Chapter Thirteen
Economy & Economic Development
CHAPTER 13: ECONOMY & ECONOMIC DEVELOPMENT

The economy is one factor that drives the growth and quality of life in a community. Much of the North Slope Borough’s economy is tied to the oil and gas industry in the greater Prudhoe Bay region. Some borough residents have rotational work in the oilfields or in a position supporting the oil industry, but the greatest contribution to the economy is through tax revenue. The borough assesses property taxes on infrastructure, the primary funding source for the borough’s operations and capital projects.

This chapter discusses the economy of the North Slope as a regional economic unit. Understanding what factors drive regional economic activity can provide insight into future growth opportunities. Population, employment sectors, and unemployment numbers form the basis of an economic analysis.

EMPLOYMENT

The majority of workers (61 percent) that live in the North Slope Borough work for the local government, that includes city, Tribal, and the borough, as shown in Figure 18. There are also some state employees that work for the Alaska Department of Health and Human Services and the Alaska Court System, they are not inexplicably not included in the data used for Figure 18. Most of these jobs are in Utqiāġvik, the borough seat of government. A significant portion of residents also work in the education and health fields. In 2016, 10 percent of residents were employed at the North Slope Borough School District, Ilisâŋvik College, ASNA, or other education or health-related organizations.\(^{287}\) In Utqiāġvik especially, there is a sector of workers in the tourism industry and support services for science research. These visitors support services in Utqiāġvik that the resident population might not have been able to support on their own.\(^{288}\) Figure 19 illustrates North Slope residents’ employment by industry.

The Prudhoe Bay region provides many jobs; over 20,000 people committed to the North Slope for oil and gas-related work in 2014.

Official state unemployment figures show the average 2014 unemployment rate was 5.8 percent. However, respondent interview data collected for the 2015 NSB Census indicates that the unemployment rate for NSB residents was significantly higher, at 27.7 percent.\(^{289}\)

The state estimates the unemployment rate on unemployment insurance claims. However, in the North Slope, there are some issues that might suggest that there are some factors to consider in calculating the unemployment rate. There are not a lot of employment opportunities in the villages; employment benefits end after a period of time; and the abundance of seasonal or temporary workers, especially in the village.\(^{290}\)


\(^{288}\) Ibid


\(^{290}\) Ibid
Figure 18: 2016 Resident Worker Characteristics

- Employed in state government: 0%
- Employed in local government: 61%
- Employed in private sector: 39%
- Workers employed all 4 quarters: 66%
- Workers aged 50 and over: 28%
- Residents employed: 71%

Figure 19: 2016 Resident Workers by Industry

- Natural Resources and Mining: 4%
- Construction: 28%
- Manufacturing: 0%
- Trade, Transportation and Utilities: 0%
- Information: 1%
- Financial Activities: 2%
- Professional and Business Services: 7%
- Educational and Health Services: 10%
- Leisure and Hospitality: 2%
- State Government: 1%
- Local Government: 61%
- Other: 2%

291 Alaska Department of Labor and Workforce Development, Research and Analysis Section. September 2016.
292 Ibid
The State of Alaska Department of Labor and Workforce Development has identified the top occupations for the North Slope highlighting if it is in the Oil and Gas Sector, the Maritime Sector and if it is a TOP JOB. A TOP JOB identifies those occupations with high growth potential, numerous openings, and high wage potential. TOP JOBs are indicated in Table 35.

The State of Alaska, through the Alaska Gasline Development Corporation, is planning to commercialize its North Slope natural gas resources by building the Alaska Liquefied Natural Gas Project, the nation’s largest energy export project. When the project begins, possibly as early as 2019, skilled workers will be needed for a range of occupations. There will be opportunities for Alaskans to fill an estimated 12,000 direct jobs during construction and 1,000 long-term operations jobs once completed.  

Table 35: 2016 Top Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number of workers</th>
<th>Female</th>
<th>Male</th>
<th>Age 45 and over</th>
<th>Age 50 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janitors and Cleaners, Except Maids and Housekeeping Cleaners</td>
<td>175</td>
<td>43</td>
<td>132</td>
<td>61</td>
<td>51</td>
</tr>
<tr>
<td>Office and Administrative Support Workers, All Other</td>
<td>135</td>
<td>90</td>
<td>45</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>Maintenance and Repair Workers, General</td>
<td>104</td>
<td>13</td>
<td>91</td>
<td>51</td>
<td>41</td>
</tr>
<tr>
<td>Teacher Assistants</td>
<td>102</td>
<td>86</td>
<td>16</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants, Except Legal, Medical, and Executive</td>
<td>101</td>
<td>92</td>
<td>9</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>88</td>
<td>7</td>
<td>81</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Executive Secretaries and Executive Administrative Assistants</td>
<td>85</td>
<td>71</td>
<td>14</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
<td>81</td>
<td>62</td>
<td>19</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Water and Wastewater Treatment Plant and System Operators</td>
<td>73</td>
<td>4</td>
<td>69</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>72</td>
<td>60</td>
<td>12</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Power Plant Operators TOP JOB</td>
<td>68</td>
<td>5</td>
<td>63</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>62</td>
<td>16</td>
<td>46</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>First-Line Supervisors of Office and Administrative Support Workers TOP JOB</td>
<td>60</td>
<td>48</td>
<td>12</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>General and Operations Managers TOP JOB</td>
<td>57</td>
<td>24</td>
<td>33</td>
<td>39</td>
<td>34</td>
</tr>
<tr>
<td>Recreation Workers</td>
<td>56</td>
<td>23</td>
<td>33</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Stock Clerks and Order Fillers</td>
<td>51</td>
<td>16</td>
<td>35</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>50</td>
<td>4</td>
<td>46</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Bus Drivers, School or Special Client</td>
<td>45</td>
<td>21</td>
<td>24</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Education, Training, and Library Workers, All Other</td>
<td>41</td>
<td>25</td>
<td>16</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Carpenters TOP JOB</td>
<td>39</td>
<td>0</td>
<td>39</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Cashiers</td>
<td>38</td>
<td>33</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Managers, All Other</td>
<td>36</td>
<td>23</td>
<td>13</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>Chief Executives TOP JOB</td>
<td>34</td>
<td>13</td>
<td>21</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td>Elementary School Teachers, Except Special Education TOP JOB</td>
<td>34</td>
<td>29</td>
<td>5</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Maids and Housekeeping Cleaners</td>
<td>32</td>
<td>27</td>
<td>5</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

- The occupation has been identified as an important occupation involved in the oil and gas industry
- The occupation has been identified as an important occupation involved in the maritime industry
- TOP JOB The occupation is projected to have a high growth rate and numerous openings and has an above average wage

294 Values in this table represent resident workers only.
COST OF LIVING

An analysis of an economy must identify what it takes to live in a community, such as the cost of food and gasoline, determine the level of comfort an individual maintains. The State of Alaska Department of Commerce, Community, and Economic Development (DCCED) identifies these costs across the state on a quarterly basis.

Table 36 highlights these costs in key Alaska communities, using Utqiaġvik to reflect the North Slope Borough as a whole. Utqiaġvik, generally, has lower grocery prices than the other North Slope communities because it has jet service to Anchorage and Fairbanks. The costs reflected show that some items can be two to three times higher in Utqiaġvik than elsewhere in Alaska. The Alaska Division of Community and Regional Affairs (DCRA) conducts a survey of energy (heating fuel and gasoline) prices around the state biannually. In July 2017, Southeast Alaska had the lowest average gasoline price at $3.72 per gallon, while Utqiaġvik had the highest price at $5.90 per gallon. The cost is much higher in the villages. The entire state saw gasoline prices fall between January and July of 2017. Figure 20 illustrates the price of gasoline statewide from 2013 to 2018. There is a general downward trend in price which is a factor that drives oil and gas industry investment in the state.

Table 36: 2017 Community Price Comparison

<table>
<thead>
<tr>
<th></th>
<th>1DOZ. EGGS</th>
<th>1GALLON MILK</th>
<th>1BREAD LOAF</th>
<th>1GALLON GAS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchorage</td>
<td>$2.79</td>
<td>$3.79</td>
<td>$2.49</td>
<td>$2.65</td>
<td>$11.72</td>
</tr>
<tr>
<td>Juneau</td>
<td>$2.09</td>
<td>$3.89</td>
<td>$1.99</td>
<td>$3.29</td>
<td>$11.26</td>
</tr>
<tr>
<td>Fairbanks</td>
<td>$1.99</td>
<td>$3.79</td>
<td>$2.49</td>
<td>$2.93</td>
<td>$11.20</td>
</tr>
<tr>
<td>Kenai</td>
<td>$1.97</td>
<td>$3.78</td>
<td>$1.68</td>
<td>$2.82</td>
<td>$10.25</td>
</tr>
<tr>
<td>Kodiak</td>
<td>$2.19</td>
<td>$4.09</td>
<td>$2.39</td>
<td>$3.24</td>
<td>$11.91</td>
</tr>
<tr>
<td>Nome</td>
<td>$2.49</td>
<td>$6.29</td>
<td>$2.29</td>
<td>$4.76</td>
<td>$15.83</td>
</tr>
<tr>
<td>Bethel</td>
<td>$3.99</td>
<td>$7.99</td>
<td>$2.79</td>
<td>$4.98</td>
<td>$19.75</td>
</tr>
<tr>
<td>Valdez</td>
<td>$2.09</td>
<td>$3.99</td>
<td>$2.39</td>
<td>$3.24</td>
<td>$11.71</td>
</tr>
<tr>
<td>Glenallen</td>
<td>$5.00</td>
<td>$10.75</td>
<td>$4.95</td>
<td>$3.16</td>
<td>$25.43</td>
</tr>
<tr>
<td><strong>Utqiaġvik</strong></td>
<td><strong>$4.99</strong></td>
<td><strong>$5.75</strong></td>
<td><strong>$2.73</strong></td>
<td><strong>$3.79</strong></td>
<td><strong>$14.81</strong></td>
</tr>
</tbody>
</table>

Average $2.96 $5.43 $2.73 $3.70 $14.81

ECONOMIC INVESTMENT

In April 2018, the State of Alaska formally designated the North Slope Borough as an “Opportunity Zone” through a federal program designed to drive long-term capital to distressed communities. Created under the federal Tax Cuts and Jobs Act of 2017, the Opportunity Zones Program provides tax incentives to private corporate and individual investors to encourage capital investments in low-income communities. The following considerations were weighed when choosing which eligible communities or portions of communities should be designated “Opportunity Zones”:

- Economic hardship
- Geographic representation
- Project feasibility
- Alignment with existing initiatives
- Community Support

One vital piece missing from the North Slope that involves economic investment is the Alaska Regional Development Organizations (ARDOR) Program. ARDORs are the primary economic development agencies providing support services for their regions, communities, and businesses. The ARDOR program’s mission is to encourage the formation of regional development organizations to prepare and implement regional development strategies. To encourage economic development by leveraging baseline support from the State of Alaska, ARDORs were placed in Alaska Statute 44.33.895. Partnerships are being developed to act as conduits for programs and support services that are customized by the region for optimal success. ARDORs are required to develop and implement regional comprehensive economic development strategies (CEDS) that identify potential assets for economic development initiatives and develop economic profiles for every region and community. Currently there are ten designated ARDORs; there is not one on the North Slope.297

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ECONOMIC OPPORTUNITIES

The North Slope Borough has multiple unique and promising economic opportunities in the coming decade; transportation corridors, the Port Authority, community connectivity projects, fiber optic telecommunications infrastructure, and ecotourism.

Transportation Corridors

In March 2018, the North Slope Borough led the construction of approximately 300 miles of snow roads between Utqiagvik, Atqasuk, and the North Slope oil fields that lead to the Dalton Highway as well as from Anaktuvuk Pass to the Dalton Highway. This project provided easier and cheaper winter transportation for North Slope residents to transport vehicles and supplies. It also provides insight into the viability of a permanent road system in the region.

The State of Alaska has recently established a priority project called Alaska Strategic Transportation and Resources (ASTAR). The project focuses on providing connectivity to the villages of the North Slope. The state’s goal is to develop a strategic plan by prioritizing community needs and identifying infrastructure projects which offer the most regional benefits. The project is currently a combination of data gathering including developing field studies and reports; identifying data gaps; and community scoping all in advance of major infrastructure projects. The project aims to both identify regional benefits as well as streamline processes for successful project completion.

Port Authority

A Port Authority for the North Slope Borough was established in 2014. NSBMC §4.01.020 states the purpose of establishing a port authority is “...to plan for, finance, construct, operate and maintain transportation related facilities and activities within the boundaries of the North Slope Borough. These facilities and activities, or Projects, are intended to provide emergency response capability, environmental protection, improved efficiency of local cargo operations, facilitation of resource development, and provision of training and employment opportunities for local residents. These facilities and activities shall be pursuant to the Development Plan.”

The intent is for the Port Authority to create efficient port facilities in ways that are applicable to the coastal communities that will reduce the cost of living for the inhabitants. The ordinance also states that the Port Authority will protect subsistence resources, provide emergency response opportunities, and create local jobs.

Data Storage

Recently, the installation of a high speed internet cable that services the majority of the coastal communities and the expansion of other telecommunication providers providing 4G service, there has been interest in establishing data storage centers. There are two required elements for a location: low cost natural gas and cold temperatures. The demand for new centers increases annually and many companies are looking to the North Slope as the ideal location for a data storage center. The two most viable areas that could host a data storage center are

Utqiaġvik and Prudhoe Bay due to their low-cost natural gas.

**OIL AND GAS DEVELOPMENT**

Alaska is an oil state. Oil and gas activities provide abundant state, borough, and individual revenues for persons throughout the State of Alaska and beyond. Prudhoe Bay perhaps the premier oil and gas activity center in the state, with other locations being concentrated around Cook Inlet and adjacent lands.
HISTORY OF NORTH SLOPE OIL EXPLORATION AND DEVELOPMENT

Pre-1800s
Iñupiat residents are aware of oil seepages on Alaska’s north coastal plains

1839
English explorer Thomas Simpson reports oil seepages on the northern coast of Alaska

1823
President Warren G. Harding creates the 23 million-acre Naval Petroleum Reserve No. 4 (PET-4) in Northern Alaska to provide an emergency oil supply for the U.S. Navy

1955
The Alaska Oil and Gas Conservation Committee (now the Alaska Oil and Gas Conservation Commission) is created by the Territory of Alaska

1960
President Dwight D. Eisenhower sets aside the 8.9 million-acre Arctic National Wildlife Refuge for its wildlife, wilderness, recreation, scientific, and cultural values

1964
The State of Alaska holds first lease sale in Prudhoe Bay

1968
The Atlantic Richfield Co. (ARCO) and Humble Oil and Refining Co. (now Exxon Mobil) announce Prudhoe Bay discovery

1969
North Slope oil lease sales net state of Alaska $900 million

1969
Oil companies announce plans to build an 800-mile trans-Alaska pipeline system

1971
President Richard Nixon signs into law the Alaska Native Claims Settlement Act

1969
Congress passes National Environmental Policy Act (NEPA), creating national environmental standards

1970
The Trans-Alaska Pipeline Authorization Act becomes law, effectively halting further environmental lawsuits

1974
Prudhoe Bay to Yukon River road construction is completed

1976
Naval Petroleum Reserve No. 4 is renamed National Petroleum Reserve-Alaska

1976
The Alaska Permanent Fund is written into the state constitution. The fund receives 25 percent of state mineral royalties and other income

1977
TAPS construction is completed for a final cost of $8 billion and a total work force 70,000

1977
ARCO Juneau departs Valdez with first TAPS oil

1980
The Alaska Permanent Fund Corp. is established to formally oversee the permanent fund investments and the legislature appropriates $900 million to the fund

1980
State petroleum revenues triple in a year, 90 percent of $2.5 billion unrestricted general fund

1980
Congress passes Alaska National Interest Lands Conservation Act

1982
Nearly 470,000 Alaskans receive first Permanent Fund Dividend check, $1,000 each

1984
The Barrow Gas Field Transfer Act conveys subsurface estate of the Barrow gas fields and the Walakpa gas discovery site and related support facilities, other lands, interests, and funds to the NSB

1987
Oil prices collapse. State petroleum revenue and general fund are half of previous year

1989
Exxon Valdez runs aground at Bligh Reef, spilling 11 million gallons of oil into Prince William Sound in what is now the second largest oil spill in history

2012
Shell conducts limited exploration in the Chukchi Sea

2015
Shell ends its Alaska exploration and eliminates its costly Outer Continental Shelf operation
North Slope Borough – Oil and Gas Regulatory Overview

Barrow Gas Field Transfer Act of 1984

Through congressional passing of Public Lay 98-366 of the 98th Congress, the Barrow Gas Field Transfer Act of 1984, directed the Secretary of the Interior to convey subsurface estates of the Barrow gas field and Walakpa gas discovery site, related support facilities, funds and other surrounding land interests to the North Slope Borough. This subsurface land transfer, gave the NSB ownership of and authorization for exploration and harvesting of oil and gas within 320 acres of land. Entitlements to energy transportation easements were provided within the Barrow Gas Field Transfer Act, allowing for easements of all purposes associated with the operation, maintenance, development, production, operation or transport of energy (including electricity) from the Barrow gas fields and Walakpa discovery site, to Utqiagvik, Wainwright and Atqasuk. Right of ways necessary for the NSB to provide energy supplies to North Slope communities were detailed and subsurface right entitlements were modified.299 This Act further conveyed rights, title and interests previously held by the U.S. on sand and gravel beneath UIC lands in the area of the Barrow gas fields and Walakpa discovery site, to UIC. Thus providing additional access and use of area gravel by UIC, for much needed gravel reserves which are vital to any infrastructure development in the North Slope.

Through the enactment of this land transfer, the borough, regional Native Corporation and the local village corporation were provided with an economic engine that would benefit the North Slope.

Leasing and Land Use Activities

Land ownership and fractionation of the surface and subsurface estates throughout the North Slope, makes leasing and oil exploration/production related activities, a lengthy and complex process. Federal, state, borough and at times, native corporation land use regulations and requirements are woven together in a complex network of steps and processes that are to be engaged prior to petroleum development (e.g. exploratory drilling), and associated infrastructure (e.g. ice roads) activity.

Federal - National Petroleum Reserve Alaska and Alaska National Wildlife Reserve

The NPR-A is 22.8 million acre, federally managed land holding within the North Slope Borough. Managed by the Bureau of Land Management, it consists of the largest tract of undisturbed public lands in the U.S., and as of 2010 is estimated to contain 896 million barrels of conventional undiscovered oil and 53 trillion cubic feet of convention, undiscovered natural gas.300

Oil and gas leasing in the NPR-A is authorized under the Naval Petroleum Reserves Production Act of 1976 and as amended. Since 2010, the BLM has held annual oil and gas lease sales at different locations and lease blocks throughout the NPR-A; the most recent lease sale offering to

occurred in 2018. The 2017 lease sale resulted in a total of 10,257,029 acres being offered for lease (a total of 900 different tracts). The total amount bid for the offered tracts was $1,159,357.00; 50 percent of which is dedicated to the State of Alaska. ConocoPhillips Alaska Inc. and Anadarko Exploration & Production (E&P) Onshore LLC were the successful bids in the 2017 NPR-A lease sale. This represents an ongoing movement of CPAI into the NPR-A, through oil and gas related activity on its Willow prospect, Bear Tooth Unit, and Greater Mooses Tooth Unit projects. Recently, appraisal wells drilled on CPAI’s Willow prospect supports earlier estimate that the field contains at least 300 million barrels of recoverable oil. The Willow discovery is in the company’s Greater Mooses Tooth Unit, located in the northeast area of the NPR-A.

Caelus’ recently announced Smith Bay – Tulimaniq discoveries are immediately adjacent to and outside of the jurisdictional boundaries of the NPR-A, on state offshore leases.

ANWR is located in the northeastern area of the North Slope Borough, with the closest community being Kaktovik. It consists of 19 million acres of coastal plains and wilderness, and was created by Congress under ANILCA. ANWR, managed by the USFWS, represents the largest protected wilderness in the U.S. Through ANILCA, 1.5 million acres of coastal plain in the northern area of ANWR was set aside for potential oil and gas exploration. This area is known as the “1002 area” and is subject of much environmental and political debate.

To date there has only been one exploratory well drilled in ANWR – and it was on private lands. The so called “KIC well”, was successfully drilled by Chevron in the 1980’s on private surface and subsurface estates with its results being a closely guarded secret. Despite this, the USGS’s mean estimates for oil reserves in ANWR state approximately 10.4 billion barrels of recoverable oil are within ANWR’s subsurface estates.

With the ongoing demand for domestic oil and the passage of the Tax Cuts and Jobs Act of 2017, there is renewed national and international oil and gas development interest in ANWR. Through this 2017 Act, the Secretary of the Interior is to “establish and administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain [1002 Area]” With this legislation effectively lifting the ban on drilling within ANWR, Congress ordered two leases sales in ANWR. The first to occur within four years and the second to occur within seven. Each lease sale is to include at least 400,000 acres. While no specific dates have been provided for the timing of these lease sales, updates of assessments of recoverable oil and natural gas in the 1002 Area is due to be released in 2019.

Before lease sales occur on any federal lands, federal agencies engage in the NEPA process of developing an Environmental Impact Statement. The EIS process includes scoping activities and the development of a scoping report that defines issues that need analysis in the EIS; development of a draft EIS that is issued for public comment;
documentation detailing how received public comment are addressed, development of a final EIS and its publishing along with the lead agencies Record of Decision. For EIS’s developed on oil and gas activities within the North Slope Borough, communities throughout the North Slope, Fairbanks and Anchorage are typically engaged in public scoping meetings. These EIS documents provide the foundational documents for how projects (if approved) are to progress forward and be developed.

**State of Alaska**

Conducted twice annually by the Division of Oil and Gas (DO&G) of the Alaska Department of Natural Resources; the North Slope, North Slope Foothills, and Beaufort Sea state leases are subject of lease sales in the fall, while Cook Inlet and Alaska Peninsula lease sales are conducted in the spring.303

Best Interest Findings (BIF) is statutorily mandated for each state lease sale area every 10 years - with calls for new information and public comment periods occurring each year - The BIF evaluates the risks and benefits of oil and gas leasing and informs the public. Areas covered include: wildlife, topographical and geological features, potential impacts of oil and gas development, generally – not specific projects.304 Alaska statutes require the Director of the DO&G to make a written finding of whether or not the lease or license is or is not in the state’s best interest (AS 38.05.035(e). The 10 year BIF for the North Slope305 was issued by the state on April 18, 2018, and encompasses future lease sales of more than 5.1 million acres of state owned land and waters within the NSB, encompassed within 3,137 tracts ranging in size from 640 to 5,760 acres. Five communities are located within this state sale area – Prudhoe Bay, Nuiqsut, Utqiagvik, Anaktuvuk Pass and Kaktovik. Within this 2018 BIF for the North Slope, the state owns the majority of the surface and subsurface lands with ASRC owning subsurface and Kuukpik Native Corporation owning surface lands on the western portion of the Sale area.306

The most recent fall 2017 state lease sales resulted in $21.2 million in bonus bids; the third larger by dollar since 1998 when areawide lease sales began, netting $110 per acre on average. Bids focused largely in and around the Nanushuk/Torok formations near the Colville River.307

With nearly 50 percent of the North Slope boundary administered by the State of Alaska currently under lease; there is a shift in focus to management of leased units and getting them to production. The State of Alaska, North Slope Management Plan (NSMP) is a new planning effort to provide a comprehensive land use plan for state lands within the North Slope of Alaska; encompassing approximately 12 million acres. With many competing resources and interests on state lands, this plan is intended to take a holistic approach to sorting and prioritizing competing uses. Such a planning effort has not occurred by state on its North Slope land holding before. The NSMP will guide management decisions for state lands in the planning area for the next 20 years. The plan will also address the

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304 Ibid
306 Ibid
North Slope Borough’s pending municipal entitlement selections.308

North Slope Borough holdings within Prudhoe Bay provide lucrative leasing opportunities to petroleum companies and petroleum service companies supporting the ongoing exploration and development of oil and gas on the North Slope. The NSB owns multiple tracts of land within Deadhorse that are subject to lease agreements and contracts with several different entities (Map 15), providing ongoing annual lease rental revenue for the borough. The NSB also has the ability to tax oil and gas infrastructure within its borders. This revenue allows the borough to build roads, operate schools, and fund for other public services such as health clinics and fire departments.

Map 15: 2015 NSB Deadhorse Lease Tracts

The NSB’s main revenue source is from oil and gas leasing and activities, and the NSB is committed to ensuring that any leasing and development activity is done in an environmentally and culturally responsive way, with minimal impact to its residents traditional and subsistence way of life. In 2014 the North Slope Borough, Department of Planning & Community Services released its Oil and Gas Technical Report: Planning for Oil and Gas Activities in the National Petroleum Reserve – Alaska. The purpose of this Technical Report was to provide guidance for future oil and gas activities in the NRP-A, which represents approximately 38 percent of the NSB’s land acreage. Additionally, many of the stipulations associated with any land use authorization (LMR authorization) specifically pertain to the protection of the land and the wildlife upon which resident’s subsistence lifestyle is based. The NSB Municipal Code Title 19 details unique land management principles and procedures for development to occur within the NSB’s borders. The NSBMC 19.10.020 code stipulates the purpose of Title 19 is to “achieve the goals and objectives and implement the policies of the NSB Compressive Plan...; and ensure that the future growth and development of the borough is in accord with the values of its residents “among other goals.

Land Use Summary
In 2017, assessments of adjacent state and Native lands, state waters, the Western Beaufort Sea area and the NPR-A resulted in the USGS estimating a mean of 8.7 billion barrels of oil and 25 trillion cubic feet of gas, in place Onshore. Through this same assessment, the Bureau of Ocean Energy Management (BOEM) estimates a mean of undiscovered technically recoverable resources in the Beaufort Sea Outer Continental Shelf Planning Area to be 8.9 billion barrels of oil and 27.7 trillion cubic feet of gas. With these onshore lands wholly contained within the NSB, and the subject federally owned Beaufort Sea Outer Continental Shelf Planning Area, currently accessible only through Prudhoe Bay’s infrastructure, the NSB is poised to receive economic benefit from future oil and gas developments when they occur.

OIL AND GAS ISSUES AND CONSIDERATIONS
While current North Slope oil and gas development(s) and those within the foreseeable future do have the potential to bring economic prosperity and benefit to all levels of government, the NSB recognizes that there are issues and considerations that accompany such development. Current activities are shown in Map 16. Some of these issues or considerations are summarized below, but are by no means the only issues which face the borough, its residents or the state.

Oil and Gas Employment
Employment and revenues associated with oil and gas development on the North Slope are cyclical in nature, and are subject to many national and international policies and economic factors.

Jobs in this sector include direct oil and gas industry jobs such as engineers, geologists, drill rig and pipeline operators as well as support

services for which the oil and gas industry in Alaska rely upon (waste management, camp operations, cooks, transportation, construction, etc.).

Announced discoveries such as the Tulimaniq discovery at Smith Bay, the potential opening for exploration of the 1002 Area, and other future opportunities have the potential for significant job growth within the North Slope, with the need for skilled labor. In 2016, with the announcement of the Tulimaniq discovery, Caelus indicated that it had the potential to “play a meaningful role in sustaining the Alaskan oil business over the next three to four decades.” only to reduce its Alaska workforce by 25 percent, due to low prices and fiscal uncertainty in the state. 310

The Alaska LNG project is designed to move Alaska’s North Slope gas to tidewater, with offtake points along the 807-mile pipeline that will provide natural gas for in-state customers. At the pipeline’s terminus in Nikiski, the gas will be liquefied and shipped by sea to Asia. Its construction will create an estimated 12,000 direct jobs with another 1,000 long-term jobs for the operation of the project. The economic impact of this project is also expected to create thousands of indirect jobs. The final agreement on the Alaska LNG project is not expected until the end of 2018. Should final investment decisions be made in 2019, construction could occur between 2019 and 2025, resulting in first in service Cargo shipment occurring in 2024-2025 311

Hilcorp Alaska. ENI, Oil Search and Repsol have all posted public plans for near future activities associated with petroleum reserve development within the North Slope.

The cyclical and seasonally based nature of oil and gas development on the North Slope does make it difficult for industry and the state to retain, during down turns in the petroleum industry, skilled and available labor force. According to the Alaska Department of Labor and Workforce Development, fewer people were working on the North Slope in 2017, than a decade ago. Statics showed that in May 2017, 8,923 people were employed in the region almost all of whom work in the oil and gas industry. In March 2015, North Slope operations employed 13,485. 312

With significant cuts already behind this sector, slowly increasing oil prices, and growing industry optimism, AEDC anticipates employment will stabilize in 2018, remaining at about 2,600 jobs, unchanged from 2017.

- TAPS averaged throughput of 527,323 barrels per day in 2017, the second consecutive year of growth. This volume represents a 1.5 percent increase from 2016, and 3.7 percent over 2015.
- New development on the North Slope bodes well for increasing the volume of oil moving through the pipeline and for generating revenue for state government. It is important to note that production from federal land such as NPR-A does not offer

the same revenue benefits for Alaska as production on state-leased land.

- Oil and gas activity on the North Slope is anticipated to increase in 2018.

- ConocoPhillips plans on first oil from Greater Mooses Tooth #1 in 2018, with additional near-term work planned on Greater Mooses Tooth #2, CD2, and CD5. ConocoPhillips plans to expand CD2 and CD5 with drilling starting in 2020. The company plans to drill five exploratory wells in 2018.

- Hilcorp is finishing construction at its Milne Point’s Moose Pad project with first oil anticipated in 2018.

- Longer-term projects include ConocoPhillips’ Fiord West (20,000 barrels per day) and Willow (100,000 barrels per day) projects and Hilcorp’s Liberty Project (65,000 barrels per day). Oil Search’s Nanushuk project in the Pikka Unit is expected to produce 120,000 barrels per day. Caelus’ Smith Bay also offers long-term potential.

- Eni is drilling in its Nikaitchqu North prospect with additional wells possible, and Glacier Oil and Gas is drilling an exploratory well at Badami. Brooks Range Petroleum, Alliance Exploration, Accumulate Energy Alaska, and other companies are also active planning, exploring, and developing on the North Slope.

- The opening of the Arctic National Wildlife Refuge’s 1002 area and potential for increased access to offshore leases offer the industry additional possibilities for long-term growth.

- Through early 2018, oil was trading at three-year price highs. Short-term forecasts from the Energy Information Agency, Alaska Department of Revenue, and Goldman Sachs indicate oil prices will be higher in 2018 than 2017.313

State of Alaska Department of Labor and Workforce Development offers training and apprenticeship programs.

Tundra Travel and Access

Access to current and future petroleum developments will be a mixture of all season gravel roads as well as seasonal ice roads and snow trails. The current Prudhoe Bay established infrastructure is accessed by a network of gravel roads that are utilized year round. Mitigation measures such as traffic and access control, speed limits on vehicle travel, dust control and mitigation plans as well as ensuring that area wildlife have the right of way, serve to mitigate the impact that vehicular travel on the Prudhoe Bay road infrastructure has on the surrounding wildlife and environment. New and future developments can and most likely will be accessed only during the winter via ice roads and snow trails. Rollagon (or similar tracked low impact ADNR approved vehicles) are common means for bringing supplies to both industrial development not connected to the existing network, as well as for supplies and exploration activities such as seismic surveys.

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Environmental studies, permits and other land use authorizations are required to be obtained prior to any development of year round or seasonal road or tundra travel. Summer impact surveys are required by the state and/or BLM for ice roads, snow trails utilized during winter months, to detail any tundra damage caused as a result of this winter activity. The NSB requires notification of any tundra damage within 24 hours of its occurrence with a written report to be submitted within seven days.

Subsistence Impacts
Roads, noise, dust, light, vibrations, and increased air and marine traffic associated with petroleum development on the North Slope, have the potential to impact subsistence activities and the subsistence way of life for residents of the NSB. All agencies (federal and state) as well as the NSB have stringent regulations, and stipulations pertaining to subsistence impacts, with the impacts and mitigation required being subject of may EIS’s developed for NSB oil and gas operations. As noted within the recent NSMP, “several important subsistence, sport, and personal uses of fish and wildlife could be affected by [future] state oil and gas lease sale activity. Subsistence activities are important to Alaska Native communities of the North Slope. ... Many people maintain strong cultural and spiritual ties to subsistence resources, so disruption of subsistence activities may affect more than just food supplies.”

It was further stated that “mitigation measures addressing harvest interference avoidance, public access, road construction and oil spill prevention can mitigate potentially negative impacts.” Subsistence activities are important to Alaska Native communities of the North Slope. ... Many people maintain strong cultural and spiritual ties to subsistence resources, so disruption of subsistence activities may affect more than just food supplies.”

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North Slope Oil and Gas Activity
State of Alaska, Department of Natural Resources, Division of Oil and Gas, as of October 2018

**Exploratory Wells Spud**
- **Oil Search**
- **ConocoPhillips**
  - Planning pad expansions at CRU in 2019 to add 10 more well slots at CD5 and more slots to CD2 to accommodate 32 wells at Iditarod West. May drill late 2018 CD4-95 exploratory well into Nan Khal Nanushuk trend just west of Putu 2 from existing CD4 pad in southern CRU.
- **Elixir Petroleum**
  - Filed lease plan of operations for Winx 1 exploration well to be drilled east of Horsepower wells by 88 Energy affiliate Captivate Energy. Partners also include Otto Energy and Red Emperor Ltd.
- **Eni**
  - May resume development drilling at Nikaitchuk Unit this Fall. Planning to drill up to three new wells and add laterals to as many as 8 existing single lateral wells at Spy Island.
- **Hilcorp**
  - Plan to drill 50-70 wells from Moose pad at Milne Point field. Drilling to start late 2018 and first production expected in November. Peak production anticipated to be 16,000 BOPD in 2020 with 30-50 million barrels ultimately recovered.
- **McKee**
  - Proposed 2 new wells in the Nikaitchuk Unit.
- **BP Exploration**
  - 2018 POD called for 7 wells in Prudhoe’s Flow Station 2 region. Planning to conduct field-wide 3D seismic survey. Three additional wells possible at Lisburne PA. Planning for major gas sale in accordance with AGDC progress on AKLNG project.
- **Caelus**
  - Acquired Caelus’ 350,000 acre onshore exploration fairway between Prudhoe Bay and Point Thomson.
- **Eni**
  - Filed lease plan of operations to conduct field-wide 3D seismic survey. Three additional wells possible at Lisburne PA. Planning for major gas sale in accordance with AGDC progress on AKLNG project.
- **BP Exploration**
  - Proposed to produce from existing CD4 pad in southern CRU.
- **ConocoPhillips**
  - Planning expansion of Eastern NEWS with second phase of development. Expected to come online in 2023.
  - Planning to drill three new wells at KRU Drill Site 2M.
  - Planning to drill Cairn prospect (SeaBe Fm) east of Tam field from DS 2S in late 2018.
- **Eni**
  - May drill late 2018 CD4-95 exploratory well into Nan Khal Nanushuk trend just west of Putu 2 from existing CD4 pad in southern CRU.
- **88 Energy**
  - Ended production testing of HRZ shale at bowie 2 and suspended well with plans to farm out interest.
- **Elixir Petroleum**
  - Announced purchase of 35,423 acres in NPRA north of Umiat from Paul Craig.

**Division of Oil and Gas**
- Additional tax credit datasets have recently been publicly released to Alaska Geologic Materials Center (Umiat 2D/3D, Pruvia South 3D, Ikpikpuk River 2D, and North Slope 3D). Datasets from two more surveys and 32 wells to be released in November.

**National Petroleum Reserve - Alaska**
- **Great Bear Petroleum**
  - Filed lease plan of operations for Winx 1 exploration well to be drilled east of Horsepower wells by 88 Energy affiliate Captivate Energy. Partners also include Otto Energy and Red Emperor Ltd.
- **Brooks Range**
  - Proposing to produce Mustang field using early production facility.
- **Badami**
  - Received application from SAExploration, ASRC, and Kaktovik Inupiat Corp to conduct 3D seismic survey in 1002 area of Arctic National Wildlife Refuge. Proposed Marsh Creek 3D survey would take two winter seasons to complete.
- **Liberty**
  - Issued final EIS for Hilcorp’s Liberty project to develop field from gravel island five miles offshore and utilize buried subsea pipe-in-pipe pipeline.
- **BP Exploration**
  - 2018 POD called for 7 wells in Prudhoe’s Flow Station 2 region. Planning to conduct field-wide 3D seismic survey. Three additional wells possible at Lisburne PA. Planning for major gas sale in accordance with AGDC progress on AKLNG project.

**Map Location**

The accuracy of this map is subject to pending decisions and current on appeal and other administrative actions. Please visit [www.dog.dnr.alaska.gov/Information/MapsandGIS](http://www.dog.dnr.alaska.gov/Information/MapsandGIS) to see our final current maps.
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COMMUNITY INPUT, FINDINGS, NEEDS, AND CHALLENGES

During the public input process, there was little discussion directly related to economic development concerns. However, the lack of employment opportunities coupled with the high cost of living puts a strain on many North Slope households. The remoteness of North Slope communities greatly limits economic development opportunities. Many residents work for local governments – the North Slope Borough, NSBSD, Tribal governments, or Native corporations. Some residents find temporary work on capital projects within their communities - renovating the local school or building roads. ASRC dividends and seasonal employment provide income. Subsistence activities offset the need to purchase expense imported food. Meanwhile, oil and gas development in the Prudhoe Bay region contributes to the regional economy, primarily through tax revenue; few North Slope residents hold positions in the oil and gas industry.

Economic development issues and concerns identified by workshop participants are provided in Chapter 2 and listed below:

- Create small businesses utilizing training services and loans
- Limited free market economy
- Industry population decrease and price of oil
Findings

The majority of resident employees work for local government: the city, Tribe, or borough. There are also residents that work for the state or federal government or in the education and health fields.

Community price comparisons indicate costs of goods are two to three times higher in Utqiaġvik than elsewhere in Alaska, and higher than that in rural villages.

The State of Alaska formally designated the North Slope Borough as an Opportunity Zone through a federal program designed to drive long-term capital to distressed communities.

The North Slope is not part of the State of Program.

Additional transportation corridors and developing a port would contribute to the North Slope economy.

The Barrow Gas Field Transfer Act of 1984 provides low-cost natural gas to the community of Utqiaġvik.

Recent oil discoveries in Smith Bay and elsewhere as well as expansion of oil and gas exploration and development into ANWR may provide additional economic opportunities and tax revenue.

The most recent fall 2017 state lease sales resulted in $21.2 million in bonus bids; the third larger by dollar since 1998 when areawide lease sales began.

Needs & Challenges

There are opportunities to develop data storage and other industries on the North Slope.

Developing pipelines from Utqiaġvik to nearby communities of Atqasuk, Point Lay, and Wainwright is consistent with the Barrow Gas Field Transfer Act and would provide a sustainable source of energy.

A balance between current and future development, and traditional and the subsistence way of life is vital for the NSB to move forward in the best interests of its residents.
PRIMARY ECONOMY AND ECONOMY DEVELOPMENT GOAL

Goal Six: Develop strong, resilient local and regional economies.

Objective 1: Encourage collaborative agreements, invest in training, and seek new industries for economic development of the region.

6.1.1. Engage in regional efforts to create a trained local workforce, including collaborative efforts with Iḷisaġvik College, the State of Alaska, and industry.

6.1.2. Investigate the feasibility of establishing an extension of Iḷisaġvik College in Deadhorse to train residents for work in the oil industry.


6.1.4. Research viable industries for the North Slope, such as data storage.

6.1.5. Investigate burgeoning employment opportunities due to improved fiber optic communications.

6.1.6. Develop a North Slope Borough Economic Development Plan to foster new economic development compatible with local values.

6.1.7. Participate in local and regional efforts by Tribal governments, Native corporations, and local governments to prepare economic development plans.

6.1.8. Investigate the potential of mineral extraction by the borough for the benefit of residents.

6.1.9. Continue to invest in creating childcare centers in all North Slope communities to assist working parents.

6.1.10. Assist in entrepreneurs in developing small businesses utilizing training services and loans.