

## Economic Analysis of Future Offshore Oil and Gas Development

Peter Arbo, September 2011

<b>1. Project / publication</b>	Northern Economics (2009): <i>Economic Analysis of Future Offshore Oil and Gas Development: Beaufort Sea, Chukchi Sea, and North Aleutian Basin</i> . Anchorage, Alaska, 136 pages  <a href="http://www.iser.uaa.alaska.edu/Publications/Econ_Analysis_Offshore_O&amp;GDevpt.pdf">http://www.iser.uaa.alaska.edu/Publications/Econ_Analysis_Offshore_O&amp;GDevpt.pdf</a>
<b>2. Initiator</b>	The report is prepared for Shell Exploration and Production.
<b>3. Objective</b>	The aim of the report is to describe and quantify the potential economic benefits to the State of Alaska and local communities from developing oil and gas resources in Alaska's Outer Continental Shelf (OCS) areas.
<b>4. Geographical delimitation</b>	Alaska.
<b>5. Time horizon</b>	The time horizon is 50 years; from 2007 – 2057.
<b>6. Thematic focus</b>	The study quantifies the potential economic benefits of the petroleum industry's future exploration, development, and production activities in terms of additional jobs, population and government revenues. Social and environmental considerations are not taken into account.
<b>7. Images for the future</b>	<p>There is only one scenario developed for each of the three OCS areas. They are all based on certain assumptions about petroleum prices, volumes of resources that might be economically recoverable, the levels of investment that the petroleum industry will undertake, and the fiscal regime or tax structure.</p> <p>The major findings are that OCS development could generate an annual average of 35,000 jobs (including direct, indirect and induced employment) over the next 50 years (a six per cent increase compared to no OCS development). These jobs would represent a total payroll of \$72 billion (2007\$) over the 50-year period. The growth in jobs could lead to a five per cent increase in Alaska's population (+ 35,000). The potential cumulative direct petroleum revenues to state and local governments is estimated to \$5.8 billion, of which the bulk will go to local government from property taxes on onshore petroleum facilities. Total state government revenues (including direct OCS petroleum revenues, population-related revenues, and indirect petroleum revenues) are estimated to be \$ 15.3 billion. OCS development will be an important factor in reducing risks for the proposed natural gas pipeline from the North Slope to Lower 48 markets.</p>
<b>8. Key driving forces</b>	OCS development. According to the report, total OCS oil and gas that might be produced through 2057 could amount to about 10.2 billion barrels of oil and 19.8 trillion cubic feet of gas.
<b>9. Uncertainties/wildcards</b>	There is a high level of uncertainty regarding resource potentials (not yet proven commercial reserves), gas prices, development costs, and timing.
<b>10. Accomplishment and collaboration</b>	The project was carried out by the consulting company Northern Economics in association with Institute of Social and Economic Research, University of Alaska Anchorage, and is a typical econometric impact study.
<b>11. Method</b>	Given the assumptions of the scenarios, the rest is quantification and estimation. The incremental effects of OCS development are compared against a baseline.
<b>12. Sources of information</b>	The starting point for the analysis was the scenarios developed for the areas by the Minerals Management Service, the federal agency that manages OCS areas and

	develops exploration, development, and production scenarios for use in their environmental assessments and environmental impact studies. However, they depart from the MMS assumptions in several ways, including 1) gas production in the Beaufort and Chukchi; 2) new on-shore facilities in the Beaufort; 3) updated resource estimates; 4) adjustments in timing and level of exploration and development activities to reflect changes in technology and experiences with operating under Arctic conditions and in areas of greater water depths..
<b>13. Strengths</b>	The study is comprehensive and detailed, but it resembles many other studies of ripple effects of oil and gas development.
<b>14. Weaknesses</b>	The chosen scenarios represent only one possible picture of the future. The main purpose of the study is to illustrate the great benefits of OCS development for Alaska.
<b>15. Attention and significance</b>	Not known.
<b>16. Relevance for the Fram Centre</b>	The study as such is of little relevance, but it is important as an example of how oil and gas development is justified politically.