April 18, 2022

**Submitted via: http://www.regulations.gov**

The Council on Environmental Quality
730 Jackson Place, NW
Washington, D.C. 20503

Re: Docket ID CEQ-2022-0001
Carbon Capture, Utilization, and Sequestration Guidance
Notice of Availability and Request for Comment

To whom it may concern,

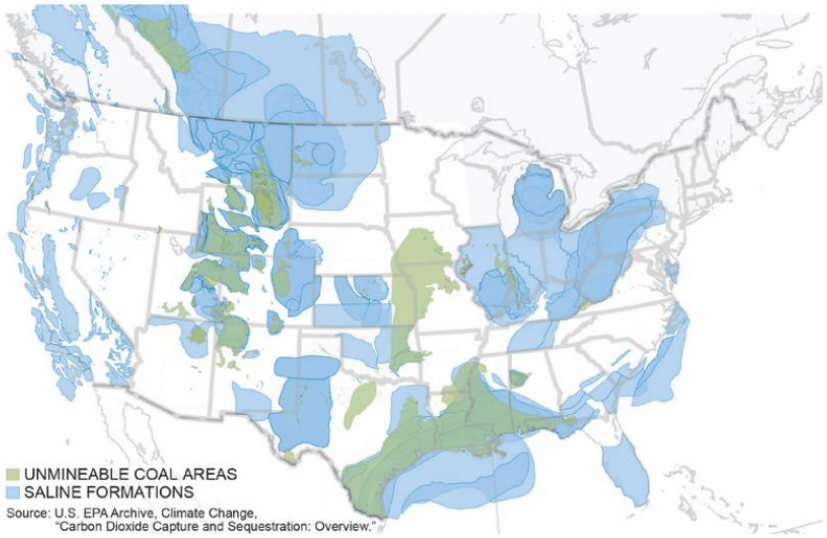
The National Ocean Industries Association ("NOIA") appreciates the opportunity to provide comments on the above-referenced notice of availability and request for comment. Entering our 50th year as an organization, NOIA represents all segments of the offshore energy industry. This includes leasing and development of traditional fossil fuels such as oil and gas, and important new opportunities like offshore wind and carbon capture and sequestration. Further, our members include not just energy developers, but also the businesses large and small that do the work of building, supplying, and maintaining these projects. In other words, we represent thousands of blue-collar and white-collar employees across the nation, stretching from New England to the Gulf Coast to the West Coast. Together, we are working towards an affordable, low-carbon, sustainable, and reliable energy system.

Clearly, carbon capture, utilization and storage (CCUS[1]) can be an important part of our future energy system. While we continue to reduce greenhouse gas (GHG) emissions throughout our economy and the energy system, CCUS will be key to achieving climate ambitions. According to the International Energy Agency, "CCUS technologies will play an important role in meeting net zero targets, including as one of few solutions to tackle emissions from heavy industry and to remove carbon from the atmosphere."[2] Further, as Secretary of Energy Jennifer Granholm has discussed with regard to transitioning the economy towards lower emissions, "Some emissions sources, like cement plants, can't be phased out immediately or they don't have non-fossil-fuel options even available…that is where carbon capture and storage comes into play."[3] CCUS plays

[1] A note on terminology—NOIA, like CEQ, generally refers to carbon capture, utilization, and storage (CCUS) rather than solely CCS (be it "storage" or "sequestration"). While we are not currently aware of planned *utilization* in the federal offshore, given the long horizon of likely CCUS projects we prefer to leave the terminology more inclusive. However, current offshore developments will likely focus solely on sequestration/geologic storage. Regulators should prepare for a future with increased opportunities for utilization, however.
[2] https://www.iea.org/fuels-and-technologies/carbon-capture-utilisation-and-storage
[3] https://twitter.com/secgranholm/status/1423023737289408512

a critical role in further reducing carbon dioxide emissions from hard-to-decarbonize industries and meeting the challenge of climate change in an economically advantageous way.

Importantly, as federal policymakers consider options for domestic CCUS, we applaud CEQ and the Department of the Interior for their recognition that the U.S Gulf of Mexico's Outer Continental Shelf offers tremendous advantages and can accelerate the emerging U.S. CCUS sector and strengthen American leadership. First, the Gulf of Mexico is characterized by vast geologic prospects for CO2 storage. As the National Petroleum Council reported, "One of the largest opportunities for saline formation storage in the United States can be found in federal waters, particularly in the Gulf of Mexico."[4]




Second, we have extensive and established energy infrastructure along the Gulf Coast and throughout the outer continental shelf. Third is a proximity to industrial centers for capturing emissions. Finally, the Gulf Coast is home to an accessible engineering and energy knowledge base and workforce, along with associated research, development, and deployment (RD&D) capabilities. As the Greater Houston Partnership notes[5], the Houston-area alone is home to more than 20 energy-focused R&D centers, 67 energy technology companies, 600 exploration and production firms, 1,100 oilfield service companies, 180 pipeline transportation firms, and the 4th largest concentration of engineers—all of which is part of why the petrochemical sector in the region is undergoing $50 billion of facility construction. Likewise, neighboring Louisiana is also a key area for the Gulf's energy economy. In 2020, the energy sector provided some $73 billion in state GDP and nearly a quarter of a million jobs—almost 1/9 of employment in the state.[6] This enormous potential means a wide base of operations from which to develop CCUS plans and projects.

The Gulf of Mexico is well-positioned to emerge as a leader, though the successful advancement of this opportunity will require concrete action across multiple federal agencies.

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[4] *Meeting the Dual Challenge: A Roadmap to At-Scale Deployment of Carbon Capture, Use, and Storage*, The National Petroleum Council, December 2019, p. 27.

[5] https://www.houston.org/why-houston/industries/energy

[6] https://www.lmoga.com/assets/uploads/documents/LMOGA-ICF-Louisiana-Economic-Impact-Report-10.2020.pdf

**Facilitating Timely Decisions on CCUS And Its Related Infrastructure**

CEQ correctly identifies permitting as among the most critical elements of enabling a domestic CCUS sector. CEQ's inclusion of the laundry list of regulatory hurdles is particularly illustrative:

> …federally funded CCUS projects or CCUS activities on federally managed lands may trigger obligations under a variety of statutes including the National Environmental Policy Act (NEPA); the National Historic Preservation Act; the Clean Water Act; the Clean Air Act; the Safe Drinking Water Act; the Marine Protection, Research, and Sanctuaries Act; the Outer Continental Shelf Lands Act; the Endangered Species Act (ESA); the Marine Mammal Protection Act, the Migratory Bird Treaty Act; the Bald and Golden Eagle Protection Act; the Natural Gas Pipeline Safety Act; the Rivers and Harbors Act of 1899; the Federal Land Policy and Management Act; and the Hazardous Liquid Pipeline Safety Act. Other safety, environmental, and ecological requirements may also apply.[7]

These reviews are important for advancing environmental protections, safety of workers, human health, and consultation with communities. It is likewise important to recognize that the requirements inherent in the federal process—particularly NEPA reviews—have evolved into a gauntlet of legal challenges and difficulties. In general, our members working on the OCS are regulated by the Department of Interior (DOI). While the permitting process for Interior-related projects has improved and is much more streamlined when compared to other agencies, the process can still be lengthy. According to data CEQ released under the previous presidential administration, the average time from a Notice of Intent to a Record of Decision under an Environmental Impact Statement process at DOI is one of the lengthiest in the panoply of federal actors—some five years.[8]

Remarkably, that timeframe does not include the time before an NOI, nor the time spent grappling with post-decision litigation. Our members are now facing an onslaught of legal challenges to offshore wind projects. Indeed, as NOIA prepares these comments we are also monitoring sweeping legal challenges asserted on environmental grounds to major new renewable energy projects—namely the Vineyard Wind and South Fork projects—off the east coast which have ironclad support from DOI, local Governors, and a wide range of stakeholders. The offshore wind environmental review and permitting process has improved dramatically as a result of the development of baseline information and the maturation of the permitting process. As it relates to the emerging offshore CCS industry, it will be critical for DOI and the entire federal family to establish a streamline and timely process at the outset. Time is of the essence

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[7] https://www.whitehouse.gov/ceq/news-updates/2022/02/15/ceq-issues-new-guidance-to-responsibly-develop-carbon-capture-utilization-and-sequestration/

[8] "Summary of the Notice of Proposed Rulemaking: Update to the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," 5. Accessed March 10, 2020. https://www.whitehouse.gov/wp-content/uploads/2020/01/20200207-NPRM-Overview-PowerPoint.pdf.

and the federal government has the opportunity to create an efficient process for NEPA reviews and permitting right now.

Without concentrated efforts at the outset to address issues that could lead to unnecessary delays, difficulties in obtaining permits in a timely manner could significantly hamper offshore CCUS. This is particularly notable for offshore CCUS because unlike oil and gas development or wind projects, the primary revenue-stream for non-commercial offshore CCUS businesses would be limited to the Section 45Q tax credits which will expire in January of 2026. At the outset, this is a less typical and less certain business case, and we are viewing offshore CCUS as a publicly beneficial, vitally important, and novel approach to what is essentially a carbon-management issue rather than resource production or extraction. This should be considered and reflected as government manages expectations and sets lease terms. While a different industry, expectations around leasing in federal waters might be particularly amplified on the back of a large scale oil and gas industry in the Gulf[9] and a record-breaking New York Bight lease sale for offshore wind—offshore CCUS will have a very different value proposition for both developers and the federal government in the immediate term. It will be important for CEQ to recognize and reinforce these factors up front.

To the broader question, we would appreciate any efforts CEQ can undertake to prompt streamlined permitting for offshore CCUS projects. We believe that this could include considering:

1. A clear delineation or recommendation from CEQ for which agencies have jurisdiction of which pieces of the CCUS value-chain. In a novel industry there is always the potential for competing jurisdictional claims or interests—preventing this to the fullest extent possible will reduce friction in the early stages of permitting. It will also put relevant agencies on notice for upcoming staffing needs and the importance of preparing to, among other things, identify pore space acquisition and leasing opportunities.

2. CEQ should consider directing relevant agencies to consider creating CCUS "zones" and convene agencies with jurisdiction to identify uniquely regional or local environmental sensitivities, community interests, and permitting issues. A lead agency could also be identified, and timelines prescribed in these sub-set areas. We defer to regulators on possible zones, but clearly the saline formations shown on the map above offer possible delineations such as the Gulf of Mexico, Permian, Appalachian/Mid-West, etc. Again though, we stress that pending applications should not be delayed while a regional approach is considered or developed.

3. A programmatic, region-wide Environmental Impact Statement which may reduce the regulatory burden on individual projects. While the leasing program for offshore oil and gas production is by no means perfect, it has at least created a predictable process for industry and stakeholders to consider cumulative environmental impacts and take part in

[9] https://www.boem.gov/sites/default/files/documents/oil-gas-energy/leasing/sale-257-stats.pdf

the process. The process for early-mover offshore wind projects has worked for considering broad environmental impacts on a largely project-by-project basis but may not be fit-for-purpose long-term for offshore CCUS. Agencies should not postpone CCUS projects that want to proceed before any such programmatic EIS is developed, but considering offshore CCUS in a region-wide manner could create efficiencies across agencies and within the process. Such a move would also help to remove the burden of going "back to basics" with each effort.

4. Further clarification—and possibly a technical conference or other effort to share resources and best practices—on what "reasonably foreseeable" direct, indirect, and cumulative effects should be considered in a PEIS, EIS, or EA. Courts are increasingly watchful—as we have seen with the Department of Interior's recent Lease Sale 257 vacatur on NEPA grounds[10]—in criticizing the scope of these reviews, and CEQ should begin acting now to help avoid "foreseeable" legal setbacks.

5. The creation of programmatic biological opinions (BiOps). The Gulf of Mexico—like all federal waters—is home to important natural habitats for critical species. Regulators and the regulated industry have faced legal challenges in recent years alleging species harassment, taking of key species, or allegations of inadequate reviews. The Brydes Whale in the Gulf of Mexico and Right Whale in the Atlantic Ocean alone have become major points of contention, discussion, funding for protection, regulatory actions, and lawsuits for oil and gas and offshore wind projects. We would encourage CEQ to promote coordination and early discussions on BiOps as early in the process as possible. Substantial work has already been done in this area for the Gulf of Mexico and federal agencies should rely upon and tier from the existing documents and data.

Increased regulatory coordination between DOI and what might be considered "less obvious" federal partners. For example, DOI should coordinate with the Department of the Treasury, as proper implementation of the Section 45Q tax credit will be vital to offshore CCUS. Treasury, to date, has based its issuance of credits as contingent upon regulatory approvals under the Environmental Protection Agency's Underground Injection Control or other regulations; (or other applicable regulations), but the Safe Drinking Water Act and the regulations promulgated thereunder (including those relating to UIC Permitting) do not apply on the Outer Continental Shelf, and thus the EPA's Class VI program requirements are not relevant to CCUS projects on the Outer Continental Shelf. Likewise, the Department of Energy's Loan Program Office is interested in CCUS but will need to consult with DOI as a new generation of projects and related regulatory schemes are created in the offshore.

**Crafting a Regulatory Environment That Emphasizes Safety and Flexibility**

NOIA has five decades of experience working with regulators to ensure safety in the Gulf of Mexico. In our experience, regulations work best at enabling safety through a risk-based

[10] https://www.eenews.net/articles/court-revokes-largest-ever-u-s-offshore-oil-lease-cites-nepa/

approach that enables innovation and safety enhancements. Overly prescriptive regulations will likely inhibit the growth of the offshore CCUS sector and the advancement and deployment of the safest, most efficient, and technologically advanced equipment and operations. Therefore, we have long emphasized the use of documented alternative compliance approvals and variances when pressures, temperatures, well-bore conditions and other local factors support it. Likewise, we would remind CEQ that the National Technology Transfer and Advancement (NTTAA) of 1995 directs all agencies to use voluntary consensus standards in lieu of government-written standards where that is possible—something reinforced by OMB's Circular A-119 providing agency guidance on this. We expect continued growth in standards and certifications applicable to offshore CCUS and the government should leverage this work in accordance with the NTTAA. However, when doing so, the government should ensure that any standards and certifications reflect an industry consensus developed through an open and transparent process and that the documents are publicly available.

CEQ should promptly organize a federally-coordinated effort to encourage regulators—primarily the experts at the Bureau of Safety and Environmental Enforcement (BSEE)—to begin the work to establish a safe, predictable, and durable regulatory environment for offshore CCUS, and to do so in a way that provides an open process and flexibility. As part of that process, regulators may consider international programs and industry standards—or collaborative opportunities to set standards—which may allow for incorporation by reference into the regulatory system. For example, on the former, regulators should continue to examine the efforts of relevant foreign partners, particularly the United Kingdom and Norway which have already moved forward with offshore CCUS to a degree. Regulatory regimes in those countries may be applicable and allow domestic regulators to examine lessons learned. These broader efforts may also be accomplished through incorporation of industry standards into guidance documents. Given the infancy of the industry here in the U.S., this may require the establishment of technical conferences in the early stages. To date, we applaud the Department of the Interior's engagement with the industry for purposes of building a base of knowledge about offshore CCUS and the experience of the industry in developing and managing these projects at scale.

**RDD&D Plays An Important Role**

The use of federal Research, Development, Demonstration, and Deployment (RDD&D) funding has helped enable the development of ascendant renewable energy segments, such as wind, solar, and other energy technologies. Federal RDD&D can also play a critical role in driving down CCUS costs and accelerating economy-wide deployment of this critical emissions-reduction tool. Advanced energy technologies can have long lead times, from demonstration to commercialization, and are capital-intensive.. Given the urgency for CO2 emissions solutions to be scaled-up and deployed, federal support, through RDD&D, can mitigate financial risks and help attract private investment as our nation builds a bridge towards durable commercialization of CCUS projects.

To date, of course, Congress and recent Administrations have worked to provide significant funds for CCUS RDD&D. A recent Congressional Research Service report provides a helpful snapshot of this breakdown, as seen in Table 1 included here.[11] We applaud efforts by the Administration to advocate for increased CCUS funds and have supported such efforts ourselves. It is our hope that an increasing share of these funds can go towards projects in the offshore environment, particularly if funds for carbon storage are increased to levels closer to the budget for carbon capture.

**Table 1. Funding for Carbon Capture and Carbon Removal R&D Activities at DOE**
Budget Authority in millions of dollars

| Program Area | FY2021 Enacted | FY2022 Requested | FY2022 Authorized |
|---|---|---|---|
| Carbon Capture | 126.3 | 150.0 | 1,030.0 |
| Carbon Utilization | 23.0 | 38.0 | 55.3 |
| Carbon Storage | 79.0 | 117.0 | 200.0 |
| *Subtotal* | *228.3* | *305.0* | *1,285.3* |
| Carbon Dioxide Removal | n/a | 63.0 | 63.5 |
| Total | 228.3 | 368.0 | 1,348.8 |

**Sources:** FY2021 enacted from explanatory statement for P.L. 116-260, Division D. FY2022 requested from DOE FY2022 *Budget in Brief*. FY2022 authorized from P.L. 116-260, Division Z.

Similarly, CEQ should encourage agencies to look for cross-cutting opportunities. Many of our members exploring the CCUS space are also looking at related projects for blue and green hydrogen. Considering announcements[12] by the Administration to foster hydrogen hubs and other key initiatives—namely related CCUS hubs—CEQ should emphasize synergies with CCUS wherever possible.

## Environmental Justice Considerations

Environmental justice aims for the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This means that no population should bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws; regulations; and policies[13].

Offshore carbon capture and storage provides what could be viewed as a next step in achieving environmental justice objectives: Mitigating onshore emissions by allowing it to be stored offshore. Part of the attractiveness for Gulf of Mexico CCS projects is the proximity to onshore high-intensity emission industrial zones[14]. Furthermore, offshore carbon storage, much like offshore hydrocarbon production, will occur miles from onshore population areas. We are seeing

[11] https://www.everycrsreport.com/files/2021-06-16_IF11861_63658781d4eb1b8a9cbeba84c83c811cad221cbe.pdf
[12] https://eere-exchange.energy.gov/Default.aspx#FoaId5d96172f-e9b6-48ff-94ac-5579c3531526
[13] https://www.energy.gov/lm/services/environmental-justice/what-environmental-justice

countries like the Netherlands purposefully prioritize carbon sequestration projects to the offshore, away from onshore population centers[15].

Advancing environmental justice priorities is a stated policy goal of the Biden Administration. White House Executive Order 14008, titled Tackling the Climate Crisis at Home and Abroad, established the White House Environmental Justice Advisory Council (WHEJAC) to advise the Chair of the Council of Environmental Quality (CEQ) and the newly established White House Environmental Justice Interagency Council (IAC) to increase the federal efforts to address environmental injustice[16]. The WHEJAC's efforts include a broad range of strategic, scientific, technological, regulatory, community engagement, and economic issues related to environmental justice.

Likewise, the Biden Administration's Justice 40 Initiative directs 40 percent of the overall benefits from federal investments in climate and clean energy towards disadvantaged communities[17]. These benefits can come in a variety of ways, including clean energy and transportation, affordable and sustainable housing, training and workforce development, pollution reduction and remediation, and clean water infrastructure programs. While the Justice 40 Initiative targets carbon sequestration in the agricultural sector, the development of offshore CCS aligns with the intent of the Initiative and could provide the basis for further actions supportive of environmental justice by the Biden Administration.

## Conclusion

> *"CCUS is an essential element in the portfolio of solutions needed to change the emissions trajectory of the global energy system. In its Fifth Assessment Report, the IPCC concluded that the costs for achieving atmospheric CO2 levels consistent with holding the average global temperature to 2 degrees Celsius—referred to as a "2 degree Celsius world"—will be more than twice as expensive without CCUS."[18]—The National Petroleum Council*

This Administration has an opportunity to set the stage for a 21st century in which carbon is responsibly captured and transported for long-term geologic storage or even beneficial use. The offshore, and particularly the Gulf, present one of the most logical opportunities in the United States, but it will be dependent upon thoughtful regulations and careful coordination among governing agencies. We stand ready to help make it a reality and applaud the Biden Administration for stepping up to the plate.

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[15] https://www.globalccsinstitute.com/resources/publications-reports-research/what-happened-in-barendrecht-case-study-on-the-planned-onshore-carbon-dioxide-storage-in-barendrecht-the-netherlands/

[16] https://www.epa.gov/environmentaljustice/white-house-environmental-justice-advisory-council

[17] https://www.govinfo.gov/content/pkg/FR-2021-02-01/pdf/2021-02177.pdf

[18] *Meeting the Dual Challenge: A Roadmap to At-Scale Deployment of Carbon Capture, Use, and Storage*, The National Petroleum Council, December 2019, p. 12.

Very respectfully,

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//Submitted Electronically