



## Shell Alaska Update



March 18, 2011

## Arctic Oil and Gas – A History of Success

- Worldwide Arctic operations have produced about 40 billion barrels of oil and 1,100 trillion cubic feet (TCF) of gas.
- Today, about 8 million barrels of oil equivalent (BOE) are produced daily.
- U.S. Geological Survey's conservative estimates indicate roughly 27 billion barrels of oil and more than 120 TCF of gas in the Alaska Outer Continental Shelf.

“Shell is talking about exploratory drilling in the summer months in very shallow water. From our perspective, that's been done successfully throughout the world. In fact, there are a whole bunch of wells in the Chukchi that were drilled in the 1980s, and several in the Beaufort. You could even make the argument that in the Arctic in the summertime, you have more daylight to work with.”

– Rear Admiral Christopher Colvin  
Commander of the 17th Coast Guard District,  
overseeing Alaskan waters



# Shell In Alaska

- Shell operated in Alaska for 50 years until 1998
- 1st royalty payer to State of Alaska
- Extensive experience and operations in Cook Inlet and Arctic
- 4 of 5 wells in the Chukchi and 12 of 30 in the Beaufort previously drilled by Shell



Cook Inlet

Gulf of Alaska

Bering and Beaufort Sea

Chukchi Sea

1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991

# Shell In Alaska Today

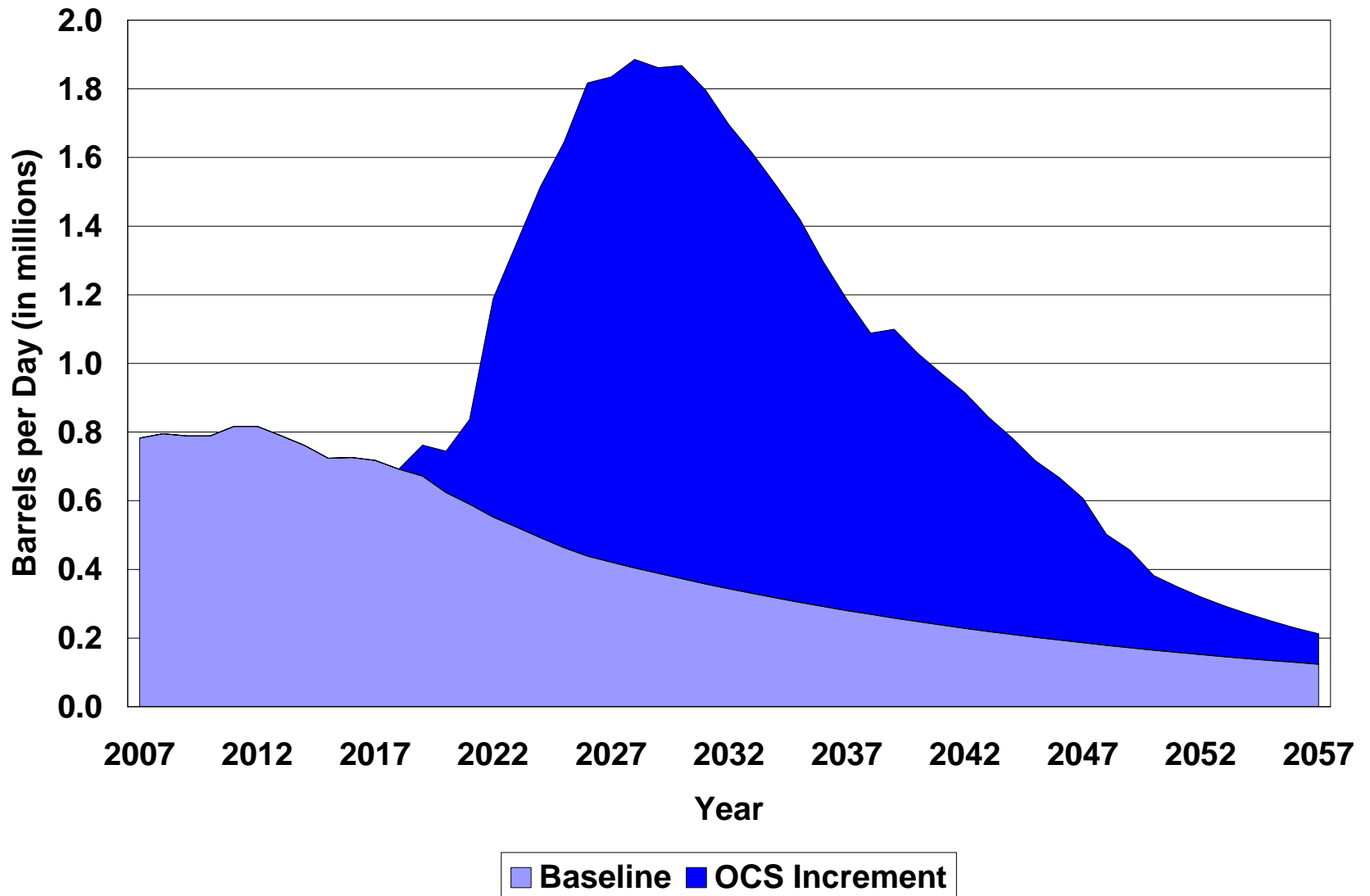
- 137 Beaufort leases - \$84M
- 275 Chukchi leases - \$2.1 Billion
- Total investment to date: \$3.75 billion
- Hundreds of millions with Alaskans /offshore service providers
- Conservative estimates: 25 billion barrels of oil and 120 TCF of gas in Alaska Arctic (mean estimate)
- Most material OCS hydrocarbon outside of Deepwater GOM OCS

**Chukchi Sea**  
275 Leases

**Beaufort Sea**  
137 Leases



# The Future of TAPS





# Chukchi and Beaufort Seas



# Shell Three-Tier Oil Spill Response

## Offshore

### Vessels

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



### Skimmers & Pumps



### Booms



## Nearshore

### Vessels

- Barge
- Work boats
- Skimming vessel
- Mini barges



### Skimmers & Pumps Booms



### Misc Equipment

- Decon connex
- Workshop/Tool connex

## Onshore

### Vessels

- landing craft and utility vessels



### Booms



### Misc Equipment

- Storage and tools



## Oil Spill Contingency Plan Support

- State and Federal Standards reviewed and approved
- World class Contingency Plan reviewed by BOEM, EPA, US Coast Guard, FWS, NMFS, North Slope Borough
- Worst Case Discharge Scenario for 2011 significantly lower than required Response Planning Standard
- Shell response capabilities exceed required Response Planning Standard
- SINTEF (oil in ice research) study and trials

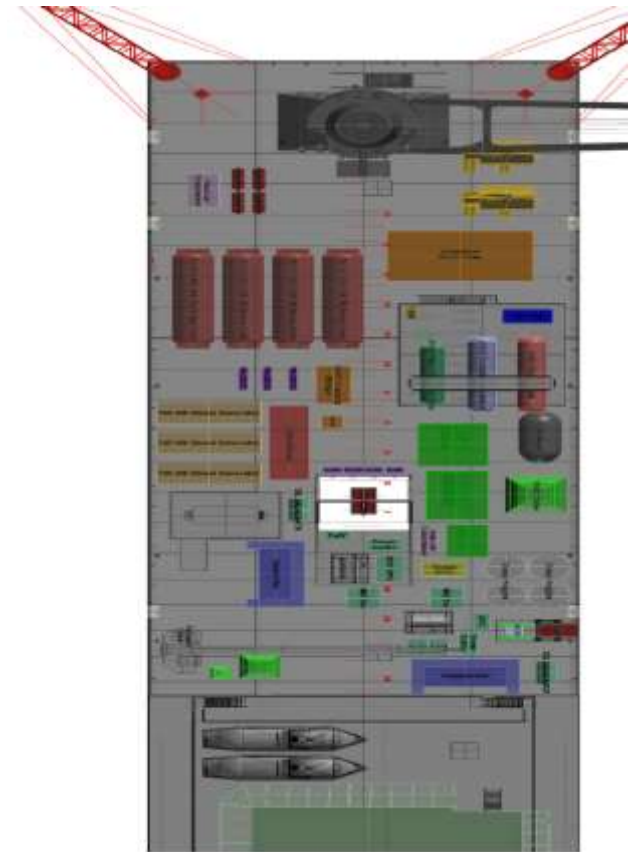
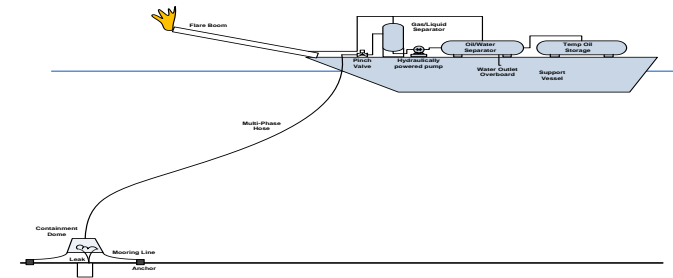




# Alaska Arctic Cap & Containment System

## Overview

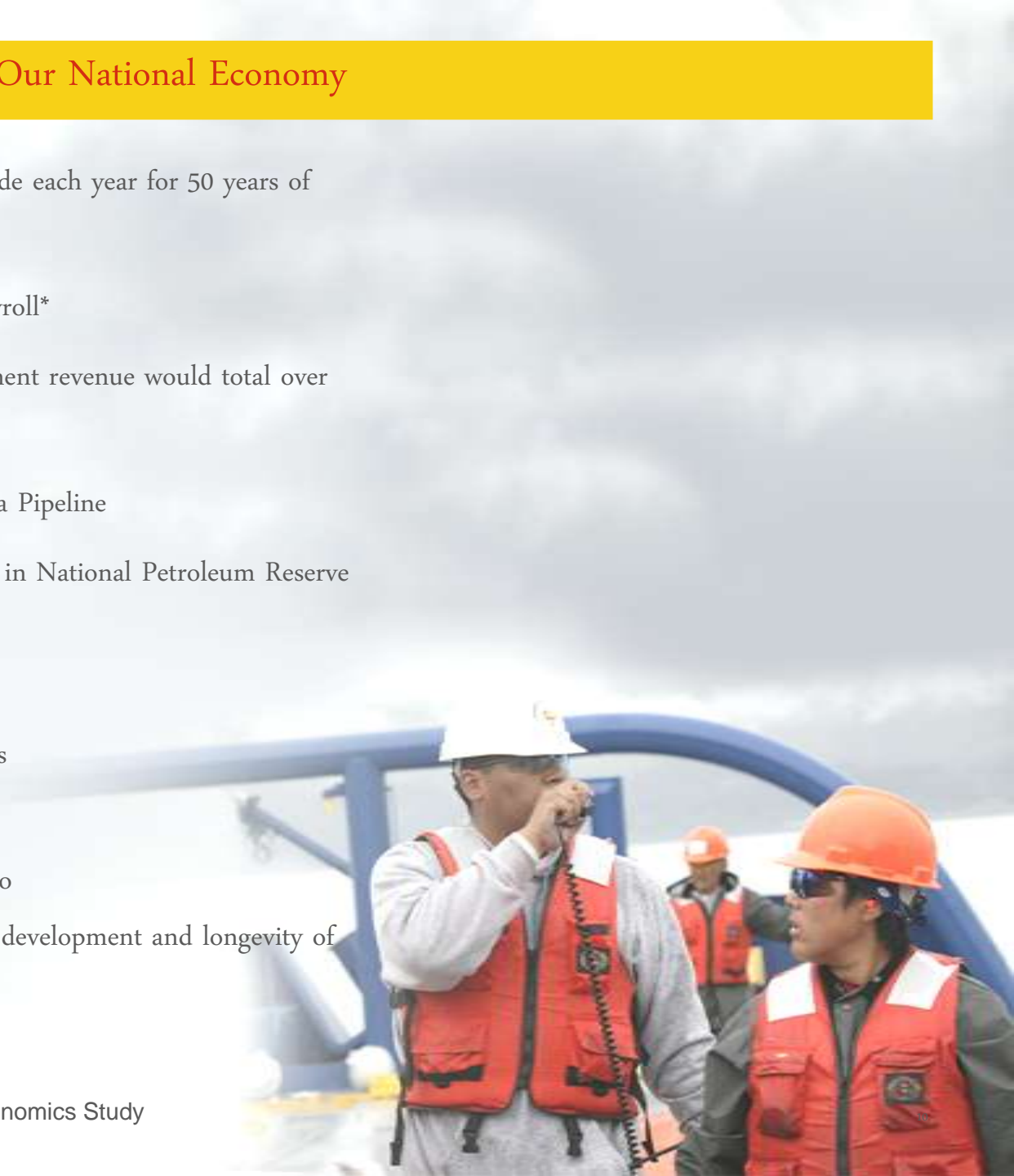
- Shell is developing a Cap & Containment System to support our shallow water exploration drilling in the Alaska OCS
- System design provides a toolkit to capture oil for various potential well control scenarios
- Primary components:
  - Subsea – capping system & containment domes, well-intervention connections, ROV
  - Surface barge – deck space w/ processing separation equipment, oil and gas flaring systems



## Alaska Offshore: Vital To Our National Economy

- Over 54,000 new jobs nationwide each year for 50 years of project life\*
- Amounts to \$145 billion in payroll\*
- New Federal and state government revenue would total over \$193 billion\*
- Extends the life of Trans Alaska Pipeline
- Opens up “stranded” resources in National Petroleum Reserve – Alaska (NPRA)
- Union Support: Regional and National Unions support Shell’s Alaska OCS project
- Clear link from OCS projects to new energy prospects, new job development and longevity of the Trans Alaska Pipeline

\*2011 Northern Economics/ ISER Economics Study



## Efforts to Explore In the Beaufort and Chukchi Sea 2005-11

- Beaufort leases in 2005
- Chukchi leases in 2008
- Two Arctic Drill Ships w/ supporting vessels
- Complete Oil Spill Response kits plus Nanuq
- New ship under construction
- 5 years of new science
- Mobilization to drill in 2007, 08, 10, 11,
- Post Macondo Adds to Program:
  - Oil spill containment system
  - BOP modifications
  - Second drilling rig in theatre
- President Obama – March 2010 & Dec 2010
- Two biggest challenges – air permits & 9<sup>th</sup> Circuit



- What's needed to drill in 2012/3?
  - Regulatory clarity – permits achieved in timely manner
    - EPA air permits remain under appeal
    - NOAA drilling IHA's
    - BOEM approvals of APD's & new SEIS
  - Agencies taking initial steps to process permits
    - Shell, BOEM & NOAA have ongoing dialogue to review path forward
  - Successful litigation defense





