

ARCTIC PROMISE:

CHALLENGES AND OPPORTUNITIES IN REALIZING THE NEXT GENERATION OF U.S. ARCTIC INFRASTRUCTURE

**Failure to Support Economic Development and Fund
Military Priorities in the Arctic Could Cost Alaska and the
Federal Government \$6.3 Billion in Necessary Infrastructure
Investment**

Table of Contents

EXECUTIVE SUMMARY	1
I. INTRODUCTION	4
II. PAST AND CURRENT PRIVATE SECTOR INVESTMENT	7
a. Past Infrastructure Built to Support Alaskan Oil and Gas Activity Provides Statewide Benefits	8
b. Existing Private Sector Investment Drives Alaska's Economy	9
· Energy Development is Critical to Alaskan Employment	9
· Energy Sector Tax Revenues Provide Funds for Alaskan Public Services	10
· Energy Royalties Provide an Essential Source of Income	11
c. Projected Economic Benefits Resulting from Arctic OCS Investment	11
III. OPPORTUNITIES TO INCREASE PRIVATE INVESTMENT, GROW INFRASTRUCTURE AND IMPROVE MILITARY PREPAREDNESS	13
a. Deep-Draft Expansion at Port of Nome	15
b. Develop Port Clarence into a Support Base	17
c. Dock at Cape Blossom	18
d. Enhancing Critical Arctic Military and Maritime Infrastructure	19
· Limitations on Current Arctic Military Preparedness	19
· Public-Private Partnerships in Support of Military Preparedness	21
1. Icebreakers Critical to Military Preparedness	22
2. Coast Guard Search-and-rescue Efforts Bolstered by Private Sector Fleets	23
3. Operation Arctic Shield Offers Unique Public-Private Partnership Model	23
· Arctic Military Preparedness Constrained Absent Arctic OCS Investment	24
CONCLUSION	26

EXECUTIVE SUMMARY

America's Arctic regions need increased infrastructural development, especially as the Arctic's thinning sea ice creates new shipping routes and increased summer navigability - providing new economic opportunities and furthering U.S. strategic imperatives. These needs range from healthcare facilities, roads, bridges, deep-water ports and transshipment centers, to high-speed broadband internet and access to modern healthcare services for Alaska's Native populations.

It is also critical to the United States' national security and geopolitical interests, that we develop the region further and invest in a fleet of modern icebreakers – the vessels that break up ice to provide other ships access to open waters – to keep pace with Russia, which has taken a commanding position in the Arctic by investing billions of dollars on infrastructure, including a large fleet of at least forty icebreakers.

There are a number of proposed Arctic infrastructure projects that would address these economic and strategic needs and which collectively constitute an estimated \$6.3 billion in necessary investment into the region. And yet despite a growing alignment of challenges and opportunities, the significant capital outlay necessary to deliver them will likely remain sidelined until investors have confidence that the markets of scale needed to make each financially viable will develop.



THERE ARE A NUMBER OF PROPOSED ARCTIC INFRASTRUCTURE PROJECTS THAT WOULD ADDRESS THESE ECONOMIC AND STRATEGIC NEEDS AND WHICH COLLECTIVELY CONSTITUTE AN ESTIMATED \$6.3 BILLION IN NECESSARY INVESTMENT INTO THE REGION

Economically, increased tourism, commercial fishing, cargo shipping, and possible offshore oil and gas exploration – and the associated supply chains and service economy activities – could potentially create the market conditions that would spur necessary capital investments. To take full advantage of these opportunities, the U.S. needs to increase its maritime capabilities by adding, expanding, and increasing the depth of port, harbor, and docking facilities, growing the Arctic icebreaker fleet, and improving the search and rescue capacities and incident response efforts of the U.S. Coast Guard.

Arctic offshore oil and gas activity – if allowed – would bring sufficient physical and financial resources to the region to support these major infrastructure investments, plus an estimated \$19 billion in state and local revenues.

But the opposite is also true. The Obama administration's decisions to first remove the Arctic from the 2017 – 2022 Outer Continental Shelf leasing program and then ban energy development in 115 miles of the resource rich Beaufort and Chukchi seas, is likely to create a chilling effect on capital investment, significantly threatening the viability of critical infrastructure projects.

While the previous administration's decision to block offshore resource development from the vast majority of Arctic waters paints a bleak future for infrastructure in the region, it may not yet prove fatal.

Debate has already begun to rage over the permanence of the decision. Alaskans and other supporters of Arctic development argue that there is no precedent to suggest a ban be permanent, or that the Trump administration can't readily override the decision. Similarly, proponents point out that the Outer Continental Shelf (OCS) Lands Act explicitly creates a process allowing the White House to implement an entirely new leasing schedule, and that Congress can strike the previous administration's plan either through the Congressional Review Act, or by amending the underlying statute.

Neither process will be immediate however. Replacing the existing leasing program requires more than 250 days of public comment - at a minimum - before a final plan can be promulgated. Further, any attempt to overturn the moratorium will be challenged in the courts by environmental groups. Finally, amending the OCS Lands Act requires 218 votes in the House of Representatives and sixty votes in the senate (to invoke cloture) and so would likely be a lengthy and uncertain effort.

The prospects of offshore oil and gas development serving as a catalyst for the creation of new infrastructure in the Arctic in the near term, therefore rests on whether or not the Trump administration, and to a lesser extent the 115th Congress, chooses to prioritize the issue. This is likely the single biggest issue in determining whether and how extensively the next generation of infrastructure in the U.S. Arctic can be realized.

In addition to the uncertainty surrounding offshore energy development, Congress and the previous administration failed to authorize federal funding for a single deep-water port or a single additional icebreaker, despite a critical need

for such marine capabilities. Spending caps on the Department of Defense budget have also made it difficult to plan for long-term military infrastructure and procurement needs in the region.

As this report details, there are several specific economic and strategic projects and programs which represent an estimated \$6.3 billion in inward investment and could serve as a cornerstone to future infrastructure development in the Arctic:

■ ***Deep-Draft Expansion at Port of Nome***

This \$210.8 million port expansion project on Alaska's western coast will provide local and regional economic development opportunities.

■ ***Transformation of Port Clarence Into a Maritime Support Base***

The Bering Straits Native Corporation is working towards a public-private \$20-\$100 million Port Clarence improvement project.

■ ***Expansion of Dock at Cape Blossom***

The City of Kotzebue, Alaska, wants to capitalize on a new access road by expanding the Cape Blossom dock capabilities to reduce shipping costs and facilitate community expansion.

■ ***Enhancement of Critical Arctic Military and Maritime Infrastructure***

Operation Arctic Shield, which enhances Arctic search, rescue and emergency response capabilities and improves navigation capacity, requires major regional infrastructure improvements meet strategic goals. For example, the U.S. currently has two operational icebreakers in its fleet – six less than recommended. At \$1 billion per unit, the government has not identified a funding solution to address the shortfall.



ARCTIC OFFSHORE OIL AND GAS ACTIVITY – IF ALLOWED
– WOULD BRING SUFFICIENT PHYSICAL AND FINANCIAL
RESOURCES TO THE REGION TO SUPPORT THESE MAJOR
INFRASTRUCTURE INVESTMENTS, PLUS AN ESTIMATED
\$19 BILLION IN STATE AND LOCAL REVENUES



I. INTRODUCTION

Potential economic development opportunities in the Arctic have long fueled explorations and enterprises seeking faster shipping routes, untapped hydrocarbon reserves, and geostrategic military advantages. On a voyage from Busan, South Korea, to Rotterdam, the Netherlands, a ship traversing the Northern Sea Route through the Arctic would reach its destination in just 35 days – more than 13 days faster than traveling via the Suez Canal.¹ Of the world's estimated undiscovered petroleum resources, nearly a quarter lies in the Arctic, of which more than 75 percent is natural gas.² Where once the United States maintained a stable position in the Arctic, Russia has spent billions on the world's largest icebreaker fleet and even gone so far as to plant a titanium flag on the seabed beneath the North Pole, enhancing its dominance, evoking Cold War-like tensions and signaling a new era of aggressive economic competitiveness.³

As melting summer sea ice opens Arctic waters and coastal areas to the prospects of increased economic activity and strategic positioning, the United States and Russia have been spurred by other Arctic nations including Canada, Norway and Denmark, as well as decidedly non-Arctic countries such as China, to pursue a range of issues at senior diplomatic and military levels, with no shortage of controversy and contention over the Arctic's tantalizing, but uncertain future.⁴

Often overlooked among the grand visions, calls to arms, and alarmist outcries is the fact that 4.2 million people currently call the Arctic region home, with approximately 10 percent from indigenous communities. For more than 800,000 people in North America, the Arctic region is not a new frontier but a longstanding way of life. Retreating ice and increasing attention offer hope for prosperous and more resilient local economies, but also serve as a new source of anxiety, with so much dependent on decisions by private sector enterprises and government officials located far away.

1 Council on Foreign Relations, *The Emerging Arctic*, accessed on October 31, 2016.

2 *Ibid.*

3 *Ibid.* See also The New York Times, *Russians Plant Flag on Arctic Seabed*, accessed October 31, 2016.

4 Council on Foreign Relations, *The Emerging Arctic*, accessed on October 31, 2016.

For the people who actually live in the Arctic year-round, private investment, led by the development of oil and gas resources, has been a lucrative and reliable catalyst for broader economic growth and social stability. This is especially true for public infrastructure: The new roads built to haul construction equipment and carry tanker trucks to remote areas eventually end up becoming the same roads that locals use to drive children to school or take the elderly to the hospital. The need to house and feed seasonal workers can create small commercial centers in far-flung provinces, making everything from reliable electricity and basic sanitation services to grocery stores and laundromats, available year-round to local residents who might otherwise be stuck with diesel generators, inadequate water supplies, and an uninspiring selection of non-perishable goods purchased in bulk every few months in some faraway town.



THE SUSTAINED VITALITY OF THE ARCTIC REGION RESTS SIGNIFICANTLY, IF NOT EXCLUSIVELY, ON THE PRIVATE SECTOR'S WILLINGNESS AND ABILITY TO IDENTIFY, ASSESS, AND PURSUE OPPORTUNITIES

Income from taxes levied against companies operating in the region, plus royalties from energy producers, are the lifeblood of the Arctic economy. These revenues not only put money in the pockets of people whose annual median incomes often lag far behind those of rural regions farther south, but also help fund public infrastructure and more diverse economic development initiatives, such as airports, seaports, railways, bridges, power stations, water treatment plants, schools, libraries, museums, hospitals, and broadband internet access.

The sustained vitality of the Arctic region rests significantly, if not exclusively, on the private sector's willingness and ability to identify, assess, and pursue opportunities to increase cargo traffic, expand resource extraction, grow commercial fishing operations, and explore new tourism opportunities, if for no other reason than a complete lack of any scalable alternative. Increased military activity can also help fill the gap, but the military alone cannot sustain the broader Arctic region as a whole.

The stability, security, and sustainability of the Arctic region hinge on the extent to which industry can remain engaged and depend in large part on the energy industry's pursuit of new resources and reserves. This, in turn, depends on the foresight

of political leaders and policymakers in Washington, D.C., who are responsible for making decisions regarding resource development and funding Coast Guard vessels and other military activities in the region.

Chief among these decisions is the question of whether development of Alaska's offshore resources will be allowed to occur. Despite vocal support from military leaders, Native groups and others, the Bureau of Ocean Energy Management (BOEM) announced in November 2016 that all Arctic leases sales would be removed from the new five year plan.

That decision was followed by the implementation of a moratorium on Arctic oil and gas development in federal waters, in December 2016. Using section 12(a) of the 1953 Outer Continental Shelf Lands Act which allows a president to "withdraw from disposition any of the unleased lands of the outer Continental Shelf", President Obama announced that he was barring energy production from 115 million acres of the Beaufort and Chukchi Seas "indefinitely".

The decision provoked a predictable storm of controversy. Opponents, including a majority of Alaskans who strongly support resource development, have argued that there is no precedent for a permanent ban and nothing to suggest that a subsequent White House cannot over-turn the decision. Questions have also been raised over whether the Obama Administration's application of the rule conflicts with previous uses, as well the interpretation of the wider act itself, which was intended by Congress to ensure access to the Continental Shelf.

Under the terms of the OCS Lands Act⁵, the Arctic's removal from the leasing program could be overturned in one of three ways: a Congressional Review Act resolution passing the House and Senate; the Trump Administration requesting the Department of the Interior develop an entirely new plan; or Congress amending the OCS Lands Act itself. Each scenario requires that the program undergo the same extensive consultation and review schedule; a process that even under the most expeditious scenario will take more than a year to complete.

And before that process can begin, the wider moratorium must first be overturned. Under Article IV of the Constitution, Congress is able to dispose of federal property as it sees fit, including potentially, opening Arctic waters to leasing for energy development. However, sixty votes would be needed to overcome a filibuster in the Senate, meaning opponents may be able to prevent the legislation from ever reaching the President's desk.

Instead responsibility for overturning the decision looks likely to fall to the White House. It is widely expected that the ban will be challenged in court, in the expectation that administration will opt not to defend the decision. Alternatively President Trump may simply choose to lift the moratorium, just as President George W. Bush overturned similar restrictions in the Pacific, Atlantic and Eastern Gulf of Mexico.

⁵ The potential development of oil and gas resources on the Outer Continental Shelf (OCS) is governed under the OCS Lands Act by five-year schedules of lease sales. These schedules are prepared by the Bureau of Ocean Energy Management (BOEM) within the U.S. Department of the Interior. In preparing the five-year schedules, BOEM must adhere to a multitude of procedural and substantive requirements. Foremost among these requirements, as Section 18 of the OCS Lands Act specifies, is the careful consideration of "economic, social, and environmental values of the renewable and nonrenewable resources contained in the outer Continental Shelf, and the potential impact of oil and gas exploration on other resource values of the outer Continental Shelf and the marine, coastal, and human environments."



Either option is likely to face considerable opposition from the environmental groups which lobbied President Obama to implement the ban in the first place, and will more than likely end in the court room. Thus the question of whether the offshore oil and gas industry is able to serve as a catalyst to drive development of key infrastructure priorities in the Arctic is expected to come down to whether the new administration chooses to prioritize the issue during its first 100 days in office. If it fails to do so, the most effective lever to deliver the implementation of a step change in Arctic infrastructure looks certain to freeze, perhaps permanently so.

Today and in the coming years decisions like these will send powerful signals to U.S. investors, global economic competitors and geostrategic rivals, about the United States' understanding of both the economic potential and the strategic significance of the Arctic region, its infrastructure, and inhabitants. As this report details, making the correct decisions will unlock billions in public and private sector investment. Conversely the wrong ones risk provoking a significant slowing in the future deployment of capital.

II. PAST AND CURRENT PRIVATE SECTOR INVESTMENT

The prospect of new shipping routes, longer summer navigability and new OCS oil and gas exploration and production in the Arctic, bring benefits far beyond those gained by their direct industry benefactors. For example, past oil and gas activities in similarly remote areas of Alaska led to significant infrastructure build-outs, fueling economic growth across the state economy and creating population benefits expected to last in perpetuity.

In addition to infrastructural development, large-scale supply chains create economic stimulus across different industry sectors, generate revenue in the form of taxes and royalties to support state activities and social services, and provide income in multiple forms to all Alaskans. Alaskan benefits aside, increased economic activity also improves the United States' national security in the Arctic by bolstering fleet capabilities and critical infrastructure, and providing additional search-and-rescue resources.



PAST INFRASTRUCTURE BUILT TO SUPPORT ALASKAN OIL AND GAS ACTIVITY PROVIDES STATEWIDE BENEFITS

Private sector investment in oil and gas development has long been the primary driver of Alaska's economy. Logistics and infrastructure are critical to oil and gas exploration and production, with needs ranging from ports and airfields to power supply and communications networks.⁶ As a result, oil and gas activity has traditionally played a large role in Alaskan infrastructure development, leading to shared resources that can be used by numerous non-oil and gas interests, local communities and the military.⁷ The relationship between infrastructure built solely for oil and gas activity and general infrastructure needed to support wider operations are often symbiotic, and lead to benefits for the community, the state, and the industry.

For example, commercial quantities of oil were initially discovered at the Central North Slope's Prudhoe Bay field in 1968, but production did not come online until 1977 when the Trans-Alaska Pipeline System (TAPS) was complete, providing a necessary and economically efficient way to get the product to market.⁸ While TAPS itself is uniquely suited to oil and gas interests, the 414-mile long Dalton Highway, completed in 1974 to provide the access needed for the pipeline's construction, now serves all Alaskans.⁹

As production at Prudhoe Bay continued and expanded across the North Slope, infrastructure needs grew and, as a result, attracted outside investment for the development and construction of new assets. Aside from oil and gas specific infrastructure, numerous other projects were built to support the resulting increase in economic activity, including 423 miles of gravel roads and causeways, 189 miles of other travel ways (peat roads, tractor trail/tundra scar and exploration roads), 13 airstrip pads, 27 bridges, and 336 miles of electric power transmission lines.¹⁰

6 National Petroleum Council, *Arctic Potential Report: Part Two, Technology and Operations*.

7 *Ibid.*

8 Kevin Hillmer-Pegram, University of Alaska Fairbanks, *A Synthesis of Existing, Planned, and Proposed Infrastructure and Operations Supporting Oil and Gas Activities and Commercial Transportation in Arctic Alaska*, (2014).

9 *Ibid.*

10 *Ibid.*



OIL AND GAS ACTIVITY HAS TRADITIONALLY PLAYED A LARGE ROLE IN ALASKAN INFRASTRUCTURE DEVELOPMENT, LEADING TO SHARED RESOURCES THAT CAN BE USED BY NUMEROUS NON-OIL AND GAS INTERESTS

EXISTING PRIVATE SECTOR INVESTMENT DRIVES ALASKA'S ECONOMY

Private investment in non-oil and gas activities, including tourism, shipping, commercial fishing, and the development of other natural resources spurred associated construction, utility, and infrastructure opportunities. But investment in oil and gas development has been the largest and most consistent economic driver in the state, accounting at times for nearly 25 percent of Alaska's entire gross domestic product.¹¹ Indeed, the role of "[e]nergy development on Alaska's North Slope has provided the wellspring for the growth of economic self-determination of the Natives of Alaska's North Slope and the whole state of Alaska."¹² And while the last several decades of oil and gas development have meaningfully improved the standard of living for thousands of Alaskans and Native communities, the future development of new offshore oil and gas resources now looks significantly less certain, jeopardizing even greater economic activity in the future.

ENERGY DEVELOPMENT IS CRITICAL TO ALASKAN EMPLOYMENT

Investment in oil and gas and related industries provide the primary source of employment for many Alaskans, and particularly for the State's Native communities. In 2013, the oil and gas sector directly employed approximately 5,300 people in Alaska, including 4,700 Alaska residents earning nearly \$780 million in wages.¹³ Oil and gas-related spending injected nearly \$5 billion into Alaskan businesses in 2013, resulting in 51,000 additional jobs throughout the economy, creating \$3.5 billion in total annual wages.¹⁴

Furthermore, government spending of oil-related taxes and royalties accounted for a further 60,000 jobs and an additional \$3 billion in wages. In total, jobs in oil and gas development and related services, including oil field contracting, regulatory permitting, engineering, pipeline design and maintenance, property leasing, and spill prevention and response, provided one-third of all wage and salary employment in Alaska in 2013 and accounted for 111,000 jobs and over \$6.5 billion in wages.¹⁵

¹¹ University of Alaska Center for Economic Development, *Alaska Annual Economic Outlook: 2014-2015*.

¹² Testimony of Richard Glenn, Executive Vice President for Lands and Natural Resources of the Arctic Slope Regional Corporation, before the U.S. House Committee on Natural Resources (October 4, 2016).

¹³ McDowell Group Inc., *The Role of the Oil and Gas Industry in Alaska's Economy*, (May 2014).

¹⁴ *Ibid.*

¹⁵ *Ibid.*

THE ROLE OF “[E]NERGY DEVELOPMENT ON ALASKA’S NORTH SLOPE HAS PROVIDED THE WELLSPRING FOR THE GROWTH OF ECONOMIC SELF-DETERMINATION OF THE NATIVES OF ALASKA’S NORTH SLOPE AND THE WHOLE STATE OF ALASKA.”



ENERGY SECTOR TAX REVENUES PROVIDE FUNDS FOR ALASKAN PUBLIC SERVICES

Taxes on oil and natural gas operations have provided as much as 90% percent of Alaska’s operating budget, and are critical revenue stream in the absence of a state income or sales tax.¹⁶ Much of this revenue is derived from taxes on the real property value of pipelines, drill rigs, and other oil field production and transportation infrastructure. The Alaska Oil and Gas Association (AOGA) projects that oil and gas revenues will continue to provide over 80 percent of the forecasted general funds through the fiscal year 2024.¹⁷ Moreover, AOGA estimates that “\$9 out of \$10 distributed from Alaska’s Community Revenue Sharing Fund is oil-related revenue, reaching about 229 municipalities, boroughs, and unincorporated communities in Alaska.”¹⁸

Native communities use tax proceeds to build, operate and maintain local education facilities, public safety and welfare services, and quality of life improvements, including airstrips, roads, reliable power, improved housing, and health care centers. For instance, 90 percent of the budget of Native communities of Alaska’s North Slope depends on oil and gas taxation, which is used to provide essential services to their local communities.¹⁹ These tax revenues allow Native communities access to modern water and sewer, health, heating and housing infrastructure, and other critical services that would otherwise not be available to them absent subsidization by the federal government and state agencies. If these revenues were to decline significantly as a result of reduced oil and gas investment, services and infrastructure would suffer and, as one North Slope leader emphasized, Native communities might fail to survive:

[O]ur communities cannot survive without continued resource development in our region. Unless we are able to pursue new opportunities for onshore and offshore oil and gas production, local governments will find it more difficult to build and repair critical infrastructure improvements and maintain important social, health and educational programs that many Lower 48 communities take for granted. We are talking about running water, flush toilets, reliable power, local landfills and K- 12 education.²⁰

¹⁶ Energy Information Administration, *Oil Price Decline Leads to Lower Tax Revenues in Top Oil-Producing States*, (March 12, 2015).

¹⁷ AOGA, *Facts and Figures*, accessed on November 1, 2016.

¹⁸ *Ibid.*

¹⁹ Rex Rock, Sr., Alaska Journal of Commerce, *Alaska Wilderness League Disregards Alaskans*, (September 8, 2016).

²⁰ Testimony of Richard Glenn, Executive Vice President for Lands and Natural Resources of the Arctic Slope Regional Corporation, before the U.S. Senate Committee on Energy and Natural Resources (March 28, 2016).



90 PERCENT OF THE BUDGET OF NATIVE COMMUNITIES OF ALASKA'S NORTH SLOPE DEPENDS ON OIL AND GAS TAXATION, WHICH IS USED TO PROVIDE ESSENTIAL SERVICES TO THEIR LOCAL COMMUNITIES

ENERGY ROYALTIES PROVIDE AN ESSENTIAL SOURCE OF INCOME

In addition to creating and sustaining jobs, public services, and infrastructure, royalties collected from Alaskan oil and gas operations provide an additional income stream for Alaskans. The Alaska Permanent Fund provides residents with an annual cash dividend derived from revenues paid to the state by the oil and natural gas sector. The 2015 Permanent Fund dividend paid to each eligible Alaskan was \$2,072, the highest payment the Fund has ever distributed.²¹ With nearly 645,000 qualified applicants, the Fund distributed over \$1.3 billion in 2015, providing a critical additional income source for Alaska residents and influx of revenue to the state generally.

While all eligible residents receive the annual dividend from the Permanent Fund, Alaska Natives also share energy royalties from tribal lands. Pursuant to the Alaska Native Claims Settlement Act of 1971 (ANCSA), Congress created Native corporations as profit-making entities “to provide benefits to its shareholders who are Natives or descendants of Natives or to its shareholders’ immediate family members who are Natives or descendants of Natives to promote the health, education or welfare of such shareholders or family members.”²²

There are twelve land-owning Alaska Native regional corporations (ANCs) established under ANCSA, which collectively own approximately 44 million acres of land. When energy resources are developed on these lands, 30% of royalties go to the ANC holding the land and 70% is shared with the other tribal corporations. Since passage of ANCSA, more than \$1 billion in royalties has been shared, providing critical “investment capital for all 12 regional corporations to build diversified businesses, expanding into areas such as energy field services, real estate, and construction.”²³

PROJECTED ECONOMIC BENEFITS RESULTING FROM ARCTIC OCS INVESTMENT

These numbers collectively demonstrate the economic prosperity that decades of private sector investment in oil and gas development has brought to Alaska. Future investment to develop Arctic OCS resources, should it be allowed to occur, would result in similar economic benefits. At least one economic study shows that Arctic OCS development could generate an annual average of 35,000 jobs in Alaska, total estimated payroll of \$72 billion, \$15 billion in potential cumulative revenues to the State, and over \$4 billion in estimated property tax payments to local governments over a 50-year period.²⁴

²¹ Alaska Department of Revenue, Permanent Fund Dividend Division, *2015 Annual Report*.

²² Alaska Native Claims Settlement Act of 1971, Pub. L. No. 92-203 (1971) (43 U.S.C. 1606(r)).

²³ Energy Information Administration, “Alaska residents are paid a unique yearly dividend from state’s permanent fund,” (May 1, 2015).

²⁴ Northern Economics, *Economic Analysis of Future Offshore Oil and Gas Development: Beaufort Sea, Chukchi Sea, and North Aleutian Basin* (March 2009). (The findings of this report were based on 2007 dollars and assumed a base case price level of approximately \$65 per barrel of crude oil.)

Arctic OCS development would also stabilize a recent downward employment trend in the oil and gas sectors resulting from lower oil prices. The Alaska Department of Labor and Workforce Development estimates that the oil and gas sector shed nearly 1,000 jobs between January 2015 and January 2016.²⁵ Moreover, the Department predicts that through 2024, Alaska's oil and gas extraction industry is projected to shed 10 percent of its workforce, with drilling jobs projected to fall by 18.9 percent, support activities by 5.5 percent, and the "continuation of reduced spending by oil companies and government will be especially damaging to heavy and civil construction jobs, which are projected to fall by 15.7 percent."²⁶

Opening the Arctic OCS to private investment would help mitigate, if not reverse, these anticipated employment losses in the oil and gas sectors, as companies shift resources from declining onshore fields to exploration of promising untapped offshore deposits. Of course the opposite is also true; the Obama administration's moratorium on energy development in the Beaufort and Chukchi seas clearly creates significant risk that resources will be left stranded, blocking the prospect of new economic development.

NUMEROUS NATIVE COMMUNITIES ENGAGED WITH THE OBAMA WHITE HOUSE AND FEDERAL AGENCIES TO EMPHASIZE THE IMPORTANCE OF FUTURE OIL AND GAS INVESTMENT TO THE ECONOMIC VIABILITY OF THEIR RESPECTIVE COMMUNITIES



Noting this nexus between Arctic OCS investment and economic growth, a diverse coalition of 15 organizations representing tens of thousands of Alaska workers from labor unions, Native corporations, business and energy associations, wrote to BOEM in June 2016, explaining that "a strong Alaskan economy is not simply affected by the development of the Arctic OCS—it is dependent upon it. Our state's oil fields have matured over the years, and it is vital that new arenas and development opportunities are realized for the future economic security of our state."²⁷

²⁵ Annie Zak, Alaska Dispatch News, *Jobs Numbers Show Big Losses in Oil and Gas Industry -- But is it as Bad as it Looks?*, (March 15, 2016).

²⁶ Alaska Economic Trends, *Industry and Occupational Forecast, 2014-2024*, (October 2016).

²⁷ Alaska OCS Coalition Letter (June 16, 2016).

Similarly, numerous Native communities engaged with the Obama White House and federal agencies to emphasize the importance of future oil and gas investment to the economic viability of their respective communities. Specifically, BSNC,²⁸ Aleut Corporation,²⁹ Olgoonik Corporation³⁰ and the Arctic Slope Regional Corporation³¹ have each publicly and unequivocally voiced support for the exploration and potential responsible production of Arctic OCS resources.³² Some of these communities have testified before Congress as well, stressing the importance of OCS development to Native populations and emphasizing what is at stake if access to these offshore resources is restricted:

[Arctic Inupiat Offshore] representatives believe ... that for the Bureau of Ocean Energy Management to set aside vast areas of the Beaufort and Chukchi Seas, or to give up completely on its Arctic Outer Continental Shelf program, would be to completely fail our Arctic communities who are not afraid to admit that they depend upon successful new exploration and production for the survival of our communities and our Native enterprises.³³

III. OPPORTUNITIES TO INCREASE PRIVATE INVESTMENT, GROW INFRASTRUCTURE, AND IMPROVE MILITARY PREPAREDNESS

Alaska's Arctic regions are still waiting to see the benefits of infrastructure development and improvement, facilitated by economic activity in other parts of the state. Needed investments in deep-water ports, transshipment bases, multi-use storage spaces and road development will make a significant difference by reducing the price of delivered goods, and consequently alleviating some of the disproportionate cost of living Alaskan communities face. Furthermore, as noted earlier, with only two operating icebreakers in its Arctic fleet and a growing need for other military infrastructure, the United States is not adequately prepared for changing conditions in the region, including thinning ice, increased global interest and Russian military and fleet build-up.

Major infrastructure projects come with large costs that range from tens of millions of dollars to billions of dollars. U.S. government officials fully understand regional infrastructure needs, but have not taken the necessary steps to make these needs a reality, as evidenced by the \$150 million dollars that the Obama administration requested for ice breaker acquisition when a single vessel costs approximately \$1 billion.³⁴ From the private sector perspective, capital expenditures of this size are

28 Letter of Bering Straits Native Corporation to BOEM (May 2, 2016).

29 Letter of Aleut Corporation to BOEM (April 16, 2016).

30 Letter of Olgoonik Corporation to BOEM (May 2, 2016).

31 Letter of Arctic Slope Regional Corporation to BOEM (May 2, 2016).

32 "Ayyaiyak" Stefanie Armstrong, *Embracing Arctic offshore exploration for economic and energy security*, (September 8, 2016).

33 Testimony of Richard Glenn, Executive Vice President for Lands and Natural Resources of the Arctic Slope Regional Corporation, before the U.S. House Committee on Natural Resources (October 4, 2016). See also Testimony of John Hopson, Jr., Mayor, Wainwright, Alaska, before the U.S. Senate Committee on Energy and Natural Resources (May 19, 2016) (stating that "We appreciate BOEM's interest in protecting our communities, but we urge BOEM to take seriously its responsibility to provide for development in a way that will support our communities Without measured, responsible development of Alaska's OCS resources, our communities face a grim economic future.").

34 The White House, *Fact Sheet: President Obama Proposes New Funding to Build Resilience of Alaska's Communities and Combat Climate Change*, (February 9, 2016).

U.S. GOVERNMENT OFFICIALS FULLY UNDERSTAND REGIONAL INFRASTRUCTURE NEEDS, BUT HAVE NOT TAKEN THE NECESSARY STEPS TO MAKE THESE NEEDS A REALITY



not justified without markets sufficient to recoup the costs of operation and maintenance over the life of the asset. This creates a type of chicken-or-the-egg dilemma: Without high levels of economic activity, there is no justification for financing an infrastructural build-out, but without infrastructure in place, it is nearly impossible to establish sustainable markets.

Increased economic activity, from tourism and cargo shipping to commercial fishing operations, will drive the need for greater infrastructure, but financing such infrastructure is difficult for the reasons previously stated. However, the significant capital investment that comes with offshore oil and gas exploration could provide a much-needed shot in the arm to some long-languishing projects needed to facilitate growth across all these industries. The direct and indirect impacts of oil and gas activities, including increased employment, tax and royalty revenue, demand for food, lodging, clothing and other basic necessities, provide a critical economic benefit to Arctic communities. Far more important is that this activity creates a market of scale to justify all the other infrastructure the region needs to increase safety, diversify its economy, and provide better services for its population.

For example, any major port expansion or transshipment center build-out sufficient to accommodate larger vessels, or sustain continuous oil and gas exploration and production activity in the Arctic, will require roads, bridges, airstrips, and hangars for access. Additionally, the influx of workers will need housing, groceries, health-care services, and more. Furthermore, any large-scale development in the area will require access to better communications and forecasting technologies, including high-speed internet, or broadband and other technologies that can assist in ice monitoring and provide better intelligence on weather patterns and storms on the horizon. Many have worked toward improving Arctic broadband access to improve education, healthcare and social interaction. An influx of private sector capital will only accelerate this progress.

INCREASED ECONOMIC ACTIVITY, FROM TOURISM AND CARGO SHIPPING TO COMMERCIAL FISHING OPERATIONS, WILL DRIVE THE NEED FOR GREATER INFRASTRUCTURE, BUT FINANCING SUCH INFRASTRUCTURE IS DIFFICULT



In order to significantly increase access to the region, improve economic conditions, lower the prices of goods and services for Arctic residents and Alaskans statewide, enhance research capabilities, strengthen U.S. security, and improve U.S. search-and-rescue capabilities, the projects and program set forth below should be considered.

Collectively, these projects will require at least \$6.3 to \$6.4 billion in identified investment, and will rapidly accelerate the improvement of infrastructure critical to improving military preparedness in the region. They will serve multiple economic, social, and governmental needs. But none of them currently justify the requisite capital expenditures without the certainty of sustained large-scale commercial activity – like that provided by oil and gas exploration – and the markets of scale that come with it. However, projects like these require multiple years to plan, design, and complete. For example, icebreakers have an 8 to 10 year procurement period, making it imperative that government officials signal their support to private investors in the near term.³⁵



THEY WILL SERVE MULTIPLE ECONOMIC, SOCIAL, AND GOVERNMENTAL NEEDS. BUT NONE OF THEM CURRENTLY JUSTIFY THE REQUISITE CAPITAL EXPENDITURES WITHOUT THE CERTAINTY OF SUSTAINED LARGE-SCALE COMMERCIAL ACTIVITY

DEEP-DRAFT EXPANSION AT PORT OF NOME

On February 20, 2015, the U.S. Army Corp of Engineers released a draft feasibility report outlining a \$210.8 million plan to expand the Port of Nome off Alaska's western coast. According to the report, the proposed expansion included dredging Nome's outer harbor to a mean depth of 28 feet (compared to the current maximum depth of 22.5 feet), lengthening the port's causeway by 2,150 feet (making the newly extended causeway 4,850 feet long) and constructing a new 450-foot long dock at the end of the extended causeway.³⁶

In addition to the immediate benefits, including planning, development and construction jobs, and all of the indirect economic activity derived from the project's development, the Seward Peninsula would also see long-term returns. The Army

³⁵ Council on Foreign Relations, *The Emerging Arctic*, accessed on November 7, 2016.

³⁶ U.S. Army Corps of Engineers, *Draft Integrated Feasibility Report, Draft Environmental Assessment, and Draft Finding of No Significant Impact, Alaska Deep-Draft Arctic Port System Study*, (February 2015).

Corps points out that the enhanced port infrastructure “would meet the State’s goal of encouraging economic development in remote areas.”³⁷

More specifically, the project would “provide local and regional economic development opportunities (resource extraction, tourism, research); decrease Arctic region operating costs; provide protected dockage to support offshore oil and gas activities, fishing fleet, and resource extraction vessels; and provide vessel repair and maintenance support.”³⁸ The local economic development alone would be a significant boon to the people of Nome, where per capita income is \$32,374³⁹ – only 41 percent of the national mean household income of \$79,263.⁴⁰ Put another way, the average dual income household in Nome still earns 18 percent less than the average U.S. household, including both single income and dual income families. Furthermore, ten percent of the Nome population sits below the federal poverty threshold.⁴¹

New port infrastructure would also strengthen U.S. security, and our position in the global economy by “improv[ing] international relationships and increas[ing] U.S. exports, optimiz[ing] the aforementioned benefits while preserving natural resources; rais[ing] awareness of the United States as an Arctic nation; and provid[ing] upland support to vessels operating in the region (fuel, water, electricity, food, medical, storage, laydown/staging for resource extraction).”⁴² Under its current configuration, the Port of Nome is not able to accommodate any of the icebreakers in the current U.S. fleet.⁴³ But, if “sufficient depth conditions were available, the U.S. Navy would utilize Nome to take on fuel and supplies and for shelter from storms.”⁴⁴

Overall, the Army Corps concluded the port expansion would meet its objectives by “addressing the need for enhanced marine infrastructure to support multiple maritime missions, facilitating holistic economic growth, being compatible with cultural, subsistence and natural resources, taking into account existing land uses, encouraging shared responsibility for development in the Arctic, and allowing for multi-purpose use of Arctic resources.”⁴⁵

However, much of the expected activity increases were premised upon the assumption that additional offshore oil and gas exploration activities would commence in the region. For example, the Army Corps draft report examined the potential increase in maritime activity at the Port of Nome, stemming from oil and gas exploration that would occur regardless of federal investment in navigation improvements. The paper found that increased research, cruise ship traffic, government vessel presence, commodity movements and more would lead to twice as many vessel calls (920 to 459) and shorter dock wait times (53 hours to 62 hours) at the Port of Nome by 2040.⁴⁶

37 *Ibid.*

38 *Ibid.*

39 *Ibid.*

40 U.S. Census Bureau, *Table H-6. All Races by Median and Mean Income: 1975 to 2015.*

41 U.S. Army Corps of Engineers, *Draft Integrated Feasibility Report, Draft Environmental Assessment, and Draft Finding of No Significant Impact, Alaska Deep-Draft Arctic Port System Study*, (February 2015).

42 *Ibid.*

43 *Ibid.*

44 *Ibid.*

45 *Ibid.*

46 *Ibid.*

As a result, when Shell suspended its exploration activities in the region, the project was put on hold despite its projected benefits.⁴⁷ The Obama administration's ban on offshore energy development casts further gloom on the project's future, however, at least one ray of light is on the horizon in the shape of the Water Infrastructure Improvements for the Nation Act, which includes a provision for a new feasibility study of the security ramifications of a deep water port.

DEVELOP PORT CLARENCE INTO A MARITIME SUPPORT BASE

Port Clarence's proximity to a regional road network, naturally deep harbor, and the presence of existing infrastructure made it one of the Army Corps' finalists when it produced its draft feasibility report for a potential deep-water port expansion (the Port of Nome was ultimately chosen).⁴⁸ Realizing Port Clarence's value, the BSNC commissioned a study of its potential, focused on "market demand, potential uses, facilities and services, capital and operating cost estimates, funding sources, and possible regional benefits."⁴⁹ The analysis found that a more developed Port Clarence could serve as a hub for refuge from severe weather, community resupply by larger vessels, intermodal cargo service, marine services and weather information, oil spill response and vessel rescue, and a support base for numerous other activities, like warehousing and communications.

Northern Economics estimated Port Clarence development capital costs would range from \$20 million to \$100 million, based on other similar support bases developed in Alaska.⁵⁰ Their analysis led them to conclude that because the development at Port Clarence depends on markets to sustain capital investment and ongoing operations and maintenance costs, there are no known local



ANALYSIS FOUND THAT A MORE DEVELOPED PORT CLARENCE COULD SERVES AS A HUB FOR REFUGE FROM SEVERE WEATHER, COMMUNITY RESUPPLY BY LARGER VESSELS, INTERMODAL CARGO SERVICE, MARINE SERVICES AND WEATHER INFORMATION, OIL SPILL RESPONSE AND VESSEL RESCUE, AND A SUPPORT BASE FOR NUMEROUS OTHER ACTIVITIES

47 U.S. Army Corps of Engineers, *Corps Announces 12-Month Pause in Alaska Deep-Draft Arctic Port System Study*, (October 25, 2015).
 48 See U.S. Army Corps of Engineers, *Draft Integrated Feasibility Report, Draft Environmental Assessment, and Draft Finding of No Significant Impact, Alaska Deep-Draft Arctic Port System Study*, (February 2015).
 49 Northern Economics, *Feasibility Analysis: Port Clarence Support Base*, (June 2014).
 50 *Ibid.*

or regional operations outside of oil and gas exploration that could generate sufficient steady revenue to support the port.⁵¹ Northern Economics concluded, “Port Clarence development and revenues must be directly linked to oil and gas exploration in order to justify capital expenditures for a dock, tank farm and other support activities.”⁵²

On February 8, 2016, President Obama signed legislation officially authorizing the transfer of Port Clarence to BSNC, the State of Alaska and the Coast Guard, bringing the project closer to fruition.⁵³ The move was intended to facilitate infrastructure development and potential uses of Point Spencer, which is adjacent to Port Clarence.⁵⁴ The law also allows “the establishment of a public-private partnership among [BSNC], the Coast Guard and the State of Alaska.”⁵⁵ The BSNC has already been approached by numerous private entities interested in partnering in development of the port.⁵⁶

DOCK AT CAPE BLOSSOM

For more than thirty years, the City of Kotzebue has been exploring the possibility of expanding dock capabilities to accommodate larger barges, and building a 10-mile access road from Kotzebue to Cape Blossom in order to gain access to the port site.⁵⁷ With a road now under construction, the community hopes it will be followed by the proposed \$70 million port expansion, in order to help alleviate a cost of living which is 61 percent higher than that of Anchorage, by providing a market access point for the abundant resources in the region.⁵⁸ Kotzebue currently receives goods by a barge and lightering service, significantly increasing their price.⁵⁹

According to the Northwest Arctic Bureau, in addition to the direct construction jobs tied to such a project and the indirect benefits derived therefrom, “[t]he Cape Blossom Regional Port will alleviate this problem and have the following positive economic impacts on [the] region:”⁶⁰

- Reduce shipping costs
- Increase the Borough’s bulk fuel storage capacity
- Increase access to lands needed to alleviate the housing shortage and for other community expansions
- Provide a shipping and delivery access point for resource development

51 *Ibid.*

52 *Ibid.*

53 See Public Law No. 114-120.

54 Ana Swanson, Bering Straits Native Corporation, *BSNC and the State of Alaska to Receive Property at Port Clarence*, (February 3, 2016).

55 *Ibid.*

56 *Ibid.*

57 *Ibid.*

58 *Ibid.*

59 *Ibid.*

60 *Ibid.*



Oil and gas exploration activity seemed a promising sign for the prospects of the Cape Blossom Dock expansion, but after Shell, which had staged some support vessels for its Arctic drilling activities at Cape Blossom, discontinued its search for oil off Alaska’s coasts, “the project has one less potential customer needing storage.”⁶¹ However, future economic activity in the region spurred by newly available shipping routes, extended summer navigability and, potentially, offshore oil and gas development, could provide the market of scale needed to get the project on track.

ENHANCING CRITICAL ARCTIC MILITARY AND MARITIME INFRASTRUCTURE

1. Limitations on Current Arctic Military Preparedness

The strategic significance of the Arctic region is growing, as sea ice melts and the resulting increase in U.S. and international shipping, fishing, tourism, natural resource development and military operations challenge the region’s geopolitical balance. Large commercial ships carrying high volumes of fuel are increasingly bound for countries in Asia after crossing the Bering Strait from northern Russia.⁶² Furthermore, adventure tourism is increasing, and some Alaska Natives are straying farther as melting sea ice makes for more challenging hunting conditions.⁶³ Transit statistics reflect this new reality. According to the Alaska Dispatch News, a Coast Guard Captain stationed in the region estimates that, based on early indicators, there may have been roughly 500 Bering Strait transits in the summer of 2015, compared to 350 in 2014, 339 in 2013, and 316 in 2012.^{64,65}

But it’s not only transit numbers that are increasing; the size of the vessels moving through the Northwest Passage is growing, too. In fact, in the summer of 2016, the *Crystal Serenity* cruise ship was “by far the largest” vessel to make its way through the Bering Strait – a route believed unnavigable by ships of any size just 100 years ago⁶⁶ – carrying roughly 1,600 people.⁶⁷ According to the Coast

61 Alex DeMarban, Alaska Dispatch News, *Demand for Arctic Infrastructure High Despite Shell’s Departure*, (September 29, 2015).

62 *Ibid.*

63 *Ibid.*

64 *Ibid.*

65 University of Alaska Fairbanks, *Alaska and the New Maritime Arctic Executive Summary: Executive Summary of a Project Report to the State of Alaska Department of Commerce, Community and Economic Development*, (February 1, 2015).

66 Christina Nunez, National Geographic, *A Luxury Cruise Liner Is About to Sail the Arctic’s Northwest Passage*, (August 16, 2016).

67 *Ibid.*

DESPITE THE WELL-ESTABLISHED NEED FOR GREATER U.S. MILITARY PREPAREDNESS IN THE ARCTIC, BUDGETARY CONSTRAINTS AND OTHER LIMITATIONS MAKE IT DIFFICULT FOR THE MILITARY, PARTICULARLY THE U.S. COAST GUARD AND THE U.S. NAVY, TO ESTABLISH AND MAINTAIN THE PRESENCE NECESSARY TO CARRY OUT THE OBJECTIVES IDENTIFIED IN THEIR RESPECTIVE ARCTIC STRATEGIES



Guard, ships of this size exceed the current capacity of the search-and-rescue response fleet in the region, including vessels and aircrafts.⁶⁸

Such challenges necessitate a strong U.S. military presence and a high level of preparedness in the region, an issue recognized by the Department of Defense's Arctic Strategy⁶⁹ and underscored by numerous former military personnel and national security specialists.⁷⁰ As then-Secretary of Defense Chuck Hagel emphasized in 2013, "the Arctic is becoming more important, and regardless of the rate and scale of change, we must be ready to contribute to national efforts in pursuit of strategic objectives in the region."⁷¹ Similarly, General Paul J. Selva, Vice Chairman of the Joint Chiefs of Staff, last year raised concerns over the lack of U.S. presence, opining that "the fact that we don't have the capacity in any material way to have a surface presence in the Arctic is something that we ought to address."⁷²

But despite the well-established need for greater U.S. military preparedness in the Arctic, budgetary constraints and other limitations make it difficult for the military, particularly the U.S. Coast Guard and the U.S. Navy, to establish and maintain the presence necessary to carry out the objectives identified in their respective Arctic strategies.^{73,74} In fact, U.S. military preparedness in the Arctic has diminished despite an increase in responsibilities:

Arctic capabilities of the U.S. have dramatically declined. At one time, the U.S. operated a fleet of eight icebreakers and a network of over 100 radar and weather stations from the Aleutian Islands to Greenland. Today, the U.S. Coast Guard has two functioning icebreakers (the same number as Estonia) while facing increased activity in the region, including enforcing the U.S. exclusive economic zone along Alaska's coasts. Our reduced Arctic presence and capabilities challenges the U.S. ability to positively influence all developments in the region.⁷⁵

68 United States Department of Homeland Security, United States Coast Guard, *Environmental Assessment: U.S. Coast Guard Arctic Operations and Training Exercises 2016, Alaska*, (May 2016).

69 Department of Defense, *Arctic Strategy*, (November 2013) ("DOD Arctic Strategy").

70 Statement of National Security Specialists on Arctic OCS Program (June 15, 2016); Sustaining U.S. Security and Leadership in the Arctic (July 11, 2016).

71 *DOD Arctic Strategy*.

72 Center for Strategic and International Studies, *Innovation in the Defense Department with General Paul Selva*, (August 25, 2016).

73 Senator John McCain (R-AZ), Wall Street Journal, *The Real Arctic Threat*, (September 1, 2015) ("We must also provide robust support for the U.S. Navy and Coast Guard. But amid budget constraints and worsening global crises, the Arctic challenge is stark.")

74 See, e.g., U.S. Coast Guard, *Arctic Strategy*, (May 2013); U.S. Navy, *Arctic Roadmap: 2014-2024*, (February 2014).

75 Statement of National Security Specialists on Arctic OCS Program (June 15, 2016).

The Department of Defense has raised concerns that its Arctic military capabilities could diminish even further, explaining in its “Arctic Strategy” that:

Fiscal constraints may delay or deny needed investment in Arctic capabilities, and may curtail Arctic training and operations. As the Department downsizes to meet budgetary targets, it will have to prioritize engagements for the resulting smaller force. There is also a risk that desired investments in Arctic capabilities may not compete successfully against other requirements in the Department’s budgetary priorities.⁷⁶

2. Public-Private Partnerships in Support of Military Preparedness

Absent greater Arctic defense spending – a difficult task in a fiscally constrained environment – such limitations necessitate creative and cost-effective thinking to maximize existing military resources. One solution is for the military to leverage private sector resources to achieve short and long-term U.S. military goals in the region, a strategy with an established history in the Arctic. As one group of national security specialists explained, “[a]ll major U.S. agency Arctic strategies rely on government and private sector cooperation, including private infrastructure investments that facilitate presence and leverage resources.”⁷⁷ To be sure, the Department of Defense has recognized the need to rely on other stakeholders, including private sector interests, to address shortcomings and meet its Arctic goals:

[S]olutions for associated supporting infrastructure requirements should seek to leverage existing U.S. Government, commercial, and international facilities to the maximum extent possible in order to mitigate the high cost and extended timelines associated with the development of Arctic infrastructure.⁷⁸

One potential option for continued public-private collaboration in the Arctic, for which there is precedent, is partnering with the oil and gas sector. From ports to vessels to shared hangars and roads, the military has leveraged oil and gas Arctic infrastructure investment. Likewise, the energy sector has benefited greatly from the military’s expertise in search-and-rescue efforts and incident response. Because the Coast Guard and Navy face the same logistics limitations (inadequate port infrastructure and long supply lines) as the oil and gas industry, a collaborative approach to addressing these limitations would benefit both the industry and the military.⁷⁹ As such, and given the overlapping needs and interests of energy and military operations in the Arctic, there is growing recognition that further collaboration among private and public sectors would strengthen and support military preparedness.

⁷⁶ DOD Arctic Strategy.

⁷⁷ Sustaining U.S. Security and Leadership in the Arctic (July 11, 2016).

⁷⁸ DOD Arctic Strategy.

⁷⁹ National Petroleum Council, *Arctic Potential Report: Realizing the Promise of U.S. Arctic Oil and Gas Resources*, (2015).

ONE SOLUTION IS FOR THE MILITARY TO LEVERAGE PRIVATE SECTOR RESOURCES TO ACHIEVE SHORT AND LONG-TERM U.S. MILITARY GOALS IN THE REGION, A STRATEGY WITH AN ESTABLISHED HISTORY IN THE ARCTIC



■ Icebreakers Critical to Military Preparedness

Arctic icebreakers have become a topic of critical importance as activity in the region increases. Heavy ice in the winter and variable ice conditions in the summer make them a critically important component of Arctic infrastructure.⁸⁰ In addition, as the Coast Guard points out:

The United States has vital national interests in the polar regions. Polar icebreakers enable the U.S. to maintain defense readiness in the Arctic and Antarctic regions; enforce treaties and other laws needed to safeguard both industry and the environment; provide ports, waterways and coastal security; and provide logistical support – including vessel escort – to facilitate the movement of goods and personnel necessary to support scientific research, commerce, national security activities and maritime safety.⁸¹

Despite their importance, the Coast Guard only has two operational vessels: The Healy, a “medium icebreaker primarily used for research that cannot punch through the thickest ice flows, and the Polar Star, a heavy icebreaker commissioned in 1976 that recently was refurbished but has only six to eight years of service left.”⁸² By comparison, when Shell was operating in the Arctic, it had two icebreakers of its own.⁸³ Meanwhile, as noted previously, Russia is said to have as many as 40 ships with icebreaking capability, while China is reportedly developing 6 such vessels.⁸⁴

The Coast Guard acknowledges it will need a minimum of two new heavy icebreakers “to ensure continued access to both polar regions and support the country’s economic, commercial, maritime and national security needs,”⁸⁵ but the State Department’s former Special Representative for the Arctic, Admiral Robert J. Papp, has publicly noted that as many as eight icebreakers are needed to have a full-time presence year-round.⁸⁶ These cost \$1 billion dollars each, and while the Coast Guard has announced plans to commission three additional icebreakers, Congress has not authorized funding for a single vessel, much less three. Even if the funding were authorized, the Coast Guard would still be three icebreakers, and \$3 billion, short by Papp’s estimate.

Given limited budgets, military and government officials are considering other options to provide the Coast Guard access to “an icebreaker without actually paying to build one, including leasing, contracting, and hybrid public-private staffing of ships owned either privately or by the government.”⁸⁷ One such option, as proffered by

80 National Petroleum Council, *Arctic Potential Report: Part Two, Technology and Operations*.

81 U.S. Department of Homeland Security, U.S. Coast Guard, *Acquisition Directorate*.

82 Jacqueline Klimas, Washington Examiner, *Freezing U.S. Out of the Arctic*, (September 28, 2015).

83 Jennifer Dlouhy, Fuel Fix, *Shell’s Arctic Icebreaker Damaged in Alaska*, (July 7, 2015).

84 Politico, Jen Judson, *The Icebreaker Gap*, (September 1, 2015).

85 *Ibid.*

86 Meghann Myers, Navy Times, *Coast Guard Needs 8 Icebreakers to Cover Polar Regions: Retired 4-Star*, (January 15, 2016).

87 Jacqueline Klimas, Washington Examiner, “Freezing U.S. out of the Arctic,” (September 28, 2015).

Admiral Paul Zukunft, Coast Guard Commandant, could potentially be to impose an additional fee on oil and gas companies leasing areas of the OCS for oil and gas exploration, the revenues of which could be put toward covering a portion of the cost of new icebreakers.⁸⁸ Additionally, as in the case of Shell, oil and gas interests may bring icebreakers to support their operations, which would reduce some of the burden on the federal fleet.

■ *Coast Guard Search-and-rescue Efforts Bolstered by Private Sector Fleets*

Similarly, increased Arctic activity and the attendant growth in Coast Guard responsibilities will put additional stress on the service's existing search-and-rescue capabilities. On at least two occasions, the Coast Guard has relied on oil and gas vessels for such missions,⁸⁹ leading one former area mayor to acknowledge that, absent fleets owned by oil and gas operators, the region will be more at risk of a life-threatening tragedy at sea.⁹⁰ The availability of oil and gas sector assets, particularly its fleets, could play a pivotal role in helping the Coast Guard carry out its search-and-rescue mission while under budgetary and capability constraints.

■ *Operation Arctic Shield Offers Unique Public-Private Partnership Model*

In 2009, the Coast Guard initiated Operation Arctic Shield, an annual exercise that will continue for the foreseeable future and is intended to advance its seasonal capabilities in the region to perform multiple missions related to search-and-rescue, environmental protection and response, marine safety and security and aids to navigation.⁹¹ As part of this effort, each summer the Coast Guard chooses an Arctic town from which to base multiple cutters, aircraft and personnel for the season. Past locations included Kotzebue, Barrow, Dead Horse, and Prudhoe Bay.

In each of these areas, the Coast Guard seeks to leverage the "existing infrastructure to increase our awareness of regional activity while also improving our ability to establish an on scene presence during emergent events."⁹² Indeed, during Arctic Shield 2012 in Barrow, Alaska, reliance on local commercial facilities was critical and the need for additional major infrastructure was readily apparent:



THE STATE DEPARTMENT'S FORMER SPECIAL REPRESENTATIVE FOR THE ARCTIC, ADMIRAL ROBERT J. PAPP, HAS PUBLICLY NOTED THAT AS MANY AS EIGHT ICEBREAKERS ARE NEEDED TO HAVE A FULL-TIME PRESENCE YEAR-ROUND

88 Jacqueline Klimas, Washington Examiner, "Interview: Adm. Paul Zukunft, Coast Guard commandant," (September 26, 2015).
 89 See Mark Thiessen, Alaska Dispatch News, *Shell Vessel Aids in Rescue of Stranded Mariner with Cat Tucked in his Coat*, (October 20, 2015); Yanchunas, Professional Mariner, *Offshore support vessel rescues hobbled bulker to avert grounding in Aleutians*, (March 2, 2011).
 90 Alex DeMarban, Alaska Dispatch News, *Demand for Arctic Infrastructure High Despite Shell's Departure*, (September 29, 2015).
 91 U. S. Coast Guard in the Arctic, *Arctic Shield 2016*.
 92 Coast Guard Alaska, *Coast Guard Initiates Arctic Shield 2015*, (July 10, 2015).

THE AVAILABILITY OF OIL AND GAS SECTOR ASSETS, PARTICULARLY ITS FLEETS, COULD PLAY A PIVOTAL ROLE IN HELPING THE COAST GUARD CARRY OUT ITS SEARCH-AND-RESCUE MISSION WHILE UNDER BUDGETARY AND CAPABILITY CONSTRAINTS



One of the biggest challenges facing the [Coast Guard] is the lack of infrastructure in the Alaskan Arctic, where Barrow – population 4,200 – is the largest community. There’s no air station; the Coast Guard is leasing a commercial hangar. There’s no deep-draft port; the smaller cutters will resupply and refuel in Nome, while the larger medium endurance cutter and national security cutter will have to travel to the Aleutian Island port of Dutch Harbor – a nearly 1,300-nautical mile voyage that takes more than five days.⁹³

In addition to satisfying certain infrastructure needs (and highlighting the importance of more regional infrastructure), Arctic Shield helps the Coast Guard develop “partnerships to combine efforts to ensure the safety of the maritime community.”⁹⁴ The Coast Guard’s collaboration efforts include developing stronger relationships with native communities, as well as with private sector interests. For instance, as part of Arctic Shield 2015, the service entered into a cooperative research and development agreement with Conoco Phillips to evaluate how it can work jointly with industry for response operations in Arctic regions. Specifically, the effort was designed to support search-and-rescue missions and explore how unmanned aircraft systems could be used to enhance Coast Guard capabilities.⁹⁵

Since its inception, Operation Arctic Shield has provided the Coast Guard with a better understanding of the challenges and opportunities presented by the Arctic, particularly its heavy reliance on existing commercial infrastructure, the need for greater infrastructure investment, and the importance of developing relationships with local communities and businesses. As the role of the Coast Guard in the Arctic region expands and economic activity through shipping, tourism and other industries increases, the service is likely to become increasingly reliant on public-private partnerships to carry out its mission.

3. Arctic Military Preparedness Constrained Absent Arctic OCS Investment

The decision to ban offshore energy development risks undermining U.S. military preparedness in the region by eliminating an important strategic partner that can provide much-needed investment in infrastructure and assets, likely to be vital to long-term military success. Indeed, the strategic nexus between private

⁹³ Defense Media Network, *Operation Arctic Shield*, (August 2012).

⁹⁴ U. S. Coast Guard in the Arctic, *Arctic Shield 2016*.

⁹⁵ ARM Climate Research Facility, *US Coast Guard Operation Arctic Shield 2015*.

sector interests, including energy development, and the military cannot be overstated, as “[e]nergy and natural resources have long provided ... a foundation for continued military investment.”⁹⁶

Several national security advisors and former military personnel have stressed Arctic OCS investment as part of a viable long-term military strategy:

*Given the importance of the Arctic to U.S. interests, it is imperative that all U.S. national security agencies are consulted and consider the national security benefits of retaining U.S. commercial engagement in the Arctic when making decisions on Arctic presence. Ultimately, opening Arctic commercial opportunities will result in enhanced focus, leadership, and resources required to fulfill investment needs in the region.*⁹⁷

Similarly, Amy Pope, the former Vice Chair of the White House Arctic Executive Steering Committee, Deputy Homeland Security Advisor and Deputy Assistant to the President in the White House National Security Council, recently recognized the strategic importance of increased investment to develop Alaska’s offshore resources:

*On the specific question of energy security, our strategy recognizes that the region holds sizable proved and potential oil and natural gas resources that will likely continue to provide valuable supplies to meet U.S. energy needs into the future. But responsibly developing Arctic oil and gas resources aligns with United States’ ‘all-of-the-above’ approach to developing domestic energy resources . . . to reduce our reliance on imported oil and strengthening our nation’s energy security.*⁹⁸

And yet, should private sector investment in Arctic OCS resources not be revived, a distinct possibility in the wake of the Obama administration’s moratorium, the public-private opportunities described above – the potential funding of icebreakers, continued flexibility to rely on commercial vessels for search-and-rescue efforts, efficiency gains and knowledge resulting from shared infrastructure investment and strategic relationships – are unlikely to come to fruition and oil and gas operators will instead withdraw assets and capital from the region.



AS THE ROLE OF THE COAST GUARD IN THE ARCTIC REGION EXPANDS AND ECONOMIC ACTIVITY THROUGH SHIPPING, TOURISM AND OTHER INDUSTRIES INCREASES, THE SERVICE IS LIKELY TO BECOME INCREASINGLY RELIANT ON PUBLIC-PRIVATE PARTNERSHIPS TO CARRY OUT ITS MISSION

⁹⁶ General James Jones and General Joseph Ralston, *CNBC, It is Critical for the US to Invest in the Arctic*, (August 9, 2016).

⁹⁷ Sustaining U.S. Security and Leadership in the Arctic (July 11, 2016).

⁹⁸ Arctic Energy Center, *White House Officials, Former Military Leaders Support Arctic Oil and Gas Development: In Their Own Words*, (October 28, 2016). See also U.S. Navy, *Arctic Roadmap: 2014-2024*, (February 2014), available at http://www.navy.mil/docs/USN_arctic_roadmap.pdf (stating that “the projected strategic value of the oil, gas, and other natural resources likely to be found in the Alaskan Arctic indicates that the United States may be eligible to claim one of the largest and richest extended continental shelf sectors in the world, measuring two to three times the size of California.”).

CONCLUSION

This paper identifies four specific projects that will drive more than \$6.3 billion in infrastructure investment and details how public-private partnerships can improve military preparedness. Unfortunately, the capital for these projects will remain sidelined until investors have confidence that markets of scale will develop to make them economically viable. Without private investment, projects will either be mothballed or will have to rely fully on public funding, at a time when state and federal budgets are already highly constrained.

Thinning ice and longer navigability windows bring new opportunities to expand economic activity from tourism and shipping to commercial fishing and offshore resource extraction. Supply chains, service sector growth, and other economic activity associated with these industries can create markets sufficient to spur the necessary capital investments. Furthermore, larger operations will need high-speed internet and other sophisticated communications tools, and increased housing, healthcare, and other quality of life services for their workers. The sum of these parts will ultimately benefit the Arctic communities they support in perpetuity.

The Obama Administration's recent decision to block energy development in the Beaufort and Chukchi poses substantial risk to the realization of these priorities. Offshore oil and gas development not only represents the most sizeable vehicle to drive the development of new infrastructure, but also the most immediate; absent any prospect of activity, government will no longer be able to employ its most effective lever for stimulating additional private sector investment into the region.

A decision by the Trump administration of whether to overturn the current ban therefore takes on out-sized importance. Prioritizing the issue could see Arctic leases introduced as early as 2019, serving to kick-start the development of an array of new infrastructure projects. Conversely, failure to address the issue urgently risks a chilling effect on the deployment of future capital, across a range of sectors. This is likely the single biggest issue in determining whether and how extensively the next generation of infrastructure in the U.S. Arctic can be realized.

While new infrastructure developments, from roads, bridges, icebreakers, deep-water ports and transshipment centers to high-speed broadband internet, in Alaska's Arctic regions will significantly improve the safety, health, and economic well-being of its native population, they are also critical to the United States' national security and geopolitical interests. As the United States' presence in the region has dwindled, and the country's operational icebreaker fleet sits at two, Russia has invested billions in the region, taking a commanding position with a fleet of at least forty icebreakers.

With supportive government policies, including access to OCS resources, and sustained private sector investment, the United States has the capability to reclaim its footing and become the dominant power in the region, while also significantly improving the quality of life for Alaska's Native people, driving down the costs of delivered goods, and adding significant revenue to state coffers.



About the Alliance for Innovation and Infrastructure: The Alliance for Innovation and Infrastructure (Aii) is an independent, national, educational organization dedicated to identifying our nation's infrastructure challenges, creating awareness of those challenges, and developing public-private partnerships to address those issues.

Aii strives to promote proven, innovative technology and higher safety standards to achieve industry excellence nationwide.

Our goal is to create higher standards by promoting innovative technologies and safer outcomes for national infrastructure projects.

The Alliance consists of two non-profit organizations; the Public Institute for Facility Safety, 501(c)(3) education and research organizations, and the National Infrastructure Safety Foundation, a 501(c)(4) social welfare organization. Two all-volunteer boards govern the Alliance. These boards also work in conjunction with the Alliance's own volunteer Advisory Council.



WITH SUPPORTIVE GOVERNMENT POLICIES, INCLUDING ACCESS TO OCS RESOURCES, AND SUSTAINED PRIVATE SECTOR INVESTMENT, THE UNITED STATES HAS THE CAPABILITY TO RECLAIM ITS FOOTING AND BECOME THE DOMINANT POWER IN THE REGION, WHILE ALSO SIGNIFICANTLY IMPROVING THE QUALITY OF LIFE FOR ALASKA'S NATIVE PEOPLE, DRIVING DOWN THE COSTS OF DELIVERED GOODS, AND ADDING SIGNIFICANT REVENUE TO STATE COFFERS

