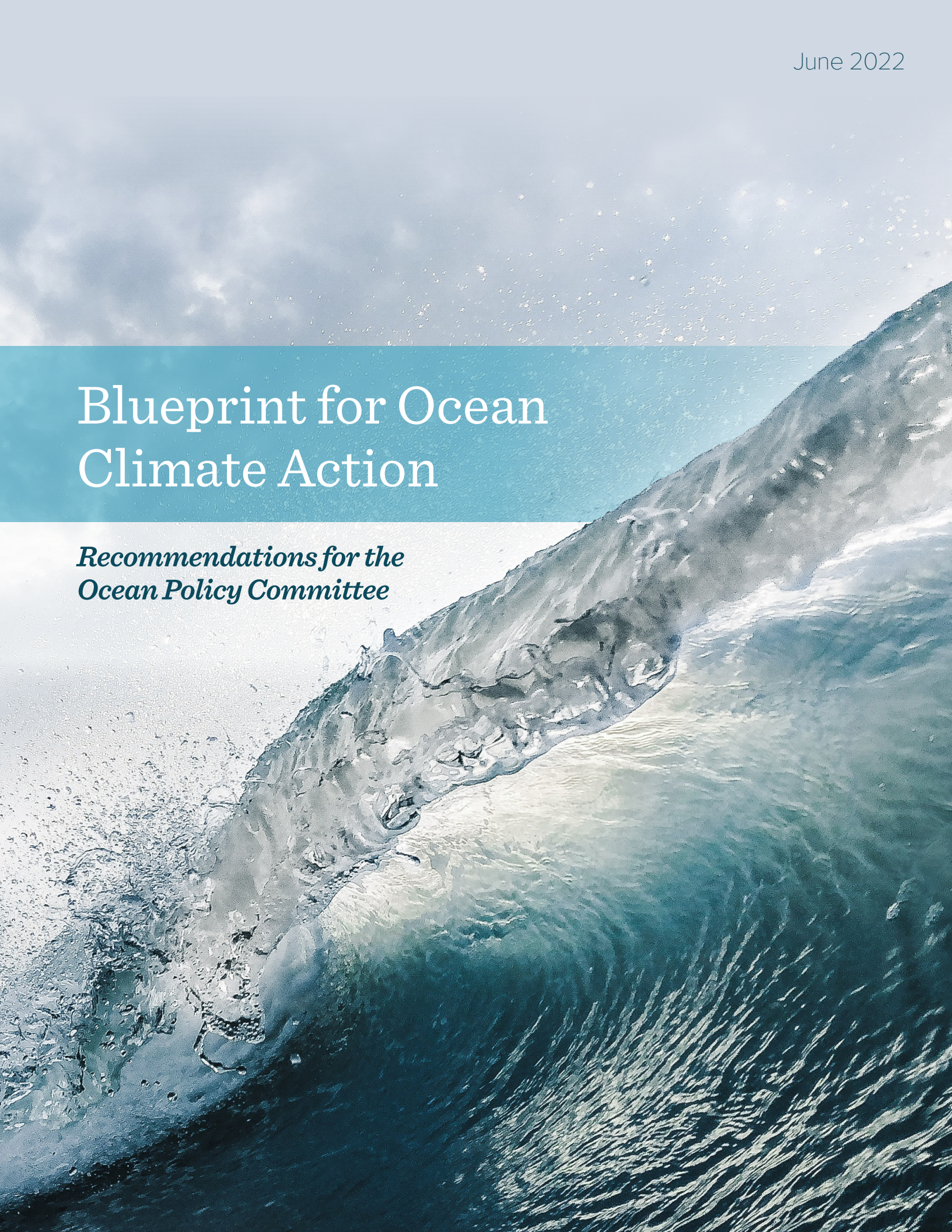


June 2022

Blueprint for Ocean Climate Action

*Recommendations for the
Ocean Policy Committee*



Executive Summary

The ocean offers powerful solutions to address the climate crisis. Spanning 70% of the planet, the ocean has the capacity to provide one-fifth of the emissions reductions needed globally to limit temperature rise to 1.5°C.

President Biden has recognized the potential of ocean climate action from early on in his administration and has taken several promising steps through executive orders and public commitments to strengthen sustainable ocean management. Last year, a coalition of ocean advocates came together and urged the administration to turn its vision into action by crafting a strategy to coordinate federal agencies and ensure they are working together towards the same goals.

In recognition of World Ocean Day on June 8, 2022, President Biden announced a suite of actions to protect the ocean, including a commitment to develop America's first comprehensive ocean climate action plan that

will fully leverage the ocean in the fight against the climate crisis. The White House's Ocean Policy Committee, led by the White House Office of Science and Technology Policy and the White House Council on Environmental Quality, will draft the plan to coordinate a whole-of-government approach.

In order to support the administration as it drafts the plan, leading ocean and environmental organizations have compiled the "Blueprint for Ocean Climate Action," a suite of comprehensive policy recommendations. Focusing on 12 key policy areas, the blueprint outlines clear actions to improve sustainability, resilience, conservation, equity, and justice. The successful implementation of these cross-cutting recommendations will leverage both the mitigation and adaptation power of the ocean and coastlines that will help the administration reach its climate and environmental justice goals.

*The Blueprint for Ocean Climate Action is supported by
93 organizations and businesses nationwide:*

Azul
BeachNecessities.com
Blue Frontier
California Environmental Voters
Californians for Western Wilderness
CEA Consulting
Center for American Progress
Center for Blue Economy
Cetacean Society International
Climate Crisis Policy
Climate Strong Islands Network
Coastal Quest
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Sachamama
Santa Barbara Zoo
Save Our Shores
Seattle Aquarium
Seven Circles Foundation
Shedd Aquarium
Sierra Club National Marine Team
Surfrider Foundation
TAO (Tethra Advisors and Officers)- the Blue Tech and Circular
Economy Consultancy
Terra Advocati
The Earth Bill Network
The Florida Aquarium
The Ocean Foundation
The Ocean Project
The Plastic Ocean Project, Inc.
The Receptionist
United Nations Foundation
Urban Ocean Lab
Virginia Aquarium & Marine Science Center
Waterway Advocates
Wild Wax Candle Company
WILDCOAST
World Wildlife Fund
Xerces Society for Invertebrate Conservation



Blueprint for Ocean Climate Action

Recommendations



Introduction

04



Expand Responsibly-Sited Offshore Wind

05



Phase Out Offshore Drilling and Support the Just Transition to Renewable Energy

09



Promote Green Shipping and Ports

11



Protect Blue Carbon

16



Reduce Plastic Pollution and Emissions

18



Support Climate Ready Fisheries

21



End Illegal, Unreported, and Unregulated Fishing and Human Rights Abuses in the Seafood Sector

24



Advance Marine Protected Areas

26



Enhance Coastal Resilience

29



Minimize and Address Ocean Acidification

32



Evaluate Ocean-Based Carbon Dioxide Removal

34



Prioritize Public Engagement

36

Introduction

President Biden's early executive orders signaled strong commitment to addressing the climate crisis, advancing environmental justice, and ensuring that the ocean is leveraged as a source of climate solutions. These orders set a number of ambitious ocean climate goals including commitments to reduce U.S. emissions by 50% by 2030; generate 30 gigawatts of offshore wind by 2030; protect 30% of the ocean by 2030; and work toward zero emissions from international shipping by 2050.

These goals are further underscored by public commitments to the principles of sustainable ocean management and nature-based solutions to management challenges. This is demonstrated most clearly by the U.S. joining and becoming a signatory to both the High Level Panel for a Sustainable Ocean Economy and the High Ambition Coalition for Nature and People. Finally, the U.S. included a number of ocean-based climate solutions as part of its suite of Nationally Determined Contributions (NDCs) submitted to the United Nations Framework Convention on Climate Change in April 2021.

This compilation of critical principals, goals, and milestones needs to be brought together and integrated into a clear and concrete domestic policy blueprint. The Ocean Policy Committee (OPC) took an important first step in 2021 by recognizing this need and [committing](#) to develop a detailed ocean climate action plan. That commitment was reinforced by the White House in a World Ocean Day [announcement](#) on June 8, 2022. Now is time for the administration to meet this ambition and implement that vision.

A successful ocean climate action plan will leverage both the mitigation and adaptation power of the ocean, coasts, and Great Lakes and provide important opportunities for the administration to reach its climate and justice goals. Doing so will require that the plan also be integrated with the administration's Justice40 Initiative in order to

best advance environmental justice and spur economic opportunity for disadvantaged communities. Similarly, the plan should prioritize diversity, equity, and inclusion, and be developed and carried out with meaningful consultation with Tribal sovereignty and Indigenous Peoples, including consideration of Tribal treaty rights and responsibilities. The plan should complement the administration's human rights agenda, including the [U.S. National Action Plan to Combat Human Trafficking](#) and the [U.S. National Action Plan on Responsible Business Conduct](#). The OPC must equitably engage stakeholders and regional entities in a proactive, planned manner that solicits information and feedback in the plan's development and implementation.

To inform and inspire the OPC in the development an ocean climate action plan that integrates these many important commitments to sustainability, resilience, conservation, equity, justice, and human rights, we are submitting this list of recommended actions. They build on a [letter](#) sent in 2021 by 118 organizations and businesses across the nation that urged the administration to embark upon this critical work. Some of the recommendations are specific activities that already align with existing goals set by the administration, while others are milestones or activities that would benefit from an understanding of where they fit in relation to a higher order goal and the activities of other agencies or sectors.

President Biden's Ocean Climate Goals:



Reduce U.S.
emissions by
50%
by 2030.



Deploy
30
gigawatts
of offshore wind
by 2030.



Protect
30%
of our ocean
by 2030.



Achieve
zero
emissions
from international
shipping by 2050.



Recommendation

Expand

Responsibly-Sited

Offshore Wind

The administration has recognized the substantial role offshore wind energy plays in meeting the overall greenhouse gas emissions reduction target and established a target of installing 30 gigawatts of offshore wind generation capacity by 2030. This will require acceleration of the nation's rapid, just, and equitable transition from oil and gas to responsibly-sited and renewable energy projects that minimize impacts to the marine environment and are consistent with the [United Nations Guiding Principles on Business and Human Rights](#). While the administration has taken several important steps, and the OPC has committed to addressing deconfliction and promoting biodiversity related to offshore wind, much more is needed to reach the climate mitigation targets promised by offshore wind.

Recommendations

- ▶ **Improve planning and coordination before offshore wind energy areas are identified.** Establishing additional capacity in the Executive Office of the President will help drive interagency and intergovernmental coordination in the development of offshore wind energy. Improve federal agency coordination by directing federal agencies, led by the OPC, to:
 - ▶ **Deconflict offshore wind, and maximize co-use** to meet administration commitments, as interagency challenges can significantly delay the administration in reaching its current commitments of 30 gigawatts by 2030.
 - ▶ **Review the regulatory process and timeline** and develop specific recommendations that would increase certainty for wind energy developers, ensure conservation of ecosystem health, respect the rights of Tribes and affected communities, and achieve cost and price parity with fossil fuels. Best practices have been identified by states, federal agencies, Tribes, and stakeholders in the Northeast and West Coast that should be used to inform interagency coordination.
 - ▶ **Identify and execute actions identified in [The Offshore Wind Energy Strategies Report](#)**, prepared by the Department of Energy (DOE)'s Wind Energy Technologies Office, that would support the strategic priorities for accelerating offshore wind deployment and achieve the administration's goal of 30 gigawatts by 2030.
- ▶ **Provide greater certainty in the development, leasing, and permitting process** for wind developers, governments, states, Tribes, communities, ocean advocates, and ocean stakeholders. To achieve this:
 - ▶ **The Department of the Interior (DOI)** should release a schedule with estimated time frames for upcoming lease auctions.
 - ▶ **The Federal Permitting Improvement and Steering Council** should continue to prioritize offshore wind projects and engage in active deconfliction of ocean uses, including funding positions dedicated to conflict resolution where needed.
 - ▶ **The National Oceanic Atmospheric Administration (NOAA) and Bureau of Ocean Energy Management (BOEM)** should hire, detail, or contract additional qualified personnel to assess, review, and process permits to promote ocean ecosystem health and protect wildlife.
 - ▶ **The Department of Transportation (DOT)** should release clear guidance on the investment tax credit and production tax credit for renewable energy projects.
 - ▶ **The DOT Maritime Administration's Port Infrastructure Development Program**, which received \$2.25 billion from the Infrastructure Investment and Jobs Act (IIJA), should be used to upgrade port infrastructure to accommodate the increasing offshore wind industry needs, such as large staging areas, cranes, fabrication facilities, dock space for wind energy vessels, and operations and management spaces. Wherever possible, upgrades that will maximize both offshore wind and maritime industry decarbonization should be prioritized.
- ▶ **Increase collaboration.** States and federal agencies need to coordinate with Tribal governments, fishing industry representatives, local unions, offshore wind developers, scientists, the maritime industry, ratepayers, ocean advocates, and other users of ocean space to facilitate and speed the deployment of responsible offshore wind in concert with existing ocean uses. This includes:
 - ▶ **Developing standardized, meaningful engagement processes** that commence before a specific wind project is announced, and continue through every stage of development, construction,

operation, and decommissioning. The Regional Ocean Partnerships—which received a large funding boost under the IIJA—will be an important forum for this engagement.

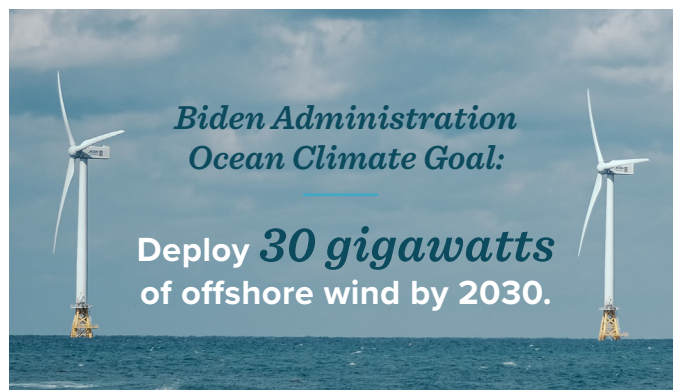
- ▶ **Establishing BOEM field offices and staff** in the Northeast and mid-Atlantic to provide regional representation and stakeholder points of contact as leases and projects are developed.
- ▶ **Requesting additional appropriations for baseline data collection**, NOAA fish surveys and survey mitigation outlined in the recent NMFS/BOEM Survey Mitigation Implementation Plan, and cumulative impact studies to be done for key species or in key regions to help safeguard the environment and expedite the review process for wind projects in those areas.
- ▶ **Ensuring that data developed and collected for permitting and monitoring is made publicly available** in a timely manner for states, Tribes, fishery management councils, and developers to review, comment, and provide meaningful feedback.
- ▶ **Expanding the Fishermen's Contingency Fund** to allow for claims for lost income or gear that might result due to offshore wind installations, similar to claims that can be made with respect to oil and gas rigs. Currently, some portion of oil and gas industry royalties are used to finance this revolving fund. Fishermen who can prove that they suffered losses in income due to inability or reduced capacity to fish as a result of the damage sustained may be eligible for compensation for economic loss and property loss or damage.
- ▶ **Ensuring BOEM leases incentivize investments** in transparent, domestic supply chains, building a local workforce, innovative environmental protections and mitigation technologies and practices, and environmental justice.
- ▶ **Directing some of the \$20 million NOAA received under the IIJA** for Endangered Species Act, Marine Mammal Protection Act and Essential Fish Habitat consultations to facilitate the permits and regulatory compliance needed by offshore wind farms.

▶ **Increase workforce development for offshore wind.**

- ▶ **A 2019 National Renewable Energy Lab (NREL) report** showed a “workforce gap” existed across the wind industry to meet a future demand for construction, installation, operations and maintenance employment needs based on renewable energy goals. DOE and several other agencies already strategically invest in [workforce development](#); however, access to and benefits from these programs can be distributed more equitably by applying the standards and practices of the Justice40 Initiative.
- ▶ **Workforce development programs** are also needed to increase scientific and research capabilities. NOAA and BOEM should work to identify ecological monitoring roles and inclusive career pathway programs in science, technology, engineering, and math necessary to ensure offshore wind energy is developed and operated in an environmentally responsible manner. Working with unions, such as by incorporating Project Labor Agreements and Community Benefits Agreements, and/or by instituting registered apprenticeship utilization metrics, is critical to meeting future workforce needs.

▶ **Comprehensively address power transmission for offshore renewable energy.** This includes actions to:

- ▶ **Create a National Offshore Wind Transmission Plan** and coordinate a shared offshore transmission network, using DOE's Offshore Wind Transmission Convening to include discussions



about a systematic approach towards coordinating, consolidating, and permitting the increasing amount of offshore transmission infrastructure in the Atlantic Outer Continental Shelf, including high-voltage cable routes, offshore substations, and landing points from multiple wind farms to reduce the amount of ocean floor disturbance and project development costs. This network should ensure coordination between NOAA, BOEM, DOE, and the Federal Energy Regulatory Commission (FERC).

- ▶ **Evaluate actions** to ensure the permitting and siting process for offshore transmission lines, offshore substations, and onshore interconnection points within the grid are fully analyzed as part of a comprehensive approach to siting offshore energy. Clarify the specific roles and responsibilities for each federal agency to ensure clarity and efficiency in the planning process. Coordinate with states and regional transmission organizations to understand and address grid capacity onshore and needed improvements in conjunction with the development of a National Offshore Wind Transmission Plan.
- ▶ **Use the new Transmission Facilitation Program** established in DOE (under the IIJA) to support the establishment of this network.
- ▶ **Future-proof downstream supply chain needs.** The global offshore wind industry is booming, and the U.S. is currently a small market that relies largely on foreign offshore wind farm developers, original equipment manufacturers, and tier one suppliers for a wide range of offshore wind components. As states and the federal agencies approve and permit more farms, a robust domestic supply chain and infrastructure support system will be needed to accommodate this growth. This will require:
 - ▶ **Creating regulatory certainty and incentives** for manufacturing investment and production in the U.S., with the goal of meeting global market needs while creating good union jobs.
 - ▶ **Requiring companies receiving government support to trace their materials supply chains** and ensure their products and their components are not produced with forced labor or other egregious human rights violations.
 - ▶ **Understanding and having a plan for meeting needs for additional raw materials** (especially minerals and metals) and other component parts of the turbines so they are readily available for manufacturing and so that production minimizes environmental impacts and respects human rights.





Recommendation

Phase Out Offshore Drilling and
Support the Just Transition to
Renewable Energy

Calls to increase domestic oil and gas production are squarely inconsistent with serious efforts to address the climate crisis. During his campaign, President Biden committed to ending new offshore oil and gas leasing in the U.S. Ending all new leasing is necessary to meet this commitment and to the administration's goal of reducing greenhouse gas emissions by 50% by 2030. New offshore lease sales will lock in production potential for decades, resulting in hundreds of millions of metric tons of CO2 emissions that are driving climate change. Offshore drilling also has significant impacts on the communities where production occurs and the marine environment and undermines the ability of the ocean to adapt in a changing climate. We must invest in a just transition away from fossil fuels for our communities, for our ocean, and for our planet.

Recommendations

- ▶ **Propose a new Five-Year Plan with no lease sales.** The current Five-Year Plan, which allows new areas of the outer continental shelf to be leased for future oil and gas development, expires at the end of June, 2022. A new plan must be finalized by BOEM before any new leasing can occur. To achieve emissions reductions goals, the administration should act boldly and put forward a new Five-Year Plan that proposes no new lease sales. The oil and gas industry is already sitting on over 8 million acres of unused offshore leases, which will themselves take years to begin producing. They do not need more leases, and short-term gas price spikes will continue to threaten our oceans without action to permanently protect as many areas of the ocean as possible.
- ▶ **Permanently protect U.S. waters.** The administration should consider options, including congressional funding moratoria, to permanently protect U.S. waters from future leasing for new oil and gas development. Permanent protections will provide the enduring safeguards needed to prevent the expansion of offshore oil and gas development in the future.
- ▶ **Phase out offshore drilling** and accelerate the nation's rapid, just, and equitable transition from offshore oil and gas to offshore renewable energy. [According to BOEM](#), the Gulf of Mexico is the nation's primary offshore source of oil and gas, generating about 97% of all U.S. outer continental shelf oil and gas production. As our nation transitions away from fossil fuel production to clean energy sources, providing economic opportunities to those communities that have depended on oil and gas production must be a priority.
- ▶ **Prioritize Gulf investments and communities** in the whole-of-government effort being led by the Interagency Working Group on Coal and Power Plant Communities to support the nation's transition away from fossil fuels.
- ▶ **Support tax incentives for clean, renewable energy projects** located in fossil fuel-dependent communities and labor standards for clean energy tax credits, that require recipients pay the prevailing wage and institute apprenticeship requirements.
- ▶ **Address historic environmental justice issues.** For far too long, coastal communities have endured the burdens of the fossil fuel industry—from oil spills to health impacts from refineries and other associated industries. A commitment to equity and environmental justice requires increased scrutiny of ongoing development of our public waters for oil and gas production. As the administration considers our future energy needs, the views of local communities and the long history of environmental injustice must be front and center in those considerations.

Biden Administration Ocean Climate Goal:

**Cut greenhouse gas emissions in
half by 2030.**





Recommendation

Promote Green
Shipping and Ports

If shipping were a country, it would be the [eighth largest emitter](#) of greenhouse gases globally. On their current trajectory, shipping emissions are predicted to increase by up to [130% of 2008 emissions levels by 2050](#). Ports are hotspots of local emissions and air pollutants, with frontline workers and nearby communities—often historically marginalized and environmental justice communities—suffering disproportionate harm from these pollutants. Additionally, marine vessels are responsible for driving growing levels of ocean noise pollution, which diminishes the health and resilience of marine life and ecosystems. Achieving clean and quiet shipping and addressing port emissions and pollution will require close collaboration across local, state, federal, and international parties in order to transition the entire maritime industry as soon as possible. For more detail on many of the recommendations in this section, see this [report](#).

Recommendations

- ▶ **Leverage funding from the IIJA.** The \$2.25 billion included in the IIJA for the Port Infrastructure Development Program—with expanded eligibility criteria centered on climate mitigation and resilience – in addition to funding through the DOE to establish at least one green hydrogen hub – has the potential to jump-start a necessary transition to electrified, zero-emission ports and a zero-emission maritime sector. As the U.S. works towards the crucial commitment of zero-emission shipping by 2050, the administration should prioritize investments to tackle emissions at ports, including:
 - ▶ **Ending public financing of fossil-fuel maritime projects**, including liquid natural gas (LNG) development, storage, or export/import infrastructure at any U.S. ports. Projects supported by the IIJA should not exacerbate the climate crisis by supporting the use of fossil fuels, such as LNG and instead should advance strategies to facilitate the shipping industry's transition to zero-emission fuels.
 - ▶ **Prioritizing projects that support the transition to zero-emission ships**, including funding for projects that install shore power at coastal ports that serve international carriers and deploying shore power in a way that best supports the development of international and domestic clean shipping routes.
 - ▶ **Promoting a maritime green hydrogen hub** that supports the development of clean shipping routes and the U.S. commitment under the [Clydebank declaration for green shipping corridors](#). This includes co-locating offshore marine renewable energy production with ports, where appropriate, to support electrification or production of zero-emissions alternative fuels for shipping.
- ▶ **Supporting the development of port electrification plans** and facilitating the replacement of polluting equipment with zero-emission and electric alternatives. Allocate funding in a way that ensures a robust network of electrified ports across regions and that every commercial port has an electrification plan by 2027.
- ▶ **Supporting monitoring and reporting of emissions at ports.** The DOT should work with the Environmental Protection Agency (EPA) to establish monitoring and reporting of greenhouse gas emissions at ports and fund the development of systems to collect and report emissions data and use the data to evaluate the impact of emission reduction measures.
- ▶ **Eliminate emissions in U.S. ports.** Ports, at-berth vessels, and supporting equipment such as trucks, are often major producers of air pollution—and disproportionately impact communities residing near ports, which are often historically marginalized and environmental justice communities. To eliminate these emissions and pollutants, the U.S. should:
 - ▶ **Require all ships calling on our ports to report their fuel consumption and emissions.** As noted in the recent State Department announcement on [Green Shipping Corridors](#), achieving zero emissions in the maritime sector will require, among other things, an improved, transparent emissions reporting system to serve as a basis for accurate emissions reductions. The U.S. should establish a system that is modeled off of the European Union's Monitoring, Reporting, and Verification for ships and take responsibility for 50 percent of all inbound and outbound emissions from ships docking its ports, split on a 50:50 basis between the country of origin and destination for all ships.

*Biden Administration
Ocean Climate Goal:*

**Achieve
zero emissions
from international shipping by 2050.**



- ▶ **Require port emissions inventories to ensure compliance.** U.S. ports are not currently required to conduct an annual inventory of air pollutants or greenhouse gases. Uniform reporting of emissions is needed to ensure compliance with a zero-emission target by 2050.
- ▶ **Eliminate in-port ship emissions**, requiring that all ships at-berth or at-anchor in U.S. ports emit zero greenhouse gases and zero criteria pollutants by 2030, focusing on the zero-emission outcomes, which gives shipping companies flexibility in how to meet these mandates.
- ▶ **Establish an Environmental Justice Ports Advisory Commission.** For decades, communities living in major American port cities have been sidelined to accommodate rapid growth of the shipping industry. A commission or a working group within the White House Environmental Justice Council should be established to prioritize frontline community perspectives in port and shipping policy decisions.
- ▶ **Advance zero-emissions propulsion and green technologies.** This includes actions to:
 - ▶ **Bring down costs of electric and zero-emission fuel solutions.** Producing zero-emission fuels for shipping requires substantial investment. The administration and Congress should explore incentives, rebates, taxes, and/or other financing mechanisms to support battery and zero-emissions fuel production. All efforts should address frontline communities' concerns and advance evidence-based principles for evaluating the climate credentials of alternative marine fuels and policies.
 - ▶ **Ban scrubber systems in U.S. ports and waters.** Shipping companies maintain their reliance on dirty fossil fuels in the face of increasing air quality regulations by installing "scrubber discharge technologies" that dump oil-filled waste water into the ocean before docking at ports. These systems should be banned as a means of compliance with clean fuel standards in U.S. waters and ports, just as they have been in thirty other nations.
 - ▶ **Encourage the adoption of quiet vessel design and technologies.** Technologies and designs that are capable of reducing underwater noise pollution from vessels are available, but few incentives or policy drivers exist to promote their uptake. The administration should explore policy and funding mechanisms to increase their deployment and adoption.
 - ▶ **Support market development of new technologies** like battery power and green hydrogen power.
 - One of the four hydrogen hubs funded through the IIJA will utilize renewable electricity (green) for power, and it should be developed in coordination with a chosen port to advance zero-emissions port technology for the hard-to-abate shipping industry and should be geographically aligned with an established green corridor to ensure the first green corridor in the United States has the proper infrastructure in place to meet zero-emissions targets.



- Enable green hydrogen and be wary of stranded blue and clean hydrogen assets that rely on fossil fuels and fossil fuel infrastructure, which cannot be transitioned to produce green hydrogen.

► **Strengthen infrastructure, investment, and market development.** This includes actions to:

- **Increase Zero-Emission Ports Infrastructure Funds.** Congress passed several measures last year to expand authorities and increase funding for programs that can be used to reduce emissions at American ports, including under the Port Infrastructure and Development Program. The administration should prioritize emissions reductions grants under these programs and continue to support funding increases.
- **Focus the zero-emission transition on the U.S. fleet and workforce.** The U.S. can lead by example and establish a process and timeline for future procurements of new U.S. ships built with zero-emission and quiet vessel designs by a date certain.
- **Procure low/zero-emission vessels for Maritime Training Institutes.** Acquiring training vessels will give mariners time to develop the necessary skills to safely operate these ships, and to develop the standards for certifying mariner's knowledge. In addition to procuring training vessels, the curriculums of America's university-level merchant academies should be encouraged to develop a list of courses that teach zero-emission technologies and fuels.
- **Identify additional ways the United States can leverage its federal vessel fleet** to build confidence in emerging zero-emission technologies and

eliminate federal fleet emissions by 2050 at the latest, which would complement private sector efforts and position the U.S. as a global leader.

► **Establish a national Ocean Ranger-style environmental enforcement program.**

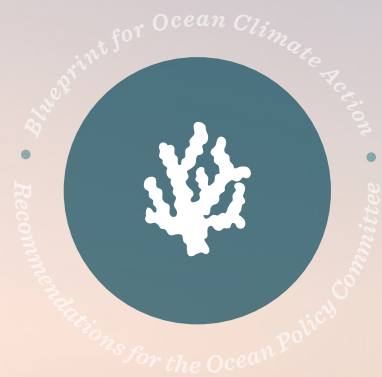
The administration should establish a green government jobs program, similar to the Ocean Ranger Program supported by Alaska voters in 2006, that allows the Coast Guard and EPA marine engineers to board vessels and act as independent observers monitoring fuel standards, pollution standards, the scrubber ban, and other marine discharge requirements.

► **Maintain U.S. Leadership in International Decarbonization.** This includes action to:

- **Establish a proof-of-concept Green Corridor within U.S. waterways** and develop an operational framework in order to expand the program, as announced at the Our Ocean Conference in Palau, fulfill the U.S. commitment to the Clydebank Declaration, looking to ports as hubs for the clean energy transition. As noted in the [announcement](#) by the State Department, a corridors approach that links zero-emission fuels demand (from ships) and supply (from ports) will help scale demand across multiple maritime industries and supply chains simultaneously, driving down costs and accelerating shipping decarbonization. The recent [announcement](#) that the Port of Seattle will work with major cruise lines and Vancouver, B.C., and Juneau to develop a "green corridor" for cruise ships from Seattle to Alaska is one example of how this process could work across other industries.

- ▶ **Develop green marine highways for domestic ports.** One long standing priority of DOT has been to increase the use of U.S. waterways and support the development of “marine highways” that parallel congested interstate highways. Establishing zero-emission vessel marine highways would allow for smaller, more trial-based ships to have access to a dependable alternative fuel on either end of their route and lead to accommodation of larger ships, and ultimately, ocean-going vessels.
- ▶ **Continue to lead engagement and discussions on maritime decarbonization and vessel quieting within international forums,** especially the International Maritime Organization (IMO). This should include U.S. leadership in building an international coalition at the IMO to support enactment of policy measures that will ensure zero-emission deepwater shipping is adopted commercially by the mid-2020s, enable at least 5% of shipping fuels to be scalable zero-emission fuels by 2030, and ensure zero-emission shipping is price competitive with fossil-powered by 2035 at the latest. It should also include U.S. leadership and coalition-building to support the development and adoption of mandatory regulations to reduce underwater noise from commercial shipping.
- ▶ **Provide support for a just clean shipping transition** with cooperation from additional nations by ensuring the attendance and participation of small island developing states at IMO meetings.
- ▶ **Support the COP26 Just Transition Declaration** principles, including but not limited to creation of decent jobs, support for vulnerable communities, development of skills, occupational health and safety guidelines, and the improvement of equity and prevention of human rights abuses in supply chains. These principles also include a commitment to gender equality, racial equality and social cohesion; protection of the rights of Indigenous Peoples; disability inclusion; intergenerational equity and young people; the promotion of women and girls; marginalized persons’ leadership and involvement in decision-making; and recognition of the value of their knowledge and leadership; and support for the collective climate action of diverse social groups.





Recommendation

Protect

Blue Carbon

“Blue carbon” ecosystems include mangroves, salt marshes, sea grasses, coral reefs, and kelp forests. These coastal ecosystems absorb carbon dioxide out of the atmosphere and store it at a rate of up to four times that of forests on land; protect coastal communities from the worst impacts of sea level rise, flooding, and storms that are harming communities of color and lower income communities first and worst; and provide habitat for marine wildlife and fisheries. The White House Council on Environmental Quality, Office of Science and Technology Policy and Office of Domestic Climate Policy have [recognized](#) the need for a report to the National Climate Task Force on key opportunities for greater deployment of nature-based solutions, including the restoration of these ecosystems.

Restoration and conservation of blue carbon ecosystems should be understood as essential nature-based tools for meeting climate goals. The administration should adopt policies and regulations that limit the degradation of these habitats, maximize their blue carbon benefits, prioritize the protection of vulnerable communities through a just transition, and generate new financing mechanisms to encourage their use.



Coastal blue carbon ecosystems,
such as mangroves, salt marshes,
and coral reefs, absorb and store
4x more carbon
than forests on land.

Recommendations

- ▶ **Strengthen accounting for the multiple benefits provided by blue carbon ecosystems** such as salt marshes, seagrass meadows, and mangroves, including the potential for their inclusion in national mitigation and adaptation goals.
- ▶ **Request an update of [2013 Wetlands Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories](#)** reflecting the last decade of science and modeling. Ensure that the update includes guidance on handling uncertainty, especially regarding outcomes of extreme events (e.g. marine heat waves, storm-related flooding, tropical cyclones) and outcomes resulting from the local balance between erosion and sea level rise.
- ▶ **Provide guidance for the specific inclusion of blue carbon ecosystems** and the functions they provide into local adaptation planning as nature-based elements that support adaptation planning ([c.f. Intergovernmental Panel on Climate Change Assessment Report 6 Synthesis Report: Climate Change 2022](#)) and sustain coastal biodiversity critical for adaptation and equitable human development (c.f. 2021 Intergovernmental Panel on Climate Change-Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [Biodiversity and Climate Change Scientific Outcome Report](#)).
- ▶ **Advocate for the expansion of the definition of blue carbon ecosystems** once evidence confirms carbon sequestration effectiveness, durability, and manageability of proposed blue carbon-sequestering systems such as kelp forests.
- ▶ **Expand NOAA and EPA investment in coastal blue carbon restoration and community engagement efforts.** For example, the Urban Waters Federal Partnership that reconnects urban communities, particularly those that are overburdened or economically distressed, with their waterways by improving coordination among federal agencies and collaborating with community-led revitalization efforts that improve our Nation’s water systems and promote their economic, environmental and social benefits.



Recommendation

Reduce Plastic Pollution and Emissions

Plastic is poisoning communities, contributing to the climate crisis, choking our ocean, and harming marine life. At the same time, plastic production is a growing source of both greenhouse gas and toxic emissions. According to a recent [report](#), the U.S. plastics industry emits at least 232 million tons of greenhouse gas emissions per year, an amount equivalent to the average emissions from 116 average-sized coal-fired power plants. On its current trajectory of growth, these and other toxic emissions from plastic production are expected to exceed that of coal-fired power in the U.S. by 2030. Beyond the rapid increase in U.S. plastic production using fossil fuel feedstocks, the durability of plastics, and their persistence in the environment, creates a particularly challenging ocean pollution problem. Like many other fossil fuel related industries, the health impacts of these emissions—from extraction to disposal of plastics—are disproportionately borne by historically marginalized and environmental justice communities making this a major environmental justice issue.

Recommendations

- ▶ **Establish a systemic U.S. plastic reduction policy and research strategy.** A recent National Academies of Sciences, Engineering and Medicine study mandated by Congress [recommends](#) the administration establish a coherent, comprehensive, and crosscutting federal policy and research strategy to reduce its contribution of plastic waste to the environment and ocean. It also recommends that:
 - ▶ **The strategy be developed at a high level** with a group of experts, or external advisory body, by Dec. 31, 2022. For more information on the U.S. and plastic pollution, see National Academies of Sciences, Engineering, and Medicine [report](#).
 - ▶ **It identify interventions at every stage of plastics' flow into the ocean**, from production to disposal, and focus particularly on early stages of plastic production and waste generation.
 - ▶ **It build on efforts** underway, fill gaps in coverage, and apply lessons learned in the U.S. and other countries.
- ▶ **Demonstrate U.S. leadership in global negotiations and commitments.** The national plastic reduction policy and research strategy should be coordinated across agencies, include source reduction targets, and address the social, economic and policy issues and regulatory as well as research gaps identified in the report. As negotiations commence on a global agreement, the national strategy can inform U.S. decisions and provide opportunities for leadership. Scientific experts, including members of the recent National Academies' study, should be engaged for advice on interventions to reduce the U.S. contribution of plastic waste.
- ▶ **Minimize the environmental and health impacts of single use plastics** and beverage containers by directing the EPA Administrator to develop requirements to minimize the impacts of extraction, manufacture, use, and end-of-life management.
- ▶ **Ban single-use plastics across the federal government**, building on DOI's [commitment](#) to ban single-use plastics department-wide, and update the [Federal Sustainability Plan](#) to ensure it addresses reduction of single-use plastics.
- ▶ **Prohibit the use of toxic substances** in the manufacturing of plastic beverage and foodware containers. The EU's "restrictions roadmap" will use existing laws to outlaw toxic substances in the production of a wide range of products. The U.S. should do the same with respect to plastic beverage and foodware containers.
- ▶ **Issue guidance**, developed by the Administrator of the EPA in consultation with state and local governments and affected stakeholders, to:
 - ▶ **Standardize recycling and composting collection** across communities and states;
 - ▶ **Develop new data collection methodologies** to report on waste reduction, composting, and recycling rates; and
 - ▶ **Require producers to share responsibility** for supporting effective recycling programs.
- ▶ **Assess and adopt reuse and refill practices across the federal government** through a review and evaluation of the efficacy and cost-effectiveness of technologies, and techniques to expand reuse and refill options.

- ▶ **Speed Change Through Incentives.** Employ fiscal tools and related incentives to develop alternative materials and products that are protective of human and environmental health, designed with a demonstrated end-of-life strategy and that will:
 - ▶ **Follow the Principles of Green Engineering and Green Chemistry;**
 - ▶ **Support a transition** to a circular economy by retaining resource value; and
 - ▶ **Promote industry-wide innovation, standards, collaboration, and regulation** by constraining the types of resins and additives used in some applications.
- ▶ **Prohibit the export of plastic waste to other nations** that lack the documented means and infrastructure to sustainably manage the materials. Any plastic waste, plastic pairings and plastic scrap that is exported to any country must have prior informed consent and may not include contamination levels that disrupt the ability to recycle those wastes or hazardous or toxic substances.



Plastic production
in the U.S. emits at least
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Recommendation

Support Climate
Ready Fisheries

Climate change is altering marine environments and threatening the people and fisheries that depend on healthy marine ecosystems. Fish stocks are shifting northward, and fisheries that communities have relied on are moving from traditional grounds. These changes are testing existing management regimes as they affect fisheries in our ocean waters, fishery-dependent coastal economies, and Indigenous communities and cultures that are particularly vulnerable as the effects of climate change worsen. While NOAA Fisheries is studying the impacts of climate change on fisheries, they have not yet established clear goals, targets, and guidance for how Regional Fishery Management Councils (Councils) should consider climate resilience of fish stocks in management measures implemented under the Magnuson Stevens Fishery Conservation and Management Act (MSA).

Recommendations

- ▶ **Prioritize strong implementation of core conservation requirements.** NOAA Fisheries should implement more precautionary management for stocks that are known to be particularly vulnerable to climate change, including:
 - ▶ **Ensuring catch levels are consistent** with scientific advice as required by law.
 - ▶ **Setting up regular and transparent processes** for adequate progress determinations for stocks under rebuilding plans and increasing accountability for failed rebuilding plans.
 - ▶ **Strengthening implementation** of existing essential fish habitat and bycatch provisions of the MSA.
- ▶ **Clearly establish climate-ready fishery management as a policy priority.** NOAA must provide tangible management guidance to the Councils through actions including:
 - ▶ **Issuing a NOAA Administrative Order** on climate-ready fishery management to formally establish enduring policy priorities across NOAA to ensure that fishery resources are managed for sustainability and resilience and ensure that interagency coordination brings to bear all the relevant authorities, information, and strategies for the long-term health of ecosystems, fisheries, and fishing communities.
 - ▶ **Develop a climate adaptation and resilience plan.** As part of implementation of Executive Order 14008, NOAA Fisheries should develop an agency-specific climate adaptation and resilience plan that tiers off of the priorities established in the [Department of Commerce plan](#) released in October 2021 that would set priority actions, milestones, and performance metrics for fisheries science and management specifically.
- ▶ **Develop specific guidance targeted at the Councils and managers.** Further guidance is needed at a granular, applied level to enable Councils and regional offices to operationalize climate-ready approaches and decision-making. Implementation of this guidance should be supported by technical teams at NOAA Fisheries who can help Council staff develop climate-ready approaches for specific stocks. Some areas in need of new guidance include:
 - ▶ **Enhancing Council action and coordination** on management of [shifting stocks](#).
 - ▶ **Integrating climate information** into stock assessments and fishery management plans.
 - ▶ **Identifying strategies and approaches** to ensure fisheries experiencing climate impacts rebuild in a timely fashion, and that overfishing is promptly ended and addressed.
 - ▶ **Requiring measures** to promote the resilience of fish populations in climate-vulnerable fisheries, building on [existing vulnerability assessments](#) conducted by NMFS.
 - ▶ **Ensuring precautionary management** of new or emerging fisheries, particularly forage fish;
 - ▶ **Developing management mechanisms** that account for climate change (e.g., climate-informed harvest control rules, climate-informed stock assessments, and more closely linking real-time monitoring with management actions).
- ▶ **Boost the scientific infrastructure that supports fishery management.** As climate change begins to affect patterns of fish abundance and their geography, the historical record of observations can become less useful and lead to erroneous or uncertain predictions. For example, in recent years significant scientific uncertainty has resulted in the rejection of a number of New England groundfish stock assessments including those for Georges Bank cod,



witch flounder, and winter flounder. Climate change is likely a major contributor to this uncertainty. Major questions also have been raised for blueline tilefish, black sea bass, and American plaice due to apparent shifts and expansions in their geographic ranges. NOAA Fisheries must meet these challenges with investments in fisheries science infrastructure and continuously using the results of this investment in science in the management process.

- ▶ **NOAA Fisheries should support and build on the Climate, Ecosystem and Fisheries Initiative (CEFI)**, and traditional knowledge should be effectively included in CEFI efforts. CEFI could provide key services to coastal communities and ocean-based industries beyond fisheries, including early warning services for extreme events and regional predictions regarding melting sea ice and sea level rise.
- ▶ **NOAA Fisheries should use existing authority and expertise** to issue guidance on climate-informed stock assessments, as well as require Councils to inventory any additional research needed to manage stocks effectively in light of climate change.
- ▶ **Push for strong investments in climate-ready fisheries across the NOAA budget.** NOAA should continue to advocate for and request ambitious, specific investments in climate-ready fisheries across their

budget. The agency should also conduct a thorough review of grant programs to ensure that climate is centered in as many of them as possible.

- ▶ **Conduct early, focused outreach to stakeholders and the councils.** Outreach will be critical to developing climate ready fisheries approaches and should be informed by targeted and advanced outreach efforts.
- ▶ **Outreach efforts** could be modeled after the National Saltwater Recreational Fisheries Summit, which has been an excellent venue for sharing information and perspectives across regions and identifying opportunities for collaborative policy solutions.
- ▶ **NOAA Fisheries** should substantially increase training and education for Councils on climate-adapted management approaches, the information needed to successfully implement these approaches, and how to act to increase fishery resilience using the best available data and information.
- ▶ **Integrate priorities around equity and justice into climate-ready management efforts.** NOAA Fisheries has many opportunities to advance equity in fisheries management, via conducting meaningful consultation with Tribes, including local and Tribal traditional knowledge in federal fisheries monitoring, research, management and regulatory decision-making processes, and ensuring Tribal participation on federal fishery management bodies and decisions.

Recommendation

End Illegal, Unreported, and
Unregulated Fishing and Human
Rights Abuses in the Seafood Sector

Illegal, unreported, and unregulated (IUU) fishing is one of the greatest global environmental threats to ocean health. Representing up to a third of global catches, IUU fishing directly contributes to overfishing, threatening the sustainability of fisheries and marine ecosystems; undermines coastal communities and food security; destabilizes the security of maritime states, economically disadvantages fishermen operating legally; and drives human trafficking and labor and other human rights abuses in the fishing industry. Left unchecked, IUU fishing will significantly exacerbate the impacts of climate change on ecosystems and communities. Work on this issue would build on critical steps launched by the Obama-Biden administration in 2016 and meet commitments made by President Biden and Special Presidential Envoy Kerry to world leaders at the 2022 Our Ocean Conference in Palau. The administration should:

- ▶ **Ensure White House leadership on IUU.** Place the Interagency Working Group on IUU Fishing, established by Section 3551 of the National Defense Authorization Act of 2020, under direct oversight and management of the OPC Chairs.
- ▶ **Expand the application of NOAA's Seafood Import Monitoring Program (SIMP) to all seafood imports.** SIMP is currently only applied to 13 species groups, which constitute 40% of seafood imports by value. To ensure effectiveness and close loopholes, this program must be expanded to include all species.
- ▶ **Strengthen SIMP implementation and enforcement by:**
 - ▶ **Reviewing and expanding the existing set of required key data elements** to include information related to identifying human rights abuses at sea, better enable automated predictive analysis of risky shipments, and harmonize SIMP with global best practices;
 - ▶ **Conduct regular targeted audits** of SIMP data for accuracy, not just completion.
- ▶ **Strengthen automatic identification system (AIS) and transparency requirements.**
 - ▶ **Require AIS tracking information** and unique mobile maritime service identity as a condition of importing seafood into the U.S..
 - ▶ **Ensure comparable transparency requirements** exist for the U.S. fishing fleet.
- ▶ **Strengthen diplomatic tools and better direct capacity building investments.**
 - ▶ **Apply the existing legal definition of IUU fishing**, as required under the National Defense Authorization Act of 2020 and the Illegal,

The U.S. imported *\$2.4 billion* worth of illegal seafood in 2019.

Unreported, and Unregulated Fishing Act of 2015, to the anti-IUU process established under the High Seas Driftnet Fishing Moratorium Protection Act (HSDFMPA) and interpret that definition to include forced labor and other human rights violations through updated HSDFMPA regulations.

- ▶ **Develop import controls and similar measures for human rights concerns in the seafood sector.**
 - ▶ **Identify and establish an appropriate regulatory process** for jointly addressing traditional IUU fishing issues as well as forced labor and human rights violations in seafood supply chains within two years. This rule or rules should maximize existing authorities to address these joint concerns and build on concepts related to collection and analysis of key data elements and critical tracking events, requirements for due diligence and due diligence plan submission, traceability, transparency, risk-based screening, and nation-based pressure.
- ▶ **Strengthen risk-based screening and enforcement.** Within two years, establish a rule or requirement providing for an IUU Data Fusion Center. The center should build on the existing model of the Commercial Targeting and Analysis Center and to provide a center of gravity for relevant agencies to work together to identify and continually modify, as necessary, indicators of IUU behavior, including forced labor and other human right abuses, and apply those indicators to real time data collected through SIMP and the mechanisms identified above.



Recommendation

Advance Marine Protected Areas

Marine protected areas (MPAs)—areas of the ocean with the primary purpose of protecting biodiversity and nature for the long term—offer a nature-based solution for climate change adaptation and mitigation. Protecting blue carbon habitats in MPAs prevents emissions associated with their destruction and allows for their continued carbon sequestration. Protecting ocean and coastal ecosystems in MPAs also enhances ecosystem resilience by preventing damaging and destructive activities, promoting robust populations, providing refuge to wildlife in a changing ocean, and protecting genetic diversity that provides the raw material for adapting to climate change. While the administration has taken bold steps by committing to the goal of protecting 30% of U.S. lands and ocean through the America the Beautiful initiative, now is the time for action to ensure we meet this goal with an effective, equitable, and representative system of MPAs. See more detail on these policy recommendations [here](#).

Recommendations

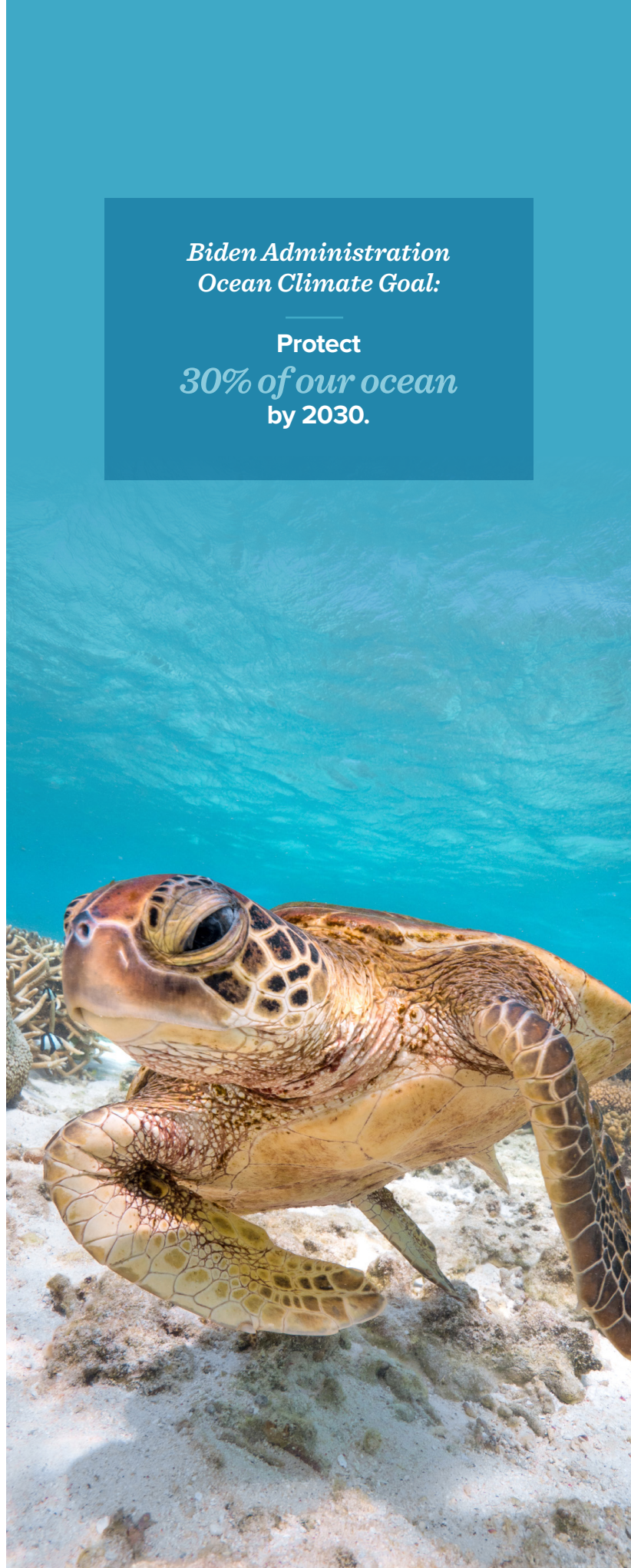
- ▶ **Immediately expand and strengthen our country's marine protected areas system** to give ocean life and all who depend upon it a chance to thrive in a changing climate. Science has shown that highly and fully protected MPAs are the most effective types of MPAs for protecting biodiversity and enhancing ecosystem resilience in the face of climate change. The administration should:
 - ▶ **Prioritize the creation of new MPAs** and strengthen protections within existing MPAs to achieve the goals of America the Beautiful, with special focus on highly and fully protected areas.
 - ▶ **Advance the designation process for nominations** in the National Marine Sanctuary Program inventory.
 - ▶ **Ensure existing MPAs are implemented**, enforced, and ensure the outcomes are consistent with the goals for the area.
 - ▶ **Invite and prioritize nominations** for new protected areas, especially from communities that have historically been underrepresented.
- ▶ **Prioritize conservation outcomes that protect biodiversity, address the climate crisis, and provide more equitable access to nature.** Not all conservation actions are the same or produce the same benefits. The administration should take action to:
 - ▶ **Evaluate and document how conservation efforts**—including new and existing protections—under the America the Beautiful initiative produce outcomes for the stated goals: biodiversity, climate, and equitable access to nature.
 - ▶ **Use the best available science** in the design of any new or expanded conservation measures to ensure the three named goals of America the Beautiful are achieved.
- ▶ **Focus on increasing geographic and ecological representation of our MPA system.**
The administration should:
 - ▶ **Increase the coverage** of highly and fully protected areas in a diversity of ocean habitats that represent the full range of America's marine ecosystems.
 - ▶ **Prioritize areas for protection and conservation** where significant numbers of underserved communities are vulnerable to the impacts of climate change and lack the access to nature and ecosystem services that protected areas provide.
- ▶ **Increase equitable access to the ocean and coasts with a focus on serving communities that have historically not had access to nature and outdoor spaces.** The administration should take action to:
 - ▶ **Work with different stakeholders** to clearly define equitable access to nature in order to address all the barriers by historically overlooked communities.
 - ▶ **Address both physical access and cultural access.**
 - ▶ **Create partnerships** with BIPOC-serving and education-focused organizations to inform and advance this important goal of America the Beautiful.
- ▶ **Separately evaluate and measure progress toward the distinct goals of nature protection and equitable access to nature.** The U.S. needs to protect more nature and provide more equitable access to nature. Both are important. The solutions to each of these challenges may look different and should be accounted for separately in the American Conservation and Stewardship Atlas
- ▶ **Advance Tribal and Indigenous communities' needs and priorities around the America the Beautiful initiative, including those stated in the Tribal Leader Statement on 30x30 Policy.** The U.S. 30x30 goal presents a critical

opportunity to strengthen nation-to-nation ties with Tribal communities, honoring Tribal sovereignty, and prioritizing Tribal communities' visions for the stewardship of natural, cultural, and historic resources.

- ▶ **Evaluate 'other effective area-based conservation measures' (OECMs) in U.S. waters in a manner consistent with international guidance and criteria.** OECMs represent a powerful opportunity to recognize the contribution of areas—such as some military areas or Tribally-managed lands and waters—that contribute to biodiversity conservation and climate resilience goals but do not meet the definition of a protected area. The administration should:
 - ▶ **Establish a clear national position on OECMs** based on and consistent with the specific criteria of the Convention on Biological Diversity and the International Union for the Conservation of Nature
- ▶ **Reestablish the Marine Protected Area Federal Advisory Committee (MPA FAC).** The MPA FAC can serve as a venue for soliciting expert and multi-stakeholder input to provide guidance across the federal government to achieve the goals of the America the Beautiful initiative and 30x30. The administration should:
 - ▶ **Reestablish the MPA FAC** with representatives from diverse stakeholder groups, including scientists, environmental justice organizations, Tribes, youth leaders, fishermen, recreation groups, states, and environmental policy experts.
 - ▶ **The MPA FAC should advise** all federal agencies that manage MPAs.
- ▶ **Take a whole ocean approach by ensuring 100% sustainable management of ocean resources and areas.** The United States has committed to 100% sustainable ocean management through the High Level Panel for a Sustainable Ocean Economy.
 - ▶ **In addition to protecting 30% of the ocean, ensure the entirety of our ocean is sustainably managed** and use all enabling legislation to advance sustainable ocean management throughout America's ocean footprint.

*Biden Administration
Ocean Climate Goal:*

Protect
30% of our ocean
by 2030.





Recommendation

Enhance

Coastal Resilience

The United States is expected to experience as much sea level rise by the year 2050 as it witnessed in the previous hundred years—[an estimated 10-12 inches](#). According to NOAA, it will create a profound shift in coastal flooding, causing tide and storm surge heights to increase and reach further inland. By 2050, “moderate” (typically damaging) flooding is expected to occur on average more than 10 times as often as it does today. An ocean climate action plan should ensure federal agencies are taking the steps needed to reduce the risks associated with coastal storm flooding and rising sea levels. These actions are needed in the near term and provide a foundation for future work to improve coastal flood resilience as climate change drives more severe storms and accelerates sea level rise. See more detail on these policy recommendations [here](#).

The White House Coastal Resilience Interagency Working Group, launched by the administration in 2021, could set priorities and promote agency collaboration to advance the recommendations below.

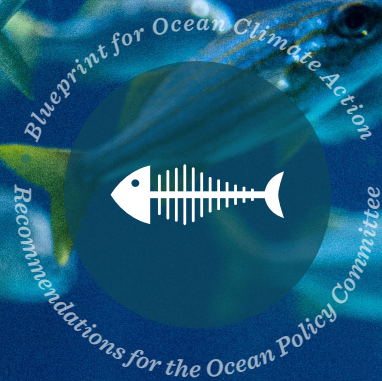
Recommendations

- ▶ **Map areas at risk of rising sea level.** Relying on the sea level rise scenarios recently [published by NOAA](#), NOAA and FEMA should cooperate on publishing electronic maps of U.S. land areas expected to be permanently inundated because of higher sea levels by 2050, 2100, and 2150 under the “Intermediate High” scenario. These maps are a critical foundation to other measures to improve public information and planning related to sea level rise.
- ▶ **Identify coastal ecosystem migration pathways.** The United States Geological Survey, in cooperation with the Fish and Wildlife Service, should map existing coastal beaches and wetlands and the upland areas that these ecosystems will migrate to as sea level rises, including natural and anthropogenic obstacles to successful landward migration. These agencies should cooperate with states to facilitate landward migration of ecosystems on a priority basis.
- ▶ **Strengthen the National Flood Insurance Program.** The Federal Emergency Management Agency (FEMA) and Congress should strengthen the National Flood Insurance Program regulations to better recognize risks of permanent flooding posed by rising seas, improve public information about storm surge and sea level rise risks (e.g., disclose flood and sea level rise risks at time of sale), discourage development in sea level rise risk areas (see above) by declining to provide insurance for new projects in these areas, and make insurance affordable for all.
- ▶ **Develop national plans to relocate critical infrastructure to higher ground.** Federal agencies should identify critical infrastructure at risk of permanent inundation by rising seas and develop long term plans to relocate assets to high ground and avoid locating new infrastructure in these areas, particularly agencies responsible for energy generation and transmission, transportation, water/wastewater, hazardous waste or heavily polluted areas (superfund and brownfield location), and defense.
- ▶ **Provide guidance and funding for state and local sea level rise plans.** NOAA should use funds provided through IIJA or related legislation to offer grants to states to work with local governments to develop plans to address coastal flood resilience consistent with national guidance setting minimum standards for the plans.
- ▶ **Expand buyouts of coastal property at risk of rising seas.** Using funds provided by the IIJA and related legislation, FEMA should expand funding for buyouts of property at risk of inundation by rising seas, giving priority to properties where it is in the federal government’s long-term interest to acquire the property and to economically disadvantaged owners who are willing sellers.
- ▶ **Frame policies to support community-scale relocation.** With leadership from the Council on Environmental Quality and the Office of Management and Budget, federal agencies should evaluate and develop programs to provide incentives and support to coastal communities interested in relocating neighborhoods and community infrastructure at risk of permanent inundation by rising seas to higher ground.



The U.S. is expected to experience as much sea level rise by the year 2050 as it witnessed in the previous *hundred years.*

- ▶ **Address sea level rise in IIJA guidance.** Major new infrastructure investments need to be sited and designed with sea level risks in mind. The administration should ensure that all implementing regulations and guidance for IIJA funding and programs, as well as future infrastructure and disaster preparedness and relief funding, require all eligible projects to identify, analyze and address risks of both greater storm surges and permanent inundation due to sea level rise.
- ▶ **Expedite implementation of Federal Flood Risk Management Standard (FFRMS).** Federal agencies should expedite work to fully implement the FFRMS within their programs and operations and FEMA should support this work by providing guidance on key topics such as the Climate Informed Science Approach and practices to strengthen agency decision-making to avoid location of projects or investments in flood risk areas.
- ▶ **Prioritize living shorelines for climate resilience** when leveraging coastal resilience dollars in the IIJA to and develop demonstration projects in all regions of the country; require the Army Corps of Engineers to develop national living shorelines standards for all of their regions (as they have already done in the San Francisco region); and require that living shorelines are prioritized for shoreline resilience at all federal facilities, including military bases, ports, and parks.



Recommendation

Minimize and Address Ocean Acidification

Ocean acidification is a direct result of human-caused carbon dioxide emissions and is altering the chemical balance of seawater that marine life depends upon for proper functioning and survival. Increasing ocean acidification, combined with other climate impacts like ocean warming and deoxygenation, threatens marine species and ecosystems, including those that sustain jobs and support coastal economies across the United States. The ocean-climate action plan must emphasize regional risk and vulnerability assessments that identify combined impacts of climate-driven changes to ocean and coastal conditions. This should include improving knowledge of biological impacts to marine species and ecosystem functioning alongside socio-economic and socio-cultural significance.

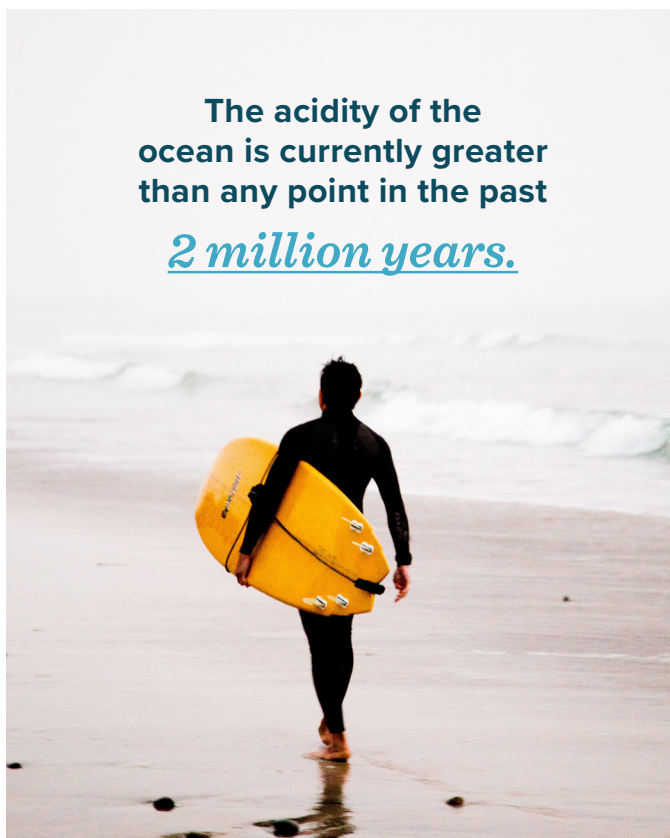
For the last 10 years, the federal government and U.S. coastal states have played a key role in documenting and responding to ocean acidification, generating best practices and learnings internationally. Moving forward, it is critical that federal, state, Tribal and local government partners continue to advance collaborations that inform clear governance and management strategies.

Recommendations

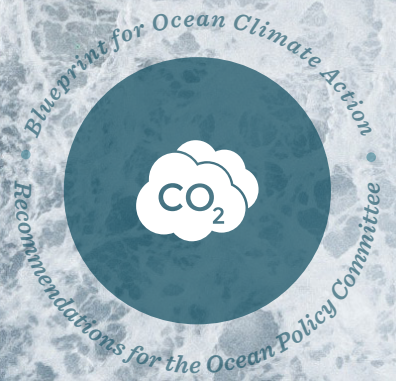
► **Implement and expand upon the Coastal Communities Ocean Acidification Act.** The administration should:

- **Support increased collaboration** on development of regional ocean acidification vulnerability assessments, including emphasis on social, economic, and cultural vulnerabilities and priorities;
 - **Direct NOAA to provide funding** for conducting vulnerability assessments and technical assistance to state, local and or Tribal government entities, including those who have developed ocean acidification action planning strategies. This will help governments, communities and industries prioritize monitoring, research and pilot programs that will inform adaptive measures and improve local interventions to climate change impacts.
-
- **Support proposals to upgrade and modernize wastewater and stormwater systems.** These systems can help reduce local and land-based source contributions of pollution that further exacerbate coastal warming, acidification, and deoxygenation.
 - **Expand coastal restoration efforts.** Support shoreline restoration activities and habitat protection of aquatic vegetation, including kelp, sea grasses and salt marshes to sequester carbon and to build local resilience to ocean acidification. Emergent studies show some ability of ecosystems to locally ameliorate conditions of ocean acidification.
 - **Leverage clean water criteria for detecting and managing harmful impacts of coastal acidification and hypoxia caused by local sources of pollution.**

The acidity of the ocean is currently greater than any point in the past
2 million years.



- **Increase international and domestic climate financing for monitoring, research and science-based ocean mitigation and adaptation strategies.** This includes supporting Federal and State ocean acidification programs; the implementation of [UN Sustainable Development Goal 14.3](#) “to minimize and address ocean acidification”; and financial support for the Global Ocean Acidification Observing Network and similar ocean acidification coordinating bodies that are catalyzing uptake of domestic and global solutions for responding to climate-ocean change.



Recommendation

Evaluate Ocean-Based
Carbon Dioxide Removal

To stabilize warming at 1.5 degrees Celsius by the end of the century, net negative emissions will be necessary even with aggressive emissions reductions. The ocean already takes up and sequesters about 25% of anthropogenic CO₂ emissions, which raises the question whether it is possible to enhance this function without harming ocean ecosystems. To determine if ocean-based carbon dioxide removal (CDR) at a scale sufficient to have a meaningful beneficial impact (i.e. over 1 gigaton annually) is [feasible](#) and [ethical](#), the administration should take a leadership role in facilitating both research and governance structures for this emerging technology.

The administration has taken some initial steps forward on CDR in general, including DOE's issuance of a Request for Information on "technologies ready to be demonstrated" and the announcement of the "[Carbon Negative Shot](#)." However, these initiatives do not specifically call out ocean-based CDR (also known as marine CDR). Greater specificity in these efforts is needed to ensure ocean-based CDR is not overlooked or under-studied as opportunities emerge in this issue area.

Recommendations

- ▶ **Direct DOE and NOAA to jointly fund and validate the existing set of possible CDR technologies.** Similar to DOE's "Carbon Negative Shot" Earthshot goal to remove gigatons of CO₂ from the atmosphere and store it for more than a century for less than \$100/ton of net CO₂-equivalent, DOE and NOAA should set an explicit numerical and temporal (e.g. storage duration) goal for what constitutes success in ocean-based CDR.
- ▶ **Create an "Oceanshot" program to fund oceanographic and social science research at appropriate scales.** Jointly funded by DOE and NOAA, this program would validate the carbon storage and social or environmental effects of proposed CDR techniques, as outlined by the National Academies' [research strategy](#), including establishing the baselines from which additional carbon removal could be measured. The National Academies report suggests an investment of \$125 million for these "Foundational Research Priorities." Funding could come from DOE's existing granting mechanisms with technical expertise provided by NOAA.
- ▶ **Direct DOE and NOAA to create and implement pilot programs to develop standard validation protocols for ocean CDR,** which will then be carried out by neutral third parties to confirm the outcomes of publicly or privately-funded CDR activities.
- ▶ **Eliminate regulatory gaps and prioritize needed research.** There is currently a lack of clarity of authority for federal agencies to engage in research or other investigation of the potential for ocean CDR to contribute to drawdown. For example, the Department of Energy can currently fund work on macroalgae cultivation to create biofuels, but there is no directive for such programs to apply to understanding macroalgal cultivation as a potential mechanism for CDR research. The administration should issue clarifying authorization language to clearly eliminate these regulatory gaps and prioritize needed research on this topic.
- ▶ **Develop a code of conduct for ocean-based CDR research and development** to ensure that such activities are conducted responsibly, with robust input from affected communities and other stakeholders, and do not add additional burdens to already-overburdened frontline communities. Initial guidance on steps toward development of such a Code of Conduct can be found in [this report from the Aspen Institute](#), released in tandem with the National Academies' research strategy.



Recommendation

Prioritize

Public Engagement

During his first weeks of office, President Biden initiated ocean conservation and climate programs and policies that recognize the need for broad participation to ensure equitable outcomes and long-term support. The same must hold true in the development of the OPC's ocean climate action plan. Robust stakeholder engagement spans well beyond comment periods and listening sessions, requiring the OPC and its member agencies and offices to develop and consistently nurture stakeholder relationships in developing the plan and implementing the programs and policies it identifies. The OPC has not engaged in outward-facing engagement opportunities and should plan to do so, particularly in the development of this plan.

Recommendations

- ▶ **Provide opportunities for public input on the plan during development** aligned with the principles of engagement outlined in the [Conserving and Restoring America the Beautiful Report](#). Public engagement should include:
 - ▶ **Releasing an engagement and feedback plan** for gathering stakeholder input and comment.
 - ▶ **Developing and disseminating a draft of the plan** for feedback by subject matter experts and stakeholder groups.
 - ▶ **Ensure broad participation** by providing advance notice and making input and feedback opportunities time bound.
- ▶ **During implementation of the programs and policies** outlined in the ocean climate action plan, the OPC member agencies should:
 - ▶ **Develop and share publicly an engagement plan**, based on best practices for stakeholder engagement, for including a broad range of experts, communities, and viewpoints in the decision-making process and determine a schedule for regular collaboration.
 - ▶ **Provide a variety of opportunities and outlets for stakeholders across the country to weigh in.** This means building on the existing means of collecting input and following best practices for engagement to advance this bold and ambitious vision with equitable input. This includes—
 - Varying meeting times to help achieve equity and inclusion.
 - Supporting local, and diverse community-based organizations to participate in the decision making process and building relationships with community leaders and experts and engaging them early and often.
 - Consulting members of the local community when proposing local action, especially groups that have historically been excluded from the decision making process and will be directly impacted by these actions.
 - Maintaining one public calendar outlining input opportunities and sending out frequent reminders leading up to the event.
 - Proactively identify information needs such as data gaps and conservation questions. Seek out and consult experts and stakeholder groups to share their expertise rather than putting the burden on them to find opportunities to engage.