McKINLEY RESEARCH
GROUP, LLC

THE ROLE OF THE OIL & GAS INDUSTRY IN ALASKA'S ECONOMY

NOVEMBER 2023

PREPARED FOR

AOGA
ALASKA OIL & GAS ASSOCIATION
People. Pride. Petroleum.

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ACRONYMS

ADCCED	Alaska Department of Commerce, Community, and Economic Development
ADNR	Alaska Department of Natural Resources
ADOLWD	Alaska Department of Labor and Workforce Development
ADOR	Alaska Department of Revenue
AGDC	Alaska Gasline Development Corporation
ANS	Alaska North Slope
AOGA	Alaska Oil and Gas Association
BEA	U.S. Bureau of Economic Analysis
bpd	Barrels of oil per day
BCF	Billion cubic feet
CBRF	Constitutional Budget Reserve Fund
CY	Calendar Year
FNSB	Fairbanks North Star Borough
GF	General Fund
GSP	Gross State Product
KPB	Kenai Peninsula Borough
LNG	Liquified Natural Gas
Mat-Su	Matanuska-Susitna
MMbbl	Million barrels
NAICS	North American Industry Classification System
NSB	North Slope Borough
NPR-A	National Petroleum Reserve – Alaska
OPEC	Organization of Petroleum Exporting Countries
PFD	Permanent Fund Dividend
POMV	Percent of Market Value
SB	Senate Bill
SFY	State Fiscal Year
TAPS	Trans-Alaska Pipeline System

INDUSTRY OVERVIEW

Alaska's oil and gas industry started with the discovery of the Swanson River oil field on the Kenai Peninsula in 1959. That was followed by discovery of the Sterling gas field in 1961, the Beluga River gas field in 1962, and the Beaver Creek gas field in 1967. Prudhoe Bay, one of the largest oil fields in North America, was discovered on the North Slope in 1968. In 2022, Prudhoe Bay and the Trans-Alaska Pipeline System (TAPS) operations celebrated a 45-year anniversary. During that time, 18.5 billion barrels of oil have been transported through TAPS from the North Slope to the Valdez Marine Terminal on Prince William Sound. As of 2022, Alaska's oil and gas industry includes 15 "Primary Companies" that explore, produce, refine, and transport North Slope and Cook Inlet oil and gas resources.

ALASKA'S OIL AND GAS INDUSTRY IN 2022

	OIL	NATURAL GAS
Production (CY)	437,000 bpd	373 MCF
% of U.S. Production	4%	1%
Rank among U.S. producing states	4th	12th

STUDY PURPOSE

The Alaska Oil and Gas Association (AOGA) contracted with McKinley Research Group to assess the role of the oil and gas industry in Alaska's economy and six geographic locations: Municipality of Anchorage, Fairbanks North Star Borough, Kenai Peninsula Borough, Matanuska-Susitna Borough, North Slope Borough, and the City of Valdez. The analysis also captures the impact of Primary Company payments to the State of Alaska and local governments in the form of taxes, royalties, property tax, and other taxes.

DIRECT IMPACTS

Primary Company jobs and wages and purchases of goods and services

INDIRECT IMPACTS

Jobs and wages in businesses providing goods and services to Primary Companies

INDUCED IMPACTS

Jobs and wages created when Primary Company workers and other workers indirectly supported spend their wages in the local economy

MEASURING ECONOMIC IMPACTS

TOTAL ECONOMIC IMPACTS

Including all economic impacts related to Primary Company payroll, spending on goods and services, and oil- and gas-related government revenue, the oil and gas industry supported **69,250 jobs** and **$5.9 billion** in wages in Alaska in 2022. This total impact represents **16% of all Alaska employment** and **17% of total earnings in 2022**.

Supported by Payroll and Goods and Services Spending

36,200 Jobs
$3.3 Billion in Wages

+

Supported by Oil- and Gas-Related Government Revenue

33,050 Jobs
$2.6 Billion in Wages

=

Total Economic Impacts

69,250 Jobs
$5.9 Billion in Wages

The oil and gas industry has the highest economic multiplier in Alaska. For each Primary Company job, the oil and gas industry supports 15 additional jobs elsewhere in Alaska's private and public sectors (8 jobs supported by Primary Company payroll and goods and services spending and 7 by oil-related taxes and royalties). For each dollar in Primary Company wages, a total of $4 in additional indirect and induced wages are supported in Alaska.

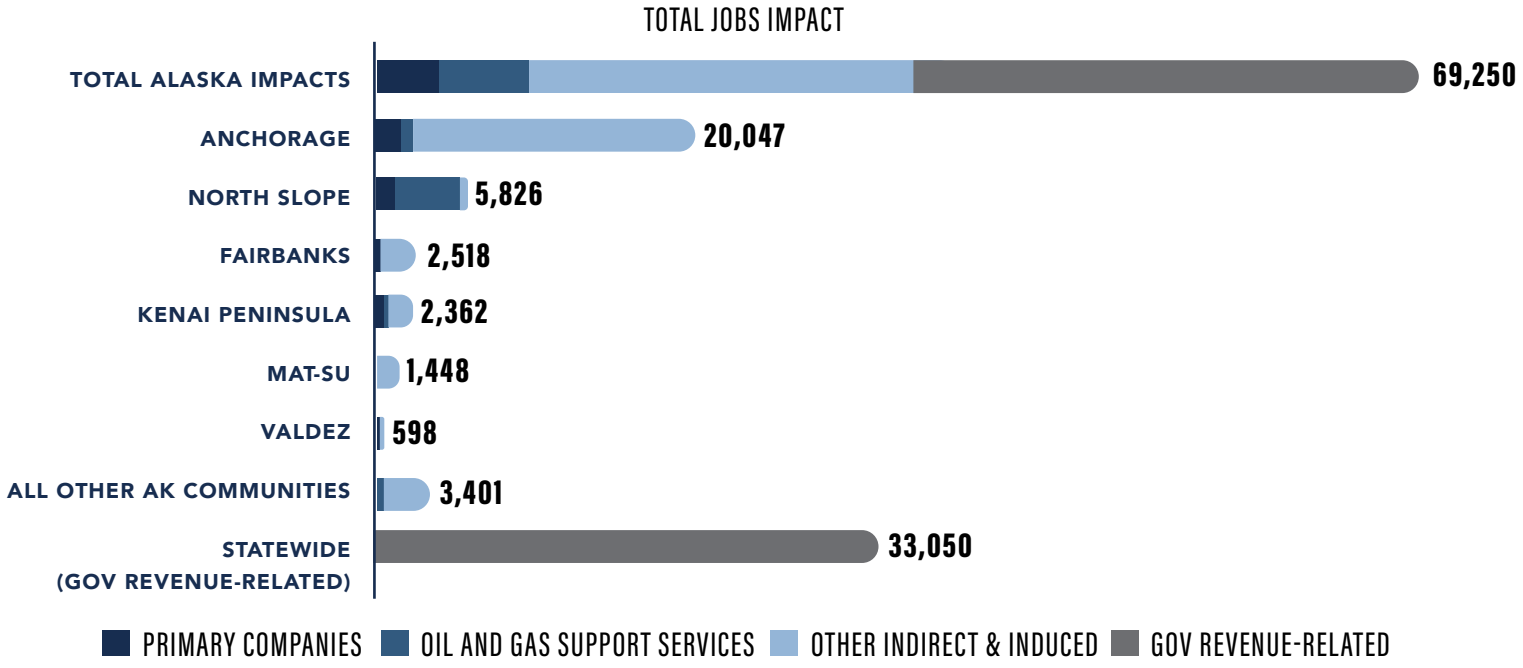
The oil and gas industry sector supports:

- An extensive network of vendors and suppliers located in-state, spending **$4.6 billion with more than 1,000 businesses** in 2022.
- Highest average wages compared to all other sectors in Alaska. On average, Primary Company employees earn **three times the average annual wages** of all wage and salary employees in Alaska ($267,000 for Primary Company employees and $65,000 for all Alaska workers in 2022).
- Highest share of State of Alaska revenue among all private industries in Alaska. The oil and gas industry remitted over **$4.0 billion to state government** in FY2022.

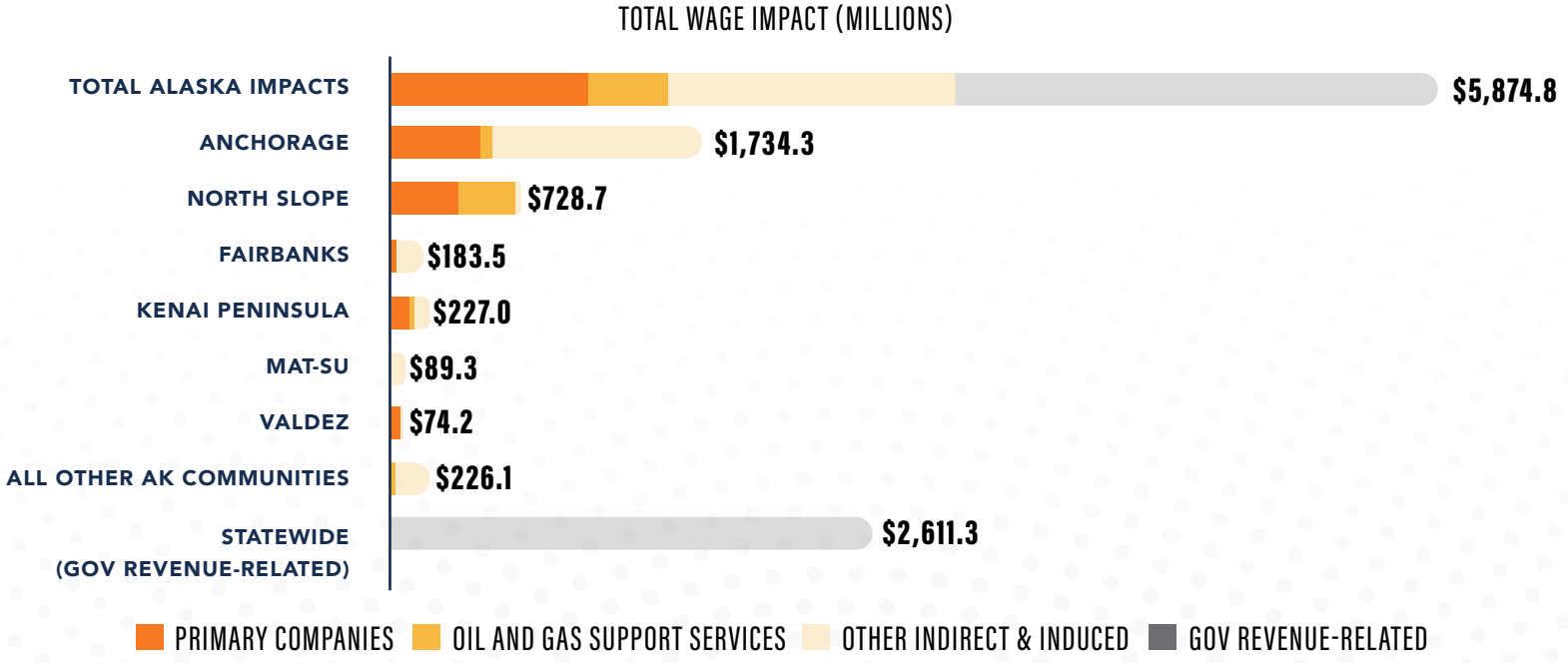
TOTAL ECONOMIC IMPACTS OF THE OIL AND GAS INDUSTRY IN ALASKA, 2022	
	Estimated Impacts
Primary Company Payroll and Goods and Services Spending Impacts	
Direct employment in Alaska (including non-resident workers)	**4,105**
Direct wages paid to all workers in Alaska	**$1.1 billion**
Residents as a % of direct employment	**83%**
Resident wages as a % of direct wages	**82%**
Primary Company spending with Alaska vendors	**$4.6 billion**
Number of Alaska vendors providing good and services to Primary Companies	**1,000+**
Total jobs related to Primary Company spending*	**36,200**
Total wages related to Primary Company spending*	**$3.3 billion**
Government Revenue Impacts (SFY2022)	
State taxes and royalties paid by the oil and gas industry	**$4.1 billion**
Oil and gas industry revenue as a % of state revenue	**47%**
Local property taxes paid by the oil and gas industry	**$448.5 million**
Jobs related to oil and gas industry taxes and royalties*	**33,050**
Wages related to oil and gas industry taxes and royalties*	**$2.6 billion**
Total Primary Company Spending and Government Revenue Impacts	
Total jobs related to Alaska's oil and gas industry*	**69,250**
% of total employment in Alaska	**16%**
Total wages related to Alaska's oil and gas industry*	**$5.9 billion**
% of total wages in Alaska	**17%**

Sources: Primary Companies data, Alaska Department of Revenue, Alaska Department of Labor and Workforce Development, U.S. Bureau of Economic Analysis, and McKinley Research Group estimates.
**Includes all direct, indirect, and induced impacts.*

ECONOMIC IMPACTS OF OIL AND GAS INDUSTRY BY REGION, 2022



69,250 TOTAL ALASKA JOBS



$5,874.8 M TOTAL ALASKA WAGES

Sources: Alaska Department of Labor and Workforce Development, Primary Companies data, and McKinley Research Group estimates

PRIMARY COMPANY PAYROLL AND GOODS AND SERVICES SPENDING IN ALASKA

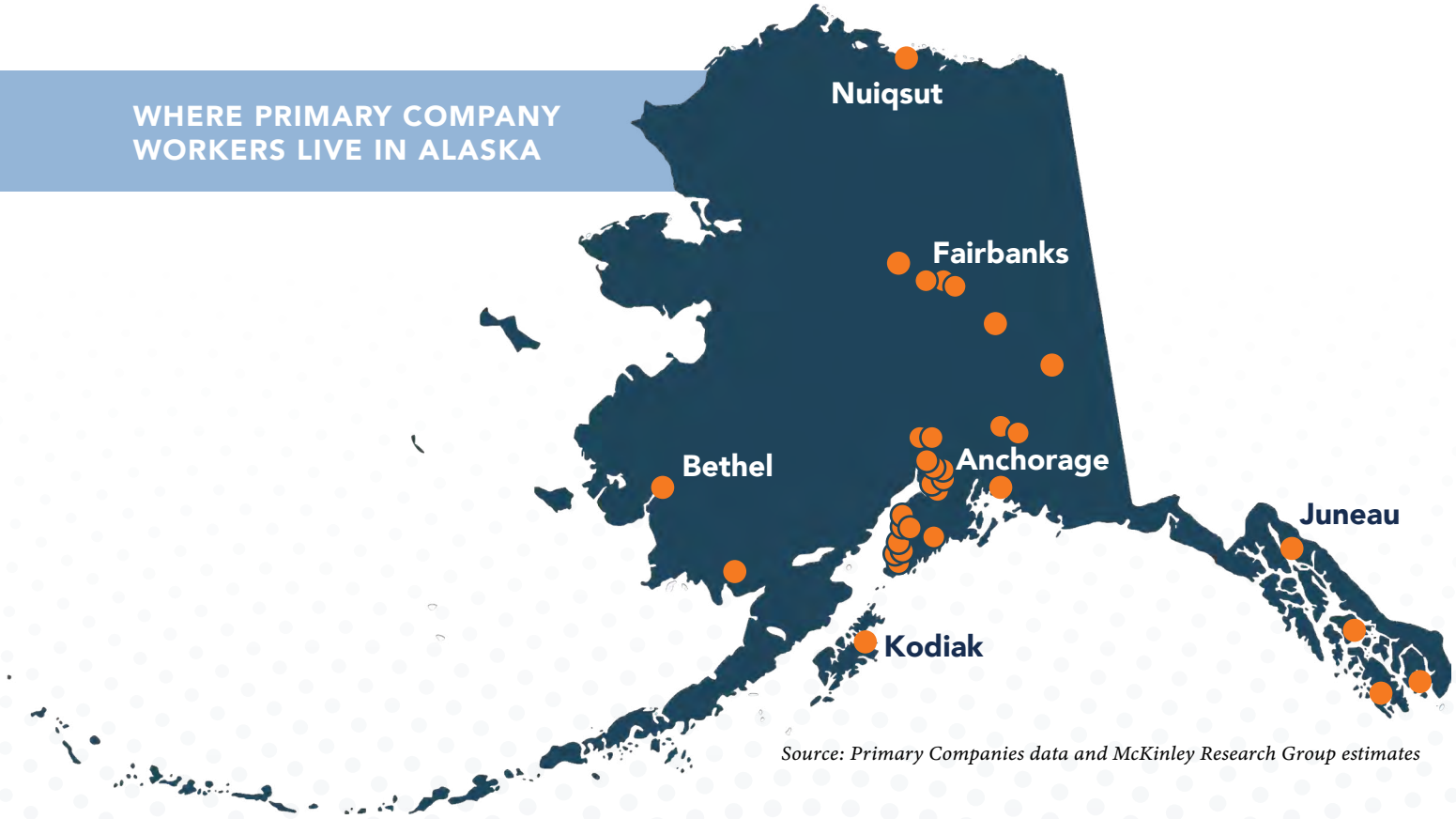
(Excludes impacts related to government revenue)

Primary companies in Alaska's oil and gas industry spend billions in Alaska each year on payroll and purchases of goods and services from local vendors. The impacts of the industry are felt statewide, with Primary Company employees living across **45 Alaska communities** and businesses providing goods and services to the industry spread statewide.

PRIMARY COMPANY DIRECT IMPACTS IN 2022

EMPLOYMENT	PAY	SPEND	SUPPORT
4,105 workers, including **3,402** Alaska residents	**$1.1 billion** in total wages, including **$904 million** to Alaska residents	**$4.6 billion** on goods and services	**Over 1,000 Alaska businesses**

WHERE PRIMARY COMPANY WORKERS LIVE IN ALASKA



Source: Primary Companies data and McKinley Research Group estimates

GOVERNMENT REVENUE IMPACTS

STATE GOVERNMENT REVENUE

Between 1959 and 2022, nearly $274 billion in petroleum revenues were collected by the State of Alaska, 81% of which were unrestricted petroleum revenues ($221 billion). Oil- and gas-related state government revenues have a statewide impact, supporting programs such as Medicaid and K-12 education and capital projects across Alaska.

Most oil- and gas-related revenue paid to the State of Alaska is classified as Unrestricted General Fund and can be appropriated by the Legislature. In SFY2022 petroleum revenues to the State increased due to high oil prices and contributed **50% of all unrestricted state revenues**.

Royalties deposited into the Alaska Permanent Fund account for the highest proportion of restricted General Fund revenues paid to the State by the oil and gas industry. Virtually all state mineral resource revenue deposited into the Principal of the Fund comes from petroleum royalties, the remainder coming from mining activity. **In SFY2022, $539.0 million in oil and gas revenues were deposited into the Fund's Principal, the largest annual deposit since SFY2015.**

A portion of investment revenue from the Alaska Permanent Fund has been used as Unrestricted General Fund revenue since SFY2019. These investment earnings are indirectly related to the oil and gas industry given the history of the Fund as investments built from Alaska's mineral resource wealth. Between SFY2019 and SFY2022, this unrestricted investment revenue from the Alaska Permanent Fund accounted for 44% to 65% of total unrestricted state revenues. Combined, unrestricted petroleum and investment revenues account for 94% of the State's Unrestricted General Funds in SFY2022.

STATE OF ALASKA OIL- AND GAS-RELATED REVENUE ($MILLIONS) IN SFY2022	
UNRESTRICTED GENERAL FUND REVENUE	**$3,480.9**
Production Tax	$1,801.6
Oil and Gas Royalties (includes bonuses, rents and interest)	$1,259.3
Petroleum Corporate Income Tax	$297.5
Property Tax	$122.4
% of unrestricted revenue from oil and gas	*50%*
RESTRICTED REVENUE	**$593.4**
Royalties to Permanent Fund	$539.0
All Other Oil and Gas-Related Restricted Revenue	$54.5
% of restricted revenue from oil and gas	*34%*
TOTAL STATE REVENUE FROM OIL AND GAS	**$4,074.3**
% of all state revenue from oil and gas	*47%*
Average oil price per barrel	*$91*

State Government Employment Impacts

State government agency operations are highly dependent on funding from oil and gas-related revenue. **In SFY2022, 22% of all state government positions (4,893 of 22,562 positions) were directly or indirectly attributable to oil- and gas-related Unrestricted General Funds.** Including direct oil and gas Unrestricted General Fund revenue and the impact of the Alaska Permanent Fund, and indirect revenue from deposits into the fund principal by the oil and gas industry, the percentage of department budgets funded by oil- and gas-related revenue ranged from 2% (departments of Commerce, Community and Economic Development and Revenue) to 59% (Alaska State Legislature).

LOCAL GOVERNMENT REVENUE

Local governments across Alaska also generate revenue from taxation of oil and gas property assets. **In SFY2022, local governments generated $449 million from taxation of oil and gas properties, 21% of all local government tax revenue in Alaska.**

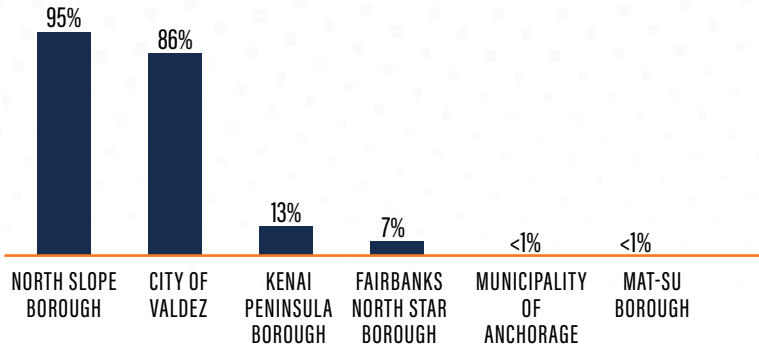
Assets on the North Slope account for the highest share of oil- and gas-related property values ($21.0 billion out of $28.6 billion in asset value), followed by assets in Valdez ($2.1 billion), and on the Kenai Peninsula ($1.5 billion).

Oil and gas-related property taxes account for 95% of all local tax revenue received by the North Slope Borough, and 86% of all tax revenue received by the City of Valdez.

STATE AND LOCAL GOVERNMENT REVENUE EMPLOYMENT IMPACTS

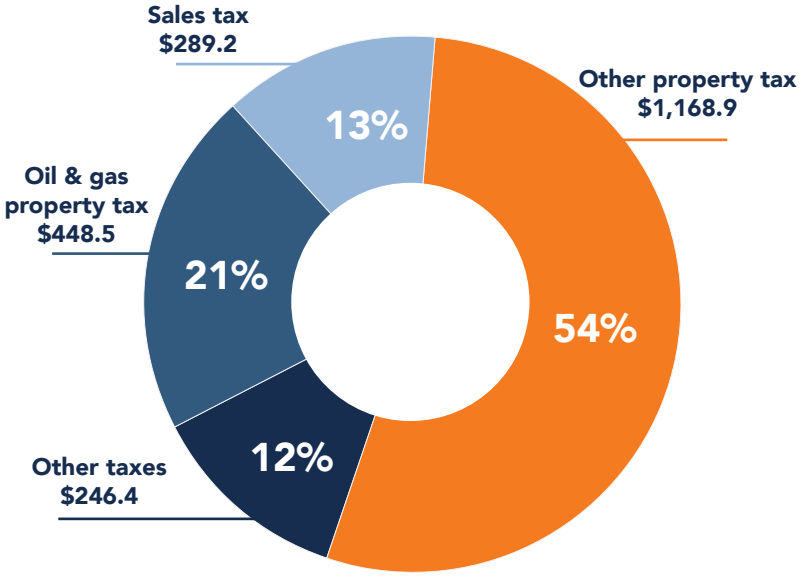
Combined, state and local government spending of oil-related revenues supports about 33,050 jobs and $2.6 billion in annual wages in the Alaska economy.

PERCENT OF LOCAL TAX REVENUE FROM OIL AND GAS PROPERTY TAX, SFY2022



Source: Alaska Department of Revenue, Tax Division

LOCAL GOVERNMENT TAX REVENUE BY CATEGORY, SFY 2022

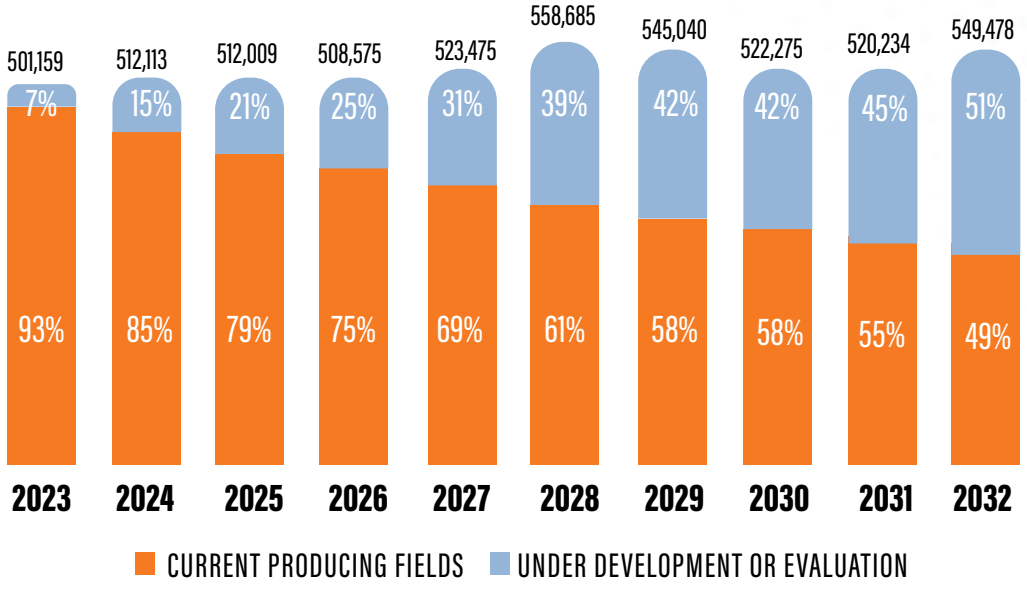


Source: Alaska Department of Commerce, Community, and Economic Development

THE FUTURE OF THE OIL AND GAS INDUSTRY IN ALASKA

Despite a slight oil production increase of 1.2% between 2021 and 2022, overall production from current fields is expected to decline over the next decade. Despite declining production from current fields, new projects under development or evaluation are forecasted to increase total North Slope production between 2023 and 2032. **Production from projects under development or evaluation is expected to represent over half (51%) of total production by SFY2032**. Infield development at current fields will also be necessary to sustain production across the North Slope over the next decade.

ALASKA NORTH SLOPE OIL PRODUCTION FORECAST BY FIELD TYPE, FY2023-FY2032



Source: Alaska Department of Natural Resources

In aggregate, oil and gas companies in Alaska expect to **invest $14 billion in new projects and infield developments** between 2023 and 2028. Significant projects under development or evaluation include:

- Phase 1 of Santos' Pikka project, a $2.6 billion development project expected to increase North Slope production by 80,000 bpd at first oil in 2026.
- ConocoPhillips' Willow project, which is one of Alaska's largest in decades with expected peak production of 180,000 bpd (first oil in 2029), and Nuna project which will add new production of 20,000 bpd linked to existing Kuparuk River Unit infrastructure.
- Significant infield development by Hilcorp at their North Slope and Cook Inlet assets.
- Investments in other projects by BlueCrest Energy, Furie Operating Alaska, and Glacier Oil & Gas Corporation.

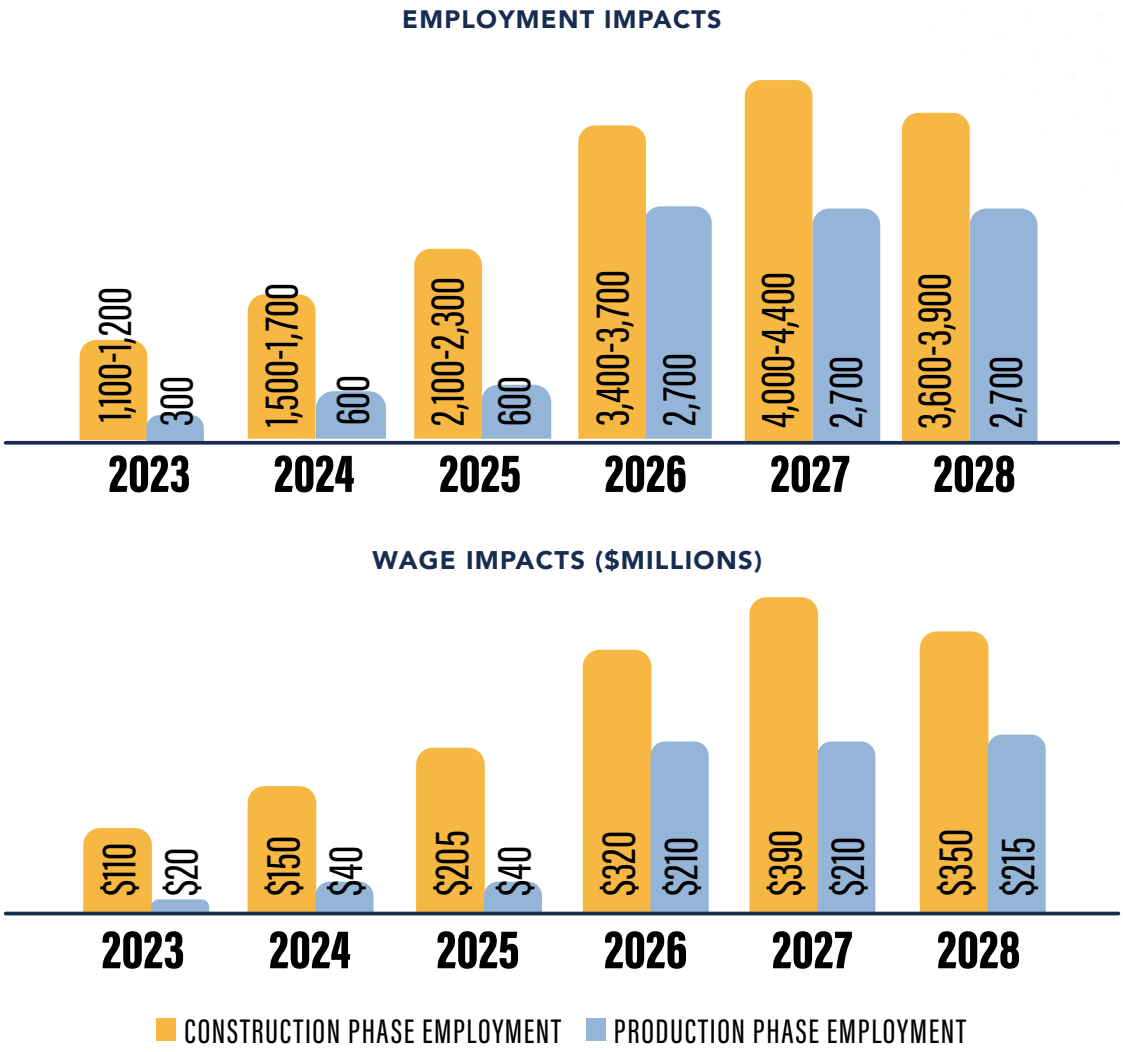
CONSTRUCTION PHASE IMPACTS

Oil and gas-related construction investments are expected to support an average of **2,600 to 2,900 jobs** in Alaska each year between 2023 and 2028, including all multiplier impacts. Workers supported by these investments are expected to **earn an average of $250 million in wages and salaries annually between 2023 and 2028**. These jobs include positions in the construction industry, drilling services, and in other sectors providing goods and services in support of oil and gas development projects.

PRODUCTION PHASE IMPACTS

Once oil is in production, the new projects are expected to increase Primary Company direct employment by about 300 jobs and $65 million in wages by 2028, a 7% increase over direct Primary Company employment in 2022. Including all multiplier effects, **new developments are expected to support about 2,700 new jobs and $215 million in wages in the Alaska economy by 2028**. These total impacts do not include expected operating jobs related to the Willow project, which will require operating employees beginning in 2029.

ESTIMATED DIRECT DEVELOPMENT- AND PRODUCTION- RELATED JOBS AND WAGES IMPACTS, 2023-2028

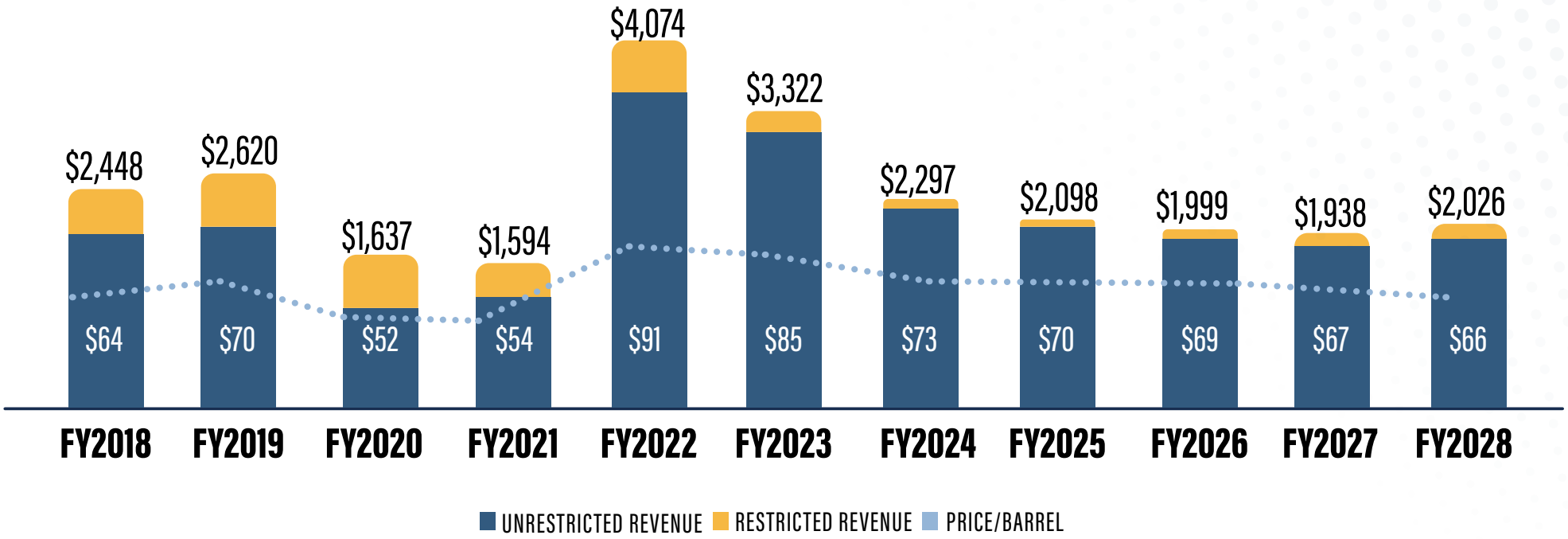


Sources: Primary Companies data and McKinley Research group estimates
Note: Production phase employment and wages do not yet include production jobs related to Willow Project.

STATE OF ALASKA OIL AND GAS-RELATED REVENUE SUBJECT TO APPROPRIATION

Oil prices have been volatile over the last several fiscal years, leading to annual changes in oil and gas-related revenue paid to the State of Alaska. Prices are expected to decrease between FY2023 and FY2028. **Despite these forecasted declines, new production resulting from investments in Alaska will maintain the level of oil and gas-related unrestricted general fund revenue at about $2 billion annually between FY2023-FY2028.**

STATE OF ALASKA OIL AND GAS-RELATED REVENUE ($MILLIONS), AVERAGE ACTUAL FY2018-FY2022 AND FORECASTED FY2023-FY2028 (REVENUE SUBJECT TO APPROPRIATION)



Source: Alaska Department of Revenue – Revenue Sources Book

PURPOSE

The Alaska Oil and Gas Association (AOGA) contracted with McKinley Research Group to assess the role of the oil and gas industry in Alaska's economy and in the economies of the Municipality of Anchorage, the Kenai Peninsula Borough (KPB), the Matanuska-Susitna (Mat-Su) Borough, the Fairbanks North Star Borough (FNSB), the City of Valdez, and the North Slope Borough (NSB).

SCOPE

McKinley Research Group's study team collected data from a variety of sources, including spending and payroll data from the 15 "Primary Companies" listed below. Most of these companies are AOGA members.

- Alaska Gasline Development Corporation
- Alyeska Pipeline Service Company
- BlueCrest Energy Inc.
- Chevron
- ConocoPhillips Alaska, Inc.
- Eni
- ExxonMobil Production Company
- Furie Operating Alaska
- Glacier Oil & Gas
- Hilcorp Alaska
- Marathon Petroleum Company
- Petro Star Inc.
- Repsol Alaska
- Santos
- Shell Exploration & Production Company

METHODOLOGY

Each company listed above provided confidential data on spending in support of operations (for exploration, development, pipeline transport, refining, and oil and gas production activities), including payroll, purchases of goods and services from oilfield support and other contractors, payments to local and state governments, and other information pertinent to spending in Alaska. Most companies provided data that aligned with calendar year 2022 or the most current 12-month period available.

In addition to the data collected directly from the Primary Companies, the study team collected data and information from a variety of published and unpublished sources. These include the Alaska Department of Labor and Workforce Development (ADOLWD), Alaska Department of Revenue (ADOR), the Alaska Department of Commerce, Community and Economic Development (ADCCED), Alaska Department of Natural Resources (ADNR), the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis (BEA), and the U.S. Department of Energy's Energy Information Administration, among others.

The study team uses IMPLAN, an industry-standard input-output economic modeling tool, to analyze multiplier impacts associated with Primary Companies' spending in Alaska. The model quantifies the employment and payroll supported in Alaska and regionally as dollars spent by the Primary Companies circulate in the state economy. North American Industry Classification System (NAICS) codes from the State of Alaska Business License Database were used to identify and group vendors' sector classifications.

State of Alaska budget data are provided for the state fiscal year (SFY) 2022, which runs from July 1, 2021 to June 30, 2022.

Where necessary, inflation adjustments are based on the Urban Alaska Consumer Price Index data as reported by the U.S. BEA.

Estimates of future capital investment, construction-phase employment, and operation-phase employment between 2023 and 2028 are based on confidential data provided directly to McKinley Research Group by the Primary Companies and the review of updated, published Environmental Impact Statements.

REPORT ORGANIZATION

THE REST OF THIS REPORT IS ORGANIZED AS FOLLOWS:

CHAPTER 1 defines Alaska's oil and gas Industry and details spending by the Primary Companies on goods and services.

CHAPTER 2 describes direct Primary Company jobs and wages and outlines the total economic impacts of the industry at a statewide level.

CHAPTER 3 details state and local government revenues generated by the oil and gas industry, including how this revenue impacts state government jobs.

CHAPTER 4 profiles the population, economic, and tax impacts of the industry at a regional level.

CHAPTER 5 highlights Alaska's role in national and worldwide oil and gas production.

CHAPTER 6 describes expected production, capital spending, and jobs related to oil and gas developments in Alaska between 2023 and 2028.

APPENDIX presents trends in the oil and gas industry as defined by ADOLWD statistics.

DEFINING ALASKA'S OIL AND GAS INDUSTRY AND ITS ECONOMIC IMPACT

Multiple categories of government employment statistics are needed to capture the range of business activities that are integral to oil and gas development in Alaska. Oil and gas employment in Alaska includes jobs in companies classified in government employment data sets under "oil and gas extraction," "drilling oil and gas wells," and "support activities for oil and gas operations."[1] Missing from those categories, however, are Trans-Alaska Pipeline System (TAPS) jobs (classified as transportation and warehousing), and refinery jobs (classified as manufacturing). Also excluded are several thousand construction, professional and business services; retail and wholesale trade; and other jobs directly connected to North Slope and Cook Inlet oil and gas production activity.

This chapter discusses the primary investors in Alaska's oil and gas industry infrastructure, including production, transportation, and refining of oil and gas. These "Primary Companies" play a pivotal role in the development of Alaska's oil and gas resources. Their spending is considered a "direct impact" on Alaska's economy in this report. In addition to its direct impact, Primary Company spending circulates in Alaska's economy, supporting indirect and induced jobs and wages, collectively known as "multiplier effects."

[1]ADOLWD estimated an annual average of 8,815 jobs in Alaska's oil and gas sector in 2022, including employment in NAICS Sectors 211000 (oil and gas extraction), 213111 (drilling oil and gas wells), and 213112 (support activities for oil and gas operations).

PRIMARY COMPANIES IN ALASKA'S OIL AND GAS INDUSTRY

In alphabetical order, the 15 companies defined as Primary Companies in Alaska's oil and gas industry for purposes of this analysis are listed below. They include 11 oil and gas production companies, one pipeline operator, one pipeline developer, and two refinery companies. All but the Alaska Gasline Development Corporation (AGDC) are members of AOGA.

ALASKA GASLINE DEVELOPMENT CORPORATION is an independent, public state corporation seeking the development of Alaska LNG, a proposed 800-mile natural gas pipeline capable of daily moving 3.5 billion cubic feet (BCF) of gas from the North Slope to a liquefaction facility in Nikiski.

ALYESKA PIPELINE SERVICE COMPANY operates and maintains the 800-mile TAPS, including the pump stations and the Valdez Marine Terminal. All North Slope crude oil brought to market is transported through TAPS. The company, which celebrated 45 years of TAPS operations in 2022, is the largest employer and taxpayer in Valdez. It is owned by Harvest Alaska, LLC, ConocoPhillips Transportation Alaska, Inc., and ExxonMobil Pipeline Co.

BLUECREST ENERGY INC. wholly owns the Cosmopolitan project, an offshore oil and gas development located in Cook Inlet close to Anchor Point. Oil production started in 2016. New targets call for up to seven years of future expansion drilling.

CHEVRON CORPORATION has ownership interests across the North Slope, including Endicott (11%), Kuparuk (5%), and Greater Prudhoe Bay (1%), among others. In September 2022, Chevron announced it would offer its stakes in all three fields for sale, but at the time of this report, no assets have been sold.

CONOCOPHILLIPS is the largest oil producer in Alaska with a net production rate of 200,000 barrels per day (bpd) of oil in 2022. On the North Slope, the company owns and operates Kuparuk (95%) and Alpine (100%) in addition to its interest in Prudhoe Bay (36%). ConocoPhillips' expansion of the Alpine field made its drill site, CD5, the first commercial oil development on Alaska Native lands within the boundaries of the National Petroleum Reserve-Alaska (NPR-A). ConocoPhillips exploration in the Bear Tooth Unit (northeast portion of the NPR-A) led to the discovery of Willow in 2016. The Willow Project received a positive record of decision from the federal Department of the Interior in 2023 following five years of regulatory and environmental review. At peak production, Willow is expected to produce 180,000 bpd. ConocoPhillips has not yet announced a financial investment decision regarding construction of Willow. ConocoPhillips is a 29% owner of TAPS. The company owns and operates Polar Tankers, a five-vessel fleet that transports crude oil from the terminus of TAPS to domestic refineries.

ENI PETROLEUM is the largest offshore producer on the North Slope. The company owns and operates the Nikaitchuq and Oooguruk Units, both operated from man-made gravel islands in state waters.

EXXONMOBIL has a 36% ownership stake in Prudhoe Bay Unit and has a small ownership stake of about 0.6% in the Kuparuk River Unit (operated by ConocoPhillips). ExxonMobil retains a 62% ownership stake in the Point Thompson Unit, now operated by Hilcorp. ExxonMobil also owns 21% of TAPS and 62% of the Pt. Thomson Export Pipeline.

FURIE OPERATING ALASKA, an Alaska owned and operated company headquartered in Anchorage, is the designated operator for the offshore Kitchen Lights Unit in Cook Inlet. Furie installed an offshore platform, pipeline, and onshore production facility in Nikiski and began producing gas in 2015. Export Pipeline.

GLACIER OIL & GAS CORPORATION owns and operates oil and gas assets in Cook Inlet and the North Slope. Cook Inlet assets include the Redoubt and West McArthur River Unit on the west side of the Cook Inlet as well as the Osprey Platform. It also owns gas assets at the North Fork Unit on the Kenai Peninsula. On the North Slope, Glacier owns the Badami Unit and Nutaaq Pipeline along with drilling, production, and transportation infrastructure associated with these fields.

HILCORP ALASKA is the state's second largest oil producer following acquisition of BP Alaska's assets in 2020. The privately held company owns and operates Prudhoe Bay (26% ownership stake), Milne Point (100% stake), Point Thomson (37% stake), and Northstar (100% stake) units on the North Slope. Hilcorp's North Slope production averaged 161,000 bpd in 2021. Hilcorp is the largest natural gas producer in Cook Inlet and operates 17 oil and gas fields in Southcentral Alaska, including 11 offshore platforms. Hilcorp owns its subsidiary, Harvest, which owns 49% of TAPS.

MARATHON PETROLEUM CORPORATION is an integrated refining, transportation and marketing company that operates the refinery in Nikiski 60 miles southwest of Anchorage on the shore of Cook Inlet. The refinery can process 68,000 bpd and refines it into fuel products for Alaska including jet fuel, diesel, gasoline, propane, asphalt, and heavy oils. Marathon transports refined products through pipeline, truck, and rail to markets from Nikiski to North Pole.

PETRO STAR INC. is a refining and fuel-marketing company which is wholly owned by Arctic Slope Regional Corporation. Its refineries in North Pole and Valdez draw crude supply from TAPS to produce off-road and marine diesel, commercial and military jet fuel, home heating oil and asphalt oil. The company also operates retail outlets across Alaska, including seven locations in the Fairbanks area, two locations in Kodiak, and one store in Dutch Harbor. *(Note: The retail outlets are not included in the direct impact analysis.)*

REPSOL, which has been actively exploring in Alaska since 2008, is a global energy company with an interest in about 750,000 acres on the North Slope. The company owns a 49% stake in the Pikka Unit, which received a final investment decision from Repsol and operating owner, Santos, in 2022. The company also holds a 49% working interest in the Horseshoe discovery the largest onshore oil discovery in the United States in 30 years.

SANTOS is the second largest oil and gas leaseholder in Alaska. Santos acquired the Pikka project with its 2021 purchase of Oil Search Ltd. Santos and non-operating partner Repsol reached a final investment decision regarding Pikka in 2022 and construction efforts are underway.

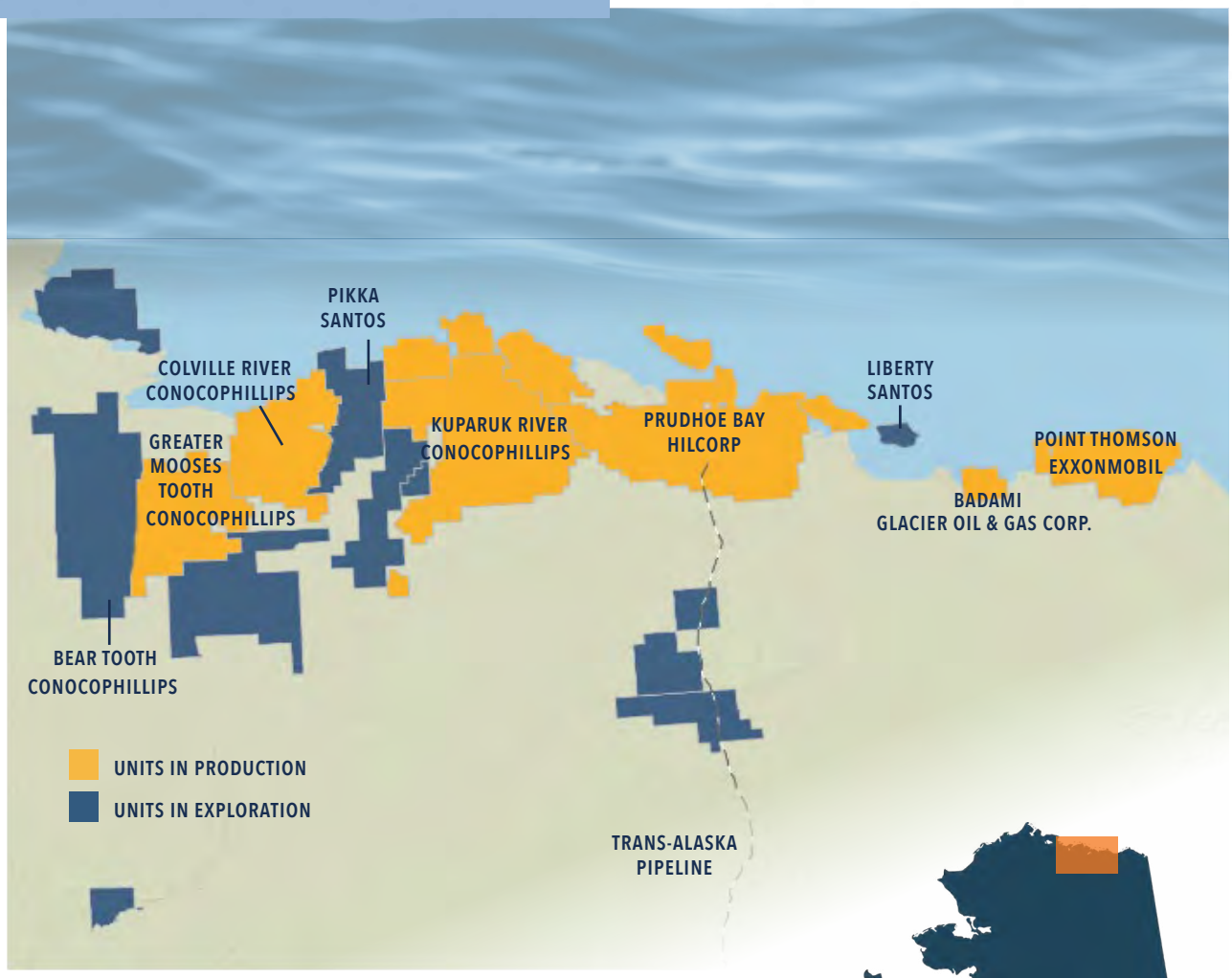
SHELL EXPLORATION & PRODUCTION COMPANY has a long history in Alaska's oil and gas industry, including oil production in Cook Inlet dating back to the 1960s. Although it ceased exploration efforts in the Chukchi Sea in 2015, the company maintains its membership in AOGA.

OIL AND GAS UNITS

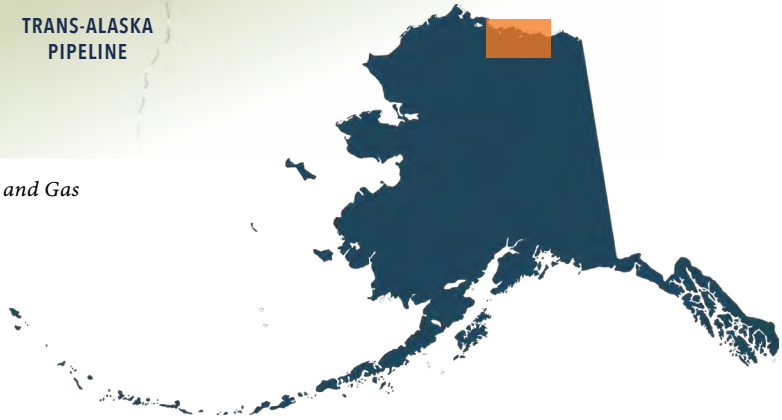
The maps below show production units and operators for North Slope (exploration and production) and Cook Inlet.

NORTH SLOPE EXPLORATION AND PRODUCTION

FIGURE 1. NORTH SLOPE UNITS MAP

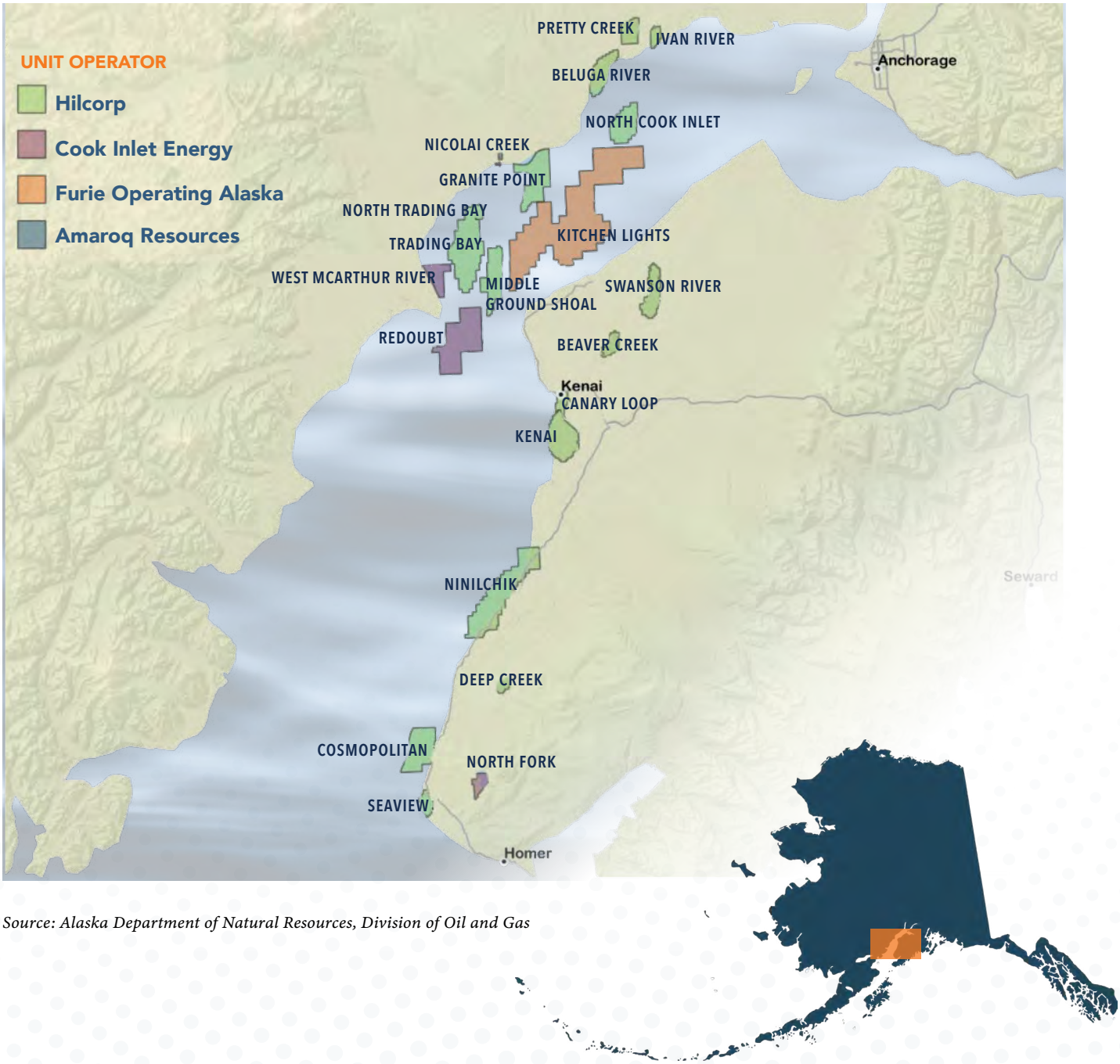


Source: Alaska Department of Natural Resources, Division of Oil and Gas



COOK INLET PRODUCTION

FIGURE 2. COOK INLET UNITS MAP



Source: Alaska Department of Natural Resources, Division of Oil and Gas

SPENDING BY PRIMARY COMPANIES ON ALASKA GOODS AND SERVICES

The Primary Companies reported about $4.6 billion in Alaska vendor spending in 2022, including operating and capital expenditures. Over 1,000 Alaska businesses provided goods and services to the sector.

OIL AND GAS SUPPORT SERVICE COMPANIES

About 38% of spending with Alaska vendors was with oil and gas support service companies. Examples include ASRC Energy Services Alaska; Doyon Drilling; Halliburton Energy Services; Nabors Alaska Drilling; Schlumberger Technology Corporation; Udelhoven Oilfield System Services; Weatherford U.S.; Baker Hughes Oilfield Operations; and others.

These oil and gas-support service companies offer a wide range of goods and services, including regulatory, permitting, and other technical support; engineering; construction; project management; module fabrication and installation; infrastructure, facility, and pipeline maintenance; drilling; drilling engineering and exploration support; fleet services; oil spill response management and equipment; and many others.

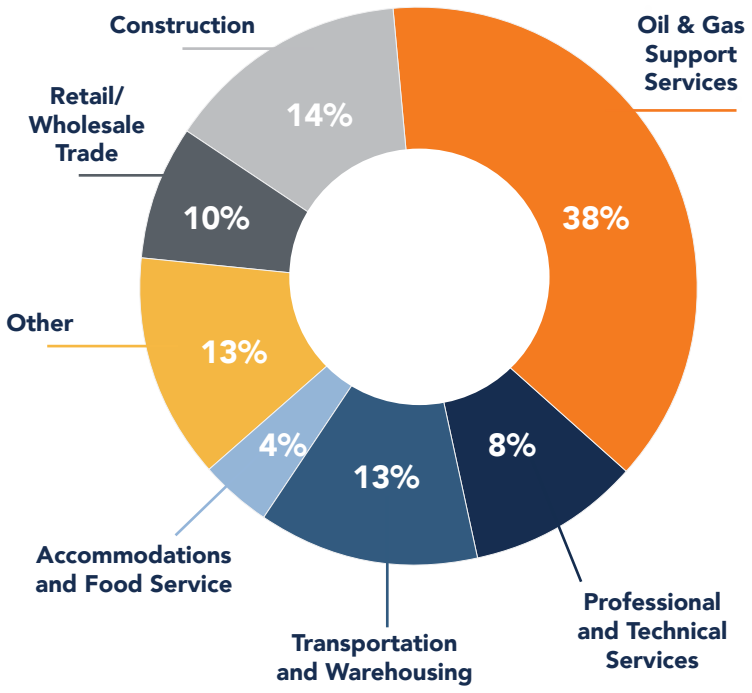
CONSTRUCTION COMPANIES

Another 14% of Alaska vendor spending was with construction companies. Construction or major maintenance activities happened primarily on the North Slope, Cook Inlet, and along the TAPS corridor. Construction services required by the oil and gas industry include project management; industrial construction; electrical contracting; welding and metal fabrication; road construction; bridge building; roofing; and others.

OTHER SUPPLIERS OF GOODS AND SERVICES

The remaining operating and capital spending with Alaska vendors is spread across a variety of firms providing essential goods and services, including transportation (air, ground, and marine) and warehousing (13%), professional and technical services (8%), retail/wholesale trade (10%), accommodations and food service (4%), and others including insurance, fuel, utilities, computer and IT support, manufacturing, and many others (13%).

FIGURE 3. PRIMARY COMPANY ALASKA VENDOR SPENDING BY INDUSTRY, 2022



Sources: Primary Companies data and McKinley Research Group estimates

INDIRECT AND INDUCED ECONOMIC LINKAGES TO THE OIL AND GAS INDUSTRY

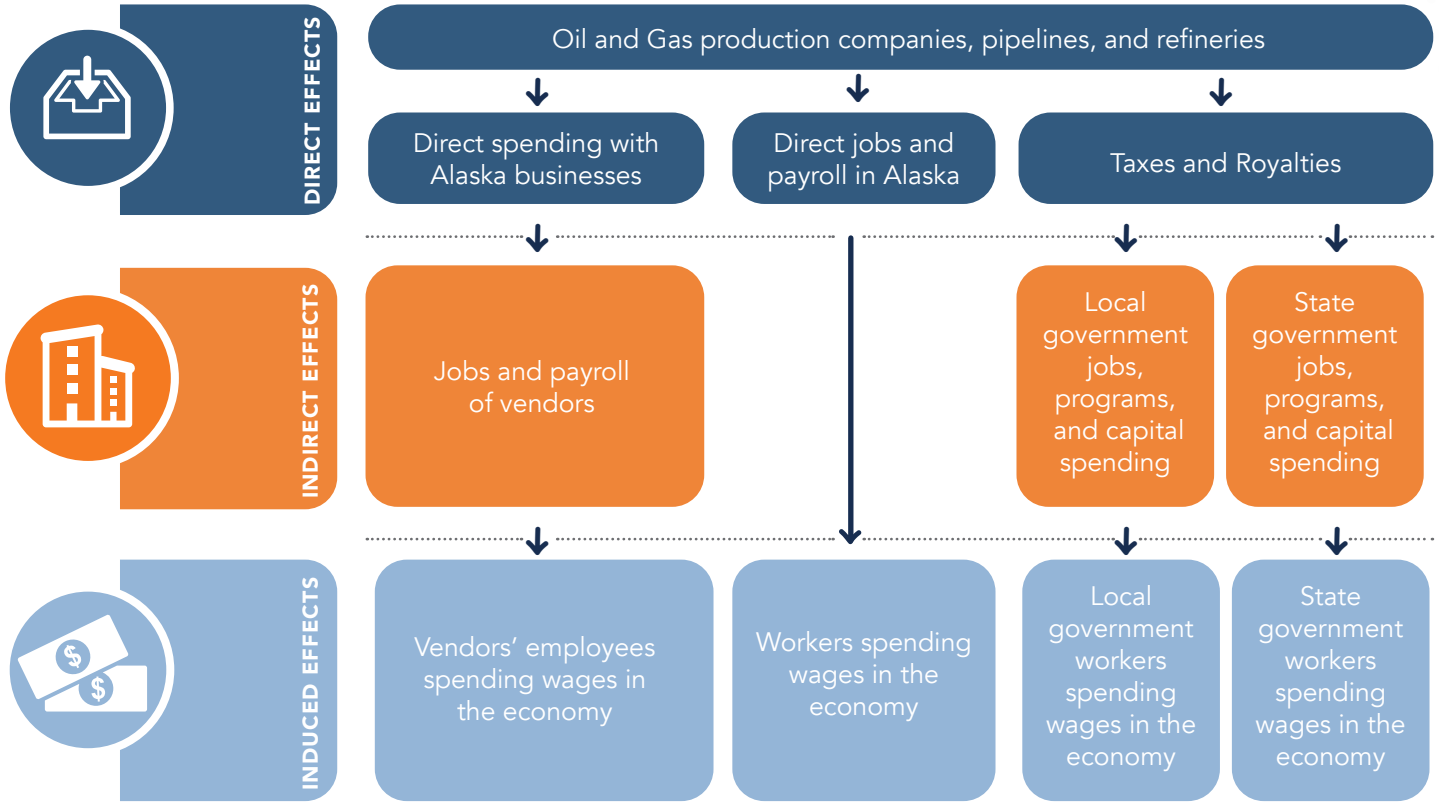
The businesses described above which provide goods and services to the Primary Companies in turn purchase goods and services in support of their own Alaska operations. This spending creates additional jobs and wages that are part of the "indirect" impact of Primary Company activity in Alaska.

When employees of Primary Companies and their contractors spend their wages in the Alaska economy, additional jobs and wages are supported. These are referred to as "induced" impacts. Indirect and induced impacts are often termed "multiplier effects" as they describe how spending and activity in one sector is "multiplied" as money circulates in the economy. *(Chapters 2 and 4 of this report detail the direct and multiplier effects of Primary Company spending from a statewide and regional perspective.)*

ECONOMIC EFFECTS OF TAXES AND ROYALTIES PAID BY THE OIL AND GAS INDUSTRY

The jobs and wages associated with vendor and employee spending are largely in the private sector, but oil and gas businesses also generate taxes and royalties paid to the State. Those payments fund a wide variety of public services, programs, and capital projects. Similarly, property taxes paid by the oil and gas industry to local governments support local services, programs, and projects. *(The important role of the oil and gas industry in funding government in Alaska is described in Chapter 3.)*

FIGURE 4. HOW OIL AND GAS INDUSTRY SPENDING IMPACTS ALASKA'S ECONOMY



CHAPTER 2

STATEWIDE IMPACTS OF THE OIL AND GAS INDUSTRY

This chapter provides an overview of Primary Company jobs and wages in 2022, and the indirect and induced impacts of spending on oil and gas support services and other goods and services purchased in Alaska. This chapter does not include impacts of oil and gas-related tax and royalty payments spent by state and local governments (see Chapter 4).

PRIMARY COMPANY JOBS AND WAGES

The 15 Primary Companies directly employed 4,105 workers in Alaska in 2022, including 3,402 Alaska residents (83% of employees). Total wages paid were nearly $1.1 billion, of which Alaska residents earned $904.4 million (82%).

Primary Company employees live in 45 communities across the state, from Nuiqsut in the North down to communities such as Bethel and Unalaska in the Southwest and Ketchikan in the Southeast. About half (52%) of these employees live in Anchorage or the Mat-Su, the state's largest population center.

TABLE 1. ALASKA OIL AND GAS INDUSTRY PRIMARY COMPANY JOBS AND WAGES, 2022

RESIDENCY	AVERAGE ANNUAL JOBS	% OF JOBS	TOTAL WAGES ($ MILLIONS)	% OF WAGES
Alaska Resident Workers	3,403	83%	$904.4	82%
Non-Alaska-Resident Workers	703	17%	$192.9	18%
All Workers in Alaska	**4,105**	**100%**	**$1,097.3**	**100%**

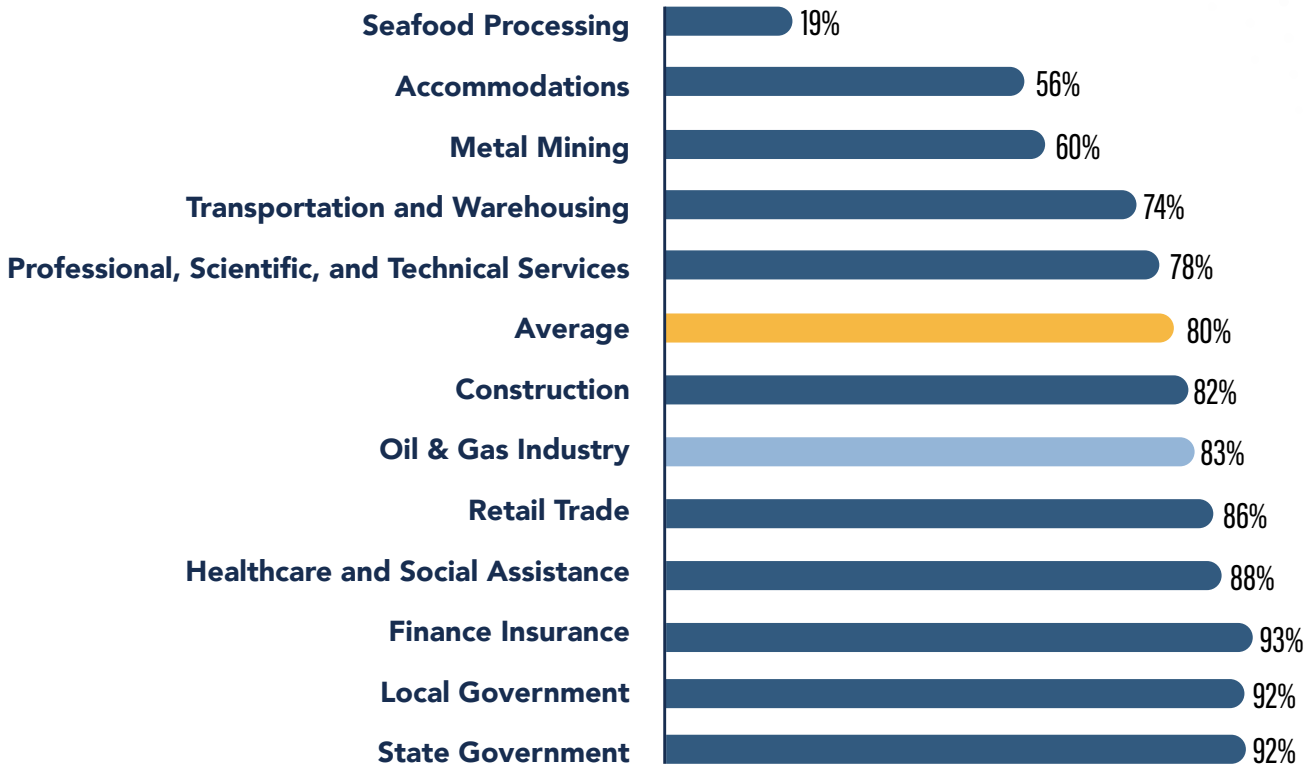
Sources: Alaska Department of Labor and Workforce Development, Primary Companies data, and McKinley Research Group estimates

OIL AND GAS SUPPORT SERVICE COMPANIES

Alaska has a unique opportunity to examine the level of non-Alaska resident participation in the state workforce due to the Permanent Fund Dividend (PFD) program. Calculated by ADOLWD, the state's methodology for assessing workforce residency based on PFD applications results in a conservative estimate of "resident" employment. For example, a new resident of Alaska must reside in Alaska for a full calendar year before they are eligible to apply for a PFD. A new Alaska resident who arrived in February 2021, for example, would not be eligible to apply for a PFD until the 2023 application period. As a result, this person would reside in Alaska for nearly two years before being classified as an Alaska resident by ADOLWD. Therefore, some nonresidents may have moved to Alaska but are not yet classified as residents due to ADOLWD's methodology described above.

In 2021 (the most recent ADOLWD data available), 80% of all wage and salary workers in Alaska were Alaska residents. Nonresidents are often employed in seasonal industries, on remote site locations (where workers work on a rotation schedule) or have specific jobs skills not readily available in Alaska. Based on the Primary Companies used to define the industry for this report, the oil and gas industry has a higher percentage of resident employees (83%) compared with the average across all industries.

FIGURE 5. PERCENT OF POSITIONS HELD BY RESIDENTS BY SECTOR, 2021



Sources: Alaska Department of Labor and Workforce Development and Primary Companies data

Note: The following are residency hire percentages for oil and gas subsectors as reported in the ADOLWD Resident Hire report: Oil and Gas Extraction (72%), Oilfield Services (64%). Oil and gas industry data in this graph are based on Primary Company employee residency for calendar year 2022.

INDIRECT AND INDUCED JOBS AND WAGES

As described in the previous chapter, the economic impact of Alaska's oil and gas industry extends far beyond the Primary Companies. Employment statistics published by government agencies tell only part of that story. For example, ADOLWD statistics indicate that an average of 7,038 workers were employed in Alaska's oil and gas industry sector in 2022.[2] However, this figure accounts for only about one-fifth of all employment connected with the oil and gas industry in Alaska, and less still when including jobs supported by oil and gas taxes and royalties. Not included in the published data are a variety of support services companies providing goods and services to the Primary Companies but classified in government statistics across a variety of other sectors, such as transportation, construction, professional and technical services, waste management and remediation, and many others.

As Primary Company spending circulates in the economy, businesses serving the oil and gas industry in turn purchase goods and services to support their business operations. Primary Company and goods and service provider employees spend their wages in-state, supporting additional jobs and wages.

Economic impact modeling for this study indicates these cycles of spending supported more than 26,500 indirect and induced jobs in Alaska in 2022. Combining direct, indirect, and induced impacts, the oil and gas industry in Alaska supported 36,200 jobs and $3.3 billion in annual payroll in 2022.

Employment in Alaska totaled about 420,000 workers in 2022, including wage and salary workers and self-employed and activity-duty military personnel.[3] The U.S. BEA estimates these workers earned $35.6 billion in wages, salaries, and self-employment income in 2022. Including all direct, indirect, and induced impacts, the oil and gas industry accounted 9% of all jobs and 9% of earnings in the Alaska economy in 2022, not including jobs associated with taxes and royalties paid by the oil industry to state and local governments.

TABLE 2. ALASKA OIL AND GAS INDUSTRY JOBS AND WAGES, 2022

BUSINESS TYPE	AVERAGE ANNUAL JOBS	TOTAL WAGES ($ MILLIONS)
Primary Companies	4,105	$1,097.3
Oil and Gas Support Services*	5,574	$438.0
All Other Indirect and Induced	26,521	$1,729.3
Total (Direct, Indirect, and Induced)	**36,200**	**$3,264.5**

Sources: Alaska Department of Labor and Workforce Development, Primary Companies data, and McKinley Research Group estimates
** Includes ADOLWD Oil and Gas Support Services NAICS Sector 213111 and 213112*

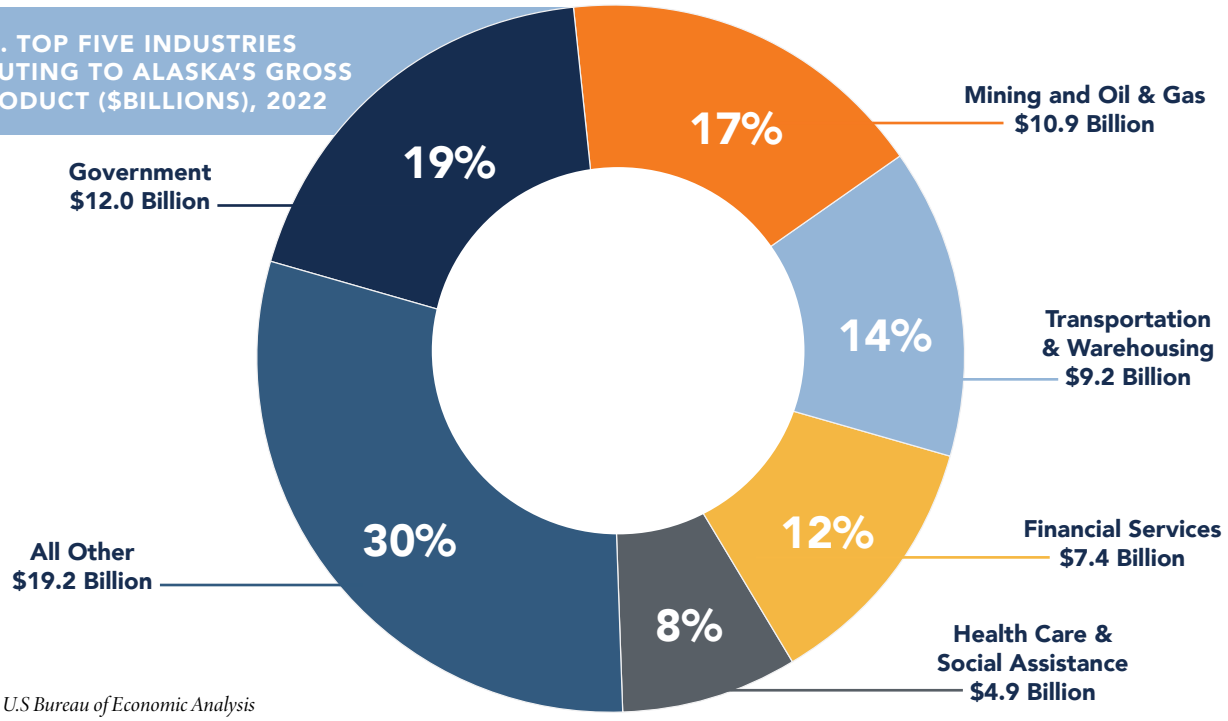
[2] ADOLWD, Quarterly Census of Employment and Wages, 2022.
[3] Based on U.S. BEA total employment by place of work, ADOLWD Development Quarterly Census of Employment and Wages, and McKinley Research Group estimates.

COMPARISONS TO ALASKA'S OTHER KEY SECTORS

There is no single, comprehensive study that compares the economic impact of all sectors using the same methodology and time period that would allow for an appropriate comparison of the oil and gas industry impacts to other key industries such as visitor, seafood, mining, government, healthcare, or others. While various studies are available, most have not yet been updated to incorporate the impacts of the COVID-19 pandemic on Alaska's economy or individual industries.

However, while it does not measure the full extent of an industry's economic impact, Gross State Product (GSP) does offer another view of the relative importance of an industry within the wide context.[4] In 2022, Alaska's GSP was $63.6 billion. Mining, which includes oil and gas, accounted for 17% of Alaska's total GSP. Between 2021 and 2022, Alaska's GSP increased by 11% of which the mining and oil and gas industry accounted for almost half (45%) of this increase.

FIGURE 6. TOP FIVE INDUSTRIES CONTRIBUTING TO ALASKA'S GROSS STATE PRODUCT ($BILLIONS), 2022



Source: U.S Bureau of Economic Analysis

[4] GSP as estimated by the U.S. BEA measures the market value of all final goods and services produced within a state.

OIL REVENUE IMPACTS ON STATE AND LOCAL GOVERNMENTS

Revenue generated from oil and gas activity in Alaska accounts for a significant portion of state and local government funding. The State of Alaska relies on these revenues to fund the operating and capital budget; municipal governments also depend on these revenues directly or indirectly. State oil and gas revenue ultimately impacts Alaska residents through school funding, health care support, other government services, and transfer payments such as the PFD.

Government revenue from oil and gas activity in Alaska totaled $4.5 billion in SFY 2022, accounting for 47% of State of Alaska revenue and 21% of local government revenue. This chapter details the economic impact of this revenue.

TABLE 3. SUMMARY OF OIL-RELATED PAYMENTS TO STATE AND LOCAL GOVERNMENTS IN ALASKA, SFY2022

	TOTAL PAYMENTS
Local government payments (property tax)	$448.5 MILLION
State government payments (royalties, production tax, oil and gas property tax, and others)	$4.1 BILLION
Total oil- and gas-related revenue paid to local and state governments	$4.5 BILLION

Sources: Alaska Department of Revenue and Alaska Department of Commerce, Community, and Economic Development

OIL AND GAS IMPACTS ON STATE AND LOCAL GOVERNMENTS

The State of Alaska levies a variety of taxes, royalties, and other charges and fees related to oil and gas development and production to receive revenue from the oil and gas exploration, development, production, refining, and transport. State revenues fall into two categories, unrestricted and restricted funds. Unrestricted revenues are paid into the State's General Fund (GF) and may be appropriated by the State legislature for any public purpose, subject to the Governor's veto. Unlike unrestricted revenues, restricted revenues are limited to a specific use, typically a trust or fund such as the Alaska Permanent Fund. These limitations may be put in place by law, or by another mechanism.

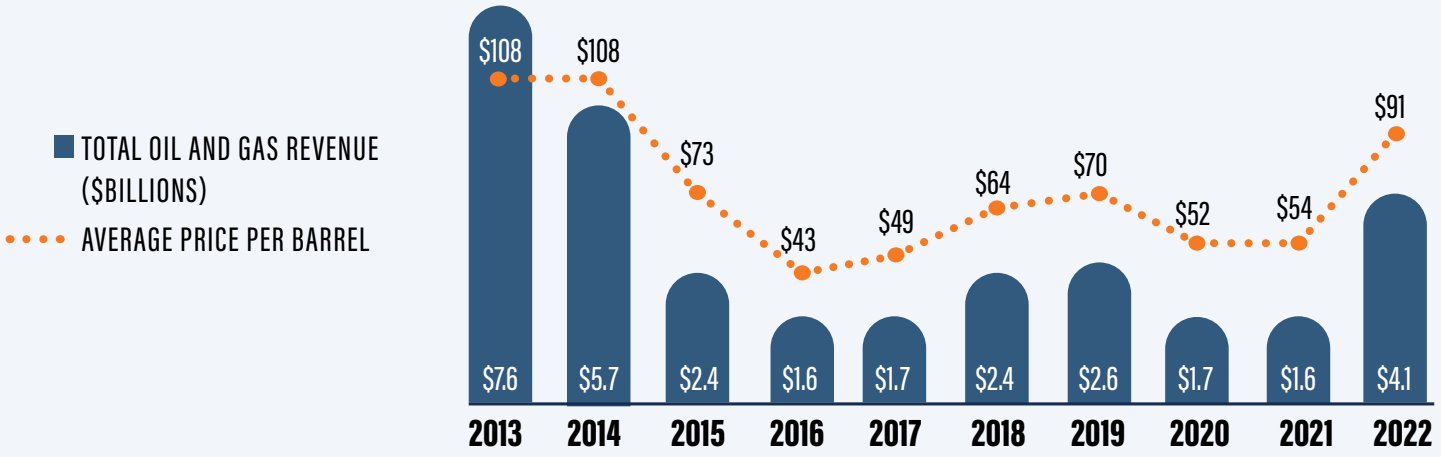
Following is an overview of State oil and gas revenue trends for unrestricted and restricted funds. The overview is followed by more detailed descriptions of the types of oil and gas payments that fall into each category.[5]

OIL AND GAS REVENUE TRENDS

In SFY2022, the State of Alaska collected $4.1 billion in petroleum revenues, a reflection of high oil prices which drove increased revenue.

The amount of revenue the State of Alaska collects is largely dependent on oil prices, which have been volatile over the last several years. The figure below shows the correlational relationship between oil prices and petroleum revenue to the State of Alaska.

FIGURE 7. STATE OF ALASKA OIL- AND GAS-RELATED REVENUE ($BILLIONS) AND AVERAGE ANNUAL ALASKA NORTH SLOPE CRUDE OIL (DOLLARS PER BARREL), SFY2013-SFY2022



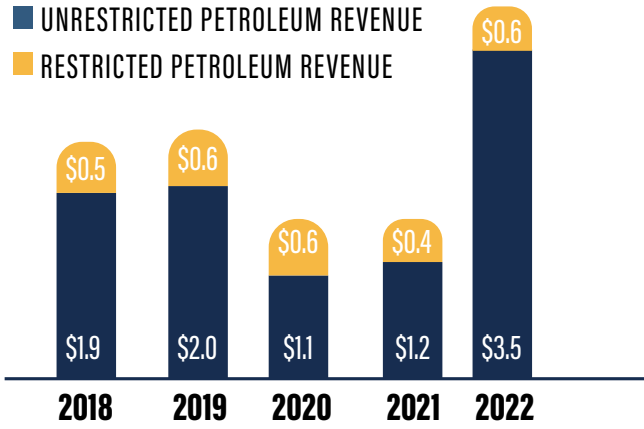
Source: Alaska Department of Revenue

[5] More detailed descriptions can be found in the *ADOR's Revenue Sources Book*. http://tax.alaska.gov/programs/sourcebook/index.aspx

Most revenue generated from petroleum activity in the state is unrestricted. Between 1959 and 2022, nearly $274 billion in petroleum revenues were collected by the State of Alaska, 81% of which were unrestricted petroleum revenues ($221 billion).[6]

The table below summarizes State oil and gas revenue and other State revenues from SFY2018 to SFY2022.

FIGURE 8. ANNUAL PETROLEUM REVENUE BY RESTRICTION ($BILLIONS), SFY2018-SFY2022



Source: Alaska Department of Revenue - Revenue Sources Book

TABLE 4. STATE OF ALASKA REVENUE SOURCES ($MILLIONS), SFY2018-SFY2022

	2018	2019	2020	2021	2022
Unrestricted General Fund Revenue					
Oil and Gas Revenue	$1,940.2	$2,043.8	$1,083.1	$1,217.6	$3,480.9
Non-Oil and Gas Revenue	$466.1	$491.4	$462.7	$444.3	$448.1
Investment Revenue	$16.3	$2,815.9	$2,991.2	$3,120.9	$3,010.2
Total Unrestricted Revenue	$2,422.6	$5,351.1	$4,537.0	$4,782.8	$6,939.2
% from oil and gas	*80%*	*38%*	*24%*	*25%*	*50%*
Restricted Revenue					
Oil and Gas Revenue	$508.1	$575.8	$553.7	$376.4	$593.4
Non-Oil and Gas Revenue	$9,413.2	$5,131.1	$3,568.5	$24,605.4	$1,128.1
Total Restricted Revenue	$9,921.3	$5,706.9	$4,122.2	$24,981.8	$1,721.5
% from oil and gas	*5%*	*10%*	*13%*	*2%*	*34%*
Combined Unrestricted and Restricted Revenue					
Oil and Gas Revenue	$2,448.3	$2,619.6	$1,636.8	$1,594.0	$4,074.3
Non-Oil and Gas Revenue	$9,895.6	$8,438.4	$7,022.4	$28,170.6	$4,586.4
Total State Revenue	$12,343.9	$11,058.0	$8,659.2	$29,764.6	$8,660.7
% from oil and gas	*20%*	*24%*	*19%*	*5%*	*47%*
Average oil price/barrel	**$64**	**$70**	**$52**	**$54**	**$91**

Source: Alaska Department of Revenue

[6] Data are presented in nominal dollars and is not adjusted for inflation.

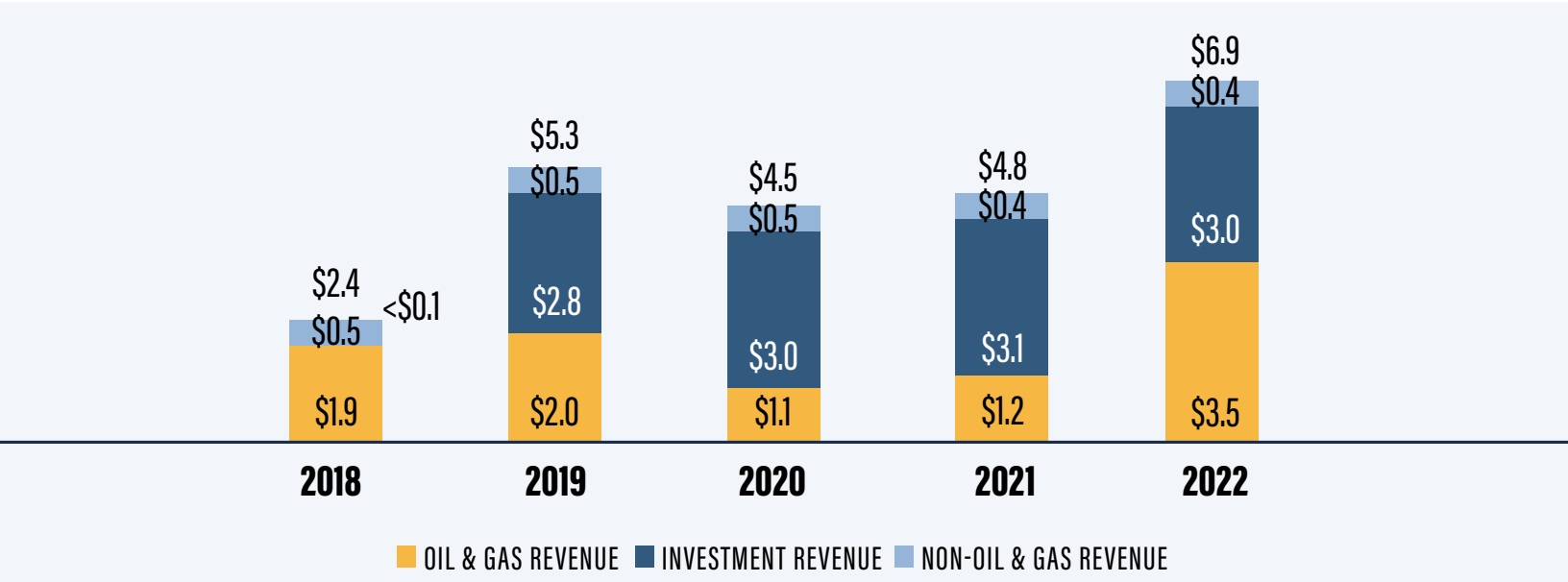
UNRESTRICTED REVENUES

In SFY2022, the State received $3.5 billion in unrestricted revenue from oil- and gas-related taxes and royalties. Over the last five years, unrestricted petroleum revenues have ranged from a low of $1.1 billion in SFY2020 to $3.5 billion in SFY2022.

Prior to adoption of the Percent of Market Value (POMV) framework for using state investment revenue as unrestricted GF starting in SFY2019, petroleum revenues accounted for most unrestricted revenues collected by the State. In SFY2022 petroleum revenues to the State of Alaska increased due to high oil prices and contributed 50% of all unrestricted state revenues, the highest proportion since the POMV framework was enacted.

Combined, unrestricted petroleum and investment revenues account for 94% of the State's unrestricted GF. All other revenue streams, including corporate income taxes, insurance premium takes, mining license taxes, and excise taxes, among others, make up the remaining 6% ($448 million).

FIGURE 9. ANNUAL UNRESTRICTED REVENUE BY SOURCE ($BILLIONS), SFY2018-SFY2022



Source: Alaska Department of Revenue - Revenue Sources Book

The State collects unrestricted revenue from the oil and gas industry via four main revenue sources: 1) production tax, 2) royalties from leases, 3) corporate income tax, and 4) property tax.

TABLE 5. STATE OF ALASKA UNRESTRICTED REVENUE SOURCES ($MILLIONS), SFY2018-SFY2022

	2018	2019	2020	2021	2022
Oil and Gas Unrestricted Revenue	$1,940.2	$2,043.8	$1,083.1	$1,217.6	$3,480.9
Production Tax	$741.2	$587.3	$277.4	$381.1	$1,801.6
Oil & Gas Royalties (includes bonuses, rents, and interest)	$1,002.3	$1,111.1	$675.3	$728.8	$1,259.3
Petroleum Corporate Income Tax	$66.4	$217.7	-$0.2	-$19.4	$297.5
Property Tax	$121.6	$119.5	$122.9	$119.2	$122.4
Other Oil and Gas Revenue	$8.7	$8.2	$7.7	$7.8	——
Other Unrestricted Revenue	$482.4	$3,307.3	$3,453.9	$3,565.2	$3,458.3
Permanent Fund*	——	*$2,722.6*	*$2,933.1*	*$3,091.5*	*$3,069.3*
Non-Oil and Gas Revenue	*$466.1*	*$491.4*	*$462.7*	*$444.3*	*$448.1*
Other Investment Revenue	*$16.3*	*$93.3*	*$58.1*	*$29.4*	*-$59.1*
Total Unrestricted Revenue	$2,422.6	$5,351.1	$4,537.0	$4,782.8	$6,939.2
% from oil and gas	*80%*	*38%*	*24%*	*25%*	*50%*
Average oil price/barrel	**$64**	**$70**	**$52**	**$54**	**$91**

Source: Alaska Department of Revenue - Revenue Sources Book
** Alaska Permanent Fund earnings appropriated based on the Percent of Market Value formula began in FY2019.*

ROYALTIES – OIL AND GAS BONUSES, RENTS, AND INTEREST

Royalty agreements allow the state to share the risk of oil and gas development with the industry (11 ACC 04.01-199, 11 AAC 83.201-295) in return for a portion of the profits. When a company purchases a lease from the state it pays various fees and commits to paying the state a portion of the revenue (typically 12.5% or 16.67%, with certain exceptions) if and when the oil and gas are marketed. Royalty payments are based on the value and volume of the oil and gas removed from the state-leased land and the lease's royalty rate. Large lease-owners have agreements with the state about what expenses can be deducted from the sales value to calculate royalty due. In SFY2022, royalties, including bonuses, rents, and interest, on petroleum production totaled $1.3 billion.

OIL AND GAS PRODUCTION TAX

Since its inception in 1977, Alaska's petroleum production tax has undergone numerous regime changes. Under the current production tax regime, enacted in 2014 per Senate Bill 21, oil and gas production is taxed at its "production tax value," which is calculated as gross value at the point of production less all qualified lease expenditures. Base production tax rates vary by the location of production. For North Slope producers, the base tax rate for oil is 35% and the base rate for natural gas is 13%.

Cook Inlet producers operate under a tax structure like that of North Slope producers, including the 35% base production tax rate. However, unlike North Slope production, Cook Inlet production is subject to a maximum rate of $1.00 per barrel of oil. The maximum rate for gas production varies by field.

In SFY2022, the production tax generated $1.8 billion in state revenue.

OIL AND GAS PROPERTY TAX

Alaska levies an oil and gas property tax on the value of taxable exploration, production, and pipeline transportation property at the rate up to 20 mills, or 2% of the assessed value. A total of $571 million in petroleum property taxes were paid to the state ($122 million) and local governments ($449 million) in SFY2022.

OIL AND GAS CORPORATE INCOME TAX

The State of Alaska levies a corporate income tax on Alaska businesses based on corporate structure.[7] Tax rates range from 0% to 9.4% based on a series of taxable income brackets. Petroleum corporate income tax is based on a "modified apportionment formula" of property, sales, and extraction. The extraction factor is the production of oil and gas in Alaska divided by the company's worldwide production. In SFY2022, petroleum corporate income tax collections totaled $298 million.

[7] Corporations organized as C-Corporations are subject to Alaska Corporate Income Tax, while those organized as S-Corporations and other different organizations (such as sole proprietorships) are exempt.

RESTRICTED REVENUES

While most oil and gas revenue is unrestricted, a portion is designated for specific uses. Restricted revenues from petroleum-related activity in Alaska account for about 25% of total petroleum revenues on average between SFY2019 and SFY2022. In SFY2022, the state collected $593.5 million in restricted oil- and gas-related revenue.

Most restricted oil and gas revenues come from constitutionally required royalty payments to the Alaska Permanent Fund. Other restricted petroleum revenue streams include tax settlements to the Constitutional Budget Reserve Fund (CBRF), royalties generated from leases in the National Petroleum Reserve – Alaska (NPR-A), royalties to the Public School Trust Fund, and the oil and gas hazardous release surcharge.

TABLE 6. STATE OF ALASKA RESTRICTED REVENUE SOURCES ($MILLIONS), SFY2018-SFY2022

	2018	2019	2020	2021	2022
Oil and Gas Restricted Revenue	$508.0	$575.8	$621.5	$388.5	$593.5
Royalties to Permanent Fund	$356.1	$374.8	$318.9	$332.3	$539.0
Tax Settlement to CBRF	$121.3	$181.2	$281.2	$35.0	$21.1
NPR-A Royalties, Rents, and Bonuses	$23.7	$12.3	$16.4	$15.8	$16.7
Royalties to Public School Trust Fund	$7.0	$7.5	$5.0	$5.4	$9.0
Oil and Gas Hazardous Release*	—	—	—	—	$7.7
Non-Oil and Gas Restricted Revenue	$9,436.7	$5,250.3	$2,950.0	$24,606.8	$1,115.9
Total Restricted Revenue	$9,944.7	$5,826.2	$3,571.5	$24,995.3	$1,709.4
% from oil and gas	*5%*	*10%*	*17%*	*2%*	*35%*
Average oil price/barrel	**$64**	**$70**	**$52**	**$54**	**$91**

Source: Alaska Department of Revenue - Revenue Sources Book
** Beginning with SFY 2022, the hazardous release surcharge is shown in Restricted Petroleum revenue. Previously this surcharge was shown as Unrestricted General Fund revenue.*

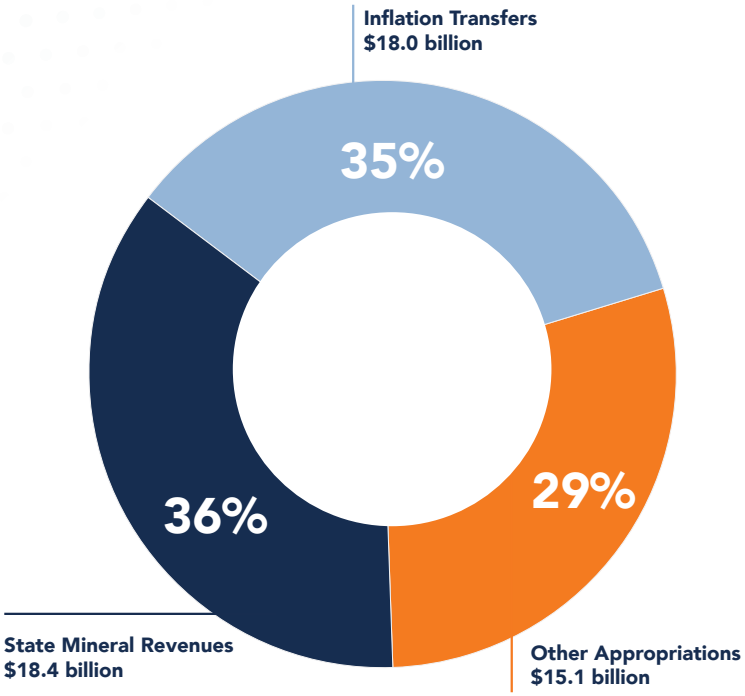
ALASKA PERMANENT FUND

The Alaska Permanent Fund was established in 1976 by a vote of the people to safeguard a portion of new revenue earned from petroleum production on Alaska's North Slope. The Fund is comprised of two parts: the Principal and the Earnings Reserve Account.

The Principal, $60.1 billion as of May 31, 2023, has been funded by a combination of state mineral revenues, inflation transfers, and other appropriations. State mineral revenues have accounted for the highest share of contributions to the Principal since its creation, representing 36% of transfers into the Fund.

Virtually all state mineral revenue deposited into the Principal comes from petroleum royalties, the remainder coming from mining activity. In SFY2022, $548.9 million in mineral revenues were deposited into the Principal, the largest mineral revenue deposit to the Permanent Fund since SFY2015.

FIGURE 10. CONTRIBUTIONS TO PERMANENT FUND PRINCIPAL ($BILLIONS), 1978-2022



Source: Alaska Permanent Fund Corporation
Note: Figure excludes Principal from unrealized gain on investments. As of May 31, 2023.

PERCENT OF MARKET VALUE AND THE GENERAL FUND

The Alaska State Legislature created a framework in SFY2019 to draw money from the Alaska Permanent Fund for use as unrestricted revenue via Senate Bill (SB) 26. SB 26 provides for annual appropriations from the Alaska Permanent Fund to the state's GF based on a percent of the fund's average market value over a five-fiscal-year period. Appropriations from the fund are deposited into the General Fund, which the Legislature may appropriate to fund government agency operations and the PFD program.

Between SFY2019 and SFY2022, this unrestricted investment revenue from the Alaska Permanent Fund accounted for 44% to 65% of total unrestricted state revenues.

The regular appropriation of Alaska Permanent Fund earnings based on the POMV formula represents a new dynamic in state government funding. These investment earnings can be considered an indirect result of oil and gas payments to the fund's Principal, which generated the earnings.

NPR-A ROYALTIES, RENTS, AND BONUSES

The State is entitled to 50% of the bonuses, rents, and royalties associated with leasing of federal lands in the NPR-A. This restricted revenue goes first to municipalities in the form of grants to minimize impacts associated with NPR-A development.

In SFY2022, $16.7 million was collected for the NPR-A fund based on activity on NPR-A lands. State NPR-A collections support local government operations, youth programs, and infrastructure projects in the NSB and the communities of Utqiagvik, Wainwright, Anaktuvuk Pass, Nuiqsut, and Atqasuk.

PUBLIC SCHOOL TRUST FUND

The Public School Trust Fund is funded by a 0.5% royalty on receipts from management of State of Alaska lands (AS 37.14.150), including revenue generated through royalties, mineral lease rentals, the sale of surface rights, and other activity. Revenues associated with petroleum development and production fund most of the trust.

Income generated from the Public School Trust Fund can only be used to support the Alaska public school system. On October 31, 2022, the fund's total asset balance was $679.7 million.[8] In SFY2022, $31.2 million was distributed from the Public School Trust Fund to school districts throughout the state.

CONSTITUTIONAL BUDGET RESERVE FUND

The CBRF receives settlements associated with mineral-related disputes. At the discretion of the state legislature, GF revenues may also be added to the CBRF. Established in 1990, the CBRF is funded almost entirely by oil and gas activity; mining-related settlements also contributed a small amount. As of October 31, 2022, the fund's total asset balance was $1.0 billion.[9]

OIL AND GAS REVENUE-RELATED IMPACTS ON STATE GOVERNMENT FUNDING AND EMPLOYMENT

As a critical source of unrestricted revenue, the oil and gas industry supports thousands of state government jobs and millions of dollars in wages annually. The impact of petroleum-related revenue on state government and payroll is greater than Unrestricted GF revenue spending alone due to the leveraging of additional federal dollars (for example, transportation projects and Medicaid funding). The following analysis focuses on the impacts of petroleum-related Unrestricted GF revenue on state operations and programs by department.

In SFY2022, the state's combined operating ($12.2 billion) and capital ($2.7 billion) budget was nearly $15 billion. Unrestricted GF revenue accounted for 36% ($5.4 billion) of spending. Federal funding and other designated funds accounted for the remainder.

Based only on payments from Primary Companies, the proportion of state department budgets funded with oil and gas revenue from Unrestricted GF revenue ranged from 50% (for the Legislature) to 2% (for ADCCED and ADOR). In absolute terms, the Alaska Department of Education and Early Development received the most funding from direct oil and gas Unrestricted GF revenue ($648.6 million).

Including direct oil and gas Unrestricted GF revenue and the impact of the Alaska Permanent Fund, and indirect result from deposits into the fund principal by the oil and gas industry, the percentage of department budgets funded by oil- and gas-related revenue ranged from 2% to 59% in SFY2022.

(See table on next page)

State revenues from oil- and gas-related activity directly supported 4,074 state government positions in SFY2022, 18% of all positions with the state. Including indirect petroleum revenues, the industry supported 4,893 positions (22% of all state positions).

[8] ADOR, *2022 Revenue Sources Book*, http://tax.alaska.gov/programs/documentviewer/viewer.aspx?1774r
[9] Alaska Office of Management and Budget. *Fiscal Year 2022 Management Plan + Supplementals.*

TABLE 7. STATE OF ALASKA REVENUE SOURCES BY DEPARTMENT ($MILLIONS), SFY2022

Department	Unrestricted General Fund Revenue	All Other Funds	Total Funding	Directly Attributable to Oil and Gas Revenue		Directly & Indirectly Attributable to Oil and Gas Revenue[a]	
				UGF	% of Budget	UGF	% of Budget
Operating	$4,866.6	$7,355.6	$12,222.2	$2,441.2	20%	$2,932.2	24%
Administration	$78.9	$224.9	$303.8	$39.6	13%	$47.5	16%
Commerce, Community & Economic Development	$11.6	$360.3	$371.9	$5.8	2%	$7.0	2%
Corrections	$366.5	$44.9	$441.4	$183.8	45%	$220.8	54%
Education & Early Development	$1,293.0	$721.2	$2,014.1	$648.6	32%	$779.0	39%
Environmental Conservation	$17.9	$66.0	$83.9	$9.0	11%	$10.8	13%
Fish & Game	$60.5	$170.4	$230.9	$30.4	13%	$36.5	16%
Governor's Office	$38.2	$3.3	$41.5	$19.2	46%	$23.0	55%
Health & Social Services	$1,101.8	$2,750.5	$3,852.3	$552.7	14%	$663.8	17%
Labor & Workforce Development	$18.1	$137.8	$155.9	$9.1	6%	$10.9	7%
Law	$62.0	$37.3	$99.3	$31.1	31%	$37.3	38%
Military & Veterans' Affairs	$22.9	$46.4	$69.2	$11.5	17%	$13.8	20%
Natural Resources	$87.0	$117.5	$204.5	$43.6	21%	$52.4	26%
Public Safety	$189.9	$50.3	$240.1	$95.2	40%	$114.4	48%
Revenue	$27.7	$793.5	$821.2	$13.9	2%	$16.7	2%
Transportation & Public Facilities	$135.2	$649.8	$785.0	$67.8	9%	$81.5	10%
University of Alaska	$272.7	$532.6	$805.4	$136.8	17%	$164.3	20%
Judiciary	$119.7	$3.7	$123.5	$60.1	49%	$72.1	58%
Legislature	$71.8	$1.0	$72.8	$36.0	50%	$43.3	59%
Statewide Appropriations[a,b]	$891.3	$644.2	$1,535.5	$447.1	29%	$537.0	35%
Capital	$495.2	$2,179.5	$2,674.7	$248.4	9%	$298.4	11%
Statewide Total[c]	$5,361.8	$9,535.1	$14,896.9	$2,689.6	18%	$3,230.5	22%

Sources: State of Alaska Office of Management and Budget, Fiscal Year 2023 Enacted Budget and McKinley Research Group calculations

a Indirect revenue attributable to the oil and gas industry includes transfers to the Unrestricted GF from the Alaska Permanent Fund for use in the state budget.

b Statewide appropriations include debt service, state retirement payments, fund capitalization, and other branch-wide appropriations.

c Excludes transfers from the Alaska Permanent Fund for use in the PFD and any revenue surplus.

Reliance on petroleum revenues varies by department depending on the proportion of their budget that comes from Unrestricted GF. Agencies with the most jobs supported by petroleum revenue included the Department of Corrections (929 positions directly attributable, 1,115 positions directly and indirectly attributable), the University of Alaska (670 positions directly attributable, 805 positions directly and indirectly attributable), and the Department of Health and Social Services (485 positions directly attributable, 583 positions directly and indirectly attributable).

TABLE 8. STATE OF ALASKA OPERATING DEPARTMENT EMPLOYMENT, SFY2022

Department	Total Positions[a]	Positions Directly Attributable to Petroleum Revenue		Positions Directly & Indirectly Attributable to Petroleum Revenue	
		Number	Percent	Number	Percent
Administration	1,260	164	13%	197	16%
Commerce, Community & Economic Development	518	8	2%	10	2%
Corrections	2,078	929	45%	1,115	54%
Education & Early Development	264	85	32%	102	39%
Environmental Conservation	467	50	11%	60	13%
Fish & Game	1,427	188	13%	225	16%
Governor's Office	178	82	46%	99	55%
Health & Social Services	3,382	485	14%	583	17%
Labor & Workforce Development	738	43	6%	52	7%
Law	551	173	31%	207	38%
Military & Veterans' Affairs	280	46	17%	56	20%
Natural Resources	946	202	21%	243	26%
Public Safety	918	364	40%	437	48%
Revenue	860	15	2%	17	2%
Transportation & Public Facilities	3,396	293	9%	352	10%
University of Alaska	3,944	670	17%	805	20%
Judiciary	783	381	49%	457	58%
Legislature	572	283	50%	340	59%
Total	**22,562**	**4,074**	**18%**	**4,893**	**22%**

Sources: State of Alaska Office of Management and Budget, Fiscal Year 2023 Enacted Budget and McKinley Research Group calculations
a Includes full-time, part-time, and temporary positions.

STATE OF ALASKA CAPITAL BUDGET

In SFY2022, oil- and gas-related funding directly accounted for about $248 million in state capital funding. State General Funds, including oil- and gas-related funding, appropriated to the capital budget provide critical match required to access federal infrastructure funding opportunities. In SFY2022, state Unrestricted General Funds appropriations leveraged over $1.5 billion in federal funding.

Capital funding is appropriated annually for projects like highway and road improvements, public school facility maintenance, safe water infrastructure, and airport improvements and maintenance, among many others. The economic impacts of these capital projects may be spread over several years, as funded projects are often multi-year efforts.

STATEWIDE IMPACTS OF OIL-RELATED REVENUE ON SELECT STATE GOVERNMENT PROGRAMS

Following are some key examples of programs funded by oil- and gas-related revenue in FY2022 that have far-reaching, statewide benefits:

Alaska PFDs paid **$2.1 Billion** to **625,912 Alaskans**[10]

Education funding supported **127,509** K-12 and **20,745** University of Alaska students.[11,12]

The Community Assistance Program benefited about **230** municipalities, boroughs, cities, and unincorporated communities throughout Alaska.

In SFY2022, distributions from the program's funds totaled **$22.9 million**[14]

Medicaid supported over **250,000 enrollees** of whom about 200,000 used Medicaid services in 2021.[13]

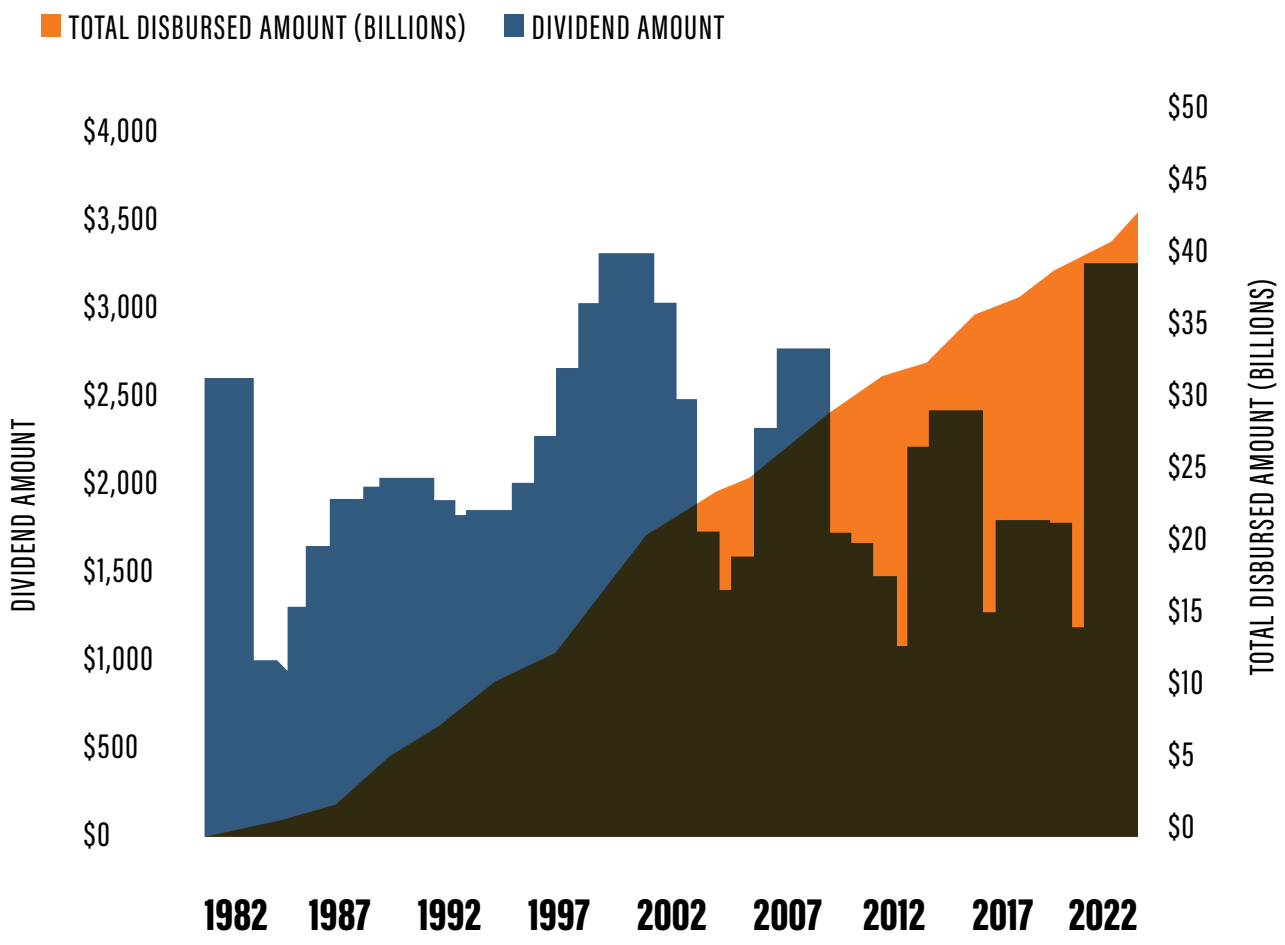
[10] ADOR, PFD Division, *Summary of Dividend Applications and Payments*. https://pfd.alaska.gov/Division-Info/summary-of-dividend-applications-payments
[11] Alaska Department of Education and Early Development, *Data Center, 2021-2022 District Enrollment Totals*. https://education.alaska.gov/data-center
[12] University of Alaska, *Data Analysis and Institutional Research*, Student Trends.
[13] Alaska Department of Health, *Annual Medicaid Reform Report FY2021* https://health.alaska.gov/HealthyAlaska/Documents/redesign/FY-2021-Annual-Medicaid-Reform-Report.pdf
[14] Alaska Department of Community and Regional Affairs, *Alaska's Community Assistance Program (CAP)* https://storymaps.arcgis.com/stories/104ece747c9a48bfbcbc45a68366cc80

PERMANENT FUND DIVIDEND

Perhaps the most recognizable impact the oil industry has on the average Alaska resident is the PFD, paid from the fund's investment earnings. Since 1982, every Alaska resident – adults and children alike – has been eligible to receive an annual amount ranging from around $330 to more than $3,000.

- An Alaska resident who received every dividend since 1982 has received the equivalent of $74,112 (measured in 2022 dollars) in PFDs.
- The Alaska Permanent Fund has paid a cumulative $44.7 billion (in 2022 dollars) in PFDs since 1982.
- The 2022 PFD distribution of $2.0 billion represented 20% of all government payments ($10.4 billion) to Alaska residents.[15]

FIGURE 11. ANNUAL PFD AND TOTAL DISBURSED AMOUNT (2022$), 1982-2022



Sources: Alaska Permanent Fund Corporation and McKinley Research Group calculations

[15] U.S. BEA GDP and Personal Income dataset, 2022 Personal Current Transfer Receipts

PFDs serve an especially important role to Alaskans living in poverty. Research conducted by the University of Alaska Anchorage Institute of Social and Economic Research estimated these annual payments reduced poverty rates in Alaska from 11.4% to 9.1% in the 2011-2015 period, lifting about 17,000 individuals out of poverty.[16]

A statewide survey conducted by McDowell Group in 2008 showed that 62% of Alaskans used a portion of their PFD to pay for household expenses (such as maintenance, rent, and utility bills), 58% saved or invested a portion of their PFD, 40% used it to pay off debts (such as credit card debt, garnishment, and child support payments), 33% used it for vacation, 31% donated a portion to charity, and 19% used it to make a major purchase of more than $500.[17] Like other income that enters Alaska's economy, the PFD supports additional jobs and income beyond the initial payment to recipients and has far-reaching impacts on many sectors.

Programs associated with the PFD include *Pick. Click. Give.* and the University of Alaska's *'Alaska 529 Plan.'*

Pick.Click.Give.

The Pick. Click. Give. program enables donations of a portion or all an individual's PFD to a charitable organization. Since the program's inception in 2009, Pick. Click. Give. has facilitated more than $33 million in donations.[18]

ALASKA529

The Alaska 529 Plan was created by the state legislature in 1990. Eligible PFD applicants can place up to 50% of their PFD in a college savings plan created by this legislation. As of 2021, Alaska residents have contributed $169 million to 529 savings plans.[19]

[16] Resource Rents, Universal Basic Income, and Poverty among Alaska's Indigenous Peoples, Matthew Berman, February 2018, and McKinley Research Group estimates. http://hdl.handle.net/11122/9167

[17] McDowell Group, *A Statewide Household Survey of Alaskan Giving*, prepared for the Alaska Giving Coalition, March 2008.

[18] Pick.Click.Give., *PCG Annual Giving Chart.*

[19] ADOR, PFD Division, Annual Report 2021.

LOCAL GOVERNMENT REVENUE

Local governments generate revenue from taxation of oil and gas property assets. While not examined in this study, local governments also generate revenue from the petroleum industry through sales tax, bed tax, and other taxes and fees related to industry spending.

OIL AND GAS PROPERTY TAXES

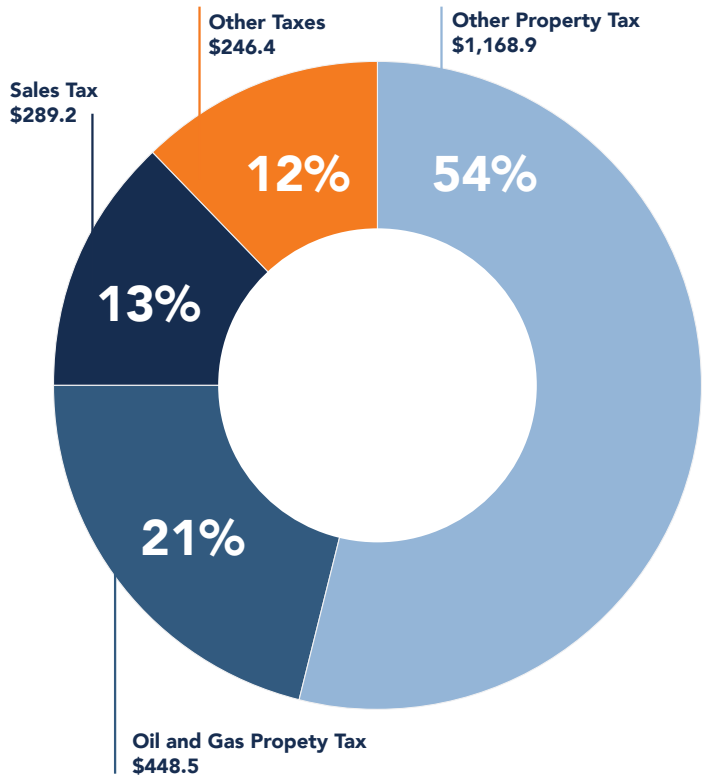
Property taxes collected by local governments provide unrestricted revenue to communities. Without oil- and gas-related revenues, many local governments, like the State, would need to either provide fewer services, spend less on capital projects, and/or raise more taxes from businesses and households to balance their budgets.

Oil and gas property holders can claim local property taxes as credits toward state oil and gas property taxes.

In SFY2022, local governments generated $449 million from taxation of oil and gas properties, 21% of all local government tax revenues. Other property tax collections from non-oil- and gas-related properties accounted for the largest portion of local government revenues ($1.6 billion, or 54% of total revenue). The remainder of local government revenues (25%) were generated from sales taxes and other taxes, including taxes levied on motor fuel, raw fish, hotels, and alcohol and tobacco products, among others.

In SFY2022, the total assessed value of oil and gas infrastructure in Alaska was $28.6 billion. Nearly $21 billion, 73% of the total, is in the NSB. In contrast to assets on the North Slope, which primarily include production infrastructure, assets in the FNSB and Valdez are mainly pipeline infrastructure and refineries. Assets in the Kenai Peninsula include production facilities valued at $1.5 billion, and assets in the rest of the state make up the remainder of statewide petroleum infrastructure assets.

FIGURE 12. LOCAL GOVERNMENT TAX REVENUE BY CATEGORY ($MILLIONS), SFY2022



Source: Alaska Department of Commerce, Community, and Economic Development

In total, local governments in Alaska collected $449 million in property taxes from oil and gas assets in SFY2022. Property tax revenues to local governments were fairly stable over the past five years, with a low of $443 million in SFY2021 and a high of $457 million in SFY2020. (*See table 9 page 41*)

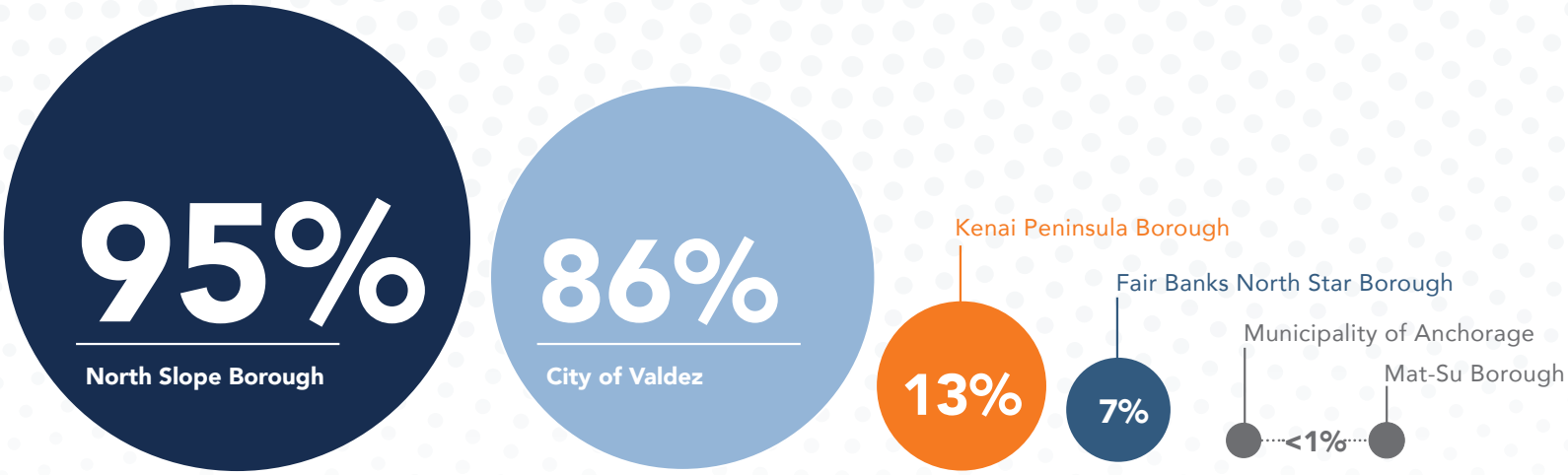
The NSB is the local government with the highest reliance on oil and gas property tax receipts (95% of total borough revenues), followed by the City of Valdez (86% of total revenue). *(See figure 13 page 42)*

TABLE 9. OIL AND GAS INFRASTRUCTURE ASSESSED VALUE AND LOCAL REVENUES FROM OIL AND GAS PROPERTY TAXES ($MILLIONS), SFY2018-SFY2022

Local Government	2018	2019	2020	2021	2022
Full Value Assessment					
North Slope Borough	$20,715	$20,977	$21,563	$20,866	$20,953
Valdez	$1,921	$1,952	$1,951	$1,952	$2,118
Kenai Peninsula Borough	$1,519	$1,563	$1,493	$1,421	$1,501
Fairbanks North Star Borough	$743	$716	$720	$713	$711
Municipality of Anchorage	$161	$139	$152	$132	$165
Mat-Su Borough	$10	$9	$8	$10	$14
All Other (Including State & Federal Taxing Jurisdictions on Unorganized Boroughs)	$3,110	$3,120	$3,104	$3,109	$3,110
State Oil and Gas Full Value Assessment	**$28,179**	**$28,477**	**$28,991**	**$28,203**	**$28,572**
Property Tax Revenue					
North Slope Borough	$377	$377	$388	$375	$377
Valdez	$44	$39	$39	$39	$42
Kenai Peninsula Borough	$14	$16	$15	$14	$15
Fairbanks North Star Borough	$11	$12	$12	$12	$11
Municipality of Anchorage	$3	$2	$3	$2	$3
Mat-Su Borough	$0.1	$0.1	$0.1	$0.1	$0.1
Other Local Governments	$0.1	$0.1	$0.1	$0.1	$0.1
Oil and Gas Property Tax Revenue	**$449**	**$447**	**$457**	**$443**	**$449**

Sources: Alaska Department of Commerce, Community, and Economic Development, personal communication with Alaska Department of Revenue, Tax Division, and McKinley Research Group calculations.
Note: Columns may not sum due to rounding.

FIGURE 13. PERCENT OF LOCAL TAX REVENUE FROM OIL AND GAS PROPERTY TAX, SFY2022



Source: Alaska Department of Revenue, Tax Division

EMPLOYMENT IMPACT OF STATE AND LOCAL OIL REVENUE

As oil-related tax and royalty revenues are spent by government agencies, thousands of jobs and millions in wages are generated across Alaska. Economic modeling conducted for this study provides estimates of total (direct, indirect, and induced) employment and wage impacts associated with government spending of oil-related revenue. Collectively, State and local government spending of oil-related revenues supports about 33,050 jobs and $2.6 billion in annual wages in the Alaska economy.

In addition to direct employment by the State of Alaska or local governments, jobs supported by oil-related government spending span a wide variety of industries, including:

- The University of Alaska and K-12 schools across Alaska.
- Health care services and facilities based on Medicaid funding.
- Construction companies working on state and locally funded capital projects.
- A variety of retail and service industries as residents spend their PFDs.

TABLE 10. ECONOMIC IMPACTS OF OIL AND GAS-RELATED TAXES AND ROYALTIES IN ALASKA, 2022

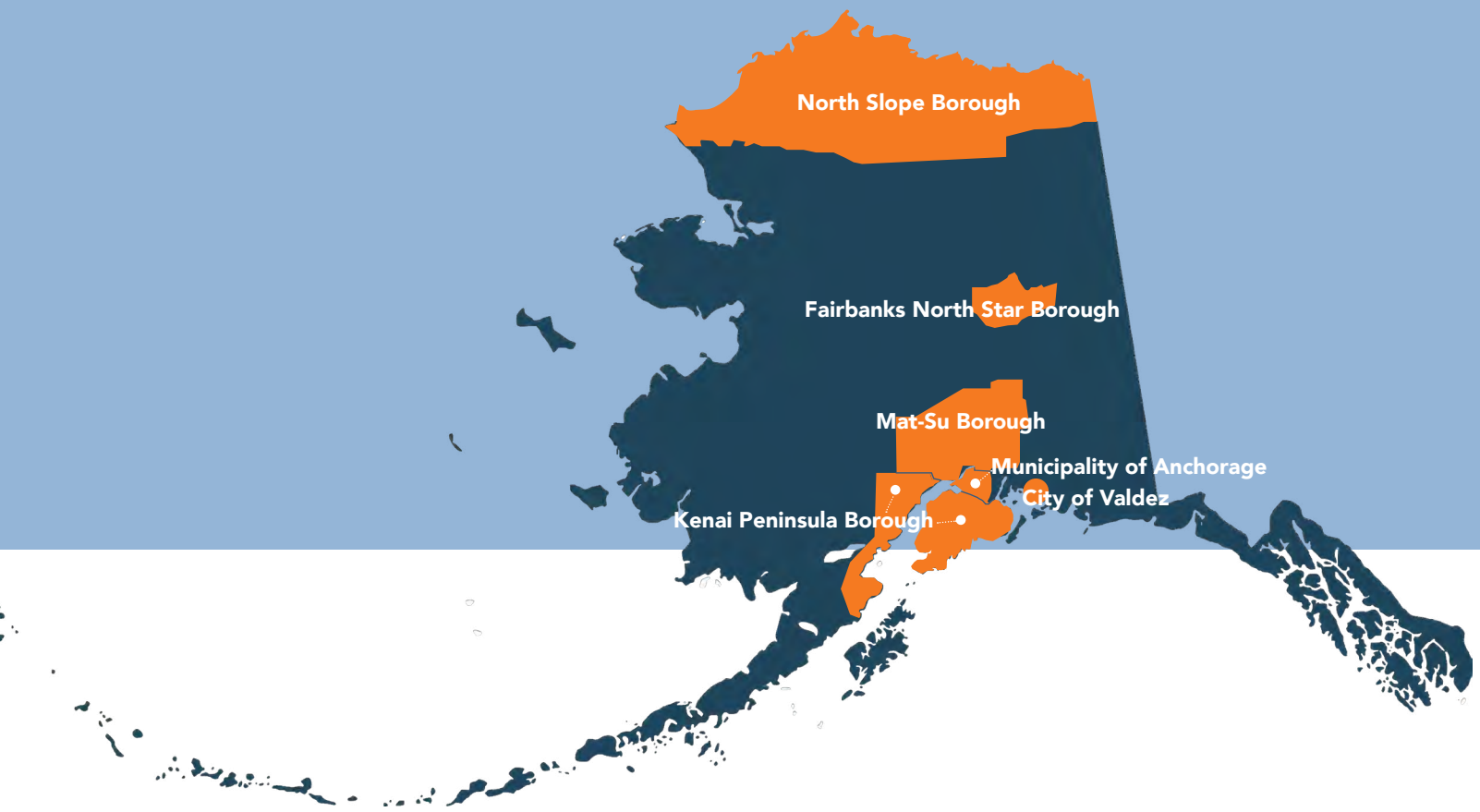
Category	Oil and Gas Revenue Spent ($Billions)	Total Employment	Total Annual Wages ($Billions)
State Agencies and Programs*	$2.00	17,390	$1.65
State Capital Projects (5-year Average)	$0.10	960	$0.10
Permanent Fund Dividend	$2.06	10,470	$0.63
Local Government Operations and Projects	$0.45	4,230	$0.24
Total	**$4.6**	**33,050**	**$2.61**

Sources: Alaska Legislative Finance, Alaska Office of Management and Budget, Alaska Department of Revenue, and McKinley Research Group estimates.
** Excludes capital projects and statewide appropriations.*

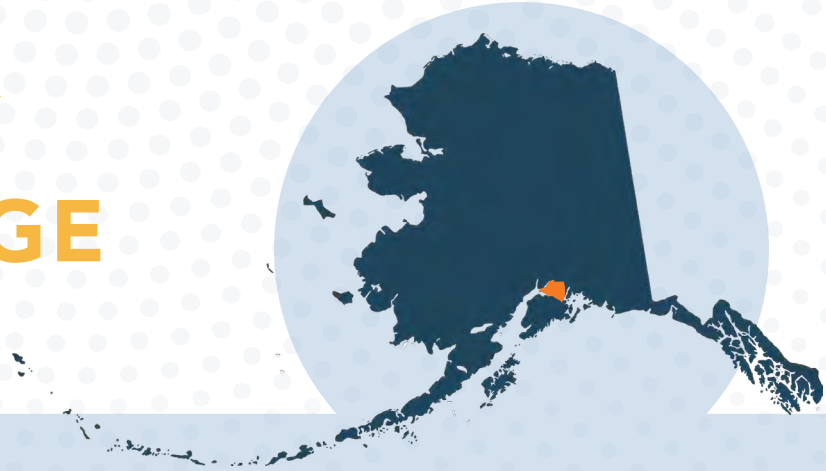
CHAPTER 4

LOCAL AND REGIONAL IMPACT PROFILES

This chapter provides an overview of 2022 oil and gas industry employment and wage impacts in six geographic areas: Municipality of Anchorage, FNSB, KPB, Mat-Su Borough, NSB, and City of Valdez.



MUNICIPALITY OF ANCHORAGE



DIRECT JOBS BY RESIDENCY

Employees Living in Anchorage	Employees	Annual Wages ($Millions)
Primary Company Employees	*1,667*	*$514.6*
Oil and Gas Support Services Employees	*1,146*	*$106.1*
Total Direct Jobs	**2,813**	**$620.8**

1% of total population

LOCAL GOVERNMENT REVENUE

$2.8 million
Municipality Property Tax

0.4%
of Total Property Tax Revenue

As Alaska's economic hub, Anchorage is the headquarter location for many oil producers, oil and gas support services, supplier businesses, and others serving the oil and gas industry. Much of the spending by Alaska's oil and gas industry funnels through the Anchorage economy, creating additional jobs and wages.

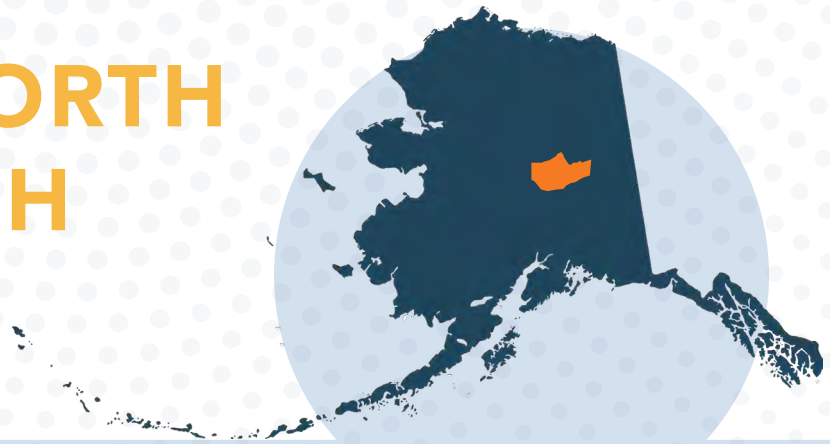
TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in Anchorage	Jobs	Annual Wages ($Millions)
Primary Company Employees	*1,747*	*$503.9*
Oil and Gas Support Services Employees	*657*	*$66.5*
Other Indirect and Induced impacts	*17,643*	*$1,163.8*
Total Job Impacts	**20,047**	**$1,734.3**

11%
of Employment in Anchorage

10%
of Total Anchorage Earnings

FAIRBANKS NORTH STAR BOROUGH



POPULATION IMPACT

Employees Living in FNSB	Employees	Annual Wages ($Millions)
Primary Company Employees	*312*	*$50.9*
Oil and Gas Support Services Employees	*155*	*$11.6*
Total Direct Jobs	**467**	**$62.5**

0.5% of total population

The oil and gas industry in the FNSB includes Petro Star refinery, TAPS operations, and oil industry support services-related activity. Alyeska Pipeline Service Company is the second highest source of property tax revenue in the borough. Many North Slope workers also live in the borough.

TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in FNSB	Jobs	Annual Wages ($Millions)
Primary Company Employees	*246*	*$34.1*
Oil and Gas Support Services Employees	*50*	*$4.1*
Other Indirect and Induced impacts	*2,222*	*$145.3*
Total Job Impacts	**2,518**	**$183.5**

5% of Employment in FNSB

4% of Total FNSB Earnings

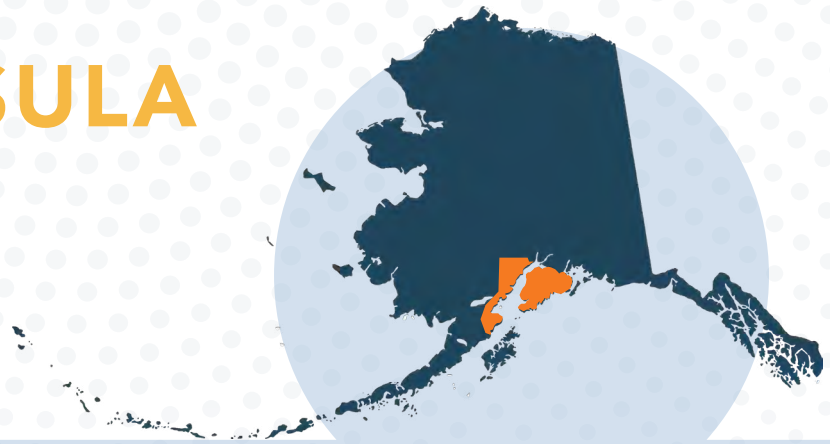
LOCAL GOVERNMENT REVENUE

$10.9 million FNSB Property Tax*

7% of Total Property Tax Revenue

Sources: Alaska Department of Revenue, Fairbanks North Star Borough | Note: A portion of oil- and gas-related property tax revenue paid to FNSB is distributed to the City of Fairbanks and the City of North Pole.

KENAI PENINSULA BOROUGH



POPULATION IMPACT

Employees Living in KPB	Employees	Annual Wages ($Millions)
Primary Company Employees	*620*	*$148.5*
Oil and Gas Support Services Employees	*821*	*$60.1*
Total Direct Jobs	**1,441**	**$208.6**

2% of total population

Oil and gas production in Cook Inlet and Marathon's refinery operation create jobs and income in the KPB. The region also enjoys economic benefits from wages spent in the local economy by North Slope workers living in the borough. Several of the top property taxpayers in the KPB are oil and gas companies.

TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in KPB	Jobs	Annual Wages ($Millions)
Primary Company Employees	*509*	*$114.8*
Oil and Gas Support Services Employees	*376*	*$25.5*
Other Indirect and Induced impacts	*1,477*	*$86.7*
Total Job Impacts	**2,362**	**$227.0**

7% of Employment in KPB

11% of Total KPB Earnings

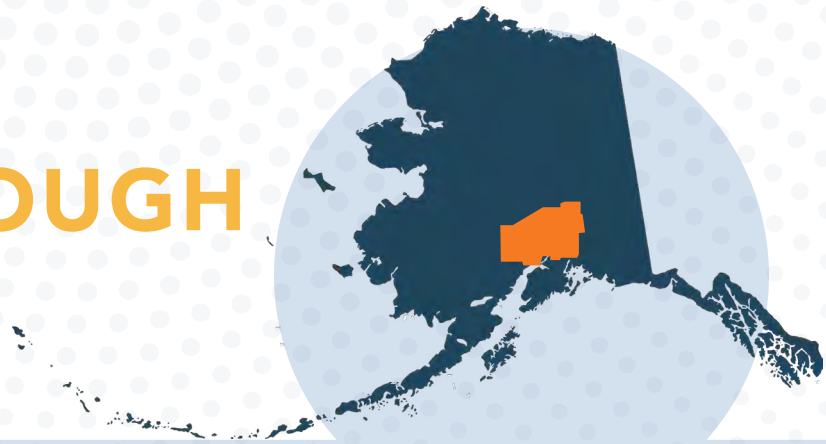
LOCAL GOVERNMENT REVENUE

$15 million KPB Property Tax*

20% of Total Property Tax Revenue

Note: A portion of oil- and gas-related property tax revenue paid to KPB is distributed to the City of Kenai, City of Homer, and City of Seward.

MATANUSKA-SUSITNA BOROUGH



POPULATION IMPACT

Employees Living in Mat-Su	Employees	Annual Wages ($Millions)
Primary Company Employees	*449*	*$121.7*
Oil and Gas Support Services Employees	*1,174*	*$96.9*
Total Direct Jobs	**1,623**	**$218.6**

1% of total population

While few oil and gas industry-related jobs are in the Mat-Su Borough, many industry workers live in Mat-Su and commute to Anchorage or work on the North Slope or in Cook Inlet.

TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in Mat-Su	Jobs	Annual Wages ($Millions)
Primary Company Employees	—	*$0*
Oil and Gas Support Services Employees	*5*	*<$0.5*
Other Indirect and Induced impacts	*1,443*	*$89.3*
Total Job Impacts	**1,448**	**$89.3**

3% of Employment in Mat-Su

3% of Total Mat-Su Earnings

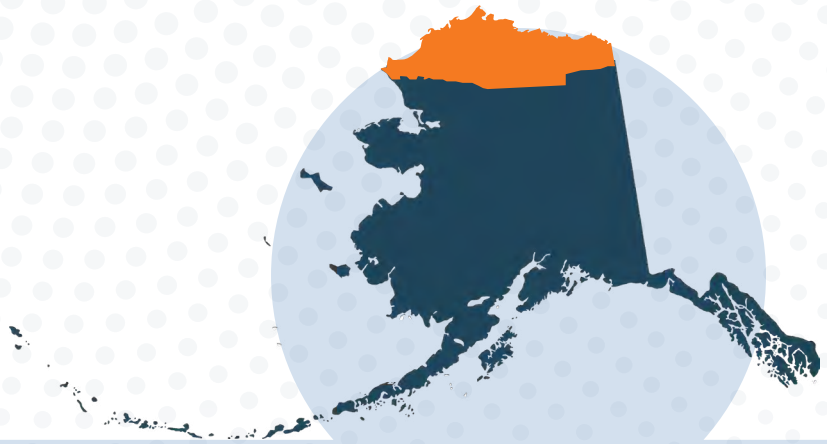
LOCAL GOVERNMENT REVENUE

$0.1 million
Mat-Su Property Tax*

<0.1%
of Total Property Tax Revenue

Note: A portion of oil- and gas-related property tax revenue paid to MSB is distributed to the City of Wasilla.

NORTH SLOPE BOROUGH



POPULATION IMPACT

Employees Living in NSB	Employees	Annual Wages ($Millions)
Primary Company Employees	*<10*	*<$0.5*
Oil and Gas Support Services Employees	*<10*	*<$0.5*
Total Direct Jobs	**<15**	**<$1.0**

<1% of total population

LOCAL GOVERNMENT REVENUE

$377 million
NSB Property Tax*

95%
of Total Property Tax Revenue

Employment in the NSB averaged 10,178 in 2022. About 65% of those jobs (6,653) were in the North Slope production area.[20] North Slope oil industry worksites and infrastructure are self-contained and generally hundreds of miles removed from most of the borough's resident population. While many oil and gas industry jobs are based in the NSB, most of these workers reside outside the borough. The oil industry's greatest economic impact on NSB residents is through oil- and gas-related property tax revenue to the Borough government.

TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in NSB	Jobs	Annual Wages ($Millions)
Primary Company Employees	*1,251*	*$379.1*
Oil and Gas Support Services Employees	*4,065*	*$315.9*
Other Indirect and Induced impacts	*510*	*$33.7*
Total Job Impacts	**5,826**	**$728.7**

56%
of Employment in NSB

46%
of Total NSB Earnings

[20] Based on data provided by the Alaska Department of Labor and Workforce Development's Quarterly Census of Employment and Wages for the Prudhoe Bay SSA, 2022.

CITY OF VALDEZ

POPULATION IMPACT

Employees Living in Valdez	Employees	Annual Wages ($Millions)
Primary Company Employees	*252*	*$49.8*
Oil and Gas Support Services Employees	*14*	*$1.4*
Total Direct Jobs	**266**	**$51.2**

7% of total population

LOCAL GOVERNMENT REVENUE

$42 million
Valdez Property Tax*

87%
of Total Property Tax Revenue

Valdez is home to the Alyeska Marine Terminal, the terminus of the 800-mile Trans-Alaska Pipeline. At the terminal, oil is loaded for marine transport to market. Valdez is also home to Petro Star's Valdez refinery. Together, this infrastructure accounts for about 87% of local property tax revenue.

An additional source of revenue dates to the 1970s when TAPS owners paid the city $13.6 million in exchange for use of the city's bonding authority to issue tax-exempt bonds. That money was used to create the Valdez Permanent Fund, valued at about $250 million at the end of 2022.[21]

TOTAL ECONOMIC IMPACT (BY PLACE OF WORK)

Employees Working in Valdez	Jobs	Annual Wages ($Millions)
Primary Company Employees	*290*	*$56.0*
Oil and Gas Support Services Employees	*18*	*$1.6*
Other Indirect and Induced impacts	*290*	*$16.5*
Total Job Impacts	**598**	**$74.2**

12%
of Employment in Chugach Census Area

17%
of Total Chugach Census Area Earnings

[21] City of Valdez, *2023 Budget*.

SUMMARY OF LOCALIZED IMPACTS

DIRECT JOBS IMPACTS BY PLACE OF ALASKA RESIDENCY

The following table describes Primary Company and oil and gas support services employees by where they live in Alaska, excluding nonresidents. While some of these employees work where they live, many commute to the North Slope, Anchorage, or the Kenai Peninsula for work.

TABLE 11. DIRECT OIL AND GAS INDUSTRY-RELATED JOBS AND WAGES BY REGION OF ALASKA RESIDENCY, 2022

	Municipality of Anchorage	Fairbanks North Star Borough	Kenai Peninsula Borough	Mat-Su Borough	North Slope Borough	Valdez	Other Alaska	Total Alaska Residents
Jobs								
Primary Companies	1,667	312	620	449	<10	252	103	3,403
Oil and Gas Support Services	1,146	155	821	1,174	<10	14	102	3,420
Total Direct Jobs	**2,813**	**467**	**1,441**	**1,623**	**<15**	**266**	**205**	**6,823**
Wages ($Millions)								
Primary Companies	$514.6	$50.9	$148.5	$121.7	<$0.5	$49.8	$18.9	$904.4
Oil and Gas Support Services	$106.1	$11.6	$60.1	$96.9	<$0.5	$1.4	$5.5	$281.8
Total Direct Wages	**$620.8**	**$62.5**	**$208.6**	**$218.6**	**<$1.0**	**$51.2**	**$24.4**	**$1,186.3**

Note: Rows may not add to total due to rounding.

SUMMARY OF LOCALIZED IMPACTS

TOTAL JOBS IMPACTS BY PLACE OF WORK

The following table describes all workers supported by the oil and gas industry by the location of their job, including Primary Company and oil and gas support services company workers who are not Alaska residents but travel to Alaska for work.

TABLE 12. OIL AND GAS INDUSTRY-RELATED JOBS AND WAGES BY WORK LOCATION, 2022

	Municipality of Anchorage	Fairbanks North Star Borough	Kenai Peninsula Borough	Mat-Su Borough	North Slope Borough	Valdez	Other Alaska	Total Alaska Impacts
Jobs								
Primary Companies	1,747	246	509	-	1,251	290	62	4,105
Oil and Gas Support Services	657	50	376	5	4,065	18	403	5,574
All Other Indirect and Induced	17,643	2,222	1,477	1,443	510	290	2,936	26,521
Total Direct Jobs	**20,047**	**2,518**	**2,362**	**1,448**	**5,826**	**598**	**3,401**	**36,200**
Wages ($Millions)								
Primary Companies	$503.9	$34.1	$114.8	$0.0	$379.1	$56.0	$9.4	$1,097.3
Oil and Gas Support Services	$66.5	$4.1	$25.5	<$0.5	$315.9	$1.6	$22.8	$436.9
All Other Indirect and Induced	$1,163.8	$145.3	$86.7	$89.3	$33.7	$16.5	$193.9	$1,729.3
Total Direct Wages	**$1,734.3**	**$183.5**	**$227.0**	**$89.3**	**$728.7**	**$74.2**	**$226.1**	**$3,263.4**

Note: Rows may not add to total due to rounding.

CHAPTER 5

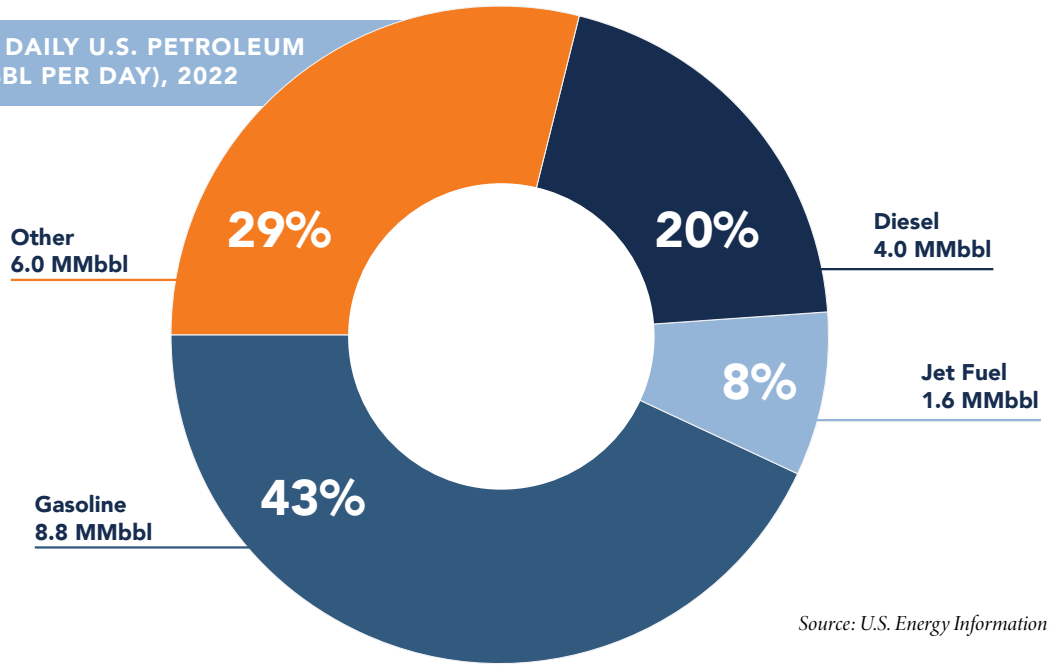
ALASKA'S PRODUCTION IN THE U.S. AND WORLD MARKET

This chapter briefly describes Alaska's current and historical oil and gas production and the state's role in national production of energy and refined oil products.

U.S. PETROLEUM CONSUMPTION

Consumption of refined oil products in the U.S. averaged 20.3 MMbbl per day in 2022. Gasoline accounts for the largest share of petroleum products consumed in the U.S., at 43% of total consumption (8.8 MMbbl per day), followed by diesel (4.0 MMbbl per day, 20%) and jet fuel (1.6 MMbbl per day, 8%). Other products such as propane, asphalt, heavy oil fuels, and naphtha accounted for 29% of the total (6.0 MMbbl per day).

FIGURE 14. AVERAGE DAILY U.S. PETROLEUM CONSUMPTION (MMBBL PER DAY), 2022



Source: U.S. Energy Information Administration

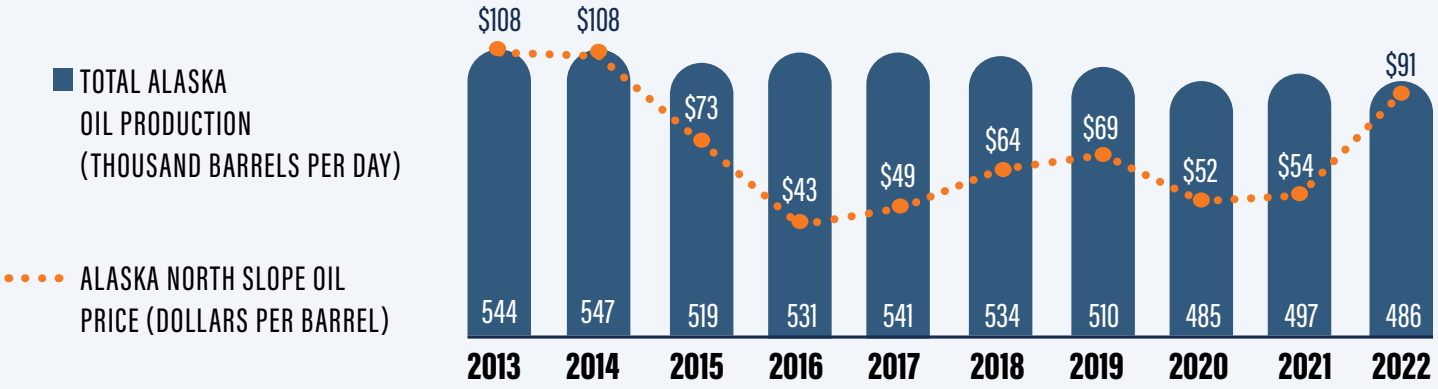
ALASKA OIL PRODUCTION AND PRICES

Over the last decade, Alaska has produced about 500,000 barrels of oil per day (bpd), less than a quarter of peak production levels achieved in the late 1980's. Between SFY2013 and SFY2022, Alaska oil production fell by 11%, an average decline of 1% annually.

Oil prices dropped sharply in SFY2016 following highs between SFY2013 and SFY2014. Prices have been volatile over the last several years due to the economic impacts of the global COVID-19 pandemic, sanctions of Russian oil exports, and other factors.

Alaska's three primary refineries – the Petro Star refineries in North Pole and Valdez, and Marathon's refinery in Nikiski – use Alaska crude oil to produce refined products such as diesel fuel, gasoline, and jet fuel. However, most Alaska crude oil is transported to larger-scale refineries in Washington, California, and Hawaii.

FIGURE 15. TOTAL ALASKA CRUDE OIL PRODUCTION AND ALASKA NORTH SLOPE WEST COAST OIL PRICE, SFY2013-SFY2022



Source: Alaska Department of Revenue

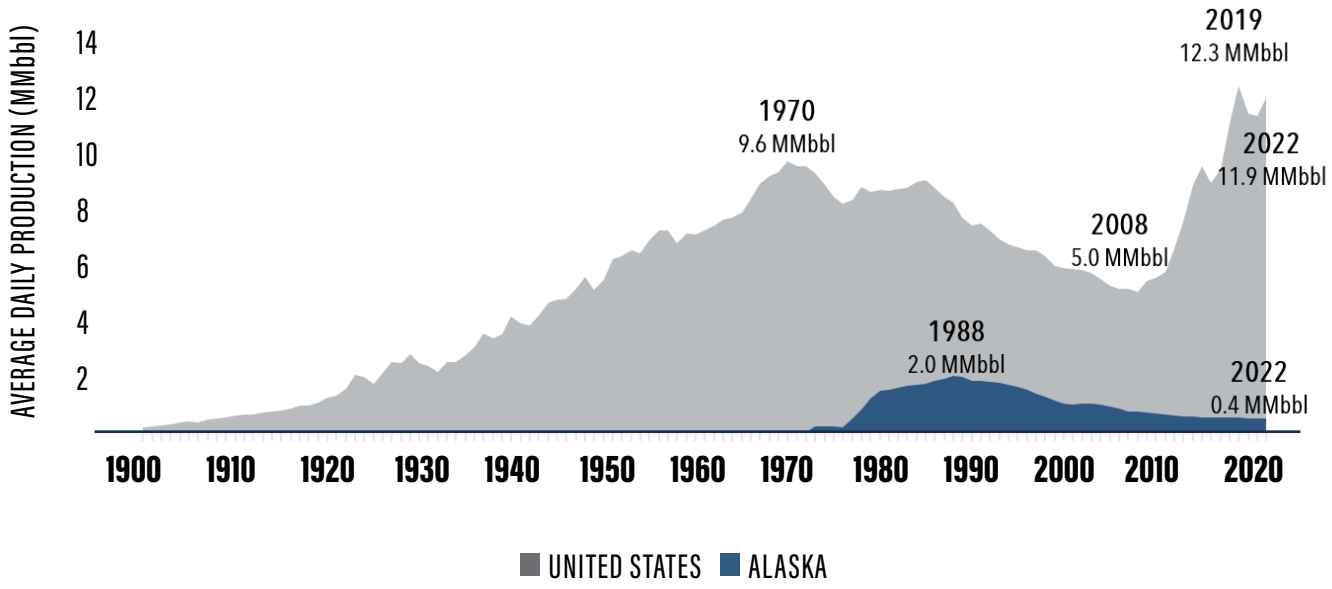
Note: Total Alaska oil production volumes include production from Cook Inlet fields, North Slope fields, and offshore fields.

ALASKA AND THE DOMESTIC PETROLEUM INDUSTRY

After peaking at 9.6 million barrels (MMbbl) per day in 1970, U.S. oil production gradually declined to a low of 5.0 MMbbl per day in 2008. Technological innovations like fracking and directional drilling, along with significant new investment encouraged by high oil prices, resulted in production increases of 146% between 2008 and 2018. In 2019, national production reached a new peak of 12.3 MMbbl per day.

At Alaska's peak production of 2.0 MMbbl per day in 1988, Alaska accounted for 25% of total U.S. production. However, Alaska's production declined by 78% after 1988, an average of 2% per year. As of 2022, Alaska produces 0.5 MMbbl of oil per day, or 4% of total U.S. production.

FIGURE 16. OIL PRODUCTION, AVERAGE DAILY PRODUCTION (MMbbl), 1900-2022



Source: U.S. Energy Information Administration
Note: Alaska production volumes published by the U.S. Engery Information Administration exclude offshore field production.

Alaska was the fourth largest oil-producing state in 2022, behind Texas, New Mexico, and North Dakota. Production in the top three largest oil-producing states totaled 7.8 MMbbl per day in 2022, two-thirds of total U.S. production. Of the ten largest oil-producing states, Alaska is one of three states in which production has declined over the last decade. Average annual production declined in Alaska (-15%), California (-39%), and Louisiana (-49%) between 2013 and 2022. During the same period New Mexico production increased by 458% and Colorado production increased by 139%.

TABLE 13. UNITED STATES OIL PRODUCTION BY STATE, 2013 AND 2022

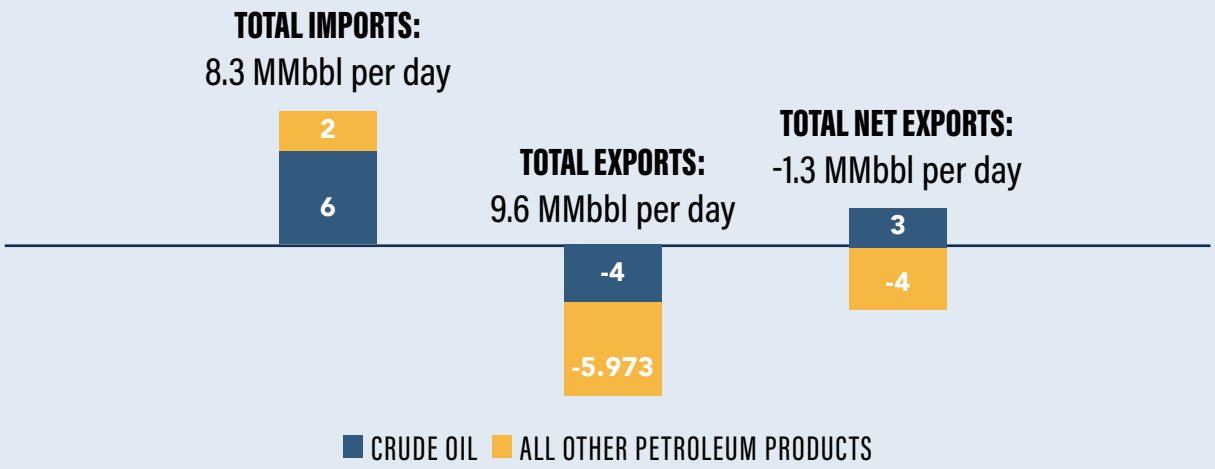
Region	Average Daily Production (1,000 Barrels)		% Change 2013-2022	% of Total 2022 U.S. Production
	2013	2022		
Texas	2,543	5,046	98%	42%
New Mexico	282	1,573	458%	13%
North Dakota	856	1,058	24%	9%
Alaska	515	437	-15%	4%
Colorado	181	432	139%	4%
Oklahoma	341	415	22%	3%
California	545	335	-39%	3%
Wyoming	174	249	43%	2%
Utah	96	127	32%	1%
Louisiana	198	100	-49%	1%
Gulf of Mexico (Federal Offshore)	1,255	1,743	39%	15%
All Other States and Offshore Zones	805	599	-26%	5%
Total U.S. Production	**7,497**	**11,887**	**59%**	**100%**

Source: U.S. Energy Information Administration
Notes: Production volumes by state published by the U.S. Energy Information Administration do not include volumes produced from offshore fields. Offshore field volumes are categorized as Federal volumes.

CRUDE OIL AND PETROLEUM PRODUCT IMPORTS AND EXPORTS

The U.S. became a net exporter of crude oil and other petroleum products for the first time in decades in 2020 and has remained a net exporter through 2022. Overall, the U.S. exported 9.6 MMbbl of oil per day (crude and other petroleum products combined) while importing an average of 8.3 MMbbl per day.

FIGURE 17. U.S. CRUDE OIL AND OTHER PETROLEUM PRODUCTS IMPORT AND EXPORT BALANCE (MMBBL PER DAY), 2022



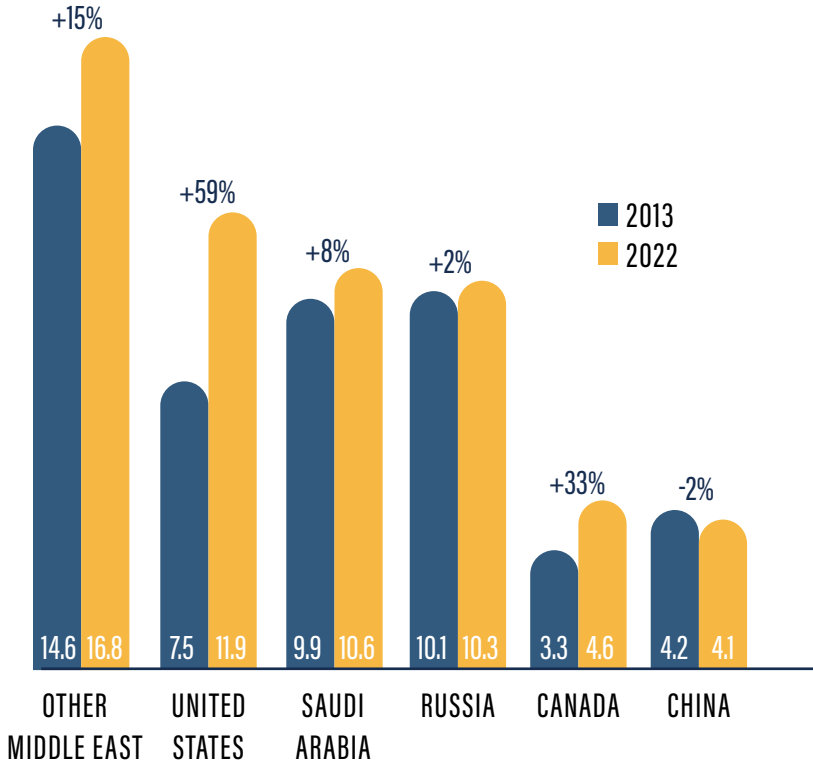
Source: U.S. Energy Information Administration

WORLD OIL PRODUCTION

United States oil production surpassed Russian production volumes in 2018, and the U.S. has remained the largest oil producer through 2022. The United States increased production by 59% between 2013 and 2022 due to advancements in drilling technology and increased investment driven by high oil prices. During the same period, Saudi Arabia increased production by 8%, and Russia increased production by 2%.

Saudi Arabia and Russia are both members of OPEC+, and work with other countries in the region to influence global oil prices by limiting or increasing production.[22] Therefore, production increases during the last decade are not a true reflection of production capacity, unlike production in the United States.

FIGURE 18. GLOBAL OIL PRODUCTION BY REGION, AVERAGE DAILY PRODUCTION (MMBBL), 2013 AND 2022



Source: U.S. Energy Information Administration

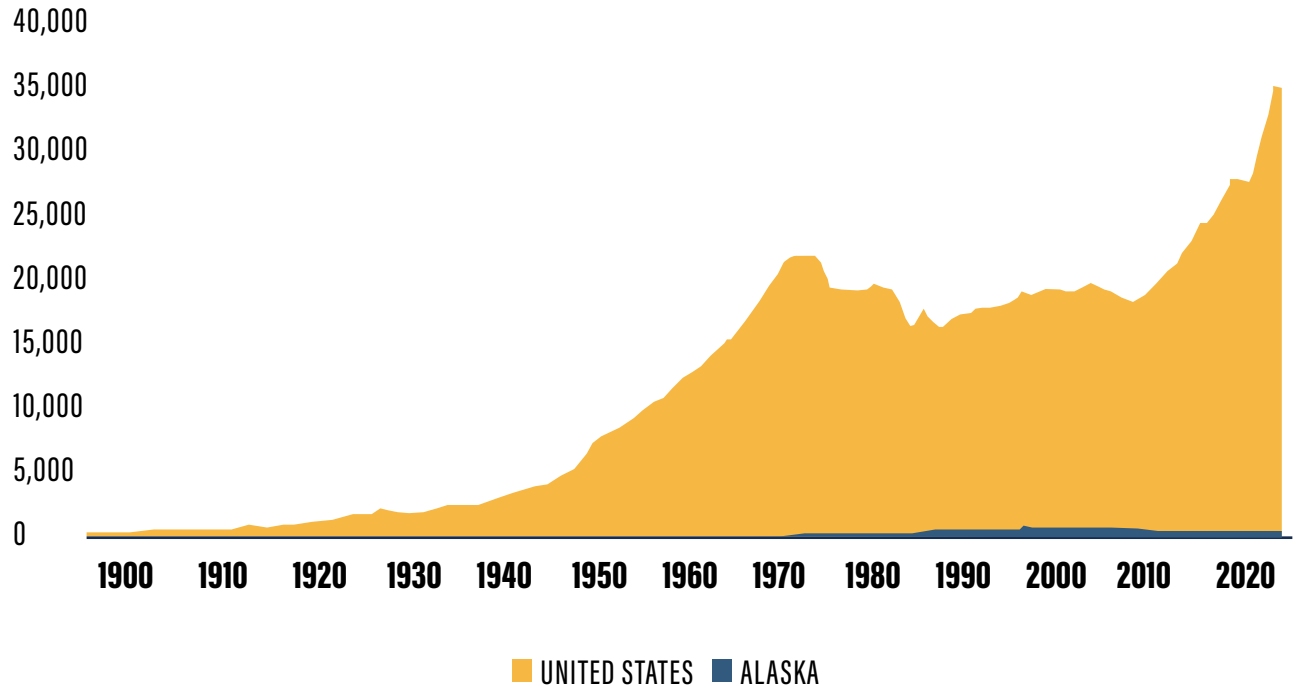
[22] OPEC+ members include Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, Venezuela, and Russia.

U.S. NATURAL GAS PRODUCTION

After peaking at annual production of 22,658 BCF in 1973, U.S. natural gas production declined to a low of 16,884 BCF in 1983. Natural gas production in the U.S. remained between 17,000 and 20,000 BCF annually until 2005. Between 2005 and 2022, U.S. natural gas production doubled. Production in 2022 (38,936 BCF) was 4% higher than in 2021 (32,328 BCF); both years were the highest production levels on record.

Alaska natural gas production has never contributed more than 3% to the total national production volume. Peak natural gas production in Alaska occurred in 1994, at 555 BCF (2.8% of national production). Alaska's natural gas production declined by 33% between 1994 and 2022, an average annual decline of 1%. In 2022, Alaska produced 373 BCF of natural gas, the highest annual production volume since 2010.

FIGURE 19. NATURAL GAS PRODUCTION, BILLION CUBIC FEET, 1900-2022



Source: U.S. Energy Information Administration

Alaska was the 12th largest natural gas producing state in 2022. The top natural gas-producing states are Texas, Pennsylvania, and Louisiana, accounting for a combined 56% of total national production. Several states have significantly increased natural gas production in the last decade, including Ohio (+2,107 BCF, +1,269%), North Dakota (+760 BCF, +322%), and West Virginia (+2,179 BCF, +294%). Total U.S. natural gas production increased by 13,374 BCF during this period (+52%).

TABLE 14. UNITED STATES NATURAL GAS PRODUCTION BY STATE, 2013 AND 2022

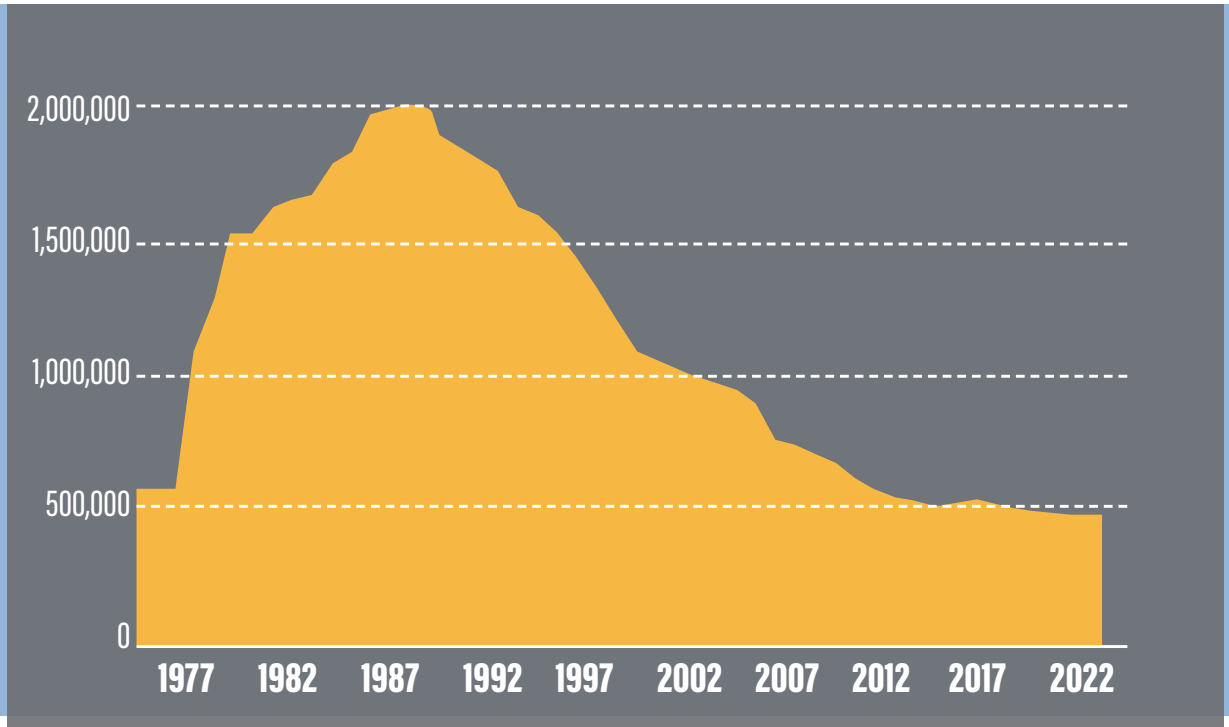
Region	Average Daily Production (1,000 Barrels)		% Change 2013-2022	% of Total 2022 U.S. Production
	2013	2022		
Texas	7,634	10,482	37%	27%
Pennsylvania	3,259	7,483	130%	19%
Louisiana	2,360	4,020	70%	10%
West Virginia	742	2,921	294%	8%
Oklahoma	1,994	2,744	38%	7%
New Mexico	1,172	2,679	129%	7%
Ohio	166	2,273	1,269%	6%
Colorado	1,605	1,820	13%	5%
North Dakota	236	996	322%	3%
Wyoming	1,858	992	-47%	3%
Arkansas	1,140	427	-63%	1%
Alaska	338	373	10%	1%
Gulf of Mexico (Federal Offshore)	1,309	773	-41%	2%
All Other States	735	413	-44%	1%
Total	**25,562**	**38,936**	**52%**	**100%**

Source: U.S. Energy Information Administration

THE FUTURE OF OIL AND GAS IN ALASKA'S ECONOMY

North Slope oil production declined over the past decade, with calendar year 2021 marking a new low for oil production at 477,095 bpd. Despite a slight increase of 1.2% between 2021 and 2022, North Slope oil production remained well below historical highs.

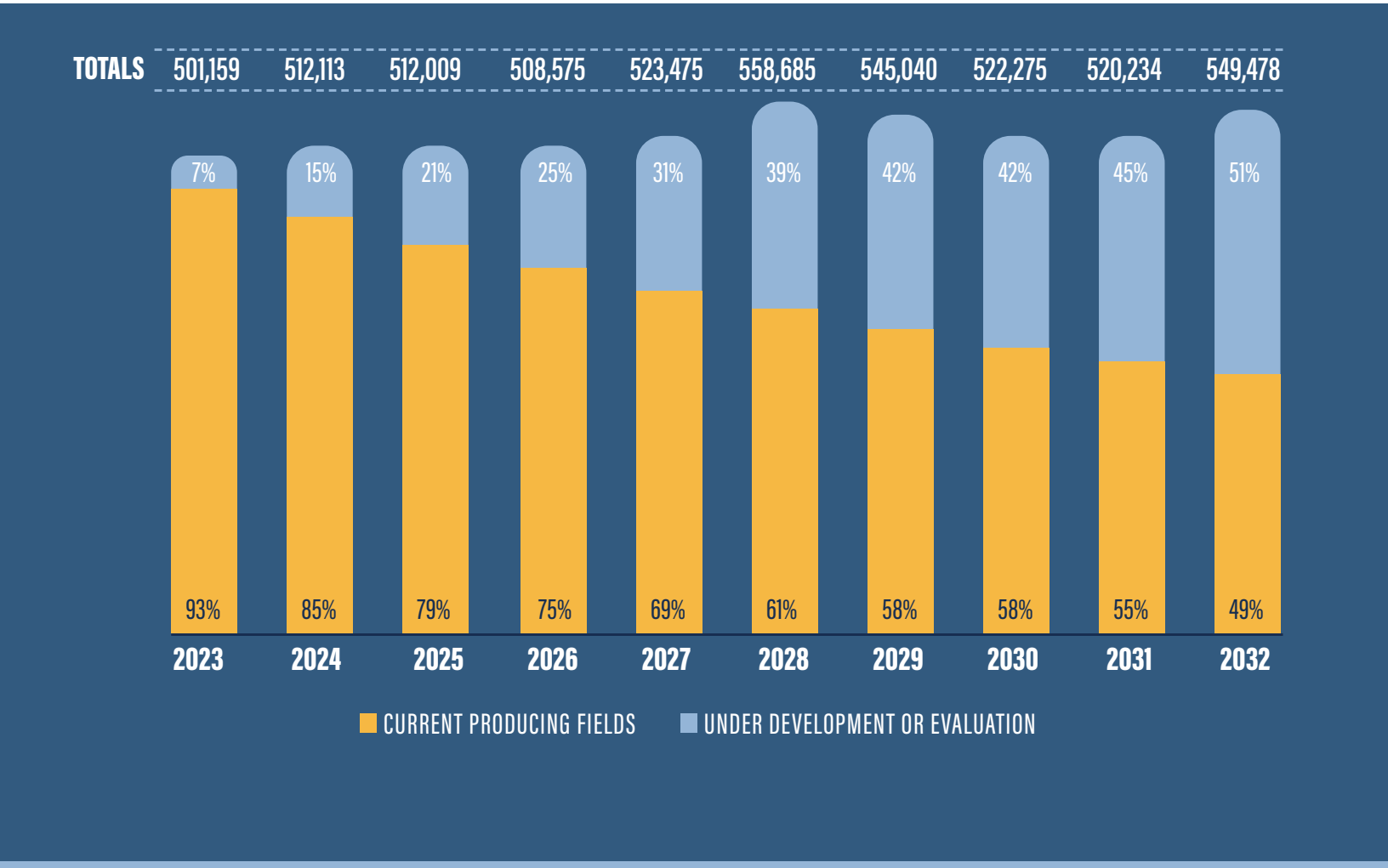
FIGURE 20. ALASKA NORTH SLOPE OIL PRODUCTION, 1977-2022 (BARRELS PER DAY)



Source: Alaska Department of Revenue

Decline in production from current fields is expected to extend over the next decade. Despite declining production from current fields, new projects under development or evaluation are forecasted to increase total North Slope production between 2023 and 2032. The following forecast, prepared by the ADNR, incorporates expected production related to 17 North Slope projects. Production from projects under development or evaluation is expected to represent over half (51%) of total production by SFY2032. Infield development at current fields will also be necessary to sustain production across the North Slope over the next decade.

FIGURE 21. ALASKA NORTH SLOPE OIL PRODUCTION FORECAST BY FIELD TYPE, FY2023-FY2032



MAJOR DEVELOPMENT PROJECTS

The following are significant new projects under development or evaluation.

PIKKA

The Pikka project is located on Alaska's North Slope, less than 10 miles from Nuiqsut and about 50 miles west of Deadhorse. With a 51% stake in the project, Santos is the project operator (Repsol owns 49%). Santos is pursuing the Pikka project in two phases. Phase 1 construction efforts are underway, with first oil of 80,000 bpd expected in 2026. About $2.6 billion in capital expenditures are planned for Phase 1. As of 2023, construction efforts were ongoing at Pikka. Located on state leases, Pikka is expected to generate new royalty, production tax, and corporate income tax revenue for the State of Alaska. Future Pikka project phases are expected to increase production to 160,000 bpd.

WILLOW

ConocoPhillips' Willow project is in the northeast portion of the NPR-A. The project is one of Alaska's largest in decades, with expected peak production of 180,000 bpd. ConocoPhillips is expected to invest over $8 billion in capital expenditures over a six-year construction timeline. Given its location on federally owned land, Willow will be subject to a federal royalty agreement of which 50% will be paid to the State of Alaska. Over the project's operating life, Willow is expected to generate:

- $3.9 billion in federal royalty income, income tax and gravel sales,
- $2.3 billion in federal royalties returned to the State of Alaska for NPR-A Impact Mitigation grant funds,
- $1.3 billion in state revenue from production, property, and income taxes, and
- $1.2 billion in NSB property tax revenue.

In 2023, the U.S. Department of the Interior issued a Record of Decision approving the Willow project. Construction efforts are expected to start in 2024, with first oil expected early in 2029.

NUNA

Located in the Kuparuk River Unit on the North Slope, ConocoPhillips' Nuna project will add new development wells and other infrastructure tying back to the existing KRU facilities. Production is expected to peak at 20,000 bpd, with first oil planned for early 2025. ConocoPhillips approved funding for the Nuna project in 2023.

HILCORP INFIELD DEVELOPMENT

Hilcorp plans to invest in infield development on the North Slope and Cook Inlet over the next five years, sustaining production from some of Alaska's largest producing fields. As an example, the company plans to construct a new drilling and production pad in the Milne Point Unit. Construction of the "Raven" pad is expected to extend into 2024, with drilling anticipated for fall 2025. Alaska DNR estimates peak production at about 10,000 bpd.

OTHER PLANNED DEVELOPMENTS

Other exploration and production companies plan to invest in Alaska between 2023 and 2028, including plans by:

- BlueCrest Energy to invest in development in Cook Inlet.
- Furie Operating Alaska to pursue new drilling and workovers in Cook Inlet.
- Glacier Oil & Gas Corporation's infield development across its assets.

ALASKA LIQUIFIED NATURAL GAS

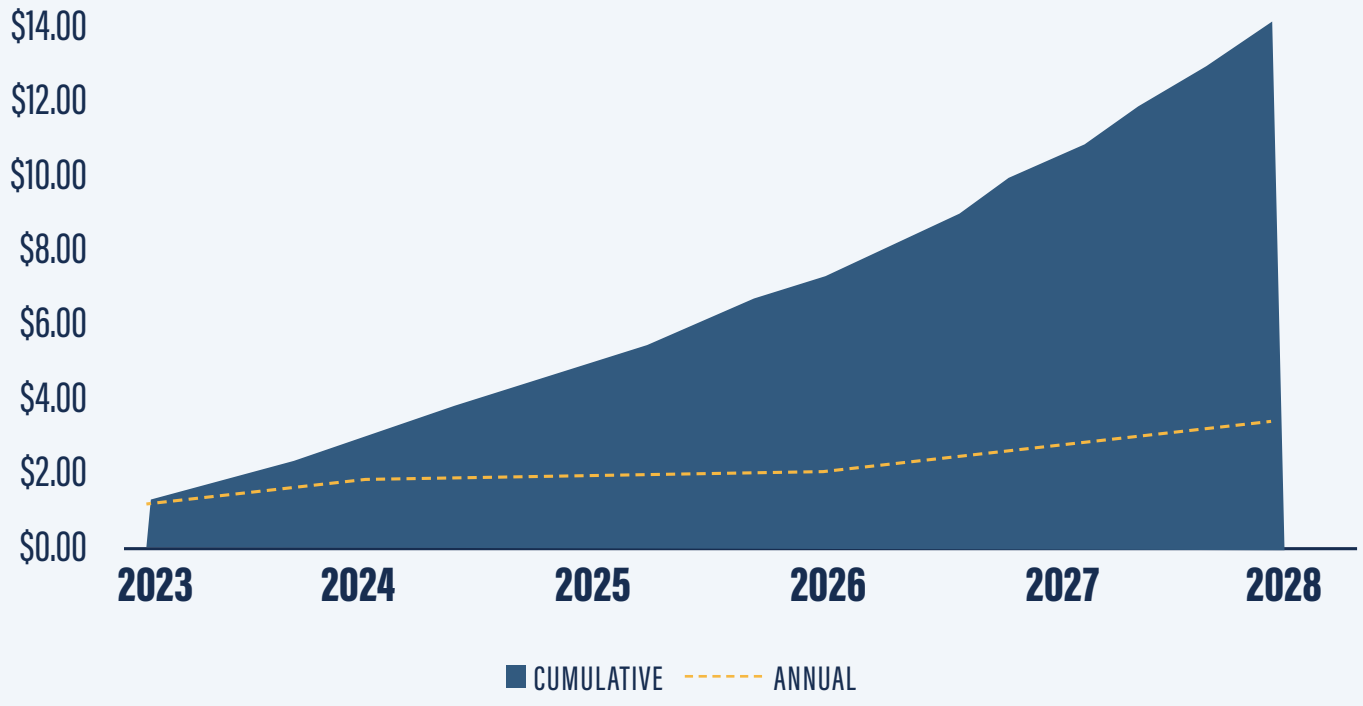
The Alaska Liquified Natural Gas (LNG) project is a proposed 800-mile natural gas pipeline and liquification facility project that would run from Alaska's North Slope south to Nikiski, bringing natural gas to Asia and Southcentral Alaska markets. The 8-year construction project is expected to cost $38.7 billion and would directly employ an estimated 8,400 workers during peak construction activity. Once operational, the project is expected to generate additional property tax, royalties, and production tax for the State of Alaska.

In 2020, the Federal Energy Regulatory Commission issued an authorization for AGDC to construct and operate the Alaska LNG project. AGDC continues active negotiations with prospective LNG buyers; however no final investment decision has been made. Given the size of this project and need for agreements prior to investment, this project is not included in the following estimates of capital investment, employment, or fiscal impacts.

EXPECTED CAPITAL INVESTMENT

In aggregate, oil and gas companies in Alaska expect to invest $14 billion in new projects and infield developments between 2023 and 2028. Capital investments are expected to increase over this period as development timelines overlap. No definitive date is set for construction of the Alaska LNG pipeline. However, if construction began in 2025, an additional $10 billion to $12 billion in investment could occur in Alaska within this period.

FIGURE 22. EXPECTED OIL AND GAS-RELATED CAPITAL EXPENDITURES ($BILLIONS), 2023-2028



Sources: Primary Companies data and McKinley Research Group estimates

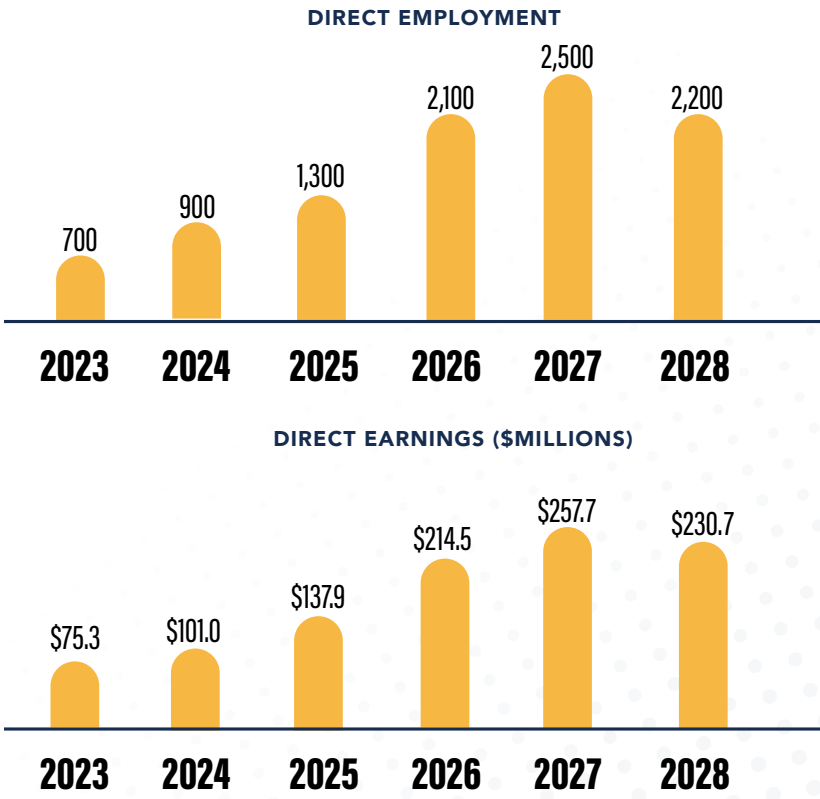
DEVELOPMENT AND CONSTRUCTION PHASE EMPLOYMENT IMPACTS

Capital investment in support of these projects will include significant spending with construction companies and drilling contractors. Between 2023 and 2028, oil and gas-related investments are expected to directly support an annual average of more than 1,600 total jobs in the Alaska economy.[23] Similar to annual investment, the number of jobs directly supported by development efforts will increase between 2023 and 2027 as multiple projects overlap. Throughout these projects, the number of workers on-site during winter months will be above this annual average given the seasonal nature of construction activity on Alaska's North Slope.

Jobs across sectors directly impacted are generally among Alaska's highest paying. For example, average annual wages in 2022 were $85,080 for construction sector employees and $79,257 for oil and gas well drilling employees, 31% and 22% above the average for all Alaska workers, respectively.[24] Workers directly supported by this investment are expected to earn a cumulative $1.0 billion in wages and salaries between 2023 and 2028.

Spending in support of these developments will also impact transportation providers, wholesale and retail operations, and a wide array of other businesses in Alaska. All spending associated with these projects is expected to support an additional 1,000 to 1,300 jobs in the Alaska economy on an annual average basis between 2023 and 2028.[25] Including all direct, indirect, and induced impacts, jobs supported by oil and gas-related investments are expected to average 2,600 to 2,900 workers each year between 2023 and 2028. Workers directly or indirectly supported by this investment are expected to earn an average of $250 million in wages and salaries annually between 2023 and 2028.

FIGURE 23. ESTIMATED DIRECT DEVELOPMENT-RELATED JOBS AND WAGES IMPACTS, 2023-2028



Sources: Primary Companies data and McKinley Research Group estimates

[23] Based on public Environmental Impact Statements documents, Primary Companies data, and McKinley Research Group estimates.
[24] Based on Quarterly Census of Employment and Wage data provided by ADOLWD by special request to McKinley Research Group.
[25] Based on IMPLAN multipliers and McKinley Research Group estimates.

EXPECTED PRODUCTION PHASE IMPACTS

The 2023 to 2028 period will be largely focused on new projects and infield development across Alaska's oil and gas industry. As these efforts wind down, the new operations resulting from these developments are expected to create new oil and gas industry jobs over the operating life of each project. The new projects are expected to increase Primary Company direct employment by about 300 jobs and $65 million in wages by 2028, a 7% increase over direct Primary Company employment in 2022. Infield development projects will also be important to supporting current employment levels across Alaska's oil and gas industry.

Including all multiplier effects, new developments are expected to support about 2,700 new jobs and $215 million in wages in the Alaska economy by 2028. These jobs will be in a range of sectors including oil and gas support services, professional services, wholesale and retail trade, security, and camp services, among others.

EXPECTED STATE GOVERNMENT REVENUE IMPACTS

As described in Chapter 3, state government revenue generation potential from new oil and gas development is based on factors inherent to each project such as land ownership and prevailing oil and gas prices. These factors increase the complexity of forecasting oil and gas-related government revenue. ADOR produces biannual revenue forecasts accounting for DNR-forecasted production, expected oil prices, and other factors.

Over the next five years, oil and gas-related revenue is expected to contribute an average of $2 billion each year to the state's revenue subject to appropriation, 32% of total revenue that may be appropriated by the legislature. This overall revenue level is similar to the average between FY2018 and FY2022 and reflects growth in royalties and corporate income tax with increased production and the impact of Production Tax Credits due to higher deductible capital expenditures.

This forecast illustrates the important role new project development and infield development play in sustaining State of Alaska revenue subject to appropriation. (*See table on next page*)

TABLE 15. STATE OF ALASKA OIL AND GAS-RELATED REVENUE SUBJECT TO APPROPRIATION ($MILLIONS), AVERAGE ACTUAL FY2018-FY2022 AND FORECASTED SFY2023-SFY2028

	Average FY2018- FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Oil and Gas Unrestricted Revenue	$1,953.1	$3,085.1	$2,204.3	$2,006.8	$1,904.9	$1,826.7	$1,876.5
Production Tax	$757.7	$1,468.0	$733.7	$598.8	$527.9	$463.3	$461.3
Oil & Gas Royalties (includes bonuses, rents, and interest)	$955.4	$1,219.80	$1,045.20	$1,002.20	$975.90	$952.10	$993.90
Petroleum Corporate Income Tax	$112.4	$270.0	$300.0	$280.0	$275.0	$285.0	$295.0
Property Tax	$121.1	$127.3	$125.4	$125.8	$126.1	$126.3	$126.3
Other Petroleum Tax	$6.5	-	-	-	-	-	-
Oil and Gas Restricted Revenue	$173.0	$237.1	$92.7	$91.5	$94.1	$111.0	$149.1
Royalties to Permanent Fund beyond 25% dedication	$43.5	$84.2	$64.7	$63.5	$66.1	$82.7	$120.3
Tax Settlement to CBRF	$128.0	$145.0	$20.0	$20.0	$20.0	$20.0	$20.0
Oil and Gas Hazardous Release	$1.5	$7.9	$8.0	$8.0	$8.0	$8.3	$8.8
Total Oil and Gas-Related Revenue Subject to Appropriation	**$2,126.2**	**$3,322.2**	**$2,297.0**	**$2,098.3**	**$1,999.0**	**$1,937.7**	**$2,025.6**
Percent from Oil and Gas	*39%*	*43%*	*33%*	*30%*	*29%*	*27%*	*28%*
Oil Price per Barrel	*$66.15*	*$85.25*	*$73.00*	*$70.00*	*$69.00*	*$67.00*	*$66.00*

Note: Rows may not add to total due to rounding.

PUBLISHED TRENDS IN ALASKA'S OIL AND GAS INDUSTRY

This appendix presents trends in the oil and gas industry as defined by ADOLWD statistics. Since 2001, employment in Alaska's oil and gas industry (including oil and gas extraction, drilling oil and gas wells, and support activities for oil and gas operations) peaked in 2014 at 14,789 employees on an annual average basis. Employment average 7,038 in 2022.

TABLE 16. ALASKA OIL AND GAS INDUSTRY EMPLOYMENT, PUBLISHED DATA, 2001-2021

Year	Average Annual Employment	Peak Month Employment	Total Wages ($ billions)
2001	9,500	9,800	unavailable
2002	9,200	9,200	unavailable
2003	8,100	8,400	unavailable
2004	8,200	8,500	unavailable
2005	8,700	9,300	unavailable
2006	10,100	10,700	unavailable
2007	11,500	12,000	$1.28
2008	12,800	13,700	$1.48
2009	12,900	13,600	$1.52
2010	12,752	13,362	$1.52
2011	12,981	13,402	$1.59
2012	13,641	14,258	$1.73
2013	14,053	14,441	$1.82
2014	14,789	15,297	$2.01
2015	14,170	14,749	$1.98
2016	11,304	12,863	$1.52
2017	9,754	10,246	$1.32
2018	9,364	9,609	$1.38
2019	9,885	10,039	$1.48
2020	7,822	10,107	$1.33
2021	6,711	7,022	$1.21
2022	7,038	7,377	$1.22

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