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The Arctic: Last energy frontier?

By Andrew Holland and Robert Gardner, American Security Project - 08/14/12 11:50 AM ET

Royal Dutch Shell and Great Bear Petroleum are preparing to explore new sources of Arctic oil this month. This provides American policymakers the opportunity to examine the long-term costs and benefits of oil production in the Arctic.

American domestic oil production is currently surging. In 2011, the U.S. had the largest increase in oil production of any country outside of OPEC. Even so, continued increases in global oil demand mean that oil prices are likely to continue to rise. Only with high oil prices will it be profitable to develop oil reserves at the ends of the earth. The Arctic is estimated to offer larger energy resources than any other untapped region in the world.

The U.S. has the potential to claim a region of the Arctic which may hold up to 29.96 billion barrels of oil and 72 billion barrels of oil equivalent natural gas, according to the U.S. Geological Survey. In 2011, Alaskan oil sold for an average price of $109.86 a barrel. At those prices, projected U.S. Arctic oil reserves could be worth almost $3.3 trillion. Such a windfall from expanded Alaskan oil production would bring rewards to business, Alaskan citizens, and government coffers. Alaska has ahuge stake in the production of Arctic resources, as oil already represents 90% of state tax revenue.

Developing Alaska's resources would reverse declining oil production in the Alaskan North Slope. Waning oil production from the Prudhoe Bay field threatens the shutdown of the Trans Alaskan Pipeline System (TAPS), a huge infrastructure investment which has already been experiencing technical difficulties due to decreased throughput. TAPS is the only cost effective way to transport the North Slope's oil to an ice free port. TAPS transports around 11% of America's domestically produced oil. However, declining oil volumesput the safe

operation of TAPS at risk. Unless production increases, TAPS will be forced to shut down.

Although the benefits of extracting Arctic oil are large, the possible costs are substantial. A moderate-sized spill in the Arctic, an area where threatened species are concentrated, could have devastating effects on the Arctic ecosystem. The hazardous Arctic climate and the remoteness ofdrilling sites pose huge logistical challenges to containing oil spills. A recent GAO report expressed serious concerns that offshore oil operators in the Arctic lack the infrastructure and vessels needed to contain an oil spill.

Climate change is another issue to consider. A recent article in The Economist noted that the climate change is transforming the Arctic more dramatically than any other region on earth. Greenhouse gasses created from the burning of fossil fuels are causing the temperature to rise in the Arctic at twice the rate of the global average. Arctic warming from 2000 to 2011 caused a 62% loss in the summer minimum volume of Arctic Sea ice. Melting Arctic on-shore ice will contribute to global sea-level rise and melting sea ice is contributing to extreme winter weather patterns in the Northern Hemisphere.

Despite these concerns, Arctic energy exploration is set to expand. This summer, Shell plans to lead exploration offshore while Great Bear Petrol seeks to tap shale reserves in the North Slope using technologies like fracking and horizontal drilling perfected in North Dakota's Bakken Shale. If they are successful in finding substantial supplies, both projects will sustain TAPS and provide needed jobs and revenue in Alaska and elsewhere. Greater domestic oil production will also mean less reliance on imported oil – a consistent drain on America's trade balance and wealth.

However, in the long-term, America's oil dependence – whether it comes from Iran, Canada, North Dakota, or Alaska – poses serious economic and national security risks. Even if we are able to dramatically increase domestic oil production, oil prices are set in the global market and will always be subject to volatility. This will leave us vulnerable to the political winds in turbulent regions of the world. Moreover, additional oil supply from domestic sources will be overwhelmed by enormous increases in global demand, as nations like India and China continue rapid economic growth. Over time, prices are expected to continue to rise.

Our competitiveness in global energy markets will be increasingly determined by how well the U.S. economy uses its technological lead to transition toward alternative fuel sources. Still, with so much oil at stake in the Arctic, getting policy right in the Arctic is critical to our energy future.

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