

The Commercialization of North Slope Natural Gas and Other Factors that are Transforming Alaska's Oil and Gas Industry

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The potential for commercialization of known North Slope gas resources is headline news in Alaska. A natural gas pipeline project would benefit Alaskans on many fronts including providing increased royalty and taxes, new jobs, and clean energy. In order to develop requirements for a gas pipeline Alaskans need to understand many key issues. These issues include in-state and out-of-state demand, an estimate of undiscovered gas resources, the effects of gas production on oil production in the Prudhoe Bay Field, and the valuation of the state's royalty share of gas. Although natural gas commercialization is currently in the headlines, it is important to note that the oil and gas industry is undergoing larger changes in structure, economics, technology and politics. These changes will have long term effects on the State of Alaska. This talk will explore some of the more significant changes and look specifically at the future challenges faced by government in the new environment.

All Alaskans benefit from our oil and gas production. Oil and gas revenue from royalty, rents, bonuses and taxes have created the permanent fund and currently produce 78 percent of the state's unrestricted revenue. For example in FY 2000 these revenues were nearly 2.4 billion dollars. In addition to the direct revenue return, oil and gas provides high quality jobs for Alaskans, energy for the west coast and the state, and significant income to local and federal governments. In Alaska, no other industry comes close to this economic impact.

North Slope production has been declining since 1988. Currently, the North Slope produces 1.01 million barrels per day, about 50% of the peak production rate. Of the known 19 billion barrels of North Slope oil reserves 13 billion have been produced. With the exception of the West Sak and Schrader Bluff heavy oil and the undeveloped Point Thomson Field, all North Slope fields with reserves greater than 500 MMBO are in decline. The good news is that production decline is being decreased and may even be temporarily halted by production from smaller fields such as Alpine, Tarn, Midnight Sun, and Tabasco and future production from Meltwater and Northstar. The bad news is that in order to offset the decline rate at least one new smaller field must be brought on line each year.

The use of 3-D seismic as a basic exploration tool is one of the recent technological changes that have dramatically improved the industry's ability to search for and find subtle stratigraphic traps both within the Brookian and Beaufortian megasequences. Maximization of 3-D in the exploration process, coupled with higher oil prices, has led to a new wave of exploration in NPRA and in all compass directions away from the current development areas. Technological improvements in drilling, ice road and pad construction, and well log evaluation tools have dramatically improved the evaluation of prospects, accelerated the delineation and development, and lowered costs. Oil and gas exploration is expanding beyond traditional areas. This can be attributed to a combination of improved economics, the potential commercialization of North Slope natural gas, a more favorable political environment, and new state programs. Exploration drilling in NPRA is in its second season and the potential for commercialization of natural gas has created interest in the North Slope foothills by Anadarko, Alberta Energy, BP, and others. The state has over 300 applications for shallow gas leases (primarily coalbed methane interest) in numerous areas throughout the state. With one license issued and two more under review, the exploration licensing program is now active both the Copper River and Susitna Basins. Additionally the ANWR or 'ANWAR' debate is receiving national attention at the highest levels.

The acquisition of ARCO by BP and subsequent sale of ARCO Alaska's assets to Phillips, the Exxon/Mobil merger, the Phillips purchase of Tosco, and the realignment of interests in Prudhoe Bay and Point Thomson have changed the dynamics of exploration, development, production, transportation, and marketing of North Slope oil. These events also have major implications concerning commercialization of North Slope natural gas.

After a period of consolidation and decreased activity, Alaska's oil and gas activity appears to be entering a period of sustainable growth. This is great news for Alaskans, but creates challenges for state government, which must compete for qualified individuals with the same skill sets as those in industry. The problem is exacerbated by the state's substandard pay scale for petroleum professionals and the limited resources that it allocates for critical technologies such as 3-D seismic.