



Alaska's Offshore: The Next Prudhoe Bay



Nearly four decades after oil was discovered on the North Slope, Alaskans are on the leading edge of a new frontier of oil and gas development that could be as large as the first.

Beneath the water and seafloor that cover Alaska's offshore, known as the Outer Continental Shelf, or "OCS", the most promising undeveloped hydrocarbon basins in North America are believed to exist. In addition to providing thousands of jobs for Alaskans, exploration and development of Alaska's Chukchi, Beaufort and North Aleutian basins could underpin Alaska's economy and provide energy security for a nation desperate for domestic supplies of hydrocarbons.

The US Minerals Management Services conservatively estimates the federal waters adjacent to the State of Alaska contain 25 billion barrels of oil and 122 trillion cubic feet of natural gas. More than a dozen companies have invested over \$3 billion in recent years on Alaska OCS leases. They hope to replace declining global oil reserves by utilizing the latest technology and world class experience.

With global demand for oil & natural gas expected to increase 50 percent by 2030 it's critical that energy companies have access to domestic hydrocarbons – including Alaska's OCS where known

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Top left: Drill Ship "Frontier Discovery" – one of the few drill ships ready to work in the Arctic. Above: Killabuk support Vessel.



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resources can play a crucial role in helping the U.S. meet the energy challenge. Today, about 65 percent of the US oil supply and nearly 20 percent of its natural gas supply are imported. The current trend threatens to undermine our economy and national security.

Regardless of the current world economic crisis, the pressure is very much on to develop new energy resources to meet the growing global energy demand for a more technology dependent world population. While renewable energy will be a part of the world's energy supply in the 21st Century, the hard truth is fossil fuels are at the heart of our energy system and will be for the foreseeable future. Those willing to take on the huge risks in developing both conventional and alternative development projects should be rewarded with access to new reserves in the OCS.

As the Department of Interior considers opening up new OCS areas to leasing, it's critical that Alaskans continue to demonstrate their strong support for responsible development of our offshore resources. The offshore is Alaska's next Prudhoe Bay. ♦

Offshore Update

Alaska Already Receiving Revenue From Offshore Activity

Although the state of Alaska does not receive direct tax revenue from development of its offshore resources in the Outer Continental Shelf (OCS), the state does receive federal funds through a program called the Coastal Impact Assistance Program (CIAP). This program is implemented by the Department of Interior's Minerals Management Service (MMS) and is one of the many benefits from offshore development including local job development and indirect tax revenue (See "OCS Development: What's in it for Alaska").

Due to the successful Chukchi Sea lease sale this past February, these funds have been increased from \$2.5



"MV Gilavar" – shooting seismic in the Chukchi Sea.

million each of the last two years, to between \$29 million and \$41.2 million in 2009 and 2010. "Alaska plays a vital role in supporting our nation's offshore energy program," said former MMS Director Randall Luthi. "The CIAP program provides a means of sharing oil and gas revenues with local communities that are engaged in the hard work of supplying America's energy needs."

The CIAP was established as part of the Energy Policy Act in 2005 to distribute \$250 million annually to six states. In addition to Alaska, Alabama, California, Louisiana, Mississippi and Texas also receive a portion of the funds.

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OCS Development: What's In It For Alaska?

Recently, a landmark study was completed that has for the first time quantified the economic benefits to the state of Alaska from potential development of Alaska's Outer Continental Shelf (OCS). The report, "*Economic Analysis of Future Offshore Oil and Gas Development*" was just released by the University of Alaska's Institute of Social and Economic Research (ISER) and Northern Economics. Both respected research organizations teamed up to detail the direct and indirect benefits OCS development could have on Alaska and local communities.



The report estimates the exploration and development of oil and natural gas in the Chukchi Sea, Beaufort Sea, and the North Aleutian Basin would benefit Alaska to the tune of billions of dollars. Just as importantly, offshore activity is expected to create an annual average of 35,000 new jobs with roughly \$72 billion in total payroll over the 50-year life of the projects.

OCS oil and gas development could also benefit the state by lowering tariffs for users of the Trans-Alaska Pipeline System (TAPS) in addition to extending the life of TAPS well beyond the date it would be considered unviable using only onshore reserves. Additionally, with some of the largest untapped reserves of natural gas, Alaska's OCS could also play a critical role in making the Alaskan Gasline a reality.

Above right: Oil spill response crews training in Valdez.

Patrick Burden, President of Northern Economics, summed up the study's findings by comparing development of Alaska's three untapped basins as having an economic impact similar to Prudhoe Bay. While there are a great number of uncertainties in an economic study projecting out 50 years, both ISER and Northern Economics conservatively assessed these future opportunities against estimated oil and gas reserves put forward by the Minerals Management Service.

Because of the logistical barriers that need to be overcome (some leases are over 60 miles offshore) the pure cost of developing Alaska's resources requires that hydrocarbon pools be significant in size. The result would be a limited number of platforms using directional drilling to ensure the smallest possible footprint.

However the numbers pencil out over the next decade, it is clear activity in Alaska's offshore would provide a much-needed boon to the Alaska economy.

To find out about the full economic benefits of OCS development for Alaska, go to www.northerneconomics.com.

Technology Spotlight

Offshore Oil Spill Response Starts with Prevention

The history of offshore exploration and production operations around the world confirms that large spills are extremely rare events. In 2003 the National Academy of Sciences reported that less than 1 percent of the oil discharges in North American waters are related to the extraction of petroleum, and only a fraction of those are from drilling operations. There has never been an oil spill caused by a blowout from offshore exploration and production drilling in state and federal waters off Alaska or in the Canadian Arctic. According to U.S. Coast Guard classification, there have been no major spills from U.S. exploration or production platforms since 1973. **This is not by luck.** Offshore oil companies have employed the best technology and best practices from around the world to ensure their offshore operations are safe and environmentally responsible.

In the unlikely event of a spill, several response techniques are typically employed. They include mechanical recovery, dispersants (chemical agents used to reduce the effect of oil spills by changing the chemical and physical properties of the oil), and controlled in-situ burning (ignition and burning of an oil spill on the surface of the water). Detection and monitoring of oil spills are important components of spill response.

Tracking an oil spill can be accomplished through airplane and helicopter surveys, Forward Looking Infrared Radar (FLIR) systems, Global Positioning Systems (GPS), digital cameras, etc. In addition, tracking buoys and various types of radar reflectors can be launched from vessels on location at the beginning of a spill and at appropriate intervals thereafter to help



"Nanuq" - an ice class vessel built specifically for spill response in the Arctic.

track the oil. Specialized ice-strengthened beacons have been used successfully for many years to track ice movements over an entire winter season throughout the polar basin.

Techniques for detecting and tracking oil under ice include drilling holes and trenches in ice, using Autonomous Underwater Vehicles (AUVs), or surface-operated, portable Ground Penetrating Radar (GPR). Off-the-shelf GPR systems are capable of airborne (helicopter) mapping of oil on the ice surface buried under snow. Alaska Clean Seas (ACS) recently acquired a GPR system to deal with the potential for pipeline spills under the snow in Prudhoe Bay fields.

Industry continues to fund projects that improve the ability to detect oil under ice. The most recent project aims at evaluating a feasibility of Nuclear Magnetic Resonance (NMR) for oil detection under ice. NMR has been used to characterize ground-water aquifers for well logging and reservoir rock core analysis in the oil industry. For applications in oil spill detection, a very important aspect of NMR is that the presence of snow or ice does not interfere with detection, and gives a promise of successful detection of oil under ice. ♦

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The Act requires that all CIAP funding be used for projects and activities for the conservation, protection, or restoration of coastal areas. The funding for Alaska will be shared between the state and eight eligible boroughs, with 65 percent going to the state and the remaining 35 percent going to the boroughs.

"The development of oil and gas resources in the federal waters off the shores of Alaska can contribute

greatly to the energy supplies of this nation," Governor Sarah Palin said. "The CIAP funding will provide for important projects benefiting the environment."

By increasing the CIAP allocation to the state of Alaska, the Federal Government is recognizing the significant contribution Alaska makes to our nation's energy supply and security. This may be the first step in a process that eventually leads to Alaska achieving full revenue sharing status. ♦

Development – Past, Present & Future

The Process to Developing Alaska’s Offshore

The Minerals Management Service (MMS) implements a comprehensive series of processes for development of the nation’s Outer Continental Shelf (OCS). In Alaska this often takes much longer than other areas of the nation. A very abbreviated description of the process is below.

So – how does it all begin? Individual lease sales cannot be held unless they are included in a 5-year program. Development of the 5-year plan involves preparing a draft and final Environmental Impact Statement (EIS), in preparation of releasing a final program; all the while soliciting public comment a minimum of four different times.

After the 5-year leasing program is adopted, planning begins for individual sales. In preparing for a lease sale, another draft and final EIS is completed, and the area for the sale is defined and published. Again, there are multiple opportunities to comment during this process. Finally, the lease sale is held, followed by the formal issuance of the leases.

Typically the process of developing a 5-year program and planning for a specific lease sale takes approximately 3 years, but in Alaska it has taken much longer. For example, the initial planning for the recent Chukchi Sea lease sale started in 2000, and the lease sale was held in 2008. The process for the North Aleutian Basin lease sale began in 2005, and the lease sale is scheduled for 2011.

Timeline of Chukchi Sea Lease Sale:

1) Develop 5-Year Program 2000 – Planning for Chukchi Sea Began	3) Exploration Plan Approval 2010 – First Exploration Well in Chukchi Scheduled for Completion*
2) Plan for Specific Lease Sale 2008 – Chukchi Sea Lease Sale Held	4) Development & Production Plan Approval 2020 – Estimated First Oil/Gas Production in Chukchi Sea*

*Assuming all legal and permitting challenges are resolved.

After the leases are awarded, companies then begin obtaining approval of their exploration plans. This requires another environmental assessment, solicitation of public comment, plan review, and the issuance of multiple permits. Once that process is completed, the first exploration well can be drilled. The approval of Alaska’s exploration plans continue to

be severely hampered by challenges to permits and various lawsuits. Assuming these legal challenges can be resolved, the first exploration well will be completed in the Chukchi Sea in 2010.

After the exploration well is completed, and assuming the results are positive, the final component in this process is obtaining approval of the development and production plans. Another round of rigorous permitting occurs at this stage with additional opportunities for public comment. Once all of that has been completed, oil and gas production can begin.

A Long History – A Promising Future

OCS development in Alaska is not “uncharted waters.” In fact, lease sale activity and exploration drilling have been occurring since the early 1970’s. A total of 84 exploratory wells have been drilled in federal OCS waters offshore of Alaska.

In the Beaufort Sea, ten OCS lease sales have been held and 31 exploratory wells have been drilled.

Prior to last year’s record-breaking lease sale in the Chukchi Sea which generated \$2.7 billion in bonus bids, MMS conducted four lease sales, and five large prospects were drilled. During those years, over 100,000 line-miles of seismic data were collected.

Details on the history of activity on the Alaska OCS, as well as information on the comprehensive environmental studies program managed by the MMS can be found on the Alaska section of the MMS website at: www.mms.gov/alaska.

In the case of the Chukchi Sea, it is estimated it will take approximately ten years between the completion of the first exploration well, and first production.

So – long story short – the federal government does not rush into lease sales, and it does not just hand over leases to be developed overnight. It could take almost twenty years from the initial planning phase to first production for the Chukchi Sea. This long lead time demonstrates the importance of maintaining schedule certainty.

Currently, Alaska is operating under the 2007-2012 leasing program. To ensure a seamless transition, it is vital that the federal government continue its work on the next 5-year program.

OVER 77% OF ALASKANS SUPPORT OCS DEVELOPMENT - LET YOUR VOICE BE HEARD!

OCS



yes

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**A Special Public Meeting
with Secretary of the Interior
Ken Salazar**

Tuesday, April 14, 2009

**Dena'ina Center -
Anchorage, AK**

**Meeting begins at
9:00 AM**

For more information,
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