

Overview of BOEM's Outer Continental Shelf Oil and Gas Leasing Program



Dr. David Diamond
Chief, Leasing Division

November 17, 2016

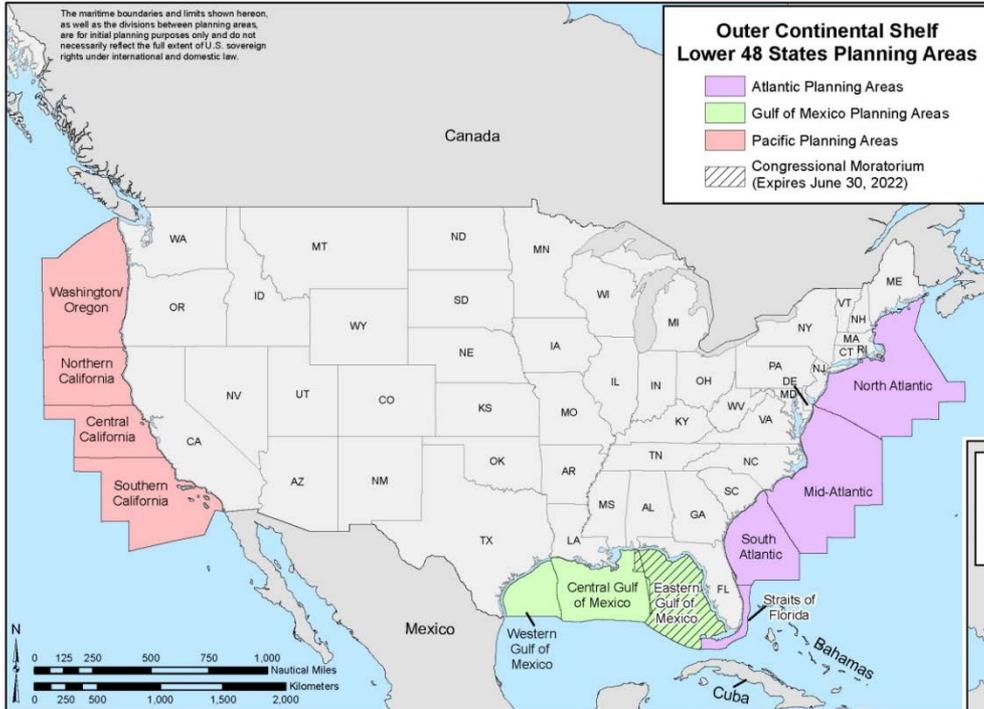


*“(T)he outer Continental Shelf is a **vital national resource reserve held by the Federal Government for the public, which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs**”*

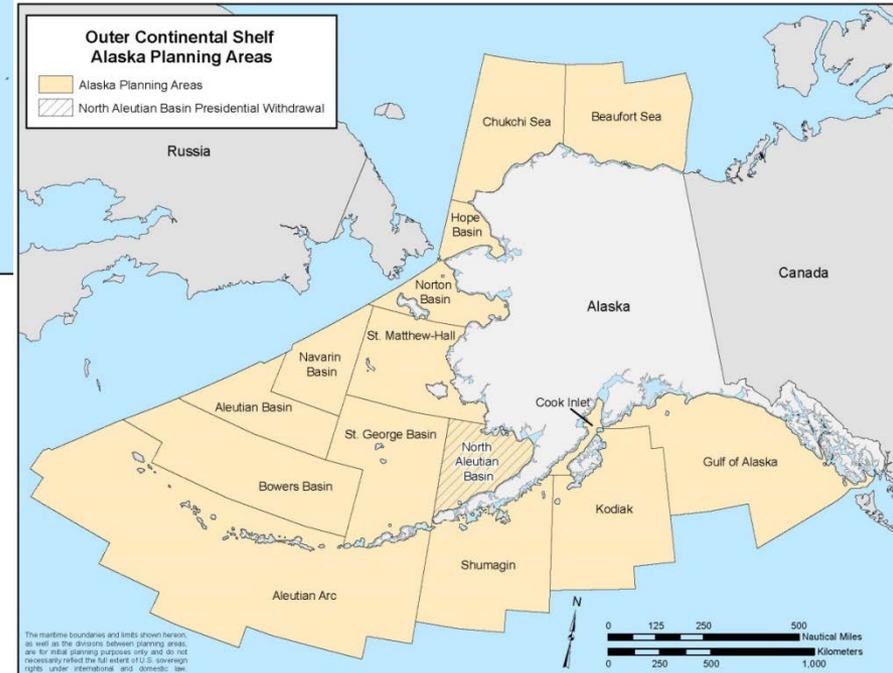
**Outer Continental Shelf Lands Act
Sec 3(3)**



Offshore Planning Areas



Region	Active Leases	Producing Leases
Gulf of Mexico	3,347	873
Alaska	43	3
Pacific	41	41
Atlantic	0	0



What Are We Leasing?

Companies bid to lease the rights to explore, develop, and produce oil and gas in individual blocks within a Program Area



United States Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

Western Planning Area Lease Sale 218 December 14, 2011

TRACTS RECEIVING BIDS



-  Unleased Blocks Currently Deferred/Unavailable for Leasing
-  Planning Area Boundary
-  Protraction Boundary
-  Lease Term Line



GCS North American 1987
Datum: D North American 1987



Block areas are up to 3x3 miles (5760 acres)

This is a product of the Bureau of Ocean Energy Management (BOEM), Gulf of Mexico, Outer Continental Shelf (OCS) Region, Office of Leasing. BOEM does not guarantee the accuracy of this map. This map is not intended for navigational purposes or as a legal document.

2012-2017 Oil and Gas Program

Sale	Date	Sum of High Bids (\$)	Acres Leased
Western GOM 229	11/28/12	\$134 million	653,000
Central GOM 227	3/20/13	\$1.2 billion	1.7 million
Western GOM 233	8/28/13	\$100 million	200,000
Central GOM 231	3/19/14	\$850 million	
Eastern GOM 225	3/19/14	No bids	-
Western GOM 238	8/20/14	\$109 million	428,000
Central GOM 235	3/18/15	\$539 million	924,000
Western GOM 246	8/19/15	\$22.7 million	190,080
Eastern GOM 226	3/23/16	No bids	-
Central GOM 241	3/23/16	\$156 million	633,000
Chukchi Sea	Cancelled	-	-
Western GOM 248	8/24/16	\$18 million	Pending
Cook Inlet 244	6/21/17	TBD	TBD
Central GOM 247	3/22/17	TBD	TBD
Beaufort Sea 242	Cancelled	-	-
Current Totals:		\$3.06 billion	6.4 million

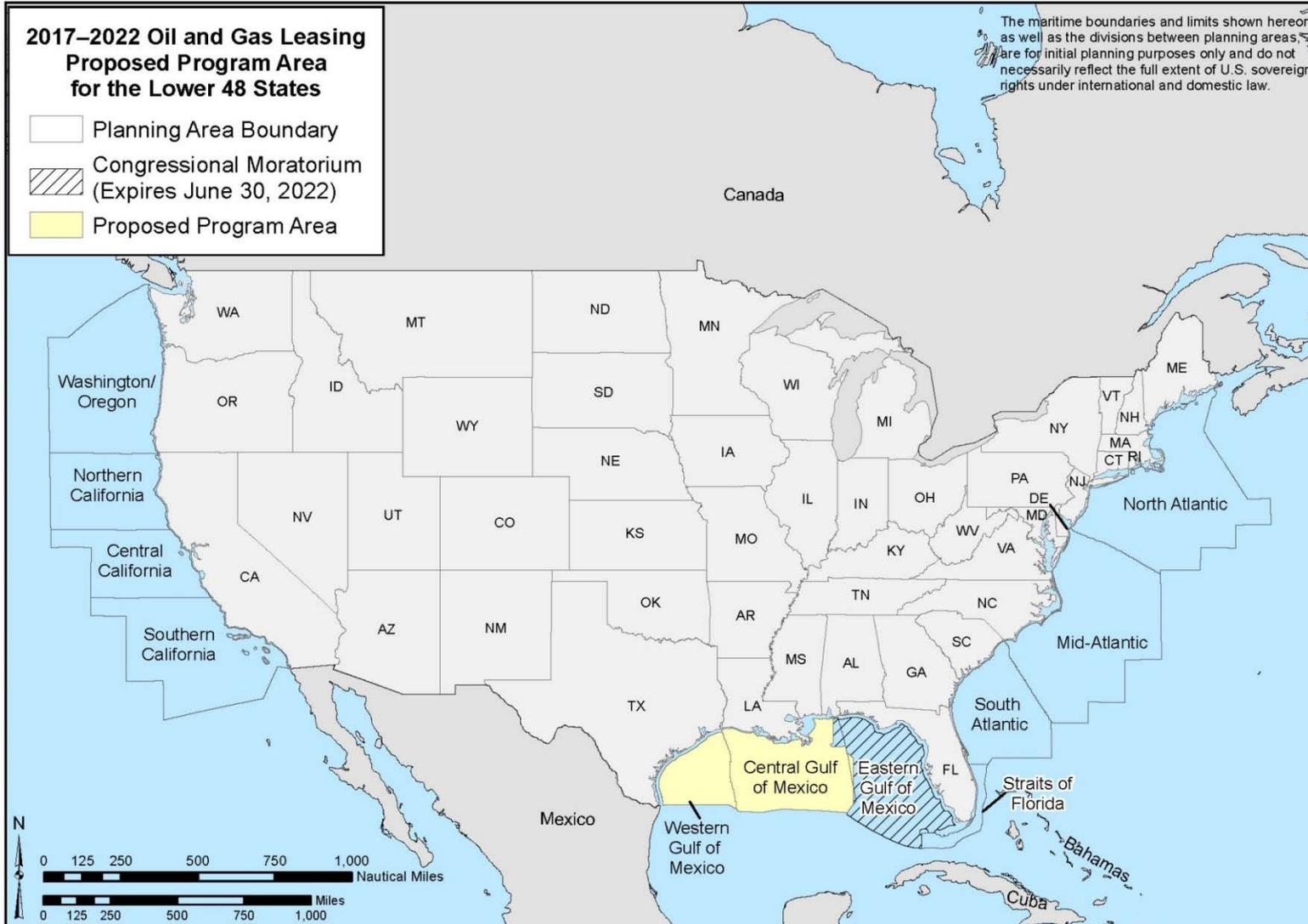
- BOEM manages approximately 1.7 billion acres of the OCS
- 3,605 existing OCS leases (Nov. 2016)
- *2012-2017 Oil and Gas Program*
- About 19.2 million acres are leased
 - 2015 OCS oil production = 565 mm bbls (~16% total US production)
 - 2015 OCS natural gas production = 1.35 tcf (~5% total US production)
 - 2015 OCS revenues = \$5.1 billion



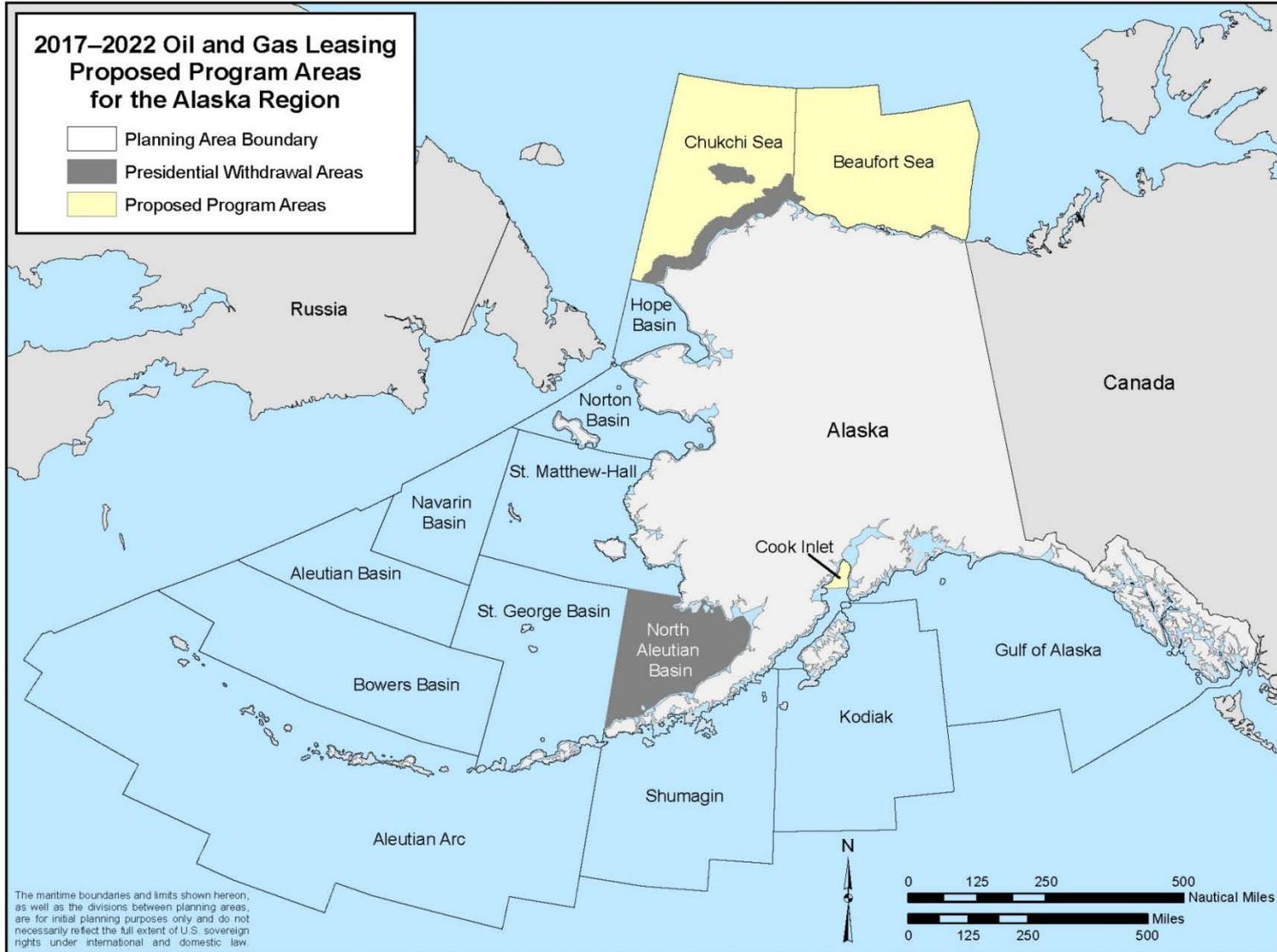
**2017–2022 Oil and Gas Leasing
Proposed Program Area
for the Lower 48 States**

-  Planning Area Boundary
-  Congressional Moratorium
(Expires June 30, 2022)
-  Proposed Program Area

The maritime boundaries and limits shown hereon, as well as the divisions between planning areas, are for initial planning purposes only and do not necessarily reflect the full extent of U.S. sovereign rights under international and domestic law.



2017-2022 Proposed Program (Published March 2016)



- 1) Prepare, periodically revise, and maintain a leasing program with a schedule of sales showing **size, timing, and location** to best meet Nation's energy needs
- 2) Based on consideration of eight factors (next slide)
- 3) Program is to balance potentials for environmental damage, discovery of oil and gas, and adverse impact on coastal zone
- 4) Assure receipt of Fair Market Value



Some of the eight factors can be quantified

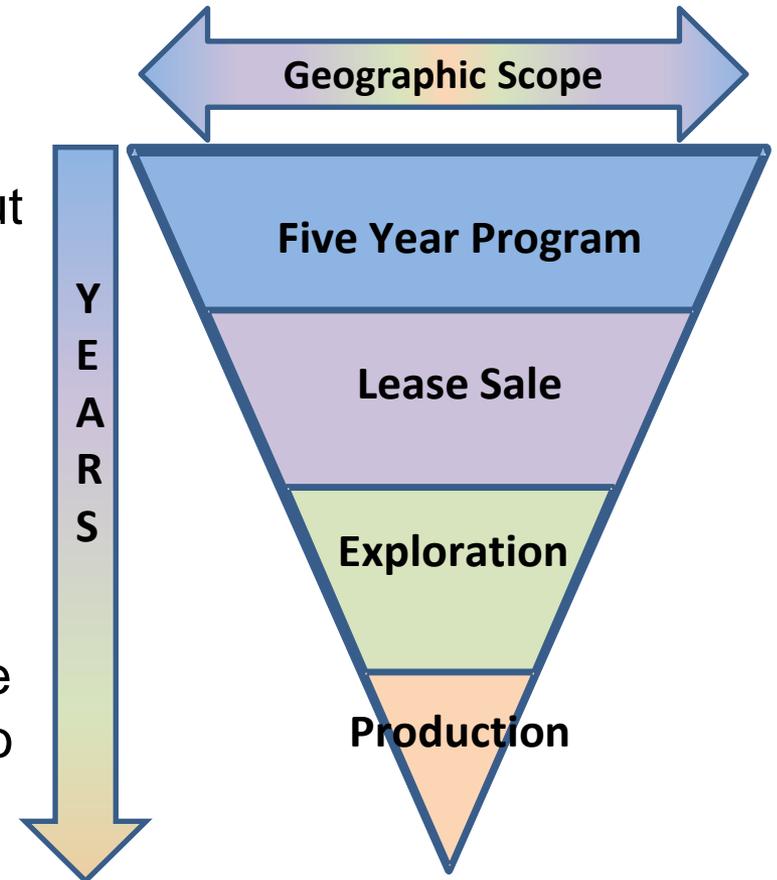
1. Resource Estimates and Net Social Value (= Economic Value minus Social Costs)
2. Equitable Sharing of Benefits and Environmental Risks
3. Regional and National Energy Needs
4. Other Uses of the OCS
5. Industry Interest and Resource Distribution
6. Environmental Sensitivity and Marine Productivity

Others have to be dealt with qualitatively

7. Geographical, Geological and Ecological Characteristics
8. Laws, Goals, and Policies of Affected States



- After program areas are eliminated or reduced, they cannot be expanded without either re-starting the Five-Year Program Development Process at the point they were eliminated or reduced, or an act of Congress.
- Decisions at each stage should ideally maximize flexibility as you move along the process. There are further opportunities to narrow the scope later in the process. Keeping a broader geographic scope available for analysis allows the decision maker to make better informed decisions.



Assessment of Undiscovered Oil and Gas Resources of the Nation's Outer Continental Shelf, 2016

Using a play based assessment methodology, the Bureau of Ocean Energy Management estimates a mean of 89.87 billion barrels of undiscovered technically recoverable oil and a mean of 327.49 trillion cubic feet of undiscovered technically recoverable natural gas in the Federal Outer Continental Shelf of the United States.

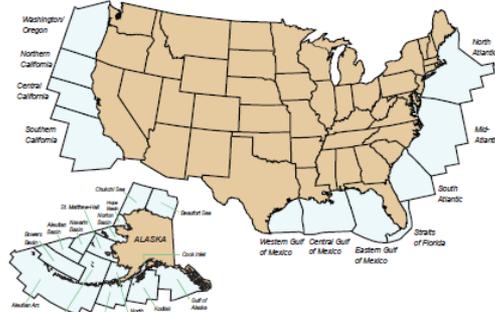


Figure 1. Federal Outer Continental Shelf areas of the United States.

Introduction

This report summarizes the results of the Bureau of Ocean Energy Management (BOEM) 2016 assessment of the undiscovered oil and gas resources for the U.S. Outer Continental Shelf (OCS). The OCS comprises the portion of the submerged seabed whose mineral estate is subject to Federal jurisdiction (Figure 1). The 2016 assessment represents a comprehensive appraisal that considers relevant data and information available as of January 1, 2014, and builds upon previous assessment efforts on the OCS.

This assessment provides estimates of undiscovered, technically and economically recoverable oil and natural gas resources located outside of known oil and gas fields on the OCS. It considers recent geophysical, geological, technological, and economic information and utilizes a probabilistic play-based approach to estimate the undiscovered technically recoverable resources of oil and gas for individual geologic plays. This methodology is suitable for both conceptual plays where there is little specific information available and for developed plays where considerable information from discovered oil and gas fields is available. Individual geologic play results are aggregated to larger areas including Basins, Planning Areas, and Regions. Estimates of the quantities of historical production, remaining reserves, contingent resources, and future reserves appreciation are presented as components of total endowment to provide a frame of reference. More detailed information about the geology, assessment methodology, and economics will be made available in separate play-specific regional assessment reports.

Commodities Assessed

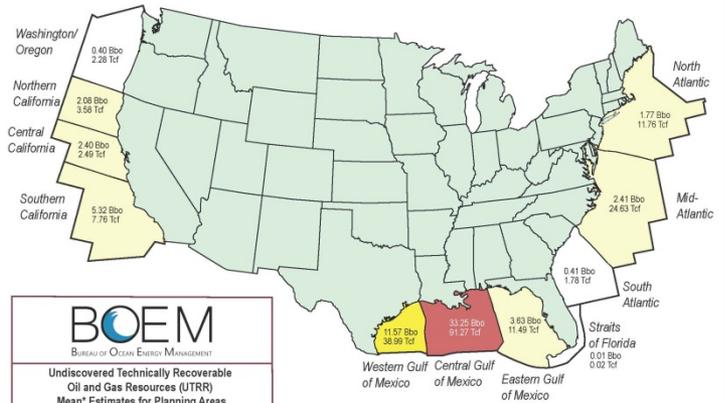
Commodities assessed include crude oil, natural gas liquids

(condensate), and natural gas that exist in conventional reservoirs and are producible with conventional recovery techniques. Crude oil and condensate are reported jointly as oil; associated and nonassociated gas are reported as gas. Oil volumes are reported as billions of stock tank barrels of oil (Bbo) and gas as trillion standard cubic feet of gas (Tcft). Oil-equivalent gas is a volume of gas (associated and/or nonassociated) expressed in terms of its energy equivalence to oil (i.e., 5,620 cubic feet of gas per barrel of oil). The combined volume of oil and oil-equivalent gas resources is referred to as barrel of oil-equivalent (BOE) and is reported in billions of barrels (Bbo).

To ensure consistency in reporting recoverable resources across all OCS regions, this assessment does not include quantities of hydrocarbon resources that could be recovered from known and future fields by enhanced recovery techniques. It also does not consider methane hydrates, gas in geopressured brines, or oil and natural gas that may be present in insufficient quantities or quality (low permeability "tight" reservoirs) to be produced by conventional recovery techniques.

Estimates of undiscovered recoverable resources are presented in two categories; undiscovered technically recoverable resources (UTRR), and undiscovered economically recoverable resources (UER). UTRR estimates are generated stochastically and are reported here at the mean value and at the 95th and 5th percentile values. This range of estimates corresponds to a 95 percent probability (a 19 in 20 chance) and a 5 percent probability (a 1 in 20 chance) of there being more than those amounts present, respectively. The 95 and 5 percent probabilities are considered reasonable minimum and maximum values, and the mean is the average or expected value. UER results are presented as price-

Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2016

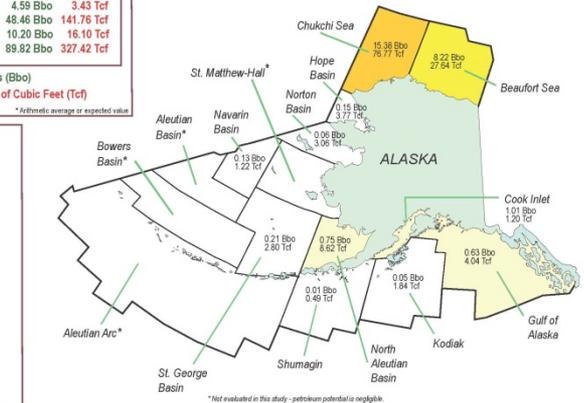


Undiscovered Technically Recoverable Oil and Gas Resources (UTRR) Mean* Estimates for Planning Areas

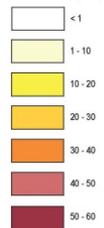
Regional Totals:	Oil (Bbo)	Gas (Tcft)
Alaska OCS	26.56	131.38
Atlantic OCS	4.59	3.43
Gulf of Mexico OCS	48.46	141.76
Pacific OCS	10.20	18.10
Total U.S. OCS	89.82	327.42

Oil in Billions of Barrels (Bbo)

Natural Gas in Trillions of Cubic Feet (Tcft)

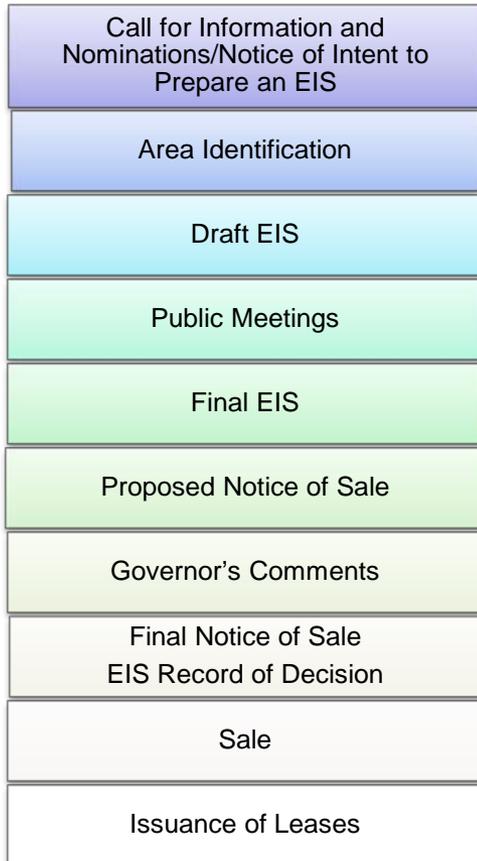


Barrels of Oil Equivalent in Billion barrels (Bboe)



* Not evaluated in this study - petroleum potential is negligible.

Lease Sale Planning and Consultation Process



- Each scheduled sale under the Five Year Program undergoes its own subsequent **multiple-year** planning and consultation process.
- An individual sale may be:
 - Held as planned;
 - Canceled due to Presidential or Congressional restrictions;
 - Delayed due to the need for more time to address issues of concern;
 - Reduced in size to avoid or mitigate impacts.

