2024–2029 National Outer Continental Shelf Oil and Gas Leasing **Proposed Final Program**

SEPTEMBER 2023

BOEM
Bureau of Ocean Energy Management

U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849

2024–2029

National Outer Continental Shelf Oil and Gas Leasing

Proposed Final Program

BOEM

Bureau of Ocean Energy Management

September 2023

Suggested Citation: Bureau of Ocean Energy Management. 2023. 2024–2029 National Outer Continental Shelf Oil and Gas Leasing Proposed Final Program. BOEM 2023-058. https://www.boem.gov/2024-2029-Proposed-Final-Program. September 2023.

Part I: PROPOSED FINAL PROGRAM:

Final Proposal on the Size, Timing, and Location of OCS Lease Sales

Part I: Proposed Final Program
Final Proposal on the Size, Timing, and Location of OCS Lease Sales

Introduction

Under Section 18 of the Outer Continental Shelf (OCS) Lands Act, the Secretary of the Interior (Secretary) is responsible for establishing a schedule of lease sales for a 5-year period in a National OCS Oil and Gas Leasing Program (National OCS Program) by evaluating specified attributes of OCS areas. The Secretary is authorized to select the size, timing, and location of proposed OCS lease sales that best meet national energy needs and that balance, to the maximum extent practicable, the potential for environmental damage, discovery of oil and gas, and adverse impact on the coastal zone.

National OCS Program Development Process

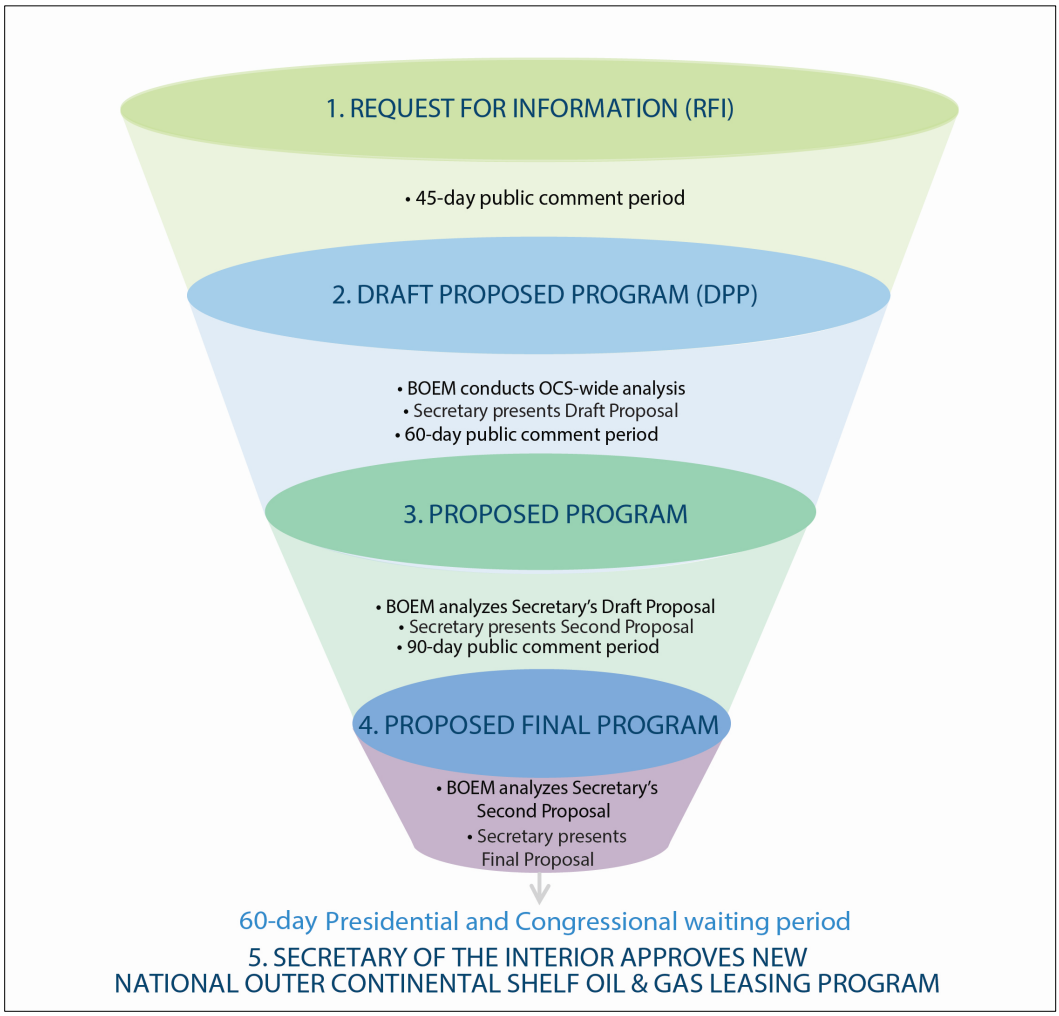
The Bureau of Ocean Energy Management (BOEM) in the U.S. Department of the Interior (USDOI) is responsible for advising the Secretary on the National OCS Program and administering it once adopted. The development of the National OCS Program includes a Request for Information, followed by three analytical phases. The three phases used to develop a new National OCS Program include: issuance of the (1) Draft Proposed Program (DPP), including the Draft Proposal; (2) Proposed Program, including the Second Proposal; and (3) Proposed Final Program (PFP), including this Final Proposal. This National OCS Program development process begins with the broadest consideration of areas available for leasing (i.e., all 26 OCS planning areas), and the areas under consideration can be narrowed at each stage throughout that development process. See **Figure 1** for a depiction of the National OCS Program development process.

In January 2018, BOEM published the first of the three analytical phases, the DPP, which included a proposed schedule of 47 lease sales in all four OCS regions and 25 of the 26 planning areas. The subsequent Proposed Program, published in July 2022, had a proposed schedule of up to 11 lease sales in two program areas. Following the publication of the DPP, BOEM received more than 2 million comments, and following the publication of the Proposed Program and the companion Draft Programmatic Environmental Impact Statement (Programmatic EIS), BOEM received approximately 760,000 comments. Diverse stakeholders and partners commented, including governors, Federal agencies, state agencies, local agencies, energy and non-energy industries, Tribal governments, non-governmental organizations and advocacy groups, and the public (see **Chapter 11** and **Appendix A** for more information).

The PFP, including this Final Proposal, and the companion Final Programmatic EIS present the analysis of the Proposed Program schedule of lease sales, referred to as the Second Proposal, and incorporate input received during the public comment period. Although analysis under the National Environmental Policy Act is not required at the National OCS Program development stage, BOEM chose to prepare a Programmatic EIS to aid in the evaluation of certain environmental, sociocultural, and socioeconomic impacts associated with the Second Proposal.

The PFP and Final Programmatic EIS analyses present a comprehensive picture of the environmental, cultural, economic, and hydrocarbon resource considerations to aid the Secretary in determining the size, timing, and location of potential lease sales evaluated in this PFP for 2024–2029.

Figure 1: National OCS Program Development Process



Proposal Framework

The OCS Lands Act grants the Secretary discretion in weighing the specific Section 18 requirements and factors (see **Chapter 2**). The size, timing, and location of the areas and potential lease sales presented in this Final Proposal reflect the Secretary's balancing of the potential for the discovery of OCS oil and gas resources with the potential for environmental damage and adverse impact on the coastal zone, as required by Section 18(a)(3).

The inclusion of an area in this Final Proposal is not, however, a final determination that the area will ultimately be offered in a future lease sale and the Secretary may decide in the future to delay or not conduct a lease sale that was included in the approved National OCS Program.

Once this National OCS Program has been approved, there are additional requirements at the lease sale stage for lease sale size, timing, and location analyses, environmental review, and public comment (see **Figure 1-9**).

Meeting national energy needs for the 5-year period following approval of a new National OCS Program is a stated purpose of the OCS Lands Act. The need to confront the climate crisis through reducing greenhouse gas emissions is relevant to how national energy

needs are met. BOEM continues to review research on potential net-zero emissions pathways and implications for the National OCS Program and has reviewed available data to refine its analysis in this PFP. Importantly, the Secretary may conduct new environmental and technical analyses on an ongoing basis to help inform lease sale decisions. These additional decision points allow the Secretary to consider new information about national energy needs, policy direction, or other factors when choosing whether to hold any lease sale.

The Inflation Reduction Act (IRA, P.L. 117-169) was enacted on August 16, 2022, shortly after the Proposed Program was published. The IRA offers funding, programs, and incentives designed to accelerate the transition to a clean energy economy and drive significant deployment of new clean energy resources. The Energy Information Administration (EIA) forecasts for the effects of certain IRA provisions have been incorporated into the forecasts used in the analysis presented herein and considered by the Secretary in making this Final Proposal.

Final Proposal: 2024–2029 Lease Sale Schedule

After carefully considering public input and the OCS Lands Act Section 18(a)(2) factors, this Final Proposal includes three potential OCS oil and gas lease sales in the Gulf of Mexico (GOM) Program Area, which includes the Western GOM Planning Area and the portions of the Central and Eastern GOM planning areas not currently under Presidential withdrawal (see **Section 4.6**), where more than 99% of current OCS production occurs. Notwithstanding this Final Proposal, the Secretary retains the discretion at the lease sale stage to determine whether, when, and under what terms, a lease sale should be held and the precise acreage to be offered.

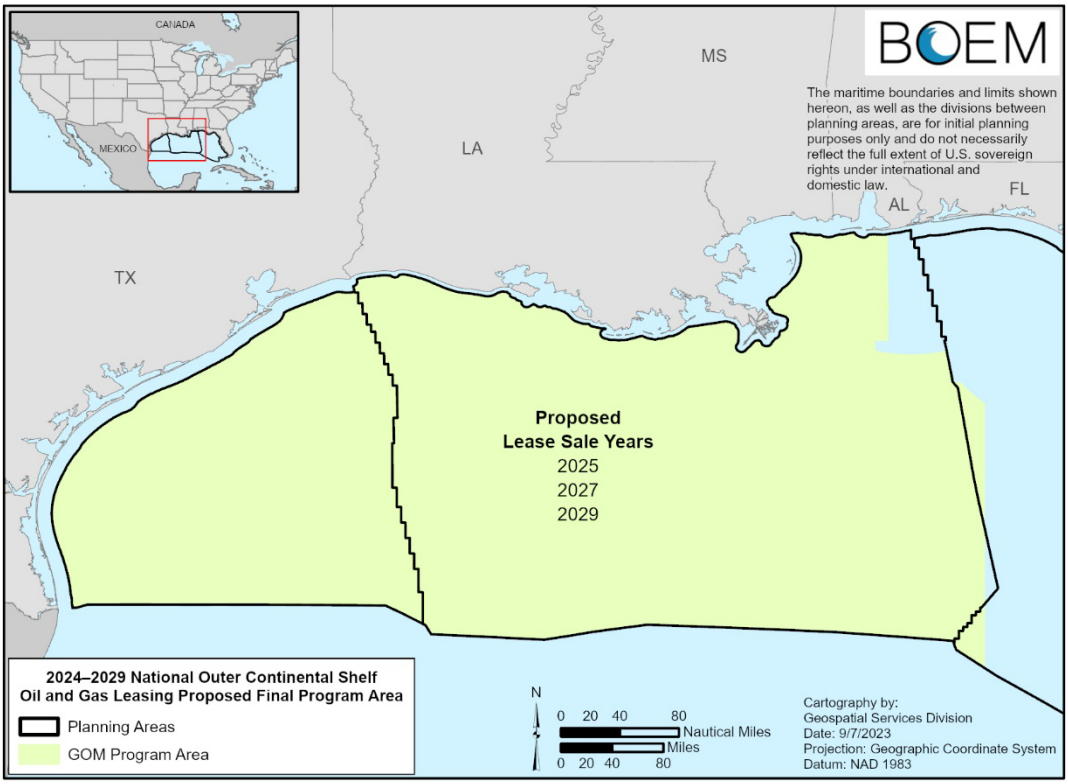
An option for a potential lease sale in the northern portion of the Cook Inlet Planning Area was identified in the Second Proposal and analyzed as part of the PFP and Final Programmatic EIS. Based on consideration of Section 18 requirements and factors, a Cook Inlet lease sale is not included in this Final Proposal.

Table 1 reflects the schedule of potential lease sales for 2024–2029. **Figure 2** depicts the program area remaining in this National OCS Program.

Table 1: 2024–2029 Proposed Final Program Lease Sale Schedule

Count	Sale Number	Sale Year	OCS Region and Program Area
1	262	2025	Gulf of Mexico: GOM Program Area
2	263	2027	Gulf of Mexico: GOM Program Area
3	264	2029	Gulf of Mexico: GOM Program Area

Figure 2: 2024–2029 Proposed Final Program Area



Programmatic Mitigation of Topographic Features and Pinnacle Trends

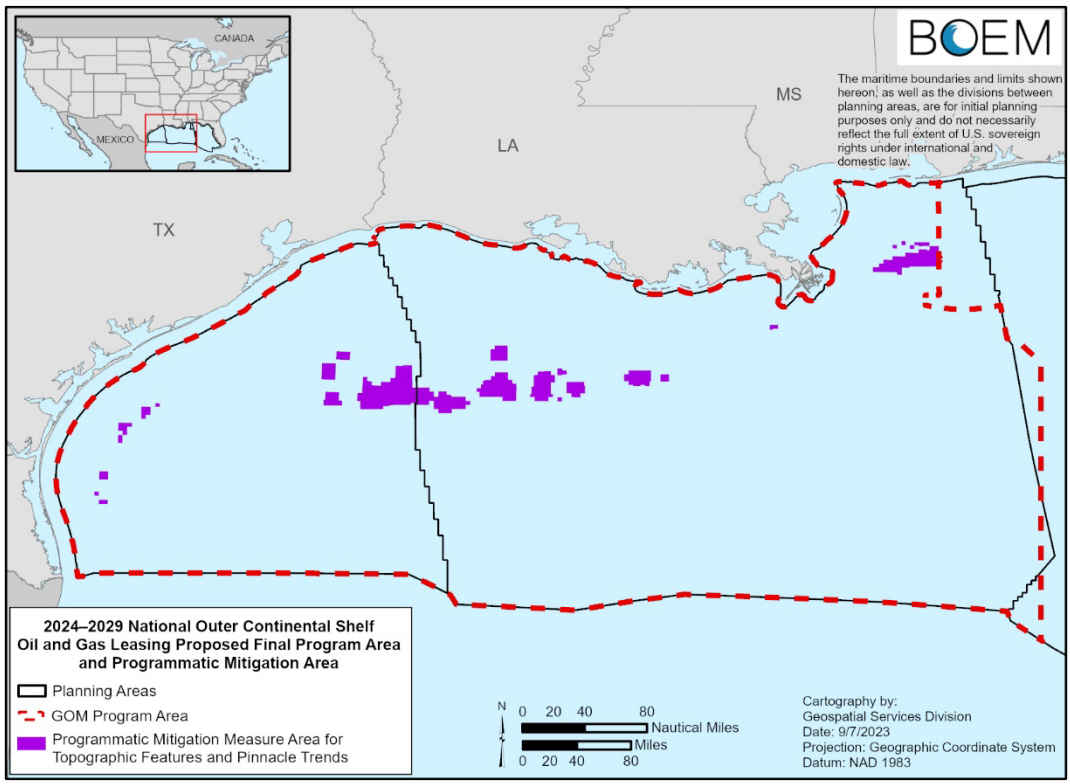
Under this Final Proposal, the Secretary requires that all leases issued under this National OCS Program employ mitigation measures to protect sensitive seafloor features. **Figure 3** shows the location of these sensitive areas.

BOEM and its predecessor agencies have required avoidance of sensitive bottom habitats in the GOM for decades. A topographic features stipulation was first applied in 1974 and has been used consistently since April 1996 in all lease sales where the sale area included known topographic features. Similarly, the Live Bottom (Pinnacle Trend) stipulation was first applied in May 1983 and has been used for all applicable sales since 1990. In the Record of Decision approving the 2017–2022 Program, the Secretary adopted the Topographic Features and Live Bottom (Pinnacle Trend) lease stipulations as required mitigation for any leases issued in applicable GOM blocks.

These stipulations are designed to avoid or minimize harm from seafloor-disturbing activities to these sensitive and unique underwater features. The existing Topographic Features stipulation covers 38 topographic banks, which excludes all bottom-disturbing activity in the most sensitive biological areas defined via bathymetric contours (generally 85 meters [279 feet]). A progression of buffer distances around all banks (e.g., 1 mile [1.6 kilometers], 3 miles [4.8 kilometers], and 4 miles [7.4 kilometers]) establishes different levels of protection.

The Live Bottom (Pinnacle Trend) stipulation currently applies to 74 blocks in the northeastern portion of the Central GOM Planning Area. Lessees with a block subject to this stipulation would be required to assess

Figure 3: Programmatic Mitigation Areas



live bottom habitat in the block and undertake measures to protect the live bottom features. These measures could include relocation of operations, shunting of fluids and cuttings, and monitoring to assess the impact of the activity on the live bottom areas.

Applying these stipulations at the National OCS Program development stage is consistent with current practice and continues the effective protection of these biologically sensitive areas, should they be offered in the three potential lease sales scheduled under this Final Proposal.

Secretarial Consideration of the OCS Lands Act Section 18 Requirements and Factors

This Final Proposal narrowed the schedule of potential lease sales from the Second Proposal's maximum of 11 potential sales in two program areas to three potential sales in one program area as best to meet national energy needs after careful consideration and balancing of all Section 18 factors, including the potential for environmental damage, discovery of oil and gas, and adverse impact on the coastal zone.

One way the Secretary considers economic, social, and environmental values in managing non-renewable resources on the OCS is through estimates of the domestic benefits to society from the potential oil and natural gas production that could result from the proposed lease sales and the domestic environmental and social costs associated with anticipated exploration, development, and production activities. BOEM also considers similar benefits and costs of substitute energy sources that would be consumed in the absence of new OCS leasing. BOEM's analysis finds that there are potential net benefits of a National OCS Program with lease sales in the GOM Program Area for 2024–2029. Based on current and projected

demand and consumption patterns, a National OCS Program with no lease sales for 2024–2029 would result in lower net benefits for the American public because substitute energy sources would be needed to meet projections for continued domestic oil and natural gas demand, and reliance on these sources is estimated to result in less net economic value, greater environmental and social costs, and reduced net consumer surplus (see **Chapter 5**). Absent OCS lease sales in the 5 years following National OCS Program approval, OCS oil and gas production would continue only from existing leases. Production from existing OCS leases currently constitutes 15% of domestic oil production and 2% of domestic natural gas production (BSEE 2022, EIA 2022a, 2022b, 2022c). Based on the number of active, non-producing leases and BOEM's recent production forecast for the GOM (see **Section 5.2**) —which quantifies future contributions from existing proved reserves, discovered resources not already developed, and undiscovered resources — the Secretary determined that three potential lease sales in the GOM Program Area provide adequate access to the region's oil and gas resources to meet national energy needs.

Consideration of national energy needs includes the current energy landscape as well as the possibility of an energy market significantly transformed by transitioning to a net-zero emissions economy. The long-term nature of OCS oil and gas development, such that production on a lease may not begin for a decade or more after lease issuance and can continue for decades, makes consideration of net-zero pathways relevant to the Secretary's determinations on how the National OCS Program best meets the Nation's energy needs. The net-zero emissions pathways introduced in **Section 1.2** illustrate the potential for less dependence on oil and gas as the electricity sector de-carbonizes. **Chapter 5** summarizes analysis from the Economic Analysis Methodology Paper (BOEM 2023) on the impacts of potential net-zero emissions pathways on BOEM's analysis of OCS leasing. For example, BOEM's analysis shows that, in a future where the U.S. makes significant progress towards its net-zero emissions goals, a reduction in reliance on OCS oil and gas production would occur. This reduction will result in greater energy substitution from renewable sources and a greater reduction in consumption than is currently projected using baseline data from the EIA. In these alternative scenarios, BOEM would expect less reliance on imports and domestic onshore oil and gas production in the absence of OCS production.

As the amount of energy produced from renewable sources and the consumption of such energy increases, the continued ability to issue leases for offshore renewable energy is another important consideration as the Secretary seeks to balance national energy needs with the impacts of climate change and other potential for environmental damage and impacts to coastal zones.

Section 50265(b)(2) of the IRA requires BOEM to offer at least 60 million OCS acres for oil and gas leasing within the 12 months prior to issuing an offshore wind lease. The three lease sales in this Final Proposal have the potential to meet national energy needs along projected energy consumption and net-zero emissions pathways, while providing other national benefits in terms of balance of payments of trade, energy security, technology advancement, lower carbon-intensity crude oil and natural gas production, public revenues, and employment (see **Section 1.2.3**).

The Secretary has considered the eight Section 18(a)(2) factors and concluded that three potential lease sales in the GOM Program Area reflects a proper balance of the potential for environmental damage, discovery of oil and natural gas, and adverse impact on

the coastal zone. The Gulf Coast region has the most throughput of crude oil and petroleum products because it has the most production, refining capacity, and an extensive import and export infrastructure. The region has the greatest ability to use its resource potential to supply the Nation's energy needs. The GOM Program Area is adjacent to robust refining and natural gas processing capacity, and Gulf Coast refineries have access to domestically produced oil from the OCS, state waters, and onshore, as well as imported oil, and can blend oil of various grades and qualities to obtain the best prices given their specific equipment and facilities.

While the GOM region is sensitive to the environmental impacts of development, there are many commercial, recreational, and subsistence uses within the area, including non-energy marine minerals and the potential development of renewable energy. In recent decades, Gulf Coast states have received most of the developmental benefits and borne most of the environmental risks associated with developing OCS resources because most OCS oil and gas activities occur in the GOM. **Chapter 9** discusses the equitable sharing of benefits and risks of implementing the Second Proposal across regions, recognizing that significant infrastructure for oil and gas development already exists in and near the GOM. Therefore, lower levels of new development would be required, potentially avoiding or reducing environmental risks associated with new coastal development. In addition, the current, extensive onshore infrastructure contributes to local and state economies and helps fund government services. Continued Federal oil and gas leasing in the GOM is supported by the governors from the Gulf Coast states of Alabama, Louisiana, Mississippi, and Texas.

Under a No Sale Option, the consequences for the GOM region could include losses of employment and business opportunities for communities that have been providing goods, services, and labor to support OCS activities. However, the ultimate effects of the No Sale Option depend on the prevailing economic environment, including factors such as energy prices, resource discoveries, and the evolution of the economy to support new economic and employment opportunities.

There is flexibility at the lease sale stage to adopt a targeted approach such that the GOM Program Area could be narrowed by removing, among other options, acreage that has not recently had extensive bidding, exploration, or development activity, or which does not contain actively pursued geologic plays or areas of recent seismic acquisition and processing. Such flexibility could also allow for the removal of biologically sensitive areas and areas of potential conflict with other uses and users of the marine environment. This targeted approach would only offer lease sales in areas with high resource potential while appropriately weighing environmental protection, other uses of the ocean and seabed, and other considerations, consistent with the policy of the OCS Lands Act to make OCS oil and gas resources available for expeditious and orderly development while considering safeguards for the human, marine, and coastal environment.

The No Sale Option was selected for the Cook Inlet Program Area due to limited expressed interest of potential oil and gas producers, the lack of development on existing OCS leases, and the potential for higher environmental risks associated with new leasing in relatively undeveloped areas as described in the Final Programmatic EIS. The Cook Inlet Program Area has recently seen low levels of industry interest. No specific indications of interest were received from oil and gas companies in response to the Call for Information and Nominations for Lease Sale 258; this sale was ultimately held in 2022 as directed by the IRA and resulted in one lease on one tract. There

is no current crude oil or natural gas production from the 15 currently active Cook Inlet OCS leases.

Given Alaska's relatively small population and lack of industrialization, a large percentage of the goods and services needed for oil and gas development in Cook Inlet would likely be imported from other parts of the country and world markets. The need to import these goods and services could result in increased shipping traffic, and the lack of onshore infrastructure required for OCS oil and gas operations would necessitate new construction along the coast. The Final Programmatic EIS concludes, since the area is relatively undeveloped, that potentially significant adverse impacts are likely from any new leasing in the Cook Inlet Program Area, particularly for cultural practices, subsistence uses, recreation, and tourism. Selection of the No Sale Option for Cook Inlet means that no increased environmental risks from coastal construction or OCS exploration, development, and production activities from new leases would occur in this area.

The three potential lease sales in this Final Proposal are included by the Secretary because they have the greatest resource potential and net benefits with the least potentially significant impacts and costs to society. The Secretary believes that this proposed schedule will meet national energy needs for the next 5 years under existing laws and policies, while also recognizing that progress along a net-zero emissions pathway will be a consideration when evaluating the appropriateness of future sales.

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Part II: Analysis of the Secretary's Second Proposal

Overview

Management of the oil and gas resources of the Outer Continental Shelf (OCS) is governed by the OCS Lands Act (43 U.S. Code [U.S.C.] §§ 1331 et seq.). The OCS Lands Act sets forth procedures to administer leasing, exploration, development, and production of those resources. Section 18 of the OCS Lands Act (43 U.S.C. § 1344) calls for the preparation of a nationwide OCS oil and gas leasing program that sets forth a 5-year schedule of potential lease sales designed to best meet the Nation's energy needs for the 5 years following approval of a new National OCS Oil and Gas Leasing Program (generally referred to as the National OCS Program). The Bureau of Ocean Energy Management (BOEM), within the U.S. Department of the Interior (USDOI), is responsible for implementing the requirements of the OCS Lands Act related to preparing the leasing program.

BOEM has nearly completed the process of preparing the 2024–2029 National OCS Program to follow the 2017–2022 National OCS Program. Throughout this document, the 2024–2029 National OCS Oil and Gas Leasing Program title is sometimes shortened to "2024–2029 Program" and past National OCS Programs referred to as a variation of this short-hand (e.g., 2017–2022 Program). The 2024–2029 Program will be the tenth National OCS Program to be approved. This document consists of the following parts:

Part I: Final Proposal on the Size, Timing, and Location of OCS Lease Sales

This part of the document presents the Secretary's Final Proposal, the third of three stages of the National OCS Program development process. The Final Proposal results from the Secretary's consideration of the analysis contained in **Part II** of this document, as well as the Final Programmatic Environmental Impact Statement (Final Programmatic EIS), which is being published concurrently with this document. **Part I** contains the potential lease sale schedule and program areas to be included in this National OCS Program. This part also summarizes the rationale behind the Final Proposal.

Part II: Analysis of the Secretary's Second Proposal

Chapters 1 through **4** describe the framework for developing a new National OCS Program. These chapters discuss the substantive and procedural requirements to prepare a National OCS Program under Section 18 of the OCS Lands Act and describe BOEM's approach to meeting those requirements. This includes a discussion of the Section 18 requirements and factors relating to OCS oil and natural gas resources and the environmental, economic, and social considerations that Section 18 requires be considered when deciding where and when to

schedule lease sales. Also included in **Chapter 2** is a summary of the judicial guidance from court decisions regarding the National OCS Program.

Chapters 5 through **10** present the Section 18 analyses of the Second Proposal. The Secretary uses the Section 18 analyses to inform the Final Proposal.[1] **Chapter 11** presents the approach to public outreach and a snapshot of the comments received on the Proposed Program.

Appendix A: Summaries of Public Comments summarizes the comments BOEM received and considered in response to the Proposed Program issued on July 6, 2022 (83 FR 829), which requested comments from all interested parties. **Appendix B** is the estimate of staff and appropriations needed to implement the Final Proposal. **Appendix C** contains a glossary of terms used in this document. **Appendix D** contains the reference list.

Figure 1 shows the document organization for **Part II** and highlights that **Part II** consists of three main categories:

1. process and foundation,
2. analysis, and
3. outreach and engagement.

[1] The **Draft Proposed Program**, published in January 2018, contained the analysis of all 26 OCS planning areas and the Draft Proposal resulting from that analysis. The **Proposed Program**, published in July 2022, contained the analysis of the Draft Proposal and the resulting Second Proposal. This PFP contains the analysis of the Second Proposal (Part II) and the resulting Final Proposal (Part I).

Figure 1: Part II Document Organization

Note: Not shown on this graphic are Appendix B: Appropriations and Staffing Estimates, Appendix C: Glossary, and Appendix D: References.

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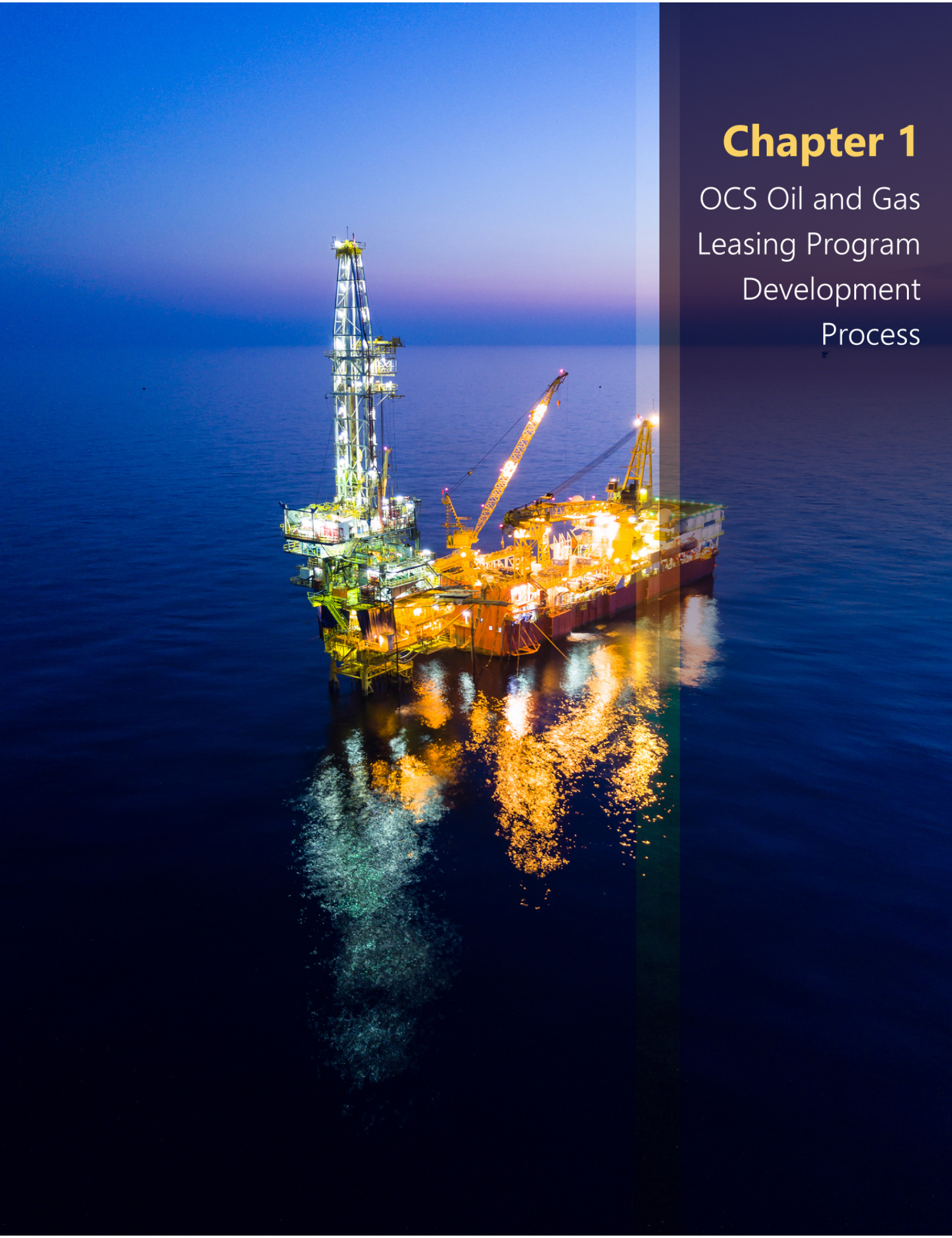
Abbreviations and Acronyms

°	degree
§	Section
2-D (2D)	two-dimensional
3-D (3D)	three-dimensional
2021 National Assessment	*2021 Assessment of Undiscovered Oil and Gas Resources of the Nation's Outer Continental Shelf*
2019–2024 Program	2019–2024 National OCS Oil and Gas Leasing Program
2024–2029 Program	2024–2029 National OCS Oil and Gas Leasing Program
AEO	Annual Energy Outlook
Agreement	*Agreement between the United States of America and the United Mexican States Concerning Transboundary Hydrocarbon Reservoirs in the Gulf of Mexico*
ANCSA	Alaska Native Claims Settlement Act
API	American Petroleum Institute
Area ID	Area Identification
Areawide Leasing Study	*Policies to Affect the Pace of Leasing and Revenues in the Gulf of Mexico*
BBO	billion barrels of oil
BBOE	billion barrels of oil equivalent
BLM	Bureau of Land Management
BOE	barrel of oil equivalent
BOEM	Bureau of Ocean Energy Management
bpd	barrels per day
BSEE	Bureau of Safety and Environmental Enforcement
BTU	British thermal unit
Call	Call for Information and Nominations
CBD	Center for Biological Diversity et. al. v. Department of the Interior
CER	categorical exclusion review
CFR	Code of Federal Regulations
CH_4	methane
CMP	Comprehensive Master Plan
CO_2	carbon dioxide
COVID-19	2019 novel coronavirus
CSE	*Center for Sustainable Economy v. Jewell*, 779 F.3d 588 (D.C. Cir. 2015)
CZM	Coastal Zone Management
D.C.	District of Columbia

Decommissioning PEIS	*Draft Programmatic Environmental Impact Statement for Oil and Gas Decommissioning Activities on Pacific Outer Continental Shelf*
DNA	Determination of NEPA Adequacy
DOD	Department of Defense
DPP	Draft Proposed Program
Draft Proposal	Initial decision on the proposed schedule of lease sales based on the DPP analysis
E&D	exploration and development
E.O.	Executive Order
EA	environmental assessment
EAM	Economic Analysis Methodology
Economic Inventory Report	*Economic Inventory of Environmental and Social Resources Potentially Impacted by a Catastrophic Discharge Event within OCS Regions*
EEZ	Exclusive Economic Zone
EIA	Energy Information Administration
EIS	environmental impact statement
EJ	environmental justice
ESA	Endangered Species Act of 1973
ESC	environmental and social costs
ESI	environmental sensitivity index
ESP	Environmental Studies Program
ESPIS	Environmental Studies Program Information System
FEMA	Federal Emergency Management Agency
Final Proposal	Final decision on the proposed lease sale schedule based on the PFP analysis
FMV	fair market value
FONSI	finding of no significant impact
FY	fiscal year
G&G	geological and geophysical
GAO	Government Accountability Office
GAOA	Great American Outdoors Act
GDP	gross domestic product
GHG	greenhouse gas
GOM	Gulf of Mexico
GOMESA	Gulf of Mexico Energy Security Act of 2006
GRASP	Geologic Resource Assessment Program
H_2	hydrogen
HPF	Historic Preservation Fund

IPCC	Intergovernmental Panel on Climate Change
IPF	impact-producing factor
IRA	Inflation Reduction Act
IWG	Interagency Working Group
kg	kilograms
km^2	square kilometers
LME	Large Marine Ecosystem
LNG	liquified natural gas
LWCF	Land and Water Conservation Fund
MarketSim	Market Simulation Model
MC	Mississippi Canyon
mcf	thousand cubic feet
MMP	Marine Minerals Program
MWA	military warning area
N_2O	nitrous oxide
National OCS Program	National OCS Oil and Gas Leasing Program
NASA	National Aeronautics and Space Administration
NASCA	North American Submarine Cable Association
NEPA	National Environmental Policy Act of 1969
NEV	net economic value
nm	nautical miles
NMFS	National Marine Fisheries Service
NMS	National Marine Sanctuary
NNL	no new leasing
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOS	Notice of Sale
NPP	net primary productivity
NPS	National Park Service
NRDC	Natural Resources Defense Council
NSV	net social value
OCS	Outer Continental Shelf
OECM	Offshore Environmental Cost Model
OPAREA	Operational Area
P.L.	Public Law
PADD	Petroleum Administration for Defense District
Programmatic EIS	Programmatic Environmental Impact Statement
PFP	Proposed Final Program
RFI	Request for Information and Comments
ROD	Record of Decision

Second Proposal	Second decision on the proposed schedule of lease sales based on the Proposed Program analysis
Secretary	Secretary of the Interior
Tcf	trillion cubic feet
t C km^{-2} yr^{-1}	metric tons of carbon per square kilometer per year
UERR	undiscovered economically recoverable resources
UNCLOS	United Nations Convention on the Law of the Sea
U.S.	United States
U.S.C.	United States Code
USCG	United States Coast Guard
USDOI	United States Department of the Interior
USFWS	United States Fish and Wildlife Service
UTRR	undiscovered technically recoverable resources
VGPM	Vertically Generalized Production Model
Watt I	*California v. Watt*, 688 F.2d 1290 (D.C. Cir. 1981)
Watt II	*California v. Watt*, 712 F.2d 584 (D.C. Cir. 1983)
WEA	wind energy area
WEB3	When Exploration Begins model, version 3



Chapter 1

OCS Oil and Gas Leasing Program Development Process

Chapter 1 OCS Oil & Gas Leasing Program Development Process

1.1 Introduction

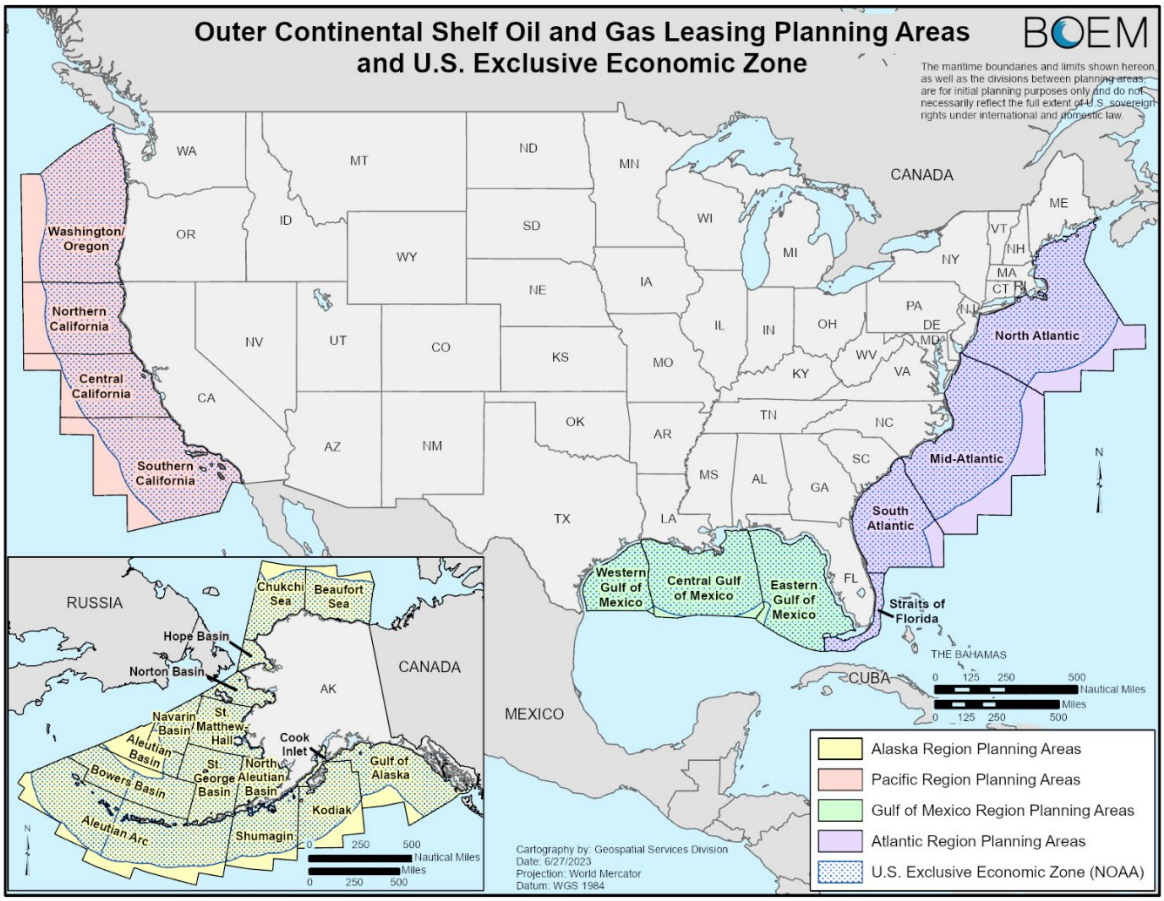
Section 18 of the Outer Continental Shelf (OCS) Lands Act (43 U.S.C. § 1344) requires the Secretary of the Interior (Secretary) to prepare and maintain a schedule of proposed OCS oil and gas lease sales, referred to as the National OCS Oil and Gas Leasing Program (National OCS Program), that "best meet national energy needs for the five-year period following its approval or reapproval." The proposed National OCS Program must be prepared and maintained in a manner consistent with the procedures and criteria specified in Section 18 of the OCS Lands Act. Those criteria, and the way in which they have been considered in preparing this 2024–2029 Proposed Final Program (PFP) (also referred to as the 2024–2029 Program), are summarized in Chapter 2.

The OCS is defined in the OCS Lands Act (43 U.S.C. §1331) and consists of all submerged lands, subsoil, and seabed lying seaward and outside of the lands beneath navigable waters. In most cases, the OCS extends from 3 nautical miles (nm) from the coastline to the seaward extent of the jurisdiction of the United States (U.S.), which is at least 200 nm, and beyond in some cases, from the coastline (see Figure 1-1).[2]

Section 18 of the OCS Lands Act requires that the proposed schedule of lease sales be based upon a comparative analysis of the oil and gas-bearing regions of the OCS. For administrative and planning purposes, the Bureau of Ocean Energy Management (BOEM) has established four OCS Regions composed of 26 planning areas. The four OCS Regions are Alaska, Pacific, Gulf of Mexico (GOM), and Atlantic. Administratively, the Pacific Region includes the State of Hawaii, but for the purpose of developing this National OCS Program, the Pacific Region is only composed of the four planning areas off the U.S. West Coast.

[2] State jurisdictions for Texas and Florida's Gulf Coast extend 9 nm from the coastal baseline. Louisiana's jurisdiction extends to 3 imperial miles, reflecting boundaries at the time these states joined the U.S. In 1983, President Reagan proclaimed the sovereign rights and jurisdiction of the U.S. over submerged lands and seas adjacent to the U.S. within the Exclusive Economic Zone (EEZ), as it was understood to be under international law. The United Nations Convention on the Law of the Sea (UNCLOS) subsequently addressed the continental shelf in Article 76, providing that it extends to at least 200 nm and beyond in some cases. The U.S. is not a party to UNCLOS but recognizes the rules in Article 76 as customary international law, which the U.S. follows.

Figure 1-1: OCS Oil and Gas Leasing Planning Areas and U.S. Exclusive Economic Zone



1.2 National Energy Needs

Meeting national energy needs is a stated purpose of the OCS Lands Act Amendments of 1978 (Public Law [P.L.] 95-372). The 1978 Amendments added Section 18 of the OCS Lands Act, requiring the Secretary to formulate a National OCS Program to "best meet national energy needs for the five-year period following its approval or reapproval" (Section 18(a), 43 U.S.C § 1344(a)).[3] Since passage of the OCS Lands Act Amendments, the U.S. energy outlook has changed, prices have dramatically varied, and technology has advanced.

[3] Section 18 also requires the Secretary to consider "the location of such regions [oil- and gas-bearing physiographic regions] with respect to, and the relative needs of, regional and national energy markets" (Section 18(a)(2)(c), 43 U.S.C. §1344(a)(2)(c)). Chapter 6 contains the energy markets analysis conducted to help the Secretary meet that requirement.

The Biden-Harris Administration outlined several goals for a clean energy economy and set national emissions targets. A key priority of the Biden-Harris Administration is to achieve carbon-free electricity by 2035 and net-zero emissions for the U.S. economy by 2050. The Administration also set a target to achieve a 50–52% reduction from 2005 levels in economy-wide net greenhouse gas (GHG) pollution by 2030.

In making decisions on the National OCS Program, the Secretary considers how future OCS crude oil and natural gas leasing factors into national energy needs and energy-related goals. This section considers the broad interpretation of domestic energy needs recognized in the language of the OCS Lands Act and applicable case law, such as *Center for Sustainable Economy v. Jewell*, 779 F.3d 588, 607 (D.C. Cir. 2015) (*CSE*). As such, BOEM's assessment of the Nation's energy needs for purposes of Section 18 extends beyond "meeting current demand for domestic consumption." This section considers energy needs under both the current national energy landscape and the possibility of an energy market that is significantly transformed by transitioning to a clean energy economy.

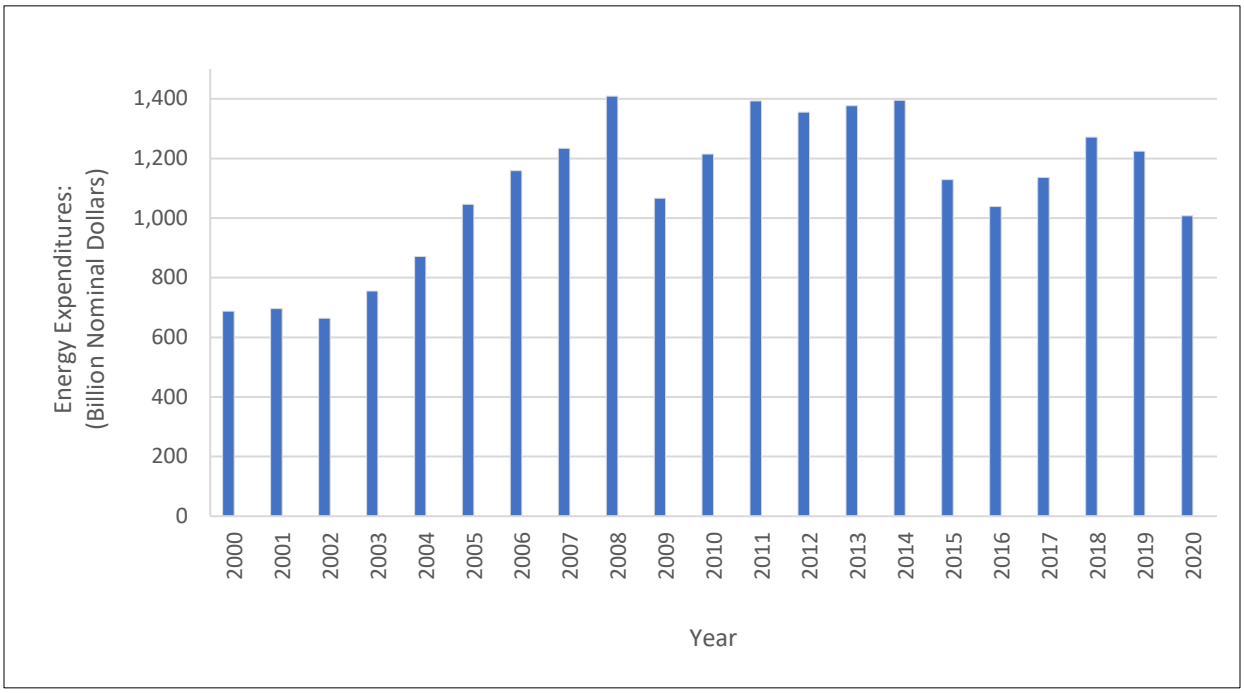
1.2.1 Crude Oil and Natural Gas: Contribution to and Consumption within the U.S. Economy

Americans have spent more than $1 trillion a year on energy since 2005 (EIA 2023g) as illustrated in Figure 1-2. In 2020, approximately 63% of those expenditures was attributable to natural gas and petroleum expenditures (EIA 2021g). Although the United States consumes more than just crude oil and natural gas to fulfill its energy demand, these fuels contribute to powering the U.S. economy and are expected to continue to do so in the future—as can be seen through the lens of the Energy Information Agency's (EIA) 2023 Annual Energy Outlook (AEO) reference case.

This section considers projections based on the EIA's 2023 AEO reference case,[4] where projections rest solely on laws and regulations that are currently in place and actively enforced. Using policy-neutral projections allows decisionmakers to assess the potential impact of a specific decision against the policy baseline, which incorporates currently enforced policy, technological and legal conditions, trends, and constraints into the future. Importantly, the EIA modeled numerous provisions of the Inflation Reduction Act (IRA) into the 2023 AEO, including, (1) the extension and modification of clean energy tax credits, (2) tax credits for zero-emission vehicles, (3) new production tax credit for existing nuclear power plants, and (4) a separate clean fuel production tax credit (EIA 2023f). However, given its complexity and uncertainty over select implementation details, not every IRA provision could be modeled in the 2023 AEO release.[5]

[4] The definition for the reference case can be found in the 2023 AEO narrative at the website.
[5] Specific information regarding the IRA provisions modeled in the EIA's 2023 AEO can be found in Table 1 of the EIA's 2023 AEO Appendix.

Figure 1-2: U.S. Energy Expenditures

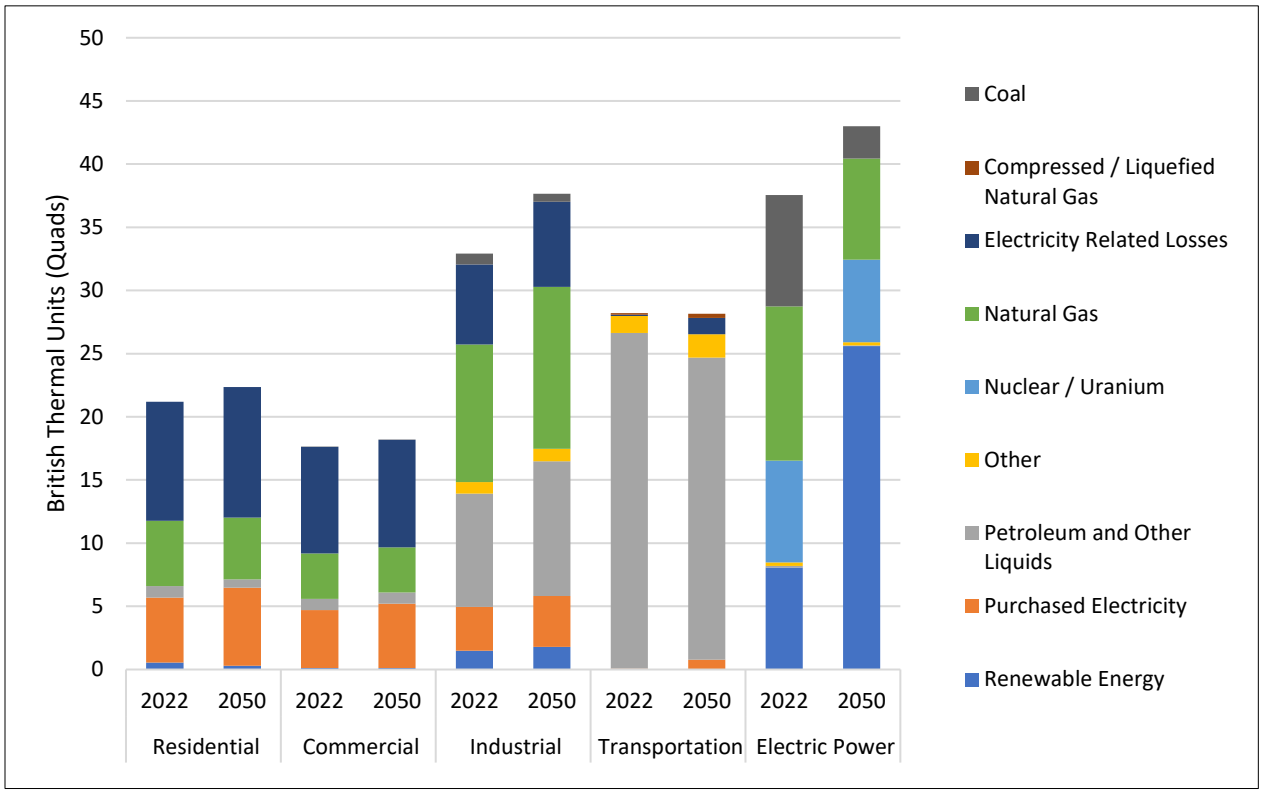


Source: EIA (2023g)

While AEO projections for 2050 are meant to capture "ranges and trends" and "robust insights rather than precise numbers" (EIA 2023c), the projections could change depending on various factors, including alternative energy market pathways adopted for addressing climate change. In addition to the reference case, the 2023 AEO models 12 side cases that cover different assumptions. These assumptions include high and low ranges for: crude oil and natural gas supply, crude oil price, economic growth, zero-carbon technology cost, and a few combination cases. One goal of side-case comparisons to the reference case is to demonstrate a "cone of uncertainty" within the forecasts (EIA 2023c). This analysis focuses on the reference case but includes some insights from the side cases.

Figure 1-3 shows energy consumption by sector and source in the U.S. for 2022 and the 2023 AEO's forecast of energy consumption by sector and source in 2050 from the reference case. Of note is the predominance of petroleum and other liquids in the transportation sector. Recent changes in energy markets have affected consumption of different fuels, but petroleum remains the dominant fuel for transportation. While advancements in electric vehicle technology, alternative fuels, and fuel efficiency improvements will likely reduce petroleum's share of transportation energy demand, petroleum is still needed to meet a large majority of future total transportation energy demand under AEO's baseline scenario.

Figure 1-3: Energy Consumption by Sector & Source, 2022 and 2050



Note: The "other" category represents biofuels heat and co-products for the industrial sector; hydrogen, natural gas used to liquefy gas for export, and pipeline and distribution fuel natural gas for the transportation sector; and electricity imports and non-biogenic municipal waste for the electric power sector.
Source: EIA (2023d)

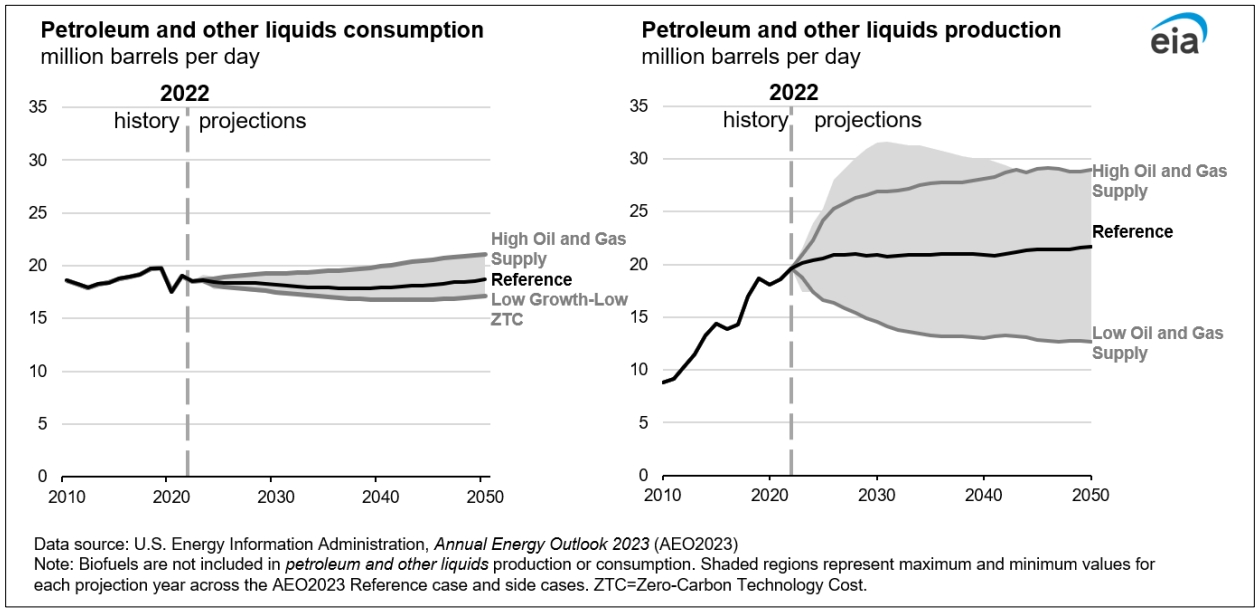
In 2022, petroleum and other liquids accounted for approximately 95% of transportation fuel. The 2050 AEO reference case projection shows that petroleum and other liquids will power 90% of the transportation energy market with the overall domestic consumption of petroleum and other liquids falling 3.6% between 2022 and 2050. The predominance of petroleum and other liquids for transportation is consistent across all the AEO side cases as well.

Despite the decline in petroleum and other liquids in the transportation sector, the increase in the use of petroleum and other liquids in the industrial sector nearly offsets the transportation sector reductions in AEO's reference case in 2050.

Shifts in fuel consumption sources are most apparent in the electricity sector, where increases in renewables offset declines in coal and natural gas. Domestically, the share of electricity generation from renewable sources is projected to more than double from 21.5% in 2022 to 59.5% in 2050. The 2023 AEO reference case also projects an increase in electricity demand through 2050 of roughly 15% (EIA 2023c).

As described, the AEO highlights the projections' uncertainty and the various assumptions that could impact the results. Figure 1-4 shows EIA's forecasted uncertainty cone around future petroleum and other liquids consumption and production. For demand, assumptions including low economic growth and low costs of zero-cost carbon technologies result in the largest decline in petroleum and other liquids use through 2050.

Figure 1-4: Petroleum and Other Liquids—Consumption and Production



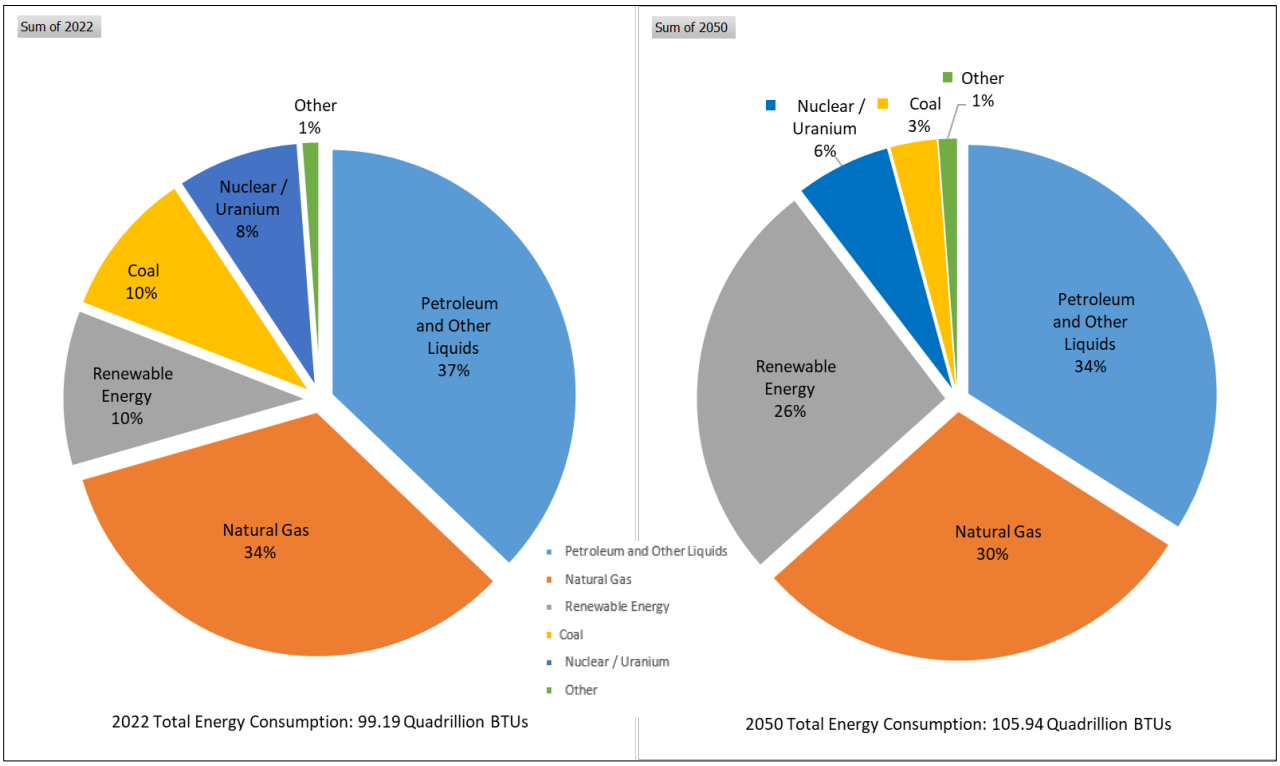
Source: EIA (2023c). Reprinted with permission.

Figure 1-5 shows EIA's projections of total energy consumption by source between 2022 and 2050. Although the petroleum and natural gas share of overall energy consumption shrinks from 2022 to 2050, both still represent a substantial share of consumption. The renewable energy share of energy consumption greatly increases by 2050, while the shares of nuclear and coal significantly shrink. Section 6.2.1 provides more information on crude oil and natural gas consumption.

As a result of the energy consumption and energy mix changes, the 2023 AEO projects lower carbon dioxide (CO_2) emissions by 2050 in its reference case (see Figure 1-6). The increase in renewable energy technologies, increased electrification, and more efficient equipment leads to emissions reductions; however, this reduction is offset by the EIA's forecast of longer-term growth in transportation and industrial activity (EIA 2023b).

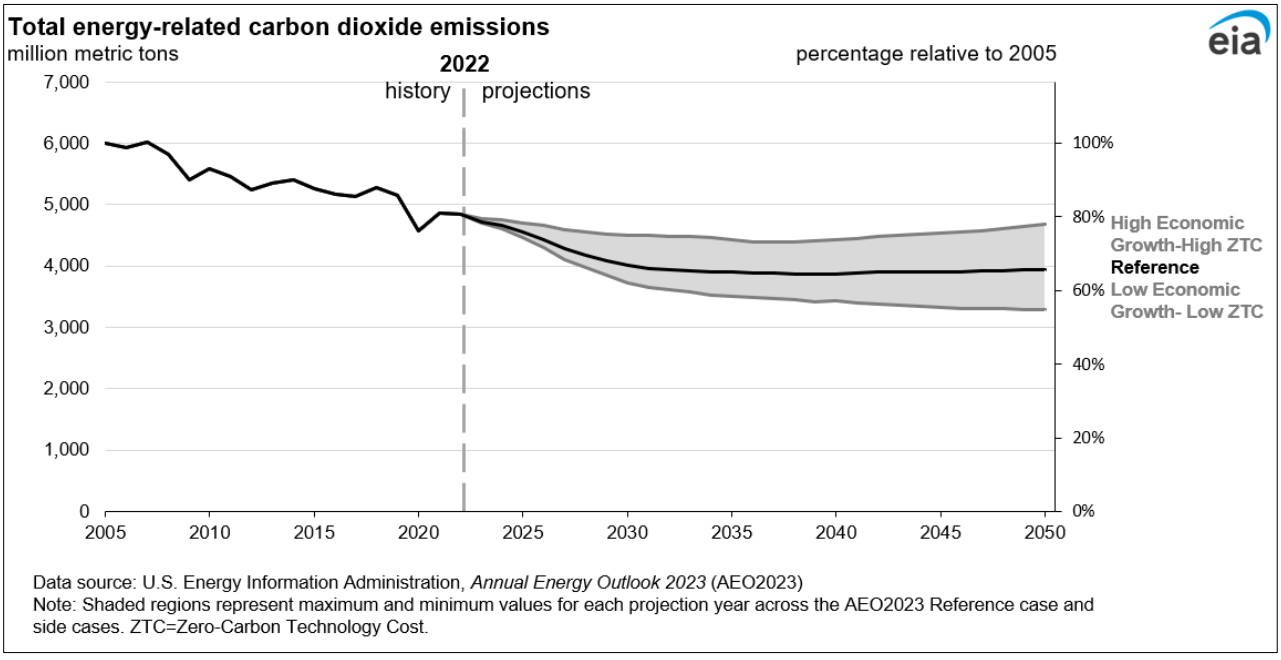
For the various side cases, the AEO projects that energy-related CO_2 emissions could range from 25% to 38% below 2005 levels by 2030. The AEO shows that long-term assumptions for economic growth and the cost of zero-carbon generation technology are the most significant drivers in emissions reductions.

Figure 1-5: Energy Consumption by Source, 2022 and 2050



Note: The "other" category includes biofuels, hydrogen, non-biogenic municipal waste, and electricity imports. BTU represents British thermal unit.
Source: EIA (2023d)

Figure 1-6: Total Energy-Related Carbon Dioxide Emissions



Source: EIA (2023c). Reprinted with permission.

1.2.2 Energy Policy Considerations for Net-Zero Pathways

EIA's 2023 AEO data indicate that, absent major policy changes, energy consumption will increase slightly from today, with substantial crude oil and natural gas consumption continuing through 2050. However, the AEO also notes that policies can and often do change, which would result in different future energy patterns. In viewing policy change within a net-zero framework, the Final Economic Analysis Methodology (FAM) paper (BOEM 2023b) provides additional information on net-zero pathways including Princeton University's Net-Zero America study (Larson et al. 2021).

While there are many factors that play a role in addressing climate impacts and numerous pathways to meet net-zero emissions goals, the Princeton study outlines five domestic pathways that share multiple features but differ in several important respects. The key differences are the assumptions made about the degree of electrification, supply constraints for various energy sources, and use of carbon sequestration.

One example of the differences is the role for nuclear power under some, but not all, of the Princeton pathways. However, the most critical common feature shared by the Princeton study's five pathways is the varying role and importance of clean electricity. Other common features between the pathways include the following:

- Coal use is essentially eliminated by 2030 in all pathways with no new capacity added.
- Biomass[6] expands rapidly after 2030 and is widely used by 2050.
- Electricity and hydrogen (H_2) use increase across all pathways,[7] with H_2 from biomass[8] being a key and relatively low-carbon fuel using carbon capture technology.
- The deployment of agricultural and/or forestry land sink enhancement measures.[9]

All net-zero pathways face challenges in achieving domestic net-zero emissions by 2050. Of particular importance, and independent of any National OCS Program decision, is the immediate need to mobilize capital and ensure political and public commitment to effectively (1) deploy mature technologies quickly, (2) build key infrastructure, and (3) improve and establish less mature technologies. For example, three of the five Princeton pathways require an aggressive conversion to electric vehicles by 2050. This contrasts with EIA's reference case, where the U.S. only has 15% of light duty transportation electrified by 2050.

[6] As defined by the EIA, biomass is "organic non-fossil material of biological origin constituting a renewable energy source."
[7] H_2 under these pathways can be made by reforming natural gas (without or with CO_2 capture), gasifying biomass (with CO_2 capture), or electrolyzing water. Each pathway takes a different approach or combination of approaches.
[8] Biomass plays a particularly critical role because it removes CO_2 from the atmosphere as it grows and can be converted to H_2 while capturing and permanently sequestering its carbon.
[9] "Land sinks" are areas where carbon is removed from the air and permanently stored in soil or trees to offset positive GHG emissions from elsewhere in the economy. This helps to reduce the cost of emissions reductions.

1.2.3 Other Components of National Energy Needs

The OCS Lands Act mandates that the Secretary determine how to best meet "national energy needs." Additionally, the court elaborated in the *CSE* decision that such a determination can look beyond those considerations that "meet current demand for domestic consumption" *CSE*, 779 F.3d at 607. Specifically, the Secretary may, when proposing and finalizing the National OCS Program, account for the fact that there are both direct and indirect benefits to issuing leases during the next National OCS Program, which could affect national energy needs. The direct benefits of OCS leasing include ensuring an adequate energy supply and the corresponding effects on crude oil, refined products, and natural gas prices.

Another associated benefit of the National OCS Program is the continued ability for BOEM to issue offshore wind leases. In addition, Section 50265(b)(2) of the IRA requires BOEM to offer at least 60 million OCS acres for oil and gas leasing within the 12 months prior to issuing an offshore wind lease. This requirement is effective until August 16, 2032.

Offshore wind leases will help meet the clean energy needs of the Nation. Additional indirect benefits, which are discussed in further detail below, include improved balance of payments, energy security, technology advancement, the comparatively low GHG-intensity of OCS production compared to onshore and most foreign production, domestic employment, and the additional public revenues generated by leasing.

1.2.3.1 Balance of Payments and Trade

The country's transition away from being a net importer of energy continues to improve the balance of trade and provide positive contributions to gross domestic product (GDP). In contrast to the $945.3 billion trade deficit (BEA 2022) for all U.S. goods and services in 2022, petroleum consisting of crude oil, refined petroleum products, and natural gas liquids, had a trade surplus of $14.1 billion (BEA 2023). That surplus represents a dramatic shift in the energy trade balance for petroleum products, which showed a deficit of approximately $189 billion in 2014, one year before the crude oil export ban was lifted (USCB 2021).

A positive trade balance in crude oil, refined petroleum products, and liquified natural gas (LNG) also contributes to increased GDP because the value of exports counts toward domestic product while the value of imports is excluded from GDP. As a significant source of crude petroleum (and to a lesser extent natural gas), OCS production contributes to this positive balance of trade in crude oil, refined petroleum products, and LNG. Long-term projections by the EIA following current laws and policies show the U.S. as a net energy exporter through 2050 (EIA 2023g).

1.2.3.2 Energy Security

Domestic energy production, including OCS production, has the potential to enhance U.S. national security by reducing U.S. dependence on imported crude oil. Maximizing domestic crude oil and natural gas production can contribute to both U.S. and worldwide energy security by providing adequate supply that can help limit the impact of foreign supply shocks and reduce future price volatility (Krauss 2018).

Crude oil and LNG are global commodities sold in a competitive world market; a reduction in supply (or an increase in demand) in one part of the world causes shifts in global prices. The continuing possibility of high and volatile prices raises important energy policy issues about supply options and their economic as well as environmental effects. As the U.S. progresses in transitioning to a new energy economy to meet climate goals, it will rely less on crude oil and natural gas and be less susceptible to global crude oil and natural gas supply shocks. However, during the transition to new energy sources, the U.S. will continue to rely on crude oil and natural gas supply to ensure continued energy security.

1.2.3.3 Technology

New technologies employed by the crude oil and natural gas industry are, in large part, responsible for making the U.S. the world's top producer of crude oil and natural gas. Many of these technological advances include offshore technology developed in the GOM that have greatly expanded offshore resources accessible for production, especially in deeper water depths. In addition, the OCS crude oil and natural gas industry has reduced deepwater (200 meters or greater) project costs through greater equipment standardization.

Higher quality geological and geophysical (G&G) data—achieved through state-of-the-art acquisition methods and processing—has aided in the identification of prospects and effective well placement, which improves the probability for commercial discoveries. Consequently, companies are able to drill fewer wells per discovery in the best prospects (Raval 2018). Advanced composite materials and materials engineering have improved OCS structures and moorings to better withstand the operating environment. These and other technologies developed for crude oil and natural gas operations have contributed (and continue to contribute) to U.S. leadership in the crude oil and natural gas industries, while supporting U.S. economic growth and helping to meet domestic and global energy needs.

1.2.3.4 Low GHG Intensity of OCS Production

Technological advancements and a strong regulatory framework have contributed to reducing the carbon profile of the OCS. Based on current research, data suggest that deepwater GOM production has among the lowest carbon intensities of crude oil projects. The deepwater GOM's low GHG intensity is due to several factors including restrictions on venting and flaring of OCS

natural gas, the medium American Petroleum Institute (API) gravity crude oil that is prevalent in the area, and the efficiencies available with larger development facilities.

Using independent data sources and building upon BOEM's *Year 2017 Emissions Inventory Study* (BOEM 2019), BOEM incorporated additional independent data sources to compare upstream GHG intensities of OCS crude oil and natural gas production with the production of non-OCS crude oil and natural gas. The available data suggests that deepwater GOM production has low GHG-intensity profiles relative to oil produced elsewhere (Cooney et al. 2016). The data sources also indicate that heavy crude oil production (such as in Canada or Venezuela) has the highest GHG intensity by far, followed by conventional onshore crude oil production.

A subsequent estimate of GHG intensities for worldwide crude oil and natural gas production was prepared by Rystad Energy, an energy research company. A comparative analysis of BOEM's *Year 2017 Emissions Inventory Study* and Rystad Energy's data found that, in 2017, 83% of GOM deepwater production was below Rystad Energy's estimated total U.S. average upstream GHG intensity of 12 kilograms per barrel of oil equivalent (kg/BOE). Additionally, 94% of GOM deepwater production was less than Rystad Energy's estimated global average upstream GHG intensity of 18 kg/BOE (Rystad Energy 2020). BOEM analysis calculated that the GHG intensity for crude oil produced in the deepwater GOM, where BOEM expects almost all future OCS production to occur, was approximately 11.5 kg/BOE in 2017. In addition, production from the GOM was estimated to have the lowest GHG intensity within the domestic crude oil consumption mix (Cooney et al. 2016).

In general, the highest GHG-intensity projects are those that produce heavy crude oil, flare or vent substantial amounts of natural gas, are late in their production lifecycle, or use inefficient technologies. Crude oil projects tend to have higher GHG intensities than natural gas projects, although this seems to be primarily driven by the extent of natural gas flaring and venting (Masnadi et al. 2018).

1.2.3.5 Employment and Public Revenues

The domestic energy industry is an important component of the U.S. economy through its contribution to GDP, employment, and public revenues. Production of domestic crude oil provides employment at higher-than-average wages to industry employees, but also supports domestic jobs in other industries that supply goods and services for exploration, development, production, and domestic transportation of crude oil and natural gas.

While the crude oil, natural gas, and supporting services industries create higher-paying jobs, the amount of those jobs supported annually has declined since reaching a recent high in 2014.[10] This decline is due in part to lower crude oil and natural gas prices and industry adaptations to cut

[10] This is evidenced in employment trends reported by the Bureau of Labor Statistics' Series IDs: CEU1021100001, for All Employees, Oil and Gas Extraction, and CEU1021311201, Support Activities for Oil and Gas Activities.

costs and streamline activities. The impact of the OCS crude oil and natural gas industry on GDP and employment is discussed in Chapter 9 in the context of the geographical distribution of developmental benefits and environmental risk, which also describes the revenues available to the local, state, and Federal governments. In general, OCS leasing and production provide the following public revenues:

- funds to the U.S. Treasury
- funding for the Historic Preservation Fund
- funding for the Land and Water Conservation Fund (LWCF)
- OCS Lands Act Section 8(g) and Gulf of Mexico Energy Security Act (GOMESA) revenue sharing payments to states[11]
- Great American Outdoors Act (GAOA) funding up to $1.3 billion per year from Fiscal Year (FY) 2021 through FY 2025

1.2.4 OCS Role in Meeting National Energy Needs

Although leasing decisions made in this National OCS Program are not guaranteed to result in new production for several years, the development and production would eventually contribute to meeting national energy needs. This increased national energy supply would also provide other national benefits in terms of the balance of payments and trade, energy security, technology advancement, lower carbon-intensity crude oil and natural gas production, public revenues, and employment. Absent future lease sales, OCS production is expected to continue to occur from existing leases. Section 5.2.8 discusses the potential for crude oil and natural gas development from existing leases. Without future lease sales or additional opportunities for project expansions, tie-back fields, or new developments, OCS production would ultimately decline.

BOEM's responsibility to develop a National OCS Program requires consideration of the size, timing, and location of lease sales over a 5-year period, with the understanding that leasing could have impacts for decades. While activities associated with new leases will generate years of economic opportunities, crude oil and natural gas production from new leases will likely not commence until approximately 5 years (for shallow water production) to 10 years (for deep water production) following a lease award.

The Secretary may also re-evaluate national energy needs when deciding whether to hold any individual lease sales included in the approved National OCS Program. These additional decision

[11] Section 8(g) of the OCS Lands Act provides for the Federal government to share with any coastal state adjacent to OCS oil and gas activity 27% of revenues earned from OCS leases within 3 nm seaward of the state's submerged lands boundary. The shared revenues are referred to as "8(g) revenues." In 2006, Congress passed the GOMESA, which mandates that the states of Texas, Louisiana, Mississippi, and Alabama receive a portion of revenues from new oil and natural gas development in Federal waters adjacent to these states.

points allow the Secretary to consider new information about U.S. energy needs, progress toward net-zero emissions, or other factors when choosing whether to hold individual lease sales.

1.3 Oil and Gas Leasing, Exploration, Development, and Production Process on the OCS

BOEM has oversight responsibility for OCS oil and gas leasing and development (see Figure 1-7), starting with the development of the National OCS Program. Section 18 requires the Secretary to prepare an oil and gas leasing program that consists of a 5-year schedule of proposed lease sales that the Secretary determines best meets national energy needs (see Section 1.3.1).

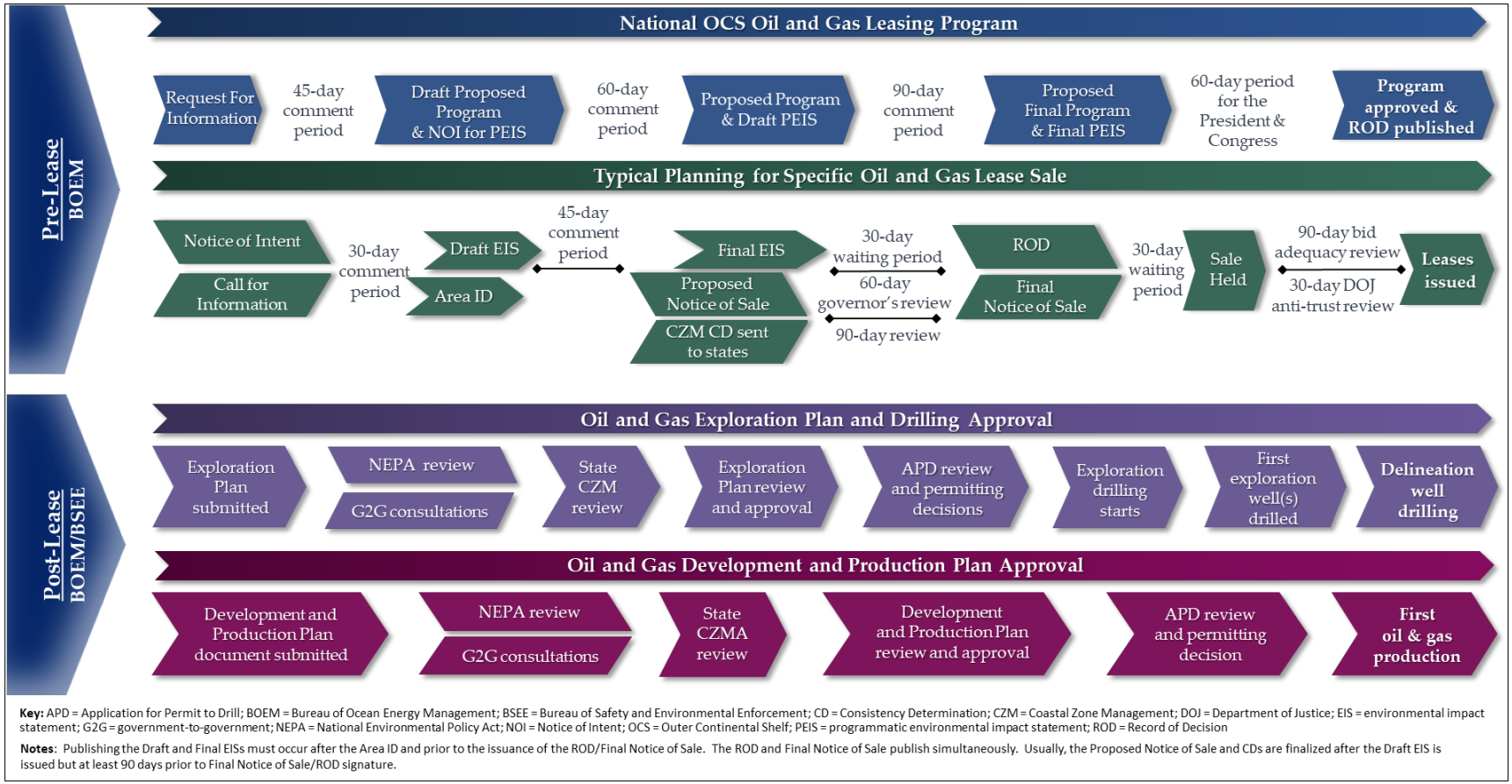
For any specific lease sale to be held, it must be included in an approved National OCS Program. A lease sale cannot be added later to an existing National OCS Program without an act of Congress. Whether a lease sale is held depends on sale-specific analysis (see Section 1.3.2). Following a lease sale, BOEM performs a review and either accepts or rejects bids within 90 days.

Once granted, an oil and gas lease conveys the exclusive right to explore, develop, and produce oil and/or gas for a specific initial period (for a minimum of 5 and maximum of 10 years) from a specific OCS block. All exploration, development, and production plans are carefully reviewed by BOEM (see Section 1.3.3). Following plan approval, the Bureau of Safety and Environmental Enforcement (BSEE) exercises primary oversight of specific permitting and operational activities (e.g., drilling and production) on OCS leases.

1.3.1 National OCS Program Development Process

Multiple Section 18 steps are required to prepare a new National OCS Program. The National OCS Program development process begins with the publication of the Request for Information (RFI) followed by three analytical stages: (1) the Draft Proposal, resulting from the analysis of all 26 OCS planning areas and published as part of the Draft Proposed Program (DPP); (2) the Second Proposal, resulting from the analysis of the Draft Proposal and published as part of the Proposed Program; and (3) the Final Proposal resulting from the analysis of the Second Proposal and published as part of this PFP. Approval of a new National OCS Program may occur no earlier than 60 days after publication of the PFP. Figure 1-7 shows the analytical flow process. This PFP includes the Final Proposal and the third of three analyses resulting in a proposed schedule of lease sales for the 2024–2029 timeframe.

Figure 1-7: National OCS Oil & Gas Leasing Program and Development Process

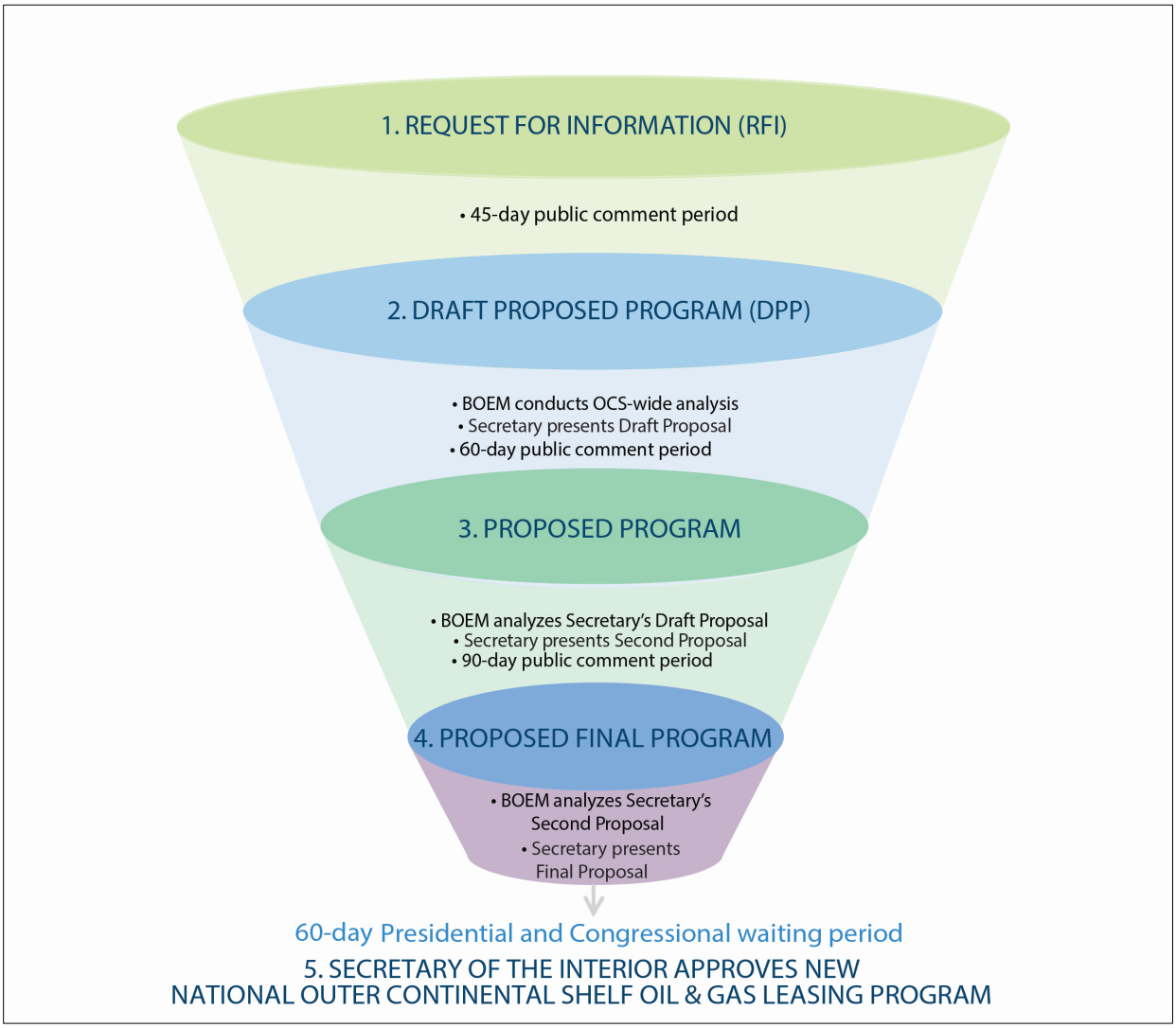


Key: APD = Application for Permit to Drill; BOEM = Bureau of Ocean Energy Management; BSEE = Bureau of Safety and Environmental Enforcement; CD = Consistency Determination; CZM = Coastal Zone Management; DOJ = Department of Justice; EIS = environmental impact statement; G2G = government-to-government; NEPA = National Environmental Policy Act; NOI = Notice of Intent; OCS = Outer Continental Shelf; PEIS = programmatic environmental impact statement; ROD = Record of Decision

Notes: Publishing the Draft and Final EISs must occur after the Area ID and prior to the issuance of the ROD/Final Notice of Sale. The ROD and Final Notice of Sale publish simultaneously. Usually, the Proposed Notice of Sale and CDs are finalized after the Draft EIS is issued but at least 90 days prior to Final Notice of Sale/ROD signature.

As shown in Figure 1-8, the National OCS Program development process starts with the broadest RFI and consideration of all 26 OCS planning areas and can be narrowed throughout the National OCS Program development and associated lease sale processes. Once a defined area is included during the National OCS Program development process, it becomes known as a program area. Program areas are therefore the portions of the original OCS planning areas that remain under leasing consideration during the National OCS Program development process. For example, the Cook Inlet Program Area in the 2017–2022 Proposed Program included only the northern portion of the larger Cook Inlet Planning Area that was originally considered for leasing in the 2017–2022 DPP. The initial Draft Proposal in this instance included 25 of 26 planning areas across all OCS Regions, which have since been narrowed to all or portions of four planning areas (three in the GOM and one offshore Alaska).

Figure 1-8: National OCS Oil & Gas Leasing Program Analytical Flow Process



Section 18(a)(2) of the OCS Lands Act lists eight factors that the Secretary must consider when determining the size, timing, and location of oil and gas leases among the different OCS areas (see Chapter 2). The analysis contained in the DPP examined and compared all 26 OCS planning areas regarding the Section 18(a)(2) factors for consideration, as well as the balancing mandated by Section 18(a)(3). The National OCS Program development process is typically a winnowing process, and only those program areas and Subarea Options that the Secretary decides are appropriate to carry forward for further analysis are included in the next analytical document. The Second Proposal narrowed the scope of this National OCS Program to the area of the GOM not under withdrawal (i.e., the Western GOM Planning Area, most of the Central GOM Planning Area, and a small portion of the Eastern GOM Planning Area); and to the northern portion of the Cook Inlet Planning Area.

BOEM has decided to prepare a Programmatic EIS in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321 *et seq.*) and its implementing regulations as a vehicle for conducting and disclosing the environmental analyses for the National OCS Program. BOEM's decision to prepare the Programmatic EIS is discretionary because the U.S. Court of Appeals for the District of Columbia has ruled that the approval of a National OCS Program does not constitute an irreversible and irretrievable commitment of resources, and that, in the context of BOEM's multiple stage leasing program, the obligation to fully comply with NEPA does not mature until the lease sale stage (*Center for Biological Diversity v. Department of the Interior*, 563 F.3d 466 (D.C. Cir. 2009); *Center for Sustainable Economy v. Jewell*, 779 F.3d 588 (D.C. Cir. 2015)). Figure 1-7 shows the key steps in preparing a new National OCS Program under Section 18 of the OCS Lands Act and the Programmatic EIS under Section 102(2)(C) of NEPA.

The program areas included in the Secretary's Second Proposal are further analyzed in this PFP document and in the *2024–2029 National OCS Oil and Gas Leasing Program Final Programmatic Environmental Impact Statement* (BOEM 2023a). Chapter 3 provides additional detail on what is included in the PFP analyses. The NEPA analysis includes an evaluation of the potential environmental and related socioeconomic impacts associated with the proposed lease sale schedule, and how those impacts could vary depending on the areas or regions that are included in the National OCS Program. The NEPA process is introduced in the discussion of Factor (H), relevant environmental and predictive information for different areas of the OCS, in Section 2.3; a more detailed description is also contained in the Programmatic EIS.

The Programmatic EIS identifies sensitive subareas that could warrant exclusion from this National OCS Program due to potential environmental impacts from oil and gas lease exploration and development. The Programmatic EIS addresses the effects of lease sales under the new National OCS Program, which includes those lease sale effects that could be experienced beyond BOEM program area boundaries, such as potential impacts on migratory animals.

The Programmatic EIS considers potential geographic exclusions and restrictions on lessee activities for this National OCS Program. The final decision on the National OCS Program can adopt any analyzed exclusions within program areas otherwise included that are sufficiently identifiable at the Programmatic stage. In addition, the Secretary may determine not to offer sensitive subareas at subsequent stages, such as at the lease sale stage.

Table 1-1 shows the NEPA documentation associated with the various stages of National OCS Program and lease sale development.

Table 1-1: Typical NEPA Assessments for the National OCS Oil & Gas Leasing Program

Program Level	Program Stage	NEPA Documentation	Geographic Scope	Focus and Scope
Planning	National OCS Program	Programmatic EIS (NEPA is discretionary at this stage)	National	Inform choice of program areas and number of sales for the schedule of lease sales in the National OCS Program. Consider National OCS Program-level environmental impacts and identify mitigation measures.
Lease Sale	Lease Sale	NEPA Review (EIS, EA, or DNA)	Program Area	Assess potential environmental impacts and mitigation measures (EIS or EA) to inform choice of parcels to be offered, or determine that these are adequately covered in a previously prepared NEPA document (DNA)
Project	Exploration	DNA, CER, EA, or EIS	Portion of lease block(s)	Assess effects of proposed activities to inform decision to approve, disapprove, or approve with mitigation measures
	Production	DNA, CER, EA, or EIS	Portion of lease block(s)	
	Decommissioning	DNA, CER, EA, or EIS	Specific facility within a lease block	

Note: The level of NEPA analysis at the project level is determined by the complexity of the project, risk factors associated with the project, project location relative to other uses or environmentally important areas, technologies proposed for use, and other factors.
Key: CER = categorical exclusion review; DNA = Determination of NEPA Adequacy; EA = environmental assessment; EIS = environmental impact statement.

Additionally, BOEM informs federally recognized Tribal governments that a National OCS Program is being prepared, to include the steps in the National OCS Program development process and where to find additional information on meetings and opportunities to provide comments (see Section 11.1). BOEM recognizes the unique relationship between the U.S. and

Tribes and invites requests for government-to-government consultation. This consultation can occur at the National OCS Program stage as well as during the subsequent stages of the process (e.g., lease sales, plan reviews). Consultation and coordination with other Federal agencies, and state and Tribal governments, as required under specific environmental statutes, occur at subsequent stages of the leasing process.

1.3.1.1 Request for Information and Comments

In developing this National OCS Program, BOEM analyzed, among other items, regional and national energy needs; leasing interest as expressed by potential oil and gas producers; applicable laws, goals, and policies mentioned in the comments of affected states; comments and concerns of local governments and Tribes; public input; competing uses of the OCS; relative environmental sensitivity and marine productivity among OCS Regions; and the equitable sharing of benefits and risks among OCS Regions.

On July 3, 2017, BOEM published in the *Federal Register* the RFI regarding the preparation of a 2019–2024 Program (82 FR 30886). Simultaneously with the release of the RFI, BOEM also sent letters to all governors and the heads of interested Federal agencies requesting their input during a 30-day comment period. Pursuant to OCS Lands Act Section 18, BOEM requested that governors and oil and gas companies provide updated information regarding state laws and policies or industry interest, respectively.

1.3.1.2 Draft Proposed Program and Notice of Intent to Prepare a Programmatic Environmental Impact Statement

After considering the analyses associated with the Section 18 factors and principles for all 26 planning areas, former Secretary Zinke issued the Draft Proposal, which was the initial proposal for this new National OCS Program. BOEM announced the availability of, and requested comments on, the DPP in the *Federal Register* on January 8, 2018 (83 FR 829).

That *Federal Register* notice also announced the Notice of Intent (NOI) to prepare a discretionary Programmatic EIS, which signaled the initiation of scoping for the NEPA document. The DPP was distributed to interested and affected parties for a 60-day comment period and transmitted to all 50 governors and relevant Federal agencies. Chapter 11 provides a more detailed discussion on public involvement and outreach for the National OCS Program and Programmatic EIS.

1.3.1.3 Proposed Program and Draft Programmatic EIS

The Proposed Program analysis focused on former Secretary Zinke's Draft Proposal, as well as other Program Options identified when making the Draft Proposal. These analyses provide information relevant for consideration of required Section 18 factors (see Chapter 2) and comments received by BOEM on the DPP and NOI. OCS areas identified for potential leasing in

the Draft Proposal were also analyzed in the Draft Programmatic EIS. The Proposed Program and Draft Programmatic EIS analyses informed the Secretary's Second Proposal.

On July 8, 2022, BOEM announced in the *Federal Register* (87 FR 40859) the publication of the Proposed Program and Draft Programmatic EIS. This included an associated request for comments and feedback on the Proposed Program and Draft Programmatic EIS from other interested and affected parties during a 90-day comment period. In addition, the Proposed Program was submitted to governors and relevant Federal agencies. BOEM sent written responses to the Proposed Program comments from governors and other state officials commenting on behalf of governors, in conjunction with transmittal of the Proposed Program and Draft Programmatic EIS.

1.3.1.4 Proposed Final Program and Final Programmatic EIS

The third and last analytical stage of the National OCS Program development process, the preparation of this PFP, is based on analysis of the Second Proposal and comments BOEM received on the Proposed Program and Draft Programmatic EIS. Additionally, a Final Programmatic EIS that informs the Secretary's Final Proposal has been prepared and released in conjunction with this PFP document. The OCS areas identified for potential leasing in the Final Proposal are described in **Part I** of this PFP document.

BOEM has announced publication of the PFP in the *Federal Register* and will submit it to the President and Congress. BOEM provides the President and Congress with the Final Programmatic EIS along with the PFP because the Programmatic EIS contains information and analyses that address Section 18 factors. Copies of all comments received throughout the National OCS Program development process have been submitted to the President and Congress, as required. BOEM also sent written responses to all comments received throughout the National OCS Program development process from governors and other state officials commenting on behalf of governors, in conjunction with transmittal of the PFP and Final Programmatic EIS per Section 18(c)(2) of the OCS Lands Act.

1.3.1.5 National OCS Program Approval and Record of Decision

In accordance with Section 18(c)(2), the Secretary will not approve the PFP until at least 60 days after sending it to the President and Congress. At the time of approval, the Secretary's decision is described in the combined decision memo and record of decision (ROD) that is made publicly available; this marks the final step in the Section 18 and NEPA processes. In general, the ROD identifies the schedule of potential lease sales to occur during the 2024–2029 period (i.e., the Department's selected alternative under NEPA), presents the basis for the decision, and identifies methods to avoid, minimize, or otherwise mitigate environmental impacts. The ROD could also adopt any programmatic mitigation measures or restrictions on leasing activities that the

Secretary considers necessary for environmental protection and that are sufficiently identifiable at the programmatic stage.

1.3.2 Lease Sale Process

Approval of a National OCS Program does not constitute final approval of the lease sales scheduled in that National OCS Program. Each potential lease sale scheduled in a National OCS Program is subject to separate established pre-lease sale decision processes, including environmental review and analysis.

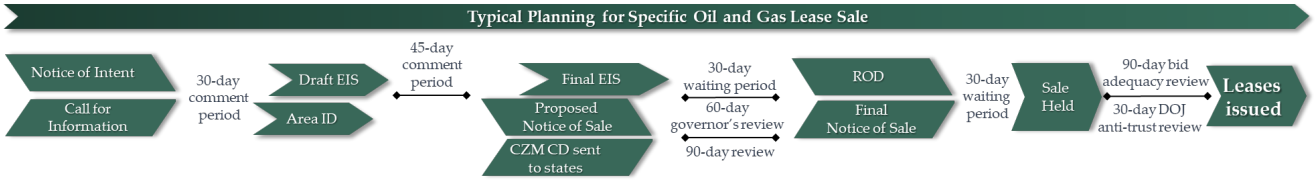
During the lease sale process, the Secretary may further define the area available for leasing. For example, the Secretary could choose an areawide approach, in which all available unleased acreage in a program area is offered for lease, or a targeted leasing approach, which is designed to result in a more focused lease area configuration.

A targeted approach could, for example, only offer lease sales in areas with high hydrocarbon resource potential while appropriately weighing environmental protection.

Other potential considerations could include biologically sensitive subareas, and areas of potential conflict with other users or uses of the marine environment, such as subsistence hunting and fishing activity. This is consistent with the policy of the OCS Lands Act to make OCS oil and gas resources available for development while considering safeguards for the human, marine, and coastal environments.

As shown in Figure 1-9, interested and affected parties have multiple opportunities to participate and comment prior to any decision to hold a specific lease sale. The lease sale process has traditionally taken about 2 years to complete and contains multiple steps and decision points along the way.

Figure 1-9: OCS Lease Sale Process



Key: CD = Consistency Determination; CZM = Coastal Zone Management; DOJ = Department of Justice; EIS = environmental impact statement; ROD = Record of Decision

Notes: Publishing the Draft and Final EISs must occur after the Area ID and prior to the issuance of the ROD/Final Notice of Sale. The ROD and Final Notice of Sale publish simultaneously. Usually, the Proposed Notice of Sale and CDs are finalized after the Draft EIS is issued but at least 90 days prior to Final Notice of Sale/ROD signature.

While a lease sale may not occur until an approved National OCS Program is in place, in some cases, lease sales occurring early in a National OCS Program schedule require steps to be taken in the pre-lease sale process prior to final National OCS Program approval. This is not a pre-judgment by the Secretary concerning any area that may be made available for leasing, only an initiation of the statutory and analytical steps required to hold a lease sale on time should it

remain in an approved National OCS Program.[12] The full process for a typical lease sale is described below in more detail.

1. **Call for Information and Nominations (30 Code of Federal Regulations [CFR] 556.301)—**In the first step of the lease sale process, BOEM issues a Call for Information and Nominations (Call) in the *Federal Register* on an area proposed for leasing. Potential bidders are invited to submit nominations or indications of interest in specific OCS blocks within the Call Area. The Call also solicits comments about geological conditions; archaeological sites; potential multiple uses of the area including navigation, recreation, and fisheries; socioeconomic, biological, and other environmental information; and asks the public for information on areas of special concern that should be analyzed.
2. **Area Identification (30 CFR 556.302)—**Area Identification (Area ID) is the second major step in BOEM's oil and gas lease sale process. During Area ID, BOEM uses information and comments received in response to a Call, and in consultation with appropriate Federal agencies, develops a recommendation to the Secretary for the area(s) to be subject to further leasing consideration and environmental analyses. The Area ID decision is announced in the *Federal Register*.
3. **Review under NEPA—**BOEM performs a NEPA review for each lease sale. This typically includes an EIS that considers the impacts associated with oil and gas activities for a given region or program area. The NEPA for subsequent lease sales in the same region or program area may rely on that EIS as appropriate, after BOEM confirms through a DNA or EA that EIS supplementation is not required.
4. **Government-to-Government Consultations—**Under Executive Order (E.O.) 13175 and the *Department of the Interior Policy on Consultation with Indian Tribes*, BOEM is obligated to engage in government-to-government consultations with Tribes on any Departmental action with Tribal implications. This includes federally recognized Tribes with current and historic interests in coastal areas of Alaska, the Pacific, the GOM, and the Atlantic. In Alaska, BOEM additionally consults with Alaska Native Claims Settlement Act (ANCSA) Corporations. These consultations are conducted on additional approvals (e.g., plans and permits) as appropriate throughout the life of an OCS oil and gas lease.
5. **Environmental Consultations—**Consultations under various environmental statutes occur, such as the Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531 *et seq.*) and Section 305(b) of the Magnuson--Stevens Fishery Conservation and Management Act (16 U.S.C. §§ 1801 *et seq.*). Pursuant to these environmental statutes, BOEM is required to consult with agencies such as the U.S. Fish and Wildlife Service (USFWS)

[12] Solicitor's M Opinion 36954, *Whether the Department May Issue a Call for Information & Nominations for Outer Continental Shelf Lease Sale 91*, 93 I.D. 125 (1986).

and National Marine Fisheries Service (NMFS). BOEM also consults, as appropriate, under Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108).

6. **Proposed Notice of Sale (NOS) (30 CFR 556.304)—**The proposed NOS describes the timing, size, and location of a proposed oil and gas lease sale. It also provides potential bidders with information on proposed economic terms and conditions and any proposed mitigation measures (i.e., lease stipulations), which are typically designed to reduce potential conflicts with other ocean uses and to protect the environment. BOEM publishes a notice of availability of the proposed NOS in the *Federal Register*.

7. **Coordination with Governors of Affected States (30 CFR 556.304-307)—**Section 19 of the OCS Lands Act (43 U.S.C. § 1345) requires BOEM to solicit input on the size, timing, and location of lease sales from governors of affected states. BOEM sends the proposed NOS to governors of affected states requesting their recommendations on the proposed size, timing, and location of the lease sale. The governors have 60 days to submit their recommendations to BOEM. Prior to holding the lease sale, BOEM sends each governor written reasons for USDOI's determination to accept or reject that governor's recommendation.

8. **Consistency Determination (30 CFR 556.305(b))—**All Federal activities affecting the coastal zone, including OCS oil and gas lease sales, must be consistent to the maximum extent practicable with the enforceable policies of an affected state's coastal zone management (CZM) program (see 16 U.S.C. § 1456(c)(1) and (2)). BOEM provides coastal states with a consistency determination on whether the proposed lease sale is consistent, to the maximum extent practicable, with the enforceable policies of federally approved state Coastal Management Plans. That is not done, however, for Alaska lease sales since the State of Alaska no longer has a federally approved Coastal Management Plan. For more information on BOEM's CZM work, see https://www.boem.gov/Coastal-Zone-Management-Act/).

9. **Issuance of a ROD (EIS-level), Finding of No New Significant Impact (FONSI; EA-level) or DNA—**Upon completion of the NEPA review for each individual lease sale, a determination is made as to the significance, or lack thereof, of potential environmental impacts. Depending on the type of NEPA review undertaken for a lease sale, the NEPA review process is completed through the issuance of a ROD, a FONSI, or a DNA.

10. **Final NOS (30 CFR 556.308(a))—**BOEM will publish a final NOS at least 30 days before a lease sale is held. The final NOS includes information on how to submit bids; the date, time, and location of the bid opening and reading; the OCS blocks being offered; and terms and conditions of the lease sale, including lease stipulations.

11. **Holding the Lease Sale (30 CFR 556.516)—**BOEM opens the sealed bids at the place, date, and hour specified in the final NOS for the sole purpose of publicly announcing and recording the bids. BOEM does not accept or reject any bids at that time.

12. **Lease Issuance (30 CFR 556.520-522)—**Before a lease can be issued, high bids are subject to evaluation regarding the receipt of fair market value (FMV) and analysis confirming that the award of any tract to the highest bidders in the lease sale would not create or maintain a situation inconsistent with anti-trust laws. BOEM will issue a lease following completion of its FMV analysis and the anti-trust review conducted by the Department of Justice in consultation with the Federal Trade Commission.

1.3.3 Exploration and Development Process

Areas with mature oil and gas development, such as the GOM, generally have more recent and therefore more sophisticated seismic data available (e.g., three-dimensional [3-D] seismic surveys) to assess oil and gas resources. Frontier areas of the OCS generally only have older, less sophisticated seismic data (e.g., two-dimensional [2D] seismic surveys) available. If leasing and related activities increase in frontier areas, new seismic data will be collected, and more detailed information will become available. On the U.S. OCS, seismic data are typically acquired both prior to lease issuance (through the issuance of a permit) and after a lease is in effect.

After BOEM issues a lease, a lessee typically accelerates the process to explore for oil and gas accumulations. In some cases, potential oil and gas resources could already be identified through analysis of existing data and information. Prior to exploration activities on the lease, an exploration plan is submitted to BOEM for environmental review and consideration for approval (see Figure 1-10).

Figure 1-10: OCS Exploration Plan and Drilling Review Process

Key: APD = Application for Permit to Drill;; CZM = Coastal Zone Management; G2G = government-to-government; NEPA = National Environmental Policy Act

High-resolution geophysical surveys on a lease are performed prior to exploration plan submittal to identify natural and man-made hazards, areas of potentially sensitive benthic habitat such as hard bottom habitat and coral reefs, and significant cultural resources such as historic shipwrecks or inundated occupation sites on or below the seabed. The next phase of exploration involves drilling an exploration well that targets the interpreted oil or gas trap in the subsurface to determine if an oil or gas resource exists. If oil or gas is discovered in quantities appearing to be economically favorable, one or more follow-up delineation wells could be drilled to help define the amount of the resource or the extent of the reservoir.

Delineation and production wells are sometimes both termed development wells. If a lessee wishes to drill a development well, a development and production plan must be submitted to BOEM so that BOEM can perform environmental review and consider plan approval (see Figure 1-11).

Figure 1-11: OCS Development and Production Plan Review Process

Key: APD = Application for Permit to Drill;; CZM = Coastal Zone Management; G2G = government-to-government; NEPA = National Environmental Policy Act

Assuming that hydrocarbon resources are discovered and successfully delineated, a production facility could be installed at the site. The number of wells to be served by a single facility varies according to the type of production facility used, the prospect site, and the drilling and production strategy deployed. Oil and gas resources are brought to market via a system of pipelines and processing facilities or through production into a floating system.

Exploration plans and development and production plans are subject to focused, site-specific environmental analyses under NEPA and other environmental statutes, as well as the requirement for an operator to certify consistency of the proposed activities with the enforceable policies of a state's CZM program, as appropriate.

For more information about the exploration and development process, see BOEM's web pages on the status of oil and gas plans for the Alaska Region (https://www.boem.gov/akplans), GOM Region (https://www.boem.gov/Status-of-Gulf-of-Mexico-Plans/), and Pacific Region (https://www.boem.gov/Pacific-Lease-Management/). For more information about BOEM's oil and gas resource evaluation program, see the web page: https://www.boem.gov/Resource-Evaluation-Program/.