

On July 23, 2019, Democratic leaders of the Committee on Energy and Commerce announced [a bold new plan](#) to achieve a 100 percent clean economy by 2050. Chairman Frank Pallone, Environment and Climate Change Subcommittee Chairman Paul Tonko, and Energy Subcommittee Chairman Bobby L. Rush announced that the Committee would adopt a target of net zero greenhouse gas emissions by midcentury to avoid the worst effects of climate change, consistent with the consensus of the global scientific community. You can read more about the announcement [here](#).

To achieve that goal, the Committee will first hold a series of hearings and stakeholder meetings to identify the most promising approaches to deep decarbonization and to ensure that all voices are heard. As part of this process, we also invite the broader stakeholder community – including experts from industry, government, academia, research organizations, and nonprofits – to provide input on key considerations for U.S. climate policy. This process will inform the development of comprehensive climate legislation.

The Committee seeks and would appreciate your input on various questions (listed below) to help guide our process going forward. If you represent multiple clients or organizations, please distribute to those entities as you see fit. We ask that responses to any questions of interest be submitted by **Friday, September 13, 2019**. Please submit your responses via email to CleanFuture@mail.house.gov.

- 1. What are the key policy, regulatory, and market considerations that should inform the development of comprehensive climate legislation? Please provide specifics.**
- 2. Please describe any innovative concepts for climate policy design, including both sector-specific and economywide measures, that you believe the Committee should consider.**
- 3. If you work in, advise, or are familiar with sectors that are particularly challenging to decarbonize, have you identified any effective (and scalable) solutions that should be included in comprehensive climate legislation?**
- 4. If your organization has adopted carbon pollution reduction goals, how have those goals – or your plans to meet those goals – evolved over the last decade?**
- 5. If applicable, what actions has your organization already taken, or do you plan to take, to reduce carbon pollution?**
- 6. What have been the challenges or barriers to making meaningful carbon pollution reductions, and how have you responded to those challenges or barriers?**
- 7. How can the Federal Government assist you in reducing carbon pollution?**
- 8. Are there any additional comments or feedback you would like to add?**

Please do not hesitate to reach out with any questions by email or phone at (202) 225-4407. Thank you very much for your time and input. We look forward to your feedback.

SHELL RESPONSE:

This response to the House Energy & Commerce Questionnaire is submitted on behalf of Shell Oil Company, a U.S. company headquartered in Houston, TX. Shell Oil Company is a wholly-owned subsidiary of Royal Dutch Shell, plc. Where “Shell” and/or Shell policies, positions or preferences are referenced in this response, the reference refers to Royal Dutch Shell, plc.

Shell has long recognized that greenhouse gas emissions from the use of fossil fuels are contributing to the warming of the climate system. We welcomed the efforts made by governments to reach and adopt the Paris Agreement. We fully support the Paris Agreement’s goal to keep the rise in global average temperature this century to well below two degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. In pursuit of this goal, we also support the vision of a transition toward a net-zero emissions energy system. Shell agrees with the Intergovernmental Panel on Climate Change 1.5°C special report, which states that in order to limit warming to 1.5°C above pre-industrial levels, the world economy would need to transform in a number of complex and connected ways. Meeting this challenge would require an even more rapid escalation in the scale and pace of change in the coming decades than was foreseen in the Paris Agreement.

Society faces a dual challenge: how to transition to a low-carbon energy future to manage the risks of climate change, while also extending the economic and social benefits of energy to everyone on the planet. This is an ambition that requires change in the way energy is produced, used and made accessible to more people while drastically cutting emissions. We believe that the need to reduce GHG emissions will transform the energy system in this century. This transformation will generate both challenges and opportunities for our existing and future portfolio.

1. What are the key policy, regulatory, and market considerations that should inform the development of comprehensive climate legislation? Please provide specifics.

Feasibility and legislative and regulatory stability are interlinked and important attributes of any approach. Carbon reduction targets, goals and mandates must be perceived as being reasonably feasible and underpinned by broad political support to give confidence to companies, investors and consumers.

Shell believes that broad-based carbon pricing mechanisms are a first-best regulatory approach for governments to deliver their emission reduction goals including the goal established under the Paris Agreement. Establishing a price on carbon emissions informs choices by energy consumers and producers, stimulates the development of low-carbon technologies, helps drive energy efficiency, and encourages investment in the deployment of low-carbon technologies

While carbon pricing has many merits, it is important to note that a carbon price alone will not deliver the necessary emission reductions. This will also require policy actions that address barriers to the carbon price signal being passed through the economy and that enable responses to that signal – for example, building enabling infrastructure that enables energy consumers to access low-carbon energy and providing information to consumers needed to induce behavioral changes. Convening participants across the supply chains of individual economic sectors (e.g. commercial road transport, aviation, marine, buildings, etc.) can help identify the policies and regulations needed to drive decarbonization within those sectors and encourage coordinated action that can accelerate the pace of change.

Carbon leakage in trade exposed sectors represents a lose-lose outcome that must be managed for carbon legislation to be effective. Loss of jobs and GDP entailed in the loss of competitiveness due to carbon pricing would undermine social and political support for climate legislation. The corresponding shifting of emissions to another country would negate the emission reductions made at home. While nations are enacting regulations to deliver their Nationally Determined Contributions (NDCs) and the use of carbon pricing is becoming more prevalent, it is unrealistic to expect all nations to move in sync such that carbon pricing per se does not impact competitiveness. Consequently, protections will be needed by those industries at greatest risk of carbon leakage.

Industries that have the potential to improve energy efficiency and reduce emissions but haven't had the incentive to do so thus far present a special policy concern. For these industries, time-limited support could be provided to help them make the transition, and potentially even gain a competitive advantage by becoming best-in-class. For harder-to-abate sectors, if the industry is material to the economy, longer-term protections and measures could be considered.

Finally, collaboration across nations can help alleviate competitive concerns and reduce the cost of the transition. Shell supports the Paris Agreement, the Carbon Offsetting Scheme for International Aviation, and other cooperative efforts to reduce emissions. Completion of the terms of Article 6 of the Paris Agreement to enable a global emissions trading system, including credits generated by natural sinks, would further these objectives.

2. Please describe any innovative concepts for climate policy design, including both sector-specific and economy-wide measures, that you believe the Committee should consider.

Widespread carbon pricing policies both within the country and internationally will stimulate all forms of low-carbon technologies. It will drive energy efficiency. It will drive change across all sectors including power, mobility, heating and energy-intensive industries. Market forces will operate to favor the least expensive and most efficient ways of reducing carbon in each country or region. Pricing carbon obviously adds cost to our production and potentially to our products – but a stable, long-term, global carbon pricing framework would provide our businesses and their many complementary partners in supply chains with a clear roadmap for future investments and help secure a more sustainable future.

Designing the carbon pricing system to function effectively as part of a wider energy and carbon policy framework is just as important as the decision to deploy carbon pricing in the first place. Given the large financial commitments and long-lived investments inherent in the energy industry, the importance of operating within a stable carbon policy environment cannot be overstated. The risks taken by early investors are substantial; adding the risk that enabling policies might be reversed only increases the hurdle. A few design elements help to ensure robustness, efficiency and delivery of carbon reductions at lowest costs:

- Avoidance of overlapping policies which could undermine the establishment of the carbon price signal needed to support investments in low-carbon technology R&D and conversion of energy systems;
- Consideration on how to reinvest revenues to increase broad political resilience (impacts on low-income households and displaced workers), to promote innovation, and to increase the availability of affordable low-carbon energy options for the public and businesses; and

- Protection of industry competitiveness and prevention of carbon emissions leakage that can undermine climate objectives.

A few mechanisms have been used or are contemplated to manage protection against carbon leakage. The EU ETS grants free allowances to energy intensive trade exposed industries. Various Canadian programs are based upon benchmark standards whereby emitters with globally competitive carbon intensities are insulated from carbon costs. Other jurisdictions allow use of offsets, credit banking and price ceilings and dampeners to mitigate against the risk of high carbon prices and target infeasibility. The concept of border carbon adjustments is being actively explored. Finally, Shell is aware of governments exploring how to incorporate carbon pricing in the context of overall tax policies in ways that limit the incremental burden on emitters while also motivating them to reduce their carbon emissions. Shell recommends all these approaches be considered in the detailed design of a US carbon pricing system.

The power sector is key to decarbonization as it provides a route for energy demand/use sectors to decarbonize via electrification. Policy can make a difference in encouraging the greater integration of renewable power and investment in lower-carbon gases, notably hydrogen. Finally, policy will be needed to ensure both natural carbon sinks and carbon capture and storage are able to scale up to their potential to achieve deep decarbonization of the economy. Removal of carbon from the atmosphere via natural sinks has been identified as having significant potential at relatively low cost¹. Shell supports the development of natural sinks to help achieve emission reduction targets in the near term, while low-carbon technologies are in development, and to achieve net zero emissions in the long term. Integration of natural sinks into regulatory compliance systems must be carefully considered to avoid undermining the market price signals needed to stimulate investments in direct emission reductions. Carbon capture and storage also has an important role to decarbonize power generation and the industrial sector. This potential is predicated upon clear, stable and sufficient policy support beyond current levels.

3. If you work in, advise, or are familiar with sectors that are particularly challenging to decarbonize, have you identified any effective (and scalable) solutions that should be included in comprehensive climate legislation?

Shell is a founding member of the Energy Transition Commission which has issued a Mission Possible report² that looks at harder-to-abate (i.e. difficult to electrify) sectors and identifies potential solutions and roadmaps for decarbonization. The ETC has identified several technologies required (CCS, hydrogen, biofuels, and renewable electricity) to achieve net zero emissions.

Carbon capture and storage technologies are necessary to achieve deep reductions in emissions from industrial facilities and power and can enable production of low-carbon hydrogen from the nation's abundant supply of natural gas and negative carbon electricity with bio-energy feedstocks. Carbon capture and storage is a safe, reliable, essential and cost-effective way to reduce CO₂ emissions. The US has geologic capacity that could support the storage of hundreds of millions of tons of captured emissions per year. A forthcoming National Petroleum Council study will make detailed recommendations on a range of legislative and regulatory changes needed to support large-scale deployment of capture, utilization and storage investments. We encourage the Committee to include these recommendations in its efforts.

¹ [Natural Climate Solutions, PNAS October 31, 2017](#)

² http://www.energy-transitions.org/sites/default/files/ETC_MissionPossible_ReportSummary_English.pdf

Shell believes that any attempt to address climate change by focusing solely on energy mix will not be sufficient to meet the goals of Paris. Changing the energy system is not just a question of supply but demand too. Demand is the pull from energy end-use sectors – transport, industry, buildings - individual consumer choices and consumption patterns. Achieving this kind of step change requires aligned support by government through regulations, consumer signals and incentives.

4. If your organization has adopted carbon pollution reduction goals, how have those goals – or your plans to meet those goals – evolved over the last decade?

Response to Question 4 is combined with Question 5.

5. If applicable, what actions has your organization already taken, or do you plan to take, to reduce carbon pollution?

As a reflection of the complexity and scale of this energy transition, Shell's own approach is multi-faceted and integrated through management structures, business strategy, policy development, and metrics and tools applied to existing assets and investment decisions. Our business has been built on a foundation of innovative technology and skilled employees. Shell believes that our capacity to innovate and take a long-term view of investment can help us make an important and significant contribution to the unfolding energy transition. In the near term in the US, this includes improving our energy efficiency and working with others, including the Oil & Gas Climate Initiative (OGCI) to advance carbon capture and storage (CCS) technology to help cost-effective reduction of CO₂ emissions and stimulate low-carbon growth in many sectors of the economy.

In 2017, in an effort to monitor and reduce the greenhouse gas intensity of Shell products, Shell announced a long-term ambition to reduce the Net Carbon Footprint (NCF) of its energy products in step with society's progress toward meeting the Paris Agreement. By 2050 we intend to reduce the NCF of the energy products we sell – expressed in grams of CO₂ equivalent per megajoule consumed - by around half. As an interim measure and predicated on societal progress, we plan to reduce our NCF by around 20% by 2035 compared with Shell 2016 level. Shell's approach to calculating its NCF covers emissions directly from Shell operations (including from the extraction, transportation and processing of raw materials and transportation of products), those generated by third parties who supply energy to Shell for production, and Shell's customers' emissions from their use of Shell's energy products. Also included are emissions from elements of this life cycle not owned by Shell, such as oil and gas processed by Shell but not produced by Shell or from oil products and electricity marketed by Shell that have not been processed or generated at a Shell facility. The calculation also includes biofuels, as well as emissions that Shell has offset by using CCS or natural carbon sinks, such as forests and wetlands. The NCF does not include emissions associated with Shell Chemicals and lubricant products that are not used to produce energy.

When creating Shell's NCF metric, Shell purposefully chose a wide and meaningful frame against which to manage Shell's performance. As noted above, the calculation includes not only emissions from Shell's own operations but also third parties' emissions as part of Shell's supply chain and Shell's customer's emissions from their use of the energy products Shell sold to them. The emissions from Shell's operations are important but Shell's customers' emissions associated with the use of the energy products Shell has sold to them are much larger in proportion.

Meeting the Net Carbon Footprint ambition requires evolving our portfolio over the medium to long term to reduce the carbon intensity of the products we sell. Shell also established an NCF target for 2021 to reduce Shell's NCF by 2% to 3% compared to 2016. Shell executives' pay is linked to this target. Additionally, in September 2018, Shell announced a target to maintain the methane emission intensity of its operated oil and gas in Upstream and Integrated Gas assets below 0.20% by 2025.

In 2016, Shell formed its New Energies business to pursue two main areas of opportunity. Firstly, new fuels for transport – such as advanced biofuels, hydrogen and charging for battery-electric vehicles. The second is power, including from low-carbon sources such as wind and solar as well as natural gas, the cleanest-burning hydrocarbon. To complement our activities in both new fuels and power support we have established a Digital Ventures business. We offer customers who fill up at a Shell-branded service stations in the Netherlands the opportunity to drive carbon neutral using nature-based carbon credits and will soon be extending this program to the UK. And we also support the ambitions of others through venture capital and social investment funding to entrepreneurs and young engineers seeking to develop creative energy ideas.

Shell has generally considered an internal value for CO₂ in its investment decisions for nearly 20 years in recognition of the need for government action to address climate change and the expectation that the externality of carbon emissions will ultimately be reflected in the cost of energy and goods. To assess the resilience of new projects, we generally consider the potential costs associated with operational GHG emissions. Consistent with our desire to stay in step with society's progress toward the goals of the Paris Agreement, in 2018, we moved away from using a flat project screening value (PSV) of \$40/ton of GHG emissions, to country-specific estimates of future carbon costs. These estimates were developed using the current Nationally-Determined Contributions (NDCs) submitted by countries as part of the Paris Agreement. Accordingly, we believe they more accurately reflect society's current implementation of the Paris Agreement rather than a flat \$40/ton PSV. The current NDCs are scheduled to be revised at regular intervals. Therefore, as countries update their NDCs, we expect to update our cost estimates as well. The United Nations believes the current NDCs are consistent with limiting the average global temperature rise to around three degrees Celsius above pre-industrial levels. Also, we run an additional sensitivity test for our high-emitting projects by using long-term carbon costs estimates consistent with limiting the average global temperature rise to well below two degrees Celsius.

While consideration of an internal value for CO₂ does encourage innovation within Shell, it is not a substitute for actual carbon pricing and regulations needed to stimulate change across economic sectors. For example, an internal carbon value may encourage Shell to develop low carbon fuels for heavy duty road transport vehicles. But without corresponding efforts by engine and vehicle manufacturers to be able to use the new fuel, infrastructure investments by energy delivery providers, and carbon pricing signals available to fleet operators and shippers, the innovations in fuel will not translate to emission reductions in the trucking sector. Similar examples could be made for aviation, marine shipping and the building sector. The point is that innovation and change is required across all sectors of economies.

The consideration of an internal value for CO₂ influences the design of new ventures in ways that encourage energy efficiency and use renewable sources of energy. The incorporation of a CO₂ value also tests the resilience of long-lived assets to carbon prices that may exist in the future. The CO₂ value also enables Shell to consider the viability of investment decisions in renewable and low carbon energy opportunities. Finally, the use of an internal carbon value assists existing assets to identify emission reduction opportunities that will improve the long-term resilience of those operations.

6. What have been the challenges or barriers to making meaningful carbon pollution reductions, and how have you responded to those challenges or barriers?

Achieving meaningful carbon reductions in the US has been significantly hampered by the absence of a broad, economy-wide carbon pricing mechanism, regulatory and policy instability on matters of greenhouse gas management, and the complexity of coordinating structural shifts in supply and demand of low-carbon energy and technologies across major sectors of the US economy. While Shell has and will continue to advocate on behalf of the same topics as discussed here within states and regional collaborations, many of the structural changes needed to enact a low-carbon energy system are achieved at a lower cost and more efficiently when supported at the federal level. Shell has also engaged in consortia that advocate for, among others, federal carbon pricing, carbon capture and storage, use of natural sinks, biofuels, and methane reductions.

7. How can the Federal Government assist you in reducing carbon pollution?

8. Are there any additional comments or feedback you would like to add?