



BUDGET The United States
Department of the Interior
JUSTIFICATIONS

and Performance Information
Fiscal Year 2022

**BUREAU OF
OCEAN ENERGY
MANAGEMENT**

NOTICE: These budget justifications are prepared for the Interior, Environment and Related Agencies Appropriations Subcommittees. Approval for release of the justifications prior to their printing in the public record of the Subcommittee hearings may be obtained through the Office of Budget of the Department of the Interior.



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BUREAU OF OCEAN ENERGY MANAGEMENT

FY 2022 BUDGET JUSTIFICATION

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FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Director's Preface

“The full environmental and economic benefits of offshore wind can only be realized if we, as a Nation, come together to ensure all potential development is considered and advanced responsibly, with transparency, robust stakeholder and tribal engagement, and scientific integrity guiding our every move forward.... A central component to our success will be creating greater certainty for industry, State and local governments, Tribal nations and stakeholders.”

– Bureau of Ocean Energy Management Director Amanda Lefton, March 29, 2021

BOEM's Fiscal Year (FY) 2022 budget supports ongoing efforts and important initiatives vital to BOEM's mission and the Biden-Harris administration priorities. BOEM's work supports Administration efforts to create good paying jobs as the Nation transitions to a clean energy future. BOEM plays an important role in contributing to Administration priorities through expanding environmentally and economically responsible development of energy and mineral resources, fostering conservation, combating climate change, restoring trust in government through use of the best available science and data, and advancing environmental justice. Funding supports an emphasis on activities identified in Executive Order (EO) 14008 — *Tackling the Climate Crisis at Home and Abroad*— and EO 13990 — *Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis* including advancing the Nation's clean energy future, fostering climate change resilience and restoration, championing environmental justice, and utilizing environmental studies and analysis in support of conservation efforts. With this request, BOEM proposes to focus resources in the following areas:

- **Renewable Energy.** EO 14008 signals the Administration's commitment to responsibly accelerating offshore renewable energy production. In recognition of the role renewable energy plays in securing the Nation's energy future, fighting climate change, and supporting economic growth, BOEM continues to advance offshore wind by creating greater certainty for the industry, other governments, ocean users, and other stakeholders. This includes an efficient and effective process for reviewing plans to develop existing leases and an inclusive and expeditious process for identifying areas for potential future lease sales. As the prospects for offshore wind continue to expand, robust stakeholder outreach and scientific integrity will be important components of the development of our Nation's offshore renewable energy program. BOEM's FY 2022 budget proposes additional funding to further its efforts to advance the Nation's clean energy future in an environmentally and socially conscientious manner. The FY 2022 budget proposes and underscores the importance of additional funding in support of stakeholder engagement, science, and staffing for increasing BOEM's capacity to help facilitate the Nation's transition to cleaner sources of energy that are both safe and environmentally sound. The budget also supports growing offshore wind production capacity in a way that supports job growth for disadvantaged communities.

- **Marine Minerals.** The Outer Continental Shelf (OCS) Lands Act authorizes BOEM to convey, on a noncompetitive basis, the rights to OCS sediment resources to Federal, State, and local government agencies for shore protection, beach or coastal wetlands restoration projects, or for use in construction projects funded or authorized by the Federal Government. Facilitating restoration of coastal habitats and reducing risk to infrastructure along the coasts, such as roads and defense facilities, are vital to the Nation’s security, economy, and ecological well-being. BOEM’s marine minerals activities directly contribute to the Administration’s goal of climate change resilience, as noted within EO 14008. In support of these efforts during FY 2022, BOEM proposes a funding increase to continue further development of its National Offshore Sand Inventory (Sand Inventory), which identifies sources of sand and other sediment to construct projects vital to the Nation’s economy, coastal environment, and infrastructure. Expanding the Sand Inventory is critical to the Nation’s coastal restoration and resiliency efforts, as it enables BOEM to proactively plan for the increasing demands for OCS resources and emergency needs as they arise. Additionally, though a nascent component of BOEM’s marine minerals activities, BOEM will continue partnering with other Federal agencies to develop a National Offshore Critical Mineral Inventory during FY 2022.
- **Conventional Energy.** BOEM manages OCS oil and gas development in line with the requirements of EOs 14008 and 13990. Section 208 of EO 14008 directs the Secretary of the Interior to “pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices.” As part of the review, the EO calls for the Secretary to consider adjusting royalties and other actions to account for the climate costs of oil and gas resources extracted from offshore waters. BOEM is working with the Department to develop an interim report that will include initial findings on the state of the Federal conventional energy programs and outline analyses and proposals to better align BOEM activities with Administration priorities. The comprehensive review of the agency’s oil and gas programs will focus on and advance efforts to improve stewardship of public lands and offshore waters, create good paying jobs, and build a just and equitable energy future.
- **Environmental Programs.** The need for energy must go hand-in-hand with responsible environmental stewardship. Science is foundational to BOEM’s mission and all its programs to manage offshore energy and mineral resources in an environmentally and economically responsible manner. BOEM’s Environmental Programs support scientific research needed to inform policy decisions regarding energy and mineral development on the OCS. Integrating applied science within BOEM’s environmental analyses supports programmatic decisions and helps ensure environmental protection. BOEM conducts its environmental analyses in a transparent, coordinated, and streamlined fashion to ensure that its decisions are informed by the best available science, state risks clearly, and incorporate mitigations to reduce risk. During FY 2022, BOEM proposes to increase its Environmental Studies Program budget as it continues to utilize environmental science as the foundation for sound policy decisions. Importantly, BOEM’s environmental programs are also responsible for understanding impacts to the human environment and have assumed a leading role in addressing impacts on federally recognized Tribes and environmental justice communities.

The FY 2022 budget reflects a careful analysis of the resources needed to advance the Administration’s priorities and develop BOEM’s capacity to execute its functions responsibly and efficiently.

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

General Statement

Bureau of Ocean Energy Management Mission

The mission of the Bureau of Ocean Energy Management is to manage development of the Nation's offshore energy and mineral resources in an environmentally and economically responsible way.

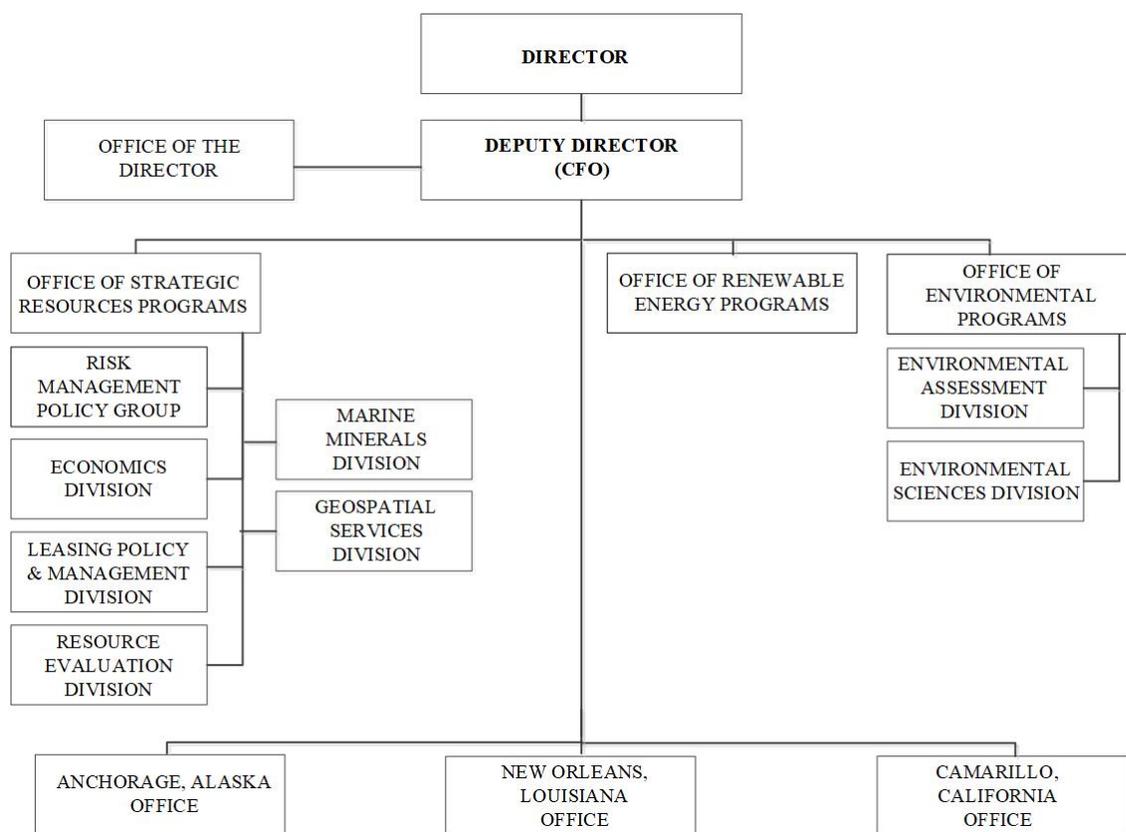
The core statutory mandate of the Bureau of Ocean Energy Management (BOEM) is provided by the Outer Continental Shelf (OCS) Lands Act, 43 U.S.C. § 1331 et seq. The OCS Lands Act, in conjunction with the Submerged Lands Act, 43 U.S.C. § 1301 et seq., defines the OCS as “all submerged lands lying seaward and outside” of the seaward boundaries of a State and “subject to the jurisdiction and control of the United States.” In practice, this means that the OCS extends from three nautical miles offshore a State (nine nautical miles in the case of Texas and Florida’s Gulf of Mexico coast) to at least the outer limits of the U.S. Exclusive Economic Zone. The OCS Lands Act gives the Secretary of the Interior responsibility and policy guidance for the administration of mineral exploration and development of the OCS. The Energy Policy Act of 2005 (P.L. 109–58) amended the OCS Lands Act to authorize the Department to manage the development of renewable energy on the OCS. To carry out this mission, BOEM manages OCS energy and mineral resources, including: renewable energy leasing and development; OCS oil and gas planning, leasing and oversight, including inventories of oil and gas reserves, resource and economic evaluation, review and administration of oil and gas exploration and development plans, geological and geophysical (G&G) permitting, financial assurance and risk management; conveyance of sand and gravel resources; and, National Environmental Policy Act (NEPA) analysis and environmental studies. BOEM’s work supports Administration efforts to create good paying jobs as the Nation transitions to a clean energy future.

BUDGET AND ORGANIZATIONAL STRUCTURE

Budget activities for BOEM are funded through the Ocean Energy Management account and support resource evaluation, planning, and leasing of the Nation's OCS energy and mineral resources in a balanced way that supports economic development, energy security, and environmental protection. The Ocean Energy Management account comprises Renewable Energy, Conventional Energy, Environmental Programs, Marine Minerals, and Executive Direction activities.

Functions and funds within these activities are divided among program offices located at headquarters and regional offices, as shown in figure 1 below. Policy and administrative functions for each mission area (renewable energy, conventional energy, marine minerals, and environmental programs) are managed through three offices headquartered in the Greater Washington, DC, area and focus on national offshore leasing strategy and the development of comprehensive environmental analyses and science. BOEM’s regional offices in Anchorage, Alaska, New Orleans, Louisiana, and Camarillo, California, implement Bureau policy, manage regional leasing activity, conduct region-specific analyses, and coordinate stakeholder outreach and engagement.

Figure 1: BOEM Organizational Chart



Headquarters and regional offices work together to implement BOEM’s various activities. In addition, strong partnerships with other Federal agencies, Tribal governments, State and local governments, environmental and other interest groups, the general public, and the oil and gas and renewable energy industries enable BOEM to coordinate activities to fulfill its resource management responsibilities.

Fiscal Year (FY) 2022 BUDGET REQUEST

The Administration understands the urgency and magnitude of the climate challenge. The 2022 BOEM budget request reflects the appropriation needs for BOEM to accomplish the priorities of the President and the Department of the Interior (Department). This includes implementation of Executive Order (EO)

14008, “*Tackling the Climate Crisis at Home and Abroad*,” to restore balance on public lands and waters, create jobs, and provide a path to align the management of America’s public lands and waters with our Nation’s climate, conservation, and clean energy goals while using the best available science and practices in the decision-making process and strengthening the government-to-government relationship with sovereign Tribal nations. The budget request also supports EO 13990, “*Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*,” and associated initiatives to address impacts related to climate change and environmental justice from energy development on public lands.

Funding for BOEM is requested through the Ocean Energy Management account, which consists of net discretionary appropriations and offsetting collections (comprising a portion of OCS rental receipts and cost recovery fees). In FY 2022, BOEM requests \$227.8 million in total budget authority. BOEM’s request includes \$169.7 million in net current appropriations and \$58.1 million in offsetting collections, as shown in table 1.

Table 1: Summary of BOEM Budget Request

Bureau of Ocean Energy Management Summary of Budget Request

Dollars in Thousands (\$000)

Appropriation: Ocean Energy Management	2020 Actual	2021 Enacted	2022 Request
Net Current Appropriation	146,517	127,760	169,682
Offsetting Collections	45,094	63,055	58,099
TOTAL, Ocean Energy Management	191,611	190,815	227,781
Offsetting Collections			
Rental Receipts	43,584	61,055	56,270
Cost Recovery Fees	1,510	2,000	1,829
Total Offsetting Collections	45,094	63,055	58,099
Ocean Energy Management			
Renewable Energy	23,325	28,465	45,818
Conventional Energy	62,816	60,487	62,336
Marine Minerals	5,874	10,781	14,965
Environmental Programs	82,457	75,875	86,763
Executive Direction	17,139	17,207	17,899
SUBTOTAL, Ocean Energy Management	191,611	192,815	227,781
Rescission of Prior Year Balances	0	-2,000	0
TOTAL, Ocean Energy Management	191,611	190,815	227,781
FTEs	561	610	650

FY 2022 BUDGET HIGHLIGHTS

The FY 2022 budget reflects funding needed for BOEM to carry out its mission and to support Administration priorities. Changes relative to the FY 2021 Enacted Budget are shown in table 2.

**Table 2: List of Budgetary Changes in FY 2022
Summary of 2022 Program Changes for Bureau of Ocean Energy
Management**

Request Component	(\$000)	FTE
Bureau-Wide: 2022 Fixed Costs	+3,710	
Bureau-Wide: Technical Internal Transfers	[-4,956/+4,956]	
Bureau-Wide: Elimination of Prior Year Rescission	+2,000	
Renewable Energy: Renewable Energy Research & Stakeholder Engagement	+7,000	+5
Renewable Energy: Renewable Energy Workforce Capacity	+4,000	+25
Renewable Energy: Renewable Energy Related Studies	+5,000	+2
Renewable Energy: Grow the Offshore Wind Industry	+1,000	
Marine Minerals: National Offshore Sand Inventory	+4,056	+4
Environmental Programs: Environmental Studies Program	+10,000	+3
Executive Direction: Diversity, Equity, Inclusion, and Accessibility	+200	+1
TOTAL Program Changes	+36,966	+40

* Changes listed in order of budget activity, not priority.

Fixed Costs (+\$3,710,000). Fixed cost increases are fully funded in BOEM’s FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers’ compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$4,956,000/ +\$4,956,000; 0 full time equivalents (FTE)). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. These changes are spread proportionally across budget activities. There are no programmatic changes associated with this shift.

Renewable Energy Research and Stakeholder Engagement (+\$7,000,000; +5 FTE). These FTE and funds enable BOEM to conduct valuable research and stakeholder outreach to support the growing demand for renewable energy activity. BOEM conducts environmental and technical reviews of renewable energy activity plans and decides whether to approve, approve with modification, or disapprove plans. The results of the research are used to inform policy decisions, environmental analysis, mitigation, and monitoring protocols on environmental and cultural issues. A portion of the funding supports renewable energy stakeholder engagement, statutorily required by the Energy Policy Act of

2005, and provides additional resources for BOEM to coordinate and consult with Federal, Tribal, State, and local agencies throughout the renewable energy development process.

Renewable Energy Workforce Capacity (+\$4,000,000; +25 FTE). The FY 2022 budget requests funding to support an additional 25 FTE, enabling BOEM to increase its workforce capacity to manage and address renewable energy activities, including additional personnel to review construction and operations plans. Additionally, these positions will ensure BOEM has the capacity to work with Tribal and State governments, ocean users, and other stakeholders to identify new wind energy areas to help meet the growing demands for offshore wind energy. Proposed FTEs cover a range of expertise, all designed to help accelerate the Nation’s clean energy future in an environmentally responsible manner.

Renewable Energy Related Studies (+\$5,000,000; +2 FTE). BOEM requests funding to create additional capacity to undertake Bureau-wide renewable energy related environmental studies. The proposed funding will provide for studies across BOEM’s regions to collect baseline environmental information; study potential impacts of renewable energy activities on environmental and cultural resources and other uses of the ocean, including fisheries; and develop measures to mitigate those impacts.

Grow the Offshore Wind Industry (+\$1,000,000; 0 FTE). BOEM proposes funding to focus on studies and analyses on how best to grow the offshore wind energy industry to ensure that related supply chains are established in the United States in a manner that supports job growth for disadvantaged communities and a just transition from traditional energy sectors.

National Offshore Sand Inventory (+\$4,056,000; +4 FTE). Requested resources enable the further development of BOEM’s National Offshore Sand Inventory (Sand Inventory), with a focus on needs identified along the Western Gulf of Mexico coast. Requested funds allow for acquisition of geophysical and geological data needed to support congressionally authorized Texas Coastal Storm Risk Management and Ecosystem Restoration projects and other State and local government restoration projects. Funding supports additional personnel needed for the continuing development of the Sand Inventory.

Environmental Studies Program (+\$10,000,000; +3 FTE). BOEM’s Environmental Studies Program supports the science that is the foundation for ensuring safe and sound operations, fostering conservation of resources, and minimizing impacts on the environment. All regulatory activities and oversight require associated science to conduct the highly detailed analyses necessary to support Bureau decisions and ensure environmentally responsible exploration and development. With these funds, BOEM will be better equipped to conduct the environmental studies that support clean energy development and inform BOEM understanding and policy decisions in support of conservation and climate goals. The Environmental Studies Program supports the Administration’s desire for environmentally and economically responsible development of energy and mineral resources while also considering climate science, conservation, and environmental justice.

Diversity, Equity, Inclusion, and Accessibility Initiative (+\$200,000; +1 FTE). The BOEM budget includes \$200,000 as part of a Departmentwide Diversity, Equity, Inclusion, and Accessibility budget initiative to address identified high-priority needs in support of Executive Order 13985, Advancing Racial

Equity and Support for Underserved Communities Through the Federal Government, and Executive Order 13988, Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation. As part of this initiative, the Department, bureaus, and offices will jointly conduct a review of the Diversity, Equity, Inclusion, and Accessibility program across Interior to identify gaps, challenges, and best practices and to examine Department and bureau roles, responsibilities, and governance. The assumptions and budgetary changes proposed for FY 2022 are described in greater detail in the subsequent chapters.

FY 2022 AREAS OF FOCUS

BOEM's FY 2022 budget reflects BOEM's accomplishments as a steward of America's resources on the OCS, its role as one of the top revenue generators for the United States, and its commitment to ongoing efforts and initiatives that are vital to BOEM's mission and critical to supporting the Administration's priorities, including creating good paying jobs as the Nation transitions to a clean energy future, advancing energy security, supporting economic prosperity, and ensuring the reliability and affordability of domestic clean energy.

ACCELERATING CLEAN ENERGY DEVELOPMENT

Executive Order (EO) 14008 — *Tackling the Climate Crisis at Home and Abroad* — directs actions that will accelerate clean energy development in an environmentally, economically, and socially responsible manner. The landscape for offshore renewable energy is changing dramatically as interest and urgency to utilize this clean energy continues to increase, and the Departments of the Interior, Energy, and Commerce have established a goal to deploy 30 gigawatts of offshore wind production capacity by 2030, which could support nearly 80,000 jobs. BOEM will be central to achieving that target. BOEM's FY 2022 budget reflects the emphasis on bringing renewable energy projects to fruition through an expeditious and responsible approach. To meet the increase in demand, BOEM is proposing an increase in workforce capacity to manage and address renewable energy activities through personnel with a variety of skills sets. BOEM intends to increase renewable energy science and technology research, as well as associated stakeholder outreach, to inform policy decisions, environmental analysis, mitigation, and monitoring protocols for environmental and cultural issues. Increased environmental studies will provide further insight during decision making throughout the renewable energy authorization process. Recognizing the importance of clean energy as a power source and economic opportunity for communities, BOEM also proposes to focus on environmental justice and job growth for disadvantaged communities.

BOEM's FY 2022 request supports ongoing renewable energy activities. BOEM continues to work diligently to support renewable energy development spurred by the renewable energy goals of many Coastal States. To date, BOEM has conducted eight competitive wind energy lease sales for areas offshore the U.S. Atlantic Coast. BOEM is in the early planning stages to identify additional potential lease areas in the Gulf of Maine and offshore New York, New Jersey, California, Hawaii, Oregon, and the Carolinas. Of note, BOEM is currently overseeing 17 active commercial wind leases along the Atlantic Coast. As of May 2021, BOEM has approved twelve site assessment plans along the Atlantic Coast. BOEM is also processing 14 plans for commercial-scale wind energy facilities along the Atlantic Coast.

Additionally, in February 2021, BOEM issued a lease for the first wave energy research project in Federal waters offshore the U.S. West Coast.

STAKEHOLDER OUTREACH, ENGAGEMENT AND ENVIRONMENTAL JUSTICE

Stakeholder outreach and engagement on all BOEM activities are statutorily mandated and critically important to all of BOEM’s activities. EO 14008 states, “Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.” Through outreach efforts, BOEM provides an opportunity for local communities to learn about ongoing activities and engage in discussions about activities that may impact them. Through these interactions, BOEM strives to ensure environmental justice is implemented throughout all of its activities. Under the Energy Policy Act of 2005, BOEM is required to coordinate and consult with Federal, Tribal, State, and local agencies throughout the renewable energy process. The OCS Lands Act calls for public involvement and comment at multiple points throughout the process of developing a five-year national OCS Oil and Gas Leasing Program, and BOEM’s Marine Minerals Program also coordinates with governmental partners and stakeholders as it facilitates access to and manages the Nation’s OCS non-energy marine minerals. Effective stakeholder engagement throughout all activities enables BOEM to obtain scientifically credible, independent, and objective perspectives on research and monitoring related to the interaction between OCS energy and mineral development and other offshore activities and resources. Communication with local communities is necessary to ensure natural resource decisions reflect the input of citizens potentially affected by proposed activity.

CLIMATE CHANGE RESILIENCE AND RESTORATION

Pursuant to EOs 13990— Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis — and 14008, BOEM will continue to foster climate change resilience and restoration in support of conservation efforts. Through its Marine Minerals Program, BOEM makes available sand and gravel resources to protect and restore shoreline infrastructure vital to the Nation’s security, economy, and ecosystems, as well as beach and coastal wetlands restoration projects. Pursuant to its mandate, BOEM identifies and mitigates the impacts of conveying OCS marine minerals on the marine, coastal, and human environment. The FY 2022 budget proposes additional funding to expand the Sand Inventory. Expanding the Sand Inventory enables BOEM to support areas previously identified as areas of high coastal risk along the Atlantic and Gulf Coasts (i.e., risk of erosion and inundation, critical infrastructure, etc.). Engaging with State and local government stakeholders and utilizing risk assessments and modeling results, BOEM is able to identify priority areas requiring additional information on sand availability. As BOEM collects and processes new geophysical and geological data each year, it is integrated into the existing Sand Inventory data repository- the Marine Minerals Information System. Ultimately, the Sand Inventory enables BOEM to proactively identify potential sand sources to shorten recovery efforts after hurricanes and other natural disasters, while managing this finite resource.

ENVIRONMENTAL STEWARDSHIP

In the execution of its statutory mission, BOEM seeks to be a model for how the development of energy goes hand-in-hand with responsible stewardship of the environment. Environmental research, assessment, and studies are critical to the successful management of offshore energy and mineral

resources. Consistent with EO 13990, BOEM focuses on environmental analyses conducted in a transparent, coordinated, and streamlined fashion to ensure that decisions are informed by the best available science. Consistent with that approach, BOEM's FY 2022 budget supports additional renewable energy scientific and technology research, renewable energy related studies, and additional environmental studies in support of renewable energy, climate science, and conservation. BOEM's scientific funding, along with leveraged resources, enables BOEM to collect valuable data useful not only to BOEM, but also to other stakeholders including other Federal agencies and State and local governments.

RESPONSIBLE MANAGEMENT OF THE NATION'S ENERGY RESOURCES

BOEM manages OCS oil and gas development in line with the requirements of EO 13990 and EO 14008, including Section 209. The EO 14008 requires the Secretary of the Interior to pause new offshore oil and natural gas leasing, and directs the Department to perform a comprehensive review of permitting and leasing practices as well as an evaluation of royalties and other actions to account for the climate costs of oil and gas resources extracted from offshore waters. This comprehensive review is designed to ensure that BOEM manages offshore energy development in a safe and responsible way while providing a fair return to the public from the sale of OCS energy resources and supporting the Administration's efforts to address the climate crisis. The pause on new leasing is temporary and does not affect existing operations or permits for valid, existing oil and gas leases on public lands and waters.

As of May 1, 2021, BOEM manages 2,287 active oil and gas leases covering over 12.1 million OCS acres. As noted above, all of these leases were awarded following completion of the post-sale bid evaluation process that seeks to ensure fair return received for each lease. Offshore Federal production in FY 2020 reached approximately 641.3 million barrels of oil and 881.7 million cubic feet of gas, almost all of which was produced in the Gulf of Mexico. This accounted for about 15 percent of all domestic oil production and 2 percent of domestic natural gas production. Annually, this production generates billions of dollars in revenue for State and local governments, as well as for U.S. taxpayers, while supporting hundreds of thousands of jobs. Offshore oil and gas leasing and production activities are a significant source of revenue for the Federal Government. In FY 2020, conventional energy generated \$97 million in rent, \$241 million in bonuses, and \$3.4 billion in royalties from production.

BOEM also seeks to ensure a fair return for U.S. taxpayers from its renewable energy activities. As required by the Energy Policy Act of 2005, BOEM has established payment terms to ensure a fair return to the U.S. Treasury for the rights conveyed by OCS renewable energy leases and grants. In FY 2020, \$5.2 million in rent was collected on OCS renewable energy leases. To date, BOEM has generated over \$473 million in bonus bids from renewable energy lease sales conducted through its competitive leasing process. Revenue data is generated by the Office of Natural Resources Revenue and can be found at <https://revenue.data.doi.gov/explore/>.

GOOD ACCOUNTING OBLIGATION IN GOVERNMENT ACT REPORT

The Good Accounting Obligation in Government Act (GAO-IG Act, P.L. 115-414) enacted January 3, 2019, requires that Agencies report the status of each open audit recommendation issued more than one year prior to the submission of the Agency’s annual budget justification to Congress. The Act requires Agencies to include the current target completion date, implementation status, and any discrepancies on closure determinations.

The Department of the Interior leadership takes audit follow-up very seriously and considers our external auditors, to include the Government Accountability Office (GAO) and Office of the Inspector General, valued partners in not only improving the Department’s management and compliance obligations but also enhancing its programmatic and administrative operations. As stewards of taxpayer resources, the Department applies cost-benefit analysis and enterprise risk management principles in recommendation implementation decisions. The Department’s GAO-IG Act Report is available at the following link:
<https://www.doi.gov/cj>

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FISCAL YEAR 2022 BUDGET
Bureau of Ocean Energy Management
Bureau Budget Tables

Table 3: Budget at a Glance

Bureau of Ocean Energy Management Budget At A Glance

Dollars in Thousands (\$000)

Appropriation: Ocean Energy Management	2020 Actual	2021 Enacted	Fixed Costs (+/-)	Internal Transfers (+/-)	2022 Program Changes (+/-)	2022 Request
Ocean Energy Management	191,611	192,815	+3,710	+0	+31,256	227,781
Renewable Energy	23,325	28,465	+353	+0	+17,000	45,818
<i>Change in Appropriated Dollars</i>				+706		
<i>Updated Rental Receipt Estimates</i>				-706		
<i>Renewable Energy Research & Stakeholder Engagement</i>					+7,000	
<i>Renewable Energy Related Studies</i>					+5,000	
<i>Renewable Energy Workforce Capacity</i>					+4,000	
<i>Grow the Offshore Wind Industry</i>					+1,000	
Conventional Energy	62,816	60,487	+1,849	+0	+0	62,336
<i>Change in Appropriated Dollars</i>				+1,672		
<i>Updated Offsetting Collections Estimates</i>				-1,501		
<i>Updated Cost Recovery Estimates</i>				-171		
Marine Minerals	5,874	10,781	+128	+0	+4,056	14,965
<i>Change in Appropriated Dollars</i>				+268		
<i>Updated Rental Receipt Estimates</i>				-268		
<i>National Offshore Sand Inventory</i>					+4,056	
Environmental Programs	82,457	75,875	+888	+0	+10,000	86,763
<i>Change in Appropriated Dollars</i>				+1,883		
<i>Updated Rental Receipt Estimates</i>				-1,883		
<i>Environmental Studies Program</i>					+10,000	
Executive Direction	17,139	17,207	+492	+0	+200	17,899
<i>Change in Appropriated Dollars</i>				+427		
<i>Updated Rental Receipt Estimates</i>				-427		
<i>Diversity, Equity, Inclusion, and Accessibility</i>					+200	
SUBTOTAL, Ocean Energy Management	191,611	192,815	+3,710	+0	+31,256	227,781
<i>Rescission of Prior Year Balances</i>		-2,000			+2,000	
TOTAL, Ocean Energy Management	191,611	190,815	+3,710	+0	+33,256	227,781

Table 4: Summary of Requirements

Summary of Requirements for Bureau of Ocean Energy Management
(Dollars in Thousands)

Ocean Energy Management	2020 Amount	2021 Total FTE	2021 Amount	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-) FTE	Program Changes (+/-) Amount	2022 FTE	2022 Amount	Change from 2021 (+/-) FTE	Change from 2021 (+/-) Amount
Ocean Energy Management											
Renewable Energy											
Direct Appropriation	19,345	58	22,211	+353	+706	+32	+17,000	90	40,270	+32	+18,059
Rental Receipts	3,980		6,254		-706				5,548	+0	-706
Total, Renewable Energy	23,325	58	28,465	+353	+0	+32	+17,000	90	45,818	+32	+17,353
Conventional Energy											
Direct Appropriation	52,754	304	45,011	+1,849	+1,672	+0	+0	304	48,532	+0	+3,521
Rental Receipts	8,552		13,476		-1,501				11,975	+0	-1,501
Cost Recoveries	1,510		2,000		-171				1,829	+0	-171
Total, Conventional Energy	62,816	304	60,487	+1,849	+0	+0	+0	304	62,336	+0	+1,849
Marine Minerals											
Direct Appropriation	4,412	21	8,829	+128	+268	+4	+4,056	25	13,281	+4	+4,452
Rental Receipts	1,462		1,952		-268				1,684	+0	-268
Total, Marine Minerals	5,874	21	10,781	+128	+0	+4	+4,056	25	14,965	+4	+4,184
Environmental Programs											
Direct Appropriation	55,897	146	41,889	+888	+1,883	+3	+10,000	149	54,660	+3	+12,771
Rental Receipts	26,560		33,986		-1,883				32,103	+0	-1,883
Total, Environmental Programs	82,457	146	75,875	+888	+0	+3	+10,000	149	86,763	+3	+10,888
Executive Direction											
Direct Appropriation	14,109	81	11,820	+492	+427	+1	+200	82	12,939	+1	+1,119
Rental Receipts	3,030		5,387		-427				4,960	+0	-427
Total, Executive Direction	17,139	81	17,207	+492	+0	+1	+200	82	17,899	+1	+692
SUBTOTAL, OCEAN ENERGY MANAGEMENT	191,611	610	192,815	+3,710	+0	+40	+31,256	650	227,781	+40	+34,966

Summary of Requirements for Bureau of Ocean Energy Management
(Dollars in Thousands)

Ocean Energy Management	2020 Amount	2021 Total FTE	2021 Amount	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-) FTE	Program Changes (+/-) Amount	2022 FTE	2022 Amount	Change from 2021 (+/-) FTE	Change from 2021 (+/-) Amount
Rescission of Prior Year Balances			-2,000				+2,000		-	+0	+2,000
TOTAL, OCEAN ENERGY MANAGEMENT	191,611	610	190,815	+3,710	+0	+40	+33,256	650	227,781	+40	+36,966

Table 5: Fixed Costs

Bureau of Ocean Energy Management**Justification of Fixed Costs***(Dollars In Thousands)*

Fixed Cost Changes and Projections	2021 Change	2021 to 2022 Change	Description
Change in Number of Paid Days	-373	+0	There is no change in the number of paid days from 2021 to 2022.
Pay Raise	+1,501	+2,257	The President's Budget for FY 2022 includes one quarter of a planned 1.0% pay raise and three quarters of a planned 2.7% pay raise.
Employer Share of Federal Employee Retirement System	+913	+788	The change reflects a 1.1% increase in the employer contribution to the Federal Employee Retirement System.
Departmental Working Capital Fund	-1	+280	The change reflects the final 2022 Central Bill approved by the Working Capital Fund Consortium.
Worker's Compensation Payments	-64	+28	The amounts reflect final chargeback costs of compensating injured employees and dependents of employees who suffer accidental deaths while on duty. Costs for the 2022 will reimburse the Department of Labor, Federal Employees Compensation Fund, pursuant to 5 U.S.C. 8147(b) as amended 2022 Public Law 94-273.
Unemployment Compensation Payments	+0	-13	The amounts reflect projected changes in the costs of unemployment compensation claims to be paid to the Department of Labor, Federal Employees Compensation Account, in the Unemployment Trust Fund, pursuant to Public Law 96-499.
Rental Payments	+33	+370	The amounts reflect changes in the costs payable to General Services Administration (GSA) and others for office and non-office space as estimated for 2022 by GSA, as well as the rental costs of other currently occupied space. These costs include building security; in the case of GSA space, these are paid to Department of Homeland Security (DHS). Costs of mandatory office relocations, i.e. relocations in cases where due to external events there is no alternative but to vacate the currently occupied space, are also included.
Baseline Adjustments for O&M Increases	+0	+0	In accordance with space maximization efforts across the Federal Government, this adjustment captures the associated increase to baseline operations and maintenance requirements resulting from movement out of GSA or direct-leased (commercial) space and into Bureau-owned space. While the GSA portion of fixed costs will go down as a result of these moves, Bureaus often encounter an increase to baseline O&M costs not otherwise captured in fixed costs. This category of funding properly adjusts the baseline fixed cost amount to maintain steady-state funding for these requirements.

Table 6: Internal Realignments
Bureau of Ocean Energy Management
Justification of Internal Realignments
(Dollars In Thousands)

Internal Realignments and Non-Policy/Program Changes (Net-Zero)	2022 (+/-)	Description
Renewable Energy - direct appropriations/offsetting collections	+706/ -706	This is a technical adjustment to reflect a change in the composition of BOEM's budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections.
Conventional Energy - direct appropriations/offsetting collections	+1,672/ -1,672	This is a technical adjustment to reflect a change in the composition of BOEM's budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections.
Marine Minerals - direct appropriations/offsetting collections	+268/ -268	This is a technical adjustment to reflect a change in the composition of BOEM's budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections.
Environmental Programs - direct appropriations/offsetting collections	+1,883/ -1,883	This is a technical adjustment to reflect a change in the composition of BOEM's budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections.
Executive Direction - direct appropriations/offsetting collections	+427/ -427	This is a technical adjustment to reflect a change in the composition of BOEM's budget, due mostly to a shift in the portion of the budget funded through direct appropriations versus offsetting collections.

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FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Renewable Energy

Table 7: Renewable Energy Budget Summary

Activity: Ocean Energy Management
Subactivity: Renewable Energy

Renewable Energy	2020	2021	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	2022	Change from 2021 (+/-)
Renewable Energy	23,325	28,465	+353	+0	+17,000	45,818	+17,353
<i>FTE</i>	<i>62</i>	<i>58</i>			<i>+32</i>	<i>90</i>	<i>+32</i>

As part of the Administration’s efforts to fight climate change and create good paying jobs, the Departments of the Interior, Energy, and Commerce have established a goal to deploy 30 gigawatts of offshore wind production capacity by 2030, which could support nearly 80,000 jobs. BOEM will be central to achieving that target. To advance the Administration’s goal, BOEM plans to advance new lease sales and complete the review of at least 16 Construction and Operations Plans by 2025. This represents more than 19 GW of new clean energy for the Nation.

Renewable energy development activities include the siting and construction of offshore wind facilities on the Outer Continental Shelf, as well as the development of other forms of offshore renewable energy resources such as wave and current energy. BOEM facilitates the responsible development of renewable energy resources on the Outer Continental Shelf through conscientious planning, stakeholder engagement, comprehensive environmental analysis, and sound technical review.

In FY 2022, BOEM will continue to advance its renewable energy program through identifying new wind energy areas, an informed leasing effort, and streamlining of its permitting and NEPA processes. This includes an efficient and effective process for reviewing plans to develop existing leases, and an inclusive and expeditious process for identifying areas for potential future lease sales. BOEM will continue focusing on reviewing proposals for potential renewable energy projects spurred by the renewable energy goals of the Administration and Coastal States.

The FY 2022 budget will support:

- **Promotion of Offshore Renewable Energy:** Executive Order (EO) 14008 “*Tackling the Climate Crisis at Home and Abroad*” states: “The Secretary of the Interior shall review siting and permitting processes on public lands and in offshore waters to identify to the Task Force steps that can be taken, consistent with applicable law, to increase renewable energy production on those lands and in those

waters, with the goal of doubling offshore wind by 2030 while ensuring robust protection for our lands, waters, and biodiversity and creating good jobs....” BOEM’s work is fundamental to the Administration’s efforts to accelerate the responsible development of renewable energy on the OCS. By contributing toward the Nation’s clean energy future, BOEM activities also aligns with the Administration’s priority to tackle the climate crisis.

- **Competitive Lease Auctions/Sales:** A commercial lease gives the lessee the exclusive right to seek BOEM approval for the development of the leasehold and does not automatically give the lessee the right to construct any facilities. BOEM has conducted eight lease sales since 2013, and it manages seventeen commercial wind energy leases. BOEM is currently planning to hold two renewable energy lease sales in FY 2022, one in the Atlantic in the New York Bight and one in the Pacific offshore California. Additional planning is also underway for lease areas offshore the Carolinas, Oregon, Hawaii, Gulf of Maine, and Gulf of Mexico.
- **Review of Site Assessment and Construction and Operations Plans:** A Site Assessment Plan (SAP) contains the lessee's detailed proposal for the construction of a meteorological tower and/or the installation of meteorological buoys on the leasehold. A Construction and Operations Plan is a detailed plan describing the lessee’s proposal to construct and operate a wind energy project on the lease. BOEM must conduct environmental and technical reviews of any plan and decide whether to approve, approve with modification, or disapprove the plan. As of March 2021, BOEM is processing fourteen construction and operations plans and expects to receive two more over the next 12 months. In FY 2021, BOEM published a Final Environmental Impact Statement and Record of Decision for the Vineyard Wind 1 project and Draft Environmental Impact Statement for the South Fork project and will initiate the Environmental Impact Statement process for seven or more projects. In FY 2022, BOEM plans to issue a Record of Decision on the South Fork project and initiate Environmental Impact Statement processes for an additional four or more projects.
- **Stakeholder Engagement:** By meeting with and engaging stakeholders, BOEM ensures awareness of potential issues and controversy and uses the opportunity to resolve these issues in a timely manner, as well as improve efficiency. Through this outreach, areas suitable for renewable energy development can be identified while multiple-use and environmental conflicts within a specific area can be mitigated. The fishing industry has significant concerns regarding the potential impacts of offshore wind energy development to fish, fish habitat, and fishing operations. BOEM takes those concerns very seriously and is developing strategies to proactively engage the commercial fishing industry moving forward.
- **Intergovernmental Coordination and Collaboration:** To help inform BOEM’s planning and leasing process, BOEM has established intergovernmental renewable energy task forces along the Atlantic and Pacific Coasts that consist of Federal agencies and State, local, and Tribal governments. Most recently, BOEM established a Gulf of Mexico Regional Task Force that met for the first time in June 2021. BOEM also chairs an interagency permitting workgroup to ensure a coordinated Federal approach to reviewing project plans. In addition, Memoranda of Agreement/Understanding exist with the Department of Energy (DOE), the Federal Energy Regulatory Commission (FERC), BSEE, the U.S. Fish and Wildlife Service (FWS), the Department of Defense (DOD), U.S. Coast Guard

(USCG), NOAA, and the State of California. Through this coordination, BOEM achieves efficiencies for agencies and applicants as they navigate the leasing and planning process.

- Science and Technology Research:** The Renewable Energy Program is supported by a substantial investment in research. Current projects include those aimed at setting design standards for offshore renewable energy facilities appropriate for U.S. waters. Recently completed projects studied axial cyclic loading of jacket piles, suction bucket foundation feasibility, corrosion and fatigue life, Pacific Region geologic hazards, and wind density and wake effects. The results of BOEM's scientific and technology research are used to inform policy decisions, environmental analysis, mitigation, and monitoring protocols on environmental and cultural issues.

SUMMARY OF 2022 PROGRAM CHANGES

Summary of 2022 Program Changes for Renewable Energy		
Request Component	(\$000)	FTE
2022 Fixed Costs	+353	
Technical Internal Transfers	[-706/+706]	
Renewable Energy Research & Stakeholder Engagement	+7,000	+5
Renewable Energy Workforce Capacity	+4,000	+25
Renewable Energy Related Studies	+5,000	+2
Grow the Offshore Wind Industry	+1,000	
TOTAL Program Changes	+17,353	+32

* Changes listed in order of budget activity, not priority.

Fixed Costs (+\$353,000). Fixed cost increases are fully funded in BOEM's FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers' compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$706,000/ +\$706,000; 0 FTE). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. The amount cited above reflects the technical internal transfer associated with this budget activity. There are no programmatic changes associated with this shift.

Renewable Energy Research & Stakeholder Engagement (+\$7,000,000; + 5 FTE). The FY 2022 budget supports a substantial investment in research and stakeholder engagement. The results of BOEM's renewable energy scientific and technology research are used to inform policy decisions, environmental analysis, mitigation, and monitoring protocols on environmental and cultural issues. The budget also supports an increase in stakeholder engagement as mandated by the Energy Policy Act of 2005, which requires BOEM to coordinate and consult with Federal, Tribal, State and local agencies throughout the renewable energy development process.

Renewable Energy Workforce Capacity (+\$4,000,000; +25 FTE). The FY 2022 budget supports a substantial increase in workforce capacity to manage and address renewable energy activities across the Bureau and its Regions, including additional personnel to manage construction and operations plans. Proposed FTEs cover a range of expertise, all designed to help accelerate the Nation’s clean energy future in an environmentally responsible manner.

Renewable Energy Related Studies (+\$5,000,000; +2 FTE). The FY 2022 budget provides additional capacity to undertake renewable energy related environmental studies. In addition to environmental studies supported through the Environmental Programs Budget Activity, BOEM also funds renewable energy studies and cooperative agreements through the Renewable Energy budget activity. These studies often have either supported BOEM guidelines for industry or directly responded to issues raised during consultation with stakeholders. This funding would support additional Bureau-wide renewable energy studies.

Grow the Offshore Wind Industry (+\$1,000,000). The FY 2022 budget provides funding to focus on studies and analyses on how best to grow the offshore wind energy industry to ensure that related supply chains are established in the United States in a manner that supports job growth for disadvantaged communities and a just transition from traditional energy sectors.

PROGRAM OVERVIEW



Block Island Wind Farm

The OCS has significant potential as a source of new domestic energy generation from renewable energy resources. Section 388 of the Energy Policy Act of 2005 gave the Secretary of the Interior the authority to issue leases, easements, and rights-of-way on the OCS for activities that produce or support production, transportation, or transmission of energy from sources other than oil and gas.

Section 388 also authorized the Secretary to permit OCS activities that repurpose facilities currently or previously used for activities authorized under the OCS Lands Act.

Renewable energy and alternate use projects may include wind, wave, and ocean current energy projects, as well as projects that make alternative use of existing oil and gas or other platforms in Federal waters.

In 2009, BOEM published its renewable energy regulations, implementing section 388 of the Energy Policy Act of 2005. These regulations established a framework for orderly, safe and environmentally responsible OCS renewable energy development and for providing for a fair return for use of OCS lands. Also in 2009, the U.S. Department of the Interior and FERC signed a Memorandum of Understanding

that provided for joint regulation of potential OCS wave and ocean current projects.

Since these regulations were established, BOEM has worked diligently to facilitate renewable energy development spurred by renewable energy goals of Coastal States. To date, BOEM has conducted eight competitive wind energy lease sales for areas offshore the Atlantic coast and there are 17 active commercial wind energy leases offshore of Delaware, Maryland, Massachusetts, New Jersey, New York, North Carolina, Rhode Island, and Virginia. Additionally, BOEM recently identified potential lease areas offshore New York and New Jersey and is in the early planning stages to identify additional areas in the Gulf of Maine, the Gulf of Mexico, and offshore California, Hawaii, Oregon, and the Carolinas.

BOEM also manages transmission and research projects related to wind energy development on the OCS. In 2014, BOEM executed its first transmission right-of-way grant offshore Rhode Island for the Block Island Wind Farm, which became the first operational wind facility offshore the U.S. in late 2016. In 2015, BOEM executed its first wind energy research lease in U.S. Federal waters with the Commonwealth of Virginia's Department of Mines, Minerals and Energy. Final action on the research lease was completed by BOEM in 2019 and the facility became fully operational in 2020. The two-turbine research project is the first installed on the OCS and will inform the development of an existing commercial lease offshore Virginia. BOEM is also processing requests in the Atlantic related to offshore wind transmission.



The two-turbine Coastal Virginia Offshore Wind pilot project

Additionally, BOEM will publish a request for interest to start planning processes in the Gulf of Mexico in the Spring of 2021.

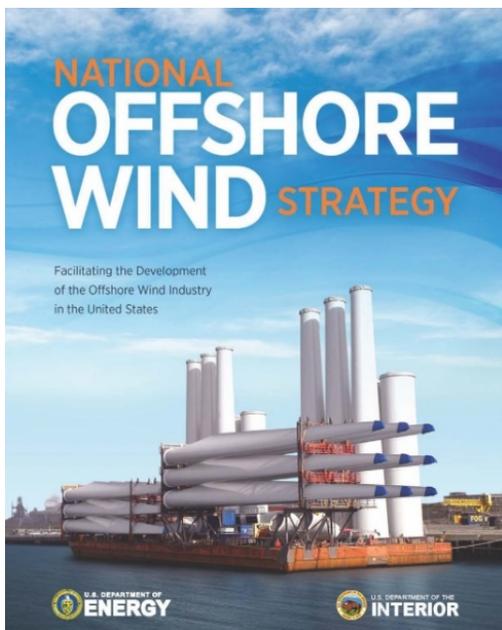
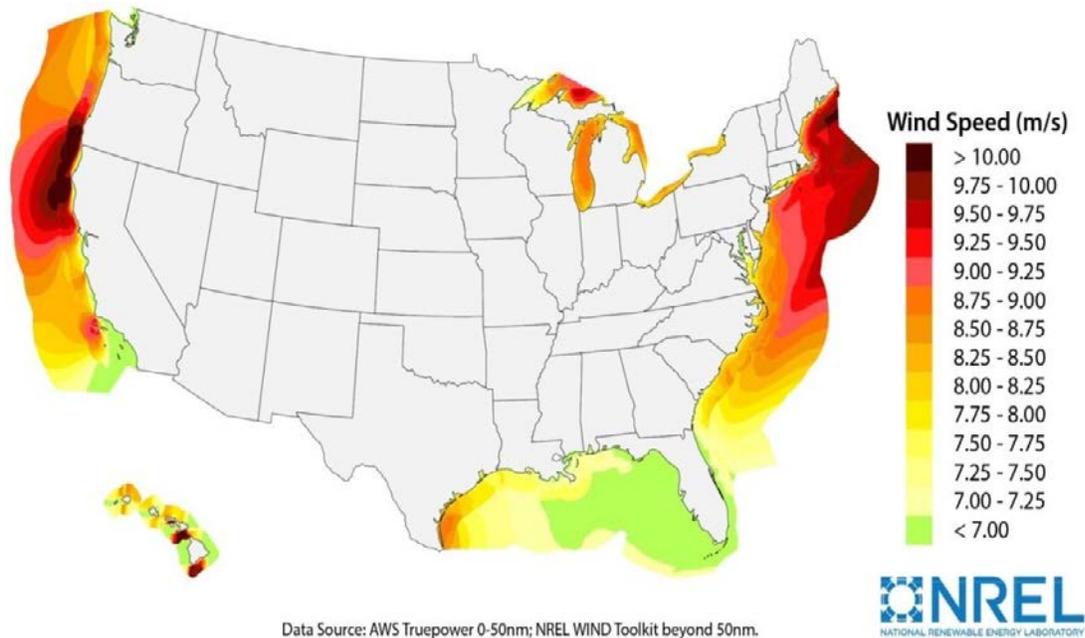
Along the Pacific coast, BOEM is engaged in planning for a competitive leasing process for offshore wind development in California, Hawaii and Oregon. A Call for Information and Nominations has been published to begin the leasing process for both California and Hawaii. On February 16, 2021, BOEM issued a lease for the first wave energy research project in Federal waters offshore the U.S. West Coast. The Federal marine hydrokinetic energy research lease was offered to Oregon State University for the PacWave South project, a proposed open ocean wave energy test center, to be located approximately six nautical miles off Newport, Oregon. The project area is approximately 1,696 acres or 2.65 square miles. Marine hydrokinetic technology harnesses energy from ocean waves, tides and currents, and converts it into electricity to power our homes, buildings and cities.

BOEM seeks to ensure the American taxpayer receives fair return for the use of OCS resources. As required by the Energy Policy Act of 2005, BOEM has established payment terms to ensure a fair return to the U.S. Treasury for the rights conveyed by OCS renewable energy leases and grants. In FY 2020, \$5.2 million in rent was collected on OCS renewable energy leases. In total, BOEM generated over \$473 million in bonus bids from renewable energy lease sales it has conducted through the competitive leasing process. Revenue data is generated by the Office of Natural Resources Revenue and can be found at <https://revenue.data.doi.gov/explore/>.

➤ **Offshore Energy Sources**

Wind is currently the predominant source of offshore renewable energy being developed in the United States. Offshore winds tend to flow at higher sustained speeds than onshore winds, making offshore turbines more efficient than their onshore counterparts. The following figure shows areas along the coasts of the Atlantic, Pacific, and Gulf of Mexico that have the greatest technical potential for offshore wind energy production based on wind speeds.

Figure 2: Wind Speed Map for the U.S. Technical Resource Area (100m Height)



According to the National Renewable Energy Laboratory’s 2016 Offshore Wind Resource Assessment for the United States, after considering the available wind resource and the technical limits of current technology, offshore wind has a theoretical potential capacity of 2,058 gigawatts for the contiguous United States and Hawaii. This translates to an energy generation potential of 7,203 terawatt-hours per year, which is almost double the electricity consumption of the U.S.

Additionally, the joint Department of the Interior and Department of Energy National Offshore Wind Strategy identified significant potential public benefits associated with offshore wind development, including an estimated \$440 million in annual lease payments into the U.S. Treasury, approximately \$680 million in annual property tax revenues, and 160,000 gross jobs in coastal regions. BOEM

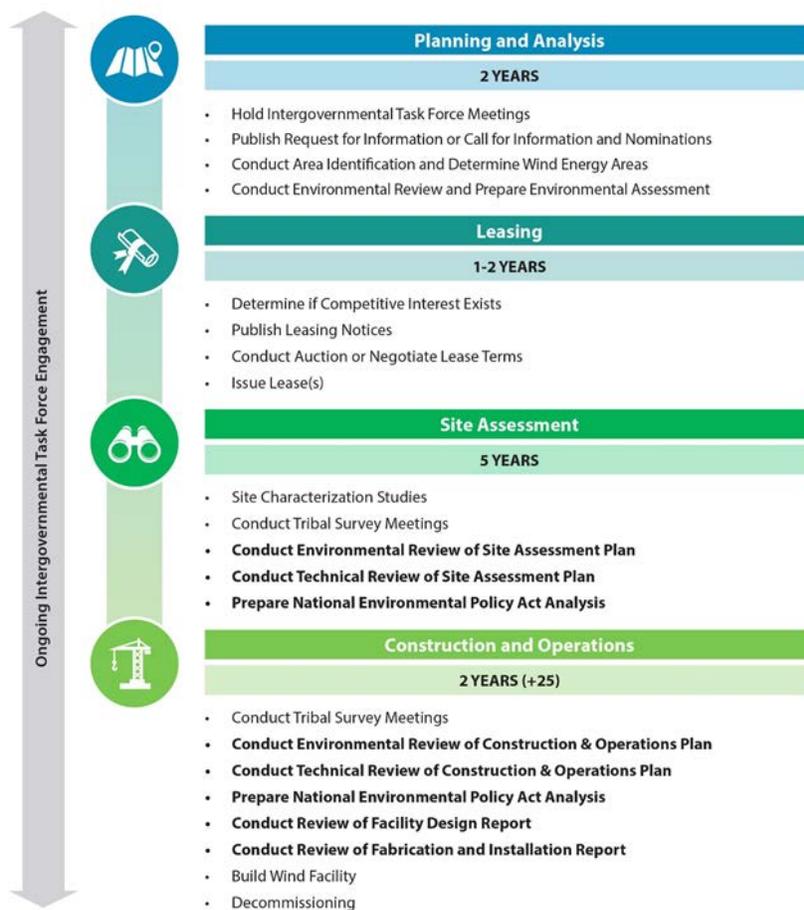
currently has 17 active commercial leases in the Atlantic which collectively have the potential to support more than 21 GW of energy generating capacity – enough to power almost 7.5 million homes.

In the future, BOEM anticipates development of renewable energy on the OCS could also come from ocean waves and ocean currents. In February 2021, BOEM issued the first lease to support the testing of wave energy equipment in Federal waters offshore Oregon, which could help advance the development of marine hydrokinetic technologies.

RENEWABLE ENERGY AUTHORIZATION PROCESS

Under the renewable energy regulations, the identification of Wind Energy Areas, the issuance of leases, and subsequent review of energy development activities on the OCS is a staged decision-making process. BOEM’s renewable energy authorization process is comprised of four distinct phases: (1) planning and analysis; (2) issuance of a lease or grant; (3) site assessment; and (4) construction and operations. BOEM involves other Federal agencies (e.g., BSEE, FWS, NOAA, DOD, and USCG) and State, local and Tribal governments throughout all phases of renewable energy development. The following figure outlines BOEM’s process for authorizing wind energy leases.

Figure 3: Phases of BOEM’s Offshore Wind Energy Authorization Process



* Most labor-intensive aspects of the regulatory process requiring extensive staff engagement

- The **Planning and Analysis phase** seeks to identify suitable areas for wind energy leasing consideration through collaborative, consultative, and analytical processes that engage stakeholders, Tribal governments, and State and Federal agencies. In this phase, BOEM coordinates with stakeholders to deconflict potential renewable energy lease areas with existing uses on the OCS. After identifying Wind Energy Areas, BOEM conducts environmental compliance reviews and consultations with Tribes, States, and natural resource agencies to consider reasonably foreseeable impacts associated with leasing (e.g., site characterization surveys and site assessment activities). Once the environmental review and consultations are completed for a Wind Energy Area, BOEM may proceed to the leasing phase.
- The **Leasing phase** results in the issuance of a commercial wind energy lease or right-of-way grant for energy transmission projects. Leases and grants may be issued either through a competitive or noncompetitive process. BOEM will publish a notice in the *Federal Register* to announce potential future leasing and solicit interest in leasing a specific area of the OCS. If more than one qualified entity is interested in leasing the area identified in the notice, BOEM will move forward with its competitive leasing process, otherwise, BOEM may proceed non-competitively. A commercial lease gives the lessee the exclusive right to seek BOEM approval for the development of the leasehold. The lease does not provide the lessee the right to construct particular facilities; rather, the lease provides the right to use the leased area to develop its site assessment and construction and operations plans, which must be approved by BOEM before the lessee can move on to the next stage of the process. The lease includes terms related to rental and operating fees, noncompliance, indemnification, financial assurance requirements, environmental protection operating conditions for conducting surveys, and national security and military operations. Right-of-way grants authorize the holder to install cables, pipelines and associated facilities that involve the transportation or transmission of electricity or other energy products from renewable energy projects.
- The **Site Assessment phase** includes the submission of a site assessment plan, which contains the lessee's detailed proposal for the construction of a meteorological tower and/or the installation of meteorological buoys on the leasehold to conduct site assessment studies. The lessee's site assessment plan must be approved by BOEM before the lessee conducts these activities. BOEM may approve, approve with modification, or disapprove a lessee's site assessment plan. It is during this phase that the lessee would conduct site characterization surveys to support the development of its construction and operations plan.
- The **Construction and Operations phase** includes the submission of a construction and operations plan, detailing the construction and operation of a wind energy project on the lease. BOEM requires a general activities plan, similar to a construction operations plan, for facilities constructed under a research lease or right of way. BOEM conducts environmental and technical reviews of these plans and decides whether to approve, approve with modification, or disapprove the plan. At the end of the lease or grant term, the developer must decommission facilities in compliance with BOEM regulations.

PLANNING AND ANALYSIS

Under the Energy Policy Act of 2005, BOEM is statutorily required to coordinate and consult with Federal, Tribal, State, and local agencies throughout the renewable energy development process. BOEM establishes intergovernmental task forces as a critical component of its planning and outreach activities. The task forces facilitate intergovernmental communications regarding OCS renewable energy activities to ensure that information needs, multiple-use concerns, and associated solutions are identified early in the leasing process.

The task forces continue to be a useful tool in helping to inform decision-making as BOEM considers areas of the OCS for renewable energy leasing and development and as BOEM evaluates project plans on existing leases. Such task forces are established in States or regions where the Governor(s) contacted BOEM to express interest in development of offshore renewable energy or at BOEM's suggestion after receipt of an unsolicited proposal offshore that State. To date, BOEM has established intergovernmental task forces in Maine, the Gulf of Maine,



Gulf of Maine Task Force Meeting

Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Florida, Oregon, Hawaii, California, and the Gulf of Mexico. These task forces have helped identify areas of significant promise and interest for offshore development, in addition to providing early identification and steps toward resolution of potential conflicts. In response to a request from the Governor of New Hampshire, in FY 2019 BOEM worked with the States of New Hampshire, Maine, and Massachusetts to develop a regional task force – the Gulf of Maine Task Force. The Gulf of Maine Task Force was officially established in December 2019. Additionally, in response to a request from the Governor of Louisiana, in FY 2021, BOEM formed a Gulf of Mexico Regional Task Force.

Additionally, BOEM utilizes professional meeting facilitation support during stakeholder outreach to improve its efficiency, ensure awareness of potential issues and controversy, and optimize the time available for its staff to service existing leases and work other projects. The facilitation contracts support renewable energy task force meetings in the Atlantic and Pacific, public meetings on NEPA documents (e.g., scoping meetings and meetings during the comment period on an environmental assessment or draft environmental impact statement), as well as stakeholder engagement events.

During FY 2020, BOEM responded to the COVID-19 global pandemic by increasing the use of webinars while in-person meetings were not feasible. This includes five virtual public hearings for the Vineyard Wind Supplement to the Draft Environmental Impact Statement, which BOEM held via webinar. In addition, BOEM created a virtual meeting room with targeted information stations focused on key issues so that those who could not attend a virtual public hearing session could still access the meeting materials. BOEM has continued this practice in FY 2021, holding virtual public hearings to ensure the health and safety of BOEM staff and public stakeholders and to reduce cost and time demands that frequent in-

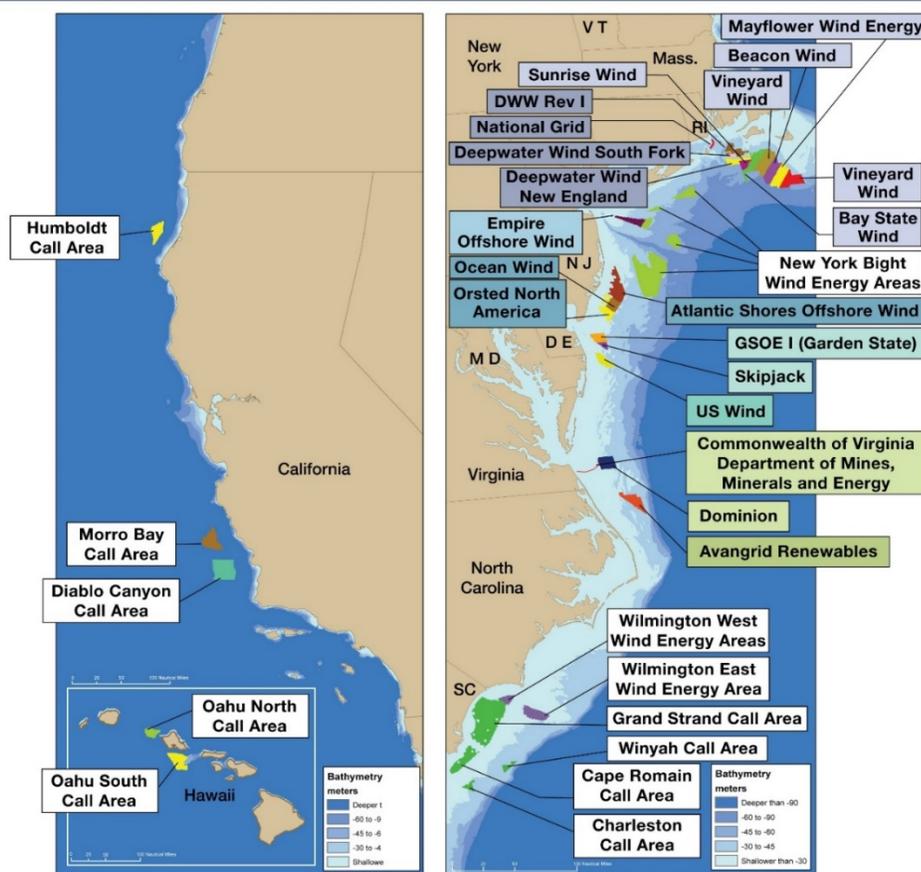
person meetings place upon the government and the stakeholder community. In February 2021, BOEM held three virtual public hearings for the South Fork Draft Environmental Impact Statement and, in April 2021, held three virtual public scoping meetings for the Ocean Wind Environmental Impact Statement. Depending on the number of additional Environmental Impact Statement processes, BOEM could hold many more virtual public meetings in FY 2021.

➤ **Identification of Wind Energy Areas**

A key element of the Planning and Analysis phase is the identification and refinement of Wind Energy Areas, which are areas on the OCS that appear to be particularly suitable for renewable energy development due to fewer potential multiple-use and environmental conflicts, such as conflicts from commercial vessel traffic, fishing or other uses, feeding or calving areas for endangered species, and high concentrations of birds. Through consultation with BOEM's intergovernmental task forces and its Call for Information and Nominations process, BOEM has identified Wind Energy Areas on the OCS offshore Massachusetts, Rhode Island, New York, New Jersey, Maryland, Virginia, and North Carolina.

In FY 2021, BOEM identified Wind Energy Area(s) (WEA) within the New York Bight and offshore California. In addition, BOEM will continue planning and leasing efforts offshore the Gulf of Maine, North Carolina, South Carolina, the Gulf of Mexico, Hawaii, and Oregon in FY 2021 and FY 2022. The existing leases, Wind Energy Areas, and Call for Information and Nominations Areas along the Atlantic and Pacific coasts are shown in the following maps.

Figure 4: Renewable Energy Leases and Wind Energy Areas



Graphic as of April 2021. BOEM, Office of Renewable Energy Programs and Office of Environmental Programs.

LEASE AND GRANT ISSUANCE

➤ Activity on the Atlantic OCS

Although BOEM has jurisdiction over various types of offshore renewable energy, the major interest offshore the Atlantic coast lies in the development of offshore wind energy. On March 29, 2021, BOEM identified WEAs in the New York Bight, and will continue with the competitive lease sale planning process in FY 2021. As of April 2021, BOEM is managing seventeen active commercial wind leases along the Atlantic coast, covering over 1.7 million acres on the OCS. If fully developed, these seventeen leases could support approximately 21.1 gigawatts of power to supply nearly 7.7 million homes.

In FY 2021, BOEM will also complete work on the Area Identification process for areas offshore the Carolinas, after which it will prepare an environmental assessment. BOEM will also continue to work with the Gulf of Maine Intergovernmental Renewable Energy Task Force and other stakeholders to investigate potential future leasing in the Gulf of Maine.

BOEM has the authority within its existing regulations to issue limited leases to other Federal agencies and to States for the purpose of conducting research that supports the future production, transportation, or

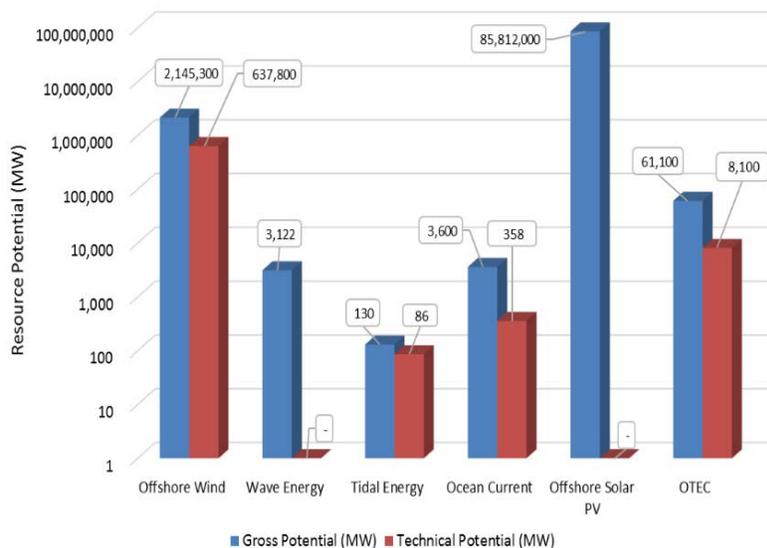
transmission of renewable energy. Research leases require no fees and have a negotiated lease term. BOEM has an active research lease offshore the Virginia coast. BOEM’s review of the facility design report and installation report for this project was completed in FY 2019, with construction and operations of two wind turbines completed in FY 2020. Completion of this two-turbine project is significant, as they are the first offshore wind turbines installed on the OCS.

BOEM is authorized to issue right-of-way grants that allow developers to build electricity transmission lines that connect renewable energy installations to the onshore electrical grid. The first producing offshore wind project in the U.S. is in Rhode Island State waters and includes transmission lines that cross the Federal OCS. BOEM is currently evaluating an unsolicited right-of-way grant request proposing the transmission of renewable energy on Atlantic OCS lands offshore New York and New Jersey to determine if the competitive or non-competitive process would be appropriate to consider grant issuance. Additionally, BOEM received an application to develop the Southern New England Ocean Grid, an offshore transmission network connecting to Massachusetts, Rhode Island, and Connecticut, which is under initial review.

➤ **BOEM’s New Orleans, Louisiana Office**

BOEM’s New Orleans, Louisiana Office is moving ahead for future offshore renewable energy leasing and development in the Gulf of Mexico in FY 2021 and FY 2022. In August 2020, Governor John Bel Edwards signed Executive Order JBE2020-18 to establish a Climate Initiatives Task Force and set greenhouse gas emission reduction goals for the State of Louisiana. On October 21, 2020, the State of Louisiana sent a request to BOEM for the establishment of a State Task Force. BOEM began the initial steps of this process and plans to establish a Regional Task Force to include the States of Louisiana, Texas, Mississippi, and Alabama in FY 2021. The State of Florida has an existing Task Force for Atlantic OCS renewable energy activity.

Figure 5: Gulf of Mexico Renewable Energy Gross and Technical Potential



In FY 2020, BOEM sponsored and published two studies conducted by DOE’s National Renewable Energy Laboratory. The report “*Offshore Renewable Energy Technologies in the Gulf of Mexico*” determined that offshore wind in the Gulf of Mexico has the technical resource potential of 638 gigawatts. When considering all U.S. States and considering only sites with average wind speeds of greater than 7 meters per second (m/s) (15.7 miles per hour [mph]) and water depths less than 1,000 m (3,280 ft), three of the top four States with the highest offshore wind resource capacity are within the Gulf

of Mexico: Louisiana, Texas, and Florida. The report “*Offshore Wind in the U.S. Gulf of Mexico: Regional Economic Modeling and Site-specific Analysis*” focuses on offshore wind and incorporates regional economic modeling and site-specific analysis. A “*Jobs and Economic Development Impact*” modeling analysis was also performed to determine the economic impact of developing and operating a single 600 MW offshore wind farm in the Gulf of Mexico. The results of the “*Jobs and Economic Development Impact*” modeling show up to 4,470 total jobs created during construction and 150 annual jobs during operating years. Construction would contribute \$445 million in gross domestic product, and another \$14 million during operating years, to the economy.

Figure 6: Gulf of Mexico Jobs and Economic Development Impact Model – Analysis of Hypothetical 600 MW Offshore Wind Farm



Meanwhile, BOEM is also working with industry on concepts relating to alternative uses of existing oil and gas infrastructure. Section 388 of the Energy Policy Act of 2005 provides the Secretary of the Interior with authority to allow an offshore oil and gas structure, previously permitted under the OCS Lands Act, to remain in place after oil and gas activities have ceased so that the structure can be used for other energy and marine-related activities such as research, renewable energy production, and aquaculture.

As of November 2020, the Gulf of Mexico OCS contained over 1,800 offshore oil and gas facilities, making this a possible option to continue the use of existing infrastructure. BOEM continues to meet with industry on various alternative use ideas and is currently reviewing three right-of-use requests for alternative use of existing platforms. Industry is working towards providing power to oil and gas production facilities using offshore wind resources, which could create greater opportunities for the Gulf of Mexico.



**Fabrication of Block Island Foundations
by Gulf Island Fabricators, in Houma, LA**

The Gulf of Mexico has many offshore oil and gas support services companies (boat yards, fabrication yards, etc.) that could be utilized to support the U.S. offshore renewable energy industry. This has already been witnessed with several Atlantic OCS projects including engineering, fabrication, and installation support for the Block Island Project (Rhode Island); fabrication of a meteorological tower supporting U.S. Wind's proposed activities in the Atlantic offshore Maryland; and most recent, Gulf shipyards are building the first Jones Act compliant Service Operations Vessel to support operations and maintenance of offshore wind farms and the first Jones Act compliant turbine installation vessel. The Gulf has a very large workforce with training and experience in the marine environment. This offers the offshore oil and gas industry opportunities to diversify and further its economic and job-creating investments in local communities.

➤ **BOEM's Camarillo, California Office**

With several commercial wind lease requests received in Hawaii, BOEM published a Call for Information and Nominations in 2016 to initiate the planning and competitive leasing process. In FY 2021, BOEM will continue to work with the State and the Department of Defense to identify potential wind lease areas offshore Oahu that are compatible with military uses and may be suitable for possible future offshore wind development. BOEM is also funding work by the National Renewable Energy Laboratory to provide offshore wind energy generation potential and costs to inform Hawaii Electric Company's (HECO) current grid planning process.

BOEM received two unsolicited lease requests for wind projects offshore California, one near Morro Bay on the central coast, and one on the north coast near Humboldt Bay. BOEM initiated the competitive leasing and planning process offshore California with publication of a Call for Information and Nominations in October 2018 and received 14 nominations. There is competitive interest in all of the Call Areas and BOEM plans to complete the Area Identification process in FY 2021.

In Oregon, BOEM cooperated with FERC to review a research lease request for a grid-connected wave energy test site on the OCS offshore Newport. Since the project is a wave energy test facility requiring a FERC license, BOEM served as a cooperating agency on the environmental review of the proposal. The environmental review included BOEM's action of issuing a research lease and easement for five subsea transmission cables. Lease issuance by BOEM is a prerequisite for a FERC license. BOEM determined there is no competitive interest in the requested area and issued a noncompetitive lease in February 2021. FERC issued the license order in March 2021. BOEM is also in the initial stages of planning for potential future leasing for offshore wind energy development. BOEM and the State have developed a Stakeholder and Data Gathering Plan to solicit information to inform designation of Call Area(s) offshore Oregon.

SITE ASSESSMENT

Commercial lease holders have up to approximately five years after lease issuance to conduct site assessment activities and submit a construction and operations plan. When a site assessment plan is submitted, BOEM determines whether the previous environmental assessment conducted to inform BOEM's leasing decision also adequately considered the environmental consequences of the activities proposed in the lessee's site assessment plan. If BOEM determines that the analysis in the environmental assessment adequately considers these consequences, then no further NEPA analysis would be required before the site assessment plan is approved. If, on the other hand, BOEM determines that the analysis in the environmental assessment is inadequate for that purpose, BOEM would prepare an additional NEPA analysis before issuing a decision on the site assessment plan. If a proposed meteorological buoy(s) is found to have no individually or cumulatively significant effect on the human environment, and BOEM determines that no extraordinary circumstances exist under which the buoy may have a significant environmental impact, BOEM may comply with its NEPA obligations through the use of an existing Departmental categorical exclusion for nondestructive data collection. In some cases, additional consultation may be necessary, such as consultation under Section 106 of the National Historic Preservation Act for some areas of the Atlantic OCS.

As of May 2021, BOEM has approved twelve site assessment plans for areas offshore Massachusetts, Rhode Island, Maryland, Virginia, New Jersey, New York, Delaware, and North Carolina, with three plans under review for additional activities offshore Virginia and Massachusetts.

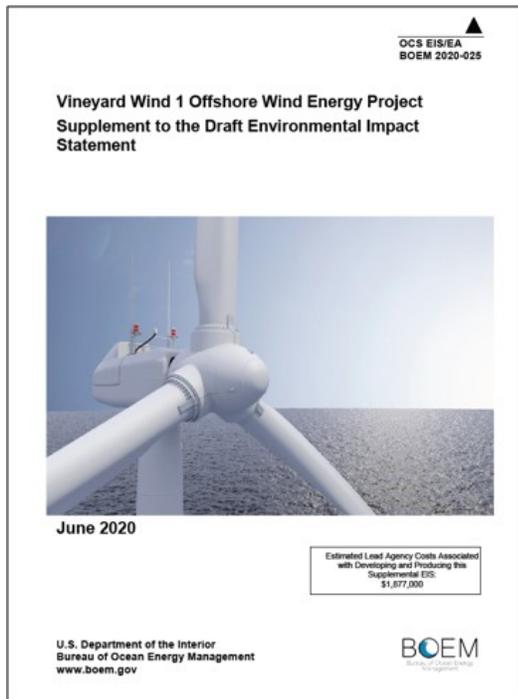
CONSTRUCTION AND OPERATIONS PLANS

Before any wind energy facility can be built on an OCS lease, the lessee must submit a detailed plan for the construction and operation of the project, along with supporting data. BOEM will then conduct environmental and technical reviews of the construction and operations plan and mandated consultations, before deciding whether to approve, approve with modification, or disapprove the plan.

As illustrated in the Phases of BOEM's Offshore Wind Energy Authorization Process (Figure 12), at any given time, multiple projects exist in each phase concurrently, with the greatest workload occurring at the construction and operations phase. To date, BOEM has conducted eight competitive wind energy lease sales for areas offshore the Atlantic Coast and there are 17 active commercial wind energy leases. Currently, these leases are rapidly moving toward the development phase, requiring labor-intensive plan reviews, as well as extensive outreach and stakeholder engagement at each step. Each construction and operations plan review requires as many as sixteen subject matter experts to conduct in-depth environmental and technical assessments. To date, BOEM is actively processing 14 construction and operations plans, and we anticipate receiving two additional plans in 2021.

The environmental review of these plans takes the form of an environmental impact statement and will provide additional opportunities for public involvement. In addition, 11 projects are "covered" under Title 41 of the Fixing America's Surface Transportation Act; those projects are South Fork Wind Farm, Bay State Wind, Ocean Wind, Empire Wind, Skipjack Wind Farm, Revolution Wind, Coastal Virginia

Offshore Wind, Vineyard Wind South, Kitty Hawk Offshore Wind, Sunrise Wind, and Atlantic Shores Project 1.



BOEM initiated environmental impact statements for the Vineyard Wind Project and South Fork Wind Farm in FY 2018 and FY 2019, respectively. BOEM announced completion of the Vineyard Wind 1 offshore wind energy project environmental impact statement on March 8, 2021. The environmental impact statements consider the reasonably foreseeable impacts on physical, biological, and socioeconomic resources from the construction, operation, maintenance, and decommissioning of these projects, and include multiple opportunities for public involvement.

Preparation of additional environmental impact statements began in the spring of 2021 with the issuance of Notices of Intent (NOI) to Prepare an EIS for the Ocean Wind and Revolution Wind projects. Subsequent NOIs will also be issued later in FY 2021 and FY 2022 for other submitted plans including: Skipjack Wind Farm, Empire Wind, Atlantic Shores, Sunrise Wind, Park City Wind, US Wind, Coastal Virginia Offshore Wind, and Kitty Hawk Wind.

INTERGOVERNMENTAL COORDINATION AND COLLABORATION

The Administration has set an ambitious goal for offshore wind as part of our future energy portfolio – 30 gigawatts by 2030. It is therefore critical that Federal Government agencies work together, along with States and other key stakeholders, to ensure the responsible development of this technology.

In addition to the establishment of BOEM intergovernmental task forces, the Department and BOEM are taking additional steps to ensure efficient and effective coordination. For instance, BOEM has Memoranda of Understanding with the DOE, FERC, BSEE, FWS, DOD, USCG, NOAA, and the State of California. BOEM and FERC responsibilities intersect for marine hydrokinetic projects, with BOEM issuing commercial marine hydrokinetic leases and FERC issuing licenses for construction and operation of these projects. The agencies have worked together to achieve efficiencies for both the agencies and potential applicants.

In 2016, the Offshore Wind Permitting Subgroup was established to identify opportunities to improve interagency coordination regarding permitting of offshore wind projects. The Subgroup is chaired by the Department of the Interior, led by BOEM and is focused on more effective and efficient collaboration around the Federal review and approval of construction and operating plans. Information shared in the group allowed BOEM to develop a detailed regulatory roadmap for the development of offshore wind and streamline the review and approval process. Since 2016, participation in the monthly Subgroup meetings

has more than tripled from approximately 40 representatives to about 150. BOEM also held two workshops with the National Marine Fisheries Service in FY 2021 and is tentatively planning a third workshop in FY 2021.

As another example of collaboration, BOEM and BSEE developed guidance for industry regarding processes to select certified verification agents, create facility design reports, and plans for fabrication and installation of renewable energy facilities; estimation of decommissioning costs; and processes for oversight of lease obligations and regulatory compliances. On December 22, 2020, BOEM and BSEE signed a Memorandum of Agreement that provides a framework for coordinating OCS renewable energy activities and clarifies the Bureaus' roles and responsibilities — including BSEE's safety and environmental compliance functions and BOEM's planning and development responsibilities. Additionally, BOEM and BSEE coordinate on the selection of renewable energy technology research projects; the results will be critical in creating design standards for offshore renewable energy facilities based on the unique atmospheric and oceanographic conditions of the U.S. offshore areas.

To ensure the Bureau's activities are informed by the latest developments in the sector, BOEM coordinates extensively with foreign governments, international organizations, and other U.S. government agencies with jurisdiction over international matters, in a manner consistent with broader U.S. foreign policy interests. BOEM aligns its international engagement activities with domestic mission needs and carries out objective-driven activities throughout the year, by hosting or participating in meetings, knowledge exchanges, and other bilateral and multilateral collaborative initiatives focused on priority topics in the offshore renewable energy sector.

RESEARCH, DATA COLLECTION, AND STAKEHOLDER ENGAGEMENT

BOEM's Renewable Energy Program is supported by investments in research, data collection and stakeholder engagement. In some cases, areas that are appropriate for renewable energy development have never been studied for such development; and for some areas, there is a dearth of information about the physical and biological environment. BOEM has worked closely with a broad spectrum of agencies, universities and stakeholders to identify the critical data gaps and independently, or through partnerships, sought to fund studies to increase our knowledge about the marine environment in and around potential renewable energy development locations. To benefit from lessons learned, BOEM has also reached out to European countries with more mature renewable energy programs to learn from their experience.

BOEM also consults with federally recognized American Indian Tribes. Throughout FY 2019 and FY 2020, BOEM conducted formal Government-to-Government consultations with the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, the Shinnecock Indian Nation, the Mashantucket Pequot Tribal Nation, the Mohegan Tribe of Indians of Connecticut, and the Wampanoag Tribe of Gay Head (Aquinnah). BOEM plans to continue developing its government-to-government relationship with these Tribes, and initiate formal consultations with the Aroostook Band of Micmacs, the Houlton Band of Maliseet Indians, the Passamaquoddy Tribe-Indian Township, the Passamaquoddy Tribe-Pleasant Point, and the Penobscot Nation as planning for offshore wind continues for the Gulf of Maine. BOEM has been engaging with Tribes on offshore wind planning in California in partnership with the State of

California since FY 2017. In FY 2020, BOEM participated in informational meetings with eight Tribes on the northern California coast, Chumash Tribes on the central California coast (including one federally recognized Tribe and multiple non-recognized Tribes), and the Santa Ynez Band of Chumash Indians Elders Council. BOEM plans to initiate Government-to-Government consultation with federally recognized Tribes potentially affected by offshore renewable energy leasing in California when the California Area Identification Process is completed in FY 2021. BOEM re-initiated engagement with Pacific Northwest Tribes on offshore wind planning in Oregon in FY 2021 and will consider requests for Government-to-Government consultation. BOEM will engage appropriately with Native Hawaiian Organizations as offshore wind planning in Hawaii progresses.

BOEM's Tribal outreach also includes Tribal participation in consultations under Section 106 of the National Historic Preservation Act and NEPA. BOEM consults with Tribes, local governments, States, and other individuals and organizations with a demonstrated interest to identify the potential effects to historic and traditional cultural properties, and develop means to avoid, minimize, and mitigate adverse effects to those properties. Tribes are invited to be cooperating agencies under NEPA, due to their knowledge of the natural and historic environment that may be affected by offshore wind development.

The continued need to pursue information to facilitate access to the OCS for renewable energy development and to ensure that such development is environmentally appropriate is a high priority for BOEM. Environmental and scientific research supporting BOEM's renewable energy efforts are funded through both BOEM's Renewable Energy and Environmental Programs budget activities. Renewable energy environmental research – funded through the Renewable Energy activity – supplements the studies funded through BOEM's Environmental Studies Program. This research augments what had been done previously for offshore oil and gas and marine minerals, but with specific focus on renewable energy applications.



Information gathering through the Real-time Opportunity for Development Environmental Observations program

To ensure full environmental review, BOEM has spent approximately \$90 million since FY 2008 on environmental studies that address renewable energy issues, either solely or in addition to other OCS resource activities. BOEM completed several studies of the Block Island Wind Farm which will be used to inform future environmental reviews of construction and operations plans. These studies address the issues of the effects of renewable energy development on fishing and fisheries including economic effects, baseline fishery information, and endangered Atlantic Sturgeon. During FY 2021, BOEM intends to

continue funding baseline monitoring, wildlife tracking, and development of post-construction monitoring techniques. In partnership with the DOE and Pacific Northwest National Laboratory, BOEM funded the deployment of lidar buoys off the coast of Eureka, California within BOEM's Humboldt Call Area and off Morro Bay, California within the Morro Bay Call Area. The buoys are equipped with a suite of meteorological and oceanographic instrumentation to collect the offshore data needed to validate

numerical weather prediction models, improve the understanding of how the air and sea interact, and reduce uncertainty and risk in characterizing offshore wind resources. The buoys were deployed in October 2020 and will be collecting data through FY 2021 that will be available to the public.

➤ **Data Collection through Cooperative and Interagency Agreements**

In accordance with the OCS Lands Act, BOEM is working cooperatively with States by leveraging funds to collect important information about the offshore environment that meets both the needs of BOEM and the States. In FY 2020, BOEM continued or executed cooperative agreements with State partners through matching funds and interagency agreements to inform future planning and decision-making. For instance, BOEM, the Commonwealth of Massachusetts, and the State of Rhode Island worked collaboratively with a wide variety of interested parties to jointly fund \$1 million in fisheries-related research efforts across southern New England in FY 2020 that are continuing into 2021. Additionally, BOEM is continuing to work with NOAA and FWS to collect necessary baseline information about wildlife to inform the consultation process for endangered species.

➤ **Renewable Energy Workshops and Conferences**

Stakeholder engagement is integral to BOEM's renewable energy planning and leasing efforts. When input from stakeholders and experts is needed on a specific topic, BOEM hosts a workshop to bring together representatives from industry and from academic and government sectors. The following are some highlights of recent events.

- BOEM has continued to reach out to the fishing community regarding current and future renewable energy development activities. In the fall of 2020, BOEM partnered with the National Marine Fisheries Service and the Responsible Offshore Development Alliance (RODA) to bring together fishermen, State and Federal agency representatives, wind energy developers, and others to participate in a three-day workshop "*Synthesis of the Science: Fisheries and Offshore Wind Development.*" The workshop kicked off the collaborative project, which provides a forum for research and knowledge sharing between the fishing industry, offshore wind industry, Federal and State agencies, and the public.
- BOEM, in collaboration with the U.S. Coast Guard, held the first Offshore Wind and Commercial Vessel Traffic Industry Knowledge Exchange in March 2018 that assembled Federal and State agencies, vessel operators, harbor and port administrators, industry associations and, offshore wind energy developers to develop a common understanding of operational challenges and potential for coexistence facing both industries. The workshop materials and summary report are both available on BOEM's website (<https://www.boem.gov/Offshore-Wind-and-Maritime-Industry-Knowledge-Exchange/>). BOEM is planning to hold a second workshop in 2021 to build on lessons learned from the first workshop as well as the subsequent experience gained through reviews of submitted Navigational Safety Risk Assessments.

In addition to these events, BOEM partners with State governments to keep them engaged and apprised of potential and upcoming activities off their coasts. Partnerships ensure the inclusion of all appropriate stakeholder groups when moving through various stages of development.

➤ **Guidelines for Developers and Applicants**

BOEM issues guidelines to clarify and provide a general understanding of the information required in order to adequately address the impacts of offshore renewable energy projects to the environment. The guidelines for survey information on avian resources, spatial data, benthic habitats, fish, marine mammals, and sea turtles on the Atlantic OCS were developed with input from FWS, NOAA, and the Marine Mammal Commission. BOEM published updates to the benthic habitat, fisheries and marine mammal and sea turtle guidelines in June 2019.

In FY 2019, BOEM developed updates for site assessment plans and several of its survey guidelines to address specific data requirements for meteorological buoys and on April 28, 2021, published final guidelines for lighting and marking renewable energy structures offshore.

➤ **Technology Assessment and Research Studies**

BOEM has partnered with BSEE to select and fund appropriate research in operational safety and pollution prevention related to offshore renewable energy development through the Technology Assessment Program. Recent projects continue to build on the lessons learned from developers of commercial wind projects offshore Europe, while focusing on the unique operating environment of the U.S. OCS. International structural design standards have been reviewed and research gaps have been identified that include the anticipated effects of hurricanes and open-ocean breaking waves, as well as the structural integrity of floating wind turbines under reasonably foreseeable ocean conditions. Data on meteorological and oceanographic (“metocean”) conditions need to be obtained across U.S. regions to ensure that these new structures are designed to the appropriate parameters.



A full-scale prototype of the WindFloat device

Technology Assessment Program projects conducted between 2018 and 2020 involved wind turbine foundation studies of axial cyclic capacity of jacket piles, feasibility of suction bucket foundation in undrained sands, corrosion and fatigue life, geologic hazards of the Pacific Region, and wind density and wake effects of wind farm design. New topics for the upcoming years are currently being developed and may include the effect on BOEM reviews of wind farms that produce hydrogen from electricity, design impacts of large turbines, desk top geologic studies for proposed wind energy areas, assessment of cable burial issues, and corrosion inside monopiles.

Results of BOEM’s technology assessment and research projects provide guidance to BOEM subject matter experts and industry regarding data collection activities in support of project development and assist the industry in refining engineering

designs for offshore structure foundations for the varying geologic and oceanographic conditions that exist offshore the U.S. and ensure greater long-term stability and survivability of wind farm facilities. These projects also provide information and guidance for BOEM and program stakeholders on wind

resource measurement, marking and lighting for offshore structures to aid air and vessel navigation, and mitigation of potential impacts on coastal, military and vessel radar instrumentation. This increased reliability enhances BOEM's ability to achieve mission goals of safe and reliable production of offshore wind energy.

Results from a metocean data measurement study provide data necessary to develop a U.S. based standard for incorporation of metocean data into a wind farm facility design. BOEM's work with the National Renewable Energy Laboratory updates existing recommended practices (American Wind Energy Association Offshore Compliance Recommended Practices 2012) and develops new recommended practices for the following areas of offshore wind farm design: metocean data measurement, geotechnical and geophysical data collection, and floating technologies. This multi-year effort, initiated in October 2017, assembled more than 100 experts across the spectrum of the offshore wind industry for online collaboration throughout the year and face-to-face meetings held in 2018, 2019 and 2020. Online and remote collaboration is ongoing to develop a comprehensive set of consensus-based roadmaps under American National Standards Institute rules that navigate existing offshore wind energy facility design standards and guidelines. These roadmaps will: facilitate safe designs and orderly deployment of U.S. offshore wind energy; account for the unique constraints of the U.S. Outer Continental Shelf and state waterways (e.g., environmental, administrative); and provide the U.S. Department of the Interior with recommendations for industry "best practices" with procedural protections provided via the American National Standards Institute approval process.

This effort consists of five modules that will be individually submitted to the American National Standards Institute through the American Clean Power association, an American National Standards Institute-approved standard setting organization, for the U.S. wind energy industry. The first module was submitted to American National Standards Institute for public review and comment, and balloting in December 2020. The other four modules are projected to be submitted by mid-2021. BOEM projects this effort will culminate in late calendar year 2022.

In FY 2018, BOEM contracted the study "Survey and Assessment of the Ocean Renewable Energy Resources in the U.S. Gulf of Mexico" to provide a comprehensive feasibility assessment of multiple offshore renewable energy technologies in the Gulf of Mexico and to inform BOEM's strategic plans related to possible OCS renewable energy leasing activities. The study determined that, when compared to all types of offshore renewable energy, offshore wind has the best gross potential, technology readiness, and cost competitiveness for development in the Gulf of Mexico. In FY 2020, BOEM published two Gulf of Mexico OCS renewable energy reports. The first report is a survey and assessment of renewable energy technology types in the Gulf of Mexico OCS. The second report focuses on offshore wind and incorporates regional economic modeling and site-specific analysis.

Alaska represents an important proving ground for developing cost effective marine wave and tidal renewable energy technologies. In FY 2018, the "*Alaska Wave Energy Converter Impact Assessment*" study was awarded and involves BOEM, in partnership with the University of Alaska, Fairbanks, assisting the State of Alaska in its effort to assess the feasibility and potential environmental effects of a wave energy converter project in the Gulf of Alaska. This work will be completed in FY 2021.

OUTLOOK FOR RENEWABLE ENERGY

Through detailed planning and analysis and partnerships with other governmental agencies and stakeholders, BOEM's Renewable Energy Program is well positioned to support the Administration with meeting its priority to take swift action to tackle the climate emergency in FY 2022 and beyond. Offshore wind energy is poised to generate significant benefits for the U.S. and help the Nation create jobs and achieve energy security. Located close to major coastal load centers, offshore wind provides an alternative to long-distance transmission or development of onshore electricity generation in land-constrained regions. It is an abundant domestic energy resource that could contribute significantly to meeting State Renewable Portfolio Standards and to economic growth and job creation. On March 29, 2021, the Secretary of the Interior, along with the Secretaries of Energy and Commerce established a target to deploy 30 gigawatts (30,000 megawatts) of offshore wind production capacity by 2030, which could create nearly 80,000 jobs.

Offshore wind leasing activities, including commercial leases, research leases, and right-of-way grants, have increased, and will contribute domestic renewable energy to the Nation's energy portfolio and enhance economic activity in a diverse array of sectors that will supply and support the construction, service, and maintenance of the facilities. Developers are actively moving forward with construction and operations plans for their projects along the Atlantic coast. As of March 2021, BOEM is processing fourteen Construction and Operations Plans and expects to receive two additional plans by the end of 2021. State interest in pursuing offshore renewable energy development also continues to grow as evidenced by States' active involvement in BOEM's intergovernmental renewable energy task forces as well as requests for additional leasing. The recent technological advances and successful deployment of floating wind turbines have spurred increased interest along the Pacific coast and BOEM expects to hold the first competitive lease sale for this area in FY 2022. Additionally, in FY 2021, BOEM will further expand its program by establishing a regional intergovernmental taskforce to explore renewable energy development in the Gulf of Mexico. BOEM is committed to science-informed decision-making through robust environmental research and studies, which directly benefit BOEM, other Federal agencies, renewable energy stakeholders, and individual States. The combination of all these factors point to a bright and sustainable future for offshore renewable energy development in the United States.

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Conventional Energy

Table 8: Conventional Energy Budget Summary

Activity: Ocean Energy Management
Subactivity: Conventional Energy

Conventional Energy	2020	2021	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	2022	Change from 2021 (+/-)
Conventional Energy	62,816	60,487	+1,849	+0	+0	62,336	+1,849
<i>FTE</i>	<i>272</i>	<i>304</i>				<i>304</i>	<i>+0</i>

Management of the oil and gas resources of the Outer Continental Shelf (OCS) is governed by the OCS Lands Act (43 U.S.C. § 1331 *et seq.*), which sets forth procedures for OCS conventional energy leasing, exploration, development, and production. BOEM seeks to manage the development of offshore energy resources in an environmentally and economically responsible manner. BOEM’s work supports energy security, environmental protection, and economic development through responsible management of these offshore resources informed by the best available science.

For conventional energy, this begins with the preparation of the National OCS Oil and Gas Leasing Program (National OCS Program). BOEM’s work includes assessments of the oil and gas resource potential on the OCS, inventories of oil and gas reserves, and economic evaluations of OCS submerged lands to ensure the receipt of fair market value for U.S. taxpayers.

The Administration understands the urgency and magnitude of the climate challenge. The 2022 BOEM budget request reflects the appropriation needs for BOEM to accomplish the priorities of the President and the Department of the Interior (Department). This includes implementation of Executive Order (EO) 14008, “*Tackling the Climate Crisis at Home and Abroad,*” to restore balance on public lands and waters, create jobs, and provide a path to align the management of America’s public lands and waters with our Nation’s climate, conservation, and clean energy goals while using the best available science and practices in the decision-making process and strengthening the government-to-government relationship with sovereign Tribal nations. The budget request also supports EO 13990, “*Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,*” and associated initiatives to address impacts related to climate change and environmental justice from energy development on public lands.

The FY 2022 budget will support:

- **Environmental Justice:** BOEM will continue fostering environmental justice activities in line with Executive Order (EO) 14008— *Tackling the Climate Crisis at Home and Abroad*, “Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.” BOEM actively involves stakeholders in its oil and gas activities and ensures that management of the OCS is “conducted in a manner which considers economic, social, and environmental values of the renewable and nonrenewable resources contained in the OCS, and the potential impact of oil and gas exploration on other resource values of the OCS and the marine, coastal, and human environments” (43 U.S.C. § 1344(a)(1)).
- **Comprehensive Review of Oil and Gas Program:** BOEM manages OCS oil and gas development in line with the requirements of EO 13990 and EO 14008, including Sections 208 and 209. Consistent with Section 208 of EO 14008, during FY 2021 BOEM is pausing new offshore oil and gas leasing to perform a comprehensive review of its program in light of the Secretary of the Interior’s broad stewardship responsibilities. This comprehensive review is designed to ensure that BOEM manages offshore energy development in a safe and responsible way while providing a fair return to the public from the sale of OCS energy resources and supporting the Administration’s efforts to address the climate crisis. The pause on new leasing is temporary and does not affect existing operations or permits for valid, existing oil and gas leases on public lands and waters. Findings and recommendations from this review will be incorporated into BOEM’s business processes and practices.
- **National OCS Oil and Gas Leasing Program:** As required by section 18 of the OCS Lands Act, BOEM prepares the National OCS Oil and Gas Leasing Program (National OCS Program), which sets forth a schedule for proposed offshore oil and gas lease sales over a 5-year period. The National OCS Program is designed in a manner to best meet the Nation’s energy needs while carefully considering factors to balance the potential for accessing oil and gas resources with the potential for adverse impacts from such activity.
- **Lease Administration:** The OCS is a significant source of oil and gas for the Nation’s energy supply. BOEM is responsible for administering more than 12.1 million OCS acres presently leased (as of May 1, 2021). Currently, producing leases on the OCS account for about 15 percent of all domestic oil production and 2 percent of domestic natural gas production.
- **Plan Review:** When a lessee submits an exploration plan, development operations coordination document, or development and production plan, BOEM conducts a thorough review of the plan. Exploration plans describe all exploration activities planned by an operator as well as the timing of these activities. Development operations coordination documents¹ and development and production

¹ Development operations coordination documents are used in the Central and Western Gulf of Mexico in lieu of development and production plans, as allowed by the 1978 amendments to the OCSLA (43 U.S.C. § 1351 (a) and (l)).

plans both describe the lessee's proposed activities, the location of each proposed well or structure, a proposed schedule, and an analysis of any offshore and onshore impacts that may occur.

- **Geological and Geophysical Surveys:** Conventional energy geological and geophysical (G&G) surveys are conducted to obtain data for oil and gas exploration and production and aid in siting offshore structures. The data is also used in bid evaluation as BOEM seeks to ensure the receipt of fair market value for the leasing of public lands.
- **Resource Evaluation:** The resource evaluation program supports BOEM's conventional energy program through critical technical and economic analysis. The primary program objective is to identify areas of the OCS that are most likely to support oil and gas development based on technical and economic factors.
- **Comprehensive Inventory of OCS Resources:** Section 357 of the Energy Policy Act of 2005 directs the Secretary of the Interior to update the Report to Congress for the Comprehensive Inventory of OCS Resources at least every five years. BOEM maintains these up-to-date resource assessments and reserves estimates across the OCS and is responsible for generating this periodic report to Congress, the next of which is anticipated to be due in 2023. BOEM intends to acquire and integrate new international offshore seismic data with our resource assessments in order to better define resource potential near international boundary areas of the OCS, including the U.S.-Mexican boundary in the Gulf of Mexico and the Canadian boundary with Alaska.
- **Ensuring Fair Market Value:** As mandated by the OCS Lands Act, BOEM seeks to ensure receipt of fair market value for oil and gas leases. Once a lease sale is completed and the high bidders for each tract are publicly announced, BOEM follows specific bid adequacy procedures as it seeks to ensure that the government receives fair market value utilizing a two-phase evaluation process. A determination of bid adequacy is made within 90 days after the lease sale is held.
- **Mapping:** Accurate OCS boundary lines are a foundational requirement for BOEM's OCS planning and leasing activities. Pursuant to OMB Circular A-16 (*"Coordination of Geographic Information and Related Spatial Data Activities"*), which provides direction for Federal agencies that produce, maintain, or use geospatial data either directly or indirectly in the fulfillment of their missions, BOEM is responsible for producing and maintaining the official offshore cadastre for the OCS of the United States as well contributing to water, ocean, coast, and geology themes.
- **Marine Cadastre:** The Energy Policy Act of 2005, (P.L. 109-58) Section 388(b) directs the Department of the Interior to cooperate with other Federal departments and agencies to establish an interagency comprehensive digital mapping initiative for the OCS to assist in decision-making relating to the siting of activities under section 8(p) of the OCS Lands Act. To accomplish this, BOEM and the National Oceanic and Atmospheric Administration (NOAA) jointly manage the MarineCadastre.gov portal, which provides authoritative and regularly updated ocean information to users, including offshore boundaries, infrastructure, human use, energy potential, and other data sets. This system is widely used by the public, environmental groups, Federal regulatory agencies, regional

marine planners, State intergovernmental task forces, and other government organizations involved in ocean planning issues.

SUMMARY OF 2022 PROGRAM CHANGES

Summary of 2022 Program Changes for Conventional Energy		
Request Component	(\$000)	FTE
2022 Fixed Costs	+1,849	
Technical Internal Transfers	[-1,672/+1,672]	
TOTAL Program Changes	+1,849	+0

* Changes listed in order of budget activity, not priority.

Fixed Costs (+\$1,849,000). Fixed cost increases are fully funded in BOEM’s FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers’ compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$1,672,000/ +\$1,672,000; 0 FTE). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. The amount cited above reflects the technical internal transfer associated with this budget activity. There are no programmatic changes associated with this shift.

PROGRAM OVERVIEW

As the Nation’s OCS energy resource manager, BOEM administers a comprehensive national oil and gas leasing program that requires a progressive cycle of resource, economic, and environmental analyses, providing senior leadership with the information they need to make informed decisions. This work includes: developing the National OCS Oil and Gas Leasing Program; identifying and delineating appropriate boundaries and legal descriptions; inventorying and assessing the Nation’s OCS energy endowment; developing a proposed schedule for oil and gas lease sale offerings; developing financial terms that seek to ensure the receipt of fair market value; reviewing industry plans to explore, develop, and produce oil and gas resources; ensuring lease holders have sufficient financial resources to fulfill lease obligations, such as decommissioning facilities at the end of their productive life; and ensuring that oil and gas activities are conducted in compliance with environmental laws and regulations. These activities support the U.S. domestic oil and gas supplies and implementing regulatory and oversight efficiencies, and create a more accessible, efficient, and predictable oil and gas leasing process for government, industry, and other stakeholders.

As of May 1, 2021, BOEM manages about 2,287 active oil and gas leases on approximately 12.1 million OCS acres. Offshore Federal production in FY 2020 reached approximately 641.3 million barrels of oil and 881.7 million cubic feet of gas, almost all of which was produced in the Gulf of Mexico. Revenues generated from OCS conventional energy leasing and production activities are a significant source of revenue for the Federal government. In FY 2020, conventional energy generated \$97 million in rent, \$241 million in bonuses, and \$3.4 billion in royalties from production.



The Na Kika platform in deepwater Gulf of Mexico.

LEASING

BOEM’s leasing activities include the development of the National OCS Program; the planning, preparation, and holding of individual lease sales; and the administration of oil and gas leases.

➤ National OCS Oil and Gas Leasing Program

Under the OCS Lands Act, the Secretary of the Interior has the responsibility to prepare, periodically revise, and maintain an oil and gas leasing program to “best meet national energy needs” while balancing other important factors. The Department must prepare a national program that indicates “as precisely as possible, the size, timing, and location” of Federal offshore oil and gas leasing activity to be considered for the 5-year period it covers. The National OCS Program identifies program areas, which are delineated areas of leasing interest where leases potentially may be offered and establishes a proposed schedule of lease sales over a 5-year period.

Per section 18(a)(3) of the OCS Lands Act, the National OCS Program is designed to achieve a balance of “the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone.” During development of the National OCS Program, BOEM requests comments from intergovernmental partners and stakeholders (including governors, Federal and State agencies, local communities, federally recognized Tribes, energy and non-energy private industry, public interest groups, and the public) to help BOEM determine which areas of the OCS have the most potential for oil and gas development and the measures that should be implemented to ensure that development is accomplished in an environmentally responsible manner. This effort ensures that management of the OCS is “conducted in a manner which considers economic, social, and environmental values of the renewable and nonrenewable resources contained in the OCS, and the potential impact of oil and gas exploration on other resource values of the OCS and the marine, coastal, and human environments” (43 U.S.C. § 1344(a)(1)).

Pursuant to EO 14008, BOEM is taking a strategic pause in the development of its next National OCS

Program. Specifically, Section 208 of the EO states:

“To the extent consistent with applicable law, the Secretary of the Interior shall pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices in light of the Secretary of the Interior’s broad stewardship responsibilities over the public lands and in offshore waters, including potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters. The Secretary of the Interior shall complete that review in consultation with the Secretary of Agriculture, the Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Secretary of Energy. In conducting this analysis, and to the extent consistent with applicable law, the Secretary of the Interior shall consider whether to adjust royalties associated with coal, oil, and gas resources extracted from public lands and offshore waters, or take other appropriate action, to account for corresponding climate costs.”

This comprehensive review is designed to ensure that BOEM manages offshore energy development in a safe and responsible way while providing a fair return to the public from the sale of OCS energy resources and supporting the Administration’s efforts to address the climate crisis. The pause on new leasing is temporary and does not affect existing operations or permits for valid, existing OCS oil and gas leases. Decisions on how to proceed with developing the next National OCS Program will be made in the context of the comprehensive review. The review process will recognize and consider the importance of OCS oil and gas revenue streams to Federal and State programs to ensure the future of OCS oil and gas leasing continues to serve the public interest and benefit current and future generations.

Prior to beginning the strategic leasing pause, BOEM published the 2019-2024 National OCS Oil and Gas Leasing Draft Proposed Program (2019-2024 Draft Proposed Program) on January 4, 2018. The Draft Proposed Program is the first in a series of three documents issued by the Department before the Secretary takes final action to approve a National OCS Program. The breadth of the 2019-2024 Draft Proposed Program allowed for maximum flexibility, and areas being considered for leasing may be narrowed at later stages of the process, such as after additional technical and environmental analysis, public comment, and critical input and coordination with key stakeholders is complete. Public comments received on the 2019-2024 Draft Proposed Program would be considered during preparation of the next stage of the National OCS Program development process: the Proposed Program and the associated Draft Programmatic Environmental Impact Statement. Following publication of the Proposed Program and the Draft Programmatic Environmental Impact Statement, public comments received during a mandatory 90-day comment period would be considered in the development of the Proposed Final Program and Final Programmatic Environmental Impact Statement. At least 60 days following publication of the Proposed Final Program and its submission to Congress and the President, the Secretary may approve the National OCS Program, at which point, BOEM may begin to implement it.

➤ **Oil and Gas Lease Sales**

BOEM held one lease sale in FY 2020: Gulf of Mexico region-wide Sale 254. This was the sixth sale in the 2017-2022 Program. Sale 254 resulted in 63 new leases covering over 351,000 acres and totaling over \$86 million in bonus payments. The following table includes information on lease sales in the 2017-

2022 OCS Oil and Gas Leasing Program. Information on sales in previous Programs can be found on BOEM's website at <https://www.boem.gov/Past-Five-Year-Programs/>.

Table 9: Lease Sales Scheduled in the 2017-2022 National OCS Program

Sale #	Date of Sale	Area	Number of Leases Issued	Number of Acres Leased	Total Bonus for Leased Tracts
249	8/16/2017	Gulf of Mexico	81	456,256	\$110,878,165
250	3/21/2018	Gulf of Mexico	139	764,924	\$115,329,139
251	8/15/2018	Gulf of Mexico	141	784,009	\$175,489,464
252	3/20/2019	Gulf of Mexico	211	1,171,260	\$231,790,063
253	8/21/2019	Gulf of Mexico	147	811,967	\$154,994,527
254	3/18/2020	Gulf of Mexico	63	351,206	\$86,240,453
256	11/18/2020	Gulf of Mexico	86	477,413	\$111,559,312
257*	Pause	Gulf of Mexico	TBD	TBD	TBD
258*	Pause	Cook Inlet	TBD	TBD	TBD
259*	Pause	Gulf of Mexico	TBD	TBD	TBD
261*	Pause	Gulf of Mexico	TBD	TBD	TBD

* Pursuant to EO 14008, BOEM is taking a strategic pause in offering new offshore oil and gas leases pending the completion of a comprehensive review of its oil and gas leasing program.

The National OCS Program provides a schedule of potential lease sales. As part of the planning process for individual lease sales, the Secretary decides whether or not to hold a particular lease sale.

➤ Lease Sale Planning Process

Each lease sale in an approved OCS Oil and Gas Leasing Program is subject to an established pre-lease evaluation and decision-making process during which interested and affected parties have opportunities to comment and provide input. Each approved lease sale is considered on a case-by-case basis, over the course of required *Federal Register* publications, sale notices, comment periods, environmental reviews, and consultations. Through this extensive planning process, a proposed sale undergoes evaluations that consider reasonable alternatives, modifications, and/or restrictions to the area under leasing consideration. The Final Notice of Sale, which BOEM publishes at least 30 days prior to holding the sale, documents the Department's final decision on a sale's size, timing, and location, as well as decisions on environmental mitigation measures and lease sale fiscal terms.

The pre-leasing process takes approximately a year and a half to two years to complete, depending on the nature of the lease sale and the complexities encountered during the planning process.

The following figure and narrative provide an overview of the major steps and decision points in planning for a typical oil and gas lease sale.

Figure 7: Typical Planning for a Specific Oil and Gas Lease Sale



1. **Call for Information and Nominations:** BOEM requests comments from the public on the area being considered for leasing and solicits information on environmental issues that should be analyzed. In addition, potential bidders are invited to nominate areas of interest within those areas identified for leasing consideration.
2. **Area Identification:** Based on information received in response to the Call for Information and Nominations, BOEM identifies an area for further leasing consideration and environmental analysis. BOEM is required to publicly announce its Area Identification decision in the *Federal Register*.
3. **Notice of Intent:** BOEM will issue a Notice of Intent to alert the public that an EIS review pursuant to National Environmental Policy Act (NEPA) will be conducted. The notice provides a description of the Proposed Action and possible alternatives, as well as a description of the scoping process and any scheduled meetings for the scoping of the NEPA document. A Notice of Intent may not be issued if BOEM determines that another form of NEPA review is sufficient (i.e., Supplemental EIS, environmental assessment, or Determination of NEPA Adequacy/Memorandum for the Record).
4. **NEPA Review:** BOEM will prepare a Determination of NEPA Adequacy based on existing NEPA documents or will prepare a new NEPA document, either an EIS or environmental assessment, to evaluate the potential environmental impacts of the Proposed Action, alternatives, and the potential effectiveness of mitigation measures.
5. **Public Involvement and Comment:** For EISs or environmental assessments, BOEM will request public comment on issues that should be addressed in the NEPA document. For lease sale environmental assessments, BOEM typically chooses to solicit public comments for 30 days. For an EIS, the public is invited to participate in the NEPA scoping process, and the draft document is available for public comment for 45 days.
6. **Government-to-Government Consultations:** BOEM will consult with Federally recognized Tribes and, in Alaska, with Alaska Native Claims Settlement Act Corporations. These consultations are conducted throughout the stages of the OCS oil and gas leasing process or anytime upon request.

7. **Environmental Consultations:** BOEM will conduct required consultations with Federal agencies, such as the U.S. Fish and Wildlife Service and National Marine Fisheries Service, to comply with various environmental laws such as the Endangered Species Act, the Marine Mammal Protection Act, the Magnuson-Stevens Fishery Conservation and Management Act, and others. BOEM also consults with State and Tribal historic preservation officers under the National Historic Preservation Act.
8. **Final NEPA Document:** BOEM will address substantive public comments and, if necessary, update its analysis prior to issuing a final NEPA document.
9. **Proposed Notice of Sale:** BOEM will publish a Notice of Availability of the Proposed Notice of Sale in the *Federal Register*. This notice includes information on the sale's proposed size, timing, and location, as well as a description of proposed blocks being offered, environmental mitigations being considered, and proposed fiscal terms and conditions of the sale.
10. **Letters to the Governors:** BOEM will send copies of the Proposed Notice of Sale to governors of affected States for their review. Pursuant to section 19 of the OCS Lands Act, BOEM will request their comment on the proposed sale's size, timing, and location.
11. **Consistency Determination:** As required by the Coastal Zone Management Act, BOEM will provide affected States that have a Federally approved State Coastal Zone Management Plan with a determination on whether the proposed lease sale is consistent, to the maximum extent practicable, with the enforceable policies of their respective Coastal Zone Management Act Plans.
12. **Record of Decision (for an environmental impact statement) or Finding of No Significant Impact (for an environmental assessment):** This is the final step in the NEPA process regarding BOEM's decision to hold a lease sale. The Record of Decision, or the Finding of No Significant Impact, is signed in conjunction with the Final Notice of Sale and published in the *Federal Register* at least 30 days prior to the lease sale date.
13. **Final Notice of Sale:** BOEM will publish a Final Notice of Sale in the *Federal Register* at least 30 days before the sale is held. This notice includes information on the sale's size, timing, location, bid opening, a description of the blocks being offered, applicable environmental mitigations, and fiscal terms and conditions of the sale. Pursuant to section 19 of the OCS Lands Act, BOEM will also send letters to governors of affected States providing written reasons for accepting or rejecting each governor's recommendation and/or implement any alternative means to provide for a reasonable balance between the National interest and the well-being of the citizens of the State.
14. **Lease Sale:** BOEM will open and publicly read sealed bids submitted by qualified bidders on the day of the sale. The venue is not open to the public; rather, bids are read aloud and broadcast on the internet via live-stream.
15. **Fair Market Value Analysis:** Ensuring the receipt of fair market value for OCS resources is

mandated by the OCS Lands Act and is one of BOEM’s critical responsibilities. Under its bid adequacy procedures for oil and gas leases, BOEM reviews all high bids received and as it seeks to ensure a bid on a specific OCS block meets fair market value criteria prior to lease issuance.

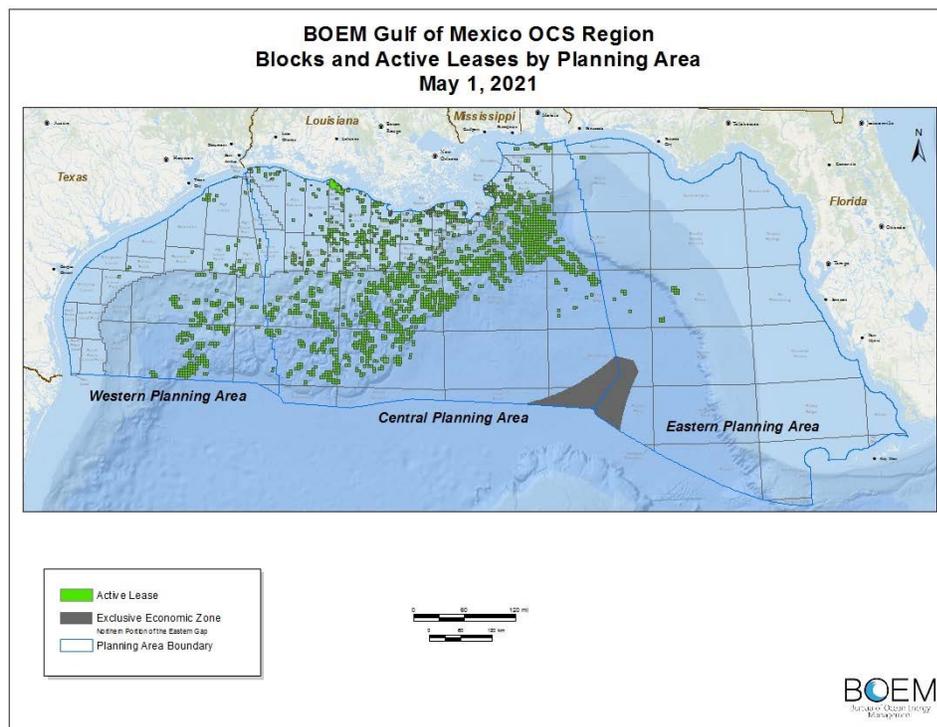
16. **Lease Issuance:** BOEM will issue a lease to the highest qualified bidder if the high bid meets BOEM’s fair market value criteria following required antitrust review by the Department of Justice and the Federal Trade Commission.

➤ **Lease Administration**

The lease administration process encompasses a set of discrete business processes, which manage a lease from issuance to relinquishment, termination, cancellation, or expiration. Once the lease has been officially awarded, lease administration covers the legal modification of the lease contract, its supporting analysis, and services provided by BOEM under the lease contract. Also included within these processes are the qualification of corporate entities and individuals before they can acquire properties or do business on the OCS; the review and acceptance of corporate mergers, corporate changes-of-name, and business conversions; and the assignment of lease interests among qualified entities.

BOEM’s New Orleans, Louisiana Office (New Orleans Office): BOEM oversees 29,100 blocks in the Gulf of Mexico. As of May 1, 2021, 2,222 blocks are leased, including 246 in the Western Planning Area, 1,958 in the Central Planning Area, and 18 in the Eastern Planning Area. The following figure provides a snapshot of the blocks and active leases within the Gulf of Mexico.

Figure 8: Gulf of Mexico Blocks and Active Leases by Planning Area



BOEM's Anchorage, Alaska Office (Anchorage Office): As of May 1, 2021, the Alaska OCS has 33 active oil and gas leases encompassing approximately 155,916 acres in the Beaufort Sea (19 leases) and Cook Inlet (14 leases).

Figure 9: Cook Inlet Sea Active Leases

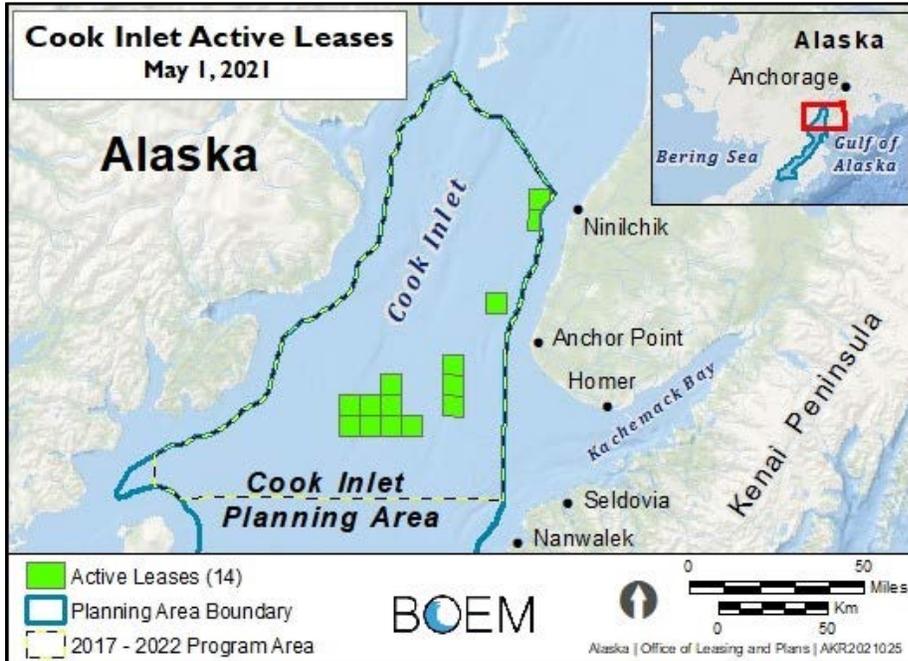
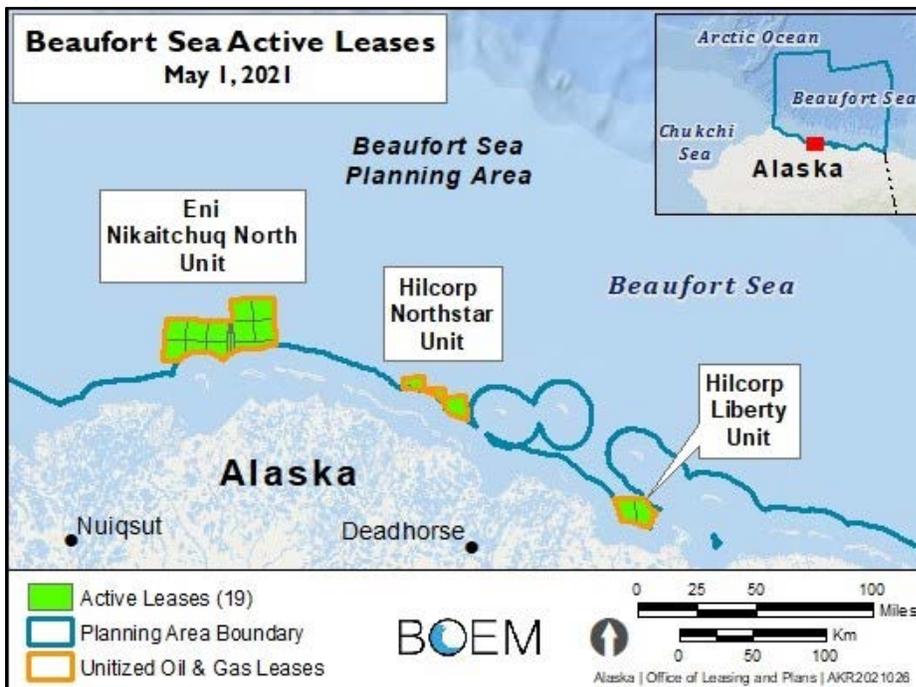


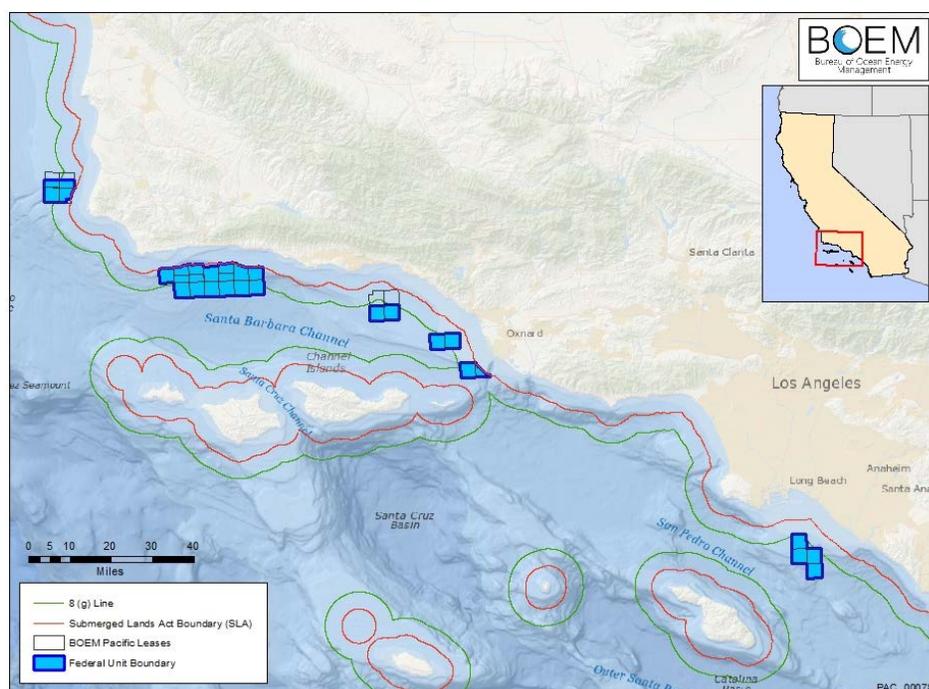
Figure 10: Beaufort Sea Active Leases



The Beaufort Sea leases include the following: three leases at the Liberty field; 13 leases in the Harrison Bay Block 6423 Unit (also known as Nikaitchuq North Prospect) north of the Nikaitchuq development in eastern Harrison Bay; and three leases in the Northstar Unit (a joint State/Federal unit that is currently in production). The U.S. Arctic OCS has high resource potential, but there are challenges associated with offshore oil and gas development activities in the Arctic, such as unique and sensitive environmental conditions, remote location, and limited access to infrastructure.

BOEM’s Camarillo, California Office (Camarillo Office): As of May 1, 2021, BOEM manages activity on 32 leases from previous lease sales, totaling 158,956 acres. The following map shows the location of the leases off the coast of Southern California.

Figure 11: Camarillo Office Active Leases



➤ **Official Boundaries**

The OCS Lands Act gives the Secretary of the Interior the authority to administer the submerged lands of the OCS for energy and minerals leasing purposes. Various court decisions, treaties, laws, policies, and procedures guide the boundary making process on the OCS. The submerged lands of the OCS are subdivided into parcels referred to as OCS blocks. No submerged lands may be offered for lease that are not under the jurisdiction of the Federal Government, and no such submerged Federal lands may be offered for lease or sale by either a foreign country or a U.S. State. The development and maintenance of accurate OCS boundary lines are a foundational requirement for all BOEM OCS leasing activities. Through its mapping and boundary functions, both in headquarters and in the regional offices, BOEM is responsible for producing and maintaining the official offshore cadastre for the OCS of the United States.

BOEM's mapping activities are subject to the Foundations for Evidence-Based Policymaking Act of 2018, which requires information-driven decisions with transparency back to the underlying data, the OPEN Government Data Act of 2018, which makes open data a key part of every agency's Information Resources Management Plan, and the Geospatial Data Act of 2018, which ensures that geospatial data from multiple sources is available and easily integrated to enhance the understanding of the physical and cultural world.

Using Geographic Information System (GIS) software tools, block and boundary data previously stored in BOEM's Technical Information Management System has been transferred to multiple geodatabases, where it can be more efficiently updated (e.g., when new boundaries are established) and maintained in the Boundary Delineation System Database. Using GIS for these processes has dramatically reduced the time and effort that is required when using the legacy mapping tools. The Boundary Delineation System Database is used to perform mathematical offshore boundary computations in preparation of OCS leasing maps, official protraction diagrams, and supplemental official OCS block diagrams depicting OCS block information, the Submerged Lands Act boundary, limits of the "8(g) Zone," and corresponding area measurements. The current focus of this work is to automate several of the manual editing steps into several tools to improve accuracy and the overall editing process. The tools are being developed to work with Esri ArcGIS Pro software and are expected to be ready for use by August 2021.

➤ **Geospatial Services Coordination**

In order to engage in effective planning, leasing, and permitting activities that result in sound ocean management decisions, BOEM programs need geospatial data that describe the uses and resources that collectively make up the ocean space. U.S. coastal zones and offshore areas provide the backdrop for a wide spectrum of marine activities including mining sand for beach nourishment, facilitating aquaculture projects, military training, protection of important species, vessel transit, commercial fishing and fisheries management, and conventional and renewable energy development. Ocean users and activities have the potential to affect each other, and these interactions need to be understood and considered. Coordination of mission-critical geospatial data that informs decision making brings clarity to the crowded marine space and supports America's most pressing ocean economic, security, and environmental interests. Ocean-based geospatial data has thus emerged as a Federal priority in recent years, while at the same time BOEM is experiencing rapid changes in technology and a growing demand for data of all types.

BOEM has initiated a comprehensive information technology business planning effort required for implementing new enterprise-wide geographic information system technologies, infrastructure, and data storage. The business plan focuses on leveraging the Department's existing cloud services contracts, commercially available off the shelf GIS software, and software license agreements. The planning effort is vital to BOEM in its effort to support section 211(d) of EO 14008. Specifically, the business plan supports the goal to develop a consolidated Federal geographic mapping service that can facilitate public access to climate-related information to assist Federal, State, local, and Tribal governments in climate planning and resilience activities. This planning effort positions BOEM to leverage data to fuel increasingly sophisticated analytical tools to support the Administration in solving new ocean management and conservation problems.

Modern enterprise geospatial information technology will function as the backbone of how BOEM supports mission operations, serves the public in the digital age, and partners with other agencies such as NOAA in the deployment of the MarineCadastr.e.gov. Data, accountability, and transparency are improved with the modern tools to deliver visibly better results to the public and increasing accountability to taxpayers for sound fiscal stewardship and mission results. Further, this ensures the adequacy of supporting technologies and infrastructures, developing and implementing appropriate mapping/data/metadata standards, and ensuring compliance with applicable Federal directives and requirements, including provisions of the OPEN Government Data Act, the Foundations for Evidence-Based Policymaking Act, the Information Quality Act, and the Geospatial Data Act. Implementing the terms of the OPEN Government Data Act and Federal Data Strategy, the BOEM geospatial program treats data as an asset, requiring and prioritizing new data for public disclosure, machine readability, open licensing, and discoverability through data.gov and MarineCadastr.e.gov. Similarly, as prescribed by the Geospatial Data Act, BOEM is promoting greater access and use of government data, establishing enforceable standards for geospatial data, and working to better coordinate among Federal, State, local, and Tribal governments, the private sector, and institutions of higher learning.

➤ **MarineCadastr.e.gov**



The MarineCadastr.e.gov website provides comprehensive geospatial data and information to facilitate ocean planning efforts.

The MarineCadastr.e.gov project, a joint initiative between BOEM and NOAA, is a web-based, integrated marine information system that provides an authoritative source of ocean information, including offshore boundaries, infrastructure, ocean uses, habitat distribution data, energy potential, and other data sets important to both large regional ocean planning efforts and project-specific planning. While originally created to comply with section 388 of the Energy Policy Act of 2005, which mandated a comprehensive digital mapping initiative for decision-

making on the OCS, MarineCadastr.e.gov is now providing the geospatial framework needed for broader ocean planning. BOEM’s MarineCadastr.e.gov program has repeatedly been recognized for its collaborative stewardship efforts and is constantly evolving and expanding to include relevant issue-driven data and tools. For example, the project’s NOAA staff representatives received the 2019 NOAA Administrator’s Award. The project was highlighted in EO 13840—*Ocean Policy to Advance the Economic, Security, and Environmental Interests of the U.S.*— as the type of geospatial data portal that should be used to make agency data available for regional ocean planning. BOEM worked with the White House Ocean Policy Committee, Resource Management Subcommittee to develop the “Implementation Plan to Increase Public Access to Marine Data and Information.” The plan informs the Ocean Policy Committee’s efforts to guide agency data providers in implementing its recommendations for making the most needed geospatial data available to the public so that these data can be searched via

MarineCadastre.gov or other regional data providers. Furthermore, the MarineCadastre.gov OceanReports tool is a major component of the agencies' "Implementation Plan for the Recommendations for Increasing the Efficiency of Permitting for Ocean Exploration, Mapping, and Research Activities." Under this task, OceanReports will be evaluated for its potential utility in helping with streamlining ocean permitting and NEPA review for any Federal offshore and coastal permitting actions. The MarineCadastre.gov project or its tools have also been mentioned as examples of widely accessible and authoritative data sources by a number of recent reports put together by interagency working groups. These include:

- Open Geospatial Consortium. (2019) Development of Spatial Data Infrastructures for Marine Data Management. Open Geospatial Consortium.
- U.S. Committee on the Marine Transportation System (2019). Enhancing Accessibility and Usability of Automatic Identification System Data: Across the Federal Government and for the Benefit of Public Stakeholders. Washington, D.C., 40p.
- OceanReports was highlighted in a chapter of the Esri book GIS for Science. (*Citation: Wickliffe et al. (2020). Unlocking Ocean Intelligence. In: GIS for Science: Applying Mapping and Spatial Analytics, Volume 2. Wright, D. and C. Harder (eds.), Esri Press, ISBN: 9781589485877; 250 pp.*)

MarineCadastre.gov information is provided as immediately viewable map data, downloadable GIS formatted data, and as map services. MarineCadastre.gov has three primary focus areas: web map viewers and ocean planning tools; spatial data registry; and technical support and regional capacity building. In addition to the data sets provided by other authoritative data providers – such as NOAA, U.S. Fish and Wildlife Service, U.S. Geological Survey, and U.S. Coast Guard – the MarineCadastre.gov includes a variety of BOEM and Bureau of Safety and Environmental Enforcement (BSEE) data sets. Users inside and outside of BOEM have access to the most up to date versions of lease maps, protraction diagrams, leased blocks, OCS blocks, boundaries, pipelines, wells, and other BOEM/BSEE generated GIS data important to BOEM's stakeholders for marine and energy development planning purposes. Several regional ocean portal projects use the data and services provided through the MarineCadastre.gov project, fulfilling BOEM's vision for the project to be the first place to find authoritative coastal and marine data.

The MarineCadastre.gov project also created some widely used data tools. The Ocean Reporting Tool provides quick dashboard statistics for more than 90 data layers, most of which are available in MarineCadastre.gov's viewer or data registry. MarineCadastre.gov also provides historical automatic identification system data for all areas monitored by the U.S. Coast Guard and U.S. Army Corps of Engineers from 2009-2019 and is currently working on collecting 2020 data. A suite of free user tools accompany the data to make it easier for users to build density and trackline map products.

As of the beginning of FY 2021, the MarineCadastre.gov is managing 26 data collections and 316 individual data layers. Additionally, 38 data layers were internally developed and/or maintained in FY 2020. FY 2020 automatic identification system data, critical to informing BOEM's renewable energy leasing and plan approval processes, is in progress, and analysis should be available starting the second

quarter of FY 2021. Vessel counts and trackline data for each year is also provided. Story maps and special purpose maps are live online maps with surrounding narratives to help explain the details and uses of the maps for their intended audiences. Currently, the Marine Cadastre program maintains 17 special maps. These include three thematic, five regional, and nine story maps. They can all be found at: <https://marinecadastre.gov/viewers/>. Reflective of the demand for this data, during FY 2020, there were a total of 18,251,751 hits on all Marine Cadastre services under the NOAA/OCM domain.

PLANS

Each of BOEM's regional offices manages the review and approval process for all exploration plans, development and production plans, or development operations coordination documents within their respective OCS waters. In conducting plan reviews, BOEM examines the proposed exploration, development, and production activities to ensure they conform to regulatory performance standards, comply with Federal laws, are safe, adhere to sound conservation practices, protect the rights of the U.S. Government, do not unreasonably interfere with other OCS uses, and do not cause undue harm to the human, marine, and coastal environment. This oversight ensures that industry follows all applicable laws, regulations, and lease terms when exploring for and developing oil and gas resources on the OCS.

For existing leases, BOEM conducts in-depth reviews of plans within required timeframes to ensure that planned activities are approved and conducted in a timely manner, in accordance with applicable laws, regulations, and lease terms. BOEM works to ensure the review process is rigorous, efficient, and predictable. BOEM designates specific plan coordinators to ensure consistency throughout the review process. During plan review, BOEM evaluates the potential environmental impacts of the proposed activities pursuant to the OCS Lands Act and NEPA. Analyses include reviews of shallow hazards and seafloor features, resource conservation, financial assurance, worst-case discharge, air quality, water quality, archaeological concerns, environmental resource concerns, subsistence use concerns, and military and security issues. The analyses provide information to support plan decisions and development of approval conditions to help protect the environment and facilitate multiple uses of the OCS.

The following figures illustrate typical plan review and approval processes for exploration and development of OCS oil and gas resources.

Figure 12: Processes for Oil and Gas Exploration Activities

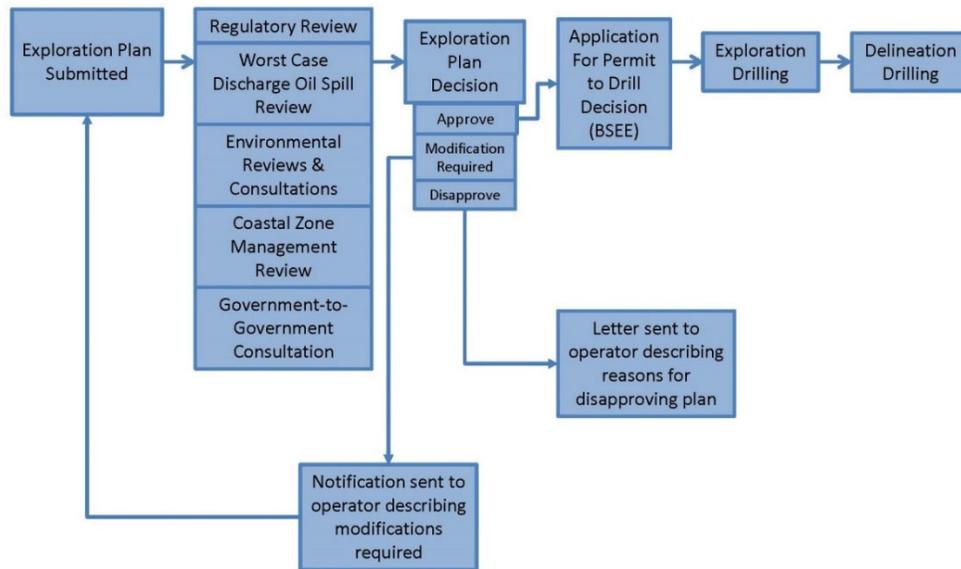
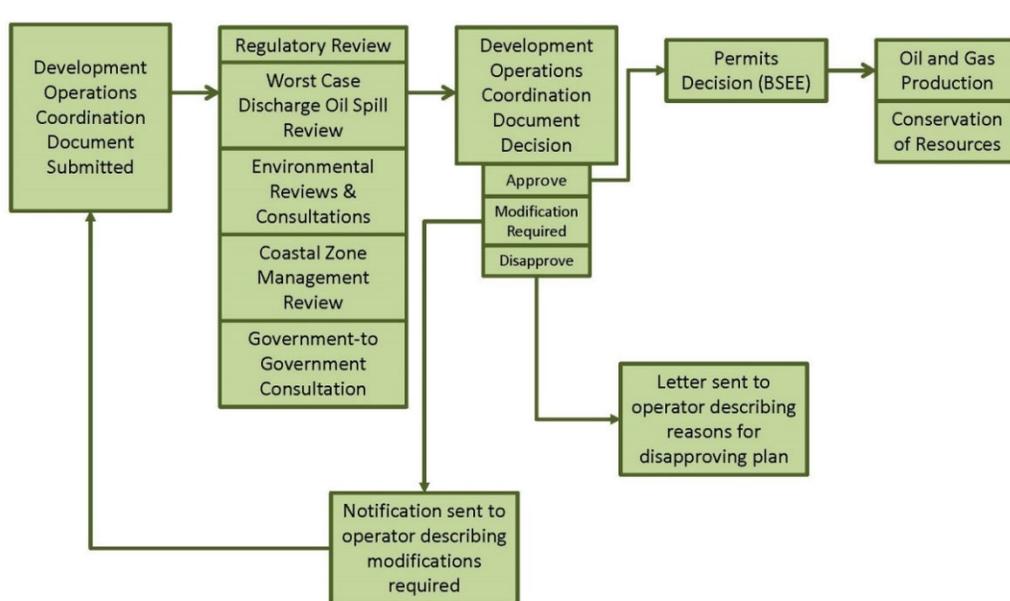


Figure 13: Processes for Oil and Gas Development Activities



Note: This figure reflects the process for development operations coordination documents in the New Orleans Office. The Anchorage Office and the Camarillo Office follow a similar process for development plans and receive development and production plans rather than development operations coordination documents.

New Orleans Office: The number of plans reviewed in calendar year 2020 remained at approximately the same level as the previous year. Although oil prices decreased in 2020, activity remained at the same level due to well maintenance and workover operations on existing leases. The following table shows all plan submittals – initial, supplemental, revised, modifications, amendments, and post-approval – received from 2011 through 2020, as well as plans estimated to be received in calendar years 2021 and 2022.

Table 10: Recent Plan Review Activities in the Gulf of Mexico

Calendar Year	# EPs	# DOCDs
2011*	907	837
2012	170	327
2013	504	616
2014	509	601
2015	542	473
2016	336	248
2017	305	423
2018	293	448
2019	336	401
2020	325	407
2021**	350	450
2022**	350	450

* The increase in 2011 is due to heightened standards on information requirements on Exploration plans (EPs) and Development Operations Coordination Documents (DOCDs).

** The number of plans noted in 2021 and 2022 are estimated.

BOEM also reviews and processes applications for rights-of-use and easement. Rights-of-use and easement are granted to operators to construct or maintain platforms and other installations at OCS sites on which the operator does not have an OCS lease, if the proposed activities would facilitate the development of leased resources. Prior to granting a right-of-use and easement request, BOEM must review and approve a plan outlining the proposed activities to ensure these activities conform to sound conservation practices and are carried out in a safe and environmentally sound manner to prevent harm or damage to any natural resource or human, marine, or coastal environment. In FY 2020, BOEM received 17 right-of-use and easement requests and completed 11 reviews. BOEM anticipates receiving approximately 20 requests in both FY 2021 and FY 2022.

Anchorage Office: In FY 2020, BOEM received an exploration plan for Lower Cook Inlet and initiated a plan completeness review. After review, BOEM determined additional information was needed to deem the exploration plan submitted. The exploration program is structured to evaluate the oil and gas potential of some of the 14 leases acquired in the 2017 Cook Inlet Lease Sale 244. In FY 2020, BOEM approved the operator’s application to conduct a geohazards survey on and near drill sites during the summer. The operator did not conduct the survey in FY 2020 and has postponed the activity until a later date.

In October 2018, BOEM approved the development and production plan for the Liberty Prospect, located in the Beaufort Sea in the OCS waters northeast of Prudhoe Bay. Activities described in the approved development and production plan, if executed, will result in the first solely Federal OCS oil and gas development in the U.S. Arctic OCS. Responsible and safe development of the Liberty Prospect will require continued engagement by BOEM, BSEE, and other Federal agencies. In August 2019, BP announced it had agreed to sell all Alaska operations and interests to Hilcorp for \$5.6 billion, including BP’s interest on the Liberty project. The sale of BP’s Alaskan upstream assets to Hilcorp was finalized on July 1, 2020.

Northstar is a joint Federal/State of Alaska unit located in the Beaufort Sea about 12 miles northwest of Prudhoe Bay, and has been producing since 2001. BP was the original lessee and operator of Northstar. Hilcorp has operated the field since 2014, which produces about 5,500 barrels of oil per day and 3,400 barrels of natural gas liquids per day. BOEM will continue to review and monitor Federal production activities at Northstar and may need to conduct additional NEPA analysis if operations expand.

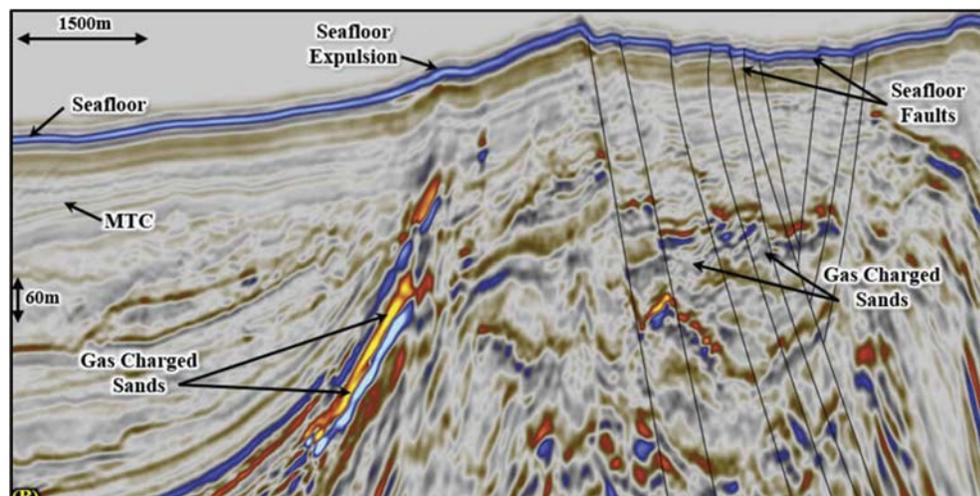
In August 2017, BOEM approved an exploration plan for up to four extended reach wells from an existing island facility in State waters that would penetrate the Federal OCS. Drilling for the first well commenced in December 2017. In April 2018, BOEM approved a revision to the exploration plan, which augmented the multi-year, winter-only OCS drilling schedule with additional drilling and related activities that were allowed to take place in the summer of 2018. Eni US Operating Company completed drilling the first well in April 2019. In FY 2020, BOEM approved a deviation to Eni's exploration plan for the drilling of a second well at Spy Island Drill Site. Eni postponed this drilling and received a Suspension of Operations (SOO) from BSEE that lasts until April 2022.

Per Department policy, BOEM initiates and engages in government-to-government consultations with Federally recognized Tribes and government-to-Alaska Native Claims Settlement Act corporations in planning activities that may have a substantial direct effect on those entities.

Camarillo Office: Proposed activities on active leases periodically require update or revision to approved development and production plans. One right-of-use and easement plan was approved in FY 2020. BOEM anticipates review of one additional right-of-use and easement plan and one revised or supplemental development and production plan in FY 2021. BOEM also expects to receive one revised or supplemental development and production plan in FY 2022.

➤ **Geological & Geophysical Reviews**

BOEM is responsible for reviewing all oil and gas exploration and development plans for potential hazards that may be encountered in conducting the proposed drilling activity. BOEM geoscientists identify and evaluate the potential risks of surface and subsurface geologic hazards (e.g., shallow faults, shallow gas pockets, shallow water flows, abnormal pressure zones, etc.) and man-made obstructions (e.g., pipelines, cables, shipwrecks, etc.). Geophysical reviews are performed to evaluate shallow hazards (seafloor and near seafloor) associated with operators' applications for pipeline rights-of-way and associated permits. To analyze these applications /requests, BOEM uses G&G data (e.g., 2D and 3D seismic data, and high-resolution side scan sonar data) to understand the geologic and geophysical environment in the area. BOEM evaluates and verifies operators' submissions and interpretations, such as their identification and assessment of potential geohazards and archaeological resources in the area that may be affected by exploratory and development drilling, installation of structures, laying pipelines, and other ancillary activities related to the plans. In addition, geoscientists evaluate the potential risk of encountering hydrogen sulfide. The G&G reviews provide a detailed evaluation of operators' geohazards analyses, shallow hazards assessment, archaeological resources, and are used to determine mitigations to be applied to plan and permit approvals.



Seismic Data Showing Shallow Geohazards

Source: <https://ncs-subsea.com/seismic/applications/>

BOEM provides BSEE, upon request, with subsurface expertise and assistance with regulatory review of applications for drilling permits. For example, BOEM geoscientists conduct G&G evaluations that include broaching analyses that support BSEE’s review and approval of operators’ applications for permit to drill for wells. The integrity of the well design is evaluated by BSEE, and if a determination is made that the well may fail at a certain casing point, geoscientists conduct a broaching analysis. A typical broaching analysis takes one to two weeks, depending on the complexity of the geology, and involves the evaluation of subsurface stratigraphic and structural conditions. The purpose of the analysis is to determine if escaping hydrocarbons from a failed casing shoe (a short steel sleeve attached to the bottom of a string of casing to help guide and protect the casing) will be trapped in the formations, or potentially reach the seafloor at some point in time.

New Orleans Office: In FY 2020, BOEM conducted 89 geological and 76 geophysical reviews in support of exploration plan and development operations coordination document reviews; 22 high-resolution survey reviews; 85 reviews of applications for permit to drill; and 95 pipeline reviews for BSEE. In the future, increasingly complex analyses will need to be conducted to identify potential geohazards because of the higher resolution data that is being collected for complex projects, especially those occurring in deep water. BOEM anticipates the number of reviews to remain the same in FY 2021 and increase by 10 to 20 percent in FY 2022. In FY 2020, BOEM completed broaching analyses on 8 proposed wells to help support BSEE’s reviews. BOEM anticipates approximately five broaching analyses each in FY 2021 and FY 2022.

Anchorage Office: In FY 2020, BOEM reviewed and issued one OCS G&G acquisition permit, initiated three geophysical survey reviews (one new industry acquisition from FY 2019 plus two volumes of reprocessed priority legacy survey data) in preparation for a Cook Inlet OCS lease sale originally scheduled for late 2021, and completed one pipeline shallow hazards geophysical review in support of BSEE for the application for the Pebble Pipeline right-of-way (ROW). The G&G permit operations were not commenced before the permit term expired. The permit holder is expecting to seek a new permit authorization to conduct G&G operations in FY 2021 and one or more site clearance shallow hazards

geophysical reviews in support of exploration plans anticipated to be submitted following data collection and analysis. Review of a revised Pebble Pipeline ROW application for potential shallow hazards was submitted to BSEE in FY 2021.

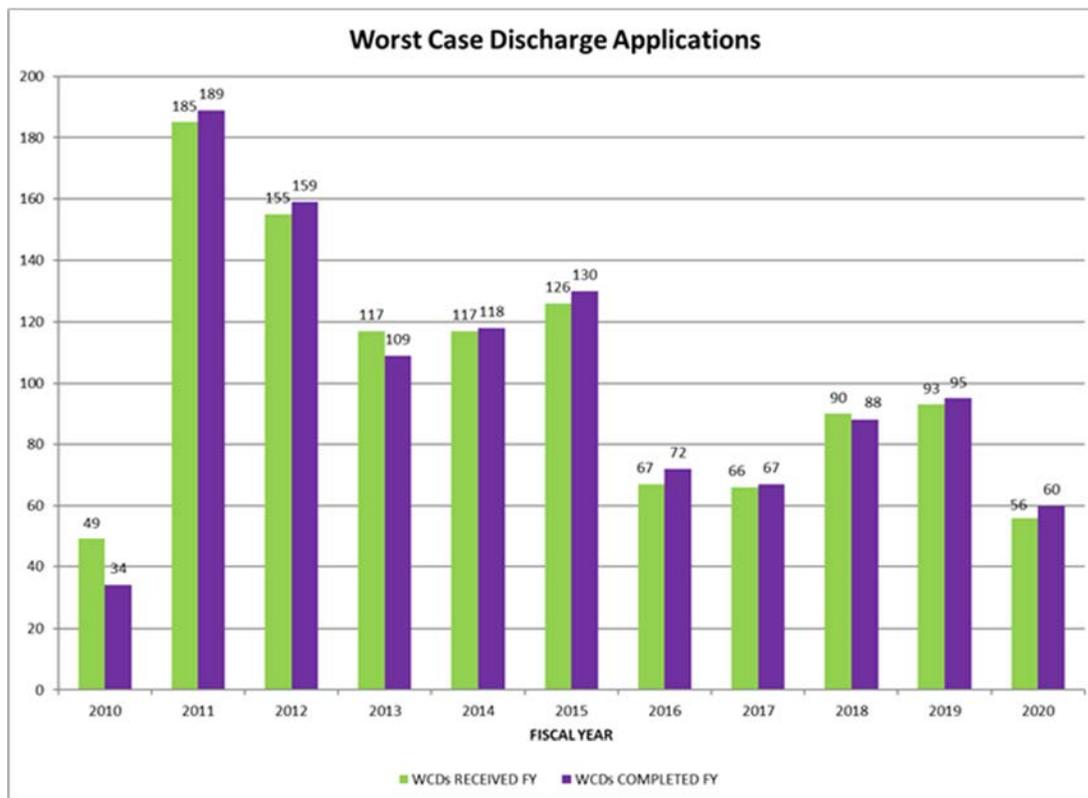
➤ **Worst-Case Discharge**

Operators and lessees are required to submit worst-case discharge calculated volumes and associated data as part of every exploration plan and development and production plan. BOEM defines a worst-case discharge for exploratory and development drilling operations as the daily rate of an uncontrolled flow of oil and gas from all producible reservoirs that are simultaneously exposed to an open wellbore. The package of reservoirs exposed to an open borehole with the greatest discharge potential is considered the worst-case discharge scenario.

Each regional office is responsible for worst-case discharge verifications and decision documentation associated with plans in their respective regional areas. BOEM geoscientists and engineers independently verify the validity of the volume calculations, assumptions, and analogs used by the operator for the worst-case discharge. BOEM's worst-case discharge model outputs are used by BSEE in reviewing oil spill response plans and making application for permit to drill decisions.

New Orleans Office: BOEM made determinations on 60 worst-case discharge verifications in FY 2020. During FY 2021 and FY 2022, BOEM anticipates the number of worst-case discharge analyses to increase to 85 and 90 respectively, although the workload will depend on the drilling activity in the Gulf of Mexico. With drilling on the shelf reaching a plateau, the activity level is expected to be driven primarily by deepwater drilling. The following figure depicts the number of worst-case discharge determination requests received and reviewed for completeness, and the number of analyses completed in each year since the program's inception in 2010.

Figure 14: Worst-Case Discharge Analyses Completed in the New Orleans Office



BOEM continues to develop trend parameters for deep-water exploration and development drilling for critical reservoir and fluid properties for the worst-case discharge analysis in order to enhance the efficiency of the process while maintaining the regulatory oversight needed to ensure an adequate response to an uncontrolled blowout.

BOEM continues to review its worst-case discharge analysis methodology and integrate recommendations from Louisiana State University and University of Oklahoma studies to improve the accuracy of calculating the volume of an uncontrolled blowout. Louisiana State University developed the “LSU Flow Model” which provided BOEM with a wellbore flow diagnostic formula exclusively developed for multiphase flows in large-diameter pipes and high-velocity flows experienced in worst-case discharge analyses. Work is ongoing to incorporate this formula into BOEM’s worst-case discharge modeling software. Additionally, the University of Oklahoma provided BOEM with a worst-case discharge tool based upon an investigation into the application of sonic velocity to worst-case discharge analyses. BOEM is testing the tool and analyzing whether its application will increase the accuracy of the calculated blowout pressure which directly influences flow rate.

Anchorage Office: BOEM regularly works with operators to clarify the various input parameters and assumptions in reservoir flow simulation models used to produce their worst-case discharge estimates. During FY 2021, BOEM anticipates completing at least one worst-case discharge analysis for proposed exploratory drilling of leases issued under Cook Inlet Lease Sale 244 in 2017.

Camarillo Office: With no new recent leasing offshore the Pacific, the worst-case discharge analyses are conducted over mature fields only. A standard operating document was adopted for the worst-case discharge analyses conducted in FY 2019. BOEM completed two worst-case discharge analyses in FY 2020 and anticipates a similar level of activity in FY 2021 and 2022 respectively.

➤ **Oil Spill Financial Responsibility Program**

The financial responsibilities associated with the development of OCS resources are enormous. Just as BOEM must protect the U.S. taxpayer from entities that fail to meet their lease, grant, or permit obligations, BOEM must also ensure that these same entities have the financial resources to pay for cleanup and damages that could be caused by oil discharges from their OCS facilities.

Under the Oil Pollution Act, BOEM is authorized to adjust for inflation the limit of liability for OCS facilities, including pipelines. The limit of liability for damages from OCS facility spills is capped at \$137.66 million with respect to each incident plus the total of all removal costs— the maximum allowed under the Oil Pollution Act. BOEM performs a thorough review and oversight of industry oil spill financial responsibility filings, which are required before any drilling activities are approved. BOEM uses the information to (1) ensure Oil Pollution Act compliance by lessees and owners and operators of covered facilities, (2) establish eligibility of designated applicants for oil spill financial responsibility certification, and (3) establish reference and contact information for potentially responsible parties and their designated agents and guarantors. The program currently oversees approximately 96 companies covering 3,924 facilities with financial coverage in excess of \$7.5 billion.

RISK MANAGEMENT PROGRAM

BOEM continues to work to strengthen its risk management capabilities to address changing market conditions by tracking the financial profiles of companies in distress and obtaining financial assurance on specific leases as necessary. Through these efforts, along with a full review of the existing financial assurance framework, BOEM engaged with BSEE and industry to discuss relevant issues and concerns as it developed and published a draft proposed financial assurance rule. BOEM will seek to further enhance its comprehensive risk management and financial assurance regulatory framework, with the goal of ensuring U.S. taxpayers will not have to pay for liabilities related to noncompliance by lessees and grant holders with their OCS obligations, including the decommissioning of OCS facilities.

Characteristics of the companies operating on the OCS have changed over the years, with large companies transferring sunset properties to small companies. Since 2009, there have been 30 bankruptcies of corporations with OCS activities. Accordingly, one potential risk is that a company becomes financially insolvent, and the U.S. Government and taxpayers are forced to pay for decommissioning a facility.

The cost of decommissioning a facility is based on the type and number of various components (e.g., pipelines, structures, wells), various factors (e.g., water depth, location), the condition of the facilities (e.g., age, rust, toppled, damaged), and market conditions (e.g., rig availability and cost). For instance,

contingent liabilities associated with the decommissioning of all facilities on the OCS are currently estimated to be approximately \$38 billion to \$52 billion. In frontier territories, such as the Arctic, the cost of decommissioning a single platform may be twice that of a Gulf of Mexico facility in comparable depth on the continental shelf due to climate, sea ice, and remoteness. These are some examples of the conditions that spurred the need for the U.S. Government to take a more proactive approach to the development and management of a national risk policy and financial assurance program.

As a steward of OCS resources, BOEM manages a variety of financial and physical risks associated with OCS activities. Some of these risks are intrinsically related to financial assurance and loss prevention to the U.S. Government and taxpayers. BOEM performs robust and continuous risk monitoring to help mitigate impacts of financial uncertainty, credit risk, project failures, legal liability, accidents, and natural disasters.

RESOURCE EVALUATION

BOEM conducts analyses to identify areas of the OCS that are the most likely to support conventional energy development based on technical and economic factors. To accomplish this, BOEM:

- Acquires G&G data/information through the regulation of pre-lease permitted exploration of the OCS;
- Delineates and develops estimates of the quantities of undiscovered technically and economically recoverable resources that may exist and the volume of reserves discovered and likely to be produced;
- Tracks the volume of discovered reserves, produced reserves, and the remaining reserves by field;
- Forecasts future industry activity levels and develops scenarios for the leasing program; and
- Determines the adequacy of high bids received for individual tracts offered for lease as it seeks to ensure the Nation receives fair market value for the tracts.

BOEM's evaluation of geological, engineering, and geophysical data and information provides the inputs to the economic and statistical analyses that inform leasing policies and program decisions, such as the design of financial terms for lease sales. Program analyses assist in exploration and development plan decisions and help reduce the risk of safety and environmental concerns in OCS development decision-making.

➤ Resource Assessment

As one of the first steps in the leasing process, BOEM identifies resources associated with geologic plays and areas on the OCS that offer the highest potential for oil and gas development and production. Following the identification of hydrocarbon plays, BOEM assesses each play's hydrocarbon potential and its economic viability with complex computer modelling and methodologies. The assessment process incorporates specific geologic, petroleum engineering, and economic data and information. In addition to

helping BOEM estimate undiscovered hydrocarbon resources, these studies help BOEM identify environmental and operational constraints and assist in lease sale decision-making. BOEM also estimates the amounts of oil and gas likely to be discovered and produced and generates potential scenarios of future exploration, development, and production activities. BOEM tracks the resources and acres offered annually, compared to what was planned for the year, and analyzes the results to inform the National OCS Program and individual lease sale decisions. Resource estimates support analyses of potential impacts of policy decisions, legislative proposals, and industry activities, as well as NEPA analyses.

The scale of the assessment activities ranges from large (i.e., regional or OCS-wide) to small (i.e., lease sale specific, such as individual prospects and lease tracts). In the early stages of this process, the focus is on regional areas. As more data and information are acquired, the focus shifts to lease sales and prospect-specific areas to be offered for lease, or that are related to a specific issue (e.g., moratoria). Once a lease sale area has been identified, BOEM's geologists and geophysicists perform detailed subsurface mapping and analyses to estimate the resource potential of individual prospects within that area. These prospect-specific data, maps, and analyses are also used to determine parameters for post-sale bid analyses in support of fair market value evaluations.

BOEM provides a comprehensive national assessment of undiscovered oil and gas resources in five-year intervals. BOEM's most recent National Assessment, the 2021 National Assessment of Undiscovered Oil and Gas Resources of the U.S. Outer Continental Shelf, represents a thorough appraisal that considers relevant data and the best available information and builds upon previous assessment efforts on the OCS. In its 2021 Assessment, BOEM estimates that the United States OCS contains a mean of 68.79 billion barrels of undiscovered technically recoverable oil and a mean of 229.03 trillion cubic feet of undiscovered technically recoverable natural gas. The resource information and analysis included in the 2021 Assessment is critical to informing BOEM's leasing efforts, specifically, the development of the next National OCS Oil and Gas Leasing Program. Additional information is available online at: <https://www.boem.gov/oil-gas-energy/resource-evaluation/undiscovered-resources>.

In FY 2020, BOEM offices prepared for the release of BOEM's "2021 National Assessment of Undiscovered Oil and Gas Resources of the U.S. Outer Continental Shelf" (2021 National Assessment) by executing a comprehensive work plan, compiling pricing and economic information, updating cost databases and taxation assumptions, finalizing geologic play-level estimates, and aggregating resource estimates to the National level. Analysis of geologic history, regional stratigraphy, major geologic trends, major structural features, source rocks, reservoir rocks, seals and trapping mechanisms, and petroleum exploration history was conducted. In addition, the application of risk and probability theory and statistical analysis was used to develop resource estimates. In FY 2020, BOEM offices also began to assess the potential for undiscovered oil and gas resources through development of updated geologic play assessments. Updates include compiling information from recent OCS wells, leasing and development trends, global geologic analogs, and significant technology improvements. The 2021 National Assessment also included the development of an improved corporate approach to geologic risk assessment. This work will continue in FY 2021 and in Q1 FY 2022 with the expected publication of national and regional reports supporting the 2021 National Assessment.

New Orleans Office: To support the development of the 2021 National Assessment, the Gulf of Mexico

Region assessed resources located in the Atlantic OCS and Gulf of Mexico OCS. BOEM formed teams of geoscientists and engineers for both basins. BOEM created work plan and project management documents and developed and adopted a standardized methodology for assessing play and prospect risk, which all BOEM regions adopted. The work includes identifying and determining if geologic conditions exist for the accumulation of oil and gas, and if a basin may be oil- or gas-prone.

Anchorage Office: For the 2021 National Assessment, BOEM geoscientists reviewed each of the geologic risk assessment forms for all OCS planning areas and revised play and prospect risk ratings as appropriate to fit a new standardized risking methodology designed to provide more consistency between the regional offices in the subjective interpretation of geologic information used in resource assessments so all the BOEM regional assessments nationwide could be described with the same context. In FY 2020, staff began the process of re-evaluating the geology of Alaska’s priority OCS areas from the ground up using the newest interpretive tools complemented by both newly acquired and freshly reprocessed legacy data to lay the groundwork for the National Assessment. In FY 2021, BOEM will be digitally mapping geologic plays and prospects across priority OCS areas based on BOEM’s historic analysis synthesized with new data, digital data integration, and highly evolved interpretive techniques developed since the last remapping.

Camarillo Office: In FY 2019, BOEM re-evaluated key G&G inputs and risk methodologies supporting resource evaluation. Currently BOEM and the U.S. Geological Survey are working to apply modern seismic processing on vintage seismic data and to obtain high-resolution geophysical data over existing fields. These efforts are expected to provide insights on resource characterization and shallow hazards in mature and undeveloped areas of the Pacific Region. During FY 2020, BOEM used the revised risk methodology to capture petroleum system uncertainties across Pacific OCS. In FY 2021, the risk metrics will continue to be evaluated using other quantitative techniques.

➤ Reserves Inventory Program

The OCS Lands Act requires the Department to “conduct a continuing investigation... for the purpose of determining the availability of all oil and gas produced or located on the Outer Continental Shelf.” To meet this requirement, BOEM develops independent estimates of economically recoverable amounts of oil and gas contained within discovered fields by conducting field reserve studies. The reserve estimates undergo continuous revisions to reflect new information obtained from development and production activities. BOEM is responsible for continually updating volumetric estimates on over 1,300 fields in the Gulf of Mexico. During FY 2020, approximately 3,900 reservoirs were interpreted, revised, and added to the inventory. BOEM anticipates similar reserves inventory workloads in FY 2021 and FY 2022.

Reserve studies are critical inputs to determining the Nation’s OCS oil and gas endowment, conducting resource assessments, generating analog information for bid adequacy determinations, and informing the review of industry plans and requests. The geologic and engineering information supports other program activities within the Department, including development and preparation of the National OCS Program and cooperative efforts with the Department of Energy and its Energy Information Administration. For example, BOEM’s reserves inventory and resource assessment information support the Energy Information Administration’s National Energy Modeling System, used for preparation of forecasts within

its Annual Energy Outlook.

New Orleans Office: Reserves inventory personnel review conservation information document submissions, which BOEM requires to ensure operators exploit all economic reservoir accumulations discovered rather than producing only the most prolific zones and bypassing marginally economic zones. The review and analysis of conservation information documents allows for the maximum ultimate recovery and full development of economic reserves and resources, while ensuring fair monetary compensation for the Federal Government. During FY 2020, BOEM evaluated 18 initial and supplemental conservation information documents and 8 revised conservation information documents resulting in a commitment to develop an additional 452,000 MCF of gas and 161,143,000 barrels of oil in recoverable hydrocarbons. During FY 2020 and FY 2021, BOEM anticipates evaluating approximately 15 initial and supplemental conservation information documents and 10 revised conservation information documents annually.

In FY 2020, BOEM published the “Estimated Oil and Gas Reserves, Gulf of Mexico OCS Region, December 31, 2018” (OCS Report BOEM 2020-028) report. This report provides estimates of oil and gas reserves in the Gulf of Mexico OCS, considering reserves additions and revisions, and produced volumes. Reserves estimates are derived from individual reservoirs, based on geologic, geophysical and engineering data, and aggregated to the field, protraction, and planning area levels.

Anchorage Office: BOEM continues to support BSEE in the oversight of production allocation issues for the Northstar field production unit, which produces oil from both State of Alaska and Federal OCS leases. In FY 2020, BOEM also completed and provided the Alaska OCS Region 10-year Oil and Gas Production Forecast that contributes to BOEM’s 10-year estimate of Federal OCS royalty receipts. This estimate includes future production forecasts resulting from future developments that are thought likely to occur within the next 10 years. During FY 2021, BOEM will complete similar forecasts for the FY 2022 President’s budget request. In FY 2021, BOEM engineers and geoscientists will begin an inventory of Alaska OCS contingent resources. This inventory will provide decision makers and the public with an assessment of oil and gas resources previously discovered but are no longer leased. This effort will take two to three years to complete, but Alaska anticipates having new estimates to publish in the 2023 Report to Congress of the Comprehensive Inventory of OCS Resources.

Camarillo Office: BOEM’s annual Field Reservoir and Reserve Estimates report, which breaks down the area’s reserves and known resources by field and productive zones, provides a brief update on reserves and production between releases of the more comprehensive Estimated Oil and Gas Reserves report. During FY 2020, BOEM completed evaluation of the calendar year 2019 Field Reservoir and Reserve Estimates report, which is published on the BOEM webpage. Typically, reports of preceding calendar year oil and gas production volumes lag by six months. BOEM anticipates that reporting of the calendar year 2020 production volumes will be complete by the third quarter of FY 2021. Therefore, BOEM anticipates the calendar year 2020 reserves report will be completed and published in fourth quarter FY 2021. In FY 2020, BOEM also completed and provided the Pacific OCS Region 10-year Oil and Gas Production forecast, which covered FY 2020 through FY 2030. This forecast was used to estimate 10-year Federal OCS royalty receipts for the FY 2021 budget. During FY 2021, BOEM completed similar forecasts for the President’s FY 2022 budget request.

➤ **Permitting of Prelease/Off-Lease Exploration**

BOEM works to ensure that OCS energy-related prelease exploration, prospecting, and scientific research operations do not interfere with other ocean users, lease operations, or other permitted uses of the area. Permits to acquire pre-lease G&G data identify specific parameters for each activity, including the area of interest, the timing of acquisition, the use of approved equipment and methods, and required environmental compliance measures. For each approved application, the operator receives a signed copy of the permit that outlines requirements regarding reporting, submission, inspection and selection of data, reimbursement, disclosure of information, possible sharing of data with affected States, contact information for coordinating activities with affected stakeholders, and policies regarding permit modifications. BOEM is considering approaches to streamline permitting for seismic data collection. Adherence to BOEM's processes and regulations ensures exploration and research activities are conducted in a safe and environmentally sound manner.

New Orleans Office: BOEM continues to process permits for oil and gas exploration activities. During FY 2020, BOEM evaluated and issued 29 permits. During FY 2021, BOEM anticipates evaluating and issuing approximately 40 permits, and various permit modifications, with most of the permits issued for high-resolution and deep penetration seismic surveys. BOEM estimates it will evaluate and issue approximately 42 permits during FY 2022. BOEM anticipates the number of permit applications to remain comparatively low, reflecting conservative levels of industry exploration activity based on projected oil and gas prices.

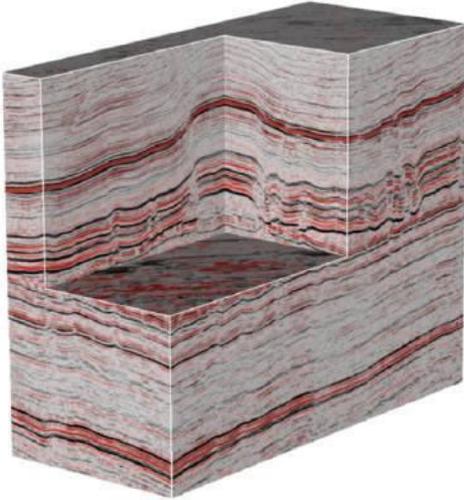
Anchorage Office: BOEM will continue to process permits for oil and gas exploration activities. In FY 2020, BOEM approved a geohazard permit for data collection in the Cook Inlet OCS. That survey was not conducted, but BOEM expects a permit application of similar size and scope for FY 2021. Future permit activity is expected at up to three permits per year, primarily for seismic surveys for off-lease exploration. BOEM ensures that all permittees adhere to statutory requirements (including the Marine Mammal Protection Act and the Endangered Species Act) and conducts required government-to-government consultations (e.g., Tribal and Alaska Native Claims Settlement Act Corporations). BOEM will acquire any new data as a result of future seismic surveys for BOEM geoscientists to use for resource assessment and fair market value evaluation.

Camarillo Office: BOEM continues to monitor an operator's activities associated with the seismic permit application submitted in December 2017. During FY 2019, the operator conducted high-resolution geophysical surveys to investigate potential archeological impacts associated with the proposed seismic survey. In FY 2020, the operator chose to reconsider acquisition parameters in light of site conditions revealed by their benthic surveys. The permit is on hold pending the operator's decision on the mode of acquisition. It is anticipated the permit status will be resolved by the end of FY 2021.

➤ **G&G Data Acquisition and Analysis**

The acquisition and analysis of G&G data are critical to identifying potential resources on the OCS. This enables BOEM to identify areas favorable for the accumulation of hydrocarbons and develop estimates of

resource volumes and economic values of these accumulations. These estimates are used to focus OCS leasing on areas of high potential, as well as to help BOEM as it seeks to ensure fair market value in lease sale bid evaluations.



Processed 3D seismic data showing oil and gas reservoirs below salt formations in the Gulf of Mexico

The majority of BOEM business processes where oil and gas resources are assessed – such as the reserve inventory program, fair market value analysis, and resource assessment – are based on the analysis of large volumes of G&G data. The primary source of the G&G data BOEM uses is acquired by the oil and gas industry. As a condition of the permit that BOEM issues prior to each industry activity (such as seismic data acquisition), companies are required to provide a copy of the G&G data and information to BOEM upon request after completion of data acquisition. BOEM uses the data internally, while maintaining them in a proprietary term that generally ranges from 2 to 25 years. The extensive amount of acquired data and information are used by BOEM and BSEE geologists, geophysicists, and petroleum engineers to perform a variety of analyses leading to resource estimates, reserve inventories, and determining leased tract fair market value.

Atlantic OCS: BOEM supports both the acquisition of modern, robust scientific information about the scope and location of potential oil and gas resources in the Atlantic and the resolution of significant potential conflicts between oil and gas activity and other important OCS uses in these areas, including military, fishing, and vessel traffic uses as well as environmental and infrastructure concerns.

To date, three Atlantic G&G permits for airborne gravity/magnetic surveys have been issued. They were issued in FY 2015, FY 2016 and the latest permit was issued in November of FY 2020. All permits expired with no data collection. NOAA issued Incidental Harassment Authorizations on November 30, 2018, for five deep penetration seismic surveys proposed off the Atlantic coast. The Incidental Harassment Authorizations expired on November 30, 2020, and the associated G&G permits were not issued. Permittees will have to reapply if they wish to pursue data acquisition on the Atlantic OCS. As of May 2021, eight G&G permit applications for oil and gas exploration on the Atlantic OCS are currently under review.

New Orleans Office: Both BOEM and industry are expanding their use of 3D technology to study and evaluate the complex geologic picture of the Gulf of Mexico. The data provided by this technology is used to inform decisions regarding offshore resource development. Because it oversees a large number of active leases, BOEM acquires, analyzes, and manages a vast collection of G&G data. BOEM currently manages data from approximately 2,810 three-dimensional surveys, 601 two-dimensional surveys, and other critical data sources encompassing a total volume of 232 terabytes of 32-bit SEG Y data. The volume of seismic data managed by BOEM increased by 17.6 terabytes during FY 2020. To manage all of this data effectively, BOEM invests in data management solutions (servers, disk space, hierarchical

storage management, database development) needed to store, archive, manage, and deliver geophysical data to BOEM and BSEE users, as well as other stakeholders (e.g., other Federal agencies and the public).

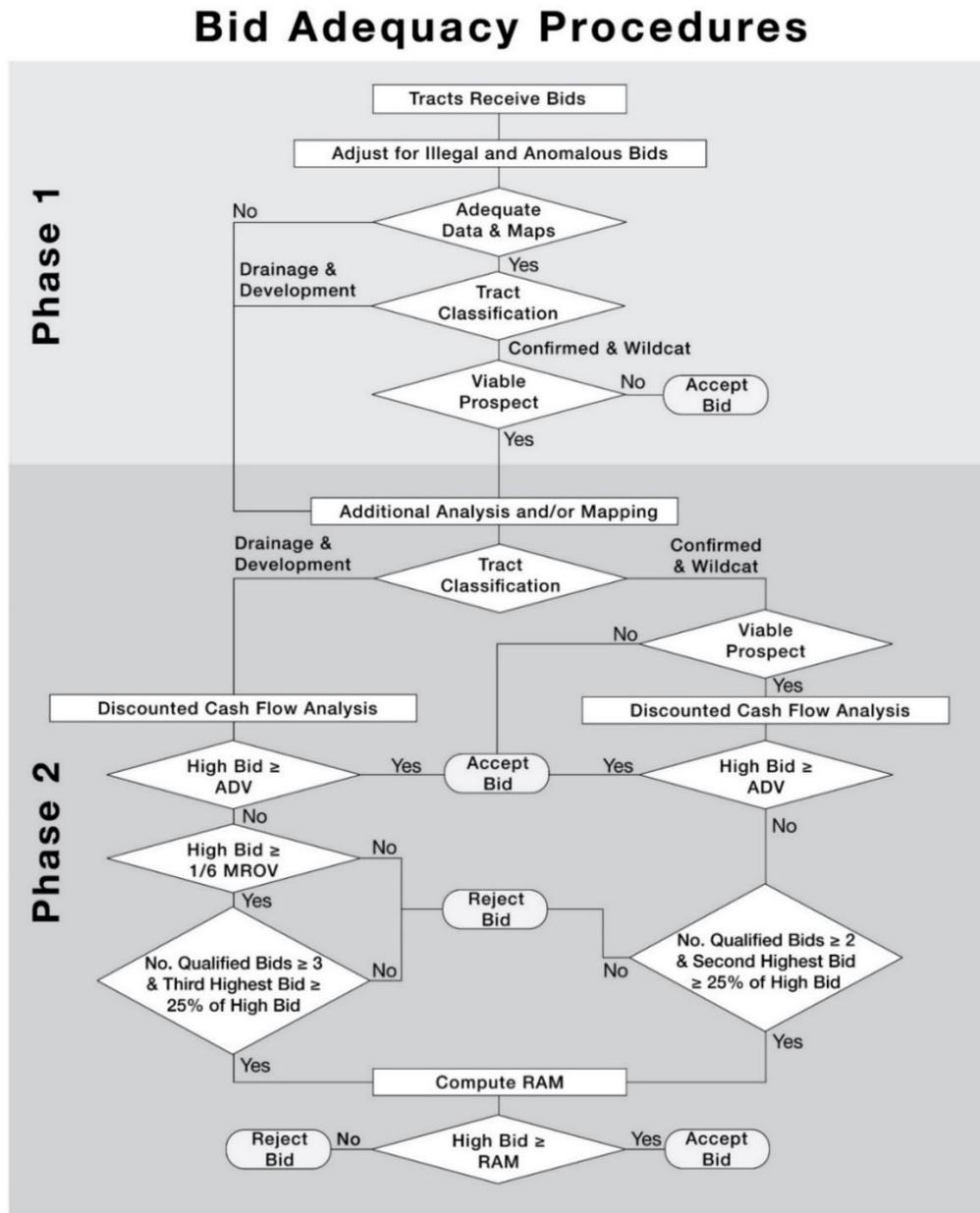
Anchorage Office: BOEM continues to acquire and manage G&G data needed to support mission functions, such as the review of exploration and development and production plans, the development of the National Assessment, lease sale EIS scenarios, National OCS Program scenarios, lease sale fair market value determinations, and worst-case discharge determinations. As of April 2021, BOEM's Anchorage office manages data from approximately 24 3D seismic surveys, 235 2D seismic surveys, and other critical G&G data sources, with a total volume of 1.1 TB of SEG-Y data plus TIFF images of historical 2D seismic data. In FY 2020, BOEM received newly collected 3D seismic survey data from the Cook Inlet Planning Area. This was the first new data from this planning area acquired by BOEM since 2005 and will allow BOEM geoscientists a fresh look at the area's hydrocarbon potential. In FY 2020, BOEM acquired raw data gathered from two legacy OCS surveys in Cook Inlet and contracted out reprocessing services to significantly improve the data quality and provide far clearer insight into areas with sparse data coverage to serve as the framework for a regional basin modeling project. In FY 2021, other data priorities will be ranked to determine other viable candidates for reprocessing.

Camarillo Office: In FY 2019, BOEM set up a multi-year cooperative agreement with California State University Northridge's Center for Geospatial Science and Technology (CGST). This cooperative agreement helps BOEM explore innovative ways to make data readily useable and accessible. Workflows are being developed for data visualization and machine learning with a previously created G&G database. In FY 2020, CGST expanded the database to include more than 20,000 entries. For FY 2021, the enlarged database will be used to perform more robust machine learning analysis to inform resource evaluation efforts.

➤ **Fair Market Value and Bid Adequacy**

Ensuring the receipt of fair market value for OCS resources is mandated by the OCS Lands Act and is one of BOEM's critical responsibilities for oil and gas leasing. Under its bid adequacy procedures, BOEM reviews all oil and gas lease sale bids and evaluates all blocks using either tract-specific bidding factors or detailed tract-specific analytic factors as it seeks to ensure that fair market value is received for each OCS lease issued. The bid adequacy process relies on evidence of market competition and in-house estimates of tract value. The bid review process incorporates G&G data along with reserve, resource, engineering, and economic information into a sophisticated discounted cash flow computer model that estimates economic value of the corresponding tract. The goal of that model is to achieve independent estimates of fair market value on tracts receiving bids. If a bid is rejected and a company appeals the rejection, BOEM's experts review the appeal and make a recommendation to the Director.

Figure 15: Flow Chart for Post-Sale Evaluation Procedures in Areawide Sales



Since 1983, bid adequacy reviews and fair market value determinations have resulted in an average bid rejection rate of 4.3 percent. From 1983 through 2020, BOEM rejected approximately \$738 million in total high bids. Bid adequacy procedures have consistently resulted in higher returns in subsequent sales for tracts bid on and rejected in previous sales. Subsequently, the same blocks were re-offered and drew high bids of \$1.9 billion, a total net dollar gain of \$1.2 billion and a return on rejected high bid amounts of 160 percent. The fair market value determinations from bids received in BOEM’s most recent sale, Gulf of Mexico Sale 254 held in March 2020, resulted in rejecting \$7 million dollars in high bids.

New Orleans Office: In FY 2020, BOEM conducted one sale: Gulf of Mexico region-wide Sale 254. Gulf of Mexico region-wide Sale 256, originally planned in FY 2020, was held in first quarter FY 2021. Bids received during lease sales undergo fair market value determinations. This process is conducted within a 90-day period following each sale. BOEM analyzes all available engineering and geologic data in addition to the current economic parameters to determine value of the resources on the tract. BOEM uses a proprietary computer model that incorporates the Monte Carlo (range-of-values) technique to calculate the fair market value.

Anchorage Office: The approved 2017-2022 OCS Oil and Gas Leasing Program scheduled one lease sale in Alaska, in the Cook Inlet Planning Area (Lease Sale 258 in 2021). In FY 2021 BOEM staff will ensure that all data and information is current and that modeling software and staff are capable of ensuring all leases receive fair market value, should the sale be held.

ECONOMIC EVALUATION

As mentioned above, a critical component of BOEM's mission is seeking to ensure the receipt of fair market value for OCS natural resources. To accomplish this, BOEM employs an interdisciplinary team that provides economic analyses for the Department of the Interior, other Federal agencies, and Congress. To aid in receipt of fair market value, BOEM designs fiscal and lease terms for OCS lease sales; develops various resource-economic evaluation approaches; prepares bid adequacy guidelines, procedures and economic inputs; and coordinates reviews of appeals of bid rejection decisions. BOEM's economic analysis expertise is often called upon to analyze and implement regulatory and legislative actions affecting OCS leasing, exploration, development, and production activities that generate significant supplies of domestic oil and gas, resulting in the receipt of billions of dollars each year to the U.S. Treasury. BOEM also undertakes studies, as needed, to analyze and address specific policies and compilations of data affecting overall OCS program responsibilities and initiatives.

➤ Economic Analysis and Revenue Estimates

BOEM conducts economic analyses to support the development of regulations, evaluation of policies for lease terms, and conditions and bidding systems for oil and gas and renewable energy lease sales. BOEM's work supports internal and Department-wide projects, such as the development of the National OCS Oil and Gas Leasing Program, and other Federal agency projects, such as the U.S. Department of Transportation's assessment of fair market rental value for construction of offshore liquefied natural gas ports. BOEM's economic experts review and design policies and methods for forecasting receipts from offshore energy programs, including the estimation of the manner and rate at which reserves and resources of oil and gas are discovered and produced. BOEM generates the receipt estimates used to project revenue and offsetting collections amounts identified in the President's annual budget process and mid-year review process. BOEM's economists also annually assess the present value of the future Federal royalty stream of OCS proven reserves for use in the Nation's accounting statements.

➤ **Economic Modeling for Policy and Decision-Making**

BOEM’s efforts contribute significantly to the development of national energy strategies. BOEM develops and maintains economic and statistical models and databases that are the basis for lease sale design, National OCS Program formulation, resource evaluation, post-sale and operational activities, rulemaking, revenue sharing, and royalty relief programs. The economic assumptions and scenarios that BOEM generates are used in post-sale tract evaluations, national resource assessment studies, and in applications submitted to BSEE for royalty relief. BOEM also provides economic analyses and fiscal forecasts for energy leasing policies, regulatory and legislative alternatives, and national energy strategies. Finally, BOEM’s economic models inform BOEM’s resource needs by projecting rental receipt estimates, which contribute toward BOEM’s offsetting collections total.

OUTLOOK FOR CONVENTIONAL ENERGY

In FY 2021, BOEM will continue to meet its statutory and regulatory mandates to oversee OCS oil and gas resource development, including: allowing for appropriate access to those resources; safeguarding a fair return to taxpayers through economic evaluation and analysis of offshore natural resources; enhancing its risk management program; and, ensuring that development takes place in an environmentally responsible manner. Section 208 of EO 14008 requires the Secretary of the Interior to “pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices.” Consistent with this EO, during FY 2021, the pause on new oil and gas lease sales gives BOEM the opportunity to examine its leasing and permitting programs with a specific focus on the Administration’s priorities of climate, environmental justice, Tribal trust responsibility, jobs, and fair return to the taxpayer. Review findings will inform next steps and recommendations for the Department and Congress to improve stewardship of public lands and offshore waters, create good paying jobs, and build a just and equitable energy future. During FY 2022, BOEM will work with the Department to incorporate recommendations within its business practices. Looking forward, BOEM’s conventional energy activities will continue to meet the high standards set forth by the Administration, Congress, and the public through successful planning, leasing, and protection of the Nation’s OCS resources.

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FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Marine Minerals

Table 11: Marine Minerals Budget Summary

Activity: Ocean Energy Management
Subactivity: Marine Minerals

Marine Minerals	2020	2021	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	2022	Change from 2021 (+/-)
Marine Minerals	5,874	10,781	+128	+0	+4,056	14,965	+4,184
<i>FTE</i>	<i>14</i>	<i>21</i>			+4	25	+4

The OCS Lands Act designates BOEM as the Federal authority for overseeing the use of non-energy marine minerals across almost 2.5 billion acres of the OCS. BOEM's Marine Minerals Program facilitates access to and manages these crucial OCS resources. BOEM's marine minerals mission involves environmentally responsible stewardship, mineral resource exploration and leasing activities, coordination with governmental partners, engagement of stakeholders, and scientific research to improve decision making and manage risk.

The Bureau may convey, on a noncompetitive basis, the rights to sand and other sediment to Federal, State, and local government agencies for use in shore protection, beach and wetlands restoration projects, or other construction projects funded or authorized by the Federal Government. BOEM also oversees marine mineral geological and geophysical exploration and competitive, commercial leasing for critical and other strategic minerals located on the OCS.

BOEM continues to assess which of the currently identified 35 critical minerals, such as cobalt, manganese, and rare-earth elements, may be located on the OCS.

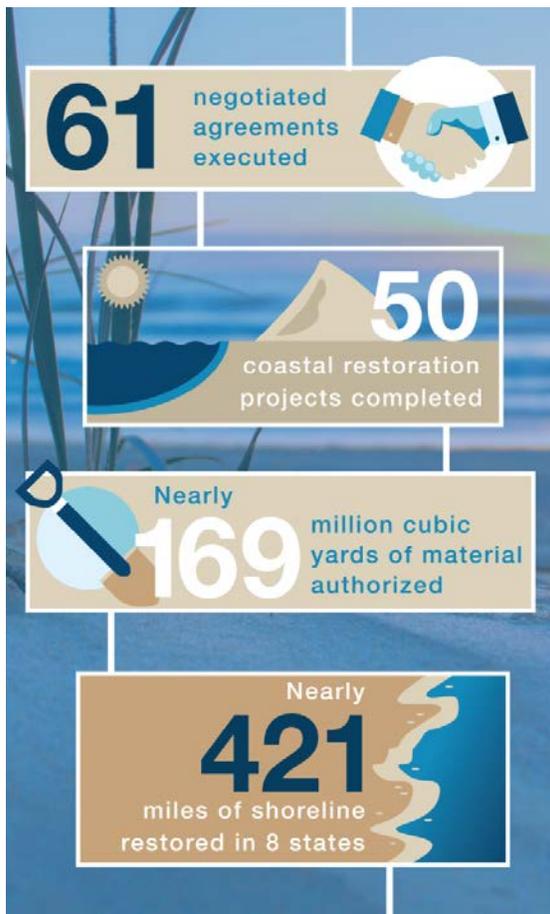
The FY 2022 budget will support:

- Climate Change Resilience and Adaptation:** Consistent with Executive Order (EO) 14008 "*Tackling the Climate Crisis at Home and Abroad*," BOEM continues to advance its marine minerals activities, facilitating the restoration and protection of shoreline infrastructure vital to the Nation's security, economy, and ecosystems, as well as beach and coastal wetlands restoration projects. These activities contribute toward the Administration's



BOEM team monitors hopper dredge using OCS sand offshore Ship Island, Mississippi

goal of climate change resilience to "...combat the climate crisis to implement a Governmentwide approach that ... increases resilience to the impacts of climate change..."



Key Program Statistics as of May 2021

- **Use of Sand and Sediment Resources:** As of May 2021, BOEM has conveyed the rights to nearly 169 million cubic yards of OCS sediment and executed 61 negotiated agreements for projects in eight States that have restored nearly 421 miles of coastline. BOEM expects to authorize additional mineral exploration and leasing in FY 2021 and FY 2022 in the Gulf of Mexico OCS and Atlantic OCS.
- **National Offshore Sand Inventory:** BOEM continues to develop the National Offshore Sand Inventory, focusing in priority areas along the Gulf of Mexico and south and mid-Atlantic. The National Offshore Sand Inventory helps BOEM and its partners identify the location and character of sand reserves that may be appropriate for use in beach nourishment, coastal restoration, and infrastructure protection efforts. The National Offshore Sand Inventory enables BOEM and its partners to act quickly and responsibly in emergency or post-storm situations. BOEM also uses the National Offshore Sand Inventory to identify and manage multiple use conflicts and avoid or minimize environmental impacts from dredging activities.

- **Marine Minerals Information System:** BOEM manages and uses the Marine Minerals Information System (MMIS) as a central repository for marine minerals data. BOEM populates the MMIS with data from National Offshore Sand Inventory activities, as well as project-specific leasing and monitoring activities. The MMIS is publicly available and provides stakeholders with reliable information on sand and gravel resources on the OCS. BOEM will continue to populate, maintain, and host the MMIS through FY 2022, including updating data and metadata for geologic data, OCS sand resource areas, OCS dredge areas, and shoreline placement reaches.
- **National Offshore Critical Mineral Inventory:** BOEM is building the National Offshore Critical Mineral Inventory to house information about potential critical mineral resources and environmental conditions in shallow water and deeper water environments, focusing on priority areas in the Pacific and Alaska OCS areas.

SUMMARY OF 2022 PROGRAM CHANGES

Summary of 2022 Program Changes for Marine Minerals		
Request Component	(\$000)	FTE
2022 Fixed Costs	+128	
Technical Internal Transfers	[-268/+268]	
National Offshore Sand Inventory	+4,056	+4
TOTAL Program Changes	+4,184	+4

* Changes listed in order of budget activity, not priority.

Fixed Costs (+\$128,000). Fixed cost increases are fully funded in BOEM's FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers' compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$268,000/ +\$268,000; 0 FTE). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. The amount cited above reflects the technical internal transfer associated with this budget activity. There are no programmatic changes associated with this shift.

National Offshore Sand Inventory (+\$4,056,000; +4 FTE). The FY 2022 budget supports an increase in resources to enable the further development of the National Offshore Sand Inventory. This work facilitates the restoration and protection of shoreline infrastructure vital to the Nation's security, economy, and ecosystems, as well as beach and coastal wetlands restoration projects. Requested funding enables further development of the National Offshore Sand Inventory, and allows additional geophysical and geological data acquisition, data evaluation and interpretation, with a focus on needs identified along the coast of the Western Gulf of Mexico. Requested FTE would support increased leasing and environmental activities associated with the growing demand for OCS sediments. The National Offshore Sand Inventory enables the Federal Government to proactively plan for OCS needs and infrastructure protection efforts on a national scale, protecting taxpayers, localities, and the Federal Government from expenses resulting from hurricanes and other storm damage. Requested funds will significantly improve efforts to protect critical infrastructure and economic activity along the coasts of the U.S. by quantifying and identifying compatible and proximate sand resources that will reduce Federal disaster recovery and coastal project dredging costs, while also shortening project timelines. These funds will support coastal infrastructure and property protection, including national security infrastructure and assets.

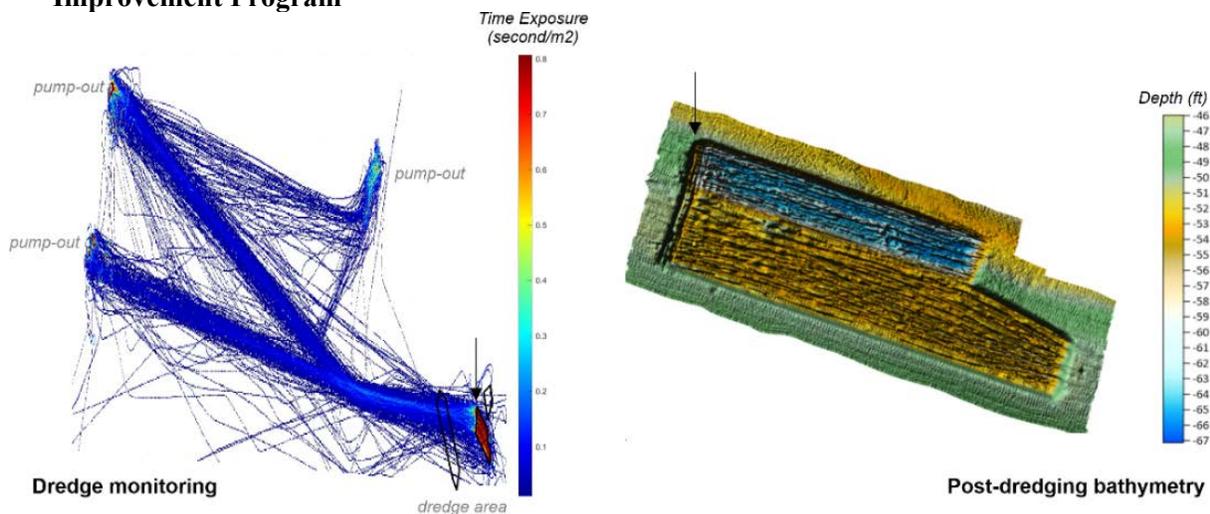
PROGRAM OVERVIEW

With a base budget of approximately \$10.8 million, BOEM will:

- Manage the exploration and development of OCS sand and gravel resources;

- Identify sand resources for future use and advance the National Offshore Sand Inventory in high-demand areas;
- Continue to populate, maintain, and host the MMIS;
- Engage stakeholders and coordinate with key partners on potential projects;
- Conduct environmental reviews, consultations (e.g., Endangered Species Act), and research;
- Design dredge plans and associated stipulations to ensure smart borrow area use;
- Develop leasing agreements which incorporate dredge plans;
- Oversee operational research and monitoring related to dredging activities and resource stewardship; and,
- Explore the potential for critical minerals on the OCS and begin population of the National Offshore Critical Mineral Inventory.

Figure 16: Monitoring data for Petit Bois Borrow Areas Used in the Mississippi Coastal Improvement Program



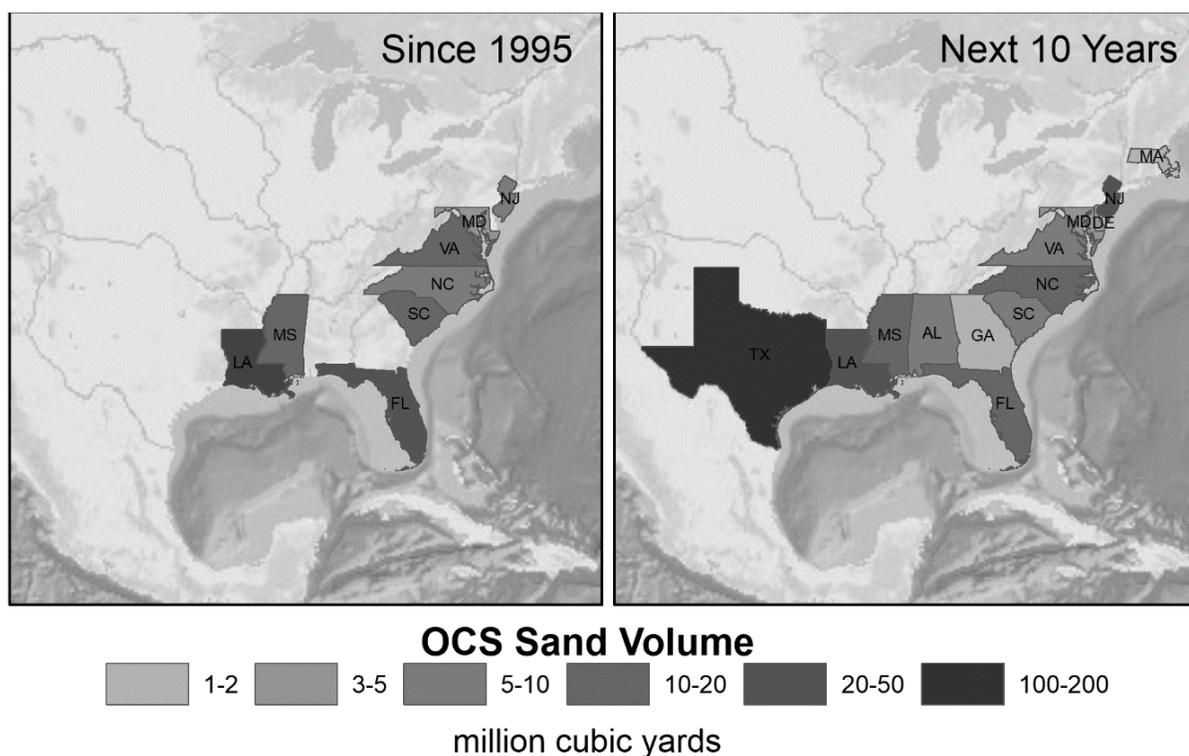
(Left) “Red” areas in dredge monitoring data show dredging activities, whereas “blue” areas show transit to “multi-colored” pump-out locations. (Right) Post-dredging bathymetry of the borrow area shows dredge furrows. Arrow is same location.

BOEM anticipates five marine minerals geological and geophysical survey authorizations and eight lease agreements or amendments in FY 2022. Project scope and costs vary depending on factors such as proximity of the borrow area to the project location and whether sufficient environmental information already exists to support needed environmental reviews. BOEM plans to sponsor new strategic research focused on the identification and responsible use of OCS sand resources. Separately, BOEM will also leverage Environmental Studies Program funds to support research on priority environmental issues.

GROWING DEMAND FOR MARINE MINERALS

OCS sand and sediment resources are critical to the long-term success and cost-effectiveness of many shore protection, beach nourishment, and wetlands restoration projects along the Gulf of Mexico, Atlantic, and Pacific coasts. Over the last 35 years, BOEM has received an increasing number of requests for OCS sand and sediment, a greater geographic distribution of these requests, and a commensurate increase in the volume allocated each year. These trends are driven by diminishing resources in State waters and frequent tropical and winter storms along the Gulf of Mexico and Atlantic coasts (e.g., calendar year 2020 proved the most active hurricane season on record, and more than a dozen storms made landfall). Over the next ten years, BOEM expects project partners to request the use of almost 300 million cubic yards across 13 Coastal States. Timely access to OCS resources is critical to restoration and recovery efforts in the aftermath of natural disasters.

Figure 17: Growing OCS Mineral Resource Demand along the Gulf of Mexico and Atlantic Coasts

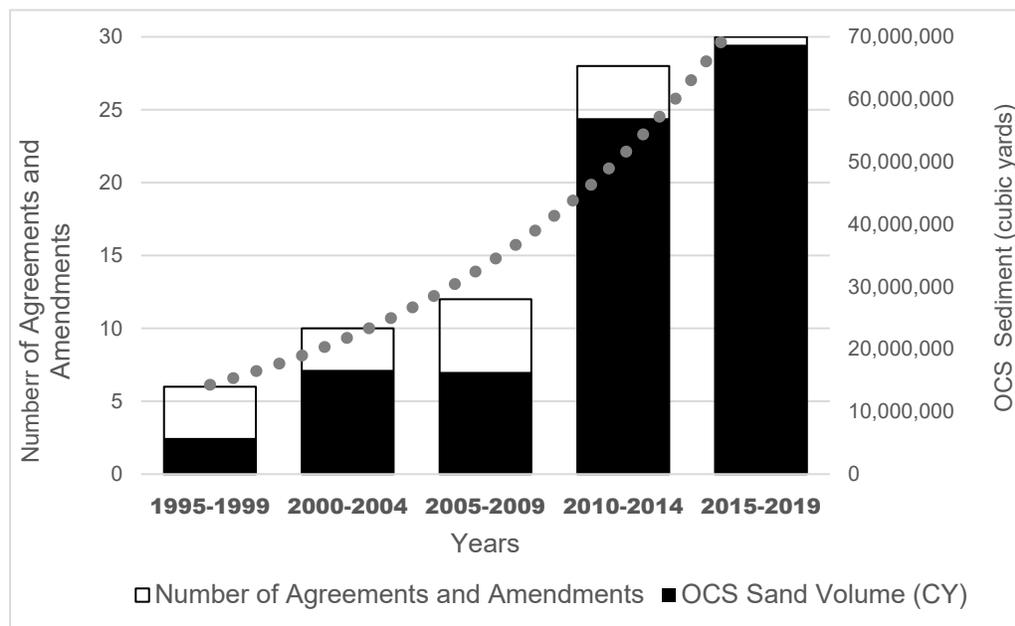


Anticipated demand over the next ten years is more than 1.5 times the last 25 years.

The availability of proven, technically recoverable sand is limited in comparison to future demand in some locations. As resources in State waters are depleted, there is increased pressure on resources in Federal waters. Further, coastal planners recognize the benefit of adding to the near-shore coastal sediment budget by bringing in OCS resources, instead of simply moving sediment around within the active sediment transport system. Knowing where resources are and how much material is available up-front reduces project construction timelines and costs, as sources do not have to be discovered and characterized, or identified, as part of a project's schedule or budget. Advance regional-scale planning also enables project planners to consider economies of scale when designing and constructing projects. With early identification of sand resources, BOEM facilitates the restoration and protection of shoreline

infrastructure vital to the Nation’s security, economy, and ecosystems, as well as beach and coastal wetlands restoration projects. BOEM continues to work proactively with partners, such as the U.S. Army Corps of Engineers (USACE), and State and local governments to identify and provide sand for projects so that communities can recover quickly from storms and be better prepared for future events.

Figure 18: Demand for OCS Sand Resources



Use of OCS sand resources has increased dramatically over the last 35 years.

In FY 2020, BOEM managed ten active lease agreements, including several new agreements authorizing use of OCS sand for beach nourishment projects in Florida and existing projects in Louisiana, Mississippi, Florida, North Carolina, and Virginia. BOEM anticipates receiving another 8 to 12 requests for new agreements and amendments in FY 2021 and FY 2022 for projects in Texas, Louisiana, Florida, South Carolina, North Carolina, Virginia, Maryland, and New Jersey. There are no near-term projects expected in the Pacific States or Alaska. BOEM also considers and authorizes third-party applications for non-commercial geophysical and geological exploration in these areas.

As a responsible environmental steward, BOEM strives to ensure that any potential environmental impacts associated with OCS marine minerals activities are avoided or mitigated whenever possible. The Bureau complies with the requirements of NEPA and consults with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service on endangered species and essential fish habitat prior to leasing OCS resources. BOEM ensures coastal consistency and undertakes archaeological resources reviews to protect important, sometimes singular cultural artifacts. BOEM also sponsors targeted environmental studies (primarily through the Environmental Programs budget activity) to evaluate the effects of specific proposed dredging operations, and design mitigation measures to minimize the effects of dredging. BOEM invested more than \$13 million over the past seven years on world-class environmental research that informs resource stewardship and leasing decisions concerning the use of OCS sand resources.

➤ National Offshore Sand Inventory

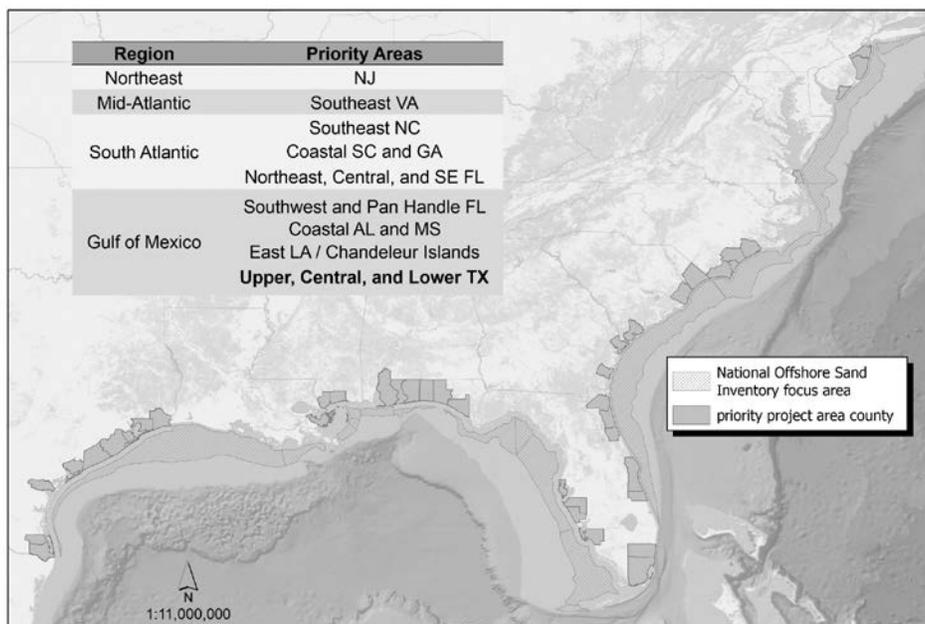
As the steward of OCS non-energy mineral resources, one of BOEM’s top priorities is to advance the National Offshore Sand Inventory — a comprehensive, data-driven catalog of the location and character of OCS sand reserves. In line with EO 14008, the National Offshore Sand Inventory reflects the Administration’s goal to build resilience “against the impacts of climate change that are already manifest and will continue to intensify according to current trajectories.” In support of the National Offshore Sand Inventory, BOEM and partner organizations have completed studies and developed tools that analyze and identify areas of high coastal risk along the Atlantic and Gulf coasts. In general, these risk assessments consider erosion and inundation, critical infrastructure, habitat, and communities at risk and are compiled through meaningful engagement with State and local government stakeholders.

BOEM uses these assessments, as well as modeling results and gap analyses prepared by other Federal agencies, State partners, and researchers, to identify priority areas where more or better information is needed about nearby sand resources. For example, in collaboration with the USACE and through participation in the *South Atlantic Coastal Study* and *Sand Availability and Needs Determination* initiatives, BOEM identified multiple, high priority areas for future resource identification from Mississippi to North Carolina. In FY 2022, BOEM also plans to collaborate with the USACE and USGS to leverage available funds and program capabilities to address potential deficits in identified resources.

BOEM is proactively partnering with the State of Texas to support the 2019 Texas Coastal Resiliency Master Plan, a comprehensive program calling for up to hundreds of millions of cubic yards of sand to protect and restore the upper, central, and lower Texas shoreline. In 2020, BOEM entered into an agreement with the State of Texas’ General Land Office and the USACE Galveston District to synchronize efforts to identify and access sand, gravel, and shell resources. Three of the largest Texas Coastal Master Plan projects have identified the need for OCS sediment, including Bolivar Peninsula/Galveston Island, Follet’s Island, and McFadden National Wildlife Refuge (managed by the U.S. Fish and Wildlife Service).

Each year, BOEM advances the National Offshore Sand Inventory by collecting and processing new geophysical and geological data. That data is used by BOEM and key partners to identify additional sediment resources in those priority areas. New data is integrated with existing information to improve the Bureau’s understanding of how much resource is available and refine plans for how the resource can be responsibly used over the life of a project.

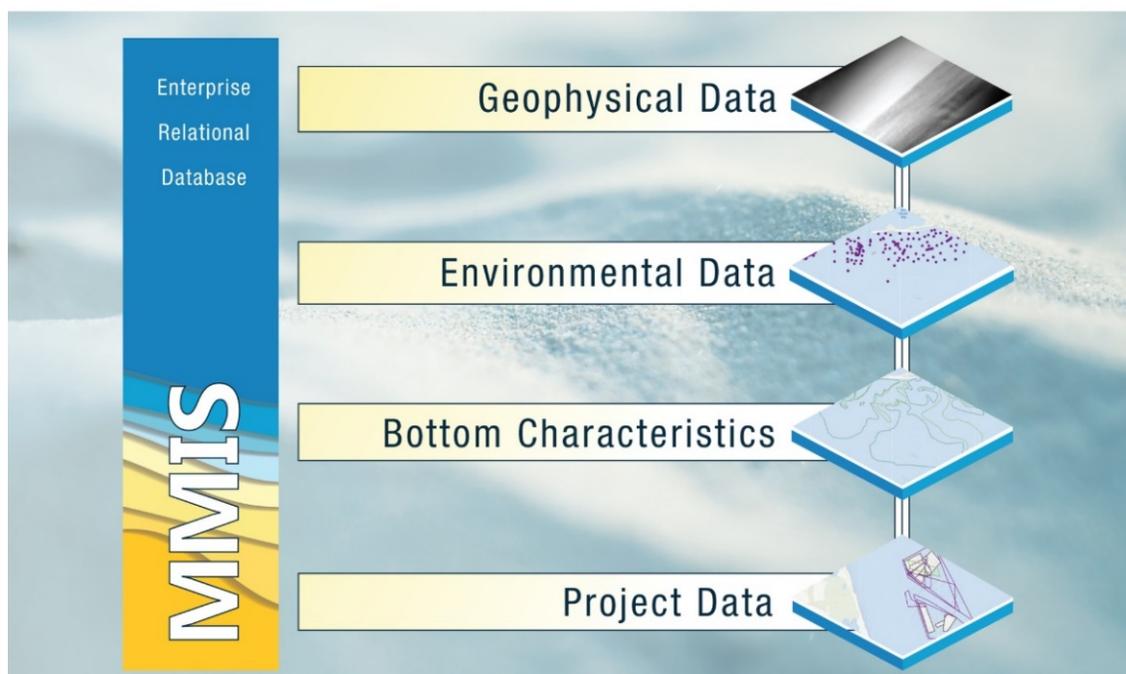
Figure 19: Priority Areas for FY 2022 Geological and Geophysical Data Collection



In FY 2022, the highest priority areas are located offshore Texas. These priority areas were identified through the Texas Coastal Resiliency Master Plan and the South Atlantic Coastal Study, Sand Availability and Needs Determination initiatives.

Example BOEM Marine Mineral Partnerships	
Federal Agencies	National Aeronautics and Space Administration; National Oceanic and Atmospheric Administration; United States Army Corps of Engineers; United States Fish and Wildlife Service; United States Geological Survey; United States Navy.
State Agencies and Geological Surveys	Alabama; California; Delaware; Florida; Georgia; Louisiana; Maine; Maryland; Massachusetts; Mississippi; New Hampshire; New Jersey; New York; North Carolina; Rhode Island; South Carolina Texas; Virginia.
Universities	Boston University; Columbia University; East Carolina University; Louisiana State University; Rutgers University; Stony Brook University; University of Alabama; University of Delaware; University of Florida; University of Georgia; University of Louisiana at Lafayette; University of Maine; University of Massachusetts; University of New Hampshire; University of New Orleans; University of Rhode Island; University of South Florida; University of Southern Mississippi; University of Texas; Virginia Institute of Marine Science; University of Washington.

BOEM uses the MMIS to organize, analyze, update, and disseminate marine minerals data, including the National Offshore Sand Inventory. The MMIS utilizes multiple pieces of information to create a comprehensive understanding of existing marine minerals information, such as geophysical data, environmental data, bottom characteristics and project data, as noted in the below figure. The MMIS helps BOEM address marine use conflicts, such as the potential for submarine cables, oil and gas pipelines, and transmission lines from offshore wind facilities to cross important sand resource areas. Ultimately, the MMIS supports Bureau and stakeholder decisions regarding the use and sustainability of offshore sand resources by proactively identifying potential sources and helps to shorten recovery efforts after hurricanes and other natural disasters.

Figure 20: Marine Mineral Information Management System

➤ **Responding to Natural Disasters**

BOEM continues to be a key player in restoration and recovery following natural disasters. BOEM's immediate efforts include communication and coordination with stakeholders in areas of need, site analysis and resource availability, resource compatibility analysis, and identification of site-specific environmental concerns. In the aftermath of a hurricane, the scale and volume of requested sand projects often increases by 25-30 percent. This is because post-disaster projects generally encompass larger project areas and require a larger volume of resources to mitigate significant storm-related losses and support additional protection measures (i.e., dunes) to reduce future damages. Consequently, the scope of information needed to process project requests increases substantially after major storms.

Project Profile: Periodic Nourishment of Sandbridge Beach in the City of Virginia Beach, VA

Sandbridge Beach is located in the City of Virginia Beach, Virginia, situated between the Dam Neck Naval Facility to the north and the Back Bay National Wildlife Refuge (managed by the U.S. Fish and Wildlife Service) to the south. In 1998, BOEM authorized the first use of Sandbridge Shoal for nourishment of Sandbridge Beach. Since that time, the USACE Norfolk District and the City of Virginia Beach have used Sandbridge Shoal to nourish Sandbridge Beach five times to combat erosion and help support a vibrant, tourism-based economy.



Project proponents completed the most recent construction cycle in summer 2020, using approximately 2.2 million cubic yards of sand from Sandbridge Shoal. BOEM worked with the project team to delineate a smaller dredging footprint within the larger Sandbridge Shoal borrow area to minimize environmental impacts and conserve the resource for future projects.

➤ **Protecting Federal Infrastructure and National Defense**

Building on more than 35 years of experience, BOEM continues to partner with coastal communities, States, and other Federal agencies to facilitate critical coastal infrastructure projects, including some that are key to our Nation’s defense and economy. BOEM’s infrastructure support demonstrates its commitment to help coastal communities and States and acknowledges the importance of climate considerations with regard to national security.



national security facilities



critical coastal infrastructure and economies



NASA and Air Force operated launch facilities



key energy and port facilities



roads and transportation infrastructure



DOI and State parks and lands

Examples include –

- Caminada Headlands (Grand Isle, Louisiana): this project protects the petroleum storage, transport, and support facilities associated with Port Fourchon, which services over 90 percent of Gulf of Mexico deepwater oil production.



Caminada Headlands after shoreline restoration

- National Aeronautics and Space Administration (NASA) Wallops Island Flight Facility (Wallops Island, Virginia): this project protects approximately \$1 billion in launch pads and associated infrastructure, as well as test and training facilities.



NASA Wallops Island, VA (before)

NASA Wallops Island, VA (after)

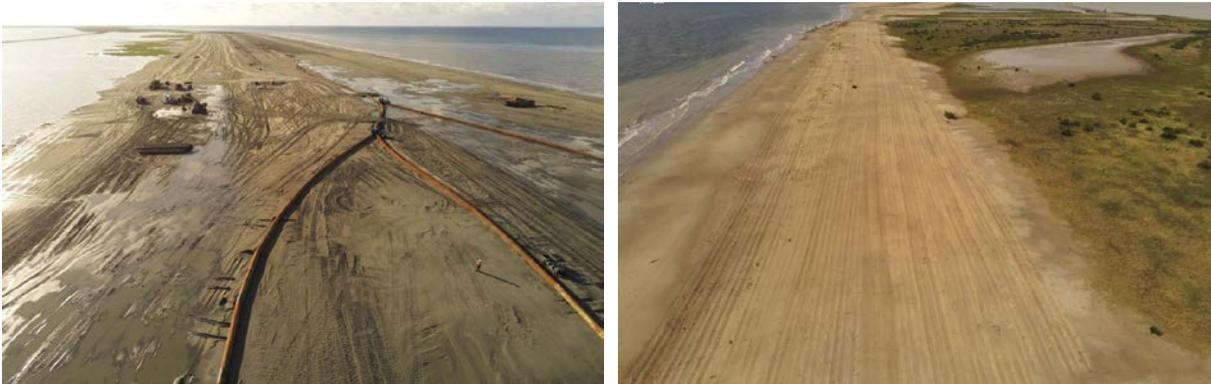
- Navy Dam Neck Facility (Virginia Beach, Virginia): this project protects approximately \$135 million of assets, including training facilities, housing, and support facilities.
- Patrick Air Force Base (Canaveral, Florida): this project protects fighter, tactical, and transport aircraft and SPACE Coast launch facilities.
- Long Beach Island (Long Beach Island, New Jersey): this 12-mile project protects public streets, utilities, and commercial properties, and maintains the public beach.
- Mississippi Coastal Improvements Program: BOEM, the National Park Service, the U.S. Army Corps of Engineers Mobile District, and the State of Mississippi are working together on a multi-phase project restoring Ship Island. Ship Island is part of the Gulf Islands National Seashore.

Project Profile: Restoration of Terrebonne Basin Barrier Islands, Louisiana

BOEM partnered with the Louisiana Coastal Protection and Restoration Authority to support construction of beach, dune, and marsh habitat within the Terrebonne Basin barrier complex.

The \$167 million project includes restoration of one prominent headland and two barrier islands: West Belle Headland, Timbalier Island, and Trinity-East Island. The project, under construction through 2021, features approximately 1,100 acres of marsh, dune and beach using approximately 9.2 million cubic yards of sediment from an OCS shoal known as Ship Shoal.

The project features a marsh platform to facilitate naturally occurring overwash processes during storm events and serve as a roll-over platform as the islands migrate landward. Restoration of the Terrebonne Basin barrier shoreline protects critical infrastructure, including Port Fourchon and Highway 1, and also supports foraging and nesting areas for various migratory sea turtles and birds.



➤ **Interagency Coordination**

With the South Atlantic Coastal Study, the USACE identified priority locations where beach nourishment projects should be implemented to address erosion risk and other vulnerabilities from Mississippi through North Carolina. This initiative, completed in 2020, involved examining Federal and many non-Federal beach nourishment projects and determining the sand volume needs and current availability of offshore sediment to support long-term coastal resilience and protection. In FY 2021, BOEM and the USACE co-sponsored collection of new geophysical and geotechnical data offshore the southwest coast of Florida. BOEM also funded collection of similar data offshore priority areas highlighted in North Carolina. BOEM has forged key partnerships with the Gulf of Mexico Alliance, the Louisiana Coastal Protection and Restoration Authority, and the Texas General Land Office to coordinate Gulf of Mexico sediment resource identification data. For example, BOEM and the Texas General Land Office invested in the identification of new sand resources along major offshore bank features along the Upper Coast in Texas in FY 2021. In FY 2022, BOEM will leverage these same partnerships to ensure that new OCS geophysical and geological data acquisition is aligned with coastal project needs in the region.

BOEM also works closely with sister DOI Bureaus to assist in beach nourishment, coastal and wetlands restoration and infrastructure protection efforts. The USGS is an important partner and collaborator on offshore sand resource evaluation. For example, BOEM and USGS recently completed geologic mapping and sand identification offshore Ocean Beach, California, an erosional hotspot south of San Francisco

Bay. The USGS, in collaboration with BOEM, has also been digitizing legacy data in the Gulf of Mexico, and the latest recovery effort included the preservation of historical geophysical investigations offshore of Texas and Louisiana, covering an area where digital, near-surface geophysical data was sparse to non-existent. In FY 2021, USGS and BOEM continued a multi-year study of loggerhead sea turtle behavior in the shallow Gulf of Mexico, tagging and tracking sea turtles safely relocated during BOEM-authorized restoration projects.

CRITICAL MINERALS

Critical minerals are a growth area for BOEM’s Marine Minerals Program. OCS mineral deposits such as manganese nodules, ferromanganese crusts, and seafloor massive sulfides contain a number of the currently designated 35 critical minerals (83 FR 23295, May 18, 2018). These minerals are essential cathode components in Lithium-ion batteries. Minerals found in the marine environment are used in a range of applications from personal electronics to electric vehicles to military uses. BOEM, USGS, and NOAA continue to work together to determine which areas of the OCS and EEZ have potentially significant critical mineral resources, with a focus on cobalt, manganese, and rare earth elements.

The U.S. is import dependent on 18 of the 35 minerals identified by the USGS in 2018 as critical. These critical minerals are essential to the economic and national security of our Nation and the supply chain for these minerals is particularly vulnerable to disruption. Critical minerals are important for clean and renewable energy technologies such as wind and solar power as well as batteries for the growing electric vehicle industry. Several critical minerals such as manganese, cobalt, and rare earth elements occur in offshore mineral deposits such as polymetallic nodules, ferromanganese crusts, and seafloor massive sulfides. BOEM leads the development of the National Offshore Critical Mineral Inventory to identify potential areas of offshore critical minerals. BOEM also plays a leading role in the National Science and Technology Council’s Critical Minerals Subcommittee. Critical minerals are an important component of EO 14017 “*America’s Supply Chains*” and the Bureau is supporting development of the 100-Day Supply Chain report in response to the EO. BOEM also contributes to implementation of the 2019 “*Memorandum on Ocean Mapping of the United States Exclusive Economic Zone and the Shoreline and Nearshore of Alaska.*”

The Bureau ensures potential OCS marine mineral resources are considered for the benefit of our national security and domestic economy. It is important to note that promising critical mineral deposits may exist in the Pacific insular areas (e.g., Guam and American Samoa), although, under the OCS Lands Act as currently written, BOEM has no authority to authorize exploration or issue leases offshore U.S. insular areas.

Figure 21: Critical Minerals Occurring on the OCS



In FY 2021, multiple Federal agencies worked together to launch BOEM’s National Offshore Critical Mineral Inventory. This included a novel collaborative effort with USGS and NOAA to fund the first U.S.-based critical mineral expedition since the early 1980’s; this multiyear effort will explore the massive sulfide mineralization and associated ecosystems of the Escanaba Trough offshore northern California. The Escanaba Trough is a deepwater, sediment-covered seafloor spreading center with large massive sulfide deposits. In FY 2021, BOEM also plans to begin a multi-year collaboration with NOAA and USGS to assess the Aleutian Island Arc in the Pacific for potential hydrothermal systems and mineral potential. This project, incorporating resource exploration and environmental assessment activities, leverages recent laboratory testing and field deployment of state-of-the-art remote-sensing technology, developed and tested in collaboration with NASA, that analyzes offshore deposit mineralogy.

Despite increased interest from industry, the military, and the international community, the quantity and characteristics of the critical resources on the OCS remain uncertain. There is an urgent need to identify areas that have high economic potential but low ecological value, making them suitable for further exploration and leasing. Domestically sourced critical minerals could reduce the Nation’s vulnerability to economic disruption and negative national security impacts caused by a lapse in imports used in manufacturing, defense, and other sectors.

OUTLOOK FOR MARINE MINERALS

The role of BOEM as the Nation’s steward of OCS non-energy mineral resources is expected to dramatically grow over the next decade. Ongoing development along the coast, storm activity, sea level rise, and diminishing sand sources in State waters contribute to the expected increasing demand. In the next five years, BOEM expects new requests from at least three additional States that have not previously used OCS sand, plus continuing requests from historic users. Continued future development of the National Offshore Sand Inventory, National Offshore Critical Mineral Inventory, and MMIS are critical to support BOEM’s role as environmental steward and resource manager. The Nation’s demand for secure and reliable domestic sources of critical minerals and other strategic minerals expands demand for BOEM’s information and services. BOEM’s critical mineral activities will require partners and additional investment to support the long-term goals of reducing dependence on foreign sources, improving the balance of trade, supporting job creation, generating royalty income, and enhancing national security.

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Environmental Programs

Table 12: Environmental Programs Budget Summary

Activity: Ocean Energy Management
Subactivity: Environmental Programs

Environmental Programs	2020	2021	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	2022	Change from 2021 (+/-)
Environmental Programs	82,457	75,875	+888	+0	+10,000	86,763	+10,888
<i>FTE</i>	<i>136</i>	<i>146</i>			<i>+3</i>	<i>149</i>	<i>+3</i>

BOEM’s Environmental Programs budget activity funds efforts that inform decision-makers and the public about the potential impacts of OCS energy and mineral activities on the marine, coastal, and human environment. Funding supports scientific research needed to inform policy decisions regarding energy and mineral development on the OCS. Integrating applied science within BOEM’s environmental analyses supports programmatic decisions and ensures environmental protection. Because of its responsibility for impacts to the human environment, Environmental Programs has taken a leading role in BOEM to address impacts on Federally recognized Tribes and environmental justice communities.

The FY 2022 budget will support:

- Environmental Justice:** Executive Order (EO) 14008— *Tackling the Climate Crisis at Home and Abroad*, notes “Agencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts....” Acknowledging the importance of environmental justice, BOEM will continue and build upon its activities championing environmental justice. BOEM appointed the Bureau’s first full-time Environmental Justice Coordinator in January 2020, reporting to the Chief Environmental Officer. The Coordinator is involved with multiple internal and external working groups and is organizing a BOEM environmental justice working group to address needs for NEPA analysis, research, outreach and education. The team will include representatives within all BOEM regions; the oil and gas, renewable energy and marine minerals programs; and public affairs. It also will include civil rights experts and representatives of the Bureau of Safety and Environmental Enforcement (BSEE). This group will ensure that BOEM uses the newest available environmental justice screening tools to estimate impacts to historically underserved and marginalized peoples and communities adversely affected by persistent poverty and inequality and will create a BOEM-specific environmental justice

methods toolkit. BOEM intends to prepare a Social Science Needs Assessment and Strategy, which will identify several environmental justice related needs and methodologies for assessing environmental justice. BOEM also plans to develop a more robust and consistent environmental justice outreach program to access, inform and educate vulnerable communities that could be impacted by development of OCS resources.

- **Climate Change:** BOEM’s Environmental Studies Program (ESP) supports assessments of critical greenhouse gas emissions data, including a greenhouse gas emissions inventory conducted every three years. In FY 2021, BOEM is collecting data from oil and gas operators, and will analyze the data in FY 2022. This information, as well as analyses of any new offshore activity are included in BOEM’s assessments, which range from environmental analyses of proposed activities through new approaches in BOEM’s support to achieving the goals EO 14008— *Tackling the Climate Crisis at Home and Abroad*—and help BOEM plan mitigation strategies to reduce greenhouse gas emissions.
- **Research on Environmental Impacts:** BOEM’s ESP provides the research required for new information to support decisions informed by science (expanded here to include traditional knowledge of Indigenous peoples), which ultimately supports resilient ecological and human communities. As outlined in the OCS Lands Act, BOEM integrates the information needs from multiple scientific disciplines with respect to energy and mineral resources on the OCS. Understanding the impacts on the OCS of conventional and renewable energy as well as mineral development remains the ESP’s key emphasis. In FY 2020, the ESP provided \$16.5M to ongoing studies and \$11.3M to new studies. As OCS renewable energy and minerals activities increase, more studies related to their impacts will be needed. In FY 2021, the ESP anticipates providing \$15.2M to ongoing studies and \$14.3M to new studies. To pool resources for information to be generated at a lower cost, BOEM leverages funds and expertise through partnerships within the Department and with other Federal agencies, States, and academic institutions. By contributing funds and in-kind resources, BOEM and its partners extend the scope of their research to obtain more and better information. From FY 2015 to FY 2020, BOEM provided over \$88 million to Federal partners to conduct BOEM-designed scientific environmental work. In FY 2020, the ESP finalized 34 studies, 9 of which were conducted with or by BOEM’s Federal and State partners.
- **Assessment and Mitigation of Environmental Impacts:** BOEM uses research results of the ESP and information from many other sources to assess, manage, mitigate, monitor, and adapt to the potential consequences of exploring for and developing OCS energy and mineral resources and to comply with statutory mandates. FY 2022 funding will support all aspects of this work, including augmentation, quality control, and public access to BOEM’s deep and wide information base on OCS environmental status and trends, updated regularly by the Bureau’s experts. This “*Status of the OCS*” information base is a core source of information for environmental reviews and documentation under all BOEM programs: wind energy and other renewables, conventional oil and gas, and marine minerals. Uses include information for the planning and execution of proposed lease sales outlined in the National OCS Oil and Gas Leasing Program (National OCS Program) and information for the rapidly growing offshore wind portfolio. BOEM is committed to partnerships with Federal, State, and local governments; Federally recognized Tribes and other organizations of Indigenous peoples; and other stakeholders, including academia, nonprofit organizations, and businesses.

Long-Term Goals for Excellence. The FY 2022 budget will also support integration and advancement of three long-term and over-arching goals to be “first in class” for excellence as Environmental Programs pursues core functions:

- **Protecting Ecosystems in the Context of Climate Change:** BOEM’s environmental programs will continue to provide robust scientific research, assessment, regulatory measures, products, and services for understanding, avoiding, and mitigating harm to ecosystems from OCS energy and mineral development. We will consult and coordinate with stakeholders, and the study and assessment of environmental impacts from climate change combined with steps to redress adverse effects will be an integral part of this goal. Finally, BOEM will strengthen oversight of OCS energy facilities to reduce emissions in support of the goals outlined in EO 14008 of a carbon pollution-free electric sector by 2035, and net-zero emissions, economy-wide, by 2050.
- **Excelling in Consultation and Collaboration with Tribes and Alaska Native Claims Settlement Act Corporations:** BOEM will excel in consultation and collaboration with Federally recognized Tribes and Alaska Native Claims Settlement Act corporations.
- **Advancing Environmental Justice:** BOEM will advance environmental justice for Native Americans and individuals from Black and historically disadvantaged groups, including initiatives advancing employment and economic enterprises.

SUMMARY OF 2022 PROGRAM CHANGES

Summary of 2022 Program Changes for Environmental Programs		
Request Component	(\$000)	FTE
2022 Fixed Costs	+888	
Technical Internal Transfers	[-1,883/+1,883]	
Environmental Studies Program	+10,000	+3
TOTAL Program Changes	+10,888	+3
* Changes listed in order of budget activity, not priority.		

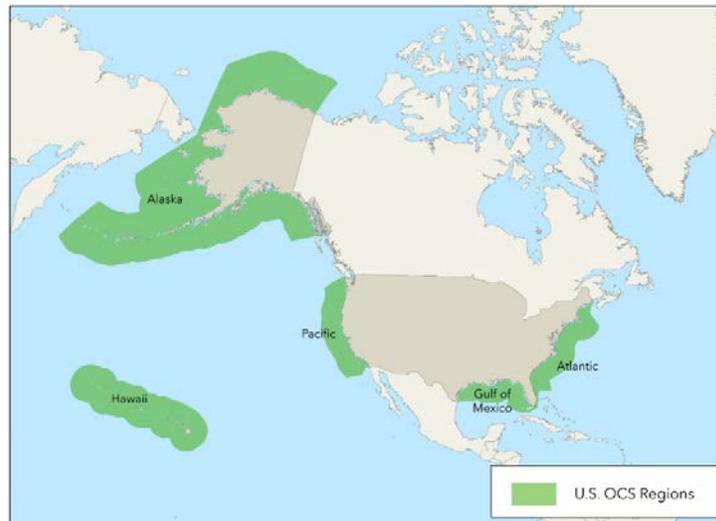
Fixed Costs (+\$888,000). Fixed cost increases are fully funded in BOEM’s FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers’ compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$1,883,000/ +\$1,883,000; 0 FTE). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. The amount cited above reflects the technical internal transfer associated with this budget activity. There are no programmatic changes associated with this shift.

Environmental Studies Program (+\$10,000,000; +3 FTE). This funding will better equip BOEM to conduct the environmental studies that support clean energy development as well as climate science and conservation and that inform BOEM understanding and policy decisions. Section 20 of the OCS Lands Act requires BOEM to consider the impacts from OCS development on the marine, coastal, and human environments. The FY 2022 budget supports environmental studies to enable research and leveraging of funds through partnerships and collaborative efforts to advance scientific progress on renewable energy, conventional energy and marine minerals, and provide information for mission critical decision making. BOEM also utilizes the information collected to inform environmental reviews and consultations with Tribes, States and natural resource agencies. Information from studies will also aid the Administration as it works to achieve its goal of "conserving at least 30 percent of our lands and waters by 2030." This program is a priority area for BOEM and supports the Administration's desire for advancing our Nation's clean energy future, as well as responsible development of our Nation's energy and mineral resources.

PROGRAM OVERVIEW

BOEM's Environmental Programs activity includes the environmental assessment function and the environmental studies function, organized administratively into headquarters functions placed in the Office of Environmental Programs in the Washington, DC area (comprising the Environmental Assessment Division and the Environmental Sciences Division), and regional and program functions within the Office of Renewable Energy Programs, Office of Strategic Resources (marine minerals), and BOEM regional offices (New Orleans Office, Louisiana; Anchorage Office, Alaska; and Camarillo Office, California; Atlantic OCS environmental studies and assessments are managed through program offices and the New Orleans Office). BOEM's ESP is managed as a single account through the Environmental Programs budget activity.



The environmental staff works in teams, with leadership provided by those whose backgrounds and capabilities best address the issues at hand. BOEM is committed to continuous staff improvement, and recruitment and retention of the best available talent. BOEM employs staff in diverse fields: marine and coastal biology; chemical, biological, and physical oceanography; avian and marine mammal biology;

acoustic science; geology; meteorology; risk modeling; sociology; marine archaeology; anthropology; economics; and environmental policy.

ENVIRONMENTAL ASSESSMENTS

BOEM’s environmental reviews provide essential information and recommended mitigation measures for decisions related to energy and mineral activities. These include authorization of geological and geophysical exploration; planning for the National OCS Program; lease sales and site assessments; exploration and development plans; construction and operations plans as well as more specific authorizations and permits, including decommissioning. BOEM’s environmental analyses not only evaluate potential environmental impacts and alternatives to proposed actions, but also identify impact mitigating measures that may be incorporated into requirements through regulatory vehicles such as permit conditions, lease stipulations, terms and conditions of plan approval, and notices to lessees. The environmental assessment and mitigations developed address the requirements of many statutes, including NEPA, ESA, MMPA, National Historic Preservation Act, Magnuson-Stevens Fisheries Conservation and Management Act, Coastal Zone Management Act, Clean Air Act, and Clean Water Act.



➤ Programmatic Environmental Analyses

BOEM’s programmatic environmental analyses and comprehensive planning are a centerpiece for development of a National OCS Program. BOEM prepares analytic documents to address the potential impacts of activities it oversees. These include NEPA documents such as EISs that address “significant” impacts and environmental assessments that address “non-significant” impacts of a project, plan, policy, or program associated with a proposed project. These documents provide a focused analysis of potential environmental issues and impacts, highlighting areas that may be sensitive to impacts and may warrant consideration of mitigation or protection. BOEM uses a phased approach to environmental review wherein national or programmatic-level analyses are prepared first, followed by increasingly site-specific analyses at subsequent stages of approval for decisions on activities such as geophysical survey and geological sampling permit applications, operators’ plans for exploration and development, and other related industry activities.

For the first time in over 40 years, the Council on Environmental Quality made substantial revisions to the NEPA regulations in 2020. BOEM anticipates updating its Environmental Guidance in 2021 and 2022 in accordance with the Council and Department revisions. BOEM will continue its proactive efforts to streamline the NEPA process. In FY 2020, BOEM worked closely with the Council, DOI Office of Environmental Policy and Compliance, and DOI Deputy Secretary’s Office to implement environmental streamlining. This work entailed greater interagency coordination, efficient schedules, and

writing more concise documents, especially for BOEM's Federal actions labelled as major infrastructure projects requiring enhanced coordination, such as EIS work for renewable energy construction and operations plans. In FY 2021 and FY 2022, the Environmental Programs will continue to coordinate streamlining efforts and conduct effective environmental analyses in a timely, coordinated, and transparent manner.

During FY 2020, BOEM renewed preparation of the next National OCS Program and prepared a Draft Programmatic EIS. The Draft Programmatic EIS analyzes the potentially significant impacts of a National OCS Program and considered comments received during NEPA scoping. Pursuant to EO 14008, BOEM is taking a strategic pause in the development of its next National OCS Program. The EO states, "To the extent consistent with applicable law, the Secretary of the Interior shall pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices in light of the Secretary of the Interior's broad stewardship responsibilities over the public lands and in offshore waters, including potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters." The outcome of that review will inform BOEM's preparation of the Programmatic EIS for the next National OCS Program.

During FY 2020, BOEM prepared environmental reviews for lease sales under the 2017–2022 National OCS Program in the Gulf of Mexico and a draft for a proposed lease sale in Cook Inlet, Alaska, in early FY 2022. BOEM will prepare new environmental review documents for lease sales in the next National OCS Program as needed once it is finalized. Ongoing environmental review work will continue in support of Gulf of Mexico and Alaska (i.e., Cook Inlet) lease sales scheduled for 2020–2022 under the 2017–2022 National OCS Program. Pursuant to EO 14008— *Tackling the Climate Crisis at Home and Abroad*— during FY 2021 BOEM is taking a strategic pause in conducting lease sales under the 2017–2022 Program and in the development of its next National OCS Program and all associated environmental analysis and assessment work.

This includes reexamining the way BOEM considers the impacts of offshore oil and gas leasing, and its ability to regulate, mitigate, and otherwise meet the goals outlined in EO 14008 of a carbon pollution-free electric sector by 2035, and net-zero emissions, economy-wide, by 2050. Other analyses will be needed to understand BOEM's contribution and possible paths towards achieving the goals of EO 14008 and to better understand the options for addressing not just the offshore contribution of OCS production to greenhouse gas emissions, but also the contributions from onshore processing and consumption of OCS oil and gas resources. BOEM expects to continue assessments like the life-cycle greenhouse gas analysis of the 2017-2022 National OCS Program in support of future programs.

BOEM's review of lease sales, site-specific projects, and other proposals requires advanced coordination with other expert stakeholders, such as NMFS, FWS, and the National Park Service. Consultation with resource agencies helps BOEM identify effective mitigation practices to avoid or minimize harm to protected or managed species and habitat. BOEM must consider, and in some cases incorporate, the results of these consultations within its decisions and authorizations. Additionally, G&G permits issued by BOEM require operators to obtain incidental take authorizations for marine mammals from NMFS. BOEM and NMFS held a joint kick-off meeting in July 2019 to develop a detailed ESA and MMPA

streamlining plan. In FY 2020, BOEM and NMFS continued to develop details and mechanisms to fully build out a streamlining plan. In FY 2021 and FY 2022, BOEM will implement the final streamlining plan to expedite MMPA incidental take authorization requests and ESA consultations for G&G permits across all three of its programs.

➤ **Assessments: Atlantic OCS**

BOEM conducts environmental analyses in the Atlantic OCS for core program related activities.

Most of BOEM’s renewable energy effort has centered on potential wind energy in the Atlantic OCS. Currently, BOEM oversees 17 active commercial wind energy leases in the Atlantic OCS and has approved 12 Site Assessment Plans as of May 6, 2021. BOEM prepares environmental assessments to support its leasing decisions, including lease areas and stipulations. In FY 2021, BOEM plans environmental assessments for potential lease sales in the New York Bight and offshore the Carolinas. In addition to considering the impacts of site characterization surveys, these environmental analyses also programmatically consider site assessment activities (i.e., installation and operation of meteorological buoys) that would result from lease issuance. BOEM prepares EISs under NEPA for construction and operations plans. As of April 2021, BOEM is processing 14 plans for commercial-scale wind energy facilities along the Atlantic coast and anticipates receiving two additional plans in FY 2021. EISs for the proposed Vineyard Wind Project and the South Fork Wind Farm were initiated in FY 2018 and FY 2019, respectively. BOEM announced completion of the Vineyard Wind 1 offshore wind energy project environmental impact statement on March 8, 2021.



Block Island Wind Farm offshore Rhode Island

➤ **Assessments: New Orleans Office**

BOEM’s New Orleans Office conducts NEPA analyses and reviews for renewable energy, conventional energy, and marine minerals in the Gulf of Mexico OCS, as well as conventional energy in the Atlantic OCS. Due to the high volume of oil and gas activity in the Gulf of Mexico, BOEM prepares hundreds of NEPA documents and completes thousands of resource-specific reviews every year. The need for OCS sand and gravel for coastal restoration and beach nourishment projects in the Gulf of Mexico has also increased in recent years, leading to an increase in the reviewing of NEPA documents in support of these activities.

In FY 2020, BOEM documented the NEPA adequacy of the *Gulf of Mexico OCS Lease Sale Final Supplemental Environmental Impact Statement 2018* and subsequently published two Records of Decision to support Gulf of Mexico Lease Sales 254 and 256. These sales were previously analyzed under the existing 2017–2022 Multisale EIS and in the 2018 Supplemental EIS. Consistency Determinations stating the activities for Lease Sales 254 and 256 were consistent “to the maximum extent practicable” with the enforceable policies of a State’s Coastal Management Program were sent to the

States of Alabama, Florida, Louisiana, Mississippi, and Texas for review and concurrence as per the requirements of the Coastal Zone Management Act.



Killer whale observed in the Gulf Stream

In FY 2020, BOEM ensured NEPA compliance by conducting site-specific environmental reviews for each of 506 submittals of plans and ancillary activity notifications, G&G permit applications, pipeline permit applications, and structure removal permit applications. The site-specific environmental review process includes reviews and consideration for extraordinary circumstances. The determination is then made whether to conduct further environmental review by completing a site-specific environmental assessment document or to apply a categorical exclusion. Site-specific environmental assessment documents were completed for 47 plans, 38 G&G permit applications, 15 ancillary activity notifications, and 42 structure removals applications. Categorical exclusions were applied to 129 plans, 219 pipeline applications, and 16 G&G applications.

In FY 2021 and FY 2022, BOEM anticipates the number of environmental reviews to increase slightly each year.

➤ **Assessments: Anchorage Office**



Beluga whales in the open ocean

BOEM's Anchorage Office conducts environmental analyses for conventional energy activities. BOEM received a request for a geohazard survey on some of the 14 existing leases in Cook Inlet in advance of submittal of an exploration plan and has started the review process. BOEM initiated a NEPA analysis in the fall of 2020 for a lease sale scheduled for the Cook Inlet Planning Area in 2021. BOEM, to identify information needs, continues to evaluate what information is available to support NEPA analyses associated with potential future activities in the Arctic and Cook Inlet, as well as in other planning areas that have potential oil and gas resources.

In FY 2021, BOEM will continue to provide NEPA and consultation support to BSEE for oil spill drill exercises, and BOEM has initiated development of a programmatic NEPA analysis to cover oil spill drills in both the Alaska and Pacific OCS regions.

➤ **Assessments: Camarillo Office**

BOEM's Camarillo Office conducts environmental analyses for conventional and renewable energy activities. There are currently 32 active oil and gas leases offshore California. BOEM's conventional energy assessments continue to focus on development and production from the 32 active leases, as well as anticipating upcoming decommissioning proposals for 5 of the 23 existing platforms, an anticipated seismic survey, and development of the next National OCS Program. These activities will support both BOEM and BSEE and include the development of NEPA documents; assisting in the development of, and compliance with, mitigation measures; and review of the measures' effectiveness.

BOEM focuses on renewable energy environmental analysis and will continue working with agencies and other stakeholders to advance research to support decisions regarding commercial renewable energy projects on the California, Oregon, and Hawaii OCS. Recent activity includes coordination with FERC to address a research lease request for a grid-connected wave energy test facility on the OCS offshore Newport, Oregon. BOEM coordinated with FERC on the environmental reviews before making a leasing decision. FERC published the final environmental assessment on April 23, 2020; and BOEM issued the lease in February 2021. Additionally, since 2015, BOEM received three unsolicited lease requests from two different companies for commercial-scale floating wind developments offshore Oahu, Hawaii and has identified Call Areas offshore northern and central California. The Department of Defense and BOEM are further coordinating to determine which areas are most appropriate for offshore wind leasing, and once that process is complete BOEM expects to conduct environment review in FY 2021 for potential offshore wind lease sale(s) in California to be held in FY 2022.

ENVIRONMENTAL STUDIES PROGRAM

The OCS Lands Act 1978 amendments mandated that the Department have a comprehensive environmental studies program to provide sound scientific analysis of the potential impacts of offshore development, and an Oil and Gas Information Program to provide offshore operators and Federal and State governments with data and information from OCS activities. BOEM collects data and monitors human, marine, and coastal environments to identify potential ecological, economic, and social impacts resulting from potential OCS activity.

BOEM follows a strategic framework that asks three key questions: what does BOEM need to know, what strategic questions should be posed, and what criteria should be used to prioritize studies for addressing these questions? To ensure that studies address these questions, BOEM carefully evaluates potential studies and works with the National Academy of Science's Committee on Offshore Science and Assessment to create annual studies development plans. To generate the best possible information, the scope of BOEM's environmental studies extend across multiple disciplines (see figure below). In addition, BOEM considers studies independently underway to design and implement effective research for decision-making. Major continuing emphases are on the impacts of renewable and conventional energy and mineral development, as well as on monitoring efforts, analyses to improve baseline characterizations, and trend analyses. Research to understand the release, transport, fate, and effects of oil and other materials that may be discharged or spilled in the marine environments is also a priority. The

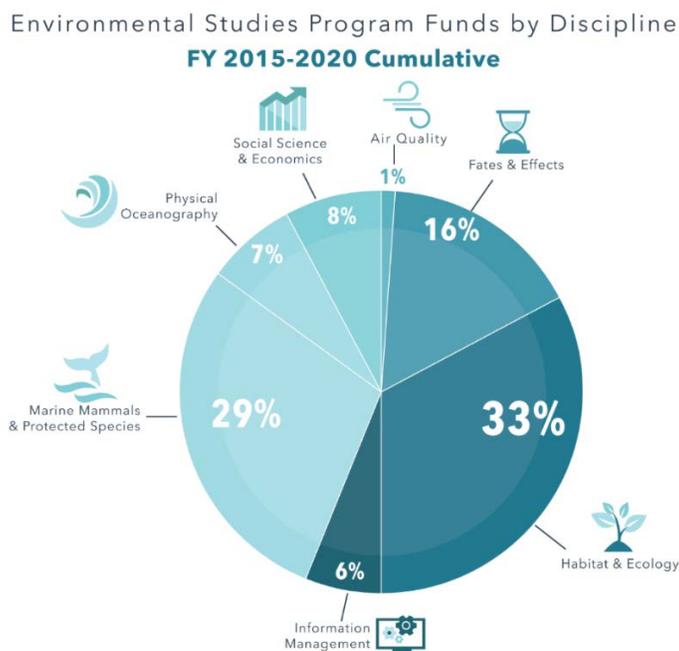
ESP’s *Strategic Framework*, which provides the details of the studies development process, can be found at <https://www.boem.gov/Strategic-Framework-2017/>.

BOEM is at the forefront of research on traditional ecological knowledge of indigenous people and local knowledge and has effectively collaborated with Native peoples over the years. In the last 5 years, the Bureau sponsored a dozen projects that have engaged indigenous peoples to collect their knowledge (e.g., on marine mammal observations, social networks, harvest patterns). The Bureau plans for even more robust engagement with Native peoples in the future through collaborative and co-productive research efforts, which will likely require a greater investment of resources. Understanding how Bureau activities may affect traditional ways, subsistence, and indigenous cultural resources is a key element to the Bureau's decision-making processes.

BOEM carries on and improves the public dissemination of environmental data sets, reports, and other study products on its website, the Environmental Studies Program Information System (<https://marinecadastre.gov/espis/>). BOEM has a long-standing commitment to ensuring that publications and samples are archived to meet future information needs.

Figure 22: Environmental Studies Program Funds by Discipline, FY 2015–2020 Cumulative

Note: This chart includes obligations for all studies supporting environmental information needs for all energy types and marine minerals.



➤ Research Partnerships

The valuable data collected through BOEM’s ESP are also used by stakeholders, including other Federal agencies and State and local governments. Leveraging partnerships to satisfy common scientific needs is a central component of BOEM’s approach to gathering robust scientific information for its decisions and

consultation processes. BOEM does not possess assets (such as ships, autonomous underwater vehicles, etc.), and partnerships are necessary to achieve BOEM’s applied science mission. By contributing personnel, equipment, facilities, and funds, BOEM and its partners can expand the scope of research to obtain maximum results. Partnerships with Federal agencies, such as the National Science Foundation, NOAA, and FWS, are typically established through interagency agreements and through the National Oceanographic Partnership Program, a collaborative community of Federal agencies working to improve knowledge of the ocean environment.

Examples of effective ESP partnerships include the following:

- **Deep Sea Exploration to Advance Research on Coral/Canyon/Cold seep Habitats.** From FY 2019 through FY 2022, BOEM supports this multi-year, multi-agency study conducted to characterize the deep sea ecosystems of the U.S. Mid- and South Atlantic. In 2019, while exploring methane cold seeps 36 miles offshore South Carolina, scientists discovered 85 linear miles of *Lophelia* coral offshore and chemosynthetic vestimentiferan tubeworms, marking the first time ever that tubeworms have been observed in this part of the Atlantic. In 2020 and 2021, the study team is synthesizing the data from more than 2,800 biological and geological samples and over 14,966 square kilometers of seafloor maps so that the material will be useful for informing management decisions.
- **Expanding Pacific Research and Exploration of Submerged Systems.** BOEM has been leading development and implementation of the project, a fluid and nimble public-private partnership in collaboration with NOAA, USGS, and the Monterey Bay Aquarium Research Institute. This partnership has dramatically expanded communication and scientific cooperation off the West Coast. Multiple groups, including the Consortium for Ocean Leadership, point to this project as a regional model to be considered in implementing the “*National Strategy for Mapping, Exploring, and Characterizing the U.S. Exclusive Economic Zone*,” the NOAA effort implementing the “*Ocean Mapping of the United States Exclusive Economic Zone and the Shoreline and Nearshore of Alaska*.”
- **Arctic Integrated Ecosystem Survey and Marine Arctic Ecosystem Study.** In FY 2020, BOEM continued to lead these two key Arctic interdisciplinary programs. Both are partnerships of Federal, State, Tribal, industry, academic, and non-governmental organizations with a shared goal of advancing the understanding of ecosystem structure and function on the Chukchi and Beaufort shelves. The data from both projects will be used to improve understanding of ecosystem structure and function, which are relevant for climate change studies conducted through a collaboration with the Alaska Ocean Acidification Center.
- **Next Generation of Animal Telemetry.** Marine animals, such as sea turtles that migrate hundreds and even thousands of miles, may come to the surface only occasionally, affording only a narrow window of time to locate tagged animals and transmit data. BOEM partnered with NASA to leverage space-based transceivers aboard small satellites, called CubeSats, as an innovative, low-cost, and open source solution to increase receiving options, expand the number of data providers, and lead to more affordable data acquisition. This study is investigating transitioning to a more robust system that leverages CubeSats, the International Space Station, and shore-based stations—all on an open standard common operating framework.
- **DNA Sequencing.** BOEM continues its long-term partnership with the Smithsonian’s National Museum of Natural History to preserve biological specimens, including invertebrates and

sequenceable DNA, acquired from Federally funded research and to maintain and provide quality assurance for the databases associated with the specimens. Many of these invertebrates have not had DNA sequencing and thus must be identified and archived appropriately for scientific posterity.

- **Academic Partnerships.** BOEM supports collaborations with the academic community through the Coastal Marine Institutes located at the University of Alaska Fairbanks and Louisiana State University. BOEM plans approximately \$190,000 in FY 2021 and FY 2022 for continuing cooperative agreements with Coastal Marine Institute partners. Through the Cooperative Ecosystem Studies Unit Network, BOEM gains access to a collaborative network of Federal and academic researchers and technical experts. Many projects include opportunities to train students and contribute to the next generation of environmental science leaders. BOEM funded \$1.6 million in FY 2020 and plans on similar funding levels in FY 2021 for cooperative agreements with Network institutions.

➤ **National Studies**

The ESP conducts research relevant to decision-making at all levels of government organizations, and many studies are of global interest. National studies are managed centrally by BOEM’s Office of Environmental Programs, though BOEM staff from regional and program offices participate and may lead projects. The fundamental distinction of national studies is their intention to address issues of broad interest rather than specific interest to a region or program.



Spiny lobster in coral

In FY 2021, BOEM will fund a number of studies in a cost-effective and timely manner. New starts at the national level include an effort to better understand the spatial and acoustic ecology of understudied ESA-listed marine mammals; an analysis of the mortality risk for whale and basking sharks during energy and mineral operations; imagery acquisition to support and enhance BOEM’s deep learning projects; and an update to the oil spill rate data for OCS platforms and pipelines, U.S. and worldwide tankers, and U.S. barges.

Potential priority areas for study in FY 2022 include Tribal consultation, social impacts and environmental justice considerations, fishery surveys in the northeast, climate change, and air quality in the Gulf of Mexico. The program remains committed to championing the use of new technology and innovation in marine science.

Pursuant to EO 14008 — *Tackling the Climate Crisis at Home and Abroad* — BOEM will continue to collect data on greenhouse gas emissions from offshore oil and gas activities. In addition, BOEM will strengthen oversight of OCS energy facilities to reduce emissions in support of the goals outlined in EO 14008 of a carbon pollution-free electric sector by 2035, and net-zero emissions, economy-wide, by 2050. BOEM’s environmental studies and assessments will continue to investigate and incorporate the effects of climate change in its studies on fisheries, marine mammals and other resources.

➤ **Atlantic OCS Studies**

During FY 2021, BOEM will continue to collect baseline information about the marine environment which is critical for assessing offshore energy development. Notably, studies will use the latest techniques to model impacts to the endangered North Atlantic right whale. Interactions between commercial fishing and existing wind leases will be evaluated. BOEM plans to fund regional research on fisheries and marine life impacts jointly with the Department of Energy. Studies will address key questions to identify mitigations for post-construction offshore wind infrastructure.

BOEM studies will include research on the impacts of sound on fish and sea turtles, monitoring construction activities at wind facilities, and improving our knowledge base about seabirds. The *Atlantic Deepwater Ecosystems Observatory Network* continues into FY 2021, providing much-needed baseline data and delivering the capability for monitoring long-term environmental changes and testing BOEM mitigations. This project serves the advancement of the Renewable Energy Program by generating needed environmental and socioeconomic information to inform future decision-making.

BOEM continues to plan and conduct studies in the Mid- and South Atlantic Planning Areas. Baseline studies are of special importance in this frontier region and need to span the relevant geographic area of interest (out to ultra-deep waters) and the variety of scientific disciplines relevant to BOEM's environmental analyses. Partnerships play an important role in baseline studies, including the *Atlantic Marine Assessment Program for Protected Species*, now in its third phase, and the *Mid-Atlantic Deepwater Canyons and Shipwrecks* study, involving NOAA, FWS, U.S. Navy, and USGS. BOEM plans to implement long-term environmental monitoring capabilities in Atlantic deep waters to assess the present state of the environment and possible trends over time related to natural and human-induced variability. An interdisciplinary monitoring approach will be adopted to understand biological species densities and distributions, the physiochemical mechanisms driving change, and the human uses of the environment. These measurements will test the efficacy of mitigations, such as for minimizing noise impacts on marine mammals, and will contribute to oil spill risk analysis, air quality, and predictive-fisheries modeling.

Driven by climate change, the frequency and intensity of storms lead to an increasing demand on sand resources from the OCS to address serious beach erosion. As a result, BOEM's Marine Minerals Program continues to carry out studies to investigate the impacts associated with sand extraction for shore restoration. For example, the *Productivity and Ecology of Sand Shoals* study identifies strategies to mitigate risks in various climate scenarios by developing a dynamic ecosystem model to visualize potential ecological changes associated with those strategies.

➤ **Gulf of Mexico OCS Studies**



Juvenile spotted drum and boulder coral

In the Gulf of Mexico, long-term environmental monitoring is combined with experimental research to give OCS decisions a firm scientific base. Studies analyze and explore the ocean ecology from coastal marsh to ocean abyss, recognizing that oil and gas activities affect all habitats and that new technologies are facilitating activities in deeper waters. BOEM is especially challenged to provide the information and oversight needed for developing these new frontiers, as biological and other environmental information is sparse and often outdated.

In FY 2021, BOEM will continue the long-term coral reef monitoring program at the Flower Gardens Banks National Marine Sanctuary. This long-standing monitoring program demonstrates that energy production can co-exist with a healthy, productive marine coral ecosystem, ensuring the long-term health of the sanctuary.

Studies implemented in FY 2020 and continuing into FY 2021 assess seafloor adaptive management strategies and recreational use of OCS infrastructure, as well as develop an information tool that synthesizes relevant research to streamline socioeconomic impact assessments of offshore energy. The information from these studies supports multiple aspects of all three BOEM programs and informs future studies. Studies proposed for FY 2021 cover a range of diverse topics including seafloor instability, 19th century shipwrecks, and noise impacts from airguns on commercial and recreational fisheries.

The *Offshore Analysis of Seafloor Instability and Sediments* is a new multi-year study planned for FY 2021 that will provide a better understanding of seafloor instability and mudflow events along the Mississippi River Delta Front and their risks to offshore conventional energy infrastructure. This interdisciplinary study leverages partnerships between BOEM and six other Federal agencies from the Departments of the Interior, Defense, and Commerce. Additional collaboration is anticipated with academic institutions, the private sector, and the energy industry, further demonstrating the value of developing partnerships to address similar information needs.

➤ **Alaska OCS Studies**



Fish sampling in Cook Inlet, Alaska

BOEM's studies in Alaska currently focus on foundational research in the Beaufort Sea, Chukchi Sea, and Cook Inlet Planning Areas. Strengthening collaborative research opportunities is a priority, including the incorporation of indigenous knowledge in decision-making. Other priorities include data synthesis, updating and improving oil spill risk analysis models, synthesizing the impacts to marine mammals from oil and gas activities, improving ice forecast modeling, and generating a revised baseline for subsistence activities in North Slope communities. For FY 2021, the Alaska Office received approximately 60

study ideas from stakeholders, including public and private academic institutions, the general public, consultants, Tribal governments, and Federal agencies such as NOAA and the USGS.

To identify the effects of development in the Arctic and other lease areas, BOEM continues to assemble a wide range of studies, taking an integrated approach and using new technologies that facilitate cost-effective research in the challenging Arctic environment to understand the effects on critical resources and the people dependent upon them. Studies with an Arctic focus in FY 2021 will obtain improved estimates of winter densities of ringed seals near Beaufort Sea oil and gas project areas and improve understanding of observed changes in bowhead whale migration patterns.

In FY 2021, BOEM will address anticipated activities in the Cook Inlet area with a new study to examine current baseline conditions for contaminants and will continue its monitoring of sea otters and beluga whales, as well as seabird and fish communities. In addition, a new study, *Coastal and Submerged Historic Properties and Precontact Sites on the Alaska Outer Continental Shelf*, will inventory and analyze archaeological sites across all areas of the Alaska OCS.

To address BOEM's evolving priorities in the Alaska OCS, studies for FY 2022 will be developed through a rigorous analysis of data and information needs and include robust stakeholder input. BOEM will seek innovative ways to extend the monitoring conducted in several recently completed projects. Specific areas of focus include the application of emerging technologies to detect presence and/or absence of marine mammal species in the Arctic and Cook Inlet, updating baseline information for fish communities in Cook Inlet, and evaluating and mitigating bird strikes along the Beaufort Sea.

➤ **Pacific OCS Studies**

Within the Pacific OCS Planning Areas, which include the OCS offshore California, Oregon, Washington, and Hawaii, BOEM studies continue to evolve in response to the changes in (1) the geographic areas of activity; (2) the emphasis on the disciplines highlighted for research; (3) the information needs for the mature oil- and gas-producing area offshore California; (4) focus to include areas for renewable energy offshore California, Oregon, and Hawaii; and (5) prospective interest in marine minerals. The Camarillo Office's responsibility encompasses ongoing oil and gas operations, potential renewable energy development from wind and marine hydrokinetic energy, and marine minerals (i.e., sand, gravel, and critical minerals).

Partners play a key role in Pacific studies. For FY 2021, the Camarillo Office received 15 study ideas from stakeholders, including Federal and State agencies, Tribal organizations, universities, a private company, and a nonprofit organization.

The Camarillo Office's study priorities include continued monitoring of environmental conditions adjacent to oil and gas activities offshore California and collecting environmental and socioeconomic information to prepare for decommissioning. Other study priorities include refining information about environmental conditions and biological communities in areas of potential renewable energy development offshore California and obtaining baseline information in areas of renewable energy potential offshore Hawaii. In response to increased interest, the Camarillo Office works closely with the Marine Minerals Program to evaluate Pacific sand, gravel, and critical minerals.



Preparing for a FY 2020 tri-agency (BOEM, NOAA, USGS) expedition to explore and characterize deep sea habitats including areas of prospective offshore wind energy development aboard NOAA Ship *Reuben Lasker*. Image courtesy of Roland Brian, Global Foundation for Ocean Exploration.

In FY 2021, BOEM anticipates starting several studies to inform expected decisions regarding new offshore wind energy and decommissioning of oil and gas facilities. Examples include (1) cultural landscape assessments of areas of Tribal significance to inform offshore wind planning, (2) Federal-State competitive funding solicitation with the Department of Energy and the State of California to inform West Coast offshore wind energy development, and (3) a project to measure noise generated by abrasive cutting of conductors during decommissioning.

Planned FY 2022 new starts will be identified following stakeholder input. However, BOEM's Pacific scientists and managers are already discussing data and information needs as well as opportunities associated with the *Motus Wildlife Tracking System*, an international collaborative network that uses coordinated automated radio-telemetry arrays to study movements of small flying organisms, including birds and bats, and new investment in the evolution of a Pacific marine biodiversity observing network.

OUTLOOK FOR ENVIRONMENTAL PROGRAMS

Looking forward, BOEM will continue to manage OCS energy and mineral resource development using the best available environmental analyses and studies conducted through BOEM's Environmental Programs and the advancement of the three long-term goals for excellence. In support of BOEM's activities, Environmental Programs will continue to use cross-cutting and regional environmental analyses for all OCS regions and activities and will expand its Center for Marine Acoustics. BOEM will continue to integrate science needs across programs and resources to inform decision-makers in a timely and effective manner. To these ends, BOEM will leverage partnerships, aligning to create an informed community with an interest in OCS resources and a desire to protect the environment. BOEM plans to develop a more robust and consistent environmental justice outreach program to access, inform and educate vulnerable communities that could be impacted by development of OCS resources.

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Executive Direction

Table 13: Executive Direction Budget Summary

Activity: Ocean Energy Management
Subactivity: Executive Direction

Executive Direction	2020	2021	Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	2022	Change from 2021 (+/-)
Executive Direction	17,139	17,207	+492	+0	+200	17,899	+692
<i>FTE</i>	<i>77</i>	<i>81</i>			+1	82	+1

This activity funds Bureau of Ocean Energy Management (BOEM) leadership, management, coordination, communications strategies, outreach, and regulatory development. It includes functions such as: managing the budget planning and execution processes, Freedom of Information Act activities, overseeing official documents, international affairs, managing administrative services, bureau-wide information technology management and governance, congressional and public affairs, policy analysis, and regulations.

The FY 2022 budget will support:

- **Strategic Leadership:** Provide BOEM policy guidance and leadership, including the implementation of administration priorities and policies.
- **Diversity, Equity, Inclusion and Accessibility Initiative:** The BOEM budget includes funding as part of a Departmentwide Diversity, Equity, Inclusion, and Accessibility budget initiative to address identified high-priority needs in support of Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, and Executive Order 13988, Preventing and Combating Discrimination on the Basis of Gender Identity and Sexual Orientation. As part of this initiative, the Department, bureaus, and offices will jointly conduct a review of the Diversity, Equity, Inclusion, and Accessibility program across Interior to identify gaps, challenges, and best practices and to examine Department and bureau roles, responsibilities, and governance.
- **Budget:** Manage the budget formulation and execution processes, from the development of the annual budget justification through the expenditure of appropriated funds, in conformance with all necessary policies, regulations, and statutes.

- **Freedom of Information Act:** Ensure timely resolution to Freedom of Information Act requests, as well as implementing any legislative actions that pertain to Freedom of Information Act policy.
- **Public Affairs:** Coordinate internal and external communications, including outreach to State and local governments and other stakeholders.
- **Congressional Affairs:** Liaise for BOEM on all congressional and legislative matters that relate to BOEM’s programs, including coordination with the Department of the Interior and other Federal agencies.
- **International Affairs:** Support the BOEM domestic mission areas and broader U.S. foreign policy goals by fostering international cooperation, technical assistance, and information sharing on a bilateral and multilateral basis.
- **Program Coordination:** Oversee and coordinate Bureau-level programs with BOEM offices and regions, including administrative policies and procedures, continuity of operations and emergency management program, the strategic human capital plan, employee engagement, and workplace climate.
- **Information Technology:** Provide Bureau-wide information technology management and governance, ensuring that technology aligns with mission delivery requirements.
- **Regulatory and Policy Coordination:** Manage BOEM’s national regulatory policy and provide analysis of programmatic and management initiatives.

SUMMARY OF 2022 PROGRAM CHANGES

Summary of 2022 Program Changes for Executive Direction		
Request Component	(\$000)	FTE
2022 Fixed Costs	+492	
Technical Internal Transfers	[-427/+427]	
Diversity, Equity, Inclusion, and Accessibility	+200	+1
TOTAL Program Changes	+692	+1

* Changes listed in order of budget activity, not priority.

Fixed Costs (+\$492,000). Fixed cost increases are fully funded in BOEM’s FY 2022 budget. These costs include increases to support changes in Federal health and retirement benefits and workers’ compensation, rent to the General Services Administration, and payments to the Department through its Working Capital Fund.

Technical Internal Transfers (-\$427,000/ +\$427,000; 0 FTE). Technical adjustments in FY 2022 reflect an increase in net current appropriations paired with a commensurate decrease in offsetting collections. The amount cited above reflects the technical internal transfer associated with this budget

activity. There are no programmatic changes associated with this shift.

Diversity, Equity, Inclusion, and Accessibility Initiative (+\$200,000; +1 FTE). The BOEM budget includes \$200,000 and 1 FTE as part of a Departmentwide Diversity, Equity, Inclusion, and Accessibility budget initiative to address identified high-priority needs in support of Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, and Executive Order 13988, Preventing and Combating Discrimination on the Basis of Gender Identity and Sexual Orientation. As part of this initiative, the Department, bureaus, and offices will jointly conduct a review of the Diversity, Equity, Inclusion, and Accessibility program across Interior to identify gaps, challenges, and best practices and to examine Department and bureau roles, responsibilities, and governance.

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FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Appropriations Language

Below is the Appropriations language for the Ocean Energy Management account within BOEM. BOEM also proposes new General Provisions as well as changes to an existing General Provision.

OCEAN ENERGY MANAGEMENT

For expenses necessary for granting and administering leases, easements, rights-of-way and agreements for use for oil and gas, other minerals, energy, and marine-related purposes on the Outer Continental Shelf and approving operations related thereto, as authorized by law; for environmental studies, as authorized by law; for implementing other laws and to the extent provided by Presidential or Secretarial delegation; and for matching grants or cooperative agreements, [\$192,815,000] \$227,781,000, of which [\$129,760,000] \$169,682,000, is to remain available until September 30, [2022] 2023 and of which [\$63,055,000] \$58,099,000 is to remain available until expended: Provided, That this total appropriation shall be reduced by amounts collected by the Secretary and credited to this appropriation from additions to receipts resulting from increases to lease rental rates in effect on August 5, 1993, and from cost recovery fees from activities conducted by the Bureau of Ocean Energy Management pursuant to the Outer Continental Shelf Lands Act, including studies, assessments, analysis, and miscellaneous administrative activities: *Provided further*, That the sum herein appropriated shall be reduced as such collections are received during the fiscal year, so as to result in a final fiscal year [2021] 2022 appropriation estimated at not more than [\$129,760,000] \$169,682,000: *Provided further*, That not to exceed \$3,000 shall be available for reasonable expenses related to promoting volunteer beach and marine cleanup activities [: *Provided further*, That of the unobligated balances from amounts made available under this heading, \$2,000,000 is permanently rescinded: *Provided further*, That no amounts may be rescinded from amounts that were designated by the Congress as an emergency requirement pursuant to the Concurrent Resolution on the Budget or the Balanced Budget and Emergency Deficit Control Act of 1985]. (*Department of the Interior, Environment, and Related Agencies Appropriations Act, 2021.*)

Explanation of Appropriations Language

The following provides a provision-by-provision explanation and citation of authority for each component of the appropriations language.

- 1. For expenses necessary for granting and administering leases, easements, rights-of-way and agreements for use for oil and gas, other minerals, energy, and marine-related purposes on the Outer Continental Shelf and approving operations related thereto, as authorized by law;**

This provision authorizes BOEM to expend funds for specific, mission-related purposes pursuant to BOEM's primary authorization, the OCS Lands Act, as amended, as well as myriad additional statutes that guide its activities, such as the National Environmental Policy Act of 1969 (NEPA), the Submerged Lands Act of 1953, the Energy Policy Act of 2005, and others.

2. ...for environmental studies, as authorized by law;

This provision authorizes BOEM to expend funds for environmental studies, pursuant to law. Specifically, BOEM's Environmental Studies Program function was established in 1973 by the OCS Lands Act, which directed the Secretary of the Interior, now through BOEM, to –

“ . . . conduct a study of any area or region included in any oil and gas lease sale or other lease in order to establish information needed for assessment and management of environmental impacts on the human, marine, and coastal environments of the Outer Continental Shelf and the coastal areas which may be affected by oil and gas or other mineral development in such area or region.”

43 U.S.C. §1346(a)(1).

“ . . . to predict impacts on the marine biota which may result from chronic low level pollution or large spills associated with Outer Continental Shelf production, from the introduction of drill cuttings and drilling muds in the area, and from the laying of pipe to serve the offshore production area, and the impacts of development offshore on the affected and coastal areas.”

43 U.S.C. §1346(a)(3).

“Subsequent to the leasing and developing of any area or region, [to conduct] such additional studies as he deems necessary and shall monitor the human, marine, and coastal environments of such area or region in a manner designed to provide time-series and data trend information which can be used for comparison with any previously collected data for the purpose of identifying any significant changes in the quality and productivity of such environments, for establishing trends in the areas studied and monitored, and for designing experiments to identify the causes of such changes.” 43 U.S.C. §1346(b).

3. ...For implementing other laws and to the extent provided by Presidential or Secretarial delegation;

This provision authorizes BOEM to expend funds on activities related to its mission that are delegated to the BOEM by either the President of the United States or the Secretary of the Interior. For instance, section 388 of the Energy Policy Act of 2005 gives the Secretary of the Interior the authority to issue leases, easements, and rights-of-way on the OCS for activities that produce or support production, transportation, or transmission of energy from sources other than oil and gas. The Secretary has delegated this responsibility to BOEM, and this provision allows BOEM to fund renewable energy activities on the OCS on behalf of the Secretary.

4. ...and for matching grants or cooperative agreements,

This language provides authority for BOEM to utilize matching grants or cooperative agreements to carry out mission-related functions. BOEM uses cooperative agreements with Federal and non-Federal partners to conduct environmental studies and to implement renewable energy and OCS sand projects.

5. ...\$227,781,000, of which \$169,682,000 is to remain available until September 30, 2023 and of which \$58,099,000 is to remain available until expended:

This provision identifies the amount of BOEM’s total budget authority for FY 2022 (\$227,781,000). Of this total budget authority, \$169,682,000 is designated as two-year money, to be available from FY 2022 through the end of FY 2023. Meanwhile, \$58,099,000 of BOEM’s budget authority – the amount associated with offsetting collections – is designated as no-year money with no expiration date. This enables BOEM to use no-year money to fund long-term projects like environmental studies.

6. ... Provided, That this total appropriation shall be reduced by amounts collected by the Secretary and credited to this appropriation from additions to receipts resulting from increases lease rental rates in effect on August 5, 1993, and from cost recovery fees from activities conducted by the Bureau of Ocean Energy Management pursuant to the Outer Continental Shelf Lands Act, including studies, assessments, analysis, and miscellaneous administrative activities:

Since 1995, annual appropriations language has provided BOEM (and its predecessor agencies) authority to keep rental revenues above the \$3.00/acre rate in effect on August 5, 1993, up to an annual cap, to fund current operations. This provision allows BOEM to use these rental receipts – as well as cost recovery fees for specific activities authorized by the OCS Lands Act, as authorized by the Independent Offices Appropriations Act – to partially fund mission-related activities. A listing of the specific cost recovery services and associated fees can be found on BOEM’s website in the “Fees for Services” section (<http://www.boem.gov/Fees-for-Services/>).

7. ...Provided further, That the sum herein appropriated shall be reduced as such collections are received during the fiscal year, so as to result in a final fiscal year 2022 appropriation estimated at not more than \$169,682,000:

This provision pertains to the availability of offsetting collections. The timing difference between the collection of rents and cost recovery fees and the availability of the funding for use as offsetting collections created significant operational challenges for BOEM, so the language was amended to include this “safety clause” in FY 2014. The language allows BOEM to derive initial funding from the general fund of the Treasury, with amounts returned to the general fund at the end of the year once all collections have been received.

8. ...Provided further, That not to exceed \$3,000 shall be available for reasonable expenses related to promoting volunteer beach and marine cleanup activities.

This provision has been included annually since 1998 (P.L. 105-83) and authorizes BOEM to expend up to a certain amount for the promotion of volunteer beach and marine clean-up activities.

GENERAL PROVISIONS

The language provided below reflects General Provisions that are directly applicable to BOEM. For a complete, detailed discussion of the Department's proposed General Provisions, please refer to the General Provision section of the Office of the Secretary FY 2022 budget justification.

➤ DECOMMISSIONING ACCOUNT

BOEM requires companies operating on the outer continental shelf (OCS) to provide financial assurance to cover lease obligations, primarily for decommissioning of facilities when they are no longer supporting production. Through the OCS Lands Act (43 U.S.C. 1338a), BOEM is further authorized to call for the forfeiture of that financial assurance and collect bonds or other security forfeitures from an OCS permittee, lessee or right-of-way holder that does not fulfill the requirements of its permit, lease, or right-of-way or does not comply with the regulations or orders of the Secretary. Such forfeitures cover the cost to the U.S. of any improvement, protection, or rehabilitation work rendered necessary by the action or inaction that led to the forfeiture. The determination to call for the forfeiture of a bond or security is made by the Regional Director for the BOEM regional office where the lease, permit or right-of-way is managed. Once collected, forfeited moneys are credited to BOEM's Ocean Energy Management (OEM) account to remain available until expended, and any funds in excess of the amount expended in performing the necessary work are returned to the permittee, lessee, or right-of-way holder.

Under the OCS Lands Act and Secretarial delegations, BOEM has the authority to collect bankruptcy settlements or disbursements on behalf of the Bureau of Safety and Environmental Enforcement (BSEE). BSEE may receive distributions in bankruptcy proceedings to reimburse it for actual, necessary costs and expenses incurred in performing decommissioning during the pendency of the bankruptcy that had been the responsibility of a debtor or in correcting other regulatory violations. Additionally, BSEE may receive a pro rata distribution from the bankruptcy estate based on the proof of claim for the expected future costs of decommissioning. In both instances the funds are received to remedy a specific problem and not for general governmental purposes. Similar to forfeited bonds or other securities, the bankruptcy settlements and disbursements may be credited to BOEM's OEM account until expended.

During the reorganization of the Minerals Management Service into three separate entities, the specific authorities regarding bond forfeitures were not clearly assigned or updated. As a result, BOEM has the authority to call bonds and collect the associated funds, as well as bankruptcy settlements and disbursements, but BSEE is responsible for ensuring the necessary decommissioning work is done. Because the statute identifies the ROMM account (which is now the OEM account, i.e., BOEM's operating account) as the one in which funds would be collected, BSEE does not have the authority to spend the money. While BOEM can utilize a reimbursable service agreement to effectively transfer funds from the OEM account to BSEE, this is neither a practical nor efficient long-term solution.

Proposal: BOEM proposes to separate collections of forfeitures (of bonds or other securities) and bankruptcy distributions or settlements (associated with failure to perform or noncompliance) from the appropriations in its OEM account and administer them through a new Treasury account. To accomplish this, BOEM requests authority to transfer such funds to this new account and to direct all future such

funds to the new account as well. BOEM will work with the Department, OMB, and Treasury to establish the Treasury account in which decommissioning funds can be managed, but in order to utilize this new account for the collection and administration of funds specific to decommissioning activities, the underlying statute will need to be amended. Therefore, BOEM requests the following language be included either as an administrative or general provision:

SEC. 114. The fifth and sixth provisos under the amended heading “Royalty and Offshore Minerals Management” for the Minerals Management Service in Public Law 101-512 (104 Stat. 1926, as amended) (43 U.S.C. Sec. 1338a) are further amended by striking and replacing them with – “Provided further, That notwithstanding section 3302 of title 31, any moneys hereafter received as a result of the forfeiture of a bond or other security by an Outer Continental Shelf permittee, lessee, or right-of-way holder that does not fulfill the requirements of its permit, lease, or right-of-way or does not comply with the regulations or orders of the Secretary, or as a bankruptcy distribution or settlement associated with such failure or noncompliance, shall be credited to a separate account established in the Treasury for decommissioning activities and shall be available to the Bureau of Ocean Energy Management without further appropriation or fiscal year limitation to cover the cost to the United States of any improvement, protection, rehabilitation, or decommissioning work rendered necessary by the action or inaction that led to the forfeiture or bankruptcy distribution or settlement, to remain available until expended: Provided further, That amounts deposited into the decommissioning account may be allocated to the Bureau of Safety and Environmental Enforcement for such costs: Provided further, That any moneys received for such costs currently held in the Ocean Energy Management account shall be transferred to the decommissioning account: Provided further, That any portion of the moneys so credited shall be returned to the bankruptcy estate, permittee, lessee, or right-of-way holder to the extent that the money is in excess of the amount expended in performing the work necessitated by the action or inaction which led to their receipt or, if the bond or security was forfeited for failure to pay the civil penalty, in excess of the civil penalty imposed.”.

An alternative, though less desirable approach, would be the inclusion of a provision authorizing BOEM to transfer funds to BSEE for these purposes.

Explanation of Proposed Change: The requested language would do the following:

- 1) Clarify the treatment of funds from bankruptcy settlements in addition to bond forfeitures.
- 2) Amend this provision in the OCS Lands Act (43 USC 1338a) to add the word “decommissioning” to the list of purposes for which the funds in this account can be collected and used. This is because “decommissioning” is the term used in the BSEE and BOEM regulations and by the oil and gas industry and adding it to the statute clarifies the purposes for which the funds in this new account shall be used.
- 3) Allow BOEM to transfer existing funds from OEM (current account) to a new parent-child account and allow BSEE access to the forfeitures (of bonds or other securities) and bankruptcy distributions or settlements contained within the child account.

This proposal seeks to simplify how these funds are accounted for in the U.S. Treasury, and it would have no impact to Federal revenues or budgetary scoring.

➤ **DISCLOSURE OF DEPARTURE OR ALTERNATE PROCEDURE APPROVAL**

In FY 2022, BOEM proposes to strike the following General Provision:

[SEC. 117. (a) Subject to subsection (b), beginning no later than 180 days after the enactment of this Act, in any case in which the Bureau of Safety and Environmental Enforcement or the Bureau of Ocean Energy Management prescribes or approves any departure or use of alternate procedure or equipment, in regards to a plan or permit, under 30 C.F.R. § 585.103, 30 C.F.R. § 550.141; 30 C.F.R. §550.142; 30 C.F.R. § 250.141, or 30 C.F.R.§ 250.142, the head of such bureau shall post a description of such departure or alternate procedure or equipment use approval on such bureau’s publicly available website not more than 15 business days after such issuance.

(b) The head of each bureau may exclude confidential business information.]

Explanation of Proposed Change: This provision requires BSEE and BOEM to disclose any departure or use of alternate procedure or equipment it prescribes or approves with regard to 30 C.F.R. § 585.103, 30 C.F.R. § 550.141; 30 C.F.R. §550.142; 30 C.F.R. § 250.141, or 30 C.F.R.§ 250.142. The provision directs the bureaus to post a description of the departure or alternate procedure or equipment approval on their public websites no more than 15 days following the issuance. This provision results in unnecessary administration burden. This proposal has no budgetary or scoring impact, nor does it reflect any change in policy or program strategy.

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

Disclosure of Program Assessments

This appendix is provided in compliance with section 403 of Public Law 116-260, the Further Consolidated Appropriations Act, 2021, which states:

DISCLOSURE OF ADMINISTRATIVE EXPENSES

SEC. 403. The amount and basis of estimated overhead charges, deductions, reserves or holdbacks, including working capital fund and cost pool charges, from programs, projects, activities and subactivities to support government-wide, departmental, agency, or bureau administrative functions or headquarters, regional, or central operations shall be presented in annual budget justifications and subject to approval by the Committees on Appropriations of the House of Representatives and the Senate. Changes to such estimates shall be presented to the Committees on Appropriations for approval.

The majority of BOEM's external assessments are associated with the costs of the shared services approach that allows it to meet its administrative and information technology needs. BOEM implements this approach through reimbursable services agreements with the Bureau of Safety and Environmental Enforcement (BSEE), which are identified in the table below. Under this arrangement, BSEE provides a full suite of administrative services including acquisition management, equal employment opportunity, finance, human resources, information technology management, management support, personnel security, and support services. Maintaining these critical administrative functions within the Department provides the following benefits:

- Minimizing duplication of administrative entities across multiple organizations and optimizing efficiency.
- Providing a centralized administrative function that can, over time, allow the Department to pursue additional efficiencies.

The Department has strongly supported the expansion of business cross-servicing to strategically expand high-quality, high-value shared services to improve performance and efficiency throughout the Department.

Through this effort, BOEM and BSEE support the Department's and the Administration's efforts to increase the efficiency of core operations, reduce duplication and waste, enable investments in innovation, use shared services and common infrastructure, facilitate agency collaboration and co-funding, and implement innovative approaches to budgeting and resource management. Specifically, this arrangement has the added benefit of implementing standardized practices that further increase the productivity for highly skilled resources in both Bureaus. By utilizing the shared services model, BOEM and BSEE continue to improve their best practices and optimize the use of administrative funds.

BOEM and BSEE regularly evaluate these support arrangements in joint, quarterly meetings, and final costs are determined at the end of the year based on FTE levels and hours billed. BSEE's costs to provide these services are also carefully managed and jointly approved. Because these costs are regularly reevaluated, estimated out-year costs are based on prior year actuals and the stated billing methodology. Amounts shown in the table below are estimates and may not reflect final agreements or end of year obligations. Additionally, because BOEM has no dedicated budget line to pay for its administrative overhead, all external assessments are paid through internal assessments to the Ocean Energy Management account.

Table 14: Disclosure of Program Assessments

Bureau of Ocean Energy Management	
Disclosure of Program Assessments	
<i>(dollars in thousands)</i>	
Cost Description	2022
External Administrative Costs	
Administrative RSA with BSEE	21,733
IT RSA with BSEE	14,372
Solicitor Support	2,075
Working Capital Fund Centralized Billing	2,055
Working Capital Fund Direct Billing	890
NARA	74
Total, External Administrative Costs	\$ 41,199
Internal Bureau Assessments	
Ocean Energy Management	41,199
Total, Internal Bureau Assessments	\$ 41,199
* External administrative costs are charged to the Ocean Energy Management account for a total cost to the Bureau of \$41,199 thousand.	

Multiple IT support contracts provide operations, maintenance, management, and enhancement services to the enterprise and the TIMS investment. In addition to the administrative contracts with BSEE, BOEM also contracts with the Office of the Solicitor for legal support. Other external assessments include the Department's Working Capital Fund, which supports Department-wide systems, such as the Financial Business Management System, which bureaus use for accounting and finance. BOEM is also externally assessed for information archiving through the National Archives and Records Administration.

FISCAL YEAR 2022 BUDGET
Bureau of Ocean Energy Management
Employee Count by Grade
 (Total Employment)

Table 15: Employee Count by Grade

Employee Count by Grade	2020 Actuals	2021 Estimate	2022 Estimate
Executive Level V	0	0	0
SES	6	7	7
Subtotal	6	7	7
SL - 00	1	1	1
ST - 00	0	0	0
Subtotal	1	1	1
GS/GM -15	45	45	48
GS/GM -14	159	155	167
GS/GM -13	197	194	209
GS -12	73	77	86
GS -11	39	49	56
GS -10	1	2	2
GS - 9	27	25	31
GS - 8	10	10	10
GS - 7	8	12	11
GS - 6	7	11	11
GS - 5	0	1	2
GS - 4	0	0	0
GS - 3	0	1	1
GS - 2	0	0	0
GS - 1	0	0	0
Subtotal	566	582	634
Other Pay Schedule Systems	0	0	0
Total employment (actuals & estimates)	561	590	642

Notes on this table:

- All grades presented in this table include career, career-conditional, temporary, and political employees.

- GS refers to employees covered by the General Schedule classification and pay system established under the Classification Act of 1949, as amended. (5 U.S.C. chapter 53, subchapter III, and 5 CFR part 531).
- GM refers to employees covered by the General Schedule classification and pay system who are covered by the Performance Management and Recognition System termination provisions of Public Law 103-89 (former Performance Management and Recognition System employees).

FISCAL YEAR 2022 BUDGET

Bureau of Ocean Energy Management

List of Acronyms

BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
ESP	Environmental Studies Program
FERC	Federal Energy Regulatory Commission
FTE	Full Time Equivalent
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
GIS	Geographic Information System
G&G	Geological and Geophysical
IT	Information Technology
MMIS	Marine Minerals Information System
MMPA	Marine Mammals Protection Act
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOPP	National Oceanographic Partnership Program
OCS	Outer Continental Shelf
P.L.	Public Law
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USCG	U.S. Coast Guard
USGS	U.S. Geological Survey

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