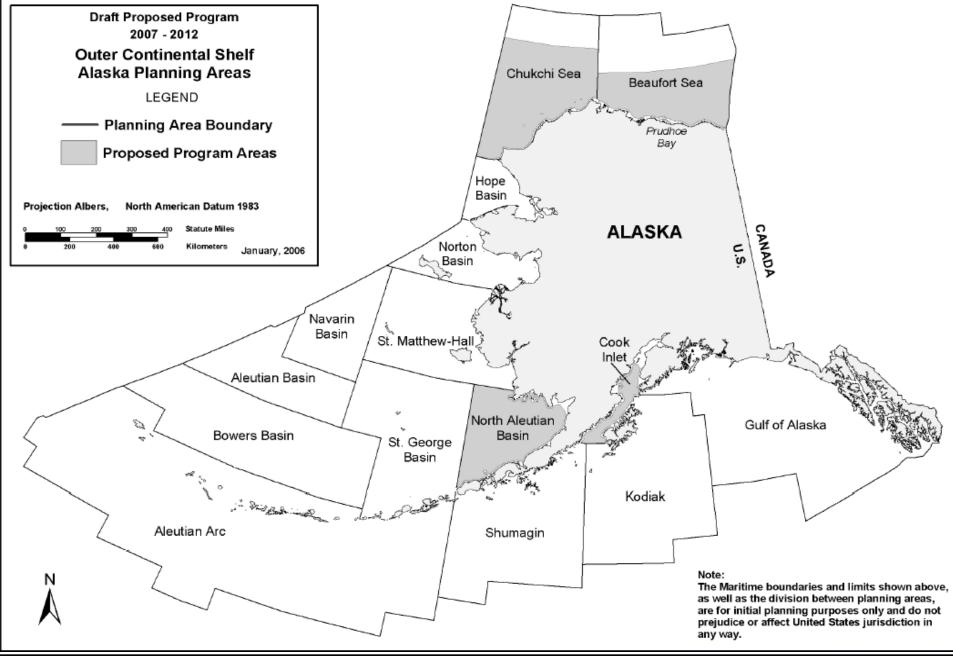
Alaska's Offshore Mega Promise Mega Uncertainty

House Resources - Lunch & Learn March 30, 2010

Cam Toohey, Shell Alaska Government Affairs Manager



Looking Ahead

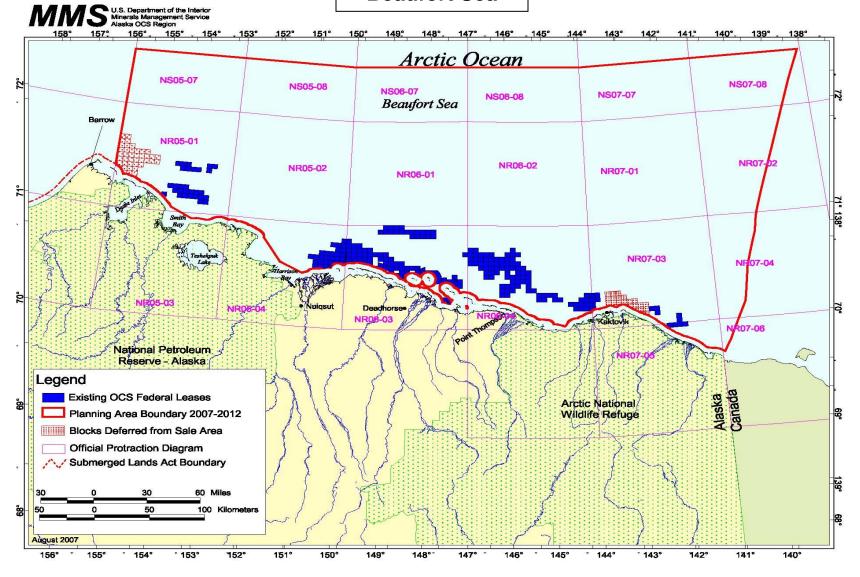
Alaska Offshore: Mega Potential

- 25 Billion barrels of Oil
 120 TCF Natural
 Gas*
- Successor to North Slope Production
- US Imports 60% of oil and 20% Natural Gas

*Numbers for Chukchi and Beaufort are based on MMS mean estimates.

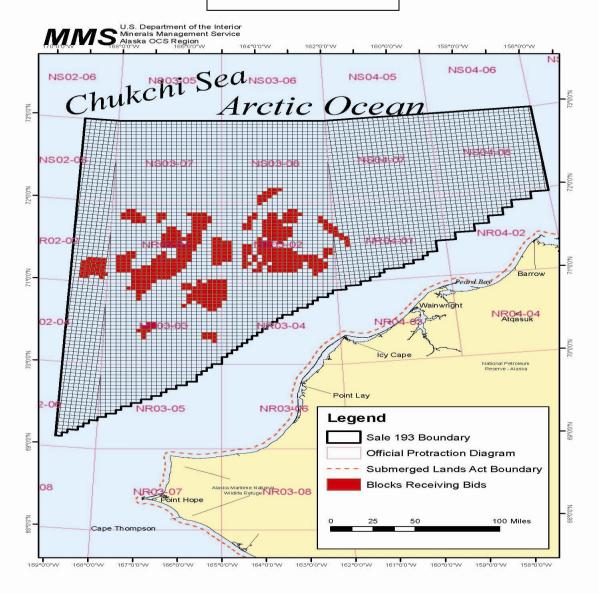


Beaufort Sea





Chukchi Sea



Mega Benefits to Alaska & Nation

ISER & Northern Economics 2009 Findings:

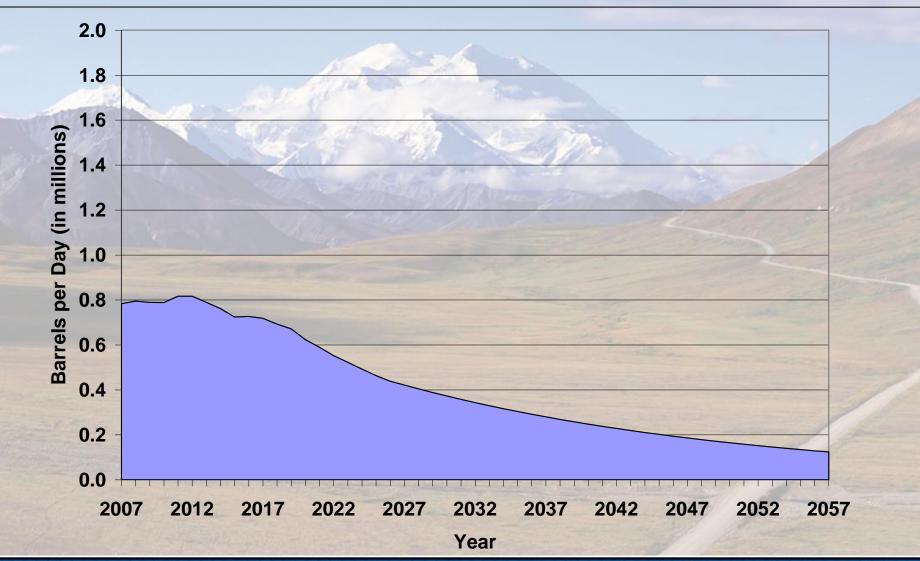
- 35,000 jobs over project life
- Extend the life for Trans-Alaska Pipeline
- Gas reserves for Gasline to Lower 48 States
- Domestic energy security



Alaska's Future with OCS: Mega Findings

- Jobs represent a total payroll of \$72 billion (2007\$) over the 50-year period.
- Provides \$5.8 billion direct to State and local government
- Reduces pipeline tariffs for onshore production and enables development of marginal oil and gas fields
- Underpin success of the natural gas pipeline project

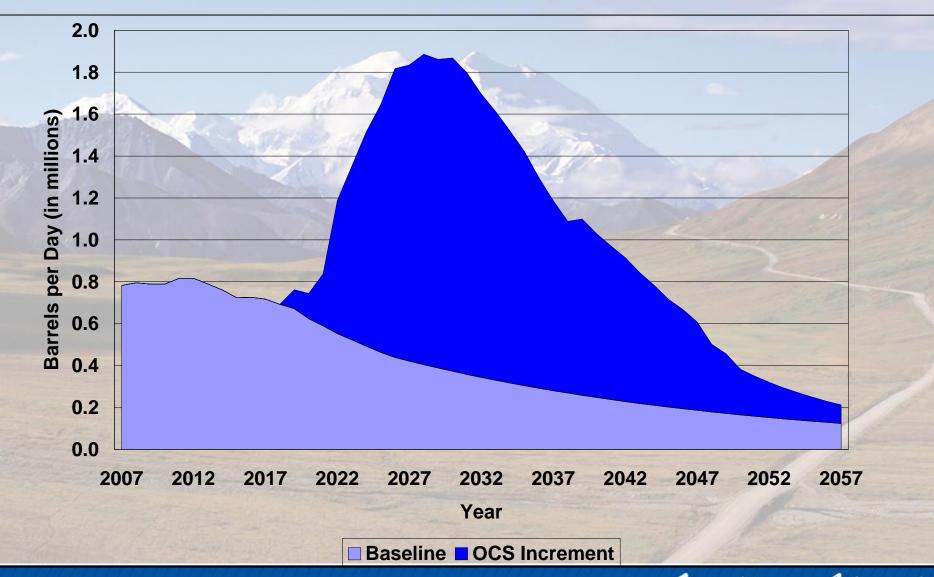
North Slope Oil Production Without OCS



AOGA

Looking Ahead

North Slope Oil Production With OCS



AOGA

Looking Ahead

Alaska's OCS: Mega Responsibility

Onshore

Vessels

 Landing craft and utility vessels

Booms



Misc Equipment

Storage and tools

Near shore

Vessels

- Barge
- Work boats
- Skimming vessel
- Mini barges



Skimmers & Pumps

Booms

Misc Equipment

- Decon connex
- Workshop/Tool connex

Offshore



Vessels

- OSRV (Nanuq)
- Arctic Tanker
- Work boats
- Vessel of Opportunity

Skimmers & Pumps



Booms



Alaska's OCS: Mega Study & Research

SINTEF

- Full scale field experiment took place in Barents Sea May 9th May 25th 2009
- · 11 different tests



- A total release of crude oil of over 5000 bls. Treated by burning, mechanical and dispersants.
- Studies of oil slick drift, tests of new mechanical recovery equipment, in-situ burning of oil in broken ice, use of oil spill dispersants on oil weathered in high ice concentrations, and remote sensing systems for monitoring of oil





SINTEF Highlights

- The released oil was **effectively recovered and treated** by combining different response technologies in different ice conditions.
- Ice can assist in confining a spill and reduce further spreading and weathering of oil
- · Confirmed a longer "window of opportunity" i.e. the time the different clean-up technologies can be used effectively.





Technical Solutions

Arctic Class Platforms

• Ice - Cold - Remote

Pack Ice Pressure



Alaska's OCS: Mega Challenges & Risk

- Short Season
- Lacking Infrastructure
- Logistics
- Ice Class Vessels & Drill Ships
- Investment in Baseline Data
- Permits/Litigation

The OCS Leasing, Exploration, and Development Process

Prelease

Solicit Comments

45-day Comment Period Draft
Proposed
Program
Published

60-Day Comment Period Proposed Program Draft EIS Published

90-Day Comment Period Proposed
Final
Program
Final EIS
Published

60-Day Period for Congress

Final 5-Year Program Announced

Planning for Specific Sale

Exploration Plan Approval

Develop 5-Year Program

Call for Information Published

45-Day Comment Period Define Sale Area Draft EIS
Published

45- to 90-Day Comment Period Final EIS
Published,
Proposed
Notice and
CD sent to
States

30-Day
Comment
Period
—
60-Day
Comment
Period
—
90-Day
Review

Final Notice of Sale Published

30-Day Period Sale

Leases Issued

Post Lease

Exploration Plan Submitted

Environmental Assessment

90-Day CZM Review

ıy w Exploration Plan Review APD
Decision
Permits
Granted

Exploration Drilling Starts First
Exploration
Well (s)
Completed

Delineation Well Drilling

Development and Production Plan Approval

Development & Production Plan Submitted

Company Submits CZM Consistency Certification MMS Prepares NEPA Analysis CZM Consistency Concurrence from State

Then Development and Production Plan Decision

Production Well Application First
Oil/Gas
Production

Mega Regulatory Challenges - Permits

Regulation has several layers

Federal

State

Local

- 37 Permits/10 Major
- Regulatory Capacity
- Invites Court action



National Marine Fisheries Service



Minerals Management Service



Environmental Protection Agency



Fish and Wildlife Service



Alaska Dept. of Environmental Conservation



North Slope Borough



Northwest Arctic Borough



Alaska Eskimo Whaling Commission

Mega Stakeholders

- Finding common ground with the people of Alaska
- Hundreds of meetings with stakeholders
- Incorporating feedback
- Revised program



Mega Legal Challenges

- D.C. Circuit Court Remands 5-year Leasing Plan (Chukchi leases)
- Beaufort and Chukchi Exploration
 Approvals Challenged in the 9th Circuit
 Court
- Total of 6 Active Legal Challenges

Drilling Should be Allowed

Baseline Science

\$500 Million and growing

Oil Spill Response

World-Class
 Contingency Plan

Experience

Pioneering Alaska
 Offshore



Alaska's Offshore: Mega Promise

- Alaska offshore resources are significant
- Federal lease sales have been held – \$ billions collected
- "Shovel ready" since 2007 but de facto moratoria blocks drilling

