

NATURAL GAS facts

Strategic Center for
Natural Gas and Oil

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U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY



ARCTIC NATIONAL WILDLIFE REFUGE (ANWR)

Description

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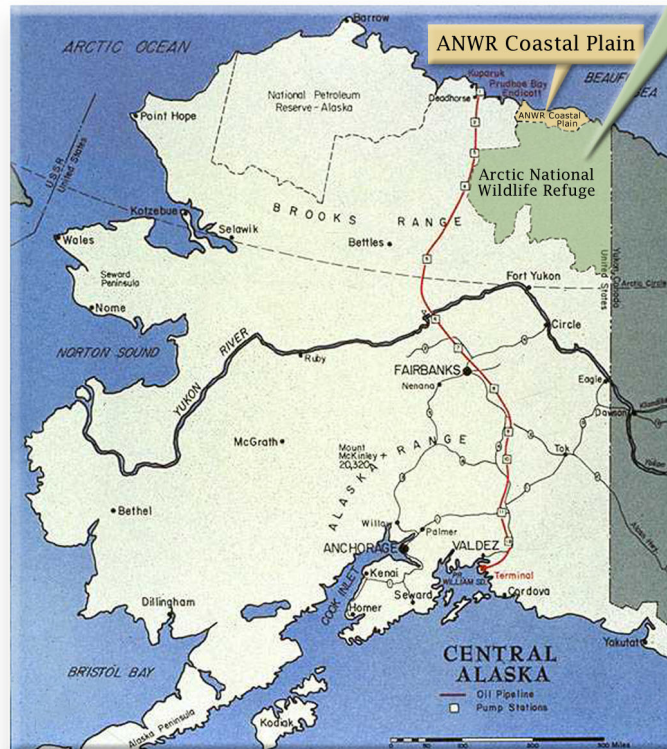
STRATEGIC CENTER FOR NATURAL GAS & OIL WEBSITE

www.netl.doe.gov/scngo

The 19-million-acre Arctic National Wildlife Refuge (ANWR) lies in the northeast corner of Alaska. The Coastal Plain area, comprising 1.5 million acres on the northern edge of ANWR, is bordered on the north by the Beaufort Sea, on the east by the U.S. Canadian border, and on the west by the Canning River. The Coastal Plain of ANWR is being considered for oil and gas development since it potentially holds billions of barrels of recoverable oil and trillions of cubic feet of recoverable gas. Of the 1.5 million acres of the Coastal Plain, less than 2000 acres would be affected by development.

However, because it is an important wildlife habitat, some are concerned that development would hurt the land, endanger wildlife, and not recover enough oil to make the effort worthwhile.

ANWR is about the size of South Carolina, and the proposed development area in the Coastal Plain is about one-fifth the size of Washington, DC's Dulles International Airport.¹



¹ National Energy Policy Report, May 2001.



ANWR could produce greater than a million barrels of oil per day, more than enough to replace U.S. imports from Iraq.

ANWR could produce more than 150 billion cubic feet of natural gas per year, which is about the volume of gas consumed by the state of South Carolina in 2000.

Background

In 1980, Public Law 96-487, Alaska National Interest Lands Conservation Act (ANILCA), was passed by Congress to provide for the designation and conservation of certain public lands in the State of Alaska. ANILCA set aside more than 100 million acres in Alaska as national parks, preserves, wildlife refuges, and wilderness areas. In section 1002 of this act, Congress specifically left open the question of future management of the 1.5-million-acre Coastal Plain of ANWR ("1002 area") because of its potentially enormous oil and gas resources, and its important environmental and ecological value. The Act gives Congress the authority to enact legislation to allow oil and gas development in the area.

The most recent assessment (ANWR, 1002 Area, Petroleum Assessment, Including Economic Analysis), performed in 1998 by the U.S. Geological Survey (USGS) estimates oil and gas resources in the area as follows:

Technically Recoverable Resources	Oil (billion barrels) (TCF)			Gas (Non-associated) (TCF)		
	95%	Mean	5%	95%	Mean	5%
Entire Assessment Area ²	5.72	10.36	15.96	0	3.84	10.85
1002 Area	4.25	7.69	11.80	0	3.48	10.02

% equals probability levels

This assessment involved 3 years of study by 40 USGS scientists, who coordinated work with colleagues in other Federal agencies, Alaska State agencies, and several universities. All 1,400 miles of seismic data that had been collected by a petroleum-industry consortium in 1984 and 1985 were reprocessed and reinterpreted. Collection of seismic data within ANWR requires an act of Congress, and these are the only seismic data ever collected within the 1002 area.

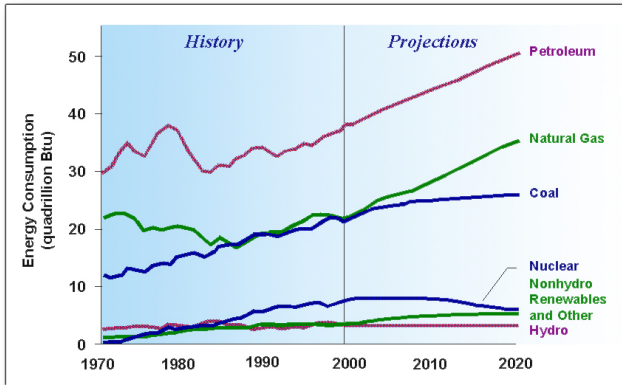
Environmentalists want to protect ANWR from any drilling because of its environmental and ecological value. They believe that there is too great a danger to the refuge, which is home to many species of birds and fish as well as both land and marine mammals. Environmentalists argue that conservation will save far more oil than the Arctic refuge could produce.

Proponents of exploration and production of ANWR's Coastal Plain point to the potentially huge resource, which rivals the amount of oil produced to date from North America's largest field, Prudhoe Bay. They also contend that drilling can be done without harming the environment or wildlife.

² Includes 1002 area (federal lands), native-owned private lands, and state-regulated waters.

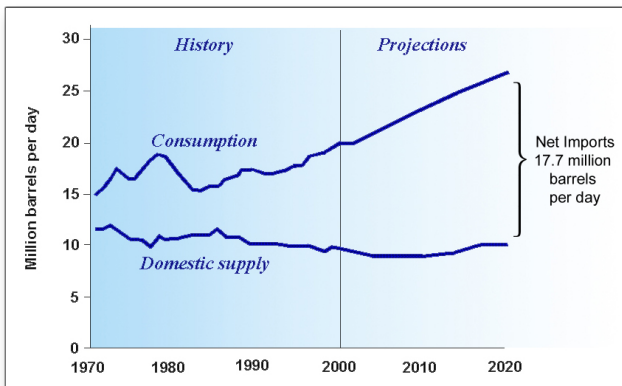
Significance/Potential Impacts

The Energy Information Administration (EIA) projects that domestic oil and gas consumption will grow significantly over the next two decades. By 2020, total natural gas demand is projected to be 33.8 trillion cubic feet, and petroleum demand is expected to be 26.6 million barrels per day.



Gas and Petroleum Demand Projected to Grow by 2020

To meet this demand, EIA estimates that by 2020, imports will rise from about 50 percent of U.S. consumption today to 62 percent (or 17.7 million barrels of oil per day).



Growing Dependence on Petroleum Imports is Projected

New domestic supplies of oil and gas are needed to meet this demand and reduce our reliance on imports. Exploration and production of oil and gas resources in the Coastal Plain area could provide new supplies of these important fossil fuels. However, even if legislation were passed by Congress and approved by the President, and leases issued to drill, it would be approximately 5 to 10 years before resources were delivered to the market.

EIA estimates that opening ANWR to exploration would boost U.S. crude production 14 percent, reducing the amount of oil imports needed to meet demand in 2020 from 62 to 60 percent.³ Producing oil and gas from ANWR is good for the U.S. economy by creating 736,000 domestic jobs (Wharton Econometrics Forecasting Associates), and generating \$1.3 billion for the federal treasury from initial leasing of the area (Congressional Budget Office).

³ Based on 10.4 billion barrels of recoverable oil reserves in the refuge.

RELEVANT INVOLVED PARTIES

Federal Government

Position:

The Bush Administration is in favor of opening ANWR for drilling, but there does not appear to be sufficient votes in the Senate to support the issue. (See "Current Legislation" section)

Alaska State Government

Position:

The state legislature passed a resolution supporting ANWR development by 60 votes to zero.

Oil and Gas Producers

Position:

Support drilling in ANWR and believe exploration and production can be done in an environmentally safe manner.

Alaska Citizens

Position:

Annual polls show that over 75% support opening ANWR.

Environmental Groups

Position:

Oppose drilling in ANWR because of its environmental and ecological value.

RELATED LINKS

U.S. House of Representatives Resources Committee
www.house.gov/resources

U. S. Senate Committee on Energy and Natural Resources
www.senate.gov/~energy

U. S. Geological Survey
info.er.usgs.gov

Petroleum News Alaska
www.petroleumnewsalaska.com

ANWR News
www.anwr.org

American Association of Petroleum Geologists
www.aapg.org

Natural Resources Defense Council
www.nrdc.org

National Energy Policy
www.whitehouse.gov/energy

Current Legislation

The U.S. House of Representatives energy bill H.R. 4, Securing America's Future Energy Act (SAFE), passed in 2001, included opening the Coastal Plain of the Arctic National Wildlife Refuge to oil drilling. Some members of Congress believe that opening ANWR will be good for the economy and will provide hundreds of thousands of jobs for Americans. The bill also guarantees the work in ANWR will be done by union labor and that the oil and gas produced will not be exported. The House approved an amendment to the bill from advocates of drilling to limit the area of the Coastal Plain that could be disturbed by development to 2,000 acres. After much contentious debate, the ANWR title was excluded from the Senate version. The final conference report H.R. 6 also excluded ANWR. Recently Senator Dominici (R-NM) offered a slimmed down version of H.R. 6, S. 2095, which also excludes ANWR, but it appears to be sidelined until after this year's election. Currently, there is little chance for legislation opening ANWR for drilling of any sort.

How SCNGO is Addressing the Issue

The Strategic Center for Natural Gas & Oil oversees a wide range of research and development efforts designed to allow less expensive, safer, and environmentally-friendly exploration and production technologies. New technologies are being developed that shrink the footprint of gas operations, allow more energy-efficient drilling and production methods, increase the capacity and reliability of existing pipelines, capture and sequester air emissions, and protect ground-water resources.

The SCNGO is also working collaboratively with the Bureau of Land Management, the United States Geological Survey, and the Department of Energy Headquarters Office to review the natural gas resource underlying federal lands to more fully assess impacts of its potential development. The results will provide key insights for future RD&D that will be required to fully exploit the resource yet meet the multi-use mandates for public lands.