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Alaska, Area 1002, And U.S. Energy Security

by Jonathan Chanis | November 03, 2017

The recently passed Senate budget resolution provides the Senate Energy and Natural Resources Committee with a pathway to enhance U.S. energy security by opening Area 1002 of the Alaska National Wildlife Refuge (ANWR). Petroleum production in Alaska peaked in 1988 at over 2 million barrels per day (mbd) and it has steadily declined since that time. It has fallen by over 1.5 mbd over peak 1988 levels and in 2016 averaged just 490,000 barrels per day (b/d).

Throughout most of the 1980s and into the mid-1990s, Alaskan production represented over one-fifth of total U.S. crude oil production—a development that greatly increased U.S. energy security. Similarly, today, opening Area 1002—a small part of the Alaskan National Wildlife Refuge—to oil exploration and development can reduce U.S. foreign import dependence. Increasing domestic oil production is an economic and national security imperative.

The United States is the world's largest oil consuming country and a significant net importer, with 92 percent of the nation's transportation energy provided by petroleum. Thanks to this dependence, when oil prices rise, businesses and consumers have no alternatives available at scale. Furthermore, 70 percent of the world's lowest cost oil reserves are held in countries that do not share American interests or values. American motorists have sent \$1.6 trillion to member states of OPEC in the form of oil revenues in the last 10 years alone. With the attention of many national security and industry analysts focused on U.S. shale oil production and the machinations of Saudi Arabia and the OPEC cartel, it is easy to forget that the petroleum investment cycle requires us to bring on longer-lived and bigger projects in order to avoid undersupplied conditions and higher prices in the coming years.

Opening Area 1002 provides such an opportunity, and serves American economic and national security interests. In 2005, the U.S. Geological Society (USGS) estimated that ANWR contains between 5.7 and 16.0 billion barrels of undiscovered technically recoverable oil. While the precise estimate still needs to be delineated, we know that there is a great deal of petroleum in ANWR. Working off the USGS estimate and other material in 2008, the U.S. Energy Information Administration projected a low case peak production of 510,000 b/d and a high case production of 1.45 mbd.

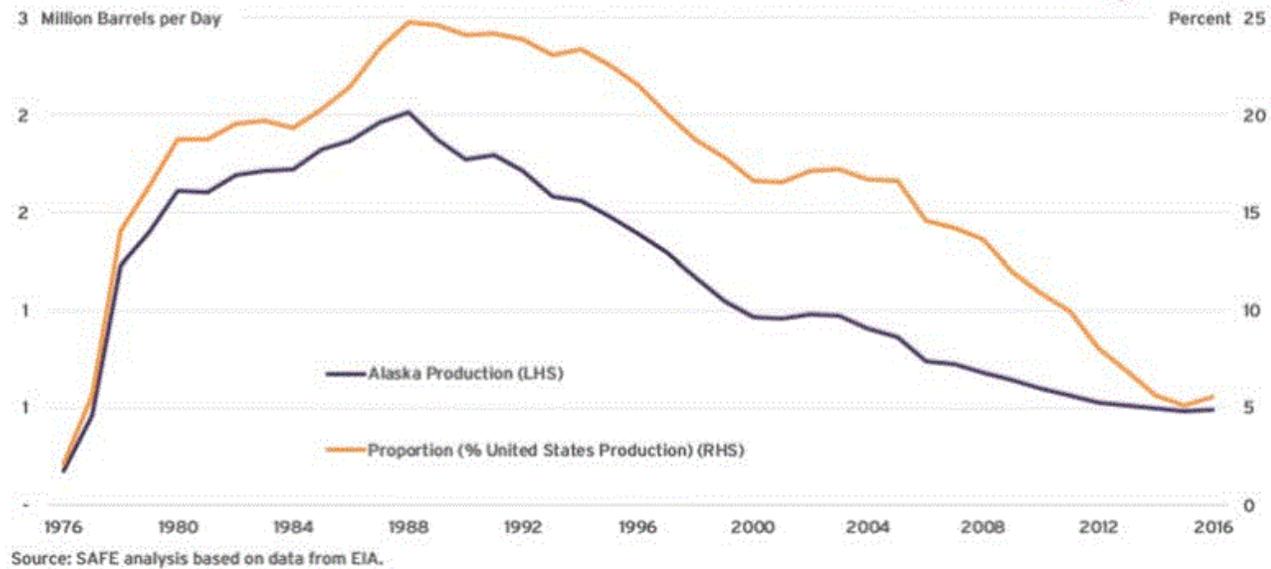
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While oil prices were substantially higher in 2008 than today, the industry has made a number of technical advances since 2008, such as 3-D seismic and horizontal drilling, that would partially offset the lower prices and facilitate responsible and cost effective oil production. While some are concerned with the environmental consequences connected with

developing this resource, it should be noted that the U.S. petroleum industry is a world leader in safe development. Production from Area 1002 would be onshore and therefore would not require more technically challenging offshore activity. Additionally, an extremely large part of the required infrastructure is in place because the Trans-Alaskan Pipeline (TAP) already exists and is underutilized, requiring only a relatively short connecting pipeline to link the new fields with Prudhoe Bay. And this new line, unlike the originally constructed TAP line, transverses much less difficult topography (i.e., it would not have to cross three large mountain ranges). The U.S. oil industry has also become much better at shrinking the environmental impact of its activities.

The advent of horizontal drilling allows for a reduction in the number drill pads necessary to develop a field, and other technological developments have allowed the average size of production pads to be reduced. In the 1970s, it was not uncommon to have drill pads of approximately 20 acres. Now they are much closer to 2 or 3 acres. It should also be noted that this new U.S. production would largely displace foreign produced barrels, and the environmental standards of many of these foreign producers are very poor.

Alaskan Production Declines and So Does Its Share of Total U.S. Supply



The economic impact of additional petroleum development in Alaska would be substantial. The recently enacted state budget of \$4.9 billion represents a 44 percent decrease over the last five years.

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The employment and revenue impacts of renewed petroleum development would help Alaska regain its fiscal health and deliver improved social services to its residents. From a security perspective, renewed Alaskan production is a clear win for the United States because it would displace foreign barrels which are much more susceptible to interruption for political

purposes. The primary destination of most new Alaskan oil would most likely be refineries in Washington state and California. This so-called “short haul” crude reduces the length of the energy supply lines and in itself enhances energy security. Fewer barrels of oil would have to leave the Persian Gulf and transit at least two major maritime choke points at the Straits of Hormuz and Malacca.

In addition to security advantages, the U.S would benefit economically through improved trade terms and balance of payments, in addition to local benefits for Alaska, including employment opportunities for the state’s 3 critical oil and gas industry and the income and state revenue gains. The increased Alaskan production would also

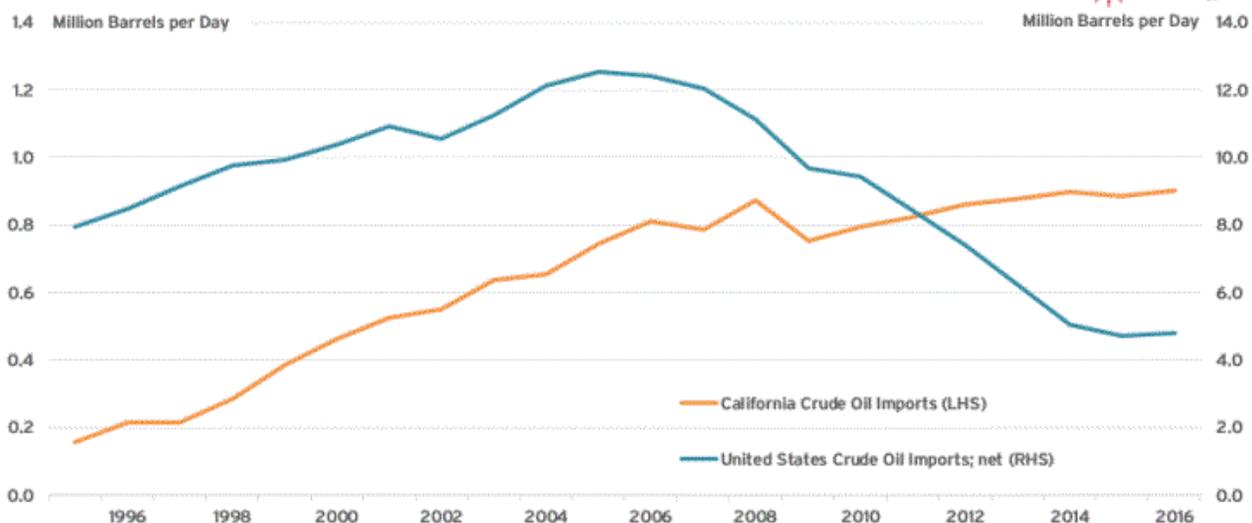
exert downward pressure on U.S. refiner acquisition costs, especially on the West Coast, keeping gasoline prices lower and allowing motorists to spend more of their income on other things. In particular, developing Area 1002 could displace growing Middle East import dependence by states such as California.

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For most of the 1980s and 1990s, California's petroleum needs, and by extension its source of gasoline and diesel fuel, were largely met by local, in-state production and by oil produced in Alaska. Since 1985, California's production has halved from approximately 400,000 b/d to 200,000

b/d today. Alaskan production peaked at just over 2 mbd in 1988, and in 2016 it produced just under 500,000 b/d. Most of this 1.7 mbd decline has been replaced by imports. In contrast to the nation as a whole, California has seen its dependence on foreign petroleum significantly increase while U.S. imports have dropped dramatically. As a share of total U.S. demand, net oil imports declined from over 60 percent in 2005, to 25 percent in 2016. In contrast, the import dependence of California's refineries has grown from 40 percent to almost 55 percent during the same period. As the chart below demonstrates, in barrel terms, total U.S. imports fell from 12 mbd to 5 mbd, while California's imports rose from 750,000 b/d to 900,000 b/d.

California Imports Rise, While U.S. Imports Fall



Source: SAFE analysis based on data from EIA and the California Energy Commission.

The importance of Alaska in meeting California's transportation fuel needs in the 1980s and 1990s cannot be overstated. Alaska's sizable production and relative proximity to California made Alaskan North Slope (ANS) crude a preferred and well-priced petroleum feedstock for the state's refineries. Furthermore, because the transportation costs of moving Alaskan crude to California refiners was lower, this source of petroleum supply helped moderate the state's fuel costs. Given the steady decline of Alaskan production, California has replaced Alaskan oil with imported oil almost on a barrel-for-barrel basis. California's import dependence is particularly notable because over 50 percent of its foreign crude comes from the Middle East. In contrast, approximately 22 percent of total U.S. imports come from the four Middle East OPEC producers. Import dependence undermines the interests of the nation at large, as oil revenues sent overseas by the United States may support corrupt and oppressive regimes that suppress human rights, fund terrorism, and often work against U.S. foreign policy interests.

Improving energy security through a combined approach of increasing petroleum supply while improving efficiency in the vehicle fleet and encouraging the development and deployment of alternative fuel vehicles would insulate our economy from oil supply disruptions and price volatility. Since the introduction of the Low Emission Vehicle program in the 1990s, California has reduced the petroleum intensity of its economy while more than doubling output. Aggressive policy efforts to encourage adoption of efficient and zero-emission vehicles were a significant part of this success. Demand reduction measures are a core component of improved energy security, but must be accompanied by strong domestic production to expedite and maximize the scope of benefits.

The development of Area 1002 is necessary, and allowing it to go forward keeps revenue from flowing to foreign producers who often use these funds to undermine and damage U.S. national security interests. By developing more domestic sources of oil supply, the United States can reduce international security risks, guard consumers against volatile oil price shocks, and encourage the development of the country's nationally important oil industry.