the energy mix and open the door to new and potentially high-impact renewables technologies such as offshore wind, as well as digital applications for integrating distributed renewables resources into modernized grids.

### **5. Ensure that U.S. fuel efficiency standards and other regulations for vehicles do not put automobile export sales at risk.**

The federal government will not be doing U.S. automobile manufacturers a favor if fuel efficiency standards and other regulations are set so low that U.S.-produced vehicles face a non-level playing field in export markets. The global trend on vehicle fuel efficiency is for tighter standards. If U.S. automakers want to tap opportunities in large markets such as China and Europe, they will need to produce cars on par with the global norm. While the Obama administration’s standard of 54.5 miles per gallon by 2025 put the United States closer to global best-in-class status, softening the standards would cause the United States to fall further behind the global trend.<sup>47</sup> As such, the new administration should avoid excessive loosening of existing standards and instead offer automakers greater flexibility on meeting the targets.

States’ rights questions will come into play on this issue. California and nine other states have affirmed their commitment to the current targets, and they have authority to do so based on a previous waiver granted to them by the EPA. Efforts to revisit the waiver would likely open up a legal quagmire that would be best avoided, so the administration should seek a negotiated settlement with states that recognizes their desire to maintain a tighter standard and avoids creating an extended period of patchwork standards across the country, which would be a worse outcome for auto manufacturers.

## Conclusions

President Trump's move to withdraw the United States from the Paris Agreement was a foreign policy mistake, but it by no means marks the demise of the climate agenda, either at the international level or in the United States. Even in the short time since President Trump's announcement, it has become clear that the Paris Agreement will remain in place as the principal international focal point for climate-related actions. And, if anything, the president's move has reinforced the commitment of businesses, state and local governments, and civic organizations to take action to prevent and mitigate climate change.

This report has argued in favor of a "principled, yet pragmatic" approach to U.S. policy focusing on promoting clean energy, around which public opinion is less polarized than it is on climate action per se. Internationally, a U.S. clean energy agenda will be especially attractive to China because it directly supports that country's efforts to address poor air quality and other forms of environmental degradation, which is an increasingly politically sensitive and challenging issue. Furthermore, the United States' role as a source of clean coal technology and increasing natural gas exports will be very attractive to Beijing.

Domestically, the key issue will be to ensure that the energies of the private sector and state and local governments are focused on this agenda. Perhaps more than any other issue, climate and clean energy are ripe for an entrepreneurial period of more intensive local leadership. Specifically, this report highlights the importance of methane capture technology development for sustaining the growth of the natural gas market; the continuing need for early-phase tax incentives for the deeper penetration of renewable energy; and keeping the U.S. auto industry globally competitive.

These policies are consistent with the Trump Administration's "America First" foreign policy framework, and they will make the United States a continuing partner and a net positive contributor to the global struggle against climate change.

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