

**United States House of Representatives
Select Committee on the Climate Crisis**

**Hearing on March 9, 2022
“Confronting Climate Impacts:
Federal Strategies for Equitable Adaptation and Resilience”**

Questions for the Record

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- 1. How can the federal government better support efforts in the Gulf Coast Region to reduce greenhouse gas pollution and increase resilience through a more comprehensive or holistic approach?**

The Gulf Coast Region faces a particular challenge in reducing greenhouse gas emissions because of its disproportionate role in oil and gas production and petrochemical manufacturing. The region also is subject to many climate and weather related risks that result in elevated vulnerability to sea-level rise, intense hurricanes, flooding from more intense rainfall (including pluvial flooding), and tornadoes in the Gulf States. These phenomena combined with social inequity and deep pockets of poverty challenge resilience in the region. Efforts both to reduce emissions to achieve net-zero and increase resilience can and should be brought together in an integrated approach.

This type of integration could most easily be tested or piloted in areas where climate mitigation and adaptation actions coexist. Within the Gulf Coast Region, the State of Louisiana has developed both a Coastal Master Plan to address resilience and a Climate Action Plan—the first in the Gulf South—to achieve net-zero emissions objectives. At a regional level, Houston has also developed a Climate Action Plan that accelerates renewable energy and engages the oil and gas and petrochemical industries in approaches to reduce substantial emissions. As part of the long-term recovery from Hurricane Harvey (2017), Houston also has the Resilient Houston strategy. In Florida, Tampa Bay Regional Planning has also developed a Regional Resiliency Action Plan.

The federal government should develop strategies to assist these important state and regional initiatives by providing funding, technical assistance, and interagency coordination. The regional offices of federal agencies such as FEMA, NOAA, the U.S. Army Corps of Engineers, EPA, and USGS (and others) could contribute to an all-of-government approach exercised at the regional level with a commensurate level of coherence and urgency.

2. The IPCC report emphasized the importance of avoiding maladaptation. What are the risks of maladaptation and the unintended consequences of tackling climate change? How are you working to avoid maladaptation in the Gulf region?

As the IPCC report points out, actions intended for climate change adaptation can backfire and can increase vulnerability rather than decreasing it. They can increase existing vulnerability or reinforce existing inequalities in its distribution. Adaptation actions may just redistribute vulnerability, reducing risks in one place while increasing them elsewhere. Furthermore, adaptation efforts focused on near-term risks can inadvertently introduce longer-term risks.

The Gulf Research Program's work on enhancing resilience for Gulf Coast communities focuses on the social determinants of health to ensure that adaptation does not reinforce or perpetuate existing health disparities. Our programs seek to support climate adaptation projects that produce co-benefits, improving human health and well-being through equitable and community-driven climate hazard mitigation. Our program on sea-level variation and rise in the Gulf aims to provide forecasts and projections based on the latest science. This GRP work provides the needed evidence base to help avoid the high economic and social costs of excessive adaptation while also avoiding insufficient adaptation.

3. Talk us through some of the barriers a local government or community might face trying to develop and implement a climate adaptation plan, and how the federal government can help overcome them?

When local communities or governments begin to design or implement a climate adaptation plan, scale may be a difficult challenge. Communities often try to adapt to the most pressing conditions within their jurisdiction that were—or are—created beyond their jurisdictional boundaries. Communities' adaptation successes can be realized most easily when a single jurisdiction can control for the sources of and the impacts from a risk or a hazard. Thus, we see many examples of resilience efforts focused at the site scale (e.g., buildings, grading, etc.), since local jurisdictions can establish and enforce things like building codes, stormwater designs, required set backs, and even allowable materials. In order for small jurisdictions to tackle larger adaptation and resilience issues—greenhouse gas emissions or environmental justice, for example—they may need assistance to find local solutions to problems caused by regional or external forces. The federal government could play a role that provides information resources, enforceable regulations and limits to environmental releases, technical assistance, or financial resources to expand the effect of local solutions.

4. How can we better shape federal policy to incentivize adaptation measures before disasters strike? Can you expand on the current state of funding for pre-, during, immediate post- and long-term post-disaster funding?

The federal government plays a critical role in helping the people of this country survive and recover from disasters. The federal government provides or augments disaster relief and response services, recovery resources, and even opportunities to mitigate the worst of the impacts experienced during a disaster. Through the Stafford Act and presidentially declared events, disaster relief funds and the pre-disaster mitigation grants are administered by FEMA.

The most visible benefits are seen during the response phase—lifesaving, evacuation, and sheltering functions through the worst parts of an event and in the immediate after effects. Long-term recovery money for presidentially declared disasters often counts in the billions delivered over multiple years, mostly through community development block grants and other programs administered through US Housing and Urban Development.

Outside of Stafford authorities, there exists a range of federal agencies have various pre-disaster adaptation, resilience or mitigation programs. NOAA, NASA, DOE, and other agencies work with industry, regulators, or communities to provide incentive and in some cases technical assistance to enhance adaptation to climate change.

Numerous studies have outlined the financial benefit of pre-disaster mitigation investments with returns on those investments tallying anywhere from 1:6 to 1:11. State and regional jurisdictions are interested in the benefits of pre-disaster mitigation and adaptation efforts to reduce the impacts and costs to their jurisdictions should a disaster occur. Now, through the Building Resilient Infrastructure and Communities program at FEMA, 6% of the Disaster Relief Fund is dedicated to disaster mitigation.

There are a few problems with this constellation of federal assistance and programming. First, the various programs are not coordinated with each other, including the programs that are administered under the purview of one agency. A great advantage would be for the diverse federal pre-disaster programs to become coordinated or at least aligned with each other, with applications that are harmonious in format and timing with each other. Another problem is that the applications themselves can be complicated and burdensome to applicants. Often, consultants are hired to complete the applications; as such, there is an implicit bias against under-resourced communities in applying. Those communities that have the resources to hire consultant firms produce the most compelling proposals and they are at a distinct advantage over the communities that are relegated to completing their applications on a low budget, with a small staff, or at low capacity. Perhaps one option would be to seek some sort of common application that could be slightly adapted for different funds across federal agencies. Such a “common app” would substantially reduce the administrative and application burden on the jurisdictions seeking funds. Connecting various federal disaster programs together would also result in State, Local, Tribal jurisdictions building resilience across the full arc of activities that would allow them to connect the long-term recovery resources with mitigation and adaptation funds to reduce the impacts of disasters over the long term.

5. Some communities across the country are highly dependent on a fossil fuel economy for their livelihoods. They are also often co-located in communities of color. How can we help these communities navigate the transition towards a just, resilient, and sustainable economy?

Because of a sizable presence of fossil-fuel-related industries along the Gulf Coast, particularly along the central and western Gulf, many communities are economically dependent on these industries. Many communities of color have experienced deleterious health and environmental effects. Sometimes, the affected communities receive some of the economic benefits associated with the industry, like well-paying jobs, but oftentimes the people of the impacted communities do not. Petro-chemical plants, oil refineries, and major oil and gas infrastructure contribute to environmental injustices over generations. As we undergo the energy transition from fossil fuels towards net-zero emissions, it is incumbent on the policy and decision makers to ensure that

these communities are afforded a voice and opportunities related to their future and remediation to restore those communities to health or other alternatives for healthier communities. The goal should be to achieve economies that are more just, resilient and sustainable. As renewable energy replaces fossil fuels, we will need to consider ways for the new energy economy to improve living conditions and provide safe, stable work and job opportunities; ways to create new economic opportunities for local communities; and options to activate, build and sustain capacity within the local workforce to fill these jobs. To be sure, to the extent there is a role for the use of fossil fuels—through carbon capture and storage, blue hydrogen or innovations in chemical manufacturing—let us ensure that we do not repeat the unjust mistakes and decisions of the past that would sustain or exacerbate risks to fence-line communities. We need to explore the options, understand the trade-offs, make strategic investments and avoid the negative externalities that disproportionately impact the communities that have already borne the brunt of environmental degradation for generations.

6. You have personally worked with adaptation efforts across many levels both inside and outside of government. Could you share a successful example of adaptation that you have seen implemented that also addressed equity and justice concerns? Is there any key characteristic about that example that would be beneficial to highlight?

Regions around Charleston, South Carolina are prone to flooding. Through Resilient America (at the National Academies), we worked closely with the Charleston Resilience Network on measuring flood resilience. The communities most prone to flooding are communities of black and brown people, and non-native English speakers. When we discussed how to approach the social dimensions of flooding, someone from the South Carolina Aquarium noted that “everyone loves sea turtles.” It was an odd statement, given the topic at hand, but then he went on to explain: the sea turtles habitat is the same coastal, low lying areas where the flooded populations live. If we sought to protect the sea turtle habitat, we could also institute some flood protection for the people who live in similar habitats. So the lesson here was that sometimes, you need to exercise some creativity. The key is to find multiple benefits in single points of investment; and, in this case, using how “everyone loves sea turtles” to build flood resilience for the people who share the turtles’ habitat in the lowest-lying, flood prone areas.

