Subcommittee on Environment and Climate Change
Hearing on
"Building America's Clean Future: Pathways to Decarbonize the Economy"
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The Honorable Frank Pallone, Jr. (D-NJ)

1. As the Committee considers policy options that will enable the United States to reach net zero emissions by 2050, we recognize the critical importance of ensuring a just transition for impacted communities. In your experience, looking at best practices at in the United States or internationally, what measures ought to be incorporated into climate legislation to guarantee a just transition for these communities?

   RESPONSE:
   Over the last decade, coal has grown increasingly uneconomic relative to cleaner forms of power generation and that has led to numerous coal company bankruptcies, with painful consequences for coal mining families and communities that are economically dependent on coal. As we implement policies to transition the US economy to net zero emissions by 2050, we must do what is right and fair to help protect the well-being of these workers and communities. The BlueGreen Alliance's Solidarity for Climate Action platform lays out some core principles and priorities for how to do this.

   UCS strongly supports:
   (i) Measures to ensure that existing commitments to coal miners and other coal-dependent workers—including pensions and medical benefits—are honored. This would include making sure that companies are not allowed to step away from these commitments via bankruptcy proceedings, and that Congress does its part to ensure the continued solvency of pension plans and the Black Lung Disability Trust Fund.
   (ii) Legislation to provide funding and capacity building for unemployment and medical benefits to displaced workers for up to five years, worker retraining and job placement programs, economic diversification programs, and temporary aid to make up for local tax revenue shortfalls for coal-dependent communities.
   (iii) Legislation and regulations to ensure clean-up and remediation of legacy pollution from coal mining and coal-fired power plants, including toxic pollutants such as those present in coal ash. Companies should not be allowed to evade their responsibilities to communities who bear the health burden of these harmful pollutants.

(iv) Direct Engagement with local communities affected by our current dependence on fossil fuels and the ongoing transition away from them to help develop solutions that they want and need.

Recent examples to draw from include:

- Colorado recently enacted a just transition bill—the first of its kind in the U.S. It establishes a Just Transition Office within the Colorado Department of Labor and Employment that is tasked with working with an external advisory group to develop an equitable set of plans and policies for coal-dependent communities as the state works to achieve ambitious climate goals. It is the most striking, broad recognition by a state government of the reality facing coal—and Colorado gets about half its electricity from coal.
- The Government of Canada released two reports in 2019 from a task force that made specific recommendations on how to ensure a fair transition for affected coal communities, in the context of the government's commitment to phase out coal by 2030. Though the coal industry is much smaller in Canada, the reports and findings can serve as a model for the U.S.
- Germany's "Commission on Growth, Structural Change and Employment" has developed a series of recommendations for that nation to phase out coal by 2038 in a just and equitable manner, including policies and investments targeted at coal-dependent communities.

2. We sometimes hear that the United States should not take bold action to address climate change until other large countries, namely China and India, have done the same. That argument suggests not only that those countries are failing to act, but that the United States should follow, rather than lead, on the international stage.

   a. Are other large emitting countries, such as China and India, failing to act on climate change?

RESPONSE: Climate change is a global problem and it will require a concerted effort by the entire global community—especially the major emitting nations—to help address it. No one nation, whether it be the US or China or India, can tackle this on its own.

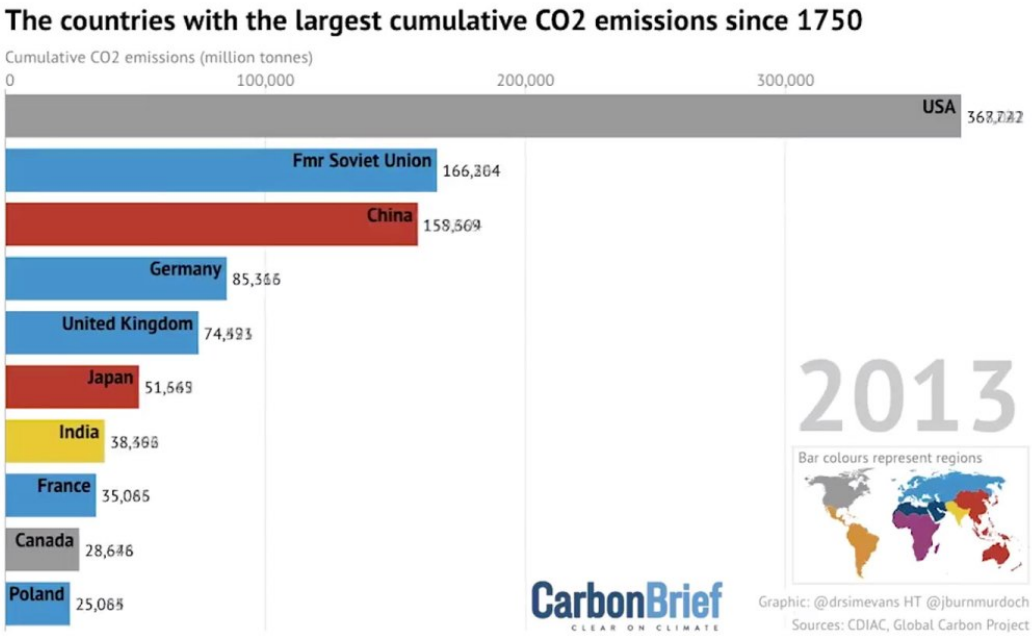
The reality is global emissions are still rising, at a time when they need to fall sharply. According to the IEA, in 2018 global energy-related carbon dioxide emissions were up 1.7% and hit a record high of 33.1 $GtCO_2$.[1] China's emissions grew by 2.5% and US emissions by 3.1%. According to the EIA, US energy-related CO_2 emissions were up

[1] See https://www.iea.org/geco/

2.8% in 2018, the largest increase since 2010.[2] India's emissions rose 4.8 percent in 2018, although it remains well below the world average on a per capita basis.

From a climate perspective, it is cumulative carbon emissions that matter. This figure from Carbon Brief clearly shows the US's leading responsibility for cumulative carbon emissions since the industrial revolution. (Figure 1. See also this accompanying visual: https://www.youtube.com/watch?v=jx85qK1ztAc)

Figure 1:



Clearly, both the US and China—and all major emitting countries—will need to cut emissions significantly if we are to meet our climate goals of limiting global temperature increase to well below 2°C, aiming for 1.5°C. The US can and must play a leadership role. One of the most impactful things we can do is recommit to the Paris Agreement and work hard to implement it in a robust way, in cooperation with other countries including China. Unless we act boldly together, we will fail to meet our climate goals and future generations everywhere will suffer as a result. The urgency of the climate crisis requires that we face this challenge head-on and not retreat to insular ways of thinking.

The US, China and India are all global leaders in renewable energy and there is a huge opportunity to expand the global market in these technologies and create new jobs and economic opportunities in the process. Right now, the policy environment in the US is lagging and putting our nation at a competitive disadvantage. Now is the time to set

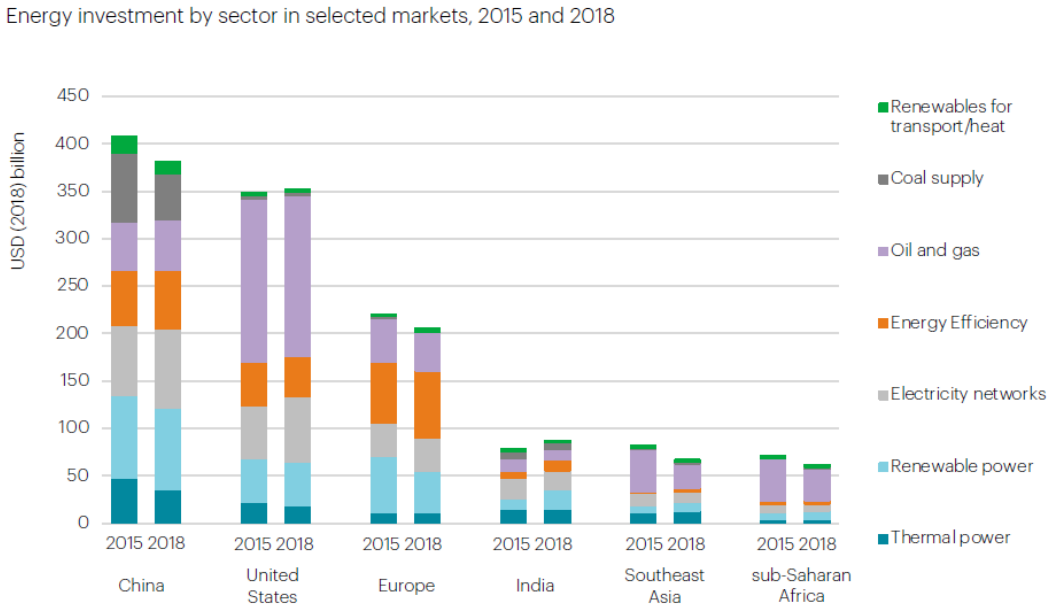
[2] See https://www.eia.gov/todayinenergy/detail.php?id=38133

ambitious targets for transitioning to a low-carbon economy and reaping all the economic, health and environmental benefits of doing so.

China is both a global leader in renewable energy deployment and, unfortunately, in coal consumption. The US similarly has seen a big surge in renewable energy over the last decade but 2018 also saw the nation reach new records in the production, consumptions and export of fossil fuels.[3] The government of India has laid out an ambitious goal of 175 gigawatts (GW) of installed renewable capacity by 2022, including 100 GW of solar and 60 GW of wind.[4]

A recent report from the IEA finds that energy investments in China, the US and India show important progress in energy efficiency and renewable energy (see figure 2). In India, in 2018, renewable spending continued to exceed that for fossil fuel-based power for the third year in a row.

Figure 2:

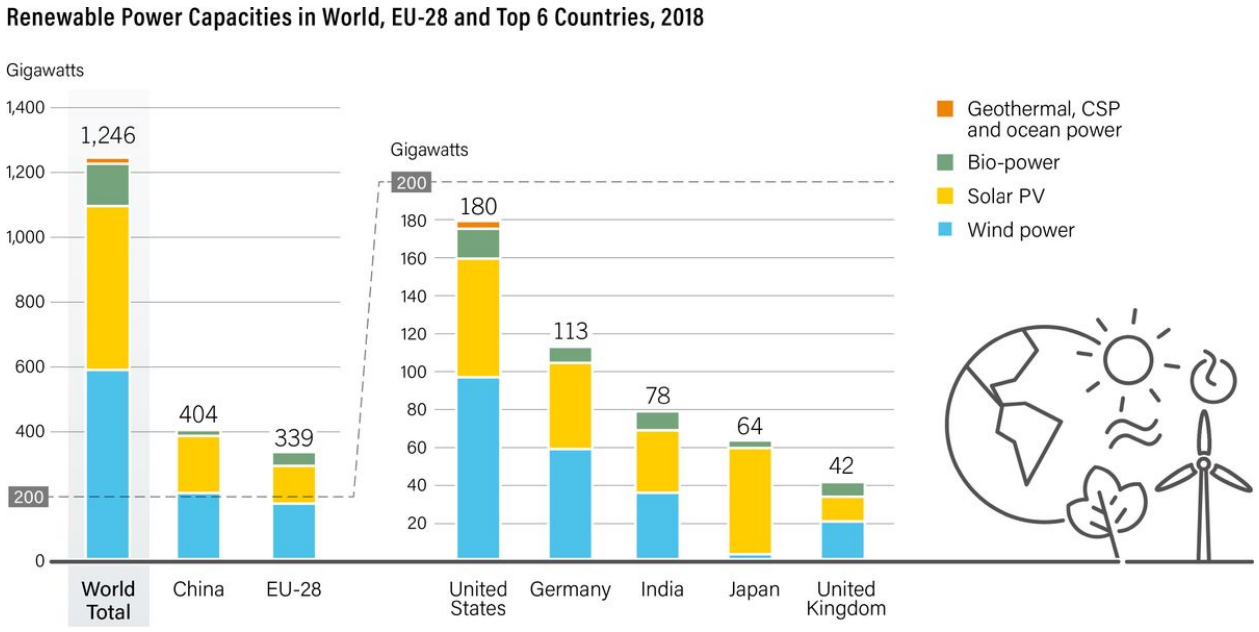


Source: IEA 2019

In 2018, China was responsible for 32% of all new renewable power investments (see figure 3).

[3] See https://www.eia.gov/todayinenergy/detail.php?id=39392
[4] See https://www.nrel.gov/usaid-partnership/energy-goals-india.html

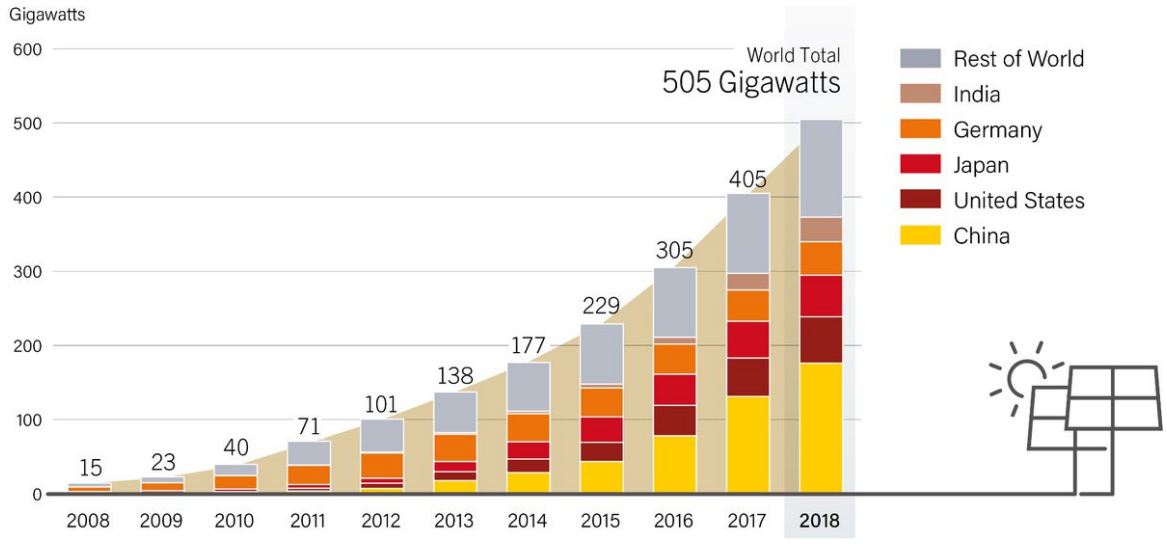
Figure 3:



Source: REN21[5]

China has also led in solar PV installations (see figure 4). India has also made major progress and had a bold commitment on expanding solar power.

Figure 4:
Solar PV Global Capacity, by Country and Region, 2008-2018

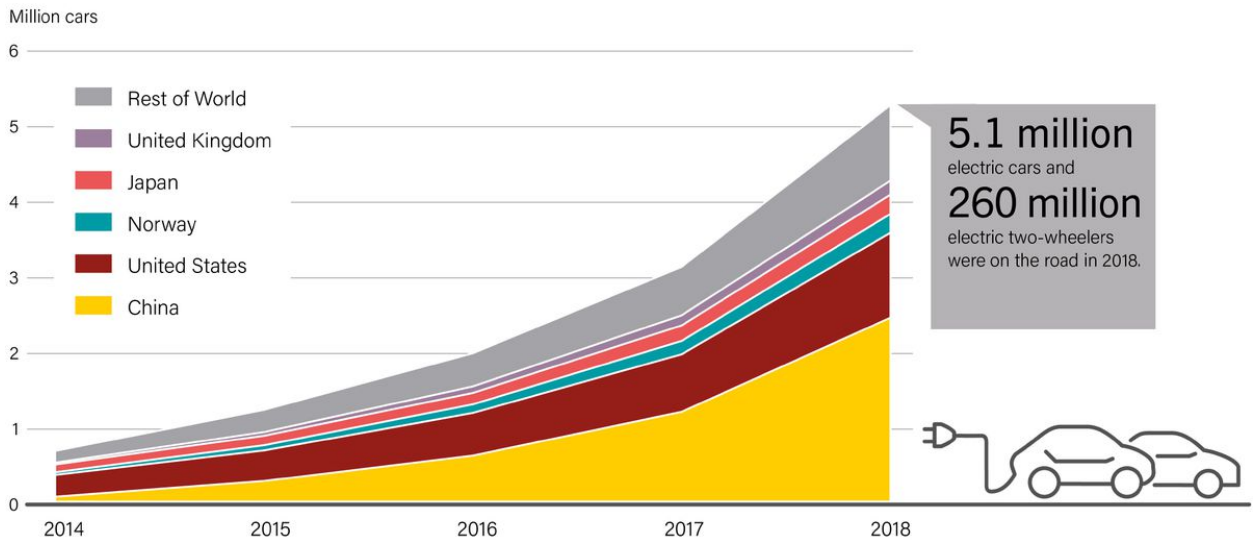


[5] See http://www.ren21.net/gsr-2019/

Source: REN21

China is also leading the world in electric vehicle deployment (see figure 5)

Figure 5:
Electric Car Global Stock, Top 5 Countries and Rest of World, 2014-2018



Source: REN21

b. What are the competitive and diplomatic ramifications of ceding U.S. climate leadership to other countries?

RESPONSE: There is no question that recent actions from the Trump administration—including rollbacks of domestic climate and clean energy policies and the decision to step away from the Paris Agreement—have left the US isolated and on the sidelines of global climate leadership.

As my colleague Alden Meyer put it:

> "President Trump's decision to walk away from the Paris Agreement is irresponsible and shortsighted. All too many people are already experiencing the costly and harmful impacts of climate change in the form of rising seas, more intense hurricanes and wildfires, and record-breaking temperatures. The Paris Agreement is our best hope to mount an effective global response to the climate crisis, which is why it has resounding support from a majority of Americans.
>
> "President Trump's anti-science stance on climate change puts the profits of fossil fuel polluters above the health and well-being of current and future generations. It also impedes the ability of American companies and workers to compete with other countries

like China and Germany in the rapidly expanding market for climate-friendly technologies.

"Fortunately, no other country is following President Trump out the door on Paris, and here at home, states, cities and businesses representing more than half of the U.S. GDP and population have committed to take action to meet the Paris Agreement's goals. Unlike the president, these leaders understand that reducing emissions creates jobs and protects local communities, while it is inaction on climate that poses the real threat to prosperity."

Walking away from the Paris Agreement—an agreement secured after years of painstaking diplomatic work, with the US playing a key role—also sends a signal to the rest of the world that the US cannot be relied upon to live up to its commitments. This has the potential to adversely affect other international negotiations on key issues like trade and security.

c. How can U.S. leadership help motivate other countries to act boldly on climate change?

RESPONSE: US leadership can play a powerful catalyzing force in securing ambitious global action on climate change. US leadership in particular was crucial in laying the groundwork for, and securing, the Paris Agreement.

It's vital that we enact strong federal policies to cut emissions—building on the groundwork laid by states and cities—and help shape the global community's response to one of the most pressing challenges of our time. Our leadership will not only deliver important economic and public health benefits domestically, it can serve as a model to other nations for what policies and technologies hold the greatest promise. In the absence of this leadership, there is a real risk that we will fail to meet global climate goals.

Bold global action is also crucial to help limit the negative effects of climate change on people in the US. Recent UCS research on sea level rise and extreme heat shows clearly that limiting global emissions in line with the goals of the Paris Agreement would greatly curtail those harmful and costly impacts, for example.

The Honorable Paul Tonko (D-NY)

1. Policy can play an important role in driving technology development and deployment, especially when it corrects market failures and creates investment certainty. Potentially effective policies may include those which send a price signal to the private sector. For our purposes, "price signal" can be interpreted broadly, from a direct carbon pricing program to an indirect price, for example the 45Q tax credit.

    a. Do you believe that sending a clear price signal on carbon pollution as part of

comprehensive legislation would help support greater energy innovation and clean energy technology deployment?

RESPONSE: Putting a price on carbon is a powerful way to help ensure that the full costs of carbon emissions (i.e. the climate impacts they cause) and the benefits of transitioning to low-carbon energy options are better reflected in our energy production and consumption choices. It can also help drive innovation in low-carbon technologies. UCS supports a well-designed carbon price as part of a suite of climate and clean energy solutions designed to get us to net zero emissions no later than 2050. To work well, the policy must be designed to deliver emission reductions on a scale and timeline that reflects the best available science; it must reflect equity considerations; and it should not be seen as a "silver bullet" solution (i.e. must be paired with other complementary clean energy policies).

Key considerations for a well-designed carbon price:

1. **Robust, science-based carbon price.** A carbon pricing program should be designed to drive down emissions in line with the goals of the Paris Agreement and in keeping with the findings of the IPCC 1.5 report. An economywide carbon price—accompanied by other complementary polices—should aim to put the US on a path to net zero emissions no later than 2050. The price must start at an ambitious level and escalate steadily over time so as to drive deep emission reductions by 2030 (on the order of 45% below 2010 levels, in line with the IPCC report) and continue progress beyond. Providing this time horizon will also give businesses the certainty they need to make appropriate decisions regarding long-lived investments and innovation. Program design should be underpinned by robust environmental, economic, and public health modeling to ensure achievement of program goals and to inform proactive programmatic attention to inequitable distributional economic or co-pollutant impacts.
2. **Broad sectoral coverage.** For greatest effectiveness, the carbon price should cover major emitting sectors of the economy (e.g., power, upstream on fuels for transportation, and industry). For some sectors upstream price application may be most efficient, such as a price on emissions from oil refineries. Emissions from lands and forests are best handled outside of a carbon pricing program, through other complementary policies, since there are specific and complex issues related to additionality, verifiability and permanence of emission reductions in these sectors.
3. **Proactive use of revenues.** The considerable revenues that would be raised as a result of a robust carbon price present an important opportunity to make investments in a just and equitable clean energy transition as well as in climate resilience to ensure benefits to people around the country. The use of these revenues has important implications for distributional fairness and engaging with key stakeholders (including fenceline and frontline communities and fossil fuel dependent communities) is vital. This is **a hugely important policy choice that must be made with the interests of the broader public squarely in mind**. Priorities—such as appropriately offsetting the disproportionate impacts of energy price increases associated with a carbon tax; transition assistance for coal workers and coal-dependent communities; assistance for communities facing climate

impacts, especially frontline low income and minority communities; and investments in climate-resilient low-carbon infrastructure—require dedicated funding which could come from carbon revenues, or would require appropriations from Congress. Additionally, carbon revenues could be invested in low-carbon technologies, infrastructure and R&D.

4. **Advances equity and environmental justice (EJ) considerations.** Putting a price on carbon has an economy-wide effect, and good policy design requires addressing potential equity implications. These equity and EJ concerns include: the regressive impact of potential energy price increases on low-income households; the potential for carbon pricing policies to allow some fossil fuel-fired power plants, refineries, or other commercial and industrial emitters to continue to operate (or even ramp up operation) and emit air and water pollutants in neighborhoods already burdened by pollution; and the economic hardship to workers and communities dependent on fossil fuel industries for livelihoods or for their tax base as we transition away from these resources. Carbon revenues can provide a source of funding for helping to proactively address some of these concerns, alongside other targeted policies, but these should not be viewed as a complete solution to the important concerns raised by EJ advocates. For example:
    - Rebates and energy efficiency measures designed for low income or fixed income households can help ensure they do not pay a disproportionate share of the cost of cutting carbon.
    - EJ communities are often hit hardest by pollution from the fossil energy sector. That pollution can be limited by pairing a carbon pricing policy with investments in local clean energy and efficiency initiatives, tighter controls of local air and water pollutants and toxics, and incentives for retiring coal-fired power plants.
    - Workers and communities affected by the move away from fossil fuels should receive transition assistance through worker training programs, economic diversification initiatives, and funding for pension and medical benefits that may be adversely affected as current business models rapidly become untenable.
    - Since a carbon price does not guarantee emission reductions—of carbon or other co-pollutants—in specific locations such as EJ neighborhoods overburdened by pollution, additional measures will likely be needed to ensure mandatory emissions reductions in EJ communities. Innovations in carbon policy design that include a cost for co-pollutants could also provide a path forward.
5. **Transitional protection for energy-intensive trade-exposed industries**. Border tax adjustments and/or the targeted use of carbon revenues to provide tax credits to EITE industries can help limit international or state-by-state competitiveness concerns (as well as help address leakage concerns). These types of incentives should be structured in a targeted, bounded way to ensure a transition to low-carbon production methods and products over time, and to avoid windfall giveaways to fossil-fuel industries.
6. **Flexible and durable**. A long-term carbon pricing program must be designed with the flexibility to be updated as new science or new technologies or other relevant considerations become available. A key design feature for a carbon tax should be an environmental integrity mechanism that would allow for the tax to be updated if sufficient emission reductions were not being achieved.

7. **Considerate of international interactions**. Transitional support for EITE, through credits and/or border tax adjustments, can assist in avoiding emissions leakage internationally. Carbon pricing design should be further mindful of opportunities to leverage international cooperation where program linkage would guarantee mutual benefits. The United States should provide funds for international emissions reductions efforts, particularly in developing countries; these could be paid in full or in part by a subset of carbon pricing program revenues.
8. **Considerate of existing state and regional programs**. A national carbon pricing program will help ensure that all states are on the path to net zero emissions by 2050. However, this should be considered a floor, and policy design should aim to allow for, where practical, the continuation of more ambitious existing state and regional policies in parallel with a national program.

Need for complementary policies

However, carbon pricing is not sufficient on its own to achieve the transformational change demanded by the ambitious carbon reduction targets appropriately identified by this Committee. Carbon pricing addresses a specific market failure (the failure to consider climate impacts) related to our reliance on fossil fuels, but not all relevant market failures that impede a low-carbon transition (such as: other barriers to transitioning away from fossil fuels and the public health harms from other co-pollutants produced when fossil fuels are produced and burned). A carbon price on its own will not be able to address the full gamut of what will be needed to get to net zero by 2050. For example:

- We will also need to scale up investments in R&D and transmission infrastructure, barriers created by high upfront costs of technologies or lack of information which can hold back clean technology, and the public goods nature of infrastructure to support clean energy deployment.
- In the transportation sector, a carbon price will only raise gasoline prices by pennies on the gallon which will not be enough to create incentives for cleaner fuels or more efficient vehicles or the infrastructure required to electrify transportation.
- We will need additional policies to safeguard and enhance soil and forest carbon sinks.
- We will also need policies and regulations to address emissions from non-CO2 GHGs such as methane.

As policymakers work to develop approaches that will deliver the level of carbon pollution reductions desired, they must exercise care to ensure that the entirety of the hurdles facing economy-wide decarbonization are overcome—or we risk falling short.

UCS's long experience working on clean energy issues clearly highlights the critical importance of policies like renewable electricity standards, renewable fuels standards, power plant carbon standards, fuel economy and emission standards for vehicles, energy efficiency standards, incentives for research and development, investments in clean energy infrastructure, and other policies to help drive a clean energy transition. A carbon price can work in a complementary way with these policies but should not be seen as a substitute.

Such a suite of policies should be designed and evaluated comprehensively, as the various approaches are specifically intended to cover gaps while limiting redundancies. However, the

pursuit of efficiency should not come at the sacrifice of core programmatic priorities, including equity and the development of a solid economic foundation upon which future generations can build.

Notes of caution

Within the criteria named above, there is room for a robust bipartisan conversation about the specific design elements of a carbon price. However, a carbon pricing policy must not be accompanied by:

1. **Regulatory rollbacks that harm public health**. The EPA's authority to regulate global warming emissions is a critical public health safeguard provided by Congress under the Clean Air Act and repeatedly upheld in the courts. It must not be negotiated away.
2. **Any form of legal indemnification for fossil fuel companies** that takes away the legal rights of those affected by climate impacts caused by fossil fuel companies' products. Some of these companies have publicly said they support a carbon price—yet have continued to undermine actual legislative efforts to secure one at the state and federal levels. We urge them to come to the table in good faith and live up to their public pronouncements.