



## Pump It

### **Student Handout #3: Energy Information Administration, “Impacts of Increased Access to Oil and Natural Gas Resources in the Lower 48 Federal Outer Continental Shelf ”**

Released: Issues in Focus, AEO2007

The OCS [Outer Continental Shelf] is estimated to contain substantial resources of crude oil and natural gas; however, some areas of the OCS are subject to drilling restrictions. With energy prices rising over the past several years, there has been increased interest in the development of more domestic oil and natural gas supply, including OCS resources. In the past, Federal efforts to encourage exploration and development activities in the deep waters of the OCS have been limited primarily to regulations that would reduce royalty payments by lease holders. More recently, the States of Alaska and Virginia have asked the Federal Government to consider leasing in areas off their coastlines that are off limits as a result of actions by the President or Congress. In response, the Minerals Management Service (MMS) of the U.S. Department of the Interior has included in its proposed 5-year leasing plan for 2007-2012 sales of one lease in the Mid-Atlantic area off the coastline of Virginia and two leases in the North Aleutian Basin area of Alaska. Development in both areas still would require lifting of the current ban on drilling.

For AEO2007, an OCS access case was prepared to examine the potential impacts of the lifting of Federal restrictions on access to the OCS in the Pacific, the Atlantic, and the eastern Gulf of Mexico. Currently, except for a relatively small tract in the eastern Gulf, resources in those areas are legally off limits to exploration and development. Mean estimates from the MMS indicate that technically recoverable resources currently off limits in the lower 48 OCS total 18 billion barrels of crude oil and 77 trillion cubic feet of natural gas (Table 10).

Although existing moratoria on leasing in the OCS will expire in 2012, the AEO2007 reference case assumes that they will be reinstated, as they have in the past. Current restrictions are therefore assumed to prevail for the remainder of the projection period, with no exploration or development allowed in areas currently unavailable to leasing. The OCS access case assumes that the current moratoria will not be reinstated, and that exploration and development of resources in those areas will begin in 2012.

Assumptions about exploration, development, and production of economical fields (drilling schedules, costs, platform selection, reserves-to-production ratios, etc.) in the OCS access case are based on data for fields in the western Gulf of Mexico that are of

similar water depth and size. Exploration and development on the OCS in the Pacific, the Atlantic, and the eastern Gulf are assumed to proceed at rates similar to those seen in the early development of the Gulf region. In addition, it is assumed that local infrastructure issues and other potential non-Federal impediments will be resolved after Federal access restrictions have been lifted. With these assumptions, technically recoverable undiscovered resources in the lower 48 OCS increase to 59 billion barrels of oil and 288 trillion cubic feet of natural gas, as compared with the reference case levels of 41 billion barrels and 210 trillion cubic feet.

The projections in the OCS access case indicate that access to the Pacific, Atlantic, and eastern Gulf regions would not have a significant impact on domestic crude oil and natural gas production or prices before 2030. Leasing would begin no sooner than 2012, and production would not be expected to start before 2017. Total domestic production of crude oil from 2012 through 2030 in the OCS access case is projected to be 1.6 percent higher than in the reference case, and 3 percent higher in 2030 alone, at 5.6 million barrels per day. For the lower 48 OCS, annual crude oil production in 2030 is projected to be 7 percent higher—2.4 million barrels per day in the OCS access case compared with 2.2 million barrels per day in the reference case (Figure 20). Because oil prices are determined on the international market, however, any impact on average wellhead prices is expected to be insignificant.

Similarly, lower 48 natural gas production is not projected to increase substantially by 2030 as a result of increased access to the OCS. Cumulatively, lower 48 natural gas production from 2012 through 2030 is projected to be 1.8 percent higher in the OCS access case than in the reference case. Production levels in the OCS access case are projected at 19.0 trillion cubic feet in 2030, a 3-percent increase over the reference case projection of 18.4 trillion cubic feet. However, natural gas production from the lower 48 offshore in 2030 is projected to be 18 percent (590 billion cubic feet) higher in the OCS access case (Figure 21). In 2030, the OCS access case projects a decrease of \$0.13 in the average wellhead price of natural gas (2005 dollars per thousand cubic feet), a decrease of 250 billion cubic feet in imports of liquefied natural gas, and an increase of 360 billion cubic feet in natural gas consumption relative to the reference case projections. In addition, despite the increase in production from previously restricted areas after 2012, total natural gas production from the lower 48 OCS is projected generally to decline after 2020.

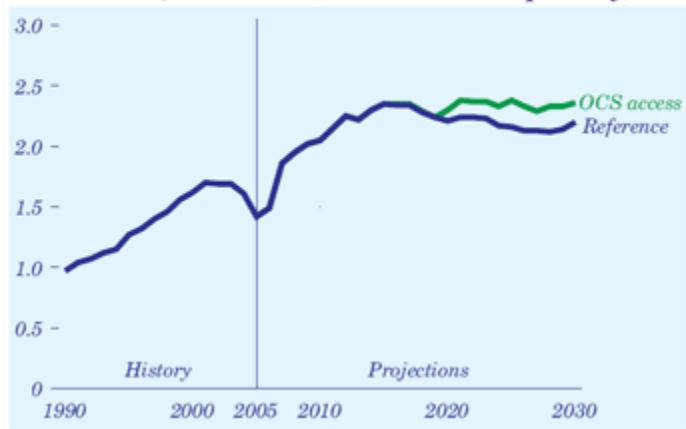
Although a significant volume of undiscovered, technically recoverable oil and natural gas resources is added in the OCS access case, conversion of those resources to production would require both time and money. In addition, the average field size in the Pacific and Atlantic regions tends to be smaller than the average in the Gulf of Mexico, implying that a significant portion of the additional resource would not be economically attractive to develop at the reference case prices.

Source: <http://www.eia.doe.gov/oiaf/aeo/otheranalysis/ongr.html>

**Table 10. Technically recoverable undiscovered oil and natural gas resources in the lower 48 Outer Continental Shelf as of January 1, 2003**

OCS areas	Crude oil (billion barrels)	Natural gas (trillion cubic feet)
<b>Available for leasing and development</b>		
Eastern Gulf of Mexico	2.27	10.14
Central Gulf of Mexico	22.67	113.61
Western Gulf of Mexico	15.98	86.62
<b>Total available</b>	<b>40.92</b>	<b>210.37</b>
<b>Unavailable for leasing and development</b>		
Washington-Oregon	0.40	2.28
Northern California	2.08	3.58
Central California	2.31	2.41
Southern California	5.58	9.75
Eastern Gulf of Mexico	3.98	22.16
Atlantic	3.82	36.99
<b>Total unavailable</b>	<b>18.17</b>	<b>77.17</b>
<b>Total Lower 48 OCS</b>	<b>59.09</b>	<b>287.54</b>

**Figure 20. Lower 48 offshore crude oil production in two cases, 1990-2030 (million barrels per day)**



**Figure 21. Lower 48 offshore natural gas production in two cases, 1990-2030 (trillion cubic feet)**

