

**HJR**

**28**

<target><bill>HJR 28</bill><subject>HJR  
28</subject><comm>HENE26</comm></target>

# ALASKA STATE LEGISLATURE

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**Session:**  
State Capitol, Room 126  
Juneau, Alaska  
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REPRESENTATIVE CRAIG JOHNSON  
HOUSE DISTRICT 28

## MEMORANDUM

**To:** Representative Charisse Millett and Rep. Bryce Edgemon, Co-chairs, House Energy Committee

**From:** Representative Craig Johnson

**Date:** March 24, 2009

**Subject:** Request for Bill Hearing

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I respectfully request that House Joint Resolution 28, encouraging President Obama, his administration and the United States Congress to support drilling in the outer continental shelf, be heard in the House Special Committee on Energy.

House Joint Resolution 28 will encourage President Obama, his administration and the US Congress to avoid enacting any rules, legislation, administrative actions or policies that would restrict energy exploration, development and production in federal or state waters around Alaska and the continental United States.

Please feel free to contact me, or my aide, Jon Bittner, with questions or thoughts at 465-4993.

Co-Chair House Resources Committee  
Member of Fisheries, State Affairs, Transportation Committees

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Representative Craig Johnson  
House District 28

## Sponsor Statement

### House Joint Resolution No. 28

*"Urging the President of the United States and the US Congress not to adopt any policy, rule or administrative action or enact legislation that would restrict energy exploration, development and production in federal and state waters around Alaska, the OCS within 50 miles of shore, and elsewhere in the continental US."*

The Alaskan Outer Continental Shelf (OCS) is a potentially important source of future energy supply. Recent estimates of the potential resources in the OCS place the undiscovered reserves at 27 billion barrels of oil and 132 trillion CF of natural gas. Add this to the estimated 35,000 jobs that OCS development could potentially create and the economic benefits are clear.

Recent actions and statements from the President of the United States and his Administration have caused uncertainty among producers and regulators regarding the future of OCS development in Alaska and the continental United States. Considering the unprecedented escalation of gasoline and heating oil prices that were seen last year, as well as the current economic crisis America is facing today, now is not the time to restrict businesses that are creating jobs and generating revenue.

It is more important than ever that we work with the oil and gas industry and federal regulators to ensure that Alaska's pipeline continues to provide oil and gas to the nation and revenue to the state. To facilitate this, President Obama and his Administration need to avoid enacting regulations, rules or administrative actions that would hinder or ban OCS development.

HJR 28 urges President Obama, key members of his Administration and members of Congress to not adopt any policy, rule, administrative action or legislation that would restrict energy exploration, development and production in federal or state waters around Alaska, the OCS within 50 miles of shore or elsewhere in the continental United States. HJR 28 further urges the President and Congress to encourage and promote continued exploration, development and production of domestic oil and gas resources.

Co-Chair House Resources Committee  
Member of Fisheries, State Affairs, Transportation Committees

# FISCAL NOTE

STATE OF ALASKA  
2009 LEGISLATIVE SESSION

Fiscal Note Number: \_\_\_\_\_  
 Bill Version: HJR 28  
 () Publish Date: \_\_\_\_\_

Identifier (file name): \_\_\_\_\_ Dept. Affected: \_\_\_\_\_  
 Title OPPOSE RESTRICTIONS ON OIL/GAS ACTIVITIES RDU \_\_\_\_\_  
 Component \_\_\_\_\_  
 Sponsor REPRESENTATIVE JOHNSON, Millett \_\_\_\_\_  
 Requester \_\_\_\_\_ Component Number \_\_\_\_\_

**Expenditures/Revenues** (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information						
		FY 2010	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>OPERATING EXPENDITURES</b>								
Personal Services								
Travel								
Contractual								
Supplies								
Equipment								
Land & Structures								
Grants & Claims								
Miscellaneous								
<b>TOTAL OPERATING</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

<b>CAPITAL EXPENDITURES</b>								
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<b>CHANGE IN REVENUES ( )</b>								
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**FUND SOURCE** (Thousands of Dollars)

1002 Federal Receipts								
1003 GF Match								
1004 GF								
1005 GF/Program Receipts								
1037 GF/Mental Health								
Other Interagency Receipts								
<b>TOTAL</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

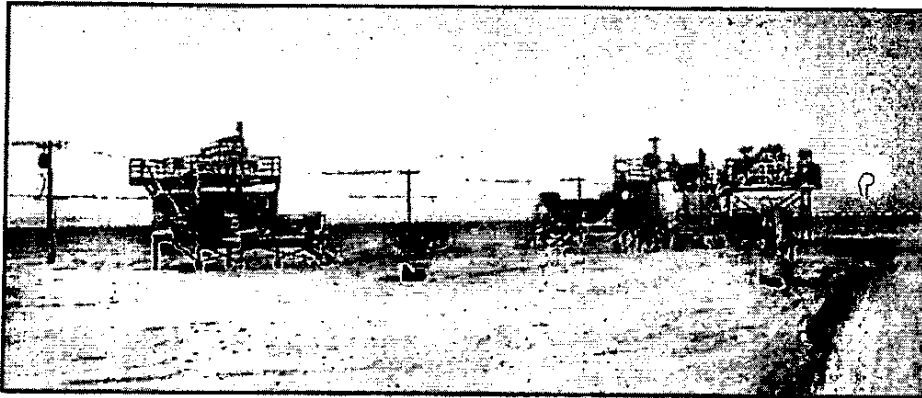
Estimate of any current year (FY2009) cost: \_\_\_\_\_

**POSITIONS**

Full-time								
Part-time								
Temporary								

**ANALYSIS:** *(Attach a separate page if necessary)*

Prepared by: House Resources Committee Phone 465-3715  
 Division \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Approved by: Representative Craig Johnson, Co-Chair Date 3/30/2009  
House Resources Committee



*By Tim Bradner, Alaska Journal of Commerce*

Offshore development off Alaska's coasts could create an annual average of 35,000 new jobs in Alaska and \$72 billion in total new payroll over a 50-year period, according to a study by the University of Alaska Anchorage's Institute of Social and Economic Research and Northern Economics Inc.

The growth in jobs resulting from outer continental shelf development could also lead to a 5 percent increase in statewide population, the study said. Most of the growth would be concentrated in Alaska's existing population centers but small coastal communities near the exploration areas could see dramatic expansion, the researchers said.

Shell Exploration and Production paid for the study, which was done over the last year, company spokesman Curtis Smith said. Shell hopes to explore leases in the Beaufort and Chukchi seas.

The study assumed development of a number of offshore projects in three active federal outer continental shelf leasing areas, the Beaufort and Chukchi seas, and the North Aleutian Shelf off the state's southwest coast. Scenarios used were those developed by the U.S. Minerals Management Service in planning the sales, according to Patrick Burden, president of Northern Economic.

The new jobs would include 6,000 directly employed in production and by oil field services companies, 3,000 in support of the infrastructure needed for production, such as pipelines, 22,000 in indirect support work such as engineering and transportation, and 4,000 in the state and local governments near the offshore production areas, Burden said in a briefing held Monday for Anchorage business leaders.

Offshore oil and gas production would also result in an estimated \$15.3 billion in additional state government revenue assuming an average price of \$65 per barrel over the 50-year period, Burden said.

About \$10 billion of that would result because of additional crude flowing through the Trans-Alaska Pipeline System from OCS production. Additional liquids in TAPS would lower tariffs for all oil moved through the pipeline, resulting in higher state royalty and tax revenues to the state from production on state-owned lands, Burden said.

OCS development would also increase municipal government revenues for local governments near the production areas by \$4.5 billion, mostly through new property tax income on onshore pipelines and other support facilities.

Most of the new municipal revenue would go to the North Slope Borough, which borders the Beaufort and Chukchi regions where OCS development could occur.

The scenarios used in the analysis, which were developed by the MMS, include seven major offshore fields and seven production platforms in the Beaufort Sea, four major fields and four platforms in the Chukchi Sea and two field and two platforms in the North Aleutian Shelf area.

Assumptions used in the study, also by the MMS, include new oil production resulting from the developments totaling about 1.5 million barrels per day in 2032.

“Outer continental shelf-related employment growth could more than offset losses from the decline of petroleum production on state lands and could help sustain Alaska’s economy for several decades,” Burden said.

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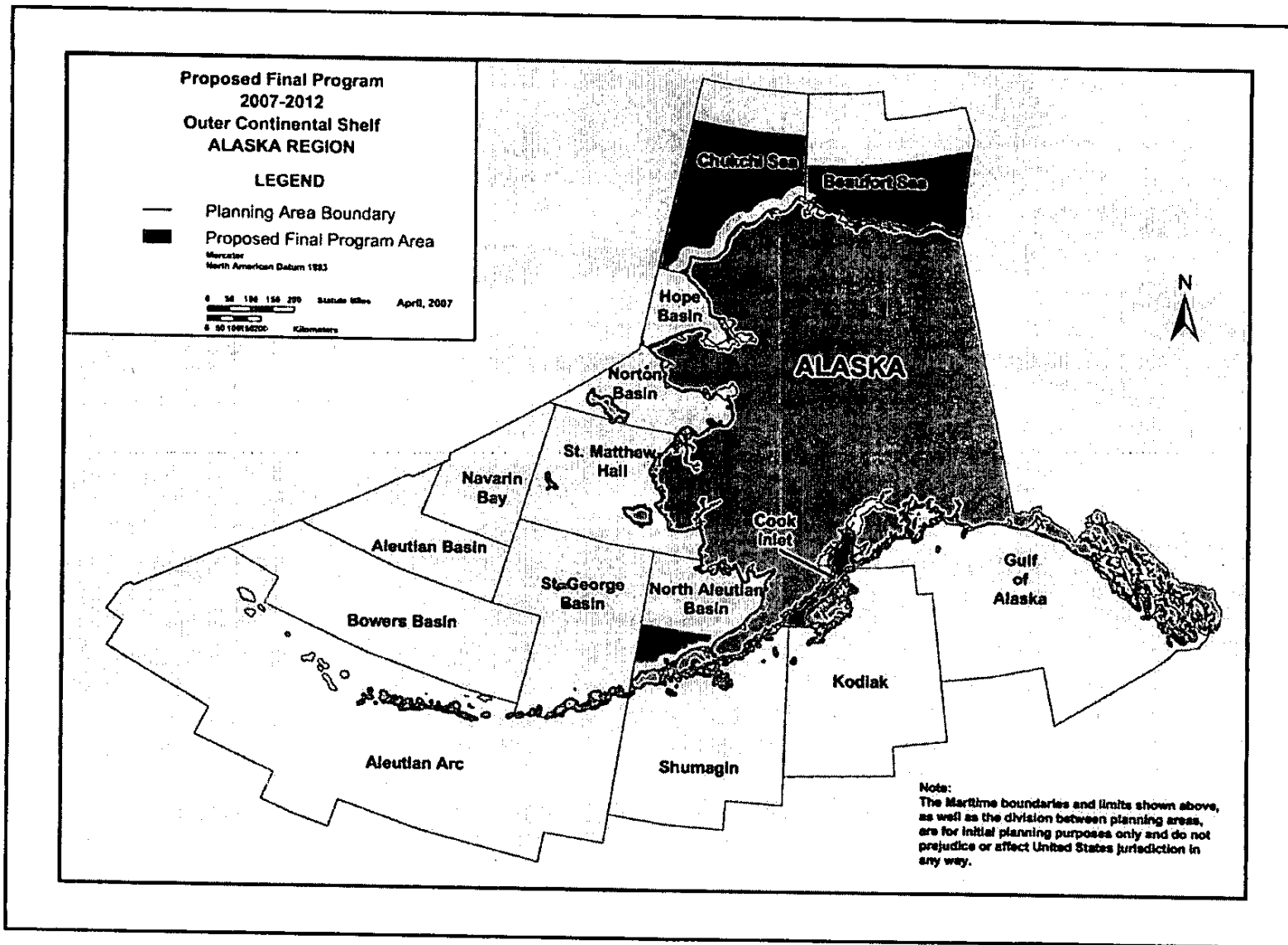
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## OUTER CONTINENTAL SHELF DEFINITIONS

**Outer Continental Shelf:** The Federal Government administers the submerged lands, subsoil, and seabed, lying between the seaward extent of the States' jurisdiction and the seaward extent of Federal jurisdiction.

**State jurisdiction** is defined as follows:

- Texas and the Gulf coast of Florida are extended 3 marine leagues (9 nautical miles) seaward from the baseline from which the breadth of the territorial sea is measured.
- Louisiana is extended 3 imperial nautical miles (imperial nautical mile = 6080.2 feet) seaward of the baseline from which the breadth of the territorial sea is measured.
- All other States' seaward limits are extended 3 nautical miles (approximately 3.3 statute miles) seaward of the baseline from which the breadth of the territorial sea is measured.

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**Federal jurisdiction** is defined under accepted principles of international law. The seaward limit is defined as the farthest of 200 nautical miles seaward of the baseline from which the breadth of the territorial sea is measured or, if the continental shelf can be shown to exceed 200 nautical miles, a distance not greater than a line 100 nautical miles from the 2,500-meter isobath or a line 350 nautical miles from the baseline.

Outer Continental Shelf limits greater than 200 nautical miles but less than either the 2,500 meter isobath plus 100 nautical miles or 350 nautical miles are defined by a line 60 nautical miles seaward of the foot of the continental slope or by a line seaward of the foot of the continental slope connecting points where the sediment thickness divided by the distance to the foot of the slope equals 0.01, whichever is farthest.

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From:

<http://www.mms.gov/aboutmms/ocsdef.htm>

**MMS**

**Minerals Management Service**  
Alaska OCS Region

U.S. Department of the Interior

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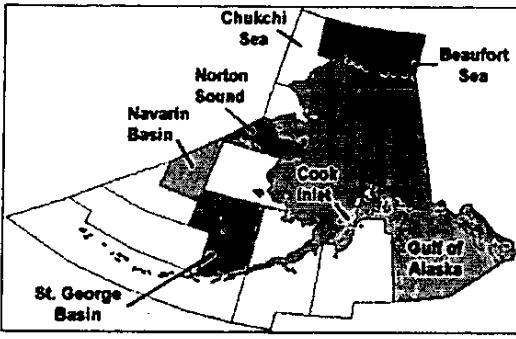
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Area	Wells Drilled
Beaufort Sea	31
Chukchi Sea	4
Norton Sound	6
Navarin Basin	8
St. George Basin	10
Cook Inlet	13
Gulf of Alaska	12
<b>Total</b>	<b>84</b>



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This page last updated:  
10/24/2008

# Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006

*Using a play-based assessment methodology, the Minerals Management Service estimated a mean of 85.9 billion barrels of undiscovered recoverable oil and a mean of 419.9 trillion cubic feet of undiscovered recoverable natural gas in the Federal Outer Continental Shelf of the United States.*

## Introduction

This report summarizes the results of the Minerals Management Service (MMS) 2006 assessment of the technically recoverable oil and gas resources for the U.S. Outer Continental Shelf (OCS) (see figure 1). The OCS comprises the portion of the submerged seabed whose mineral estate is subject to Federal jurisdiction. The 2006 assessment represents a comprehensive appraisal that considered relevant data and information available as of January 1, 2003, incorporated advances in petroleum exploration and development technologies, and employed new methods of resource assessment.

This assessment provides estimates of the 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 (UTRR) of oil and gas for individual plays. This methodology is suitable for both conceptual plays where there is little or no specific information available, and for developed plays where there are discovered oil and gas fields and considerable information is available. After estimation, individual play results are aggregated to larger areas such as basins and regions. Estimates of the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR.

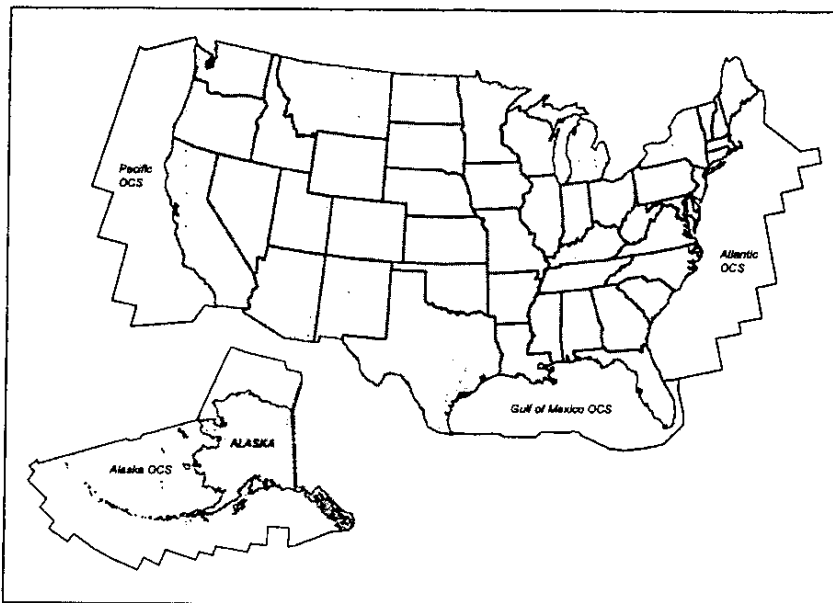


Figure 1. Federal OCS Areas of the United States.

More detailed information about the geology, assessment methodology, and economics will be published in separate regional assessment reports.

## Commodities Assessed

The petroleum commodities assessed in this inventory are 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 stock tank barrels and gas as standard cubic feet. 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) and is reported in barrels. The combined volume of oil and oil-equivalent gas resources is referred to as barrel of oil-equivalent (BOE) and is reported in barrels.

This assessment does not include potentially large quantities of hydrocarbon resources that could be recovered from known and future fields by enhanced recovery techniques, gas in

geopressed brines, natural gas hydrates, 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. In some instances the boundary between these resources is somewhat indistinct; however, we have not included in this assessment any significant volume of unconventional resources.

Estimates of undiscovered recoverable resources are presented in two categories, undiscovered technically recoverable resources (UTRR) and undiscovered economically recoverable resources (UERR). In addition, the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR. The UERR results are presented as price-supply curves which show the relationship of price to economically recoverable resource.

### Methodology

This assessment incorporated a comprehensive play-based (see list of terms) approach toward the analysis of hydrocarbon potential. A major strength of this method is that it has a strong relationship between information derived from oil and gas exploration activities and the geologic model developed by the assessment team. An extensive effort was involved in developing play models, delineating the geographic limits of each play, and compiling data on critical geologic and reservoir engineering parameters. These parameters were crucial input in the determination of the total quantities of recoverable resources in each play.

Due to the inherent uncertainties associated with an assessment of undiscovered resources, probabilistic techniques were employed and the results reported as a range of values corresponding to different probabilities of occurrence. For plays in frontier areas with sparse data, analogs were developed using subjective probabilities to cover the range of uncertainties. Most plays in the Alaska, Atlantic and some in the Pacific OCS were assessed this way. For mature areas with significant amounts of data, such as the Gulf of Mexico and southern California, plays were analyzed using a method based on statistical parameters of discovered pools and historical trends.

### Assessment Results

The MMS completed an assessment of the undiscovered technically recoverable oil and natural gas resources of the OCS, which reflects data and information available as of January 1, 2003. This assessment was the culmination of a multi-year effort that included data and information not available at the time of the previous assessment (MMS, 2001), incorporated advances in petroleum exploration and development technologies, and employed new methods of resource assessment.

UTRR estimates are presented at 95<sup>th</sup> and 5<sup>th</sup> percentile levels, as well as the mean estimate. 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. Results for individual plays, basins, and planning areas will be presented in subsequent regional reports.

Estimates of UTRR for the entire OCS range from 66.6 Bbo at the F<sub>95</sub> fractile to 115.1 Bbo at the F<sub>5</sub> fractile with a mean of 85.9 Bbo (figure 2 and table 1). Similarly, gas estimates range from 326.4 to 565.9 Tcf with a mean of 419.9 Tcf. On a barrel of oil-equivalence (BOE) basis 54 percent of the potential is located within the Gulf of Mexico. The Alaska OCS ranks second with 31 percent. The Pacific is third among the regions

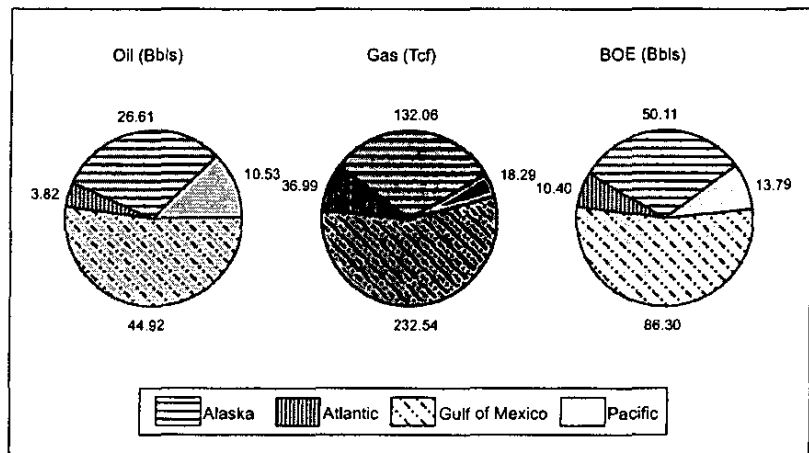


Figure 2. Undiscovered Technically Recoverable Resources by type and region.

in terms of oil potential and fourth with respect to gas. The Atlantic region, on the other hand, ranks third when considering gas potential and fourth in terms of oil.

Technological advances in hydrocarbon exploration and development are sure to occur in the future, yet the nature of advancement is extremely hard to predict and its impact difficult to estimate. However, past experience indicates most technological breakthroughs occur during high-cost scenarios and impact exploration and development by lowering the cost and sometimes by improving the chance of success. For the purpose of this assessment, recent technological advances in gathering, processing, and interpreting seismic data contributed to the identification and mapping of geological plays and development of geologic parameters used to model the plays. Similarly, recent technological advances in offshore drilling and development operations were incorporated through the assumptions associated with the costs of these activities.

However, no attempt was made to determine an empirical relationship between the future technological advancements and the estimated undiscovered resources. MMS believes that future technological advances will significantly affect the

**Table 1.** Undiscovered Technically Recoverable Resources of the OCS

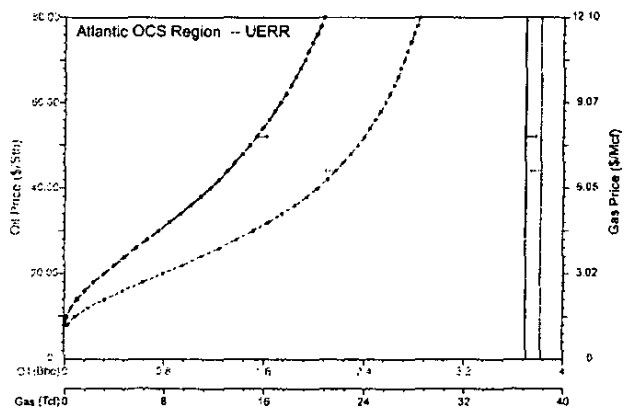
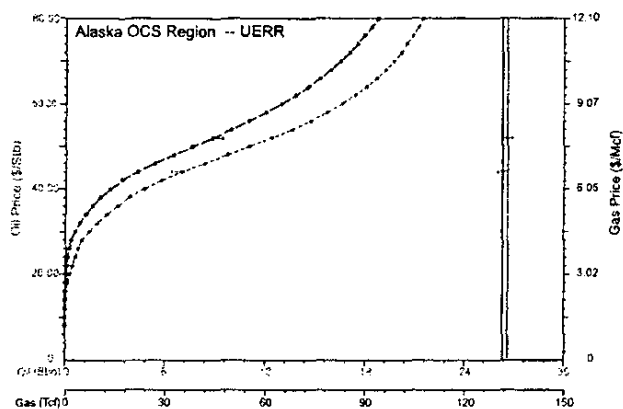
(Bbo, billion barrels of oil, Tcf, trillion cubic of gas. P95 indicates a 95 percent chance of at least the amount listed, P5 indicates a 5 percent chance of at least the amount listed. Only mean values are additive.)

Region	Oil (Bbo)			Natural Gas (Tcf)			BOE (Bbo)		
	95%	Mean	5%	95%	Mean	5%	95%	Mean	5%
Alaska OCS	8.66	26.61	55.14	48.28	132.06	279.62	17.25	50.11	104.89
Atlantic OCS	1.12	3.82	7.57	14.30	36.99	66.46	3.67	10.40	19.39
Gulf of Mexico OCS	41.21	44.92	49.11	218.83	232.54	249.08	80.15	86.30	93.43
Pacific OCS	7.55	10.53	13.94	13.28	18.29	24.12	9.91	13.79	18.24
<b>Total U.S. OCS</b>	<b>66.60</b>	<b>85.88</b>	<b>115.13</b>	<b>326.40</b>	<b>419.88</b>	<b>565.87</b>	<b>124.68</b>	<b>160.60</b>	<b>215.82</b>

portion of the undiscovered resources represented by estimates of UTRR, resulting in an increased percentage being classified as economically recoverable resources.

Estimates of UERR are presented as price-supply curves for the entire OCS as well as individual regions (figure 3). A price-supply curve shows the relationship of price to economically recoverable resource volumes (i.e., a horizontal line from the price axis to the curve yields the quantity of economically recoverable resources at the selected price). The price-supply curve for each region shows two curves and two price scales, one for oil and one for gas. The curves represent mean values at any specific price. They are not independent of each other; that is, one specific oil price cannot be used to obtain an oil resource and a separate gas price used to get a gas resource. The gas price is dependent on the oil price and must be used in conjunction with the oil price on the opposite axis to calculate resources. The reason for this condition is that oil and gas frequently occur together and the individual pool economics are calculated using the coupled pricing. A different gas price associated with the oil price would result in a different resource number than that shown on the curve.

The two vertical lines (green for oil and red for natural gas) indicate the mean estimates of UTRR. At high prices, the economically recoverable resource volumes approach the conventionally recoverable volumes. These curves represent resources available with sufficient exploration and development efforts and do not imply an immediate response to price changes.



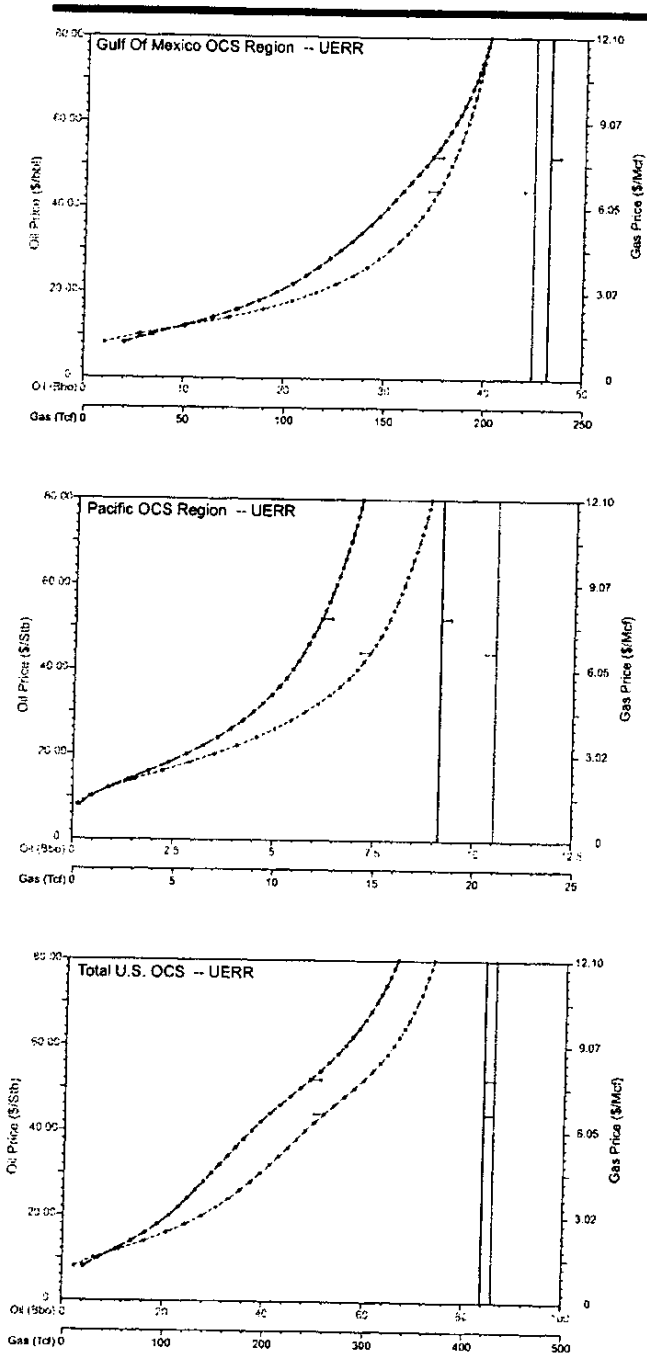


Figure 3. Price Supply Curves for Federal OCS Regions and Total Federal OCS.

Estimates of the quantities of historical production, reserves, and future reserves appreciation are presented to provide a frame of reference for analyzing the estimates of UTRR. The total endowment is the sum of historic production, reserves, future reserves appreciation, and UTRR. Mean estimates of the total endowment for the entire OCS are 115.4 Bbo and 633.6 Tcfg (228.2 BBOE). The total endowment distribution by resource category can be seen in figure 4 and table 2. More

than 18 percent of the total endowment in terms of the mean estimate of BOE has already been produced. An additional 11 percent is contained within the various reserves categories, the source of near and midterm production. After more than 50 years of OCS exploration and development, 70 percent of the mean BOE total endowment is still represented by undiscovered resources.

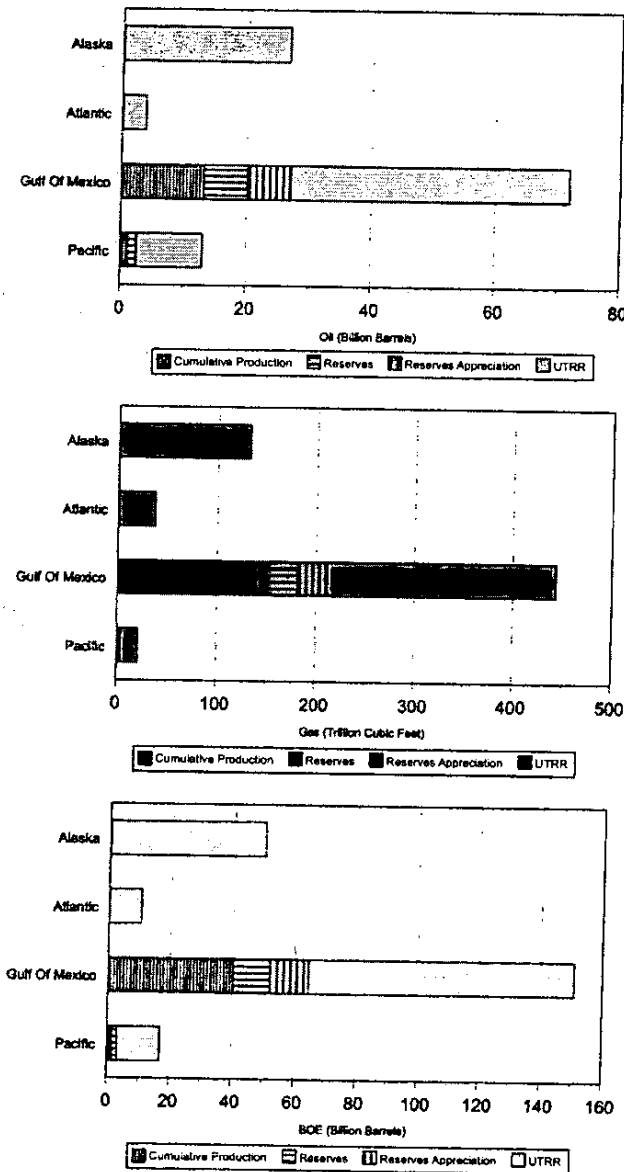


Figure 4. Distribution of total hydrocarbon endowment by type, region and resource category.

Table 2. Distribution of total hydrocarbon endowment by type, region and resource category.

Resource Category		Alaska	Atlantic	Gulf of Mexico	Pacific	Total OCS
Cumulative Production	Oil (Bbo)	.01	0	13.05	1.06	14.12
	Gas (Tcf)	0	0	152.25	1.32	153.57
	BOE (Bbo)	.01	0	40.14	1.29	41.45
Reserves	Oil (Bbo)	.03	0	7.06	1.46	8.55
	Gas (Tcf)	0	0	27.70	1.56	29.26
	BOE (Bbo)	.03	0	11.98	1.74	13.76
Reserves Appreciation	Oil (Bbo)	-	-	6.88	-	6.88
	Gas (Tcf)	-	-	30.91	-	30.91
	BOE (Bbo)	-	-	12.38	-	12.38
UTRR (Mean)	Oil (Bbo)	26.61	3.82	44.92	10.53	85.88
	Gas (Tcf)	132.06	36.99	232.54	18.29	419.88
	BOE (Bbo)	50.11	10.40	86.30	13.79	160.60
Total Endowment	Oil (Bbo)	26.65	3.82	71.91	13.05	115.43
	Gas (Tcf)	132.06	36.99	443.40	21.17	633.62
	BOE (Bbo)	50.15	10.40	150.81	16.82	228.18

**Comparison with Previous Assessments**

A general comparison of 1996, 2001, and 2006 assessment UTRR results is shown in figure 5. At the mean level, the estimates of UTRR for the entire OCS represent an increase compared to the previous (2001) assessment of 10.9 Bbo and 57.7 Tcfg or about 15 percent for oil and gas. The vast majority of this increase occurred in the Gulf of Mexico, where estimates of UTRR range from 41.2 to 49.1 Bbo and 218.8 to 249.1 Tcfg with a mean of 44.9 Bbo and 232.5 Tcfg respectively. Significant increases in the estimates for the deepwater areas were the major contributor to the overall growth in the estimates of UTRR for oil. The majority of the increase in the estimate of UTRR from gas was related to deep gas plays located beneath the shallow water shelf of the Gulf of Mexico. This increase in UTRR was also accompanied by approximately 4.5 Bbo and 14 Tcfg that were discovered in fields such as Thunder Horse and Holstein, whose resources were moved to the reserve category during this time period.

In the Pacific Region, the mean estimate for UTRR of 10.5 Bbo and 18.3 Tcfg represented a slight decrease for both oil and natural gas. The Atlantic estimate of UTRR ranges from 1.1 to 7.6 Bbo and 14.3 to 66.5 Tcfg with a mean of 3.8 Bbo and 37.0 Tcfg. The estimates represent a 66 percent increase

in oil resources and a 33 percent increase in gas resources in the Atlantic OCS, when compared with the MMS 2001 assessment. The last remaining leases in the Atlantic OCS, on the Manteo Prospect, expired in 2002 without a well being drilled. However, significant new analog information was available as the result of recent exploration in the Scotian Shelf offshore Canada and the West African Continental Slope offshore Mauritania. Applying these new exploration ideas to

the older Atlantic play models led to adjustments to risks in previously defined plays and the identification of additional new plays.

Estimates of UTRR on the Alaska OCS changed only slightly compared to the previous assessment. The mean oil estimate

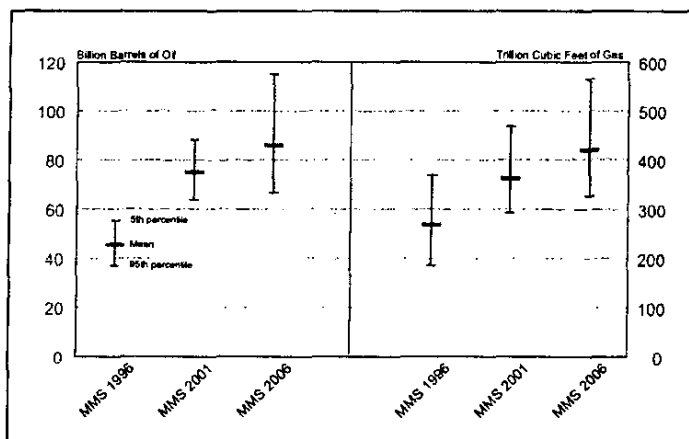


Figure 5. Comparison of UTRR from MMS 1996, 2001, 2006 assessments.

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increased by 1.7 Bbo, while the mean natural gas estimate declined by 6.7 Tcf. The first Alaskan OCS production occurred in 2001 from the joint state/Federal Northstar unit in the Beaufort Sea.

Fifty-four percent of the mean estimate of UTRR on a BOE basis was projected to be present in the Gulf of Mexico OCS. The Alaska, Pacific and Atlantic OCS comprise 31, 9 and 6 percent respectively of the total UTRR.

#### List of Terms

**Cumulative production:** The sum of all produced volumes of oil and gas prior to a specified point in time.

**Pool:** A discovered or undiscovered accumulation of hydrocarbons, typically within a single stratigraphic interval.

**Play:** A group of pools that share a common history of hydrocarbon generation, migration, reservoir development, and entrapment.

**Probability:** A means of expressing an outcome on a numerical scale that ranges from impossibility to absolute certainty; the chance that a specified event will occur.

**Prospect:** A geologic feature having the potential for trapping and accumulating hydrocarbons; a pool or potential field.

**Reserves:** The quantities of hydrocarbon resources anticipated to be recovered from known accumulations from a given date forward. All reserve estimates involve some degree of uncertainty.

**Reserves appreciation:** The observed incremental increase through time in the estimates of reserves (proved and unproved) of an oil and/or natural gas field as a consequence of extension, revision, improved recovery, and the addition of new reservoirs.

**Resources:** Concentrations in the earth's crust of naturally occurring liquid or gaseous hydrocarbons that can conceivably be discovered and recovered.

**Undiscovered resources:** Resources postulated, on the basis of geologic knowledge and theory, to exist outside of known fields or accumulations.

**Undiscovered technically recoverable resources (UTRR):** Oil and Gas that may be produced as a consequence of natural pressure, artificial lift, pressure maintenance, or other secondary recovery methods, but without any consideration of economic viability. They are primarily located outside of known fields.

**Undiscovered economically recoverable resources (UERR):** The portion of the undiscovered conventionally recoverable resources that is economically recoverable under imposed economic and technologic conditions.

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#### Selected References

Minerals Management Service. 1996: An assessment of the undiscovered hydrocarbon potential of the Nation's outer continental shelf. OCS Report MMS 96-0034, 40 p.

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Society of Petroleum Engineers and World Petroleum Congress. 1997: Petroleum Reserves Definitions, p. 4-7.

#### For Further Information

Supporting geological studies, previous assessment results, and methodologies used by MMS for resource assessment can be found on MMS's web site, [www.mms.gov/offshore](http://www.mms.gov/offshore).

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