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Subcommittee on Environment and Climate Change
House of Representatives

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I would like to thank the Chairman, the Ranking Member, and members of this subcommittee for the opportunity to speak on behalf of my organization, the Energy Innovation Reform Project, also known as EIRP. Established in 2013, EIRP is a research and advocacy organization, that promotes public policies to accelerate the development of advanced energy technologies to improve the affordability, reliability, safety, and security of America's energy supplies and our energy economy.

I'd like to begin by noting the current status of the Paris Agreement. On June 1, 2017, President Donald Trump announced his intent to withdraw the United States from the Paris Agreement.[1] The agreement, however, stipulates that parties must wait three years after its entry into force to submit formal notification of a withdrawal to the United Nations Secretary General. The withdrawal takes effect only one year later. Since the agreement entered into force on November 4, 2016, the United States cannot present its formal notification until November 4 of this year, at the earliest. America thus will remain a party to the Paris Agreement until at least November 4, 2020.[2]

Whether one agrees or disagrees with the President's stated intent to withdraw from the Paris Agreement, the President has the authority to make such a decision and has the ability to take the United States out of the Paris Agreement during his current term in office. This is a consequence of structuring Paris as an Agreement rather than as a Senate-ratified treaty. Some may seek to persuade President Trump to change course before the administration submits its formal notification of its intent to withdraw or even between that date and an actual U.S.

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[1] "President Trump Announces U.S. Withdrawal From the Paris Climate Accord," White House web site, June 1, 2017, https://www.whitehouse.gov/articles/president-trump-announces-u-s-withdrawal-paris-climate-accord/, accessed February 23, 2019.

[2] For the agreement's text, see "Paris Agreement," United Nations Framework Convention on Climate Change web site, https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf, accessed February 23, 2019. For its entry into force, see "Paris Agreement – Status of Ratification," United Nations Framework Convention on Climate Change web site, https://unfccc.int/process/the-paris-agreement/status-of-ratification, accessed February 23, 2019.

withdrawal. To be clear, while the president has announced his intent, final action awaits the Department of State's notification of our withdrawal in 2020.

Because the Energy Innovation Reform Project is focused on developing practical and effective solutions to America's energy and climate challenges, however, our work is focused on looking forward toward new solutions we see in the offing, rather than backward at the decisions that have been made about the Paris Agreement. That said, we welcome anything that states and localities choose to do on a politically durable and economically sustainable basis.

Our central challenge is that slowing, halting, and ultimately reversing the increases in greenhouse gas concentrations in the Earth's atmosphere depends upon the availability of commercially competitive clean energy-related technologies, more than it requires treaties or other international agreements. If America and other countries develop these technologies sufficiently quickly, international agreements can constructively contribute to their global dissemination. If we and others do not develop these technologies, no international agreement will stop climate change, because nations will not be able to meet the commitments that they make. Indeed, a number of nations are not on track to reach their Intended Nationally Determined Contributions (INDCs), which suggests that their ambitions exceeded their abilities.[3] The Paris approach appropriately focuses our attention on each nation's domestic actions, and that is where a constructive conversation must occur.

The problem for the United States is that the Obama Administration's approach to negotiating and implementing the Paris Agreement could not succeed, since the Agreement was a substitute for, rather than the product of, a domestic political consensus.

The United States cannot participate, much less lead, in international affairs on any long-term policy matter without having settled (or reasonably settled) domestic policy. This did not exist in the climate area at the time that President Barack Obama signed the Paris Agreement, and the lack of settled domestic U.S. policy was among the reasons that Paris was an agreement rather than a treaty.

Trying to make domestic policy in Paris rather than Washington was a mistake—it circumvented the role of the Congress and specifically ignored the importance of implementing legislation in ensuring alignment between America's domestic policy and international commitments, whether binding or voluntary. As a result, the Obama Administration made commitments that America was not yet prepared to keep. Other witnesses have described how states, localities, and private actors have been able to meet self-defined targets based on the Obama

[3] "Few Countries are meeting the Paris climate goals. Here are the ones that are." Amanda Erickson, *The Washington Post*, October 11, 2018, https://www.washingtonpost.com/world/2018/10/11/few-countries-are-meeting-paris-climate-goals-here-are-ones-that-are/?utm_term=.f7cb49db562b, accessed February 26, 2019.

Administration's INDC under the Paris Agreement. Federal politics and policy had not—and still has not—reached that level of consensus.

Perhaps more importantly, we should emphasize that neither the Obama Administration's approach nor our current policies can successfully address climate change. America cannot address a significant, complex, long-term domestic policy challenge like climate change without bipartisan agreement on a way forward that is enacted in federal law.

After climate legislation failed to clear the Senate in 2009, the Obama administration pursued its domestic policy goals through Clean Air Act regulations via its Clean Power Plan. The Supreme Court halted implementation of the plan amid questions about the Environmental Protection Agency's authority. The Trump Administration is currently seeking to replace the Clean Power Plan with an alternative rule, which will certainly face judicial scrutiny of its own.

This recent history demonstrates the fragility of policy made through regulations rather than law. And it demonstrates the ultimate importance of the Congress, which our Constitution's drafters placed at the center of the American political system. Many climate advocates have despaired of enacting bipartisan legislation, and have consequently sought alternatives; at EIRP, we believe there is no substitute for sound national policy, and so we work to promote that.

As a practical matter, America cannot address its own energy and climate policy challenges, or the broader global problem of climate change, without genuinely bipartisan legislation. From our perspective at EIRP, the principal objective of that legislation should be to promote energy innovation in a broad portfolio of technologies that can simultaneously produce low- and zero-carbon energy from a diverse portfolio of fuels, generate prosperity, and strengthen America's international competitiveness.

I want to stress all three of these objectives—low and zero-carbon energy, prosperity, and competitiveness—because all three matter. Fighting climate change is an important policy goal, but it does not stand in isolation, and I do not believe that a policy that aspires to curtail emissions despite imposing unacceptable costs can succeed, either as environmental or energy policy. Success requires an integration of these values, not the elevation of one over the others, and that is the focus of EIRP's work.

Fortunately, while many differences of opinion and perception remain, we believe that an effective, bipartisan approach to energy innovation and greenhouse gas emissions reductions is certainly possible. A focus on accelerating innovation in a wide range of clean energy technologies in order to drive down the cost of decarbonization while avoiding the zero-sum politics of some popular climate proposals is, we believe, a necessary first step. In complement with innovation policies, clarity and durability in our environmental regulations will also permit

innovators and investors to make cost-effective investments in modernization of America's energy systems.

Today's hearing is not the right place for an extended examination of domestic policy options, but I do want to emphasize the importance of getting the relationship between public policy and private sector innovators and investors right. This will require a mix of regulatory reforms and public and private investments that must be appropriate to the complexity of the task, not the product of a formulaic or ideological approach.

EIRP believes that moving to a decarbonized energy system will require the development and use of a broad range of innovative energy technologies, including carbon capture, utilization and storage, advanced nuclear, and wind and solar and other renewable and efficiency technologies, among others. A recent review, which I contributed to, of thirty academic studies of deep decarbonization published since 2014 demonstrates that deep reductions in CO2 emissions are best achieved through a diverse mix of resources, and that relying entirely or predominantly on intermittent resources such as wind and solar significantly increases the cost and technical difficulty of achieving deep decarbonization. I have appended this literature review for reference.[4]

This brings me to the goal of generating prosperity. Prosperity is important for several reasons. Our nation's founders said that one of their core objectives was "to promote the general welfare." They wanted Americans to have better lives, just as all of us here do. I believe that technology innovation, environmental protection, and sound energy policy can profoundly contribute to our Nation's prosperity—if properly structured.

Prosperity allows us to do more as a nation in pursuing political, economic and social priorities in this and other areas. Pursuing energy innovation in ways that build prosperity provides us with the capacity to do even more innovation. It is a self-reinforcing process. Approaches to innovation that aren't sustainable over time, or that undermine the conditions needed for economic growth, will fail to deliver the enduring results that we need. If clean energy is too expensive, or impractical in other respects, it won't be sufficiently abundant to be used broadly or adopted rapidly. Because energy touches almost every aspect of modern life, constraining or reducing access to energy has far-reaching consequences.

Prosperity is also a foundational element of America's international leadership. Our economic success has established America's free market as a model that others have sought to emulate, while also generating the national wealth that has made our military power possible. This

[4] See "Getting to Zero Carbon Emissions in the Electric Power Sector," Jesse D. Jenkins, Max Luke, and Samuel Thernstrom, Joule, volume 2, issue 12, December 19, 2018, https://doi.org/10.1016/j.joule.2018.11.013, accessed February 26, 2019.

combination of economic success and military power has enabled the United States to work with its allies and partners to establish a generally favorable and stable international order.

Strengthening America's international competitiveness is increasingly important as the international order evolves and as global economic competition intensifies. At a time when the United States faces growing challenges from China and Russia, as well as other nations, maintaining and improving the many ingredients of U.S. competitiveness, including relatively affordable domestic energy prices and leadership in energy innovation, will be critical to sustaining U.S. leadership of an international system that privileges our interests and values. And it is important that the United States participate in the rapidly expanding international market for low-carbon energy.

Our approach to energy innovation and to the broader challenge of climate change could thus have profound implications for not only the Earth's climate in 2100 and beyond, but for the global political and economic systems in 2100 and for America's role in the world of the next century.

Our challenge today is to combat climate change in a manner that strengthens America *and* our international leadership. At EIRP, we believe that federal policies to accelerate energy innovation will be essential in pursuing both goals.

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