Revenue Sources Book Fall 2016

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Randall Hoffbeck, Commissioner
Jerry Burnett, Deputy Commissioner
Dona Keppers, Deputy Commissioner

Tax Division Contacts

Ken Alper, Director
(907) 465-8221
Ken.Alper@alaska.gov

Brandon Spanos, Deputy Director
(907) 269-6736
Brandon.Spanos@alaska.gov

Dan Stickel, Chief Economist
(907) 465-3279
Dan.Stickel@alaska.gov

David Herbert, *Revenue Sources Book* Co-Editor
Economist
(907) 269-1024
David.Herbert@alaska.gov

Susan Erben, *Revenue Sources Book* Co-Editor
Publications Specialist
(907) 465-3376
Susan.Erben@alaska.gov

Contacts for Specific Topics

Constitutional Budget Reserve Fund:
Gary Bader, Chief Investment Officer
Alaska Department of Revenue, Treasury Division
(907) 465-4399
Gary.Bader@alaska.gov

Alaska Permanent Fund:
Valerie Mertz, Chief Financial Officer
Alaska Permanent Fund Corporation
(907) 796-1530
VMertz@apfc.org

Investment Revenue:
Ryan W. Williams, Operations Research Analyst
Alaska Department of Revenue, Treasury Division
(907) 465-2893
Ryan.Williams@alaska.gov

Errata – Dec. 27, 2016
Figure 2-A (two percentages revised), Figure 2-B (revised), Table 5-4 (footnote added), and Table 8-4 (footnote No. 2 corrected).

Cover photo: Alaska Capitol, Juneau, ca. 1931. "Bird's-eye view of the Federal and Teritorial Building in Juneau, from the south," according to a description of the photograph. (Alaska State Library, Historical Collections, Winter and Pond, ASL-PCA-87.)

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Revenue
COMMISSIONER'S OFFICE
State Office Building
333 Willoughby Avenue, 11th Floor
PO Box 110400
Juneau, Alaska 99811-0400
Main: 907.465.2300
Fax: 907.465.2389

December 15, 2016

The Honorable Bill Walker, Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Governor Walker,

I am pleased to present to you the Department of Revenue's Fall 2016 *Revenue Sources Book*.

The *Revenue Sources Book* is the annual publication that provides a history and projection of state revenues. This publication is a collaborative effort among the Department of Revenue, the Permanent Fund Corporation, the Department of Natural Resources, and the Office of Management and Budget.

The State of Alaska received an estimated total of $5.8 billion in revenue in FY 2016 from all sources, a 32% drop from FY 2015. The Department of Revenue forecasts total revenue of $9.9 billion in FY 2017 and $9.7 billion in FY 2018. General fund unrestricted revenues totaled $1.5 billion in FY 2016, with oil and gas revenues accounting for 72% of unrestricted revenue. The department is forecasting unrestricted revenue of $1.4 billion and $1.6 billion for FY 2017 and FY 2018, respectively.

The revenue forecast is based on an annual average ANS oil price of $46.81 per barrel for FY 2017 and $54.00 per barrel for FY 2018. Actual Alaska North Slope oil prices averaged $43.18 in FY 2016. The Department of Revenue projects that annual average prices will increase to $88 per barrel in nominal terms within the ten year forecast period.

For FY 2016, total crude oil production in the State of Alaska for the North Slope and Cook Inlet areas averaged 531,500 barrels per day, an increase from 519,200 per day in FY 2015. Of this, North Slope production increased from 501,000 barrels per day in FY 2015 to 514,900 in FY 2016, buoyed by several new developments. The Department of Revenue forecasts North Slope production of 490,300 barrels per day in FY 2017 and 455,600 barrels per day in FY 2018.

This year, a new Chapter One has been added to the *Revenue Sources Book*, specifically focused on revenue available for appropriation. This chapter helps convey to investors and analysts that the state has significant revenues beyond just unrestricted revenue that are available to address Alaska's fiscal challenges. Meanwhile, Chapter Three of this year's *Revenue Sources Book* focuses on issues and decisions related to sales or income taxes, as policymakers may consider such measures as part of a broader fiscal plan.

We hope you find the information provided in the Fall 2016 *Revenue Sources Book* to be interesting and useful. The department will provide a forecast update in the spring of 2017.

Sincerely,

Randall Hoffbeck
Commissioner

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Revenue Sources Book Fall 2016

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Preface

Introduction

Purpose

The *Revenue Sources Book* (RSB) provides Alaskans with a report of historical, current, and estimated future state revenue. The governor uses the information in this publication to formulate the proposed budget and financial plan before presenting it to the Alaska Legislature. Over the years, the RSB has become an educational tool to inform the general public of how the state's revenues are structured.

Each year, the RSB's Chapter 3 is used to provide in-depth coverage on a topic relevant to current or future state revenues. This year's chapter focuses on broad-based taxes and key decisions that must be made should state policymakers decide to pursue a personal income tax or state sales tax as part of the state's financial plan going forward.

This publication is prepared by the Department of Revenue, in accordance with AS 37.07.060 (b)(4). Forecasts of state revenue are made using models developed by the department's Economic Research Group and other state agencies. The department expresses its gratitude to those state agencies and the individuals in those agencies who have provided information, assistance and analysis for this RSB.

Throughout this book, unless stated otherwise, information is presented based on a fiscal-year basis. The state's fiscal year runs from July 1 through June 30. For example, Fiscal Year 2016 began July 1, 2015, and concluded June 30, 2016.

Forward-Looking Statements

All figures and narratives in this document that are not based on events that have already occurred constitute forecasts or "forward-looking statements." These numbers are projections based on assumptions regarding uncertain future events and the responses to those events. Such figures are, therefore, subject to uncertainties and actual results will differ, potentially materially, from those anticipated. The department attempts to capture these uncertainties in order to provide policymakers and the general public with a general understanding of the scale and scope of future revenue streams. The official forecast process takes into account many possible outcomes and attempts to minimize deviations from what is likely to happen. These figures do not necessarily represent a single scenario of a future path.

The department will update the estimates in this forecast book in the spring of 2017, as more information is received. This forecast supersedes all prior estimates or forecasts as the official forecast of the State of Alaska. Therefore, all prior forecasts should be used only for comparison purposes.

Defining Revenue Categories

Chapter 1 describes revenue that is available for appropriation for any current-year funding need, regardless of customary uses or restrictions. This approach gives a complete view of the state's ability to meet its obligations. Revenue available for current-year appropriation for any purpose includes all general fund revenue, whether unrestricted or designated, as well as certain customarily restricted revenues, such as revenue that flows into the Constitutional Budget Reserve Fund, and realized earnings of the Permanent Fund.

The remainder of the RSB utilizes revenue categories consistent with budget conventions. Revenues are divided into categories in two ways: by revenue source (where the revenue comes from), and spending restriction or designation (how the revenue may be used). There are three basic revenue sources: 1) funds collected from in-state activities, 2) funds received from the federal government, and 3) earnings from investments. Due to the importance of revenues from oil production, in-state activities are further divided into a) petroleum revenue and b) non-petroleum revenue.

Revenue is also categorized by the level of restrictions regarding its use. Those categories are "unrestricted" (available to fund general state activities and capital projects) or "restricted" (placed into reserves or used for a specific purpose, either by a requirement or historical practice).

Any revenue that is not restricted by the Alaska Constitution, state or federal law, trust or debt restrictions,

or customary practice is considered "general fund unrestricted revenue" or simply "unrestricted revenue." Historically, most legislative and public discussion has centered on the unrestricted category of revenue, and it has been the figure most commonly referenced in budget discussions.

Restricted revenues are divided into three types: "designated general fund," "other restricted revenue," and "federal revenue" to aid in the budget process. Some of these revenues are restricted by budget convention only, and are technically available for appropriation even though they are shown as restricted in this RSB.

Changes

A new Chapter 1 has been added to the RSB that specifically increases the focus on current-year revenue available for appropriation for any purpose. While the remainder of the RSB utilizes revenue classification conventions of the budget process, these classifications include many customary restrictions on use of revenues. This new chapter more fully shows the state's ability to meet its obligations, since there are no restrictions on expending these revenues, and the funds may be appropriated at any time by legislative action. The previous Chapter 1, Introduction, is now this preface without a dedicated chapter number.

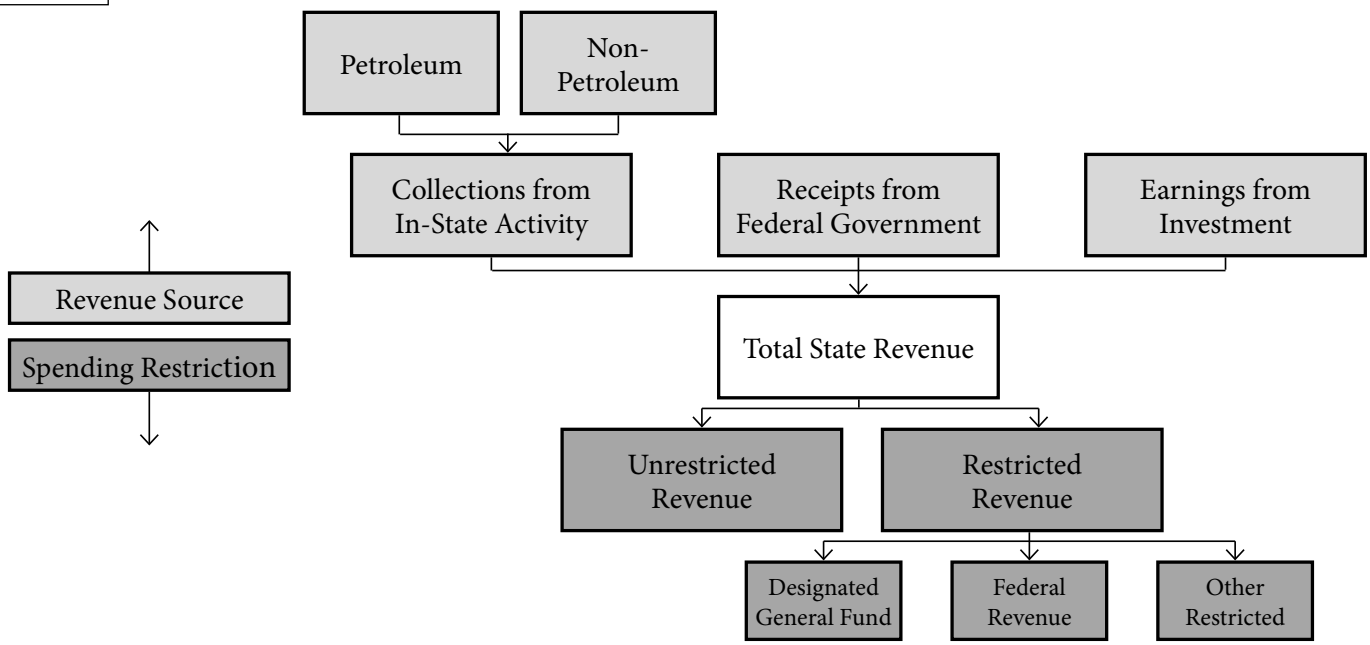
This Fall 2016 RSB represents the first forecast book since the state transitioned to a new accounting system. The department is still in the process of creating revenue reports to extract complete and accurate revenue information from the new accounting system, known as IRIS. For purposes of estimating FY 2016 actual revenues, the department consulted with the appropriate agencies to form a best estimate for each revenue type. In certain instances, primarily for minor revenue categories (for example "other fines and forfeitures"), the department has estimated the FY 2016 totals based on historical results. Once new accounting reports and reconciliations have been completed, the department anticipates making minor adjustments to the FY 2016 revenue numbers presented in future RSBs.

In consultation with the Office of Management and Budget in the Governor's Office, and the legislative agency, Division of Legislative Finance, changes were made to how several revenue sources are depicted in this forecast, specifically to whether those sources are considered unrestricted or restricted revenue. These changes were made for consistency with budget documents and the budget process. The revenue sources impacted include: alcoholic beverage licenses, aviation fuel tax, insurance premium taxes, marijuana taxes, and vehicle rental taxes. More information about these changes can be found in Chapter 5.

Preface **A**

Revenue Categories

The sources and restrictions on spending



Preface
B

QR Codes

To access data tables online

Chapter 4 includes two significant changes relating to petroleum revenue. First, a change to the production tax was implemented with House Bill 247, which passed in 2016. This change is addressed in the narrative, in forecast modeling, and in a new comparison table. Second, a change was made to the oil production forecast methods to switch from an external consultant forecast to an internally developed forecast. This latter change is also addressed in the narrative, in forecast modeling, and in the new comparison table.

In Chapter 8, the methodology for producing Table 8-1 has been adjusted to have a consistent reporting methodology with the department's *Indirect Expenditure Report*. Also, the oil and gas tax credit information has been revised to reflect HB 247. Finally, an estimate of the statutory minimum appropriation to the Oil and Gas Tax Credit Fund has been added to Table 8-3.

QR Codes

Quick response (QR) codes are included on the first page of each chapter so that the data tables are accessible online in the Microsoft Excel format. To access them, use a QR code recognition application with your mobile phone, smartphone or tablet to take a picture of the QR code, which looks similar to Figure P-B. The Figure P-B QR code will take you to the RSB directory on the Tax Division website. The device will display a website with the link to download the Microsoft Excel workbook containing the tables found in the corresponding chapter. If you are reading the RSB in PDF form, the QR code images are hyperlinked to their corresponding web addresses.

Forecast Methods Note

At times, the department's forecast numbers may appear to vary between analyses, even if they come from the same data source. This can happen for many reasons and does not necessarily discount other analyses, nor should it be considered an error.

One example is in petroleum revenue forecasting, where results can differ depending on whether the department uses confidential company-specific data versus statewide aggregated summary data. Another instance where differences can occur is in how uncertainty is incorporated. Depending on the analysis, uncertainties can be addressed by applying risk factors to the data, incorporating probability into the analysis and results, or providing a narrative disclaimer about the uncertainty.

Therefore, even though all the department's models start with the same set of data, the results can differ depending on data handling and how uncertainty is handled in the analysis.

To help address the uncertainty in the revenue forecast, ranges of potential revenues are presented in different ways throughout the *Revenue Sources Book*. They are often presented in terms of a P90 low case (a 90% chance of the value exceeding the number) and a P10 high case (a 10% chance of the value exceeding the number). For example, in Chapter 4, a low and high case are presented for oil price and oil production forecasts. In Chapter 5, a low (P90) and high (P10) case are provided in the narrative for many tax types. In Chapter 7, a range of uncertainty for investment returns is provided. Finally, Appendix Table A-1 shows how total unrestricted revenue would vary with different oil price assumptions.

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Chapter 1

Revenue Available for Appropriation for Any Purpose

General Discussion

Historically, most of the discussion over the budget has focused on the "unrestricted general fund" category of revenue, which in times of deficiency is supplemented by "funding from reserves" at the same time current-year revenue available for appropriation for any purpose is added to reserves. This manner of defining revenue has served Alaska well by automatically placing categories of revenue in reserves. However, at this time it is important to accurately define revenue available for appropriation for any purpose so that both the Alaska Legislature, in deliberations related to potentially shifting how revenue is categorized, as well as external parties analyzing Alaska's budget, are able to determine the state's true revenue generation potential.

Table 1-1 provides an accounting of current-year revenue available for appropriation for any purpose for Fiscal Year 2016, as well as a forecast for FY 2017-2026.

The State of Alaska has historically categorized certain revenues that are available for appropriation for any purpose as restricted. The primary use of these "customarily restricted" revenues has been primarily to fund reserves. For purposes of the current budget process, revenues are categorized as "unrestricted general fund," "designated general fund," "other restricted," or "federal." Details regarding definitions for these categories can be found in Chapter 2 in conformance with current budget categories and conventions as agreed upon by the Office of Management and Budget (OMB) in the Governor's Office and the Alaska Division of Legislative Finance.

Examples of revenues customarily treated as restricted, but available for appropriation for any purpose include:

- Realized earnings of the Alaska Permanent Fund, which reside in the Earnings Reserve of the Permanent Fund.
- Settlement revenue deposited into the Constitutional Budget Reserve Fund (CBRF), as well as the investment earnings of the CBRF.
- Royalty revenue deposited into the Alaska Permanent Fund beyond the 25% constitutional dedication.
- Most revenue deposited into subfunds or subaccounts of the general fund, for example alcohol tax revenue designated for the Alcohol and Other Drug Abuse Treatment and Prevention Fund.

Permanent Fund and Constitutional Budget Reserve Fund

Alaska receives investment earnings from a number of internal funds. Primary sources of investment income for the state are two Constitutionally mandated funds, the Permanent Fund and the CBRF. The Permanent Fund had an unaudited fund balance (principal and the earnings reserve) of approximately $52.8 billion as of June 30, 2016. The CBRF had an unaudited fund balance of approximately $7.3 billion as of June 30, 2016. The balance of the CBRF is available for appropriation for any purpose with a three-fourths vote of each house of the Legislature, as is the amount of any investment earnings, and tax and royalty settlement deposits to the CBRF.

The Earnings Reserve Account balance in the Permanent Fund is available for appropriation for any purpose with a majority vote of the Legislature. This is different than an appropriation of the Permanent Fund's principal balance, which would require an amendment to the Alaska Constitution. For accounting purposes, the Permanent Fund is divided into two parts: principal (the non-spendable funds) and the Earnings Reserve (assigned funds). The Earnings Reserve contains both realized earnings from all the investments, and unrealized gains on assets in the portion of the Permanent Fund that is accounted for in the Earnings Reserve. The total balance of assigned funds as of Sept. 30, 2016, was $8.0 billion.

Chapter 1

1 Current-Year Revenue Subject to Appropriation

FY 2016 and FY 2017-2026 Forecast

	Millions of Dollars										
	History	Forecast									
Fiscal Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Petroleum Revenue											
Unrestricted General Fund	1,109.5	966.9	1,099.8	1,344.2	1,360.6	1,378.3	1,430.6	1,438.2	1,453.7	1,532.9	1,562.0
Royalties to Alaska Permanent Fund beyond 25% dedication[1]	73.6	49.7	52.7	60.0	68.1	74.8	73.7	73.1	73.0	71.3	68.4
Tax and Royalty Settlements to CBRF[2]	119.1	350.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Subtotal Petroleum Revenue	**1,302.3**	**1,366.5**	**1,252.5**	**1,504.2**	**1,528.7**	**1,553.2**	**1,604.3**	**1,611.3**	**1,626.7**	**1,704.2**	**1,730.4**
Non-Petroleum Revenue											
Unrestricted General Fund	407.8	461.2	491.9	487.0	495.5	505.5	512.7	522.7	533.6	545.0	557.3
Designated General Fund	388.1	411.3	414.4	417.7	421.2	424.9	428.8	432.8	437.0	441.4	444.8
Royalties to Alaska Permanent Fund beyond 25% dedication[1]	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Tax and Royalty Settlements to CBRF	3.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal Non-Petroleum Revenue	**801.7**	**874.8**	**908.6**	**907.0**	**919.0**	**932.7**	**943.8**	**957.8**	**972.9**	**988.7**	**1,004.4**
Investment Revenue											
Unrestricted General Fund	22.5	18.6	32.4	41.5	50.7	59.8	69.0	78.1	87.2	96.4	105.5
Designated General Fund	14.3	45.4	39.1	39.9	40.6	41.3	42.1	42.8	43.6	44.3	45.1
Constitutional Budget Reserve Fund	138.3	99.9	51.4	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alaska Permanent Fund – Realized Earnings[3]	2,216.3	2,756.2	3,318.4	3,469.0	3,631.0	3,801.0	3,973.0	4,149.0	4,332.0	4,522.0	4,720.0
Subtotal Investment Revenue	**2,391.4**	**2,920.1**	**3,441.3**	**3,558.3**	**3,722.3**	**3,902.1**	**4,084.1**	**4,269.9**	**4,462.8**	**4,662.7**	**4,870.6**
Total Revenue Subject to Appropriation	**4,495.3**	**5,161.5**	**5,602.3**	**5,969.5**	**6,170.0**	**6,388.0**	**6,632.2**	**6,839.0**	**7,062.4**	**7,355.6**	**7,605.4**

[1] Estimate based on deposit to Permanent Fund minus 25% of total royalties.

[2] CBRF is an acronym for Constitutional Budget Reserve Fund.

[3] Investment revenue from the Permanent Fund available for appropriation is based on realized gains, a portion of which has been used to inflation-proof the fund historically.

Other Customarily Restricted Revenues

Because Alaska is dependent on taxes, royalties, fees and other revenues that can be volatile, the state has developed a framework of constitutionally and statutorily restricted revenue that is held in a variety of reserve funds to provide long-term and short-term options to address cash flow mismatches and budgetary needs. The Alaska Constitution provides that, with three exceptions, the proceeds of state taxes or licenses "shall not be dedicated to any special purpose." The three exceptions are when

required by the federal government for state participation in federal programs, any dedication existing before statehood, and when provided for by the Alaska Constitution.

Many state revenues are classified as "customarily restricted," meaning they are designated for a specific purpose even though the Constitution does not allow a dedication of funds. This includes most revenue deposited into subfunds or subaccounts of the general fund. The State of Alaska has historically restricted these revenue sources based on custom or by statutory language, even though neither of these structures limits the ability of a future Legislature of appropriating the revenue for any purpose. Statutory language would suggest that revenue from a certain source "may be appropriated" by the Legislature for a specific purpose. Such revenue is nonetheless subject to annual appropriation, even if the State of Alaska by historical practice has followed customary restrictions.

Meeting State Obligations

Understanding the customary nature of many sources of restricted revenue is important, because the ability of the state to meet its obligations is not truly reflected by the general fund unrestricted revenue category in budget documents. The state's ability to meet its obligations is provided by adjusting for customary restrictions and looking at all current-year revenues that are subject to appropriation for any purpose.

All revenues subject to appropriation for any purpose can be used by the Legislature to fund government services or obligations, including the use of funds in the CBRF and the Earnings Reserve of the Permanent Fund.

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Chapter 2

Executive Summary

Introduction

Chapter 1 provided a summary of revenue available for appropriation for any purpose. This chapter, and the remainder of this *Revenue Sources Book*, presents revenues in accordance with current budget categories and conventions as agreed upon by the Office of Management and Budget (OMB) in the Governor's Office, and the legislative agency, Division of Legislative Finance.

The State of Alaska received an estimated total of $5.8 billion in revenue in Fiscal Year 2016 from all sources, a 32% drop in total revenue from FY 2015. The Department of Revenue forecasts total revenue as $9.9 billion in FY 2017 and $9.7 billion in FY 2018. Figure 2-A graphically illustrates the composition of total revenue by restriction and type.

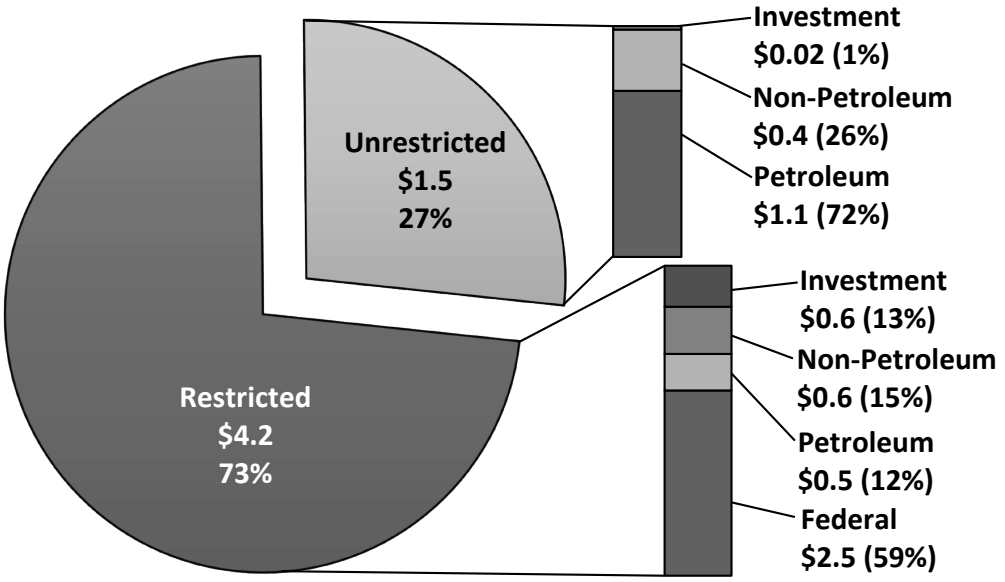
General Fund Unrestricted Revenue

In FY 2016, general fund unrestricted revenues (GFUR) totaled $1.5 billion, with oil and gas revenues accounting for 72% of all unrestricted revenue. As depicted in Table 2-1, the department is forecasting unrestricted revenue of $1.4 billion and $1.6 billion for FY 2017 and FY 2018, respectively. This is a revision to the department's forecast of unrestricted revenue from the previous forecast, reflecting among other variables, revised expectations for oil price, oil production, and company investment. Table 2-2 provides an overview of the FY 2016 composition of general fund unre-

Chapter 2
A

FY 2016 Total State Revenue

By restriction and type, in billions of dollars



Chapter 2
1

Total State Revenue

By restriction and type

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted Revenue Sources			
Unrestricted General Fund Revenue			
Petroleum Revenue	1,109.5	966.9	1,099.8
Non-Petroleum Revenue	407.8	461.2	491.9
Investment Revenue	22.5	18.6	32.4
Federal Revenue	0.0	0.0	0.0
Total Unrestricted Revenue	**1,539.8**	**1,446.7**	**1,624.1**
Restricted Revenue Sources			
Designated General Fund Revenue			
Non-Petroleum Revenue	388.1	411.3	414.4
Investment Revenue	14.3	45.4	39.1
Subtotal Designated General Fund Revenue	**402.4**	**456.7**	**453.5**
Other Restricted Revenue			
Petroleum Revenue	516.0	626.0	398.3
Non-Petroleum Revenue	252.0	288.8	301.2
Investment Revenue	541.7	3,531.7	3,766.1
Subtotal Other Restricted Revenue	**1,309.7**	**4,446.6**	**4,465.6**
Federal Revenue			
Petroleum Revenue[1]	1.8	4.3	4.3
Federal Receipts	2,512.7	3,554.2	3,149.4
Subtotal Federal Revenue	**2,514.5**	**3,558.5**	**3,153.7**
Total Restricted Revenue	**4,226.6**	**8,461.8**	**8,072.8**
Total State Revenue	**5,766.4**	**9,908.5**	**9,696.9**

[1]Petroleum revenue shown in the federal category includes the state share of rents, royalties, and bonuses received from the National Petroleum Reserve in Alaska.

stricted revenue as well as forecasts for FY 2017 and FY 2018.

Restricted Revenue

Restricted revenue is revenue that has historically been used or is required to be used for a specific purpose. In general, revenue that is restricted by the Alaska Constitution, state or federal law, trust or debt restrictions, or customary practice is considered "restricted revenue." Restricted revenues are divided into three types: "designated general fund," "other restricted revenue," and "federal revenue" to aid in the budget process. As described in Chapter 1, some of these revenues, while categorized as restricted by custom, are still available for appropriation for any purpose.

Chapter 2

2 Unrestricted General Fund Revenue

By source and type

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted Petroleum Revenue			
Petroleum Taxes			
Petroleum Property Tax	111.7	115.8	109.7
Petroleum Corporate Income Tax[1]	-58.8	96.4	235.4
Oil & Gas Production Tax	186.0	143.1	89.7
Subtotal Petroleum Taxes	**238.9**	**355.2**	**434.8**
Royalties (including Bonuses, Rents, and Interest)			
Mineral Bonuses and Rents	25.1	14.8	14.8
Oil & Gas Royalties	840.3	592.1	645.4
Interest	5.2	4.8	4.8
Subtotal Royalties	**870.6**	**611.7**	**665.0**
Total Unrestricted Petroleum Revenue	**1,109.5**	**966.9**	**1,099.8**
Unrestricted Non-Petroleum Revenue			
Non-Petroleum Taxes			
Excise Tax			
Alcoholic Beverage	22.2	21.7	22.2
Tobacco Product – Cigarette	32.5	28.6	27.7
Tobacco Product – Other	13.0	14.6	15.5
Electric and Telephone Cooperative	0.2	0.2	0.2
Marijuana	0.0	2.5	5.3
Motor Fuel[2]	42.3	35.5	35.7
Motor Fuel (conservation surcharge)	6.5	7.6	7.7
Tire Fee	1.5	1.5	1.5
Subtotal Excise Tax	**118.3**	**112.2**	**115.8**
Corporate Income Tax	**90.2**	**123.4**	**139.3**
Fisheries Tax			
Fisheries Business	22.2	17.3	18.5
Fishery Resource Landing	0.3	5.3	5.6
Subtotal Fisheries Tax	**22.5**	**22.6**	**24.1**
Other Tax			
Charitable Gaming	2.6	2.7	2.7
Estate	0.0	0.0	0.0
Large Passenger Vessel Gambling	7.7	8.0	8.1
Mining	10.7	35.5	39.3
Subtotal Other Tax	**21.1**	**46.1**	**50.2**
Subtotal Non-Petroleum Taxes	**252.0**	**304.4**	**329.4**

(Table continued, next page.)

Chapter 2

Unrestricted General Fund Revenue

By source and type *(Continued)*

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted Non-Petroleum Revenue			
Charges for Services			
General Government	12.8	12.8	12.8
Natural Resources	1.4	1.4	1.4
Other	7.3	7.3	7.3
Subtotal Charges for Services	**21.5**	**21.5**	**21.5**
Fines and Forfeitures	**11.4**	**11.4**	**11.4**
Licenses and Permits			
Motor Vehicle	38.0	35.5	35.5
Other	3.2	3.2	3.2
Subtotal Licenses and Permits	**41.2**	**38.7**	**38.7**
Rents and Royalties			
Mining Rents and Royalties	12.7	15.4	15.4
Other Non-Petroleum Rents and Royalties	12.0	15.5	15.5
Subtotal Rents and Royalties	**24.7**	**30.9**	**30.9**
Miscellaneous Revenues and Transfers			
Miscellaneous	21.6	21.6	21.6
Alaska Housing Finance Corporation	8.7	13.5	18.4
Alaska Industrial Development & Export Authority[3]	17.7	6.3	9.5
Alaska Municipal Bond Bank Authority	0.0	0.0	0.4
Alaska Student Loan Corporation	0.0	0.0	1.2
Alaska Energy Authority	1.0	1.0	1.0
Alaska Natural Gas Development Authority	0.0	0.0	0.0
Mental Health Trust	0.0	0.0	0.0
Unclaimed Property	8.0	12.0	8.0
Subtotal Miscellaneous Revenues and Transfers	**57.0**	**54.4**	**60.1**
Total Unrestricted Non-Petroleum Revenue	**407.8**	**461.2**	**491.9**
Unrestricted Investment Revenue			
Investment Revenue			
Investments	20.9	17.0	30.8
Interest Paid by Others	1.6	1.6	1.6
Subtotal Unrestricted Investment Revenue	**22.5**	**18.6**	**32.4**
Total Unrestricted Revenue	**1,539.8**	**1,446.7**	**1,624.1**

[1] Petroleum Corporate Income Tax collections for FY 2016 were negative due to large refunds of prior-year estimated taxes and low estimated taxes for FY 2016.

[2] Starting with FY 2017, the aviation portion of the motor fuel tax is considered restricted revenue.

[3] The AIDEA dividend for FY 2018 is an estimate as of Dec. 8, 2016; it will be revised in the *Revenue Sources Book's* spring 2017 update.

Chapter 2

3

Restricted Revenue

By source and type

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Designated General Fund Revenue			
Non-Petroleum Revenue			
Taxes	98.0	103.2	107.8
Charges for Services	255.5	273.8	272.3
Fines and Forfeitures	9.4	9.1	9.0
Licenses and Permits	1.5	1.5	1.5
Rents and Royalties	4.2	4.2	4.2
Other	19.5	19.5	19.5
Subtotal Non-Petroleum Revenue	**388.1**	**411.3**	**414.4**
Investment Revenue			
Investments – Designated General Fund	2.4	1.6	2.5
Other Treasury-Managed Funds	11.9	43.8	36.6
Subtotal Investment Revenue	**14.3**	**45.4**	**39.1**
Total Designated General Fund Revenue	**402.4**	**456.7**	**453.5**
Other Restricted Revenue			
Petroleum Revenue			
Royalties to Alaska Permanent Fund and Public School Trust Fund (includes Bonuses and Rents)	396.9	276.0	298.3
Tax and Royalty Settlements to Constitutional Budget Reserve Fund	119.1	350.0	100.0
Subtotal Petroleum Revenue	**516.0**	**626.0**	**398.3**
Non-Petroleum Revenue			
Taxes	92.4	93.4	95.9
Charges for Services	89.1	122.8	125.5
Fines and Forfeitures	24.7	23.5	23.3
Licenses and Permits	34.3	36.6	44.0
Rents and Royalties	4.7	5.7	5.7
Other	6.8	6.8	6.8
Subtotal Non-Petroleum Revenue	**252.0**	**288.8**	**301.2**
Investment Revenue			
Investments – Other Restricted	4.8	3.2	5.1
Constitutional Budget Reserve Fund	138.3	99.9	51.4
Alaska Permanent Fund (realized earnings)[1]	2,216.3	2,756.2	3,318.4
Alaska Permanent Fund (unrealized earnings)[1]	-1,817.7	672.4	391.2
Subtotal Investment Revenue	**541.7**	**3,531.7**	**3,766.1**
Total Other Restricted Revenue	**1,309.7**	**4,446.6**	**4,465.6**

(Table continued, next page)

Chapter 2

3

Restricted Revenue

By source and type *(Continued)*

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Restricted Federal Revenue			
Federal Receipts	**2,512.7**	**3,554.2**	**3,149.4**
Petroleum Revenue			
NPR-A Royalties, Rents and Bonuses	1.8	4.3	4.3
Total Restricted Federal Revenue	**2,514.5**	**3,558.5**	**3,153.7**
Total Restricted Revenue	**4,226.6**	**8,461.8**	**8,072.8**

[1] While payouts are limited to realized revenues, both unrealized and realized are shown per Generally Accepted Accounting Principles (GAAP).

In FY 2016, restricted state revenue totaled $4.2 billion. As depicted in Table 2-1, the department is forecasting restricted revenue of $8.5 billion and $8.1 billion for FY 2017 and FY 2018, respectively. Restricted revenue is a combination of federal receipts, investment earnings, petroleum deposits, and non-petroleum revenue sources that are used for specific purposes.

Petroleum Revenues

Petroleum revenues come from four components – production tax, royalties, corporate income tax, and petroleum property tax. Recently a change to the production tax statutes was enacted with the passage of House Bill 247 in 2016. Another change in this forecast is that the department modified its methods for projecting oil production. Both changes are described in detail in Chapter 4.

Unrestricted petroleum revenue amounted to $1.1 billion in FY 2016 and is forecast as $1.0 billion in FY 2017. Petroleum revenue provided 72% of FY 2016 unrestricted revenues, and is projected to provide between 67% and 72% of unrestricted revenues over the next 10 years as shown in Table 2-5.

Restricted petroleum revenue is forecast at $626 million in FY 2017, while actual FY 2016 revenue for this category was $516 million. The primary sources of restricted petroleum revenue are royalties deposited in the Alaska Permanent Fund and Public School Trust Fund, as well as settlements of tax and royalty disputes deposited in the Constitutional Budget Reserve Fund (CBRF).

Four elements are critical to the determination of these revenues: price, production, lease expenditures, and transportation costs. These components are briefly summarized below and are explained in detail in Chapter 4.

Alaska North Slope (ANS) oil prices averaged $43.18 in FY 2016. The revenue forecast is based on an assumption of a modest recovery in price, with an annual average ANS oil price of $46.81 per barrel for FY 2017 and $54.00 per barrel for FY 2018. The department projects, based on fundamental analysis of the structure of oil markets, that annual average prices will increase to $88.00 (nominal) within the 10-year forecast period.

Total crude oil production from Alaska's North Slope increased from 501,000 barrels per day in FY 2015 to 514,900 barrels per day in FY 2016, buoyed by new developments in the Kuparuk, Colville River, and Point Thomson units. Meanwhile, oil production in the Cook Inlet basin decreased from 18,300 barrels per day in FY 2015 to 16,600 barrels per day in FY 2016. The oil production forecast expects North Slope production to gradually decline in in coming years, with production of 490,300 barrels per day in FY 2017 and 455,600 barrels per day in FY 2018, declining to 331,000 barrels per day by FY 2026.

In FY 2016, oil and gas lease expenditures amounted to an estimated $7.3 billion statewide, including $6.7 billion of spending on the North Slope. Lease expenditures are expected to decline in FY 2017 to about $5.7 billion statewide, including $5.3 billion of spending on the North Slope, as companies adjust to lower oil prices and reduced state incentives.

In FY 2016, average transportation costs for North Slope oil averaged $9.88 per barrel. Transportation

Chapter 2
4

Total State Revenue, Actual and Forecast

FY 2007 to FY 2026

	Billions of Dollars									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Total State Revenue										
Petroleum	5.1	11.3	6.1	6.2	8.1	9.9	7.4	5.7	2.4	1.6
Non-Petroleum	1.2	1.1	0.9	0.9	1.0	0.9	1.0	0.9	0.9	1.0
Investment	3.9	-1.3	-6.6	4.5	8.0	0.2	5.0	8.1	2.7	0.6
Federal	2.0	1.9	2.1	2.4	2.4	2.5	2.4	2.5	2.5	2.5
Total State Revenue	**12.2**	**13.1**	**2.5**	**13.9**	**19.5**	**13.5**	**15.7**	**17.2**	**8.5**	**5.8**

Chapter 2
5

Total Unrestricted General Fund Revenue

A 10-year forecast

	Millions of Dollars										
	History	Forecast									
Fiscal Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Petroleum	1,109.5	966.9	1,099.8	1,344.2	1,360.6	1,378.3	1,430.6	1,438.2	1,453.7	1,532.9	1,562.0
Non-Petroleum	407.8	461.2	491.9	487.0	495.5	505.5	512.7	522.7	533.6	545.0	557.3
Investment	22.5	18.6	32.4	41.5	50.7	59.8	69.0	78.1	87.2	96.4	105.5
Total Unrestricted Revenue	**1,539.8**	**1,446.7**	**1,624.1**	**1,872.7**	**1,906.7**	**1,943.7**	**2,012.4**	**2,039.0**	**2,074.5**	**2,174.3**	**2,224.8**
Percent from Petroleum	72%	67%	68%	72%	71%	71%	71%	71%	70%	70%	70%

costs are expected to average $9.33 in FY 2017 and $9.77 in FY 2018 before increasing to $14.03 by FY 2026. Transportation costs are subtracted from the ANS price to determine the wellhead value and value at point of production, and these form the basis for tax and royalty calculations. In general, transportation costs are a function of production – lower production corresponds to higher transportation costs – as well as overall inflation.

Non-Petroleum Revenue from In-State Activity

Revenue from corporate income taxes from non-petroleum related businesses, excise taxes, consumption taxes, charges for services, fines, forfeitures, licenses, permits, non-petroleum rents and royalties, transfers, and other miscellaneous revenue are referred to as "non-petroleum revenues from in-state activity." This does not include federal and investment revenues. Unrestricted non-petroleum revenues from in-state activities are expected to be $461 million in FY 2017, representing 32% of all unrestricted revenues. By FY 2026, these revenues are projected to rise to $557 million. Restricted non-petroleum revenues from in-state activities are expected to be $700 million in FY 2017. Details regarding these revenue sources can be found in Chapter 5.

Federal Revenue

All federal funds the state receives are considered restricted for purposes of this forecast. Federal funds include revenues for highways, medical care, education, and other designated purposes. The state received an estimated $2.5 billion in FY 2016 and is forecasting $3.6 billion in federal payments to the state for predetermined uses in FY 2017. However,

Chapter 2
4

Total State Revenue, Actual and Forecast

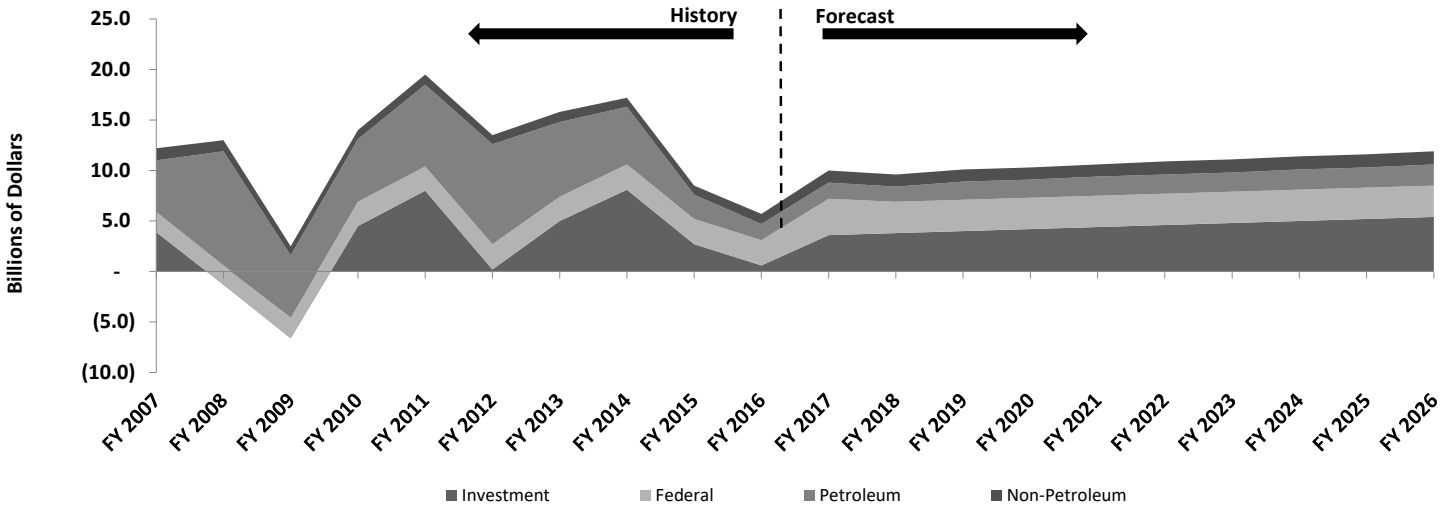
FY 2007 to FY 2026 *(Continued)*

	Billions of Dollars									
	Forecast									
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Total State Revenue										
Petroleum	1.6	1.5	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.1
Non-Petroleum	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3
Investment	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4
Federal	3.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Total State Revenue	**9.9**	**9.7**	**10.1**	**10.4**	**10.6**	**10.9**	**11.1**	**11.4**	**11.7**	**12.0**

Chapter 2
B

Total State Revenue

A look back and a forecast



consistent with practice in prior years, the forecast represents the maximum possible federal revenue contribution, while actual revenues received routinely come in below forecast. More detail regarding federal revenue can be found in Chapter 6.

Investment Revenue

Investment income is the earnings generated from certain assets such as the Permanent Fund, the Constitutional Budget Reserve Fund, and other funds. In FY 2016, the state earned $0.6 billion on total state assets of about $67 billion. The department is forecasting $3.6 billion in FY 2017 investment income from these assets. The majority of investment revenue is considered restricted revenue. More information about investment revenue can be found in Chapter 7.

Chapter 3

Big Decisions: How Alaska Could Tax Personal Consumption or Income

Introduction

A broad-based tax is a common way for government to fund itself without targeting specific industries or products. Forty-nine states and the District of Columbia use some form of broad-based tax to fund general government expenditures. These taxes generally fall into two categories, income taxes and consumption taxes. Both attempt to tax the economy as a whole by targeting a broad range of transactions, either involving labor and investment (an income tax) or goods and services (a consumption tax).

The discussion of whether or not to implement a broad-based tax, and if so which type of tax (consumption or income), is likely to be a large part of the broader discussion among policymakers regarding Alaska's fiscal future. This chapter does not attempt to answer that question. Rather, the aim of this chapter is to help inform the discussion by further defining the types of broad-based taxes, and identifying some of the key technical decisions Alaska policymakers will face if they decide to implement either an income or consumption tax.

Consumption Taxes

Consumption taxes go by several names. They all share the goal of raising revenue by taxing the millions of small transactions that make up what we call "the economy": businesses and individuals selling goods and services to each other. General consumption taxes fund governments around the world, and the state of Alaska is one of relatively few jurisdictions not to rely on them – though Alaska does tax specific commodities like gasoline, alcohol, and tobacco. If Alaska does decide to fill a portion of its budget gap by taxing consumption, policymakers must make several decisions about how to design the tax.

Tax Base and Calculation Method

When designing a consumption tax, policymakers must decide:

- **What will we tax?** Which transactions count as consumption that falls under the tax?
- **How will we get the right amount?** How do the people who pay the tax calculate the amount they owe and send it to the government?

Different approaches to these two questions have caused several categories of consumption taxes to emerge. The most common names for those categories are value-added, gross-receipts, and sales taxes. While discussion of a consumption tax in Alaska has historically centered around a sales tax, it is helpful to review the different categories, and understand that choosing a sales tax is only one possible way to tax consumption, albeit the most common approach in the United States.

Value-Added Tax (Credit-Invoice Method)

A value-added tax (VAT) is a tax that applies to the **value added** at each stage of production of a good or service. The most common method of collecting VAT is known as the **credit-invoice method**. For each transaction, the tax is calculated as follows:

- The seller charges the buyer VAT in addition to the price of the good. The seller then pays this amount to the government.
- The buyer may deduct that amount from its own VAT liability, if the buyer is also a business subject to VAT.
- If more VAT was paid on a business's purchases than its sales, that business can receive a refund.

Chapter 3
1

Taxes: Value-Added, Gross-Receipts, and Sales Tax

What's taxed and how it's calculated

Tax Type	What is Taxed?	Calculation Method
Credit-Invoice Value-Added Tax	Final consumption	Fraction of every sale, credit for every purchase
Subtraction Value-Added Tax	Final consumption	Fraction of net receipts
Gross-Receipts Tax	All transactions	Fraction of every sale
Sales Tax	Varies	Fraction of every sale

Australia,[1] Canada,[2] and New Zealand [3] have similar systems following this approach, and all three countries refer to VAT as Goods and Services Tax (GST).

The credit-invoice method creates a chain of tax liabilities and tax credits so that each business pays VAT only on the difference between its taxable sales and taxable purchases. In other words, each business pays the tax on the value it adds, hence the name "value-added tax." The chain stops with the final consumer. Consider an example involving a private citizen, David, who buys a board game from a retail store. When David buys the game, he isn't a business that pays VAT directly, so he doesn't get to claim the credit. The entire value of his game is taxed at one or the other stages of production: the game manufacturers, the makers of the cardboard pieces and dice, and all the businesses in the chain of production each pay a share of the tax. But that doesn't mean David gets off free – the companies are likely to pass part of the tax onto him in the form of a higher price for the game.

Although not used in the United States, the credit-invoice-method VAT is the most widespread form of consumption tax. Most countries in the world impose it at the national level, including every country in the European Union and every OECD[4] country other than the United States.

Value-Added Tax (Subtraction Method)

The **subtraction method** is an innovation on the VAT intended to create less paperwork than the credit-invoice method. Instead of calculating VAT on each individual transaction, a business simply subtracts its taxable purchases from its taxable sales for a given period of time (for instance, a month or quarter). The business then pays the VAT rate on the difference between sales and purchases. A subtraction-method VAT creates the same chain of liabilities and credits as the credit-invoice method. Each business pays the tax on the value it adds, and the chain ends with the final consumer.

Special notes on the Value-Added Tax

Who is the payer? A business pays the value-added tax (VAT) to the government on items it sells, and receives refunds for items it buys. Therefore, it is easiest to think of the seller as the VAT payer. However, the Australian and Canadian government websites describe VAT as being paid by the buyer to the seller, who then sends the money to the government. The two concepts are equivalent.

What is the rate? A VAT can be expressed as either an exclusive or inclusive rate. The 10% rate in the Australian diagram is an exclusive rate: the consumer buys clothing for $100 + $10 tax. An alternative perspective is that he paid $110, of which $10 went to the government, an inclusive rate of 9.1%.

Japan currently has a subtraction-method VAT. It has also been proposed in the United States under other names, including as part of the Congressional fiscal reform proposal known as the "Roadmap for America's Future," where it is called a Business Consumption Tax.[5]

Gross-Receipts Tax

A **gross-receipts tax** answers the first question ("What will we tax?") in a very different manner from a value-added tax. Instead of taxing only the value added at each step of producing a good or service, it taxes a business's total sales with no credit for purchases. For a VAT, the tax base is the total value of taxable goods and services consumed, but for a gross-receipts tax, the tax base also includes intermediate transactions in the production process.

[1] https://www.ato.gov.au/uploadedFiles/Content/ITX/downloads/how_gst_works.pdf.

[2] http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/gnrl/menu-eng.html.

[3] http://www.ird.govt.nz/gst/gst-registering/gst-about/.

[4] OECD is an acronym for the Organisation for Economic Co-operation and Development.

[5] http://paulryan.house.gov/uploadedfiles/rfafv2.0.pdf.

The difference in approach between a value-added and a gross-receipts tax demonstrates the concept of final goods versus intermediate goods. A final good is sold to a person to consume – for instance, the board game David bought. An intermediate good is sold to be used in the production of a final good – for instance, the material used to make the pieces in the game. For services, the distinction between final and intermediate can be harder to see, but is still important. When an oil producer hires a contractor to drill wells, the drilling is an intermediate service. (The oil produced is also an intermediate good, since it will ultimately be used to make jet fuel, plastic, or many other consumable goods.)

Under a gross-receipts tax, the oil producer must pay tax on the sale of crude oil without any reimbursement for the taxes paid on the drilling services. This addition of extra levels of taxation is called tax pyramiding. An oil company would have a tax advantage if it does most of its own drilling rather than hiring contractors. The same applies to other services, and other industries besides oil. To avoid tax pyramiding and get the best tax treatment, the same company would have to be involved in all stages of the process, including exploratory drilling, transportation of supplies, crude oil transportation, and manufacturing petroleum products. In general, a gross-receipts tax favors vertically integrated companies – those involved in many stages of a production process – over other companies.

Several states in the United States have adopted gross-receipts taxes in the past, and at least four – Indiana, Michigan, New Jersey, and Kentucky – have repealed them after experiencing their distorting and unequal effects. In 1958, while Indiana's tax was in effect at a nominal rate of 1% of gross receipts, an analysis showed that effective tax rates ranged from 4% to 32% of firms' net income. New Jersey and Kentucky both found that their gross-receipts taxes put firms with a low profit margin at a great disadvantage (since the tax targets all revenue regardless of costs), and quickly repealed them. Michigan also imposed the tax for only four years before repealing it due to increased complexity and inequity.[6]

Nevertheless, some states still have gross-receipts taxes. In Washington, it is known as the "business and occupation (B&O) tax" and applies to the gross income with no deductions for costs. The Washington B&O tax rate varies widely depending on the type of business conducted.[7]

State governments have often viewed the gross-receipts tax as a substitute for a corporate income tax that is simpler to administer because it does not account for the cost of doing business. However, comparing a gross receipts tax to other consumption taxes helps clarify the difference between a tax on the total value of goods and services (a value-added tax) and a tax that compounds depending on how many companies helped produce the good or service (a gross-receipts tax). As discussed in the next section, understanding potential issues with gross receipts taxes can be helpful in understanding how to better design a sales tax system.

Sales Tax

A sales tax is the most familiar form of consumption tax to many Americans. Even though Alaska is one of the few states not to have a state sales tax, a number of municipalities in the state do levy local sales taxes. A sales tax is expressed as an "exclusive" rate – for example, a percentage of the pre-tax sale price – as opposed to the "inclusive" rate of some national VATs.

If a sales tax is charged only on sales to the final consumer, economic theory suggests it is equivalent to the VAT. However, it is the policymakers' choice whether to apply a sales tax only to final consumption or also to intermediate goods and services. Regardless, data from other states suggests that a portion of sales tax revenue does come from business-to-business transactions, suggesting that these states' taxes are in fact operating more like a gross-receipts tax than a VAT.

Treatment of Imports and Exports

A consumption tax such as a VAT is "border adjustable" under international trade rules.[5] It is normally charged on imported goods but not on exported goods. The result is that importers pay a VAT on the value "added" to the economy by importing a good, while exporters get a credit for the value sent out of the economy when they export a good, keeping the government share of total value added in balance. The European Union coordinates administration of VAT so that cross-border transactions are taxed in the same way as domestic ones, even though the VAT rates between EU member states may be different.

The equivalent idea for U.S. states is the "use tax" provision of state sales taxes. Under a use tax, a person is liable for state tax on a purchase used in the state regardless of where the purchase was made. Use tax applies to goods brought in from other states. Since there are no border controls between U.S. states, this provision can be difficult to enforce. It generally only applies to items brought into the state permanently

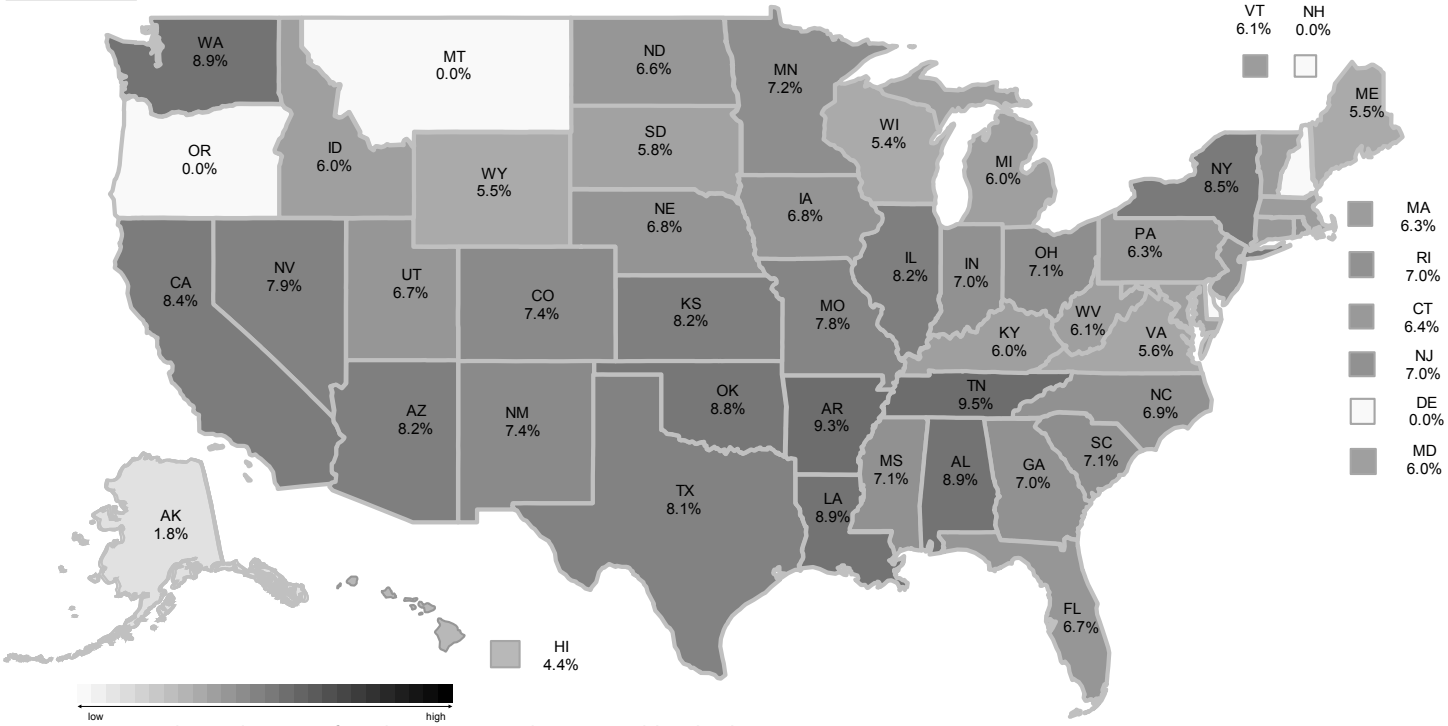
[6] http://taxfoundation.org/article/gross-receipts-taxes-lessons-previous-state-experiences.

[7] http://dor.wa.gov/Content/FindTaxesAndRates/BAndOTax/BandOrates.aspx.

Chapter 3
A

A Comparison of Sales Tax Rates

Combined state and average local sales tax rates, 2016



Source: Tax Foundation, http://taxfoundation.org/article/state-and-local-sales-tax-rates-2016.

for long-term use, such as cars or computers, and not goods for immediate consumption such as food or gasoline. One difficulty of use tax (compared with sales tax or VAT) is that it relies on individual consumers to keep accurate records of their purchases and pay taxes thereon.

Exemptions

The tax base for a consumption tax starts with the universe of all goods and services consumed in the economy, with exemptions for certain categories. Goods and services may be exempted from a consumption tax for several reasons.

Essential Purchases

Consumption taxes are often described as regressive, because poorer people tend to spend a higher percentage of their income on consumable goods. However, the burden of a consumption tax does not fall only on the buyer, but also on the seller, which is usually a business. The distribution of the tax burden depends on the price elasticity of demand: the degree to which consumers stop buying the good as its price, including tax, rises. One way to reduce the impact on poor consumers is to exempt certain goods with price-inelastic demand, i.e., goods that people keep buying even if the price rises. Intuitively, those tend to be goods considered "essentials" such as groceries, housing, heating fuel, and health care – the same commodities that are exempt in many other jurisdictions. The more a consumption tax is restricted to goods with relatively price-elastic demand – which tend to be "luxuries" – the more of the burden will fall on sellers and wealthier buyers.

Intermediate Goods and Business Inputs

The structure of a value-added tax can ensure that the value of a final consumable good is not taxed more than once, since the tax on purchases is refunded to the purchaser. However, a sales tax may have to mimic this structure by specifically carving out exemptions for intermediate goods. One issue with a sales tax as opposed to a VAT is that the law may fail to exempt enough intermediate goods to prevent the pyramiding problems of a gross-receipts tax.

In a resource-based economy like Alaska's, there are many very expensive goods purchased as business inputs, not for resale. Examples include the boat used by a commercial fisherman or the drill pipe used by an oil services firm. Whether and how to exempt

Services: Is Labor an Exemption?

States with sales taxes take different approaches to taxing services, with some states focusing the tax very narrowly on tangible goods and others having a broader definition of sales that can include hairdressers, personal trainers, and legal services.

This shows us that the difference between consumption taxes and income taxes is less clear-cut than we would like to imagine! Labor is, after all, a service to be bought and sold. When a family pays a builder for building a garage, is that income or consumption of a service? These are the types of thorny questions policymakers must handle when designing either consumption or income taxes.

these inputs will materially impact both the amount of revenue and the economic impacts of the tax.

Streamlined Sales Tax Agreement

The Streamline Sales and Use Tax Agreement (SSUTA) spans multiple states and provides standardized definitions for categories of taxable goods and other sales tax practices. If Alaska were to implement a state sales tax, we would have to decide whether or not to conform to the SSUTA. The benefits of doing so would include access to established definitions for categories of goods (i.e., what qualifies as an essential grocery item or taxable service), as well as easier taxation of mail order and internet sales. The drawbacks could include less flexibility in establishing definitions or making special provisions for Alaska.

Relationship with Municipal Taxes

Especially in the United States, many municipal governments levy sales taxes. The total tax rate is the sum of the state tax rate (if applicable) and the local rate. Some states vary the state tax rate so that it is lower in places that also have a local tax. This can equalize tax burden throughout the state, but could also be perceived as giving an unfair advantage to cities that enact a higher tax rate. In some states, the state collects all consumption taxes and then remits the municipal share to respective local governments.

Some key decisions in Alaska would be whether to standardize definitions of taxable sales across the state, whether to centralize collections of sales taxes at the state level, and whether to place caps on the tax rates levied by municipalities.

Personal Income Taxes

Taxes on personal income are a major means of raising revenue throughout the world. In contrast to consumption taxes, which generally exclude labor as a taxable commodity to be "consumed," personal income taxes generally apply to wages and also income from investments and individually owned businesses. Generally, they exclude business corporations' income, although many jurisdictions have separate taxes on corporate income. Although unconstitutional at the federal level until 1913, today personal income tax provides 47% of the U.S. government's tax revenue,[8] and is also a source of revenue in 43 of the 50 states.

Like consumption taxes, income taxes can be designed in many ways. Following are some of the decisions policymakers would have to make in implementing a personal income tax in Alaska.

Tax Base Starting Point

One important decision when designing a state personal income tax is what income figure will be used as the starting point. To aid in calculation of tax, as well as compliance, most states tie to the federal income tax in some way.

Federal Adjusted Gross Income

Of the 41 states with a tax on personal income other than interest and dividends as of Jan. 1, 2016, 29 use the federal adjusted gross income (AGI) as the starting point.[9] Every state that uses AGI as a starting point has some form of personal exemption, and some also have standard deductions.[10] A household pays the applicable state tax rate on their federal AGI minus their exemptions and deductions.

Federal Taxable Income

Seven states use federal taxable income as the starting point: Colorado, Idaho, Minnesota, North Dakota, Oregon, South Carolina, and Vermont. In other words, these states do not design their own deductions and exemptions. They simply adopt the federal structure and charge the applicable tax rates on a person's federal taxable income. The tax rates themselves may still vary. For instance, Colorado has a flat 4.63% rate on federal taxable

[8] http://www.cbpp.org/research/policy-basics-where-do-federal-tax-revenues-come-from.

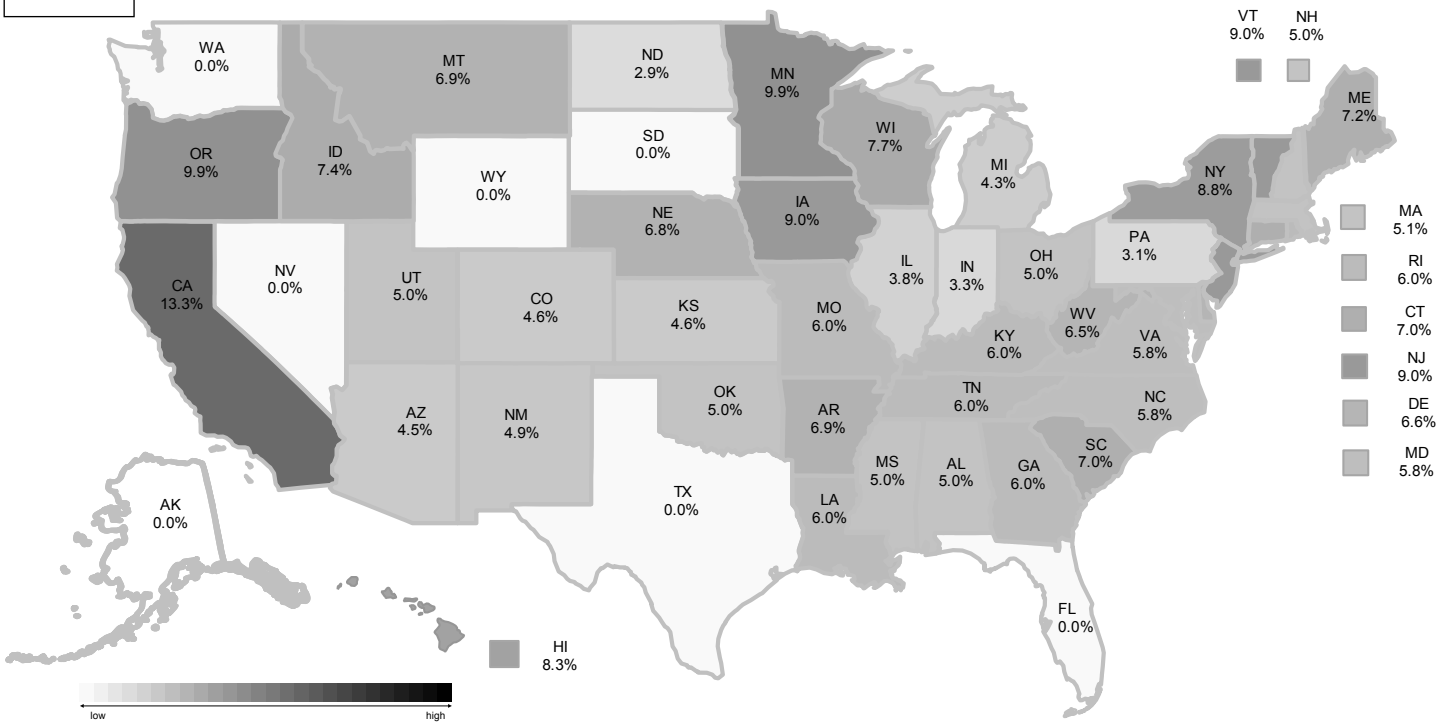
[9] http://www.taxadmin.org/assets/docs/Research/Rates/stg_pts.pdf.

[10] http://docs.legis.wisconsin.gov/misc/lfb/informational_papers/january_2015/0004_individual_income_tax_provisions_in_the_states_informational_paper_4.pdf.

Chapter 3
B

A Comparison of Income Tax Rates

Top state marginal individual income tax rates, 2016



Source: Tax Foundation, http://taxfoundation.org/article/state-individual-income-tax-rates-and-brackets-2016.

income, while Vermont has five tax brackets ranging from 3.55% to 8.95%.[11]

Federal Tax Liability

Another option is to use federal tax liability as the starting point. This means the state adopts not only the federal deduction and exemption structure, but also the tax bracket structure, with higher rates for higher incomes. For example, a 10% rate on federal tax liability would equate to brackets ranging from 1% (10% of 10%, the lowest federal tax bracket) to 3.96% (10% of 39.6%, the highest federal tax bracket). No states currently use this method, but prior to 1975, Alaska had a personal income tax that worked this way.[12] In addition to adopting all federal policy decisions about tax rates and credits, another consideration with a federal tax liability-based tax is that Alaska would automatically adopt any changes in federal tax code.

Separate Calculation for State Income Tax

Five states – Alabama, Arkansas, Mississippi, New Jersey, and Pennsylvania – choose not to tie their state personal income tax to the federal Internal Revenue Code. This means the state must create its own legal definitions of what counts as income to be taxed, a complex process.

Which Income is Taxable?

Beyond the starting point, state policymakers must decide what counts as income subject to taxes. These decisions reflect both differing practices among states and differing philosophies about taxation.

Social Security

One decision is whether to tax Social Security benefits according to the federal regime, a different regime, or not at all. If policymakers view Social Security as simply regular income that has been deferred, they may believe it should be taxed as ordinary income.[10] According to the Tax Foundation, seven states tax Social Security benefits as income, and another six states conditionally tax it.

Capital Gains

State income tax treatment for capital gains can range from complete exemption of capital gains to full

[11] http://www.taxadmin.org/assets/docs/Research/Rates/ind_inc.pdf.

[12] http://www.housemajority.org/2015/04/15/history-of-alaska-individual-income-tax/.

taxation as ordinary income. States can also choose to tax capital gains in the same way as the federal government, which provides reduced tax rates or exemptions for certain types of capital gains.

States treat capital gains in a variety of ways, not only in terms of the tax rate but also whether or not capital losses are deductible from ordinary income. Some states exempt a certain percentage of long-term capital gains. Examples of other exemptions that exist in other states include gains from:[10]

- Sale of a business to a family member.
- Sale of farm or small business assets.
- Sale of state and local bonds.
- Sale of some real property within the state.
- Property taken by eminent domain.
- Sale of low-income housing.
- Sale of historic battle site property.

Interest and Dividends

Interest income derived from U.S. obligations is exempt from all state taxes under federal law. As of 2013, 36 states exempted interest earned on their own state and municipal bonds. However, most states tax other forms of interest and dividend income. In New Hampshire and Tennessee, the income tax applies only to interest and dividends, but several sources are exempt.[10]

Alaska also faces some unique decisions regarding dividends. In particular, should dividends from Alaska Native Claims Settlement Act (ANCSA) corporations, or the Permanent Fund Dividend, get preferential tax treatment?

Unemployment Compensation

Thirty-three states tax all unemployment benefits, like the federal government.[10] The remaining states exempt some or all unemployment compensation to further assist the unemployed.

Active Duty Military Pay

Members of the military are paid wages like any other profession. The federal government taxes their income the same as any other person's, except for the combat zone exclusion (CZE). Nevertheless, many states have chosen to give military wages preferential tax treatment. Military pay is entirely exempt in 11 states and partially so in 18 more states.[10]

Retirement Income and HSAs

Some states allow exemptions for contributions to retirement accounts and health savings accounts.[10]

Designing Deductions

Beyond setting the tax base, policymakers must decide how much income can be deducted or exempted from the tax base and the reasons why.

Standard Deduction

The principle behind a standard deduction is that all households have certain basic expenses and the income necessary to satisfy those needs should not be taxed. Some states provide the same standard deduction as the federal income tax regime. In particular, if the state has chosen federal taxable income as its starting point for taxation, then the federal standard deduction is automatically incorporated. Other states provide different standard deduction amounts, and 10 states do not allow any standard deduction.[10]

Itemized Deductions

In 32 states, taxpayers may itemize deductions in place of the standard deduction. These generally fall into two categories: "necessary" expenses similar to those that standard deductions are intended to offset, and charitable contributions that may not be necessary but are considered beneficial to society. In 11 states, itemized deductions are not allowed.[10,13]

Examples of itemized deductions allowed under some state tax laws include:

- Some medical expenses and insurance premiums.
- Child care expenses.
- College tuition.
- Federal self-employment and FICA taxes.

Examples of itemized deductions allowed under federal law but not some state laws:

- State and local sales taxes.
- Some gambling and lottery losses.
- Mortgage insurance premiums.
- Interest paid on a second home.
- Casualty and theft losses.

Personal Exemption

The personal exemption operates in a similar fashion to the standard deduction, but it applies per person instead of per taxpaying household. Personal exemptions do not depend on whether the taxpayer itemiz-

[13] These 11 states include the two that only tax interest and dividends.

es deductions, although they may depend on income – both the federal government and several states phase out the exemptions for high-income taxpayers.

Progressivity and the Marriage Triangle

One issue in designing an income tax is how to treat married couples. Policymakers face a dilemma one might call the "marriage triangle." In many cases, they would like to achieve three goals: [14]

1. *Progressive income tax:* Higher-income people pay a larger percentage of their income in taxes than lower-income people.
2. *No marriage penalty or bonus:* When two people get married and keep the same jobs and income levels, their taxes do not go up or down.
3. *No stay-at-home penalty or bonus:* A married couple with only one income earner will pay the same amount in taxes as a couple with two earners if the couples' total incomes are the same.

It is only possible to achieve two of the three sides of the "triangle." In the abstract, a progressive income tax with no marriage penalty will create a penalty for a single-earner household. Similarly, a progressive tax that does not favor dual-earner households will impose a marriage penalty, and a tax with no marriage penalty and no single-earner penalty will not be progressive. In reality, complex features of income tax systems sometimes make these penalties go in the other direction.

Some U.S. states forgo goal No. 1, the progressive income tax. States with a flat income tax rate include Colorado, Illinois, Indiana, Massachusetts, Michigan, North Carolina, Pennsylvania, and Utah. The attractiveness of this option will depend on state policymakers' beliefs about the whether there is a need to redistribute wealth and who will be using the services that the tax pays for. A flat income tax redistributes wealth very effectively if all citizens benefit from government services equally, but not if the wealthy use more services than the poor.

The U.S. federal government chooses to forgo goal No. 2. The existence of a "marriage penalty" is one of the most discussed issues in U.S. income tax policy, but not all couples face a marriage penalty – in fact, some get a "marriage bonus," paying less in taxes than they would if they were unmarried. The size of the marriage penalty or bonus depends on each member of the couple's income level and the number of children they have, among other factors.[14] Some policy experts feel that this system creates a complex and arbitrary system of incentives and disincentives to marry, but as noted, the marriage penalty and/or bonus cannot be avoided if policymakers care about goals No. 1 and No. 3.

Most other countries in the OECD take the third approach, favoring goals No. 1 and No. 2 over goal No. 3. A progressive tax without a marriage penalty will in theory favor dual-earner married couples because, for example, a person earning $200,000 is expected to pay more than twice what a person earning $100,000 pays. An OECD study of cash transfers from households to governments found that most of the tax systems in member countries did conform to this theoretical expectation.[15] Looking purely at the income tax system, this approach provides an incentive for both members of a couple to work for roughly equal wages. However, that is without factoring in the cost of child care and the level of child benefits, which can significantly alter parents' incentives to work or stay at home.

Per-Person Tax or Alternative Minimum Tax

An income tax with any kind of standard deduction will cause some residents not to pay any tax. If policymakers wish to make sure everyone pays some small amount, they can add a per-person tax or alternative minimum tax – for example, where each person pays at least $100 regardless of income tax liability. Such a system has the potential to be highly regressive, since, for example, a person earning only $200 a year would be paying a 50% tax rate, far higher than the actual income tax rate in any U.S. state even on very wealthy people. This system does have precedent in Alaska; the state levied a flat, per-employee school tax in the pre-oil pipeline years.

Conclusion

If Alaska decides to adopt a consumption tax or income tax, policymakers will have a large number of important decisions to make about the tax structure, beyond simply choosing which type of tax to implement and how much money to raise. However, these decisions also provide an opportunity to tailor such a tax to Alaska's unique economic attributes. For instance, if Alaska has a consumption tax, exempting basic groceries and home heating fuel may be considered especially important in a state where these goods are very expensive in rural villages. If we decide on an income tax, there will likely be a debate over whether and how to tax income from Alaska Native

[14] http://www.nytimes.com/interactive/2015/04/16/upshot/marriage-penalty-couples-income.html?_r=0.

[15] http://www.oecd.org/els/soc/PF1_4_Neutrality_of_tax_benefit_systems.pdf.

Claims Settlement Act corporation dividends and Permanent Fund Dividends. Ultimately, the decision about how best to fund Alaska's government services through taxes or other means rests with legislators, who have many tools at their disposal.

The Department of Revenue hopes this chapter is useful to policymakers and the public in helping identify some of the decisions and options involved with implementing a broad-based tax.

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Chapter 4

Petroleum Revenue

General Discussion

The four major sources of state revenue from oil and gas production are severance tax, royalties, property tax, and corporate income tax. Severance tax (often referred to as a production tax) is imposed on a producer when the resource is severed (or extracted) from land in Alaska. Royalties are payments to the owners of the land and represent a percentage of production. Property tax is collected as a percentage of the value of taxable oil and gas property. Corporate income tax is levied on oil and gas C-corporations as a percentage of their worldwide net income apportioned to Alaska.

As shown in Figure 4-A, revenue from petroleum accounted for 28% of total state revenue in Fiscal Year 2016. Petroleum revenue was a combination of unrestricted general fund revenue, which is available for the Alaska Legislature to appropriate for general operations and capital projects (68% of petroleum revenue), and restricted revenue, which has some limitation on its use (32% or petroleum revenue).

Most of the revenue from production tax is unrestricted, while a portion of royalty revenue is placed into funds that are restricted. The Public School Trust Fund receives 0.5% of royalty revenue. The Alaska Constitution requires that 25% of royalty revenue be deposited into the Permanent Fund, however, AS 37.13.010(a) requires that 50% of royalty revenue from certain mineral leases be deposited into the Permanent Fund. On average, roughly 31% of oil and gas royalty revenue is deposited into the Permanent

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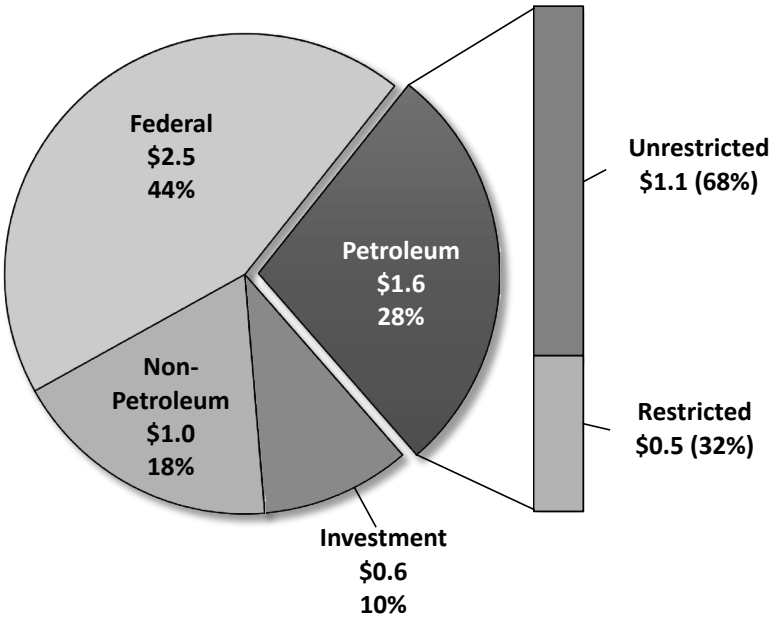
A

FY 2016 Petroleum Revenue
By restriction and type, in billions of dollars



Chapter 4
1

Total Petroleum Revenue

By restriction and type

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted Petroleum Revenue			
Petroleum Property Tax	111.7	115.8	109.7
Petroleum Corporate Income Tax	-58.8	96.4	235.4
Oil and Gas Production Tax	186.0	143.1	89.7
Royalties (including Bonuses, Rents and Interest)	870.6	611.7	665.0
Total Unrestricted Petroleum Revenue	**1,109.5**	**966.9**	**1,099.8**
Increase/Decrease from Prior Period	-578.3	-142.7	132.9
Percent Change from Prior Period	-34.3%	-12.9%	13.7%
Restricted Petroleum Revenue			
Other Restricted			
Royalties, Bonuses and Rents to the Alaska Permanent Fund	390.5	271.6	293.5
Royalties, Bonuses and Rents to the Public School Trust Fund	6.4	4.4	4.8
Tax Settlements to Constitutional Budget Reserve Fund	119.1	350.0	100.0
Subtotal Other Restricted	**516.0**	**626.0**	**398.3**
Federal			
NPR-A Royalties, Rents and Bonuses	1.8	4.3	4.3
Total Restricted Petroleum Revenue	**517.8**	**630.3**	**402.6**
Increase/Decrease from Prior Period	-152.7	112.5	-227.7
Percent Change from Prior Period	-22.8%	21.7%	-36.1%
Total Petroleum Revenue	**1,627.3**	**1,597.2**	**1,502.4**
Increase/Decrease from Prior Period	-731.0	-30.1	-94.8
Percent Change from Prior Period	-31.0%	-1.9%	-5.9%

Fund. There, the funds are invested in various ways by the Alaska Permanent Fund Corporation, a stand-alone corporation wholly owned by the state. A portion of the earnings from these investments is paid out as annual dividend checks to Alaska residents.

The state also receives payments from the federal government representing a share of the bonuses, rents, and royalties derived from oil and gas leases in the National Petroleum Reserve-Alaska (NPR-A). These funds are deposited into a special NPR-A fund and are considered "federal revenue."

The state periodically receives settlements from tax and royalty disputes between the state and taxpayers. These payments are deposited into the Constitutional Budget Reserve Fund (CBRF), after accounting for any applicable share of royalty settlements deposited into the Permanent Fund and Public School Trust Fund.

Table 4-1 shows both restricted and unrestricted petroleum revenue collected from each source in FY 2016 and forecasts for FY 2017 and FY 2018. In FY 2016, royalties represented 78% and production tax represented 17% of unrestricted petroleum revenue, while petroleum property tax accounted for 10%. Significant refunds during the year resulted in a net negative revenue total for petroleum corporate income taxes; this is discussed in more detail later in this chapter. These four sources accounted for 72% of unrestricted general fund revenue in FY 2016. Table 4-2 shows the 10-year forecast of unrestricted revenue from these sources.

This chapter will describe each of the sources of petroleum revenue, discuss the methods used to create

Chapter 4
2

Unrestricted Petroleum Revenue

FY 2016 and FY 2017-2026 Forecast

	Millions of Dollars										
	History	Forecast									
Fiscal Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Petroleum Property Tax	111.7	115.8	109.7	107.1	105.0	103.1	101.2	99.0	96.9	94.7	92.4
Petroleum Corporate Income Tax	-58.8	96.4	235.4	260.0	250.3	243.1	249.7	251.1	244.7	259.0	260.5
Oil and Gas Production Tax[1]	186.0	143.1	89.7	255.2	272.5	283.4	313.2	311.2	334.1	374.5	396.5
Royalties-Net[2]	870.6	611.7	665.0	721.8	732.7	748.7	766.6	776.9	778.0	804.7	812.6
Total Oil Revenue	**1,109.5**	**966.9**	**1,099.8**	**1,344.2**	**1,360.6**	**1,378.3**	**1,430.6**	**1,438.2**	**1,453.7**	**1,532.9**	**1,562.0**
Increase/Decrease from Prior Period	-578.3	-142.7	132.9	244.4	16.4	17.8	52.3	7.5	15.5	79.2	29.1
Percent Change from Prior Period	-34.3%	-12.9%	13.7%	22.2%	1.2%	1.3%	3.8%	0.5%	1.1%	5.4%	1.9%

[1] Includes hazardous release and conservation revenues.

[2] Includes bonuses and interest.

the forecast, and provide a forecast of each source. There is a discussion of both the unrestricted and the restricted portions of petroleum revenue.

Production Tax

Oil and natural gas produced and sold from lands within Alaska are subject to a severance tax as the resources leave the land. This includes lands that are owned by the State of Alaska, federal government (like NPR-A), or private parties, such as Native corporations. State ownership of submerged lands extends 3 miles from the shore. Production tax applies only to oil and gas that the producer sells, so it excludes state royalties, gas used in lease operations or flared for safety reasons, and any production that is re-injected into the reservoir.

In 2013, the Legislature passed Senate Bill 21 (SB 21), which is the existing production tax regime applicable to oil and gas production in the state, including North Slope oil production. In 2016, the Legislature passed House Bill 247 (HB 247), which made several adjustments to the production tax system. Table 4-3 lists the major provisions of the production tax and how those provisions were changed or maintained between SB 21 and HB 247. The following narrative describes the current production tax system for various areas of the state and types of production, and includes changes made by HB 247.

For North Slope oil and export gas, the tax uses the concept of "production tax value" (PTV), which is gross value at the point of production minus lease expenditures. PTV is similar in concept to net profit, but different in that all lease expenditures can be deducted in the year incurred; that is, capital expenditures are not subject to a depreciation schedule. The production tax rate is 35% of PTV with an alternative minimum tax of 0% to 4% of gross value, with the 4% minimum tax applying when average ANS oil prices for the year exceed $25 per barrel. Lower rates would apply if the yearly average is below $25 per barrel.

Several tax credits and other mechanisms are available for North Slope oil production to incentivize additional investment. A Per-Taxable-Barrel Credit is available, which is progressively reduced from $8 per barrel to $0 as wellhead value increases from $80 per barrel to $150 per barrel. This credit cannot be applied against the gross minimum tax. This results in a flattening of the production tax revenue decline at prices lower than $80 per barrel.

An additional incentive applies for qualifying new production areas on the North Slope. The so-called gross value reduction (GVR) allows a company to exclude 20% or 30% of the gross value for that production from the tax calculation. Qualifying production includes areas surrounding a currently producing area that may not be commercial to develop, as well

as new oil pools that have not been discovered or developed. Oil that qualifies for this GVR receives a flat $5 per-taxable-barrel credit rather than the sliding-scale credit available for most other North Slope production. As a further incentive, this $5 per-taxable-barrel credit can be applied against the minimum tax. Effective Jan. 1, 2017, the GVR is only available for seven years of production, and ends early if ANS prices exceed $70 per barrel for any three years. An estimate of how much oil might be eligible for the GVR incentive is included in Table 4-7 in the production portion of this chapter.

Effective Jan. 1, 2022, for North Slope export gas, the tax rate will be 13% of gross value at point of production. Currently only a very small amount of gas is technically export gas, which is sold for field operations in federal offshore leases. However, this tax rate would apply to a major gas export project.

For the North Slope, a Net Operating Loss (NOL) Credit in the amount of 35% of losses is available. This credit can be carried forward to a future tax liability or in some cases transferred or repurchased by the state.

Cook Inlet oil production is officially subject to the same tax rate of 35% of PTV. However, prior to Jan. 1, 2017, the tax was limited to a maximum of zero dollars per barrel; after Jan. 1, 2017, the tax will be limited to a maximum of $1.00 per barrel.

For Cook Inlet gas production, the tax rate is 35% of PTV, and the tax is limited to a maximum value averaging 17.7 cents per thousand cubic feet. This rate also applies to North Slope gas used for qualifying in-state uses, commonly referred to as non-export gas.

Cook Inlet tax incentives include the Qualified Capital Expenditure (QCE) Credit, the Well Lease Expenditure (WLE) Credit and the Net Operating Loss (NOL) Credit. With HB 247, these credits are being phased out for Cook Inlet. The QCE credits are reduced from 20% to 10% on Jan. 1, 2017; the WLE credits are reduced from 40% to 20% on Jan. 1, 2017; and the NOL credits are reduced from 25% to 15% on Jan. 1, 2017. All three credits are eliminated on Jan. 1, 2018, for Cook Inlet. However, for areas outside the North Slope and Cook Inlet (commonly known as Middle Earth), which currently have no production and minimal exploration activity, the credits remain in place at the reduced rates beyond Jan. 1, 2018.

Finally, a Small-Producer Credit of up to $12 million per company is available for certain companies statewide; however, as of mid-2016, this credit will gradually phase out as it can only be taken for nine years from first production. New companies are no longer eligible to take the credit.

Statewide, for oil produced from private lands, the state levies a production tax on the value of private landowner royalty interest, in the amount of 5% of gross value for oil and 1.667% for gas. Tax credits cannot be used to offset this portion of the tax.

The production tax includes several other nuances and provisions beyond the brief description provided here. For more information about the various tax credits, including a 10-year forecast, see Chapter 8.

Revenue from production tax is estimated on a company-specific basis by forecasting the components used in the tax calculation, then subtracting estimated tax credits. Under a net value tax regime, these components include the price of oil, the cost of transportation, the cost of production, and the volume of production for each field.

Based on a number of assumptions, the Department of Revenue develops reasonable estimates for how the components of the production tax calculation might behave in the future. There is a high degree of uncertainty in forecasting the components, and small deviations from the forecast values in any one component can result in large variations in total revenue. What follows is a description of each component and the method used to forecast that component. These component forecasts are used to develop the forecast of revenue from oil and gas production tax for the next 10 years as seen in Table 4-2. Various tax credits that are subtracted in arriving at this calculation, as well as estimates of additional tax credits purchased by the state, are discussed in Chapter 8.

Crude Oil Prices

The future price of crude oil is the most sensitive variable in the revenue forecast and is also the most prone to uncertainty. As a price-taker in the global market, Alaska cannot exert any significant pressure on the future price of oil by altering its level of production. Rather, oil prices are determined on a global basis, reflecting fluctuations in supply and demand.

A 10-year forecast of Alaska North Slope (ANS) oil prices, along with the inferred wellhead values, can be found in Table 4-5. Appendix B includes a 10-year history and a 10-year forecast of these values in nominal and real terms, and comparisons to the spring 2016 forecast.

Several major factors contribute to the pricing of oil on the world market, including but not limited to: 1) inventory levels, 2) infrastructure, 3) geopolitics, 4) natural disasters, 5) supply disruptions, 6) action by the Organization of Petroleum Exporting Countries (OPEC), 7) macroeconomic events, and 8) financial

Chapter 4

3

Comparing Senate Bill 21 and House Bill 247

A look at key provisions of the production tax under each one

North Slope

Provision	Senate Bill 21	House Bill 247
Base tax rate (applied to PTV).	35%	No change.
Minimum tax floor (applied to GVPP).	Up to 4%. 4% rate applies when ANS price > $25/bbl. Some credits can apply against minimum.	No change.
Gross Value Reduction.	20% or 30% of gross value excluded from tax calculation.	20% or 30% of gross value excluded from tax calculation; limited to first seven years of production; benefit ends early if average ANS price exceeds $70 for any three years.
Per-Taxable-Barrel Credit for non-GVR production.	Sliding scale $0-$8/bbl. $8 credit applies when wellhead price < $80/bbl. Cannot apply against minimum tax.	No change.
Per-Taxable-Barrel Credit for GVR production.	$5/bbl, no sliding scale. Can apply against minimum tax.	No change.
True-Up of Per-Taxable-Barrel Credits.	Unused Per-Taxable-Barrel Credits can be used to offset tax liability in other months of the calendar year.	No change.
Net Operating Loss Credit.	35%; amount of loss can be increased by GVR.	35%; amount of loss cannot be increased by GVR.
Exploration Tax Credits.	30% or 40% for qualifying exploration, expires July 1, 2016.	No change.

Cook Inlet

Provision	Senate Bill 21	House Bill 247
Base tax rate (applied to PTV).	35%	No change.
Tax Ceiling – oil.	$0/bbl (oil production tax free), ceiling expires 2022.	$1.00/bbl, permanent tax ceiling.
Tax Ceiling – gas.	Average 17.7 cents/mcf, ceiling expires 2022.	Average 17.7 cents /mcf, permanent tax ceiling.
Qualified Capital Expenditure (QCE) Credit.	20% of eligible expenditures.	Reduced to 10% on Jan. 1, 2017, then repealed Jan. 1, 2018.
Well Lease Expenditure (WLE) Credit.	40% of eligible expenditures.	Reduced to 20% on Jan. 1, 2017, then repealed Jan. 1, 2018.
Net Operating Loss (NOL) Credit.	25% of loss.	Reduced to 15% on Jan. 1, 2017, then repealed on Jan. 1, 2018.
Exploration Tax Credits.	30% or 40% for qualifying exploration, expires July 1, 2016.	No change.

Chapter 4
3

Comparing Senate Bill 21 and House Bill 247

A look at key provisions of the production tax *(Continued)*

Middle Earth

Provision	Senate Bill 21	House Bill 247
Base tax rate (applied to PTV).	35%	No change.
Tax Ceiling.	4% of gross value for first seven years of production, if production begins before 2027.	No change.
Capital, Well Lease, Net Operating Loss Credits.	Same as Cook Inlet (20% QCE, 40% WLE, 25% NOL).	Credits maintained at reduced rates beyond 2017 (10% QCE, 20% WLE, 15% NOL).
Exploration Tax Credits.	30% or 40% for qualifying exploration, expires Jan. 1, 2022. For work performed prior to July 1, 2016, qualifying new areas qualify for 80% credit for wells and 75% credit for seismic.	30% or 40% for qualifying exploration, expires Jan. 1, 2022. For qualifying new areas, 75% credit for seismic sunsets July 1, 2016, but 80% well credit applies to wells drilled or spudded prior to July 1, 2017.

Statewide/Other

Provision	Senate Bill 21	House Bill 247
Tax ceiling for "Gas Used in State."	Qualifying gas taxed at Cook Inlet rate, ceiling expires 2022.	Qualifying gas taxed at Cook Inlet rate, permanent tax ceiling.
Interest rate on delinquent taxes.	3% above Federal Reserve discount rate, simple interest.	7% above Federal Reserve discount rate, compounded quarterly; zero interest thereafter.
Credits for tax exempt entities.	Credits available for 100% of lease expenditures.	Credits earned only to lease expenditures subject to tax.
Small producer credits.	Up to $12 million per company for first nine years of production, can apply against minimum tax; must begin production before May 1, 2016.	No change.
Production limit for refunded credit eligibility.	Companies with > 50,000 barrels of oil equivalent production not eligible for refunded credits.	No change.
Alaska-hire preference for tax credits.	None.	DOR must give credit purchase priority based on ranking of Alaska-hire percentage, including contractors.
Per-company limit for refunded credits.	No limit.	$70 million per company per year. First $35 million at full value; next $35 million may be purchased at 75% of value at company option.
DNR exploration credit under AS 41.90.	Allowed in statute by not currently used.	DNR exploration credit repealed.

Chapter 4

4 ANS Oil and Gas Production Tax

Data summary

Fiscal Year	History 2016	Forecast 2017	Forecast 2018
North Slope Price (dollars per barrel)			
ANS West Coast	43.18	46.81	54.00
Transit Costs and Other	9.88	9.33	9.77
ANS Wellhead	33.30	37.48	44.23
North Slope Production (thousand barrels per day)			
Total ANS Production	514.9	490.3	455.6
Royalty and Federal [1]	67.2	58.4	53.9
Taxable Barrels	447.7	431.9	401.6
North Slope Lease Expenditures [2, 3] (millions of dollars)			
Total North Slope Lease Expenditures			
Operating Expenditures (OPEX)	3,267.2	2,829.5	2,797.3
Capital Expenditures (CAPEX)	3,387.0	2,425.1	2,662.5
Total North Slope Expenditures	**6,654.1**	**5,254.6**	**5,459.8**
Deductible North Slope Lease Expenditures			
Operating Expenditures (OPEX)	2,707.7	2,786.9	2,730.0
Capital Expenditures (CAPEX)	2,411.1	2,080.6	2,201.2
Deductible North Slope Lease Expenditures	**5,118.9**	**4,867.6**	**4,931.2**
State Production Tax Revenue [4]			
Tax Revenue (millions of dollars)	186.0	143.1	89.7
Production Tax Collected per Taxable Barrel (dollars per barrel)	1.1	0.9	0.6
Statewide Production Tax Credits [2, 5] (millions of dollars)			
Credits Used against Tax Liability	99.8	238.0	413.0
Credits for Potential Purchase	498.5	32.7	961.0

[1] Royalty and Federal barrels represent the Department of Revenue's best estimate of barrels that are not taxed. This estimate includes both state and federal royalty barrels, and barrels produced from federal offshore property.

[2] Lease expenditures and credits used against tax liability for FY 2016 were prepared using unaudited company-reported estimates.

[3] Expenditure data for FY 2017 and FY 2018 are compiled from company-submitted expenditure forecast estimates and other documentation as provided to the Department of Revenue. Expenditures shown here in two ways: (1) total estimated expenditures including for those companies with no tax liability; and (2) estimated deductible expenditures for only those companies with a tax liability.

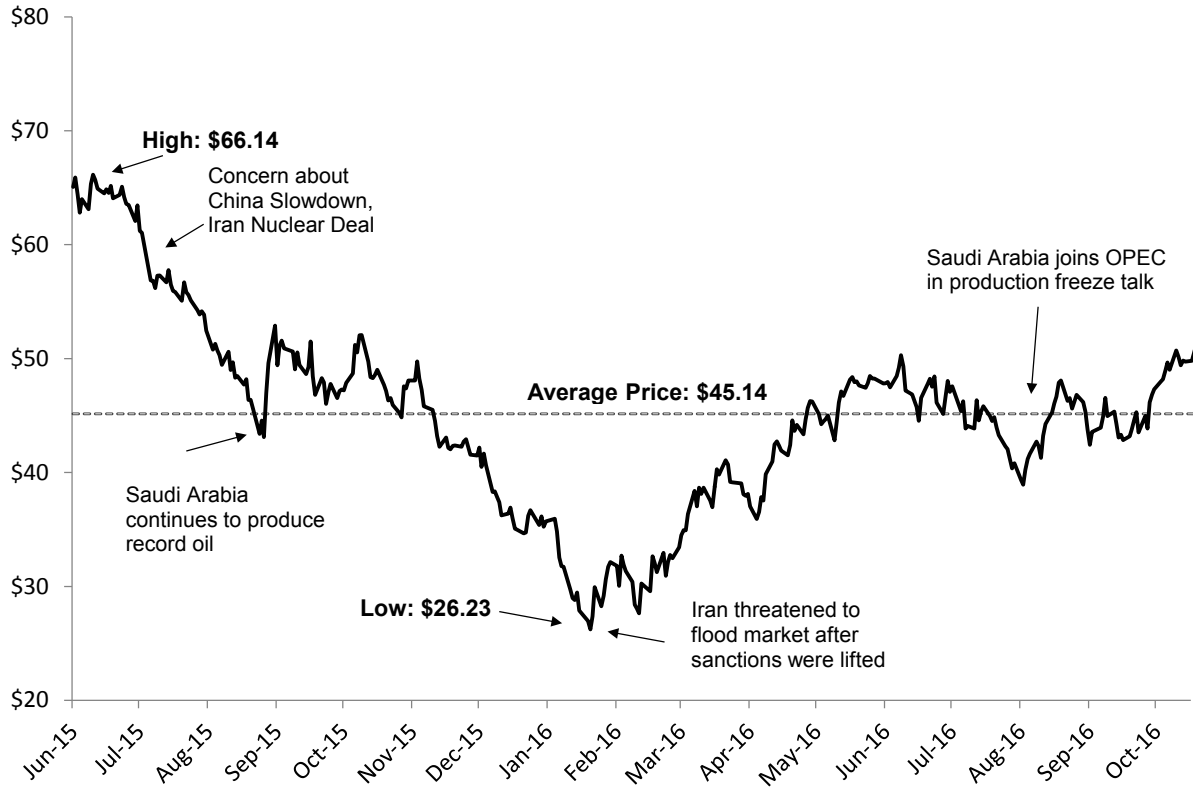
[4] Production tax is calculated on a company-specific basis, therefore the aggregated data reported here will not generate the total tax revenue shown. For an illustration of the tax calculation, see Appendix Tables E-1, E-2, and E-3.

[5] Production tax credits shown include all production tax credits and all areas of the state. Assumptions for the $12 million credits for small Alaska producers are included in the table. Per-taxable-barrel credits for oil not eligible for the gross value reduction may not reduce a producer's liability below the minimum tax; that limitation is reflected in these estimates.

Chapter 4
B

Alaska North Slope Crude West Coast Price

Paired with associated market events



market trends and speculation. Figure 4-B shows oil prices in recent months and associated key market events.

Each of these factors influences the price of oil and all have been encountered within the last 10-year period. Without knowledge of when and if these events will occur, it is not possible to forecast a particular path for oil prices with any certainty. Furthermore, the system is dynamic and the impact of the same event can bring about different outcomes at different times.

In the longer term, fundamental economic factors of supply and demand drive oil prices. Ultimately, predicting future price requires an understanding of demand growth and the available future supply of petroleum products.

Forecast Methods

One of the major components in developing the official price forecast is a day-long price forecasting session hosted by the Department of Revenue, usually held the first Tuesday of October. The forecast session uses a survey method that relies on a pool of participants from state government, the private sector, and academia. Each participant submits his or her own price forecasts after a day of presentations by experts on oil price markets and market structure. These individual price forecasts are combined with internal models to develop the department's official oil price forecast.

The participants forecast ANS prices in real 2016 dollars. The median of the survey responses for each time period is used to develop the price forecast. These prices are converted to nominal (inflation-adjusted) oil prices using the current Callan Associates, Inc. inflation assumption of 2.25%.

Using the high case, base case, and low case results of the oil price forecasting session, the department develops a probabilistic distribution of possible future ANS prices. An expected price path is then selected from this distribution.

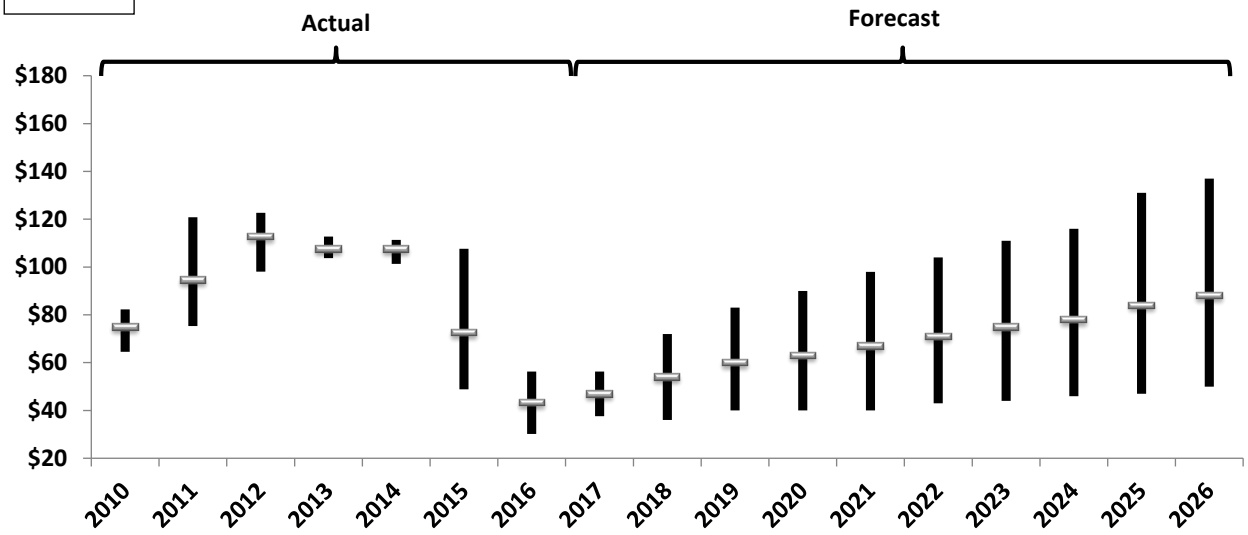
Price Forecast

Many factors help determine the path of future of oil prices, and over the short term prices can be highly

Chapter 4
C

ANS West Coast Price, History and Forecast

Actual price fluctuation and Official Fall 2016 Forecast spread



volatile. Over the long term, however, oil prices are generally expected to be responsive to the fundamental factors of supply and demand.

On the supply side, advances in horizontal drilling and hydraulic fracturing technology have unlocked billions of barrels of producible crude in the so-called "shale revolution." In many areas, drilling for shale oil has diminished in response to lower oil prices, but as of fall 2016, drilling activity appears to have stabilized and even increased in some areas. If oil prices move higher, significant undeveloped resources become economic to drill. These resources effectively set a ceiling for oil prices, with many experts pointing to a price range of $60-$70 (in real terms) as a likely level that if exceeded, would incentivize enough new supplies to keep prices from going much higher over the long term. It is worth noting that $1.0 trillion of upstream capital projects have been canceled during the 2015-2020 time frame.

On the demand side, global economic weakness has delayed the expected balancing of oil markets. When the department prepared the fall 2015 forecast, conventional wisdom pointed to markets balancing in mid-2016; now, experts point to mid-2017 for a likely balancing of supply and demand. Currently, the U.S. Energy Information Administration projects global consumption to increase from 95.4 million barrels per day in 2016 to 96.8 in 2017. Absent better-than-expected economic growth globally, it is unlikely that oil prices will increase substantially in the short- to medium- term.

The oil prices for the forecast are formed based on input from the fall price forecasting session. The current price forecast for ANS oil prices can be found in Figure 4-C.

The Department of Revenue projects nominal ANS oil prices will average $46.81 per barrel in FY 2017 and $54.00 in FY 2018. In the midterm, the department forecasts ANS to increase, with a FY 2019 price of $60.00 and a FY 2020 price of $63.00. By FY 2026, prices are expected to exceed $80, mostly due to inflation. When stated in real 2016 dollars, ANS price is expected to slowly increase, reaching $70 per barrel in real terms by FY 2026. The department expects oil prices to remain volatile, contributing uncertainty to the petroleum revenue forecast in any given year.

Transportation Charges and Other Production Costs

The value of ANS crude oil at the wellhead is calculated by subtracting transportation costs from the sales price or the prevailing value at point of delivery. Transportation components include marine costs, the Trans-Alaska Pipeline System (TAPS) tariff, feeder pipeline tariffs, quality bank adjustments, and other adjustments. The values used in this netback calculation are shown in Table 4-5.

Marine Transportation Costs

Oil production from the North Slope is delivered through the TAPS to Valdez where it is stored and loaded onto tankers for shipment to refineries located primarily in Washington, California, Hawaii, and the

Chapter 4
5

Oil Price and Transportation Costs

Forecast Assumptions

	Nominal Dollars per Barrel										
	History	Forecast									
Fiscal Year	**2016**	**2017[1]**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Alaska North Slope West Coast Price	43.18	46.81	54.00	60.00	63.00	67.00	71.00	75.00	78.00	84.00	88.00
ANS Marine Transportation	3.15	3.13	3.19	3.25	3.30	3.35	3.40	3.45	3.50	3.56	3.62
TAPS Tariff	6.25	5.81	6.18	6.54	6.96	7.39	7.83	8.30	8.81	9.32	9.85
Other Deductions and Adjustments[2]	0.48	0.39	0.39	0.39	0.39	0.41	0.43	0.46	0.48	0.52	0.56
ANS Wellhead Price	**33.30**	**37.48**	**44.23**	**49.81**	**52.36**	**55.85**	**59.33**	**62.79**	**65.21**	**70.59**	**73.97**

[1] FY 2017 values include four months of actual data.

[2] Includes other adjustments such as quality bank charges, feeder pipeline tariffs, location differentials, and company-amended information.

Kenai Peninsula. In 2016 there were also reported shipments to Asia. The double-hulled "Alaska Class" and "Endeavour Class" tankers range in size from 125,000 to 215,000 deadweight tons with a carrying capacity of 800,000 to 1.5 million barrels of oil. The typical voyage to the West Coast takes about two weeks.

For tax purposes, companies are allowed to deduct the total costs under the charter or contract for shipping oil and certain other allowable costs borne by the shipper. For crude oil shipped on tankers that are owned or effectively owned by the producer of the transported oil, which is typically the case, allowable marine costs are depreciation, return on investment, fuel, wages and benefits, routine maintenance, tug and pilotage fees, and dry-docking costs.

Marine costs can be broadly categorized as capital, fuel, and labor with each category accounting for roughly one-third of the total. The marine cost model accounts for inflation in labor costs and changes in the cost of bunker fuel as it relates to the crude oil price forecast. Marine costs averaged $3.15 in FY 2016 and are expected to reach $3.62 per barrel by FY 2026.

Trans-Alaska Pipeline System Tariff

Oil produced on the North Slope of Alaska is shipped down the TAPS and takes over two weeks to get to Valdez. The 800-mile, 48-inch oil pipeline costs about $1 billion a year to operate. Tariff rates on the pipeline are regulated to prevent carriers from exerting undue market power. The Regulatory Commission of Alaska (RCA) regulates intrastate rates and the Federal Energy Regulatory Commission (FERC) regulates interstate rates. FERC has established generic principles for oil pipelines to use a cost-of-service method for determining tariffs charged to ship oil.

With a cost-of-service method, rates are designed around what it costs a pipeline company to provide the service and have an opportunity to earn a reasonable rate of return on its investment. Major components are operation and maintenance expenses, depreciation, income taxes, cost of debt, and rate of return. Depreciation expense allows the pipeline to recover the capital investment undertaken to provide the service, and the rate of return compensates the pipeline for the use of that capital investment. Other recoverable accounts include dismantling, removal and restoration, allowance for funds used during construction, accumulated deferred income taxes, working capital, and legal fees.

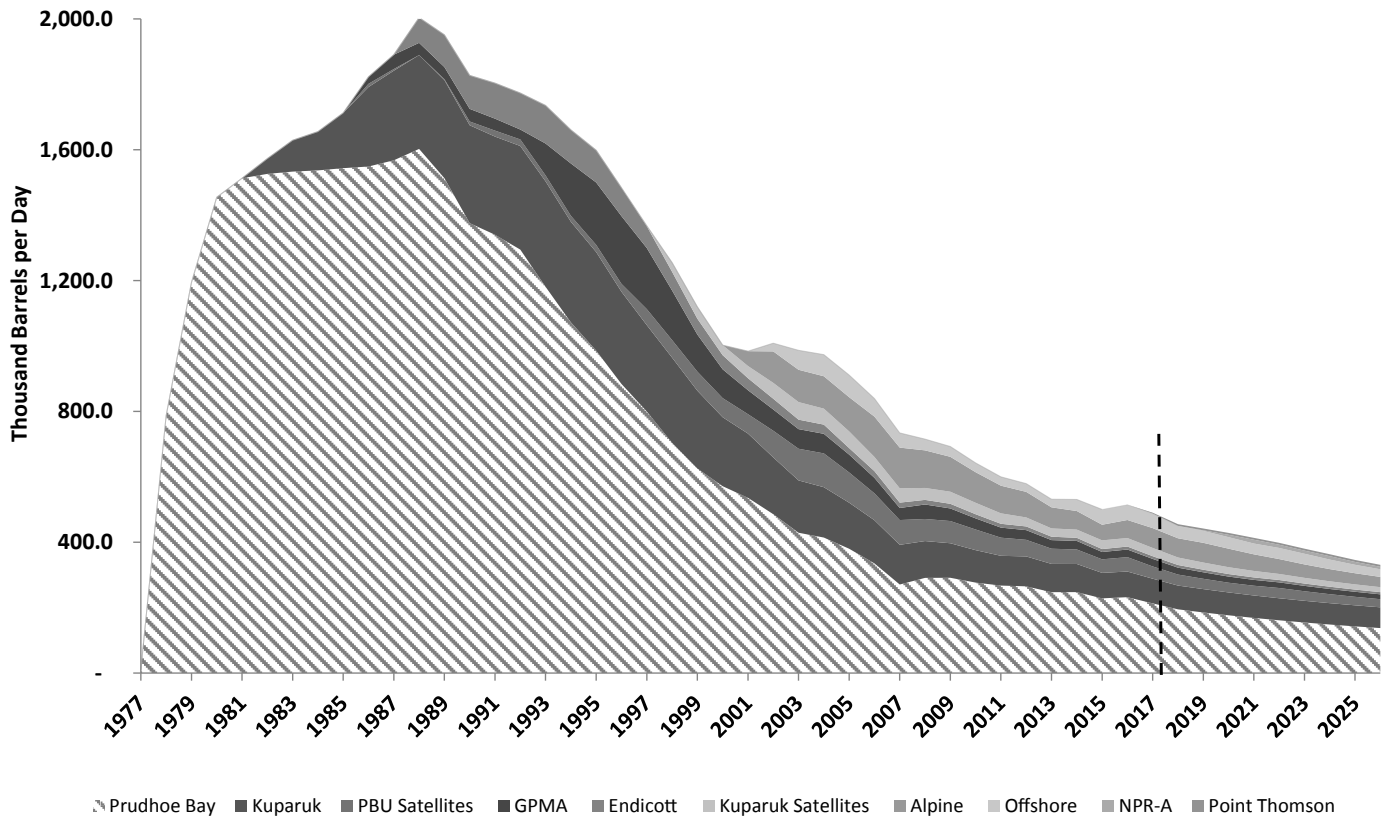
The department's forecasting model uses a simplified cost-based trended original cost tariff model to project the cost of transporting a barrel of oil on the TAPS. The forecast does not attempt to predict the outcome of pending litigation or estimate the level and timing of protested tariffs. Cost components and data to populate the model are extracted from FERC Opinion 502, FERC Opinion 544, carrier tariff filings and FERC Form 6.

Cost-of-service components are projected and then summed for each year to estimate the total cost-of-service or the total revenue required to operate the pipeline. This estimated total revenue requirement is divided by volume to calculate the average cost per barrel. The ratio is sensitive to the production profile and the dynamic connection suggests that the tariff will increase over time as costs are spread over fewer barrels

Chapter 4
D

Alaska North Slope Production

By production area, FY 1977 to FY 2026



of production. Current filings from the carriers result in a weighted-average TAPS tariff of $5.80. The preliminary average TAPS tariff deduction claimed on information forms received by the department was $6.25 for FY 2016. As costs increase and throughput declines, the forecast tariff increases to $9.85 per barrel by FY 2026.

Feeder Pipeline Tariffs

Feeder pipelines move the crude oil produced from the various North Slope oil fields to Pump Station No. 1 on the TAPS. Shippers on the jurisdictional pipelines pay the carriers a tariff to cover their costs and provide a reasonable rate of return. The seven jurisdictional feeder pipelines and their respective tariffs for July 2016 are: Kuparuk $0.32, Milne $1.44, Endicott $2.22, Badami $2.71, Alpine $0.94, Northstar $1.09, and Point Thomson $19.17. The weighted-average tariff averaged about $0.83 per barrel in FY 2016 for fields paying a tariff; the average for all North Slope production (including Prudhoe Bay production not using one of the feeder pipelines) was $0.38.

Feeder pipeline tariff rates are forecast by estimating the total cost-of-service and the throughput volumes for each pipeline. The cost-of-service estimate for each pipeline is divided by the respective volumes from the production forecast. Using the volumes from the fall 2016 production forecast, the weighted-average feeder tariff for those fields with feeder pipelines is forecast to be $0.83 in FY 2017 and increases to $1.15 in FY 2026. For all production, including Prudhoe Bay, the weighted-average feeder tariff is estimated to average $0.41 in FY 2017 and increase to about $0.57 by FY 2026.

Lease Expenditures

Due to the deductibility of costs in the production tax equation, the department must forecast lease expenditures in addition to oil prices, production, and transportation costs. Lease expenditures are defined as the upstream costs that are the directly related to exploring for, developing, or producing oil or natural gas.

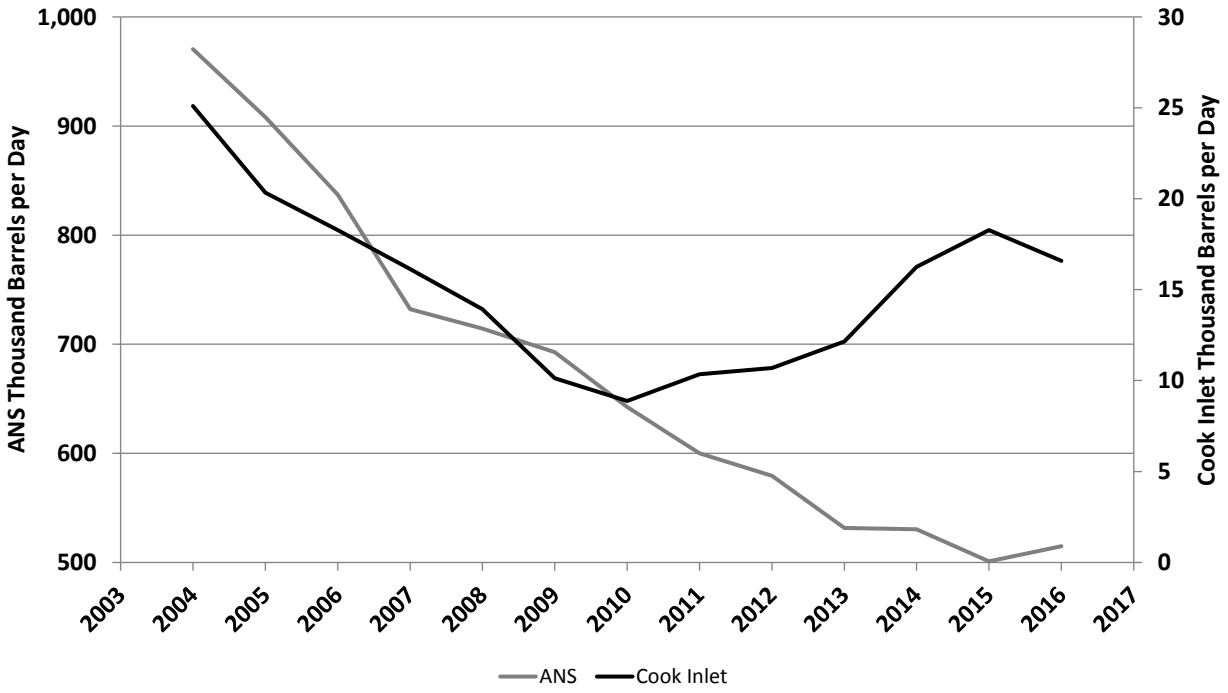
Forecast Methods

The Department of Revenue receives information about lease expenditures on annual tax returns and monthly information filings from oil and gas com-

Chapter 4
E

Alaska North Slope and Cook Inlet Production

FY 2004 to FY 2016



panies operating in the state. Semi-annually, the department also receives projections of lease expenditures by property for up to five years in the future. These reports are provided by the operators of the properties and are a major component of the lease expenditure portion of the revenue forecast.

The department also uses several other means to forecast lease expenditures, including reviewing plans of development as well as other publicly available information from industry publications and news articles.

Lease Expenditures Forecast

In FY 2016, the unaudited lease expenditures reported by companies producing or exploring for oil and/or gas on the North Slope on monthly information forms were $3.3 billion in operating expenditures (also known as OPEX) and an additional $3.4 billion in capital expenditures (CAPEX). For FY 2017, the department forecasts a reduction in North Slope operating expenditures to $2.8 billion, and a reduction in capital expenditures to $2.4 billion. For FY 2018, the department forecasts North Slope operating expenditures of $2.8 billion, with capital expenditures recovering slightly to $2.7 billion.

Two of the main factors influencing future project spending cited by companies were higher oil prices and a stable, predictable tax policy. This forecast represents a reduction in expected capital expenditures as compared to the spring 2016 forecast. Many companies have deferred projects in response to lower oil prices, including some deferred exploration plans and some reduced development drilling in existing fields. Currently, several major projects are in progress, such as Mustang, Moose's Tooth, and Shark's Tooth. Some development drilling also continues in most major currently producing areas, and a new drilling area was recently announced for Milne Point.

The forecasts reflect lower capital spending at legacy fields for the next several years, compared to FY 2016. Exploration activity in FY 2017 is expected to decline significantly, as companies have responded to lower oil prices. The sunset of the Alternative Credit for Exploration in mid-2016 means that the coming 2016-2017 winter drilling season will be the first without this incentive. It is likely that some exploration activities were "brought forward" into FY 2016 to benefit from the credit. At this time, expenditures for developing any potential discoveries are not included in our forecast.

For areas outside the North Slope (including Cook Inlet), companies are also forecasting decreased investment for FY 2017 and FY 2018. Total lease ex-

Chapter 4
6

Production Forecast Before, After 2016 Change

Comparison of key elements

Element	Old Method	New Method
Forecaster	Outside engineering consultant in consultation with Department of Revuenue staff.	Department of Natural Resources' Resource Evaluation and Commercial teams in collaboration with DOR staff.
Time horizon of forecast	Ten years, then trended to produce 50-year forecast.	Ten years, then trended to produce 50-year forecast.
Modeling method	Deterministic – single production forecast.	Probabilistic – forecast is most likely value taken from a range of possible outcomes consistent with industry best practice.
Alternative production cases	Unrisked deterministic forecast presented as a "high case"; currently producing only presented as a "low case."	Probabilistic modeling produces a 10% likelihood "high case" and a 90% likelihood "low case."
Currently Producing method	Aggregation of well-by-well decline curve analysis.	Pool-level decline curve analysis.
Under Development	Based on forecasts provided by operators and forecaster judgment, generally for projects starting in next zero to four years, with no risking.	Based on well data presented in Plan of Development, and informed by operator forecasts, generally for projects starting in next 12 months. Risk factors incorporated into production model.
Under Evaluation	Based on forecasts provided by operators and forecaster judgment, generally for projects starting in next five to 10 years, with no risking.	Based on well data presented in Plan of Development, and informed by operator forecasts, generally for projects starting in one to five years. Risk factors incorporated into production model.
Risking	DOR applied a uniform risk factor to final consultant forecast for all UD/UE production.	Adjustments for various types of risk are incorporated into production model.

penditures outside the North Slope were about $668 million in FY 2016, a decrease of over $200 million from the previous year. While significant resources exist in the non-North Slope areas of the state, exploration and development in Cook Inlet in particular is expected to be limited by continued low oil prices, already sufficient gas supply for the local market, and reduced state subsidies for investment. The forecast for total lease expenditures outside the North Slope is $455 million for FY 2017 and $430 million for FY 2018.

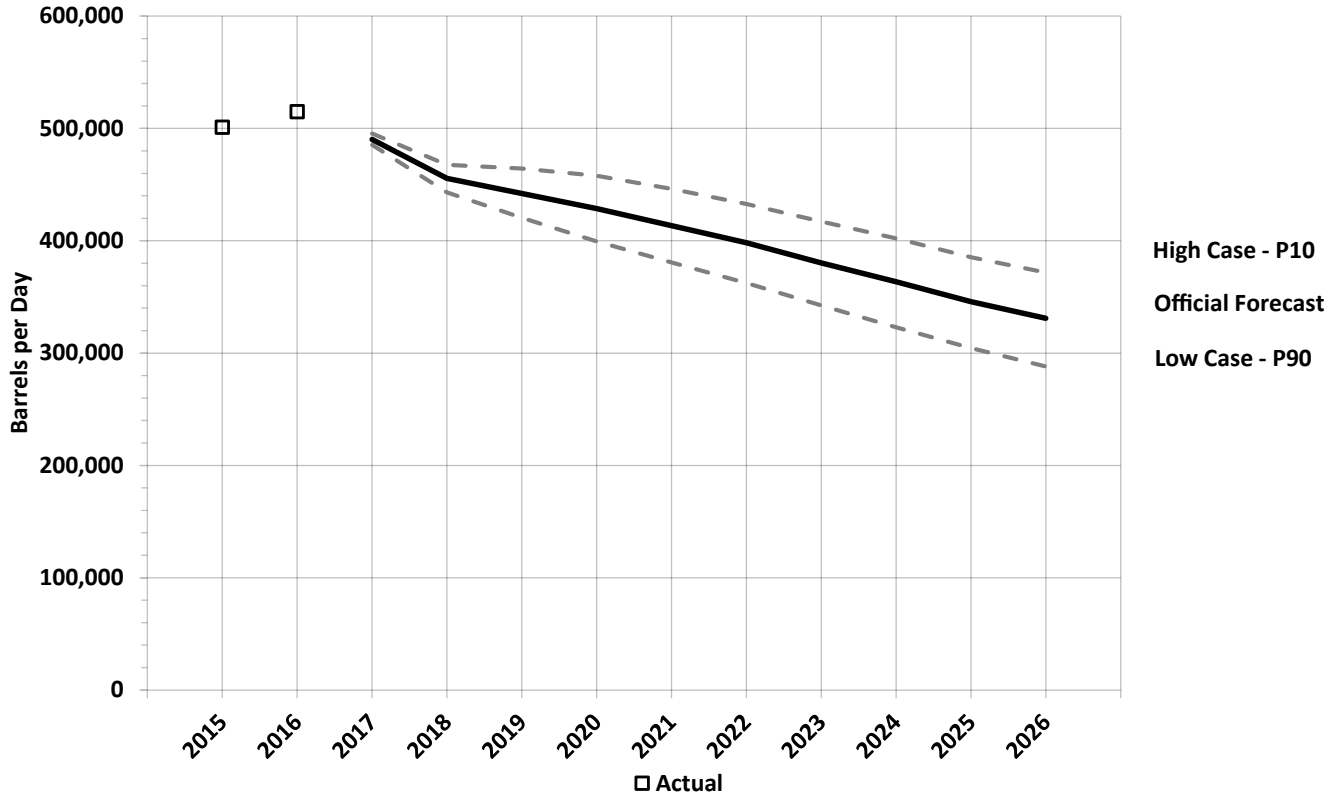
It should be noted that spending estimates are subject to many uncertainties, including oil prices, and the ability of projects to obtain final company approval and financing. Longer term, the department continues to see significant upside potential for investment. Projects deferred due to low oil prices or fiscal uncertainty could be reconsidered, if either or both variables improve. Also, several potential new developments are being evaluated but are not concrete enough to include in this forecast. Notably, expenditures for developing potential discoveries from most of the exploration taking place in the state are not included in the forecast, and will not be until those developments meet the thresholds for inclusion in the production forecast. Examples would include fields in the undeveloped area between Kuparuk and Colville River units, and any NPR-A development west of Moose's Tooth.

For the past several forecasts, a risk factor has been applied to the lease expenditures forecast to ensure consistency with the department's production forecast. In practice, this led to a significant discounting of expected spending, and therefore tax credits as well, especially in the five- to 10-year time horizon. Starting with the fall 2016 forecast, the production forecast methods have been adjusted to incorporate risks into the underlying projections for each individual field rather than as a blanket adjustment to all fields. Along

Chapter 4
F

Alaska North Slope Petroleum Production Forecast

FY 2015 to FY 2026



with this change, a risk factor is no longer applied to the lease expenditures forecast; however, the production forecast for each area is considered when estimating lease expenditures. More information on the risk adjustment methods incorporated into the production forecast can be found in the production volumes section of this chapter.

Appendix D-1 provides a 10-year history and 10-year forecast of lease expenditures for the North Slope and non-North Slope. Beginning with this Fall 2016 *Revenue Sources Book*, North Slope expenditures are further categorized as either expenditures for producing non-GVR fields ("legacy fields") or expenditures for other areas (newer fields, exploration, and development).

Production Volumes

Future oil production is crucial to forecasting oil revenue since the variable is used to calculate both production taxes and royalties. It is also a key factor in determining future pipeline tariff rates, which impact the wellhead value on which both taxes and royalties are calculated. Future production also influences the economic life of infrastructure, which is a factor in property tax assessment.

Geographic Impact

Production from different geographic areas has different implications for petroleum revenue. Oil produced within state boundaries is subject to state taxes, but oil produced beyond 3 miles offshore is not. The state collects 100% of the royalties on state-owned lands while royalties from oil produced on federal lands are shared with the state. For royalties from oil produced on private lands, the state does not collect a share of royalty directly, but instead assesses a tax on the private landowner royalty interest as part of the production tax.

Offshore leases 3 to 6 nautical miles from shore are federal leases, under which the state is entitled to 27% of the amount the federal government collects in bonuses, rents, and royalties. The authority for this revenue sharing is the federal Outer Continental Shelf Lands Act, Section 8(g). This 3-mile band is referred to as the "8(g) zone." The state is entitled to 50% of the bonuses, rents and royalties that the federal govern-

Chapter 4
7

Alaska North Slope Oil Production

By category, FY 2017 - FY 2026 forecast

	Barrels per Day									
	Forcast									
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Low Case – P90	**485,437**	**443,130**	**420,468**	**399,452**	**380,773**	**362,396**	**342,498**	**323,061**	**304,545**	**288,085**
Decline Rate	-6%	-9%	-5%	-5%	-5%	-5%	-5%	-6%	-6%	-5%
Official Forecast	**490,289**	**455,550**	**442,100**	**428,564**	**413,481**	**398,226**	**380,352**	**363,447**	**345,867**	**330,973**
Decline Rate	-5%	-7%	-3%	-3%	-4%	-4%	-4%	-4%	-5%	-4%
High Case – P10	**495,504**	**467,715**	**464,292**	**457,841**	**446,209**	**432,753**	**417,186**	**402,099**	**385,324**	**371,733**
Decline Rate	-4%	-6%	-1%	-1%	-3%	-3%	-4%	-4%	-4%	-4%
Production from GVR-Eligible Fields under Official Forecast	41,771	40,051	43,025	48,430	50,465	49,255	29,116	11,208	4,697	---
Percent from GVR-Eligible Fields under Official Forecast	8%	9%	9%	11%	11%	11%	7%	3%	1%	0%

Note: GVR is an acronym for Gross Value Reduction.

ment receives from the leasing of lands in the NPR-A. The federal government dictates that shared NPR-A revenue must be used for specific purposes and therefore is considered restricted revenue.

Forecast Methods Change

The methods used in the production forecasting process have changes for the fall 2016 forecast.

Prior to this forecast, the Department of Revenue employed an outside petroleum engineering consultant to provide the oil production forecast. The consultant forecasted production from currently producing wells on a well-by-well basis based on historic trends. Following meetings with oil company representatives, the consultant advised the department on expected future operations, maintenance plans, general risks, concerns, and uncertainties regarding future operations. The consultant provided an expert assessment, based on engineering principles, as to the technical potential production level for each oil pool over time. The department then applied a risk factor to the forecasted production that resulted in less than the full amount of future volumes from new projects being included in the revenue projections. This approach was explained in detail in the Fall 2012 *Revenue Sources Book*.

Beginning with this forecast, the oil production forecast is being developed internally by the State of Alaska by the departments of Revenue and Natural Resources. This "in-housing" of the production forecast reduces spending on consultant services, and also serves to better utilize and develop the expertise that exists within state government.

Along with the change in responsibility for the forecast, the process of incorporating risk factors into the production forecast has been refined: instead of applying a single risk factor across all production in a category, risks are now modeled for specific types of events on a field-specific basis. Additionally, the Cook Inlet oil production forecast is improved: instead of only utilizing a decline curve for currently producing fields, a more comprehensive forecast including new developments is now being used.

A comparison of key elements of the production forecast process and methods before and after this year's change can be found in Table 4-6.

Forecast Methods

The fall 2016 forecast consists of oil volumes produced from three categories:

- Currently Producing (CP) – Oil wells and pools that are currently in production. This category

Chapter 4

8

Petroleum Property Tax[1]

Distribution, FY 2016

Taxing Jurisdiction	Gross Tax (Millions of Dollars)	Local Share (Millions of Dollars)	State Share (Millions of Dollars)
Unorganized	60.4	0.0	60.4
North Slope Borough	403.7	373.4	30.3
Fairbanks North Star Borough	14.5	10.3	4.2
Municipality of Anchorage	4.9	3.6	1.3
Kenai Peninsula Borough	29.2	14.2	15.0
City of Valdez	38.4	38.4	0.0
Matanuska-Susitna Borough	0.2	0.1	0.1
Northwest Arctic Borough	0.0	0.0	0.0
City of Whittier	0.0	0.0	0.0
City of Cordova	0.2	0.1	0.1
Total FY 2016	**551.5**	**440.1**	**111.4**

[1]Tax amounts shown here represent the total certified tax roll for the 2016 tax year, due June 30, 2016. These amounts may not exactly match cash revenue received in the fiscal year as presented elsewhere in this book due to a combination of credits and late payments. Gross is total tax paid to both the local government and the State of Alaska. Local share and state share represent revenue received from taxpayers for FY 2016 property tax paid in FY 2016.

includes production from some routine and ongoing drilling.

- Under Development (UD) – New wells and pools that are planned, funded, and have partner alignment; typically with production expected in the next 12 months.
- Under Evaluation (UE) – New wells and pools that are currently included in a plan of development and are expected to begin production in the next five years, but do not yet have final funding decisions or partner alignment.

Notably, production from wells or pools not included in a plan of development, or not expected to begin production in the next five years, are not included in the production forecast. This includes production that could eventually result from recent exploration or discoveries (i.e., Pikka and Smith Bay) as well as known fields that are not currently planned to produce during the relevant time horizon (i.e., Liberty and Umiat). These fields will be monitored for possible inclusion in future forecasts based on the criteria outlined above.

As in past years, the production forecast is focused specifically on oil production as that provides the majority of the state's revenue. The Department of Revenue uses a basic estimate of gas production for internal modeling purposes, based on current production volumes plus expected new fields. Gas production has been identified as an area for further study and forecast refinement to potentially deliver a more formal production forecast in future years.

Currently Producing Volumes

Currently Producing volumes are forecast at the pool-level using decline-curve analysis. Technical experts from the Department of Natural Resources utilize data from the Alaska Oil and Gas Conservation Commission to develop a time series dataset to assess the future production profile of fields that are already in production. This data are provided by the producers and includes information on reservoir characteristics, oil flow rates, gas/oil ratios, and water cuts. Using these data and decline-curve analysis, an expectation for future production is developed for each producing pool. Planned downtime is factored in for known work-overs and stimulation work and anticipated responses are incorporated into future production. An expected decline rate is developed for each oil pool.

Production from Currently Producing areas is the least speculative category in the production forecast, as production comes from developed reserves with known production characteristics, infrastructure, constraints, and operating costs.

Under Development Volumes

Under Development volumes are forecasted using well data presented in the Plan of Development (POD), with adjustment for risk factors. When a project has funding, approval, an annual cash flow schedule, and a drilling plan, but is not yet developed, the volumes from that project are categorized as Under Development if production is expected to begin in the next year. If a project does not have these qualifiers, the expected future volumes from it are not considered in the Under Development category.

Volumes in the Under Development category may include production from infill drilling within existing units, incremental oil from enhanced oil recovery methods, increases in flow rates via debottlenecking facilities, and the development of new areas that are not currently in production.

Because all oil in this category requires some level of capital investment and the use of equipment, there is potential for each of these projects to be delayed or abandoned. The actual performance of each project is also uncertain as no production data exists. Therefore, some consideration must be given to the associated risk, or else the forecast is prone to be overly optimistic. In the best-case scenario, all projects would come in on-time, on-budget, and on-target. The forecast incorporates risk factors, based on historical observation, that adjust for these risks for each individual project.

Under Evaluation Volumes

Under Evaluation volumes are forecasted using well data presented in the POD, with adjustment for risk factors. Projects in this category are considered likely to occur and with production beginning in the next one to five years. Projects may still have hurdles to overcome in relation to funding, approval, cash flow schedules, or drilling plans.

Volumes in the Under Evaluation category may include production from infill drilling within existing units, incremental oil from enhanced oil recovery methods, increases in flow rates via debottlenecking facilities, and the development of new areas that are not currently in production.

Because all oil in this category requires capital investment and the use of equipment, there is potential for each of these projects to be delayed or abandoned. The actual performance of each project is also uncertain as no production data exists. Therefore, as with the Under Development category, consideration must be given to the associated risk, or else the forecast is prone to be overly optimistic. The forecast incorporates risk factors, based on historical observation, that adjust for these risks for each individual project.

Production Forecast

ANS oil production in FY 2016 averaged 514,900 barrels per day resulting in an increase of 3% from the FY 2015 volume of 501,000 barrels per day. In FY 2016 Cook Inlet oil production averaged 16,600 barrels per day, a decrease of 9% from the FY 2015 volume of 18,300 barrels per day. Historical daily average production from ANS and Cook Inlet is shown in Figure 4-E.

Appendix Table C-1 compares the spring 2016 and fall 2016 forecasts. ANS production in the fall 2016 forecast is lower than the spring forecast for the next five years and then higher in the following five years.

Historical production by major producing areas is shown in Appendix Table C-2, which also presents a forecast of volumes aggregated by the same producing areas. The forecast of North Slope production is best described as the mean expected volume to flow through the TAPS from each of the producing areas.

As discussed in the capital expenditures section, some companies are paring back spending plans in response to oil prices and uncertainty about state fiscal policy. Projects that are uneconomic in the current environment are being canceled or deferred until economic conditions improve. The oil volumes don't go away, they are just uneconomic in the current environment and such projects must wait for realization of lower costs, higher oil prices and/or fiscal certainty. The general tone from industry is that projects continue to be slowed down and delayed.

Over the next two years, the forecast is for a return to declining annual production volumes. Figure 4-F shows historical values for FY 2015 and FY 2016 and a forecast to FY 2026. Additionally, a range is provided for potential production possibilities. The forecast modeling uses a probabilistic approach that allows for multiple values, including a high, low, and base case production forecast. The high case or "P10" is a production level expected to have a 10% chance of being reached, while the low case or "P90" is a production level that has a 90% chance of being met or exceeded. The official forecast, or "Pmean" is a most likely production path within this range, but actual production can and will be either higher or lower than this forecast. Values for the forecasts can be found in Table 4-7. Figure 4-D shows historical ANS production by major area with expected production from those areas to FY 2026.

Production Tax Revenue Forecast

In broad terms, future revenue from production tax is a function of the forecasts of the various components. The netback components, as shown in Table 4-5, are deducted from the West Coast destination price to determine an ANS wellhead price, which is multiplied by the projected volume to calculate a gross value at the point of production. Lease expenditures are deducted from the gross value to calculate a net value to which the production tax is applied and adjusted for anticipated credits. The forecast of production tax revenue also accounts for various nuances and provisions of the tax code, including the gross minimum tax, GVR, company-specific differences in investment and field ownership, impacts of natural gas production, and non-North Slope activity.

The state received $186 million in unrestricted production tax revenue in FY 2016 and expects to receive $143 million in FY 2017 and $90 million in FY 2018. See Table A-3 in the Appendix for a historical comparison with a high of $6.8 billion in FY 2008 relative to the forecast value of $397 million in FY 2026. Lower oil prices and production volumes in conjunction with expected lease expenditures result in forecast values for production tax revenue remaining under $400 million per year for the entire forecast period.

For the North Slope, at forecasted oil prices, companies are generally expected to be able to use per-taxable-barrel credits for non-GVR oil to reduce tax liability down to the minimum tax of 4% of gross value. Collections are further reduced below the minimum tax by per-taxable-barrel credits for GVR-eligible oil, and any small producer or net operating loss credits that may be available. At forecasted prices, major producers are not expected to be in a net operating loss situation.

For Cook Inlet, production tax is limited to $1 per barrel of oil and 17.7 cents per thousand cubic feet of gas. These taxes are expected to contribute no more than $10 million to $15 million in any given year.

These revenue estimates account for tax credits applied against tax liabilities that reduce the tax payments made to the state. In FY 2017 and FY 2018, the revenue estimates also include an adjustment for credits transferred from explorers to producers, and then applied against a producer's tax liability. These transferred credits reduce the forecast by $20 million in FY 2017 and $100 million in FY 2018. Revenue estimates do not include the impact of refundable tax credits purchased by the state for companies without a tax liability. State purchase of those additional tax credits may be funded through appropriations to the Oil and Gas Tax Credit Fund, as discussed in Chapter 8.

Hazardous Release Surcharge

Up to $0.05 per barrel of taxable oil is collected and customarily appropriated to the Oil and Hazardous Substance Release Prevention and Response Fund (or simply the Response Fund). This revenue is reported as unrestricted revenue and collected as part of the production tax.

The Response Fund was created in 1986 and is intended to be a source of funds that can be drawn upon in the event of the release of a hazardous substance for the abatement of damages. The fund is separated into two accounts – a response account and a prevention account. As the names imply, the response fund is designed to respond to a spill or discharge, while the prevention account is intended to support the Alaska Department of Environmental Conservation in spill prevention and preparedness activities. The prevention account can also be used to respond to substance releases that are not declared disasters by the governor and can be used to support other response and prevention programs if appropriated by the Legislature.

The surcharge paid to the response account is $0.01 per taxable barrel of oil produced in the state. However, the surcharge is suspended when the account has a balance of $50 million or more. In November 2006, the fund was accessed to assist with pipeline spills on the North Slope. The surcharge was re-imposed in 2007 and has been suspended and re-imposed since. The balance of the fund as of Sept. 30, 2016, was $47.8 million.

Following a 2006 amendment, the prevention account now receives a surcharge of $0.04 per taxable barrel of oil produced within the state (increased from $0.03). All interest payments, penalties, settlements, and fines from both accounts are deposited into the prevention account and are available for appropriation to eligible programs. This account does not have a limit.

In 2015, the Legislature added additional funding to the Spill Prevention and Response program through a surcharge on refined fuel sales in the state. This is discussed in more detail in Chapter 5.

Royalties

A royalty interest is an ownership of future production and is a typical feature in oil and gas contracts with a landowner. When a company bids on a lease, it pays an up-front bonus payment, agrees to an annual rental payment, and typically offers a royalty interest

in any discoveries that may be found. Thus, the bonus is a guaranteed payment to the state as the owner, while the royalty is a contingent amount only paid if there is success in production.

In Alaska, the state retains ownership of all subsurface minerals on state lands and requires a minimum royalty rate of one-eighth (12.5%) of any production, although there are exceptions that can be made for economically challenged projects. In other U.S. oil producing areas, private citizens usually own these subsurface rights and the royalty is paid directly to the landowner, rather than the government. Occasionally, a company may enter into a net profits sharing lease, which bases the royalty payment on net profits rather than the gross value of the oil. These profit-sharing leases can reach as high as 75% of company profits after the company's development costs are recovered. Most leases in Alaska are one-eighth (12.5%) or one-sixth (16.67%) royalty.

Alaska has the option of allowing the company to sell the royalty oil on its behalf (known as royalty in-value (RIV)), or to sell the royalty oil itself (known as royalty in-kind (RIK)). The value the state accepts for royalty in-kind cannot be lower than the value it would receive for royalty in-value.

The state currently holds two contracts to sell royalty oil in kind. In April 2016, the state signed a legislatively approved five-year contract to sell up to 25,000 barrels of oil per day to the Tesoro refinery in Cook Inlet. Under that contract, oil delivery began on Aug. 1, 2016, and is planned to end on July 30, 2021. Additionally, the state in August 2016 established a one-year contract to sell between 18,800 and 23,500 barrels per day of oil to Petro Star Inc.'s North Pole and Valdez refineries. This one-year contract did not need legislative approval and will apply to oil delivery between Jan. 1 and Dec. 31, 2017. A subsequent four-year contract, which will be presented for legislative approval during the 2017 session, would sell 20,500 barrels of oil per day to Petro Star, decreasing to 10,500 barrels of oil per day in the fourth year of the contract. This contract would apply to oil delivered between Jan. 1, 2018, and Dec. 31, 2021.

Most RIV oil comes from leases affected by royalty settlement agreements (RSAs), and the price received for that oil is a derived price based on the value of oil sold on the West Coast with certain adjustments. Costs of shipping the oil on pipelines and tankers are subtracted in order to determine the value of the oil for royalty purposes (called the wellhead value). An allowance for field costs is also applied for production from certain leases. As a result of the field costs allowance, as well as differences in statutes and regulations, the wellhead value for royalty purposes may be slightly different than the wellhead value for production tax purposes. A portion of RIV oil comes from leases not affected by RSAs. While the formulas used to determine value for this oil are similar to the formulas used in the RSAs, they are not necessarily the same.

Royalty Forecast

The Department of Revenue forecasts that $612 million in unrestricted petroleum royalty revenues will be collected by the Department of Natural Resources in FY 2017. Projections show FY 2026 collections of $813 million in unrestricted petroleum royalties. These amounts are inclusive of bonuses, rents, and interest.

A portion of royalty revenue is deposited into the Permanent Fund and the Public School Trust Fund. Together with these deposits, total petroleum royalty revenues are forecasted at $0.9 billion in FY 2017 and $1.2 billion in FY 2026.

Petroleum Property Tax

Property subject to state oil and gas property tax includes property used in the exploration, production, and pipeline transportation of unrefined oil and gas. Each year, the Department of Revenue determines the assessed value for taxable oil and gas petroleum property as of the Jan. 1 assessment date. The state levies a tax on its assessments at a rate of 20 mills (2%) of the assessed value. When oil and gas property is located within a municipality, the municipality may also levy a tax on the department's assessments at the same rate it taxes all other property within its municipal boundary. The tax paid to a municipality on oil and gas property acts as a credit toward payment to the state on those same assessments.

Forecast Method

Forecasting state revenue from oil and gas property tax starts with the most recent certified assessed values for oil and gas property in Alaska. Assumptions are made regarding future capital investment and typical depreciation curves are applied. The state rate of 20 mills is applied to the forecast values and estimates of payments to municipalities are then subtracted to estimate net receipts to the state. Table 4-8 shows the state share and local share of oil and gas property tax by jurisdiction.

Property Tax Forecast

In FY 2016 the state collected $111.7 million in revenue from petroleum property tax. About $116 million is expected in FY 2017 with a gradual decline to about $92 million in FY 2026. These amounts represent only the state share of property tax.

Corporate Income Tax

An oil and gas corporation's Alaska income tax liability depends on the relative size of its Alaska and worldwide activities and the corporation's total worldwide net earnings. The corporation's Alaska taxable income is derived by apportioning its worldwide income to Alaska based on the average of three factors as they pertain to the corporation's Alaska operations: (1) tariffs and sales, (2) oil and gas production, and (3) property. The tax rates are graduated according to the schedule in Table 5-3.

Corporate income tax (CIT) revenue is one of the more volatile revenue sources for the State of Alaska because of year-to-year variation in the profitability of oil companies.

Forecast Method

The fall 2016 CIT forecast is derived from a statistical model based on the price of oil, total Alaska oil production, and the magnitude of recent change in oil prices. Based on historical data, and particularly considering the dramatic drop in both oil prices and CIT revenue over the past two years, it appears that it takes oil companies some time to adjust their cost structures in a new oil price environment. Therefore, the change in oil price over the past two years is a component of the model in addition to the oil price itself. The forecast uses a regression model of historical CIT revenue per barrel of oil production based on these two factors, then applies the results to the Department of Revenue's forecasts for future oil prices and production.

Corporate Income Tax Forecast

In FY 2016, the state's net collections from corporate income tax for oil and gas companies were negative. This phenomenon occurred as a result of falling oil prices; during FY 2016, companies received large refunds due to overpayment of prior-year estimated taxes while making much smaller estimated payments for the current tax year. As mentioned, the suddenness of the oil price change is believed to be an aggravating factor in the dramatic decline of CIT revenue.

The department is forecasting FY 2017 revenue of $96 million and FY 2018 revenue of $235 million as prices recover somewhat and companies adjust their cost structure to fit better with the low-price environment. By FY 2026, corporate income tax collections are projected to increase to $260 million, as anticipated modest increases in oil prices are partially offset by continued declines in Alaska production and industry activity.

Oil CIT revenue is difficult to forecast accurately due to its reliance on volatile oil prices and company profits. A major new development that significantly increased industry activity or production in Alaska could render these forecasts conservative, as could an increase in prices above the forecast. On the other hand, continued decline in either production or prices, or failure to adjust costs to the low-price environment, could make the forecasts too optimistic. Because of these uncertainties, the department believes revenue could fall anywhere between zero (P90) and $190 million (P10) in FY 2017, and between $100 million (P90) and $380 million (P10) in FY 2018.[1]

Oil Revenue Summary

As shown in Table 4-1, total petroleum revenue is expected to remain steady at around $1.6 billion in FY 2017 and then decrease slightly to $1.5 billion in FY 2018. The revenue stream then increases, based on the forecast for slightly higher oil prices, reaching $2.0 billion by FY 2025 and $2.1 billion in FY 2026.

Petroleum remains the major source of unrestricted general fund revenue during the forecast period. In FY 2016 petroleum accounted for 72% of unrestricted revenue. The percentage is expected to be 70% by 2026. In terms of total state revenue (which includes restricted components such as investment earnings in the Permanent Fund and federal receipts), in FY 2016 petroleum accounted for 27% of total revenue and is expected to contribute 17% of total revenue in FY 2026.

Restricted Revenue

As mentioned earlier, some oil revenue is deposited into special accounts for special purposes, including the Permanent Fund, Constitutional Budget Reserve Fund, and Public School Trust Fund. Revenue is also deposited into the NPR-A Fund.

Restricted Royalties

The majority of restricted revenue comes from royalties. At least 25% of royalty collections are required to be deposited into the Permanent Fund by the Alaska Constitution. For some leases, an additional 25% is deposited according to provisions in statute for a total deposit of 50%. The weighted average of these contributions results in about 31% of all royalty collections being deposited into the Permanent Fund. The Public School Trust Fund receives 0.5% of royalty collections to support the state public school program.

NPR-A Fund

The state is entitled to 50% of the bonuses, rents, and royalties that the federal government receives

[1] See the Preface, Page viii, for an explanation of P90 and P10.

from the leasing of lands in the National Petroleum Reserve-Alaska. This revenue is deposited into the NPR-A Special Revenue Fund and is restricted for specific uses. These funds can be appropriated to municipalities in the form of grants to compensate for impacts resulting from the development on those lands. Revenue that is not appropriated is treated like other royalty revenue (25% is deposited into the Permanent Fund, and 0.5% to the Public School Trust Fund), with the remaining revenue available for appropriation to the Power Cost Equalization Fund, Rural Electric Capitalization Fund or general fund. For purposes of categorization, these funds are considered Federal Restricted Revenue within the category of Petroleum Revenue, as they are collected from oil activity. These payments amounted to $1.8 million in FY 2016. Commercial production is expected from federal land in NPR-A beginning in FY 2019, which is expected to increase this revenue stream.

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Chapter 5

Non-Petroleum Revenue

Introduction

Revenue collections from in-state activities other than petroleum include non-petroleum taxes, charges for services, fines and forfeitures, licenses and permits, rents and royalties, and miscellaneous and transfer revenue sources such as dividends from public entities. These sources are categorized as "Non-Petroleum Revenue, except federal and investment," sometimes shortened to "Non-Petroleum Revenue." Federal and investment revenue are discussed in Chapters 6 and 7, respectively. These revenue sources are each subcategorized into Unrestricted, Designated General Fund, and Other Restricted Revenue in Table 5-1. The amounts of each revenue type are reflected in Table 5-2 and Tables 5-4 through 5-8 in this chapter.

This chapter provides the history of non-oil revenue sources for FY 2016 and forecasts revenue for FY 2017 and FY 2018. The chapter also includes descriptions of each revenue source and explains the methods used to forecast them. The Tax Division's website, and its Annual Reports for FY 2015 and prior, contain more comprehensive historical information about each tax type collected by the Tax Division. The Alaska Department of Administration's *Comprehensive Annual Financial Report* contains more detail about many non-tax revenue sources.

Taxes

Alcoholic Beverage Tax

Alcoholic beverage taxes are collected primarily from wholesalers and distributors of alcoholic beverages sold in Alaska. The per-gallon tax rates on alcoholic beverages are $1.07 for beer, $2.50 for wine, and $12.80 for liquor. Beer from qualifying small breweries is taxed at a rate of $0.35 per gallon. Revenue is deposited into the general fund. Half of the revenue is deposited into a subfund of the general fund, the Alcohol and Other Drug Abuse Treatment and Prevention Fund, and is treated as restricted in this forecast.

The Department of Revenue forecasts alcoholic beverage taxes based on the historical growth rate of

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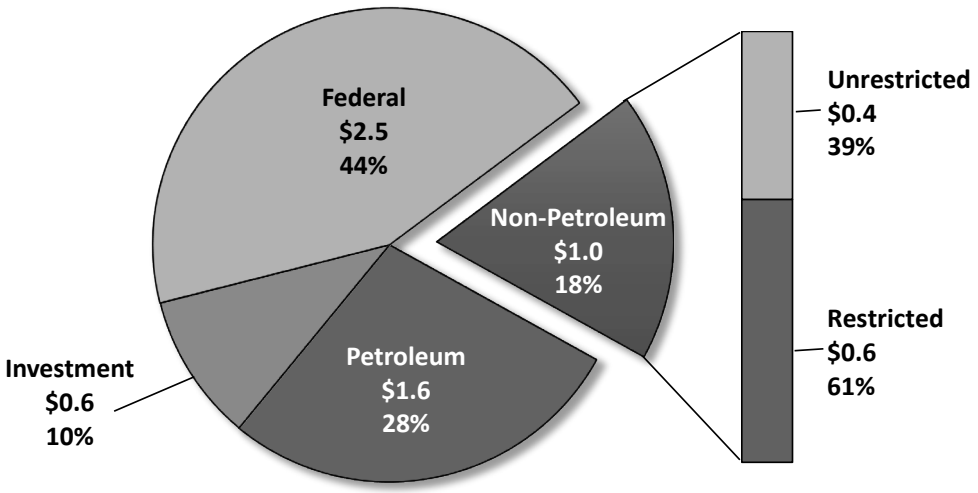
A

FY 2016 Non-Petroleum Revenue

By restriction and type, in billions of dollars



Chapter 5
1

Non-Petroleum Revenue

By restriction and category

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Non-Petroleum Revenue			
Taxes	252.0	304.4	329.4
Charges for Services	21.5	21.5	21.5
Fines and Forfeitures	11.4	11.4	11.4
Licenses and Permits	41.2	38.7	38.7
Rents and Royalties	24.7	30.9	30.9
Other	57.0	54.4	60.1
Total Unrestricted Non-Petroleum Revenue	**407.8**	**461.2**	**491.9**
Restricted			
Restricted Non-Petroleum Revenue			
Designated General Fund			
Taxes	98.0	103.2	107.8
Charges for Services	255.5	273.8	272.3
Fines and Forfeitures	9.4	9.1	9.0
Licenses and Permits	1.5	1.5	1.5
Rents and Royalties	4.2	4.2	4.2
Other	19.5	19.5	19.5
Subtotal Designated General Fund	**388.1**	**411.3**	**414.4**
Other Restricted			
Taxes	92.4	93.4	95.9
Charges for Services	89.1	122.8	125.5
Fines and Forfeitures	24.7	23.5	23.3
Licenses and Permits	34.3	36.6	44.0
Rents and Royalties	4.7	5.7	5.7
Other	6.8	6.8	6.8
Subtotal Other Restricted	**252.0**	**288.8**	**301.2**
Total Restricted Non-Petroleum Revenue	**640.1**	**700.2**	**715.6**
Total Non-Petroleum Revenue	**1,047.8**	**1,161.4**	**1,207.5**

Chapter 5
2

Non-Petroleum Tax Revenue

By source and restriction

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Corporate Income Tax (Non-Petroleum)	**90.2**	**123.4**	**139.3**
Excise Tax			
Alcoholic Beverage	22.2	21.7	22.2
Tobacco Products – Cigarettes	32.5	28.6	27.7
Tobacco Products – Other (General Fund)	13.0	14.6	15.5
Electric and Telephone Cooperative	0.2	0.2	0.2
Marijuana	0.0	2.5	5.3
Motor Fuel Tax[1]	42.3	35.5	35.7
Motor Fuel Tax (conservation surcharge)	6.5	7.6	7.7
Tire Fee	1.5	1.5	1.5
Subtotal	**118.3**	**112.2**	**115.8**
Fish Tax			
Fisheries Business	22.2	17.3	18.5
Fishery Resource Landing	0.3	5.3	5.6
Subtotal	**22.5**	**22.6**	**24.1**
Other Tax			
Charitable Gaming	2.6	2.7	2.7
Estate	0.0	0.0	0.0
Large Passenger Vessel Gambling	7.7	8.0	8.1
Mining License	10.7	35.5	39.3
Subtotal	**21.1**	**46.1**	**50.2**
Total Unrestricted Non-Petroleum Tax Revenue	**252.0**	**304.4**	**329.4**
Restricted			
Designated General Fund			
Alcoholic Beverage (Alcohol and Drug Treatment and Prevention Fund)	20.2	21.7	22.2
Insurance Premium/Other[2]	64.4	65.1	66.0
Vehicle Rental	10.5	11.1	11.7
Marijuana	0.0	2.5	5.3
Tobacco – Cigarettes (Tobacco Use Education and Cessation Fund)	2.9	2.8	2.7
Subtotal	**98.0**	**103.2**	**107.8**

Chapter 5

2

Non-Petroleum Tax Revenue

By source and restriction *(Continued)*

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Other Restricted			
Tobacco – Cigarettes (School Fund)	19.9	19.3	18.6
Commercial Passenger Vessel Tax (state share)	3.3	2.1	2.1
Commercial Passenger Vessel Tax (municipal share)	15.8	16.3	16.5
Cost Recovery Fisheries Assessment	0.0	0.2	0.7
Dive Fishery Management Assessment (designated management areas)	0.5	0.5	0.5
Electric and Telephone Cooperative (municipal share)	4.1	4.0	4.1
Fisheries Business (municipal share)	17.7	21.9	23.0
Fishery Resource Landing (municipal share)	9.4	6.8	7.2
Motor Fuel Tax – Aviation (state share)[1]	0.0	4.7	4.6
Motor Fuel Tax – Aviation (municipal share)	0.1	0.1	0.1
Salmon Enhancement (Aquaculture Association share)	6.8	6.9	7.3
Seafood Development (qualifying regional associations)	1.4	1.8	1.9
Seafood Marketing Assessment (seafood marketing programs)	9.7	8.6	9.1
Settlements to Constitutional Budget Reserve Fund (non-petroleum taxes)	3.7	0.1	0.1
Subtotal Other Restricted	**92.4**	**93.4**	**95.9**
Total Restricted Non-Petroleum Tax Revenue	**190.3**	**196.6**	**203.7**
Total Non-Petroleum Tax Revenue	**442.4**	**501.0**	**533.1**

[1] Starting with FY 2017, the aviation portion of the motor fuel tax is considered restricted revenue.
[2] In addition to the workers' compensation insurance premiums for the Insurance Premium Tax, this amount also includes services fees from employers who are self-insured. In FY 2016, HB 374 reclassified the previously unrestricted portion of Insurance Premium Tax to designated general fund revenue.

consumption. In the roughly 20 years of detailed data the department has maintained, wine consumption has grown at an annual rate of about 3% and liquor consumption at an annual rate of about 2%. Consumption of beer, cider, and malt liquor has grown more slowly, at an annual rate of 0.2%, and the share of these beverages produced by qualifying small breweries is steadily increasing, from 17% in FY 2009 to 28% in FY 2016. The department forecasts tax revenue by applying these growth rates to the previous year's consumption, accounting for uncertainty of the true long-term trend, then multiplying predicted consumption by the tax rate.

Alcoholic beverage tax revenue is projected to continue rising slowly based on the overall growth rate of consumption. Alcohol taxes are one of the state's least volatile revenue sources, so they can be forecasted with fairly high precision. In FY 2017 the department's forecast for the unrestricted share is $21.7 million, and revenue could be anywhere between $20.3 million (P90) and $23.1 million (P10) depending on the growth rate of Alaska's population and alcohol consumption.[1] In FY 2018 the forecast is $22.2 million, and revenue could be between $20.1 million (P90) and $24.4 million (P10). The restricted share forecasts are the same.

[1]See the Preface, Page viii, for an explanation of P90 and P10.

Charitable Gaming

Under Alaska law, municipalities and qualified non-profit organizations may conduct specific charitable legal gaming activities to derive public benefit in the form of money for charities and revenue for the state. The department collects permit and license fees, a 1% net proceeds fee, and a 3% pull-tab tax. The department forecasts charitable gaming revenue to rise slightly to $2.7 million in both FY 2017 and FY 2018.

Commercial Passenger Vessel Taxes

Alaska voters approved an initiative to impose new taxes and fees on commercial passenger vessels in 2006, which the Legislature modified in 2010. Following are descriptions of the various commercial passenger vessel taxes and fees in current law. The Ocean Ranger Fee is described under the Environmental Compliance Fund in the Charges for Service category.

Chapter 5
3

Corporate Income Tax

Rate Schedule[1]

Taxable Income	Marginal Tax Rate
$0-$25,000	0.00%
$25,000-$49,000	2.00%
$49,000-$74,000	3.00%
$74,000-$99,000	4.00%
$99,000-$124,000	5.00%
$124,000-$148,000	6.00%
$148,000-$173,000	7.00%
$173,000-$198,000	8.00%
$198,000-$222,000	9.00%
$222,000+	9.40%

[1] Effective for tax years beginning on or after Aug. 26, 2013.

- The commercial passenger vessel (CPV) tax is a tax of $34.50 on each passenger aboard a commercial passenger vessel with 250 or more berths. Revenue is deposited into a subfund of the general fund, the CPV tax account. Five dollars of the tax can be appropriated to each of the first seven ports of call. If a commercial passenger vessel visits a port that levies a tax similar to the CPV tax, and that tax was in place before Dec. 17, 2007, the local tax imposed is allowed as a credit against the state tax. Only Juneau and Ketchikan had qualifying levies in place at that time (Juneau's fee is $8 per passenger and Ketchikan's is $7). The state can only collect CPV tax if a vessel spends more than 72 consecutive hours in Alaska waters. All funds received from the CPV tax must be spent on port facilities, harbor infrastructure, and other services provided to commercial passenger vessels and the passengers on board those vessels. All revenue from the tax is considered restricted.
- The large passenger vessel gambling tax is a tax of 33% on the adjusted gross income from gaming or gambling activities aboard large passenger vessels in the state. Revenue goes to the general fund and is considered unrestricted.
- The Alaska corporate income tax applies to large commercial passenger vessels, and the revenue is included in the forecast of corporate income taxes.
- There are penalties for false reporting, violating environmental regulations, and failing to make proper disclosures on promotions and shore side activity sales. Revenue from these provisions is included in the Fines and Forfeitures section.

About 1 million passengers visited the state in large passenger vessels in FY 2016, and expectations are similar or slightly higher for FY 2017 and FY 2018, since cruise ship tourism has been gradually recovering since the Great Recession.

In recent years, the municipal share of the CPV tax has been much larger than the state share. The department's model for the CPV tax is based on 2016 data and the most recent industry forecasts of the number of cruise ship passengers who will visit Alaska. There is uncertainty about how the tourism industry will grow or decline, as well as overall economic growth, leading to moderate uncertainty in the forecast. The forecast for total CPV tax revenue in FY 2017 and FY 2018 is $18.4 million, but the actual amount could be anywhere from $15.4 million (P90) to $21.6 million (P10) depending on the strength of the cruise ship season. Similarly, the total forecast for FY 2018 is $18.7 million, but the actual amount could range from $14.6 million (P90) to $23.1 million (P10). Table 5-2 shows the projected breakdown of state and municipal shares.

Corporate Income Tax

Alaska levies the corporate income tax on corporations doing business in the state. Corporate tax rates are graduated according to the schedule in Table 5-3. S-corporations and limited liability companies (LLCs) that file federally as partnerships are generally exempt from corporate income tax. A corporation computes its tax liability based on the federal taxable income of its water's edge combined report, with Alaska adjustments. Non-oil and gas corporations apportion their income to Alaska based on three factors: sales, property, and payroll. Alaska taxable income is determined by applying the calculated apportionment factor to the corporation's modified federal taxable income.

The department forecasts corporate income tax for non-oil companies using a regression model based on past collections, overall U.S. economic growth, and metal prices. Metal prices are used as a separate variable because mining accounts for much of the year-to-year variation in non-oil corporate income tax revenue. The result of the regression model is adjusted to account for tax credit activity anticipated in future years.

Corporate income tax is difficult to forecast with precision because it depends on volatile metal prices and nationwide economic growth. However, because the relevant metal prices have been rising and the

FY 2016 figure was low by historical standards, the department predicts a moderate increase. The net revenue from the non-oil corporate income tax was $90 million in FY 2016. For FY 2017, the forecast is $123 million, and revenue could range between $99 million (P90) and $148 million (P10) depending on the strength of the U.S. economy and metal prices. For FY 2018, the forecast is $139 million, and revenue could be anywhere between $96 million (P90) and $186 million (P10) for the same reasons.

The corporate income tax for oil companies is discussed in Chapter 4.

Electric and Telephone Cooperative Taxes

The electric cooperative tax is based on kilowatt hours furnished by qualified electric cooperatives recognized under Title 10 of the Alaska Statutes. The telephone cooperative tax is levied on gross revenue of qualified telephone cooperatives under Title 10. Revenue from cooperatives located in municipalities is treated as other restricted revenue in this forecast because it is shared 100% with the municipalities. The small amount of revenue collected from cooperatives outside municipalities is retained by the state. The forecast for total revenue from electric and telephone cooperative taxes is $4.2 million in FY 2017, and actual revenue could range from $3.9 million (P90) to $4.6 million (P10) depending on the growth rate in the utilities' sales. The total forecast in FY 2018 is $4.3 million, and actual revenue could fall between $3.8 million (P90) and $4.8 million (P10). Table 5-2 shows the projected breakdown of state and municipal shares.

Fisheries Business Tax

The fisheries business tax (FBT) is levied on businesses that process fisheries resources in Alaska or export fisheries resources from Alaska. Although the tax is usually levied on the act of processing, the tax is often referred to as a "raw fish tax" because it is based on the value of the raw unprocessed fishery resource. Tax rates vary from 1% to 5%, depending on whether a fish species is classified as "established" or "developing" in the geographic area where it was caught, and whether it was processed by a shore-based processor, a floating processor, or a salmon cannery. Revenue from the tax is deposited in the general fund. Half of the revenue (before credits) is shared with qualified municipalities and is treated as other restricted revenue.

Tax credits for the FBT, including the Salmon and Herring Product Development Credit, apply only to the state portion of the tax, so the department's forecast of the municipal share is usually higher than the state share. In FY 2016, FBT revenue includes an adjustment for over-sharing in past years, reducing the municipal share. In future years, the department projects a return to an even split before credits.

Forecasts of FBT revenue are based on estimated taxable values of the major fisheries in the state and historical effective tax rates. The total FBT revenue in FY 2016 was slightly lower than the previous year. In FY 2017 and FY 2018, the total amount of FBT revenue is projected to stay similar, but with considerable uncertainty due to unpredictable fish prices, fish runs, and other factors. There was a record-low pink salmon run in the summer of 2016, but this may be offset by higher catch values for groundfish and other species of salmon. There may also be increased claims under the Salmon and Herring Product Development Credit (refer to Chapter 8 for more information.)

The FY 2017 forecast for total FBT revenue is $39.2 million and the FY 2018 forecast is $41.5 million. The department believes actual revenue could range from $31.4 million (P90) to $47.5 million (P10) in FY 2017, and from $28.5 million (P90) to $55.9 million (P10) in FY 2018, depending on the number of fish caught, fish runs, and credits. Table 5-2 shows the projected breakdown of state and municipal shares.

Fishery Resource Landing Tax

The fishery resource landing tax is levied on fishery resources processed outside Alaska, but first landed in Alaska. Tax liability is based on the unprocessed statewide average price of the fish species. The tax is collected primarily from factory trawlers and floating processors that process fishery resources outside the state's 3-mile limit and bring their products into Alaska for shipment. The tax rates vary from 1% to 3%, based on whether the species is classified as "established" or "developing." All revenue derived from the tax is deposited in the general fund.

Half of the revenue (before credits) is shared with qualified municipalities, and is treated as other restricted revenue. As with the FBT, tax credits apply only to the state share. In FY 2016, landing tax revenue includes an adjustment for under-sharing in past years, greatly reducing the state share. In future years, the department projects a return to an even split before credits.

The department forecasts fisheries resource landing tax revenue based on estimated taxable values of the major fisheries in the state and historical effective tax rates. Revenue in FY 2015 and FY 2016 was low by historical standards, but based on preliminary reports of fish caught in the 2016 season, the department expects landing tax revenue to return to its normal historical range in FY 2017 and FY 2018. As with the

FBT, the forecast is very uncertain due to fish prices and fish runs. The FY 2017 forecast for total landing tax revenue is $12.1 million, but actual revenue could range between $6.5 million (P90) and $18.4 million (P10), with the lower end likely coming in a case of both low fish value and high amounts of credits claimed. The FY 2018 forecast is $12.9 million, but actual revenue could be between $5.2 million (P90) and $22.0 million (P10). Table 5-2 shows the projected breakdown of state and municipal shares.

Insurance Premium Tax

Insurance companies in Alaska pay an insurance premium tax instead of corporate income tax, sales, or other excise taxes. The tax is levied as a percentage of the total insurance premiums for policies in the state of Alaska. Insurance premium taxes on workers' compensation insurance are deposited into a subfund of the general fund, the Workers' Safety and Compensation Fund, and are reflected as restricted in this forecast. The restricted component also includes service fees paid into the Workers' Safety and Compensation Fund by employers who are uninsured or self-insured. Prior to FY 2017, remaining insurance premium taxes were considered unrestricted revenue. Beginning with FY 2017, remaining insurance premium taxes are deposited into a subfund of the general fund, the Alaska Comprehensive Health Insurance Fund, and are reflected as restricted in this forecast.

To forecast insurance premium tax revenue, the Department of Revenue consults with the Alaska Department of Commerce, Community, and Economic Development's Division of Insurance, which administers the insurance premium tax, and the Alaska Department of Labor and Workforce Development's Workers' Compensation Division, which collects workers' compensation service fees. The Department of Revenue also considers the historical growth rate of the insurance premium tax, which has been one of Alaska's faster-growing sources of revenue, likely due to expansion of the insurance industry.

The FY 2017 forecast for total insurance premium tax is $65.1 million, and revenue could be anywhere between $60.1 million (P90) and $70.3 million (P10), depending mainly on Alaska's population growth, the number of insurance policies bought, and the growth rates of insurance premiums. The FY 2018 forecast is $66.0 million, and actual revenue could range between $58.8 million (P90) and $73.4 million (P10).

Marijuana Tax

In November 2014, voters approved a ballot measure that will levy a new tax on the sale of marijuana. The tax rate is $50 per ounce, paid on the sale of the product to a retail marijuana store or marijuana product manufacturing facility. The ballot measure took effect in February 2015, and the Department of Revenue expects to collect the first tax revenue from legal marijuana businesses in the second quarter of FY 2017. Half of the revenue from the marijuana tax will be deposited into a subfund of the general fund, the Recidivism Reduction Fund, and is treated as restricted for purposes of this forecast. The remaining half of revenue will be unrestricted revenue.

The revenue from marijuana taxes is highly unpredictable because it is unknown how many marijuana businesses will be licensed to open, how many consumers there are, and what percentage of those will switch their consumption to the legal and taxable market. The department can provide a rough forecast of marijuana tax revenue based on the experiences of Colorado and Washington, states that legalized recreational marijuana two years earlier than Alaska did. Revenue numbers from Colorado and Washington are scaled to account for Alaska's population, the slow pace of marijuana business license approvals, and the appropriate tax rate.

The forecast for the unrestricted share of marijuana tax revenue in FY 2017 $2.5 million, but the department believes revenue could be anywhere between $0.7 million (P90) and $4.8 million (P10). The low figure reflects a slow pace of license approvals and/or consumers failing to switch from the illegal to the legal market, while the high end would occur if legal consumption rates are more in line with Colorado, which experienced unexpectedly high revenue. In FY 2018 the forecast is $5.3 million, and actual revenue could be anywhere from $2.2 million (P90) to $8.3 million (P10). The higher numbers for FY 2018 reflect the fact that both Washington and Colorado received much more revenue in the second year of legal marijuana than the first year, as more businesses opened and consumers switched to the legal market. The forecasts for the restricted share are the same, since the split is exactly half and half.

Mining License Tax

The mining license tax ranges from 0% to 7% of the net income of most mining operations in the state. New mining operations are exempt from the tax for a period of 3½ years after production begins. Sand and gravel operations are exempt from the tax as well.

This forecast uses a bottom-up approach to estimate tax payments for each of the major mines in the state based on expected minerals prices and production. Mining tax revenue decreased from $38.6 million in FY 2015 to $10.7 million in FY 2016. Gold, zinc, and silver play the largest role in mining tax, as the largest

mines in the state rely heavily on those three metals. The revenue decrease was due to declines in metal prices, since production stayed level or even increased at most of Alaska's major mines. Metal prices have a disproportionate effect on revenue because the mining tax is based on the company's profits rather than gross value of resources.

Because of the volatility in metal prices, the mining tax is one of the most difficult to forecast. Gold, silver, and zinc prices have risen strongly since the end of FY 2016 and analysts currently project these high prices to continue, so the department projects mining tax revenue to rebound near its former levels. However, there is great uncertainty in metal prices and therefore in the revenue projections. The FY 2017 forecast is $35.5 million, but the department believes revenue could be anywhere between $12.7 million (P90) in a low-prices case and $65.9 million (P10) in a high-prices case, falling in between if some prices are high and others low. The FY 2018 forecast is $39.3 million, but actual revenue could range from $13.9 million (P90) to $73.7 million (P10), again depending mainly on prices.

Motor Fuel Tax

The motor fuel tax is imposed on motor fuel sold, transferred, or used within Alaska. Per-gallon rates are $0.08 for highway use, $0.05 for marine fuel, $0.047 for aviation gasoline, $0.032 for jet fuel, and $0.08 or $0.02 for gasohol, depending on the season, location, and U.S. Environmental Protection Agency mandate. Motor fuel taxes are collected primarily from wholesalers and distributors licensed as qualified dealers. Various uses of fuel are exempt from tax, including fuel used for heating or international flights.

The federal government required that all aviation fuel tax revenue be used in direct support of the airports where the revenue is generated. As a result, beginning with this Fall 2016 *Revenue Sources Book*, all aviation gasoline and jet fuel revenue is shown as other restricted revenue. This includes the 60% of revenue attributable to aviation fuel sales at municipal airports that is shared with the respective municipalities. Remaining motor fuel tax revenue is considered unrestricted, though it is accounted for in specific highway and watercraft accounts within the general fund.

Revenue from the motor fuel tax (including aviation fuel) rose slightly from $41.8 million in FY 2015 to $42.3 million in FY 2016. In 2016, the Legislature altered the motor fuel tax to include a refined fuel surcharge of $0.0095 per gallon on non-aviation fuel as well as certain non-motor fuels such as home heating oil. The surcharge is intended to benefit the Alaska Department of Environmental Conservation's Spill Prevention and Response Division, but is officially part of the unrestricted motor fuel tax. This new surcharge raised $6.5 million in FY 2016, its first year in effect.

The motor fuel tax has been one of Alaska's less volatile sources of revenue, so the forecasts are fairly precise. The FY 2017 forecast for total motor fuel tax revenue is $47.9 million, and the Department of Revenue believes actual revenue could range from $44.8 million (P90) to $51.0 million (P10) depending on population growth and fuel consumption. The FY 2018 forecast for the total is $48.1 million, and actual revenue could fall between $43.6 million (P90) and $52.8 million (P10). Table 5-2 shows the projected breakdown of the different components, including aviation fuel, non-aviation fuel, and the conservation surcharge.

Seafood Assessments and Taxes

The department administers five different programs that collect funds through seafood assessments and taxes. The rates for these assessments and taxes are determined by a vote of the appropriate association within the seafood industry, by members of the Alaska Seafood Marketing Institute, or by the department. The five programs are:

- The seafood marketing assessment, which applies to all seafood products made or first landed in Alaska and all unprocessed products exported from Alaska. It is currently a 0.5% assessment and supports the operations of the Alaska Seafood Marketing Institute.

- The dive fishery management assessment is levied on the value of fishery resources taken using dive gear in a designated management area. The current assessment rate is 5% for sea cucumbers and 7% for geoducks and sea urchins. Dive fishery taxes are based on the value of the fishery in the prior fiscal year.

- The regional seafood development tax, which is levied on the value of fishery resources in a designated management area. The current tax rate is 1% and covers drift and set gillnet operations in Prince William Sound, as well as drift gillnet operations in Bristol Bay. Seafood development tax revenue is based on the estimated taxable value of seafood processed in Alaska.

- The salmon enhancement tax is levied on salmon sold or exported from designated aquaculture regions. The rate varies from 2% to 3% by location.

- The cost recovery fisheries assessment is a program authorized in 2006 that allows hatcheries to establish a common property fishery and

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Revenue from Charges for Services

By restriction and source

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Revenue from Charges for Services			
General Government	12.8	12.8	12.8
Natural Resources	1.4	1.4	1.4
Other	7.3	7.3	7.3
Total Unrestricted Revenue from Charges for Services	**21.5**	**21.5**	**21.5**
Restricted			
Designated General Fund			
DCCED Business Licenses	9.0	9.0	9.0
Environmental Compliance Fees	1.0	1.1	1.1
General Government – General Fund Subfunds	7.7	7.7	7.7
Marine Highway Receipts	47.2	53.6	53.6
Natural Resources	0.2	0.2	0.2
Ocean Ranger Fees	1.1[1]	4.2	4.2
Oil and Gas Conservation	7.6	7.6	7.6
Regulatory Commission of Alaska Receipts	10.6	11.2	11.2
Receipt Supported Services	170.2	178.2	176.8
Timber Sale Receipts	0.9	1.0	0.9
Subtotal Designated General Fund	**255.5**	**273.8**	**272.3**
Other Restricted			
General Government – Special Funds	0.4	0.4	0.4
Statutorily Designated	88.7	122.4	125.1
Subtotal Other Restricted	**89.1**	**122.8**	**125.5**
Total Restricted Revenue from Charges for Services	**344.6**	**396.6**	**397.8**
Total Revenue from Charges for Services	**366.1**	**418.1**	**419.3**

[1] Following completion of this publication, it was discovered that FY 2016 Ocean Ranger Fees should have been reported as $4.0 million, not $1.1 million. This change will be reflected in the spring 2017 update and does not impact any of the forecasts shown.

Chapter 5

5 Fines and Forfeitures

By restriction

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Revenue from Fines and Forfeitures	**11.4**	**11.4**	**11.4**
Restricted			
Designated General Fund			
Tobacco Settlement (Tobacco Use Education and Cessation Fund)	6.1	5.8	5.7
Other – General Fund Subfunds	3.3	3.3	3.3
Subtotal Designated General Fund	**9.4**	**9.1**	**9.0**
Other Restricted			
Tobacco Settlement (Northern Tobacco Securitization Corporation)	24.3	23.1	22.9
Other – Special Revenue Funds	0.4	0.4	0.4
Subtotal Other Restricted	**24.7**	**23.5**	**23.3**
Restricted Revenue from Fines and Forfeitures	**34.1**	**32.6**	**32.3**
Total Revenue from Fines and Forfeitures	**45.5**	**44.0**	**43.7**

recoup costs through an assessment on fishery resources taken in the terminal harvest area. This program was first used in 2012 for the Hidden Falls hatchery in Southeast Alaska.

Revenue received under these assessments is deposited in the general fund. Funds treated as other restricted revenue in this forecast are set aside for appropriation for the benefit of the seafood industry, either in marketing or for management and development of the industry.

The department uses the estimated taxable value of Alaska's salmon fishery, and historical effective tax rates to forecast salmon enhancement tax revenue. The department forecasts other seafood assessments and taxes using the same estimates of fisheries values developed for the fisheries business and landing taxes. The forecast for total revenue from seafood assessments in FY 2017 is $18.0 million, and actual revenue could range from $15.0 million (P90) to $21.2 million (P10) depending on fish runs and prices. The total forecast in FY 2018 is $19.4 million, and actual revenue could range from $14.1 million (P90) to $25.3 million (P10). Table 5-2 shows the projected breakdown of the different seafood assessments.

Tire Fee

The tire fee has two components. The first component is a fee of $2.50 on all new tires sold in Alaska for motor vehicles intended for highway use. The second component is an additional $5 fee per tire on all new tires with heavy studs sold in Alaska, and a $5 fee per tire on the installation of heavy studs on a previously un-studded tire. Tires sold to federal, state, or local government agencies for official use are exempt from the fee, as well as certain tires with lightweight studs. The department forecasts the tire fee based on the historical growth rate of revenue. The mean forecast is $1.5 million for both FY 2017 and FY 2018.

Tobacco Tax

The tobacco tax is levied on cigarettes and tobacco products sold, imported, or transferred into Alaska. Tobacco taxes are collected primarily from licensed wholesalers and distributors. There are two components to the tobacco tax: the cigarette tax, and the other tobacco products tax.

The tax rate on cigarettes has been $2.00 per pack since July 1, 2007. Of the cigarette tax, $0.76 per pack

Chapter 5

6 Revenue from Licenses and Permits

By restriction and source

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Revenue from Licenses and Permits			
Motor Vehicles	38.0	35.5	35.5
Other Fees	3.2	3.2	3.2
Total Unrestricted Revenue from Licenses and Permits	**41.2**	**38.7**	**38.7**
Restricted			
Designated General Fund			
Other Fees – General Fund Subfunds	**1.5**	**1.5**	**1.5**
Other Restricted			
Alcoholic Beverage License Share	0.9	0.9	0.9
Hunting and Fishing Fees (Fish and Game Fund)	29.5	31.8	39.2
Other Fees – Special Revenue Funds	3.9	3.9	3.9
Subtotal Other Restricted	**34.3**	**36.6**	**44.0**
Total Restricted Revenue from Licenses and Permits	**35.8**	**38.1**	**45.5**
Total Revenue from Licenses and Permits	**77.0**	**76.8**	**84.2**

is deposited into the School Fund, and is considered designated restricted revenue. All cigarette and tobacco products license fees are also deposited into the School Fund. The remainder of the cigarette tax revenue is deposited into the general fund. Of the general fund portion, 8.9% ($0.11 per pack) is deposited into a subfund of the general fund, the Tobacco Use Education and Cessation Fund, and is treated as designated restricted revenue.

The department's forecast for cigarette tax revenue is based on past rates of decline in cigarette consumption. In recent years, the total number of cigarettes purchased in Alaska has fallen by about 20 million per year, translating to a roughly $2 million yearly decline in total cigarette tax revenue. Cigarette tax revenue rose slightly in FY 2016, but the department projects that cigarette tax revenues will continue to decline, as the overall trend of cigarette consumption remains downward.

The tax rate on other tobacco products, such as cigars and chewing tobacco, is 75% of the wholesale price and is deposited entirely in the general fund. The revenue from other tobacco products is projected to rise due to moderate increases in both wholesale prices and consumption levels.

Overall, tobacco taxes are one of the state of Alaska's least volatile sources of revenue, so there is not much uncertainty in the forecasts. The FY 2017 forecast for total tobacco tax revenue is $65.3 million, and actual revenue could fall between $62.8 million (P90) and $67.8 million (P10) depending on population growth and the rate of tobacco consumption. The FY 2018 forecast for the total is $64.6 million, and actual revenue could range from $61.1 million (P90) to $68.2 million (P10).

Table 5-2 shows the projected breakdown of the different components, including the other tobacco products tax and unrestricted versus restricted portions of the cigarette tax.

Certain cigarettes and tobacco are exempted from the tax: cigarettes and tobacco (1) transported into

Chapter 5

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Revenue from Rents and Royalties

By restriction and source

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Revenue from Rents and Royalties			
Mining Rents and Royalties[1]	12.7	15.4	15.4
Other Non-Petroleum Rents and Royalties	12.0	15.5	15.5
Total Unrestricted Revenue from Rents and Royalties	**24.7**	**30.9**	**30.9**
Restricted			
Designated General Fund			
Other Non-Petroleum Rents and Royalties	4.2	4.2	4.2
Other Restricted			
Mining Rents and Royalties	4.7	5.7	5.7
Total Restricted Revenue from Rents and Royalties	**8.9**	**9.9**	**9.9**
Total Revenue from Rents and Royalties	**33.6**	**40.8**	**40.8**

[1] Includes revenue from materials sales from state land, primarily sales of gravel. These sales totaled $7.3 million in FY 2016 and are not subject to sharing with the Permanent Fund or Public School Trust Fund.

the state by an individual for personal consumption, (2) imported or acquired by one of the uniformed services of the United States, or (3) imported or acquired by federally recognized Indian tribes.

Vehicle Rental Tax

Vehicle rental tax is a 10% tax on most passenger vehicle rentals of 90 days or less, and a 3% tax on rentals of recreational vehicles for 90 days or less. Exemptions include taxis, rentals to government agencies, and trucks used for transporting personal property. Revenue from the vehicle rental tax is deposited into the general fund but is designated for tourism marketing purposes. Beginning with this Fall 2016 *Revenue Sources Book*, revenue from the vehicle rental tax is shown as designated general fund revenue, consistent with how this revenue is treated in budget documents.

Revenue from the vehicle rental tax is projected based on GDP growth, since most vehicle renters are tourists and tourism increases when the overall economy is strong. Vehicle rental tax revenue increased by 8% in FY 2016 following a 17% increase in FY 2015, and the department expects it to continue rising modestly unless there is an economic downturn. The FY 2017 forecast for vehicle rental tax revenue is $11.1 million, but actual revenue could fall between $9.9 million (P90) and $12.3 million (P10) depending on the strength of economic growth and the tourism industry specifically. The FY 2018 forecast is $11.7 million, but actual revenue could fall between $9.9 million (P90) and $13.5 million (P10).

Charges for Services

The charges for services category includes fees and other program charges for state services. Revenues reported in this category do not include all charges for state services. This category only includes those services that do not fit into other categories in this report.

Most of these receipts are considered restricted revenue because they are returned to the program where they were generated. The only unrestricted revenue listed in this category comes from charges that do not have program receipt designations, or are not otherwise segregated and appropriated back to a program. Many of the charges for services are small amounts that the department has grouped into the broad categories "general government," "natural resources" and "other." Estimates for these categories are based on

Chapter 5

8 Miscellaneous and Transfer Revenues

By restriction and source

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Miscellaneous and Transfer Revenues			
Miscellaneous	21.6	21.6	21.6
Alaska Housing Finance Corporation	8.7	13.5	18.4
Alaska Industrial Development and Export Authority [1]	17.7	6.3	9.5
Alaska Municipal Bond Bank Authority	0.0	0.0	0.4
Alaska Student Loan Corporation	0.0	0.0	1.2
Alaska Energy Authority	1.0	1.0	1.0
Mental Health Trust	0.0	0.0	0.0
Unclaimed Property	8.0	12.0	8.0
Total Unrestricted Miscellaneous and Transfer Revenues	**57.0**	**54.4**	**60.1**
Restricted			
Designated General Fund			
Miscellaneous – General Fund Subfunds [2]	19.5	19.5	19.5
Other Restricted			
Miscellaneous – Special Revenue Funds [2]	6.8	6.8	6.8
Total Restricted Miscellaneous and Transfer Revenues	**26.3**	**26.3**	**26.3**
Total Miscellaneous and Transfer Revenues	**83.3**	**80.7**	**86.4**

[1] The AIDEA dividend for FY 2018 is an estimate as of Dec. 8, 2016; it will be revised in the *Revenue Sources Book's* spring 2017 update.

[2] These funds represent revenue shown under account codes for "other" or "contributions" in the Alaska State Accounting System for general fund subfunds and special revenue funds.

fiscal year-to-date collections and historical averages. The largest categories of charges for services are listed separately and are discussed below.

Marine Highway Fund

The Alaska Marine Highway Fund is a subfund of the general fund and receives revenue from state ferry system operations. Because revenue is customarily appropriated for Alaska Marine Highway operations, it is considered restricted revenue for this forecast. Revenue projections are based on revenue expectations provided by the Alaska Marine Highway Division within the Alaska Department of Transportation and Public Facilities. The projection is $53.6 million in both FY 2017 and FY 2018.

Environmental Compliance Fund

Commercial passenger vessel fees paid into the Environmental Compliance Fund come from two sources: Ocean Ranger Program fees, and environmental compliance fees. All fees paid into the fund are considered restricted for purposes of this forecast and are based on estimated cruise ship passenger levels. The Ocean Ranger fee is levied on each voyage in Alaska by commercial passenger vessels with 250 or more berths at a rate of $4 per berth. The fee is levied to support the Ocean Ranger Program, which provides for independent observers of engineering, sanitation and health practices aboard the vessels. This fee was imposed as part of a broader commercial passenger vessel-related initiative passed by voters in August 2006.

Environmental compliance fees are levied on commercial passenger vessels with over 50 berths. Fees range from $75 to $3,750 per vessel based on the number of berths, and funds are used to support environmental compliance programs. The projected revenue from environmental compliance fees is $1.1 million in both FY 2017 and FY 2018.

Program Receipts

Under AS 37.05.142 – 37.05.146, receipts from authorized state programs are accounted for separately and appropriated to administer and implement laws related to the particular program, or to cover costs associated with collecting the receipts. Some programs with program receipt authority are not included in the Department of Revenue's Charges for Services category because they are reported elsewhere in this forecast or because they do not generate revenue available for general appropriation.

Expected revenue from program receipts are based on discussions with the Governor's Office of Management and Budget and analysis of the most recent budget expectations for these categories.

Program receipts listed in this section are:

- Receipt-supported services, which include state services such as Alaska Pioneer Homes and occupational licensing funded by program receipts.
- Statutorily designated program receipts, which include money received from sources other than the state or federal government and restricted by the terms of a gift, grant, bequest, or contract.
- Regulatory Commission of Alaska receipts, which are regulatory cost charges and user fees levied on utilities and pipelines to fund costs of regulation.
- Timber sale receipts, which are used to fund the timber disposal program of the Alaska Department of Natural Resources.
- Oil and Gas Conservation Commission receipts, which are fees and charges for regulation of oil and gas wells and pipelines.
- Business license fees collected by the Department of Commerce, Community, and Economic Development.

The projected revenue from receipt supported services and program receipts is $178.2 million in FY 2017 and $176.8 million in FY 2018.

Fines and Forfeitures

Fines and forfeitures include civil and criminal fines and forfeitures and money received by the state from the settlement of civil lawsuits. The largest single source of receipts under this category is the multi-state tobacco settlement often referred to as the Master Settlement Agreement. Other sources are forecast based on fiscal year-to-date collections and historical averages. The projected revenue from fines and forfeitures in both FY 2017 and FY 2018 is about $11 million for the unrestricted portion, $9 million for the designated general fund portion, and $23 million for the other restricted portion.

Tobacco Settlement

The tobacco Master Settlement Agreement was signed by 46 states, including Alaska, in November 1998 and dictates annual payments to each of the states. Eighty percent of the settlement revenue is earmarked for the Northern Tobacco Securitization Corporation (NTSC) for payments on bonds that were sold based on the future revenue stream. The revenue for these bonds is considered other restricted revenue. The remaining 20% of the revenue is deposited into the Tobacco Use Education and Cessation Fund, a subfund of the general fund, and that 20% is considered designated general fund revenue.

Tobacco settlement payments are based on a complex formula that takes into account several factors including declines in cigarette consumption, inflation, and certain adjustments for litigation expenses and market share losses related to the settlement. The projected revenue from the tobacco settlement to the NTSC is $23.1 million in FY 2017 and $22.9 million in FY 2018. For the Education and Cessation Fund portion, it is $5.8 million in FY 2017 and $5.7 million in FY 2018.

Licenses and Permits

Licenses and permits represent revenue derived from charges for participating in activities regulated by the state. The majority of the receipts under this category are from motor vehicle registration and fishing and hunting license fees. Several other small license and permit fees are summarized in the other fees category.

Alcoholic Beverage Licenses

Alcoholic beverage licenses are required to manufacture or sell alcoholic beverages in Alaska, and are issued by the Alcoholic Beverage Control Board within the Department of Commerce, Community and Economic Development. All the revenue from

biennial license fees collected within municipalities, excluding annual wholesale fees and biennial wholesale license fees, is shared with the municipalities and treated as other restricted revenue for purposes of this forecast. Beginning with this Fall 2016 *Revenue Sources Book*, after consultation with the Office of Management and Budget, and the Legislative Finance Division, remaining revenue is shown as designated general fund, as these funds are considered program receipts supporting the service of issuing alcoholic beverage licenses.

The Department of Revenue expects little change in revenue because the issuance of alcoholic beverage licenses is limited based on population, and population growth is relatively steady. For both FY 2017 and FY 2018, the forecast for alcoholic beverage licenses is $1.3 million, and the forecast for other designated general fund licenses and permits is $0.2 million, for a total of $1.5 million.

Hunting and Fishing License Fees

Hunting and fishing licenses are issued by the Alaska Department of Fish and Game for participation in various hunting, fishing, and other related activities. The majority of this revenue is appropriated to a special revenue fund called the Fish and Game Fund and is classified as other restricted revenue. Money in the fund can only be spent for fish and game management purposes. Forecasts of revenue from hunting and fishing license fees are provided by the Department of Fish and Game.

Hunting and fishing license fees are expected to increase substantially because of House Bill 137, which passed during the 2016 legislative session and raised the fees for a variety of licenses and big-game tags. The law will take effect Jan. 1, 2017, so it will be in effect for half of FY 2017 and all of FY 2018. The forecast calls for hunting and fishing fees to rise from $29.5 million in FY 2016 to $31.8 million in FY 2017 and $39.2 million in FY 2018.

Motor Vehicle Registration Fees

Motor vehicle registration fees are collected by the Division of Motor Vehicles within the Department of Administration. Most fees are considered unrestricted license and permit revenue; however, some registration fees are considered restricted receipt-supported services and are reflected in the Charges for Services section above. Historical and forecasted revenue from motor vehicle registration fees is based on data provided by the Division of Motor Vehicles. The FY 2017 and FY 2018 forecast for motor vehicle registration fees is $35.5 million each year.

Rents and Royalties

Rents and royalties from sources other than oil and gas fall into two categories: mining rents and royalties, and other non-petroleum rents and royalties. All rents and royalties from oil and gas are reported in Chapter 4, Petroleum Revenue.

Mining Rents and Royalties

As with oil and gas production, the state earns revenue from other mineral production that occurs on state lands leased for exploration and development. As the landowner, the state earns revenue from leases as: (1) up-front bonuses, (2) annual rent charges, and (3) as a retained royalty interest in minerals production.

Revenue received from mining rents and royalties is deposited as follows: between 25% and 50% into the Permanent Fund, 0.5% into the Public School Trust Fund, and the remainder into the general fund. The Permanent Fund and Public School Trust Fund portions are treated as other restricted revenue.

The Department of Revenue forecasts revenue from mining rents and royalties based on an average of revenue in recent years. The forecast for the unrestricted portion is $15.4 million in both FY 2017 and FY 2018. For the restricted portion, it is $5.7 million in both FY 2017 and FY 2018.

Other Non-Petroleum Rents and Royalties

The state receives revenue from the leasing, rental, and sale of state land. While all of this revenue is deposited into the general fund, some is deposited into subfunds of the general fund and is treated as designated general fund revenue for purposes of this forecast. This category includes revenue from leasing, rental, and the sale of state land that does not fall into the oil and gas or mining royalty categories. Other non-petroleum rents and royalties are based on analysis of fiscal year-to-date and historical collections.

The forecast for the unrestricted portion of these royalties is $15.5 million in both FY 2017 and FY 2018, and for the restricted portion it is $4.2 million in both years.

Miscellaneous and Transfer Revenues

This category includes unclaimed property transfers, transfers to the state from component organizations, and miscellaneous revenue. Projections of miscella-

neous revenue, which include contributions to the state and other revenue, are based on analysis of fiscal year-to-date and historical collections. Unclaimed property and transfers from component organizations are discussed below.

Unclaimed Property

Alaska's unclaimed property statutes require businesses and corporations to report unclaimed intangible property to the state. Property is reportable if an owner cannot be located, the owner has not cashed a property check, or an account has not had any owner-initiated activity for at least three years. Unclaimed property may include checking accounts, customer deposits and over-payments, gift certificates, unpaid wages, and security-related accounts. The state holds the property in trust until the owner or his or her legal heir claims it. Each year the unclaimed property trust account is evaluated and the excess of the working trust balance is transferred to the general fund. The projected revenue from unclaimed property is $12 million in FY 2017 and $8 million in FY 2018.

Transfers from Component Organizations

Each year, the state receives money in the form of transfers from component organizations, such as the Alaska Housing Finance Corporation, and the Alaska Industrial Development and Export Authority, frequently in the form of dividends. Component organizations are covered in more detail in Chapter 10, State Entities. Some component organizations do not make transfers to the state and, as a result, not all component organizations are listed here.

Estimates of FY 2016 transfers, and forecasts for FY 2017 and FY 2018 transfers are based on discussions with the Office of Management and Budget, and analysis of the most recent budget expectations for these categories. The forecasts for the component organizations are found in Table 5-8.

Transfers from component organizations presented under this category may differ from those presented in Chapter 10 for two reasons: (1) amounts in this section account differently for funds paid over time for multi-year capital projects, and (2) amounts in this section include funds that are transferred to the state and then appropriated to the component unit for operations.

Chapter 6

Federal Revenue

General Discussion

The federal government continues to play a significant role in Alaska's economy. In FY 2016, the State of Alaska was authorized for $3.5 billion in federal funds; however, the Department of Revenue estimates that the state only received $2.5 billion, constituting roughly 44% of total state revenue. This federal funding is considered restricted to specific uses such as road improvements, Medicaid payments, and aid to schools. Potential changes to federal law, differing federal and state fiscal years, and varying numbers of eligible Alaskans in certain programs make forecasting federal revenue difficult.

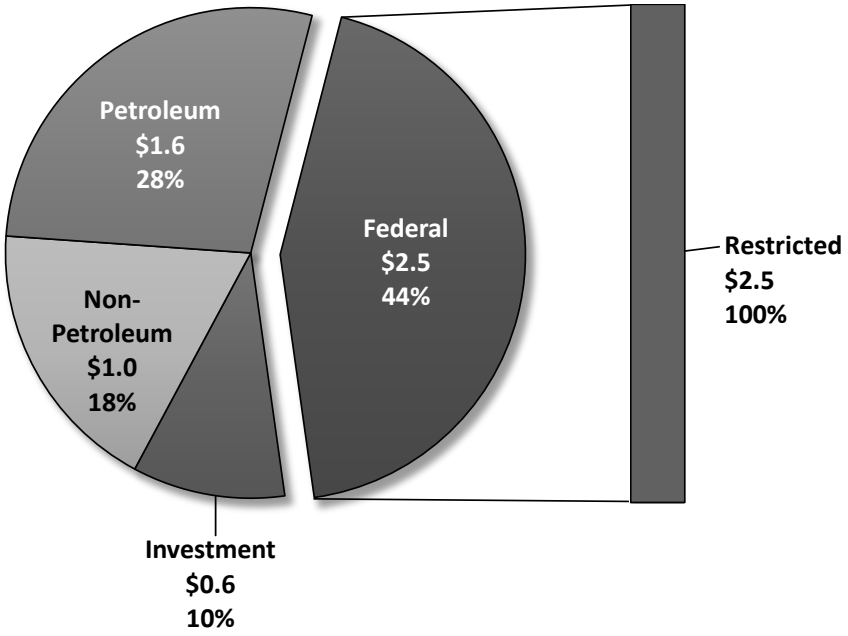
Forecast

Estimates of FY 2017 and FY 2018 receipts come from the Office of Management and Budget in the Governor's Office and are based on state agency projections of potential federal revenue. Table 6-1 provides an estimated FY 2016 actual and FY 2017-2018 forecasts.

Chapter 6
A

FY 2016 Federal Revenue

By restriction and type, in billions of dollars



Chapter 6
1

Total Federal Revenue

By restriction

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted General Fund			
Federal Receipts	0.0	0.0	0.0
Restricted (Federal)			
Federal Receipts Authorization [1]	2,512.7	3,554.2	3,149.4
Total Federal Revenue	**2,512.7**	**3,554.2**	**3,149.4**

[1] This amount includes federal receipts other than Alaska's share of the royalties from the National Petroleum Reserve-Alaska, which are presented in Chapter 2.

Chapter 6
2

Budgeted State Matching Requirement

Top spending categories

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
State Matching Requirement			
Operating Budget	606.2	616.0	614.7
Capital Budget	74.2	79.9	186.8
Total Matching Requirement	**680.4**	**695.9**	**801.5**
Top Spending Categories			
Transportation Projects	1,130.3	1,214.6	1,542.0
Medicaid	1,089.4	1,143.3	1,165.1
Education (K-12, University of Alaska)	391.6	392.8	385.1

Source: Office of Management and Budget, Office of the Governor.

During FY 2017, the State of Alaska is authorized to receive $3.6 billion in federal funds, a slight increase over FY 2016 when it was authorized to receive $3.5 billion. It is important to note that the Legislature authorizes state agencies to receive and spend the maximum that federally funded programs might receive, while actual appropriation amounts are historically 20% to 30% lower. The Department of Revenue attempts to forecast actual federal appropriations based on this historical trend, but the authorized amount is what appears in the *Revenue Sources Book*. In addition, some of the funding granted for multi-year capital projects is received and spent in years following the year in which the money is procured. All federal funds, whether spent in the operating or capital budget, are limited in how they may be used; therefore, they are shown as restricted revenue.

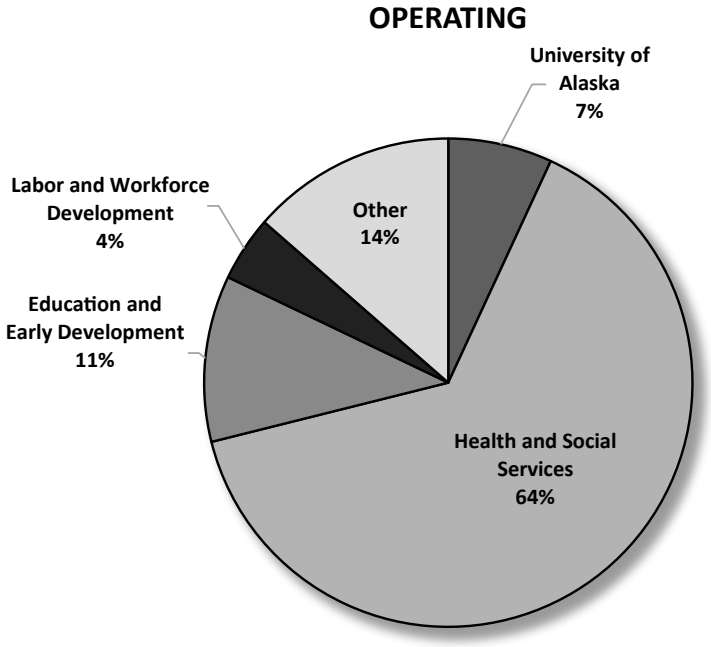
State Matching

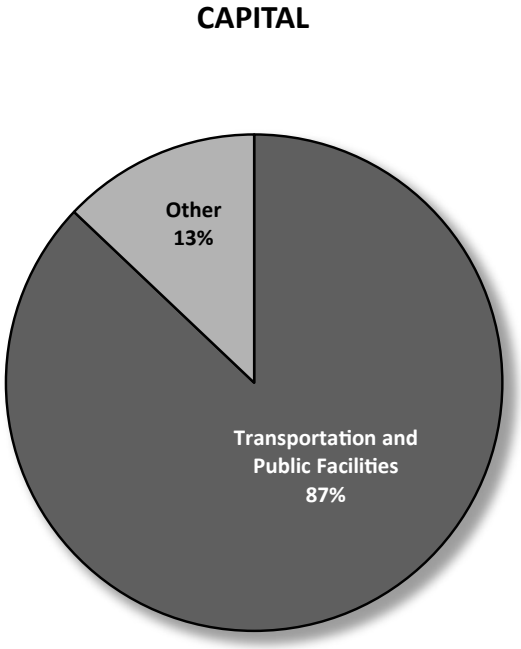
Most federal funding requires state matching. The state match for federal spending in FY 2016 and the enacted FY 2017 budgeted amount are included in Table 6-2. Overall, in FY 2016, Alaska was authorized to spend $680.4 million in matching funds and to receive $3.5 billion. This means Alaska was authorized

Chapter 6
B

FY 2016 Federal Revenue Allocation

Revenue in operating and capital budgets, by recipient agency





to receive roughly $5.09 in federal funds for each dollar it was authorized to spend in matching state funds. These numbers are all authorized amounts, not actual amounts, because actual federal funds receipts for FY 2016 are not yet available.

Distribution of Restricted Revenue

Of the federal funds the state was authorized to receive in FY 2016, 63% ($2.2 billion) was authorized to go into the operating budget and the remaining 37% ($1.3 billion) was authorized to go into the capital budget. Medicaid, through the Alaska Department of Health and Social Services, was authorized to receive 32% of the total federal funds ($1.1 billion out of $3.5 billion), making it the largest destination for federal funds within the operating budget. The Alaska Department of Education and Early Development, and the University of Alaska were other major recipients, together authorized to receive 11% of total federal funds ($392 million).

In the capital budget, the Alaska Department of Transportation and Public Facilities is the dominant destination for federal funds, being authorized to receive about 33% of total federal funds ($1.1 billion) in FY 2016.

The figures shown for FY 2017 in Table 6-2 for state matching do not represent unrestricted general fund money, unlike in past years, since the FY 2017 uses other funds for these purposes. The operating budget matching numbers for FY 2017 and FY 2018 are indeterminate. The numbers for transportation and Medicaid in FY 2018 are speculative since the FY 2018 budget has not yet been prepared.

Figure 6-B illustrates a more detailed distribution of federal funds the state was authorized to receive; the distribution of funds actually received may differ slightly.

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Chapter 7

Investment Revenue

Overview

The total investment revenue for FY 2016 was approximately $0.6 billion, with nearly all of it classified as restricted revenue as shown in Figure 7-A. The majority (69%) of revenues from investments in FY 2016 were from the Alaska Permanent Fund. Table 7-1 shows there are higher investment returns forecasted for FY 2017-2018, primarily from the Alaska Permanent Fund.

To forecast investment revenue, the Department of Revenue combined actual performance through Sept. 30, 2016, with a projection for the remainder of the fiscal year. Forecasts and capital-market median returns are based on information provided in the five- to 10-year capital-market returns projection, provided by the state's investment consultant, Callan Associates, Inc.

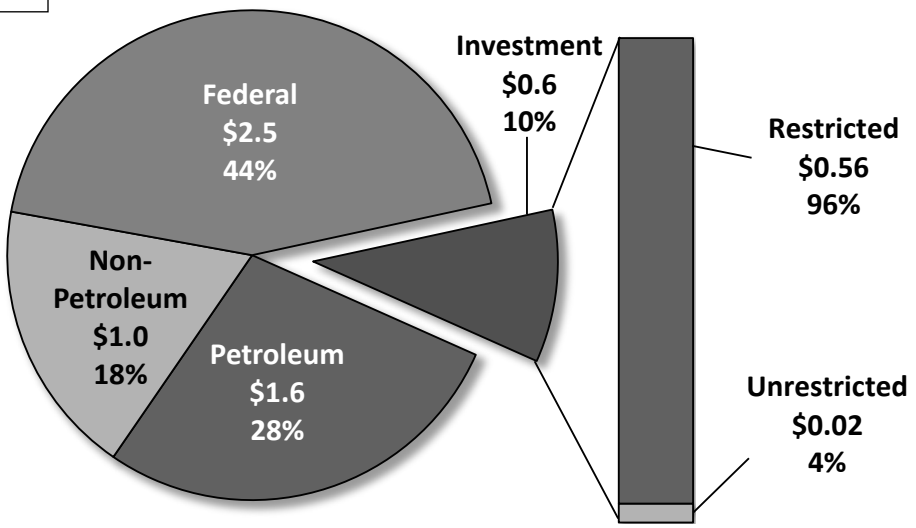
Table 7-2 shows a summary of Callan's long-term capital-market projections, as well as the benchmark against which performance for a specific asset class is measured in the state portfolios. The column titled, "Projected Return" is the estimated annual rate of return. The numbers in the "Projected Risk" column represent a statistical measure called standard deviation, which is the most commonly used measure of risk in the investment world. The standard deviation is a measure of the dispersion of data around its mean.

The analyst can use the standard deviation to provide a range of possible outcomes at any desired level of confidence. With a bell-curve (normal) distribution,

Chapter 7 **A**

FY 2016 Investment Revenue

By restriction and type, in billions of dollars



Chapter 7
1

Total Investment Revenue[1]

By restriction and detail, in millions of dollars

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Investment Revenue			
Investments	20.9	17.0	30.8
Interest Paid by Others	1.6	1.6	1.6
Total Unrestricted Investment Revenue	**22.5**	**18.6**	**32.4**
Restricted			
Designated General Fund Revenue			
Investments – Designated General Fund[2]	2.4	1.6	2.5
Other Treasury-Managed Funds	11.9	43.8	36.6
Subtotal Designated General Fund	**14.3**	**45.4**	**39.1**
Other Restricted			
Investments – Other Restricted	4.8	3.2	5.1
Constitutional Budget Reserve Fund	138.3	99.9	51.4
Alaska Permanent Fund (realized earnings)	2,216.3	2,756.2	3,318.4
Alaska Permanent Fund (unrealized earnings)	-1,817.7	672.4	391.2
Subtotal Other Restricted Revenue	**541.7**	**3,531.7**	**3,766.1**
Total Restricted Investment Revenue	**556.0**	**3,577.1**	**3,805.2**
Total Investment Revenue	**578.5**	**3,595.7**	**3,837.6**

[1] Governmental Accounting Standards Board (GASB) principles require the recognition of changes in the value of investments as income or losses at the end of each trading day, whether the investment is actually sold or not.

[2] Includes subfunds of the general fund.

approximately 68% of the observed outcomes are expected to be one standard deviation from the mean. A greater level of confidence (for instance, 95%) would require a broader range (two standard deviations).

For example, Callan estimates an average annual return for the Domestic Fixed Income asset class of 3.00% and a projected risk for that asset class of 3.75%. That means Callan is forecasting, with a normal distribution, the annual return for the Domestic Fixed Income asset class will fall between -0.75% and 6.75% (one standard deviation). A prediction at 95% confidence would run from -4.50% to 10.50% (plus or minus two standard deviations from the mean), and is too broad a range to be useful. The probability that a particular asset class or portfolio will have a negative return over a given period of time reflects the downside risk of the asset class or portfolio.

Unrestricted Investment Revenue

"Unrestricted investment revenue" is earned on some of the funds invested through the GeFONSI (General Fund and other non-segregated investments[1])

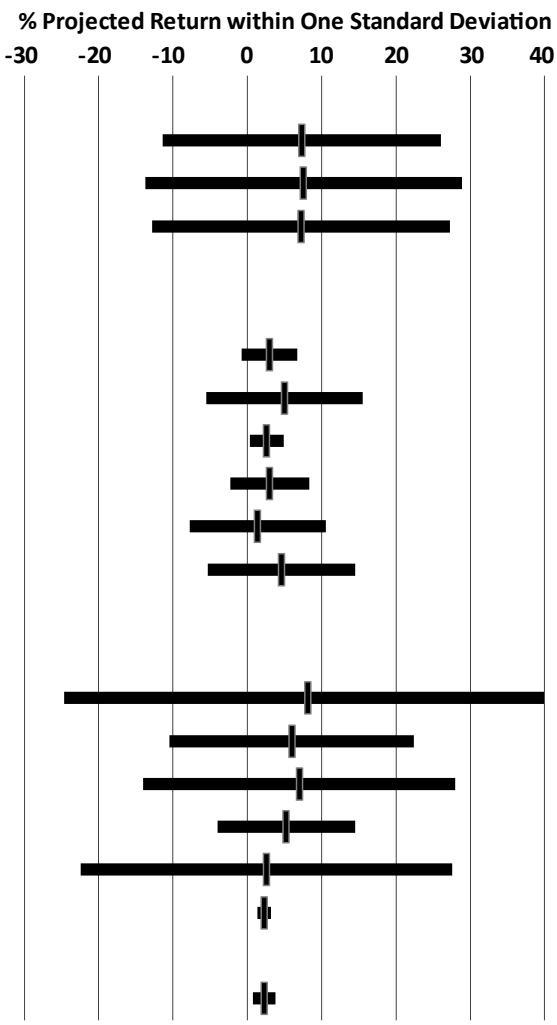
[1] The Department of Revenue invests general fund cash balances alongside cash balances from certain other funds, in a single investment pool. This general fund investment pool is referred to as GeFONSI, which is the acronym for "General Fund and other non-segregated investments." Earnings from the GeFONSI investment pool are primarily unrestricted revenue, but also include some restricted revenue from balances in general fund subfunds and special revenue funds.

Chapter 7
2

2016 Summary of Callan Associates, Inc.

Long-term capital market projections

Asset Class	Benchmark for Asset Class	Projected Return: 10-Year Geometric[1]	Projected Risk: Standard Deviation
Equities			
Broad Domestic Equity	Russell 3000 Index	7.35%	18.70%
Global ex-US Equity	MSCI ACWI ex-USA	7.55%	21.30%
International Equity	MSCI World ex-USA	7.25%	20.05%
Fixed Income			
Broad Market	Barclays Aggregate	3.00%	3.75%
High Yield	Barclays High Yield	5.00%	10.50%
Intermediate Term	Barclays 1-3 Year G/C	2.60%	2.25%
TIPS	Barclays TIPS	3.00%	5.30%
Non-U.S. Fixed	Barclays Global AGG.ex-USD	1.40%	9.20%
Emerging Market Debt	EMBI Global Div.	4.60%	9.90%
Other			
Private Equity	TR Post Venture Cap	8.15%	32.80%
Real Estate	Callan Real Estate Database	6.00%	16.45%
REITs	FTSE NAREIT All Equity	7.00%	21.00%
Hedge Funds	Callan Hedge FoF	5.25%	9.30%
Commodities	GS Commodity	2.55%	25.00%
Cash Equivalents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%



[1] Geometric returns are derived from arithmetic returns and associated risk (standard deviation).

pool. These funds are managed by the department's Treasury Division. "Interest paid by others" is interest received by the state that does not fall under other categories. Oil and gas royalty interest, production tax interest, and corporate income tax interest are included in the petroleum revenue section of this forecast.

Restricted Investment Revenue

"Restricted investment revenue" consists of earnings from governmental funds, the Constitutional Budget Reserve Fund (CBRF – Main), other Treasury Division-managed governmental funds, and the Alaska Permanent Fund.

The application of Callan's five- to 10-year capital-market returns projection to the Alaska Permanent Fund Corporation's current asset allocation results in a 6.95% median expected total return. These estimates result in forecasted earnings of $3.4 billion for FY 2017 and $3.7 billion for FY 2018. Actual net income returns for FY 2016 was $0.4 billion, $2.0 billion below the spring 2016 forecast. This highlights the effect that unanticipated market fluctuations have on the earnings of the fund.

Revenue attributable to the Alaska Permanent Fund is shown as other restricted revenue in this forecast, consistent with the presentation for the department's previous *Revenue Sources Books*. However, Permanent Fund earnings are separated into two components.

"Realized earnings" represent gains or losses from the sale of assets, dividends received, and interest earned

Chapter 7
3

General Fund Investment Pool Revenues

Includes non-segregated investments invested alongside general fund

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Unrestricted			
Unrestricted Investment Revenue	20.9	17.0	30.8
Restricted			
Restricted Investment Revenue			
Designated General Fund [1]	2.4	1.6	2.5
Investments – Other Restricted	4.8	3.2	5.1
Total	**28.1**	**21.8**	**38.4**

[1] Includes subfunds of the general fund.

from assets held by the fund. Though shown in the "other restricted" category due to historical practice, realized earnings are technically available for appropriation by the Alaska Legislature with a majority vote. "Unrealized earnings" represent gains or losses in the value of assets that have not yet been sold and therefore do not impact revenue available for appropriation. The total revenue attributable to the Permanent Fund, per Governmental Accounting Standards Board principles, is the sum of these two categories.

Expected Lifetime of the CBRF

As approved by voters in 1990, all receipts from oil and gas tax and royalty settlements are deposited into the CBRF after deduction of any applicable portion to the Permanent Fund and Public School Trust Fund. From the CBRF's inception, contributions to the fund, net of withdrawals, totaled approximately $2.0 billion. With total investment earnings of $5.3 billion, the net asset value of the CBRF was $7.3 billion as of June 30, 2016. The official CBRF balance at the end of FY 2016 will be released in conjunction with Alaska's FY 2016 Comprehensive Annual Financial Report (CAFR) published by the Alaska Department of Administration's Finance Division. In 2014, the Legislature approved a $3 billion transfer from the CBRF to the Public Employees' Retirement System and Teachers' Retirement System. This transfer as well as additional authorized withdrawals to balance the state's budget will need to be paid back to the CBRF under law.

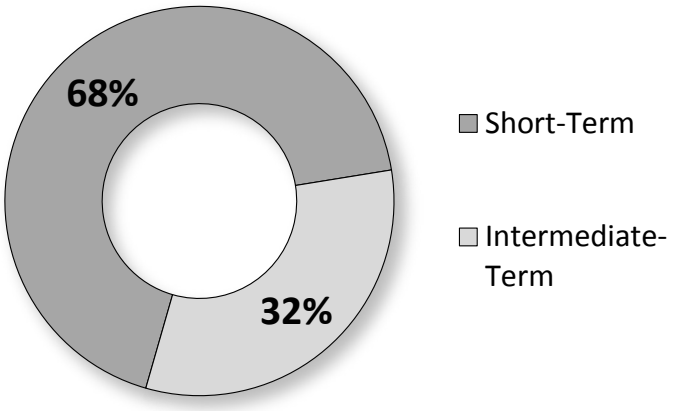
Table 7-11 is a matrix that estimates the time period when the CBRF would be depleted, depending on the price of oil, percent change in the budget, and the current production forecast. On the right side of the matrix are estimates based on the official price forecast for fall 2016. In the event of a budget deficit, the table estimates all draws are taken from the CBRF to balance the budget, but actual funding used to balance the state's budget may differ.

Table 7-11 shows that, given the current oil price and production forecast and an assumption of 2% annual budget decreases from FY 2018 levels, the CBRF would be depleted in April 2019. However, projecting out an oil price of $80 with the current production forecast, and an assumption of 4% budget decreases, the CBRF could be depleted in July 2020.

Chapter 7
B

General Fund Investment Pool

Moderate risk: short to intermediate horizon



Short-term: three-month U.S. T-Bill. Intermediate-term: Barclays one- to three-year Government Bond Index.

Chapter 7
4

General Fund Investment Pool

Asset allocation and summary

Treasury Pool	Target Percent Allocation	Performance Benchmark
Liquidity Pool / Short-term Fixed Income Pool	68%	Three-month U.S. Treasury Bill
Intermediate-Term Fixed Income Pool	32%	Barclays 1-3 Year Gov't Bond Index
Bank Bonds	0%	Allocation up to 2%
T-Bills, T-Notes, T-Bonds or Federal Agency Debentures	0%	Allocation up to 2%
Broad Fixed Income	0%	Allocation up to 10%
Tax Credit Loans	0%	Allocation up to 2%
Investment Balance: Sept. 30, 2016	$3,228.7	million
Long-Term Expected Rate of Return	2.36%	Callan's returns
Probability of Negative Return Over 1 Year	1.43%	

Chapter 7
5

Statutory Budget Reserve Fund [1]

Asset allocation and summary

Investment Balance: Sept. 30, 2016 [2]	**$0.0**	**million**

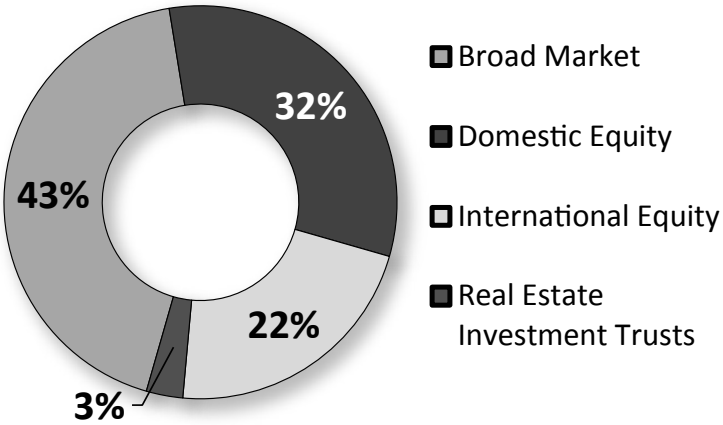
[1] The Statutory Budget Reserve Fund (SBRF) was segregated from the general fund and given its own asset allocation July 1, 2013.

[2] The SBRF balance at Sept. 30, 2016, reflects draws for general fund cash needs. For more information on the General Fund Sufficiency Balance, go to http://treasury.dor.alaska.gov/Portals/0/docs/cash_management/fy16a.pdf.

Chapter 7
C

Public School Trust Fund – Principal Assets

Moderate risk: long-term investment horizon



Broad Market: Barclays U.S. Aggregate. Domestic Equity: Russell 3000 Index. International Equity: MSCI ACWI ex-U.S. Real Estate Investment Trusts: FTSE NAREIT All Equity Index.

Chapter 7
6

Public School Trust Fund

Asset allocation and summary

Treasury Pool	Target Percent Allocation	Performance Benchmark
Broad Market Fixed Income Pool	43%	Barclays U.S. Aggregate
Domestic Equity Pool	32%	Russell 3000 Index
International Equity Pool	22%	MSCI ACWI ex-U.S.
Real Estate Investment Trusts	3%	FTSE NAREIT All Equity Index
Short-Term Fixed Income Pool	0%	Allocation up to 2%
Public School Fund Balance: Sept. 30, 2016	$610.4	million
Long-Term Expected Rate of Return	6.08%	Callan's returns
Probability of Negative Return Over 1 Year	28.63%	

Chapter 7
7

Public School Trust Fund

Revenue, in millions of dollars

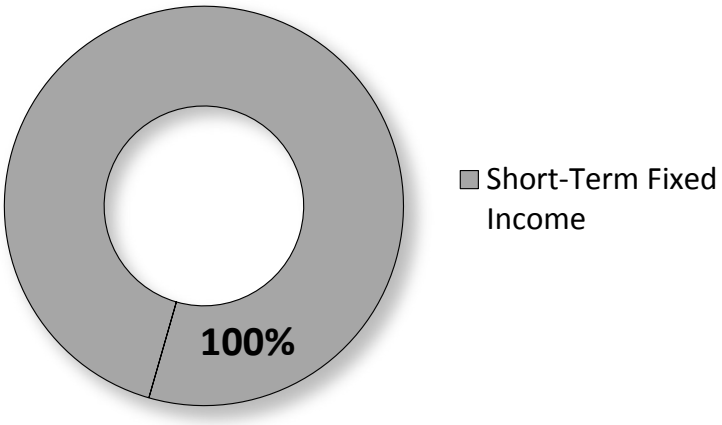
	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Restricted			
Restricted – Designated General Fund			
Public School Trust Fund Total Investment Income	11.9	43.8	36.6
Public School Trust Fund Income Distributed[1]	13.0	14.8	14.3

[1] Public School Trust Fund Income Distributed reflects the Alaska Department of Education and Early Development's Actual and Projected Appropriations.

Chapter 7
D

Public School Trust Fund – Income Assets

Low risk: short-term investment horizon

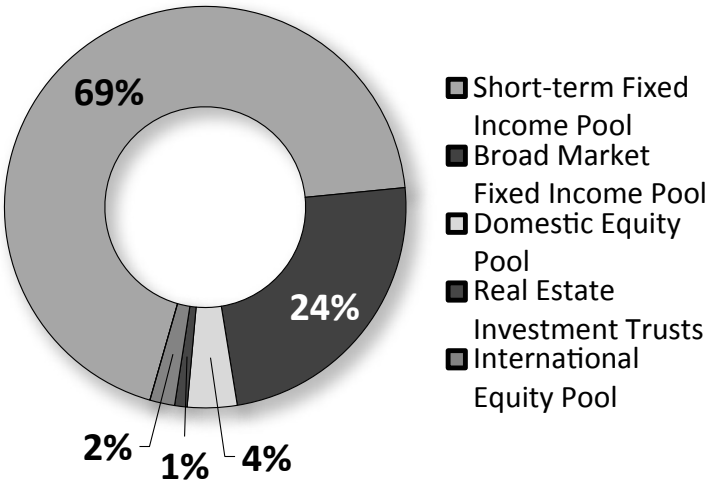


Short-term: three-month U.S. T-Bill.

Chapter 7
E

Constitutional Budget Reserve Fund

Main account, moderate risk: intermediate horizon



Short-term: three-month U.S. T-Bill. Broad Market: Barclays U.S. Aggregate. Domestic Equity: Russell 3000. International Equity: MSCI ACWI ex-U.S. Real Estate Investment Trusts: FTSE NAREIT All Equity Index.

Chapter 7
8

Constitutional Budget Reserve Fund

Main account, asset allocation and summary

Treasury Pool	Target Percent Allocation	Performance Benchmark
Short-Term Fixed Income Pool	69%	Three-month U.S. Treasury Bill
Broad Market Fixed Income Pool	24%	Barclays U.S. Aggregate
Domestic Equity Pool	4%	Russell 3000
Real Estate Investment Trusts	1%	FTSE NAREIT All Equity Index
International Equity Pool	2%	MSCI ACWI ex-U.S.
Bank Bonds	0%	Allocation up to 2%
Regular Account Balance: Sept. 30, 2016	$6,662.3	million
Long-Term Expected Rate of Return	2.89%	Callan's returns
Probability of Negative Return Over 1 Year	3.48%	

Chapter 7
9

Constitutional Budget Reserve Fund

Revenue, in millions of dollars

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Restricted			
Restricted – Other Restricted			
Regular Account	138.3	99.9	51.4
Total	**138.3**	**99.9**	**51.4**

Chapter 7
10

Constitutional Budget Reserve Fund

Cash flows, in millions of dollars

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Beginning Main Account Balance	**10,101.4**	**7,331.4**	**4,432.9**
Earnings on Main Account Balance [1]	138.3	99.9	51.4
Petroleum Tax, Royalty Settlements [2, 3]	119.1	350.0	100.0
(Loan to General Fund)/Repayment to CBRF	-	-	-
Draw from/to General Fund	-3,027.4	-3,348.4	-2,964.0
Ending Main Account Balance	**7,331.4**	**4,432.9**	**1,620.3**

[1] The long-term earnings estimate for the main account is 2.89%. These projections are based on 2016 Callan's capital market assumptions and Department of Revenue, Treasury Division's asset allocation.

[2] Settlement estimates are provided by the departments of Revenue and Law, net of annual Federal Minerals Management Service payments.

[3] The petroleum tax, royalty settlements number on this sheet is shown on a cash basis. Please note the State of Alaska accounting system numbers presented elsewhere in this book include accruals and therefore may differ from the numbers presented here.

Chapter 7
11

Constitutional Budget Reserve Fund Depletion Date[1]

Based on range of oil price and budget options

Annual State Budget	Fiscal Model of Oil Revenue and CBRF Performance at Selected Prices (Dollars per Barrel starting Fiscal Year 2018) [2]						Fall 2016
Percent Change Starting FY 2018	$40	$50	$60	$70	$80	$90	Oil Price Forecast [3]
-4%	Jan-2019	Apr-2019	Jul-2019	Nov-2019	Jul-2020	May-2022	Jun-2019
-2%	Jan-2019	Mar-2019	May-2019	Sep-2019	Mar-2020	Jun-2021	Apr-2019
0%	Dec-2018	Feb-2019	Apr-2019	Jul-2019	Dec-2019	Dec-2020	Mar-2019
2%	Nov-2018	Jan-2019	Mar-2019	May-2019	Oct-2019	Aug-2020	Feb-2019
4%	Nov-2018	Dec-2018	Feb-2019	Apr-2019	Aug-2019	Apr-2020	Jan-2019
6%	Oct-2018	Dec-2018	Jan-2019	Mar-2019	Jul-2019	Feb-2020	Dec-2018

[1] Based on the current forecast and the assumption that in the occurrence of a budget deficit, the CBRF would be drawn down.

[2] Matrix allows reader to select specific fiscal year price (from FY 2018-beyond), with anticipated percent change in budget (from FY 2018-beyond) to determine CBRF exhaustion date. Fall 2016 forecasted production volumes are used.

[3] See Table 4-5 for fall 2016 oil price forecast used in base scenario.

Chapter 7
12

Alaska Permanent Fund

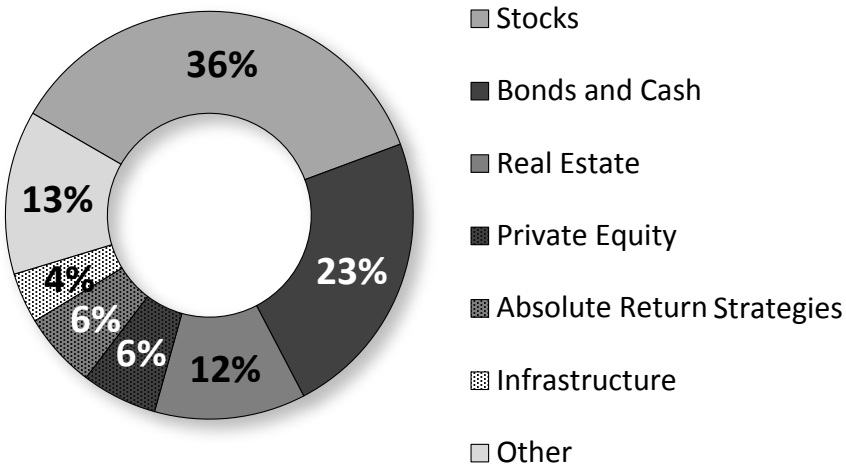
Revenue, in millions of dollars

	Millions of Dollars		
	History	Forecast	
Fiscal Year	**2016**	**2017**	**2018**
Restricted			
Restricted – Other Restricted			
Annual Unrealized Gain/Loss	-1,817.7	672.4	391.2
Annual Realized Earnings/Loss	2,216.3	2,756.2	3,318.4
Reported Earnings	**398.6**	**3,428.5**	**3,709.6**

Chapter 7
F

Alaska Permanent Fund

Target asset allocation



Chapter 7
13

Alaska Permanent Fund

Asset allocation and summary

Treasury Pool	Target Percent Allocation	Performance Benchmark
Stocks	36%	Multiple Strategies
Bonds and Cash	23%	Multiple Strategies
Real Estate	12%	Multiple Strategies
Private Equity	6%	Multiple Strategies
Absolute Return Strategies	6%	Multiple Strategies
Infrastructure	4%	Multiple Strategies
Other	13%	Multiple Strategies
Alaska Permanent Fund Balance: June 30, 2016	$52,769.7	million
Long-Term Expected Rate of Return	6.95%	Callan's returns

Chapter 8

Credits

An Overview

Alaska's tax code provides for a wide range of credits. Depending on the particular credit, a company may choose to request a repurchase of the credit by the state, apply the credit against its own tax liability, or transfer it to another company. Some credits are built into specific taxes; for example, the Per-Taxable-Barrel Credit is an integral part of the tax calculation for the oil and gas production tax. That credit, along with other tax credits applied against liability, are sometimes considered a type of "tax expenditure," as the forgone revenue is similar to spending in that it reduces the amount of revenue available for the state budget. Because the state never receives this revenue, these credits are not directly visible in revenue and spending numbers. On the other hand, tax credits repurchased by the state do show up directly as expenditures in the budget, when funds are appropriated for this purpose.

This chapter provides an overview of the various tax credits, how they are earned, their limitations, and their revenue impact. Other types of tax expenditures, such as deductions, exemptions, and exclusions, are not included in this chapter, but can be found in the Department of Revenue's Alaska *Indirect Expenditure Report* for FY 2011-FY 2015 on the Tax Division's website.[1]

Recent Developments

The following are recent developments impacting tax credits since the publication of the Fall 2015 *Revenue Sources Book*.

House Bill 247 (HB 247), which made several changes to the oil and gas production tax and credits, was passed during the 2016 legislative session. Chapter 4 in this publication provides an overview of key changes to the production tax and credit provisions under HB 247. Discussion of changes to specific credits is included in the following pages in this chapter. For more discussion of the changes implemented by HB 247, see Chapter 4.

House Bill 100, which established the Urea/Ammonia/Gas-Liquid Facility Tax Credit, was also passed during the 2016 legislative session. This credit provides an incentive for an in-state processing plant that manufactures urea, ammonia, or gas-to-liquid products. Reopening of the Agrium fertilizer plant in Kenai would likely qualify for this credit. The credit is structured in a way that does not result in negative revenue to the state. The company will receive a tax credit against corporate income taxes, with the credit capped at the amount of royalty paid on natural gas from state leases that is purchased by the project.

The department released the FY 2011-FY 2015 *Indirect Expenditure Report* (IER) in July 2016. In determining how to most accurately present varied data on a fiscal-year basis, the department used new parameters to pull data, which impacts how data is presented. The IER and the *Revenue Sources Book* publish data on a fiscal-year basis, while the tax periods of different tax types can be on a monthly, quarterly, or an annual basis, with tax payments being received in different fiscal years than tax returns. To maintain consistency in published information, the tax credit totals in the *Revenue Sources Book* are now reported using the IER parameters, which are detailed in the following paragraph.

For the tax types with annual returns (corporate income tax, mining license tax, and large passenger vessel tax), FY 2016 includes any tax periods beginning during the fiscal year, i.e., between July 1, 2015, and June 30, 2016. Credit programs for these tax types will show "incomplete" for FY 2015 and FY 2016 because not all of the returns for tax periods beginning in FY 2015 and FY 2016 have been received yet. FY 2015 will be comprised principally of 2015 calendar-year returns, some of which were not received until October 2016, and FY 2016 will be mostly 2016 calendar-year returns, some of which will not be received until October 2017. Many of the returns for tax years beginning

[1] The *Indirect Expenditure Report* can be found at http://tax.alaska.gov/programs/reports.aspx.

Chapter 8
1

Tax Credits Claimed

FY 2014-FY 2016, in millions of dollars

	Millions of Dollars		
	Total Credits Claimed		
Fiscal Year	**2014**	**2015**	**2016**[1]
Credits Applicable to the Oil and Gas Production Tax			
Alternative Credit for Exploration, Cook Inlet Jack-Up Rig Credit, and Frontier Basin Credit	$62	$44	$14
Exploration Incentive Credit	$0	$0	$0
Per-Taxable-Barrel Credit	$516	$523	$56
Qualified Capital Expenditure Credit, Well Lease Expenditure Credit, and Carried-Forward Annual Loss Credit	$862	$600	$495
Small-Producer / New Area Development Credit	$58	$44	$15
Credits Applicable to the Corporate Income Tax			
Gas Exploration and Development Credit	$0	D/I	D/I
Gas Storage Facility Credit	$15	$0	$0
In-State Gas Refinery Credit	$0[2]	D/I	D/I
Internal Revenue Code Credits Adopted by Reference	$2	D/I	D/I
LNG Storage Facility Credit	$0	$0	D/I
Oil and Gas Industry Service Expenditures Credit	*	D/I	D/I
Veteran Employment Tax Credit	$0	D/I	D/I
Credits Applicable to Multiple Tax Programs			
Education Tax Credit	$8	D/I	D/I
Film Production Credit	$22	$9	$5
Minerals Exploration Incentive Credit	*	D/I	D/I
Credits Applicable to Fisheries Taxes			
Winn Brindle Scholarship Contributions Credit	<$1	<$1	D/I
Salmon and Herring Product Development Credit	(<$1)[3]	<$1	D/I
Community Development Quota Credit	<$1	<$1	D/I
Other Taxes Credit	N/T	N/T	N/T
Total All Reportable Tax Credits	**$1,545**	**$1,222**	**$580**

[1] The FY 2016 credit totals are estimated pending annual tax filings.

[2] The In-State Gas Refinery Credit program began Jan.1, 2015.

[3] The Salmon and Herring Product Development Credits accounted for in FY 2014 were negative as a result of adjustments to prior-year credits.

* Cannot be reported due to confidentiality constraints.

D/I – Data incomplete.

N/T – Not tracked.

Note on Methodology Change:
This table has been updated to show credit numbers consistent with the FY 2011-FY 2015 *Indirect Expenditure Report*. Beginning with the Fall 2016 *Revenue Sources Book*, the Department of Revenue has revised the methodology for determining which fiscal year any individual tax credit is attributed to, therefore, some recent fiscal years have incomplete data for certain credits. To accurately attribute credits to the fiscal year they were "incurred," credit amounts are based on returns for filing periods beginning during the relevant fiscal year. For example, a calendar-year return with a filing period that began in January 2016 would be included in FY 2016 data, however, the return may not be filed until FY 2017 or FY 2018. See the "Recent Developments" section at the beginning of Chapter 8 or the FY 2011-FY 2015 *Indirect Expenditure Report* for a more in-depth discussion of the methodology change.

Chapter 8
2

History of Production Tax Credits

FY 2007-FY 2016

	Millions of Dollars									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016** [1]
Statewide Credits										
Credits Used against Tax Liability	557	378	334	412	361	363	550	919	583	100
Credits Purchased by the State [2]	55	54	193	250	450	353	369	592	628	498
Total Statewide Production Tax Credits	**612**	**432**	**526**	**662**	**811**	**716**	**918**	**1,511**	**1,211**	**598**

[1] FY 2016 credit totals are estimated pending annual tax filings.

[2] Credits Purchased by the State consists primarily of production tax credits purchased, but also includes corporate income tax credits available for state purchase from the Oil and Gas Tax Credit Fund. These include the Gas Storage Facility Credit, LNG Storage Facility Credit, and Refinery Credits.

in FY 2015 will not be received until after the publication of this *Revenue Sources Book*. As a result, many credits in Figure 8-1 will say "data incomplete."

Oil and Gas Tax Credit Fund

The Oil and Gas Tax Credit Fund, established under AS 43.55.028, was created to allow the State of Alaska to purchase certain transferable oil and gas tax credit certificates. Funds are available subject to annual appropriation by the Alaska Legislature for this purpose. Credits available for state purchase include the transferable production tax credits under AS 43.55.023, AS 43.55.025, and certain Corporate Income Tax credits under AS 43.20: the Gas Storage Facility Credit, In-State Refinery Tax Credit, and Liquefied Natural Gas (LNG) Storage Facility Credit. Nontransferable credits, generally those offered under AS 43.55.024, are not available for state purchase.

State purchase is also limited to companies that produced fewer than 50,000 British thermal units (Btu) equivalent barrels per day in the prior calendar year. HB 247 added two additional restrictions. First, in the event of insufficient funds to fulfill all credit purchase requests, the department must give credit purchase priority based on ranking of Alaska-hire percentage, including contractors. Second, companies can request purchases up to $70 million of credits per company per year. The first $35 million of this purchase credits at full value and the second $35 million at 75% of their value.

The department estimates of credits purchased by the state are partly dependent on oil price forecasts. At lower oil prices, more producers incur a net operating loss, which increases the amount of Carried-Forward Annual Loss Credits eligible for state purchase and also limits the ability of producing companies to apply credits against a tax liability. At higher oil prices, the same producers may have a smaller net operating loss, or a positive tax liability before credits. As a result, at higher oil prices, there will tend to be more credits applied against tax liabilities and less credits for potential state purchase.

Under statute, the Oil and Gas Tax Credit Fund receives a share of taxes levied under AS 43.55.011, which is the production tax statute. That share is 10% of taxes levied when the Alaska North Slope (ANS) price for the fiscal year is estimated at $60 per barrel or higher, and 15% of taxes levied when the ANS price for the fiscal year is estimated at below $60 per barrel. Historically, the Legislature has appropriated additional amounts beyond the statutory minimum. The statutory minimum appropriation based on the fall 2016 forecast is shown in Figure 8-3.

In the FY 2017 budget, the Legislature appropriated a total of $460 million in funding for state purchase of tax credits, which was less than the $775 million of outstanding tax credits estimated by the department in the spring 2016 revenue forecast but higher than the $30 million statutory minimum appropriation. The appropriation was reduced when Gov. Bill Walker used a line-item veto to cut $430 million in funding for production tax credits, leaving only the $30 million statutory minimum appropriation to the Oil and Gas Tax Credit Fund for FY 2017.

Chapter 8
3

10-Year Forecast for Production Tax Credits

Fall 2016 forecast for FY 2017-FY 2026

	Millions of Dollars									
	Forecast									
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Statewide Credits										
Credits Used Against Tax Liability	238	413	290	267	344	428	481	530	615	632
Credits Purchased by the State[1]	33	961	223	192	151	150	150	150	150	150
Total Statewide Production Tax Credits	**271**	**1,374**	**513**	**458**	**495**	**578**	**631**	**680**	**765**	**782**
Statutory Minimum Appropriation to Oil and Gas Tax Credit Fund[2]	**---**	**74**	**54**	**53**	**62**	**73**	**79**	**86**	**98**	**102**

[1] Credits Purchased by the State consists primarily of production tax credits purchased, but also includes corporate income tax credits available for state purchase from the Oil and Gas Tax Credit Fund. These include the Gas Storage Facility Credit, LNG Storage Facility Credit, and Refinery Credits.

[2] Per AS 43.55.028(c), the statutory minimimum appropriation is 10% of taxes levied by AS 43.55.011 (oil and gas production tax) when the ANS price forecast for the fiscal year is $60 per barrel or higher, and 15% of taxes levied by AS 43.55.011 when the ANS price forecast for the fiscal year is below $60 per barrel.

According to the fall 2016 forecast, approximately $646 million of the $961 million in credits available for repurchase forecasted for FY 2018 will be a carried-forward balance of credits in excess of funds appropriated in FY 2016 and FY 2017. The FY 2018 total presented represents total anticipated demand for state repurchase of credits in the fiscal year, and does not necessarily reflect available funds or the amount that may be appropriated for repurchase of credits.

By regulation, any FY 2016 and FY 2017 credits that are not repurchased due to the funding limit have first priority for available funds in FY 2018. The fall 2016 forecast also assumes approximately $20 million worth of credits being transferred to companies with a tax liability in FY 2017, and another $100 million worth of credits being transferred to companies with a tax liability in FY 2018.

Credits Applicable to the Oil and Gas Production Tax

Alternative Credit for Exploration

AS 43.55.025(a)(1)-(4)

The Alternative Credit for Exploration is a transferable and state repurchase-eligible credit for expenditures for certain oil and gas exploration activities. Outside Cook Inlet, the credit is 40% for seismic costs outside an existing unit, 30% for drilling costs for wells greater than 25 miles from an existing unit, 30% for preapproved new targets greater than 3 miles from an existing well, and 40% for preapproved new targets greater than 3 miles from a well and greater than 25 miles from an existing unit. The 3-mile limit does not apply for wells in "Frontier Basins" as described under the Frontier Basin Credit below. Within Cook Inlet, the credit was 40% for seismic costs outside an existing unit, 30% for drilling costs greater than 10 miles from an existing unit, 30% for preapproved new targets, and 40% for preapproved drilling costs for wells that are greater than 10 miles from an existing unit. The credit expired on July 1, 2016, for the North Slope and Cook Inlet; for areas other than the North Slope and Cook Inlet, the credit expires Jan. 1, 2022.

As of fall 2016, the department is still receiving credit applications for the North Slope and Cook Inlet based on exploration activity that occurred prior to the credit expiration. As a result, the forecast anticipates credits applied against liability or available for state repurchase in FY 2017 and FY 2018.

Carried-Forward Annual Loss Credit

AS 43.55.023(b)

This credit is a transferable and state repurchase-eligible credit for a carried-forward annual loss, defined as a producer or explorer's adjusted lease expenditures

Chapter 8

4

Historical Production Tax Credits and Forecast

Detail, FY 2007-FY 2026

	Millions of Dollars									
	Historical									
Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016[1]
Credits Purchased by the State of Alaska										
North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b)	55	*	173	223	399	267	*	*	203	*
Credits under AS 43.55.025[3]	0	*	14	23	12	53	*	*	21	*
Total North Slope	**55**	**53**	**187**	**246**	**411**	**320**	**261**	**281**	**224**	**212**
Non-North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b); Well Lease Expenditure, AS 43.55.023(l)	0	*	*	*	*	29	*	*	384	*
Credits under AS 43.55.025[3]	0	*	*	*	*	4	*	*	21	*
Credits under AS 43.20[4]	0	*	*	*	*	0	*	15	0	*
Total Non-North Slope	**0**	**1**	**7**	**4**	**39**	**33**	**108**	**312**	**404**	**287**
Total Credits Purchased by the State	**55**	**54**	**193**	**250**	**450**	**353**	**369**	**592**	**628**	**498**
Credits Used Against Tax Liability[5, 6]										
North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b)	292	219	279	339	313	306	486	332	0	*
Transitional Investment Credit: AS 43.55.023(i)[7]	171	73	0	0	0	*	*	0	0	0
Per-Taxable-Barrel Credit, AS 43.55.024(i)-(j)[8]	0	0	0	0	0	0	0	516	523	56
Small-Producer Credit, AS 43.55.024(a) and (c)	*	*	*	*	*	*	*	*	*	*
Credits under AS 43.55.025[4]	*	*	*	*	*	*	*	*	*	*
Total North Slope	**541**	**368**	**328**	**402**	**345**	**347**	**536**	**907**	**569**	**91**
Non-North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b); Well Lease Expenditure, AS 43.55.023(l)	*	*	0	*	11	*	*	*	*	*
Small-Producer Credit, AS 43.55.024(a) and (c)	*	*	6	*	6	*	*	*	*	*
Total Non-North Slope	**16**	**10**	**6**	**10**	**17**	**16**	**14**	**12**	**14**	**9**
Total Credits Used Against Tax Liability	**557[9]**	**378**	**334**	**412**	**361**	**363**	**550**	**919**	**583**	**100**
Total Credits North Slope	596	421	*	647	756	667	797	1,188	792	302
Total Credits Non-North Slope	16	11	*	14	56	49	122	323	418	296
Total Statewide Production Tax Credits	**$612**	**$432**	**$526**	**$662**	**$811**	**$716**	**$918**	**$1,511**	**$1,211**	**$598**
Carried-Forward Credits Balance for Companies Not Eligible for State Purchase[10]	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**114**

* Data cannot be reported due to confidential constraints.

[1] These numbers are preliminary pending annual returns.

[2] Forecasted credits purchased by the state in the near-term are based on known projects and company activities. For FY 2020 and beyond, the forecast of credits available to be purchased by the state is held constant at $150 million per year.

[3] Credits under AS 43.55.025 include the Alternative Credit for Exploration, the Frontier Basin Credit, and for Cook Inlet only, the Cook Inlet Jack-Up Rig Credit.

[4] Credits under AS 43.20 include the Gas Exploration and Development Credit, Gas Storage Facility Credit, In-State Gas Refinery Credit, and the LNG Storage Facility Credit.

[5] The Education Credit, AS 43.55.019, though not reported in its own credit category in the summary, was less than $1 million in each year reported and is calculated in the total.

[6] For historical credits against tax liability, geographic location was de-

	Millions of Dollars									
	Forecast									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Credits Purchased by the State[2]										
North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b)	1	484	158	151	117	124	133	137	141	141
Credits under AS 43.55.025[3]	0	53	0	0	0	0	0	0	0	0
Total North Slope	**1**	**537**	**158**	**151**	**117**	**124**	**133**	**137**	**141**	**141**
Non-North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b); Well Lease Expenditure, AS 43.55.023(l)	32	312	33	12	6	8	9	9	9	9
Credits under AS 43.55.025[3]	0	87	12	8	8	8	8	4	0	0
Credits under AS 43.20[4]	0	25	20	20	20	10	0	0	0	0
Total Non-North Slope	**32**	**424**	**65**	**40**	**34**	**26**	**17**	**13**	**9**	**9**
Total Credits Purchased by the State	**33**	**961**	**223**	**192**	**151**	**150**	**150**	**150**	**150**	**150**
Credits Used Against Tax Liability[5,6]										
North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b)	46	47	14	0	0	0	0	0	0	0
Transitional Investment Credit: AS 43.55.023(i)[7]	0	0	0	0	0	0	0	0	0	0
Per-Taxable-Barrel Credit, AS 43.55.024(i)-(j)[8]	119	229	250	249	320	417	478	527	612	632
Small-Producer Credit, AS 43.55.024(a)(c)	41	19	14	12	19	10	4	3	3	0
Credits under AS 43.55.025[4]	20	100	0	0	0	0	0	0	0	0
Total North Slope	**226**	**395**	**278**	**261**	**338**	**428**	**481**	**530**	**615**	**632**
Non-North Slope										
Qualified Capital Expenditure, AS 43.55.023(a); Carry-Forward, AS 43.55.023(b); Well Lease Expenditure, AS 43.55.023(l)	9	14	6	0	0	0	0	0	0	0
Small-Producer Credit, AS 43.55.024(a)(c)	3	3	6	6	6	0	0	0	0	0
Total Non-North Slope	**12**	**18**	**12**	**6**	**6**	**0**	**0**	**0**	**0**	**0**
Total Credits Used Against Tax Liability	**238**	**413**	**290**	**267**	**344**	**428**	**481**	**530**	**615**	**632**
Total Credits North Slope	227	932	436	412	455	552	614	667	756	773
Total Credits Non-North Slope	44	442	77	46	40	26	17	13	9	9
Total Statewide Production Tax Credits	**$271**	**$1,374**	**$513**	**$458**	**$495**	**$578**	**$631**	**$680**	**$765**	**$782**
Carried-Forward Credits Balance for Companies Not Eligible for State Purchase[10]	**61**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

termined by attributing all .023(l) credits to Non-North Slope, and all .025 credits to North Slope. The other credits were placed according to where the taxpayer primarily operated. Since multiple taxpayers had operations in multiple areas, these numbers should be treated as rough estimates.

[7] The Transitional Investment Expenditure Credit sunset date was Dec. 31, 2013.

[8] For FY 2014, the Per-Taxable-Barrel Credit is for only the last six months of the fiscal year. Credits applied against liability in forecast are reduced because of the 4% minimum gross tax.

[9] Three months of 2006 credits data are included in the FY 2007 Credits Used Against Tax Liability number.

[10] This row includes estimates of Carried-Forward Credits for previous calendar years for companies with over 50,000 barrels of oil equivalent (BOE) of production, plus an estimate of credits that will be earned on activity through June 30 of the fiscal year. Carried-Forward Credits are primarily for net operating losses under AS 43.55.023(b).

that are not deductible in calculating production tax values for the calendar year.

On the North Slope, during 2014 and 2015, the credit for carried-forward annual losses incurred was 45% of the loss. On Jan. 1, 2016, the credit for losses incurred on the North Slope decreased to 35%. With the sunset of the Alternative Credit for Exploration, essentially all repurchased credits on the North Slope will be Carried-Forward Annual Loss Credits after FY 2017. Beginning Jan. 1, 2017, a gross value reduction (GVR) can no longer be used to increase the size of an annual loss for credit calculation purposes.

For areas outside the North Slope, the credit is 25% of the carried-forward annual loss until Jan. 1, 2017, when it will decrease to 15%. Then on Jan. 1, 2018, the carried-forward annual loss is repealed for Cook Inlet, but remains at the 15% for Middle Earth (areas outside the North Slope and Cook Inlet).

Cook Inlet Jack-Up Rig Credit
AS 43.55.025(a)(5)

This credit was a transferable and state repurchase-eligible credit for exploration expenses for the first three wells drilled by the first jack-up rig brought into Cook Inlet. It is only for expenses incurred in drilling wells that evaluate prospects in the pre-tertiary zone; all three wells must be drilled by unaffiliated parties using the same rig. The credit is 100% of costs for the first well up to $25 million, 90% of costs for the second well up to $22.5 million, and 80% of costs for the third well up to $20 million. If the exploration well is brought into production, the operator repays 50% of the credit over 10 years following production start-up. This credit expired on July 1, 2016.

Education Credit

See "Credits Applicable to Multiple Tax Programs."

Exploration Incentive Credit
AS 38.05.180(i)

The exploration incentive credit was a nontransferable credit for the cost of drilling or seismic work performed under a limited time period and certain conditions established by the Alaska Department of Natural Resources commissioner. Credit may be granted for up to 50% of the cost of drilling or seismic work, not to exceed 50% of the tax liability to which it is being applied. This credit may also be applied against the state royalty. This credit was repealed by HB 247 in 2016, and had not been used for many years.

Film Production Credit

See "Credits Applicable to Multiple Tax Programs."

Frontier Basin Credit
AS 43.55.025(a)(6)-(7)

The Frontier Basin Credit is a transferrable, state repurchase-eligible credit for the first four exploration wells and the first four seismic exploration projects within six specific areas designated in AS 43.55.025(o), also called the "Frontier Basins." The credit is for the lesser of 80% of qualified exploration drilling expenses or $25 million; or for seismic projects, credit is for the lesser of 75% of qualified seismic exploration expenditures or $7.5 million. The 75% credit for seismic expired July 1, 2016. The 80% well credit applies to wells drilled or spudded prior to July 1, 2017.

Per-Taxable-Barrel Credit
AS 43.55.024(i)-(j)

This is a production tax credit for each taxable barrel of oil production on the North Slope, and this credit is an integral part of the production tax calculation. This credit cannot be transferred, or carried forward.

In "new oil" areas that qualify for a GVR, the credit is $5 per taxable barrel. Those areas are defined in AS 43.55.160(f) and (g).

For areas that do not qualify for a GVR, the credit ranges from $0 to $8 per taxable barrel based on gross value at point of production (GVPP) per barrel. The credit operates on a sliding scale from $0 per barrel when the price is over $150 to $8 when the price is under $80.

The vast majority of oil produced on the North Slope is not GVR-eligible. Therefore, the structure of the Per-Taxable-Barrel Credit is such that as the price of oil increases, the dollar value of the credit decreases, and vice versa.

One important limit is that the credit for non-GVR-eligible oil may not reduce the producer's tax liability to less than the minimum tax established under AS 43.55.011(f), which is currently 4% of the GVPP. The credit for GVR-eligible oil may not reduce the producer's liability below zero. Because of these limits, a large portion of earned Per-Taxable-Barrel Credits are unusable at the current low prices. And because they cannot be transferred or carried forward, these credits do not create a future liability for the state if they are not used in the year earned. The short-term forecast shows a relatively small amount of this credit being used, compared with nearly $1.3 billion that

theoretically could be "earned" based on $8 per barrel multiplied by the anticipated taxable production on the North Slope.

Qualified Capital Expenditure and Well Lease Expenditure Credit
AS 43.55.023(a) and (l)

These credits are transferable and state repurchase-eligible tax credits for qualified oil and gas capital expenditures in the state outside the North Slope. They can be taken in lieu of exploration credits under AS 43.55.025 and gas exploration credits under AS 43.20.043, but are in addition to any net operating loss credits under AS 43.55.023(b). Until Jan. 1, 2017, companies can qualify for a credit of 20% of eligible capital expenditures, or 40% of qualified well lease expenditures. As of Jan. 1, 2017, the Qualified Capital Expenditure Credit is reduced from 20% to 10% and the Well Lease Expenditure Credit is reduced from 40% to 20%. On Jan. 1, 2018, both credits are repealed for Cook Inlet but remain at the reduced rates for Middle Earth.

Small-Producer/New Area Development Credit
AS 43.55.024(a) and (c)

The Small-Producer Credit is a nontransferable credit for oil and gas produced by small producers, defined as having average taxable oil and gas production of less than 100,000 Btu-equivalent barrels per day. The credit was available until May 1, 2016, or nine years after the first commercial production of oil and gas on the properties for which the credit applies, whichever is later. Thus, the credit will gradually sunset over the next several years. The Small-Producer Credit is capped at $12 million annually for producers with less than 50,000 Btu-equivalent barrels per day. For larger producers, the credit phases out, and is zero for producers with 100,000 or more Btu-equivalent barrels per day. The credit may only be used against tax liability, and only if the producer has a positive tax liability before the application of credits.

The New Area Development Credit was a credit of up to $6 million per company annually, for oil or gas produced from Middle Earth (leases outside Cook Inlet and the North Slope), providing the producer has a positive tax liability on that production before the application of credits. The credit was available until May 1, 2016, or nine years after the first commercial production of oil and gas on the properties for which the credit applies, whichever is later. Because there has not been commercial production outside the North Slope and Cook Inlet, no companies qualified for this credit and this credit was never used.

Transitional Investment Expenditure Credit
AS 43.55.023(i)

The Transitional Investment Expenditure Credit was a nontransferable credit for qualified oil and gas capital expenditures incurred between March 31, 2001, and April 1, 2006. The credit was 20% of qualified oil and gas capital expenditures incurred between March 31, 2001, and April 1, 2006, not to exceed 10% of the capital expenditures incurred between March 31, 2006, and Jan. 1, 2008. The credit was only available until Dec. 31, 2013.

Credits Applicable to Corporate Income Tax

Education Credit

See "Credits Applicable to Multiple Tax Programs."

Film Production Credit

See "Credits Applicable to Multiple Tax Programs."

Gas Exploration and Development Credit
AS 43.20.043

The Gas Exploration and Development Credit is a nontransferable credit for qualified expenditures for the exploration and development of non-North Slope natural gas reserves. The credit is 25% of qualified expenditures for investment after Jan. 1, 2010; investments in existing units qualify. The credit is capped at 75% of corporate tax liability as calculated before applying other credits.

Gas Storage Facility Credit
AS 43.20.046

The Gas Storage Facility Credit was a state repurchase-eligible credit, paid out of the Oil and Gas Tax Credit Fund under AS 43.55.028, for the costs incurred to establish an underground natural gas storage facility in Kenai. This credit was limited to one company and was taken in FY 2014.

The credit was $1.50 per thousand cubic feet of "working gas" storage capacity as determined by the Alaska Oil and Gas Conservation Commission. It did not apply to gas storage related to a gas sales pipeline on the North Slope. To qualify, the facility had to operate as a public utility regulated by the Regulatory Commission of Alaska with open access for third parties. It was effective for facilities placed into service between Jan. 1, 2011, and Dec. 31, 2015. The maximum credit

was the lesser of $15 million or 25% of costs incurred to establish the facility.

In-State Refinery Tax Credit
AS 43.20.053

The In-State Refinery Tax Credit began on Jan. 1, 2015, and is a credit for qualified infrastructure expenditures for in-state oil refineries incurred after Dec. 31, 2014, and before Jan. 1, 2020. The credit may not exceed 40% of total qualifying expenditures or $10 million per tax year per refinery, whichever amount is less. The credit can be applied against corporate income tax liability and carried forward for up to five years, or purchased by the state via the Oil and Gas Tax Credit Fund. The authorizing statute will sunset on Dec. 31, 2019. This credit cannot be purchased by the state if a company has an outstanding liability to the state.

Internal Revenue Code Credits Adopted By Reference
AS 43.20.021

Under Alaska's blanket adoption of the federal Internal Revenue Code, taxpayers can claim all federal incentive credits. Federal credits that refund other federal taxes are not allowed. Multistate taxpayers apportion their total federal incentive credits. In most cases, the credit is limited to 18% of the amount of the credit determined for federal income tax purposes that is attributable to Alaska.

LNG Storage Facility Credit
AS 43.20.047

The LNG Storage Facility Credit is a nontransferable, state repurchase-eligible credit for the costs incurred to establish a storage facility for liquefied natural gas. The credit is the lesser of $15 million or 50% of costs incurred to establish the facility and is paid from the Oil and Gas Tax Credit Fund. It applies to facilities with a minimum storage capacity of 25,000 gallons of LNG, and that are public utilities regulated by the Regulatory Commission of Alaska. It is for facilities placed into service after Jan. 1, 2011. This credit is limited to one facility. This credit cannot be purchased by the state if a company has an outstanding liability to the state.

Minerals Exploration Incentive Credit

See "Credits Applicable to Multiple Tax Programs."

Oil and Gas Industry Service Expenditures Credit
AS 43.20.049

The Oil and Gas Industry Service Expenditures Credit is a credit of 10% of qualified oil and gas industry service expenditures that are for in-state manufacture or in-state modification of oil and gas tangible personal property with a service life of three years or more. The credit may be applied to corporate income tax liabilities in amounts up to $10 million per taxpayer per year. The credit is effective for expenditures incurred after Jan. 1, 2014. The credit is not transferable, but any amount of the credit that exceeds the taxpayer's liability may be carried forward up to five years.

Urea/Ammonia/Gas to Liquid Facility Credit
AS 43.20.052

The Urea/Ammonia/Gas to Liquid Facility Credit was enacted in 2016. This credit allows an in-state company that produces urea, ammonia, or gas-to-liquids products to apply a credit to their income tax based on natural gas purchased from state leases. The credit is equal to the amount of state royalty paid on natural gas purchased for the qualifying project. The credit cannot be carried forward to future years, is not transferrable or eligible for state purchase, and cannot be used to reduce a tax liability below zero. The credit is scheduled to be repealed Jan. 1, 2024.

Veteran Employment Tax Credit
AS 43.20.048

The Veteran Employment Credit is a nontransferable and state repurchase-ineligible credit for corporate income taxpayers who employ qualified veterans in the state. A "qualified veteran" is a veteran who was unemployed for more than four weeks preceding the veteran's employment date and who was discharged or released from military service (1) not more than 10 years before his or her employment date for a disabled veteran, or (2) not more than two years before his or her employment date for a veteran who is not disabled. The credit is $3,000 for a disabled veteran or $2,000 for a veteran who is not disabled, for employment for a minimum of 1,560 hours during 12 consecutive months following the veteran's employment date. For seasonal employment, the credit is $1,000 for a veteran employed for a minimum of 500 hours during three consecutive months following the employment date.

Credits Applicable to Fisheries Taxes

Community Development Quota Credit
AS 43.77.040

The Community Development Quota Credit is a nontransferable credit for contributions to an Alaska nonprofit corporation that is dedicated to fisheries

industry-related expenditures. The credit is available only for fishery resources harvested under a Community Development Quota. The credit is 100% of their contribution amount up to a maximum of 45.45% of the tax liability on fishery resources harvested under a Community Development Quota. The authorizing statute is scheduled to sunset Jan. 1, 2021.

Education Credit

See "Credits Applicable to Multiple Tax Programs."

Film Production Credit

See "Credits Applicable to Multiple Tax Programs."

Other Taxes Credit
AS 43.77.030

The Other Taxes Credit is a nontransferable and state repurchase-ineligible credit for taxes paid to another jurisdiction on fishery resources landed in Alaska. The credit is 100% of taxes paid with a maximum of 100% of the Alaska tax liability on the fishery resources.

Salmon and Herring Product Development Credit
AS 43.75.035

The Salmon and Herring Product Development Credit is a nontransferable and state repurchase-ineligible credit for eligible capital expenditures to expand value-added processing of Alaska salmon and herring, including ice-making machines. The credit is 50% of qualified investments up to 50% of tax liability incurred for processing salmon and herring during the tax year. The credit may be carried forward for three years, but the authorizing statute is scheduled to sunset on Dec. 31, 2020. Herring products were added to the credit in 2014.

Winn Brindle Scholarship Contributions Credit
AS 43.75.032, 43.77.035

The Winn Brindle Scholarship Contributions Credit is applicable to both the fisheries business tax, and the fishery resource landing tax. It is a nontransferable credit for contributions to the A.W. "Winn" Brindle Memorial Education Loan Account. The credit is 100% of the contribution amount, up to a maximum of 5% of tax liability. The credit will sunset on Jan. 1, 2017.

Credits Applicable to Multiple Tax Programs

Education Credit
AS 21.96.070, 43.20.014, 43.55.019, 43.56.018, 43.65.018, 43.75.018, 43.77.045

The Education Credit is a nontransferable and state repurchase-ineligible credit applicable to the corporate income tax, fisheries business tax, fishery resource landing tax, insurance premiums tax, title insurance premiums tax, mining license tax, oil and gas production tax, and the oil and gas property tax.

Taxpayers can claim a credit for contributions to vocational educational programs, accredited nonprofit, public or private Alaska universities or colleges, Alaska public or private nonprofit elementary or secondary schools, annual intercollegiate sports tournaments, Alaska Native educational programs, facilities that qualify under the Coastal American Partnership, qualified apprenticeship programs, nonprofit regional training centers, the Alaska Higher Education Investment Fund, a postsecondary institution in the state providing dual-credit courses, a residential school in the state, and the Alaska Department of Education and Early Development.

The credit is available for up to 50% of annual contributions up to $100,000, 100% of the next $200,000, and 50% of annual contributions beyond $300,000. The credit for any one taxpayer cannot exceed $5 million annually across all eligible tax types. The Education Tax Credit is currently scheduled to sunset on Dec. 31, 2018.

Film Production Credit
AS 43.98.030, under AS 21.09.210, 21.66.110, 43.20, 43.55, 43.56, 43.65, 43.75, and 43.77

The Film Production Credit is a transferable, but state repurchase-ineligible credit for expenditures on eligible film production activities in Alaska. Effective July 1, 2013: 1) a producer must spend at least $75,000 in qualified expenditures over a consecutive 24-month period to qualify; 2) the credit is 30% of eligible film production expenditures, plus an additional 20% credit for wages paid to Alaska residents, plus an additional 6% credit for filming in a rural area, plus an additional 2% credit for filming between October 1 and March 30; 3) the credits must be used within six years; 4) in addition to corporate income tax, the tax credit now also applies to the insurance premium tax, title insurance tax, oil and gas production tax, oil and gas property tax, mining license tax, fisheries business license tax, and fisheries resource landing tax.

The program is capped at a $300 million maximum budget for all projects.

The film credit program stopped accepting new projects on July 1, 2015, but prequalified film projects are still eligible to receive a credit, once the required documents have been verified, until Jan. 1, 2019.

Minerals Exploration Incentive Credit
AS 27.30.030, 43.20.044

The Minerals Exploration Incentive Credit is applicable to the corporate income tax, mining license tax, and mineral production royalty. It is a nontransferable and state repurchase-ineligible credit for eligible costs of mineral or coal exploration activities, and requires the approval of the Department of Natural Resources commissioner.

The credit is 100% of allowable exploration costs with a maximum of $20 million per mining operation and must be used within 15 years. For the mining license tax (MLT), the credit is limited to the lesser of 50% of the MLT liability at the mining operation where the exploration occurred or 50% of total MLT liability. For the corporate income tax, it is limited to the lesser of 50% of the MLT liability at the mining operation where the exploration occurred or 50% of the total corporate income tax liability. For the mineral royalty, the credit is limited to 50% of the royalty liability from the mining operation where the exploration activity occurred.

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Chapter 9

State Endowment Funds

An Overview

This chapter compares important attributes of five of the state's major endowment funds: the Alaska Permanent Fund, Mental Health Trust Fund, Public School Trust Fund, Power Cost Equalization Fund, and University of Alaska Endowment.

The University of Alaska Endowment is included in this comparison because it is one of Alaska's public endowment funds that uses the annual distribution calculation method typical of the vast majority of endowments in the United States and Canada.

The fiduciary for each of these endowment funds has the responsibility for establishing an asset-allocation policy for each fund. Table 9-1 compares the current asset-allocation policies for these endowments.

Under the standards adopted by the Governmental Accounting Standards Board, public funds calculate and report their income by recognizing changes in the value of securities as income, or losses, as they occur at the end of each trading day. They do this regardless of whether the securities are actually sold and the income, or losses, are taken or realized. All five of these endowments report annual income on this basis.

However, the Alaska Permanent Fund, Mental Health Trust Fund, and Public School Trust Fund use other measures of annual income for determining their distributions. The Alaska Permanent Fund and the Mental Health Trust Fund are both administered by the Alaska Permanent Fund Corporation (APFC).

In determining the amount of income available for distribution each year for the two funds managed by the Alaska Permanent Fund Corporation, gains or losses on individual investments are not recognized until the investment is sold. For calculating distributable income for the Public School Trust Fund, only interest earned and dividends received are treated as income. Gains and losses in the value of individual investments are never recognized as income. By law, those gains and losses remain with the principal of the fund.

Alaska Permanent Fund

Each year, the APFC calculates the amount of net income realized by the Permanent Fund and this amount plus any surplus funds already in the Earnings Reserve Account are available for appropriation by the Alaska Legislature. The APFC also annually calculates the "income available for distribution," which is defined by statute as 21% of the net income of the Permanent Fund for the last five fiscal years. Subject to annual appropriation by the Alaska Legislature, 50% of the "income available for distribution" is transferred to the dividend fund (AS 43.23.045).

Following the calculation of net income and any appropriated transfer of funds to the dividend fund, APFC calculates an amount sufficient to offset the effects of inflation on the principal of the Permanent Fund using a formula set out in statute. Subject to annual appropriation by the Alaska Legislature, APFC then transfers this amount from the Earnings Reserve Account to the principal of the Permanent Fund. The principal of the Permanent Fund is made up of all oil and gas royalty contributions and legislative appropriations to the principal or corpus of the Permanent Fund.

Mental Health Trust

Earnings from the Alaska Mental Health Trust Fund, which is managed by the Alaska Permanent Fund Corporation, are for use in ensuring an integrated comprehensive mental health program for the state. Current statute requires net income earned on the principal of the fund to be calculated in the same manner as the Alaska Permanent Fund. Only realized income is ultimately made available for distribution to the Mental Health Trust.

Chapter 9
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State Endowment Funds

Target asset allocations, in percentages

Strategy-Based	Cash	Real Estate Investment Trusts	Domestic Bonds	Domestic Equity	International Equity
Public School Trust Fund	0%	3%	43%	32%	22%
Power Cost Equalization Endowment Fund	0%	3%	32%	38%	27%

	Cash	Capital Appreciation	Diversifying Strategies	Inflation Sensitive	Deflation Sensitive
University of Alaska Endowment	1%	61%	17%	6%	15%

Risk-Based	Cash and Interest Rates	Company Exposure	Real Assets	Special Opportunities
Alaska Permanent Fund	6%	55%	19%	20%
Mental Health Trust	6%	55%	19%	20%

	Cash	Broad Market Fixed Income	Domestic Equity	International Equity
Other Mental Health Trust Investments	10%	29%	40%	21%

The Alaska Mental Health Trust Authority Board of Trustees has established a percent-of-market-value distribution model where distributions from cash investments managed by APFC and the Department of Revenue are limited to 4.25% of the four-year moving-average net asset value. This reduces the volatility of program funding while budget reserves ensure funding continues even when markets are down. Funding is also made available for mental health programs from spendable income generated by the Mental Health Trust's directly owned commercial real estate portfolio as well as other revenue generated from land that is managed by the Alaska Department of Natural Resources' Trust Land Office. The balance of funding consists of both interest earned on cash holdings, and the unexpended balance of expired appropriations lapsing back to the fund.

The Mental Health Trust has a policy to periodically make transfers and/or assign funds to offset the effects of inflation in order to preserve the purchasing power of the fund.

Public School Trust Fund

The distributable income of the Public School Trust Fund, interest and dividends, moves from the principal account assets to the income account. The Department of Revenue's Treasury Division transfers money each month to a separate income account within the trust fund, where it is held pending annual appropriation by the Alaska Legislature. Once appropriated, the income assets are available for expenditures that support the state public school system.

The asset-allocation policy is such that, when combined with the requirement that the fund's capital gains and losses remain part of the principal, the retained capital gains are adequate to inflation-proof the fund.

Power Cost Equalization Endowment Fund

AS 42.45.080(c) states that on July 1 of each year, the Department of Revenue commissioner shall determine the monthly average market value of the Power Cost Equalization Endowment Fund for the previous three closed fiscal years; and the earnings of the fund for the previous closed fiscal year. Five percent of the amount determined by the commissioner may be appropriated for the fiscal year beginning the following July 1 for: 1) funding the power cost equalization and rural electric capitalization fund (AS 42.45.100); 2) reimbursement to the Department of Revenue for the costs of establishing and managing the fund; and 3) reimbursement of other costs of administration of the fund. If the amount appropriated is insufficient to

achieve the purposes of (1) through (3), the amount shall be prorated among the purposes listed in (1) and (2). If the earnings of the fund exceed the appropriation for the current fiscal year, the Legislature may appropriate certain amounts for other purposes further defined in AS 42.45.080(c).

University of Alaska Endowment

The University of Alaska's Land Grant Endowment Trust Fund is invested along with the University of Alaska Foundation's endowments in a consolidated endowment fund. The consolidated endowment fund is a pooled investment fund that is managed by the University of Alaska Foundation Investment Committee in accordance with an agreement and an investment policy approved by the University Board of Regents and the Foundation Board of Trustees.

The overall objectives of the consolidated endowment fund are to provide a stream of relatively stable earnings in support of the annual budgetary needs of the University of Alaska while maintaining the real (inflation-adjusted) purchasing power of the fund to the extent practicable. In order to meet these objectives, the goal of the fund is to achieve an average annual real return of 5% of its market value, net of investment management expenses and all fees charged to the fund over rolling five-year periods.

The spending allowance rate for the University of Alaska Land Grant Endowment Trust Fund is 4.5% of the five-year moving average of the market value of its portion of the consolidated endowment fund measured on Dec. 31 of each year. The University of Alaska Foundation's spending allowance rate for its pooled endowment funds is 4.0% of the five-year moving average of the market value of its portion of the consolidated endowment fund measured on Dec. 31 of each year.

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Chapter 10

Public Entities and the University of Alaska

Overview

The State of Alaska has established the following public corporations and entities to carry out certain public policies:

- Alaska Aerospace Corporation (AAC)
- Alaska Energy Authority (AEA)
- Alaska Gasline Development Corporation (AGDC)
- Alaska Housing Finance Corporation (AHFC)
- Alaska Industrial Development and Export Authority (AIDEA)
- Alaska Mental Health Trust Authority (AMHTA)
- Alaska Municipal Bond Bank Authority (AMBBA)
- Alaska Railroad Corporation (ARC)
- Alaska Seafood Marketing Institute (ASMI)
- Alaska Student Loan Corporation (ASLC)
- University of Alaska (UA)

These 11 entities are components of state government presented in the state's Comprehensive Annual Financial Report. Information in this section is provided by these entities. The Alaska Housing Finance Corporation, Alaska Industrial Development and Export Authority, Alaska Student Loan Corporation, and Alaska Municipal Bond Bank Authority pay, or may elect to pay, some portion of their income as an annual dividend to the state. This chapter summarizes the missions, financing, and dividends of these corporations and other public entities.

Missions, Financing and Dividends

Alaska Aerospace Corporation

The Alaska Aerospace Corporation (AAC) operates and maintains the Pacific Spaceport Complex – Alaska (PSCA), a commercial spaceport in Kodiak, Alaska, which provides commercial rocket vehicle launch support services. It promotes space-related business, research, education, and economic growth in the state.

The state has supported AAC in the past through funding for capital and operating expenses. In Fiscal Year 2016, the state did not contribute to the maintenance operations of PSCA. AAC does not pay a dividend or return capital to the state.

Alaska Energy Authority

The Alaska Energy Authority (AEA) provides loans to utilities, communities, and individuals to pay for the purchase or upgrade of equipment, and for bulk fuel purchases. Additionally, the agency administers the Power Cost Equalization program, subsidizing rural electric costs with earnings from the Power Cost Equalization Endowment. AEA receives federal and state money to provide technical advice and assistance in energy planning, emergency response management, and energy infrastructure construction and conservation in rural Alaska. AEA owns, operates, and maintains (under contractual agreements) state-owned power projects, such as the Bradley Lake Hydroelectric Project and the Alaska Intertie.

The AEA was established in 1976 to finance and operate power projects. This corporation has also administered rural energy programs at various times, including the present. As a result of legislatively mandated reorganizations, capital has moved into and out of the corporation.

AEA does not pay a dividend or return capital to the state on a regular basis.

Alaska Gasline Development Corporation

The Alaska Gasline Development Corporation (AGDC) has early beginnings dating back to 2009 when declining Cook Inlet gas supplies resulted in energy brown outs and crippling interior energy costs in communities across Alaska. In 2010, the Alaska Legislature passed House Bill 369 creating AGDC.

Today, AGDC is an independent, public corporation of the state. Its corporate vision is to maximize the benefit of Alaska's vast North Slope natural gas resource through the development of infrastructure necessary

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Public Entities – FY 2016 Financial Facts

In millions of dollars

	Millions of Dollars				
	Total Assets	Assets Less Liabilities Book Value	FY 2015 Operating Budget	FY 2016 Operating Budget	Total Positions[1]
Alaska Aerospace Corporation	99.4	50.0	10.1	11.0	17
Alaska Energy Authority	1,502.3[2]	1,395.4	48.9	41.6[3]	See AIDEA[4]
Alaska Gasline Development Corporation[5]	128.4	125.8	10.4	13.3	38
Alaska Housing Finance Corporation	3,930.6[2]	1,499.5[6]	93.7	93.5	350
Alaska Industrial Development and Export Authority	1,509.7[2]	1,311.8	16.5	14.3	106
Alaska Mental Health Trust Authority	603.2	585.2	3.9	4.0	16
Alaska Municipal Bond Bank Authority	1,163.9	56.1	0.8	0.9	2
Alaska Railroad Corporation[7]	1,114.1	320.7	137.9	121.6	647
Alaska Seafood Marketing Institute	20.7	14.0	26.7	24.4	20
Alaska Student Loan Corporation[8]	339.4	224.4	13.3	12.5	88
University of Alaska	2,284.1	1,551.1	924.9	915.6	4,739

[1] Permanent full time, permanent part time and temporary are included in total positions.

[2] AIDEA, AEA, and AHFC's asset totals include deferred outflow of resources.

[3] Includes AEA multi-year operating appropriation for Statewide Project Development, Alternative Energy and Efficiency.

[4] AIDEA provides staff for the activities of the AEA. A significant portion of AIDEA's staff is engaged in AEA programs.

[5] AGDC's numbers are unaudited and subject to revision.

[6] Assets and deferred outflows of resources less liabilities and deferred inflows of resources.

[7] The Alaska Railroad reports financial data on a calendar-year basis. Assets and book value shown in this table are from audited Dec. 31, 2015, financial statements. The revised operating budgets figure shown here is for calendar year 2015 and CY 2016.

[8] ASLC contracts with the Alaska Commission on Postsecondary Education to service its loan portfolio and provide staff support. Budget and positions reported are those of ACPE's funded by ASLC.

to move the gas into Alaska communities and international markets. This vision has been refined into AGDC's mission of "Alaska Moving Forward: Providing Natural Gas to the World."

AGDC is pursuing two options for delivery of North Slope natural gas to Alaskans and potential international markets: the Alaska Liquefied Natural Gas (LNG) Project is AGDC's primary project, and the Alaska Stand Alone Pipeline (ASAP) is its secondary and backup project.

Major milestones in AGDC's history:

- May 2013 – The enactment of House Bill 4 where AGDC received the power, authority, and multi-year funding to advance the ASAP project through open season and sanctioning. House Bill 4 also established AGDC as an independent, public corporation of the state. Today, AGDC continues to have a legal existence separate and distinct from the State of Alaska, while maintaining its structure within the Alaska Department of Commerce, Community, and Economic Development for administrative purposes.

- April 2014 – The passage of Senate Bill 138 expanded AGDC's mission and authority to include primary responsibility for developing an Alaska liquefied natural gas project on the state's behalf. That legislation also directed AGDC to assist the departments of Revenue and Natural Resources in maximizing the value of the state's gas. At that time, the Legislature appropriated $69.8 million to fund the state's equity participation in the Alaska LNG Project.

AGDC is responsible for two funds that it uses to finance its operations and activities for both the ASAP and Alaska LNG projects.

The first fund, the In-State Natural Gas Pipeline Fund (AS 31.25.100), was established in 2013 to pay for the planning and engineering of the ASAP in-state natural

gas pipeline project. The State of Alaska appropriated approximately $395 million to the fund and AGDC. However, in 2015, the Legislature appropriated $157 million from the fund to other departments in state government (Sec 9, Ch. 1, SSSLA 15).

The second fund, the Alaska LNG Project Fund (AS 31.25.110), was established in 2014 to fund state expenditures associated with the Alaska LNG Project and the state's equity participation in that venture. When the fund was originally authorized, the state received a 25% ownership interest in the project. The fund has been capitalized with appropriations totaling $69.8 million. Since then, AGDC has taken over the leadership of the project with 100% responsibility of management and oversight.

Signed into law Nov. 6, 2015, Senate Bill 3001 appropriated approximately $144.1 million from the state's general fund to the Alaska LNG Project Fund to acquire the interest held by TransCanada in the Alaska LNG project, and to continue to fund the state's share of preliminary front-end engineering and design work.

In 2017, AGDC intends to file a Section 8 Federal Energy Regulatory Commission application for the Alaska LNG Project and is marketing the project internationally to investors, suppliers, and potential customers.

Alaska Housing Finance Corporation

The Alaska Housing Finance Corporation (AHFC) was created in 1971 to ensure that Alaskans, especially those of low to moderate income and those in remote or underdeveloped areas of the state, have adequate housing at a reasonable cost. The corporation administers federally and state-funded multi-residential, senior and low-income housing, residential energy, and home-weatherization programs. Using proceeds from the sale of bonds backed by its corporate assets, AHFC also purchases home mortgages from Alaska banks.

Income from payments on those mortgages repays bondholders and supplements the corporation's income, enabling the corporation to pay an annual dividend and/or return of capital to the state in some years. In recent years, the Alaska Legislature has authorized AHFC to finance the construction of schools, University of Alaska housing, and other capital projects identified by the Legislature. AHFC also managed the Alaska Gasline Development Corporation as a subsidiary until 2013, when AGDC became an independent entity.

The Legislature appropriated $739.9 million in cash and $292.5 million in mortgages held by the general fund to the corporation between 1976 and 1984. Payments on mortgages, including additional mortgages purchased with cash, have helped build the corporation's asset base and allow it to return some capital to the state each year. In 1993, AHFC received an additional $27.7 million in cash and $9.3 million in equity when the Legislature merged the Alaska State Housing Authority with AHFC.

In 2003, the Legislature enacted legislation (House Bill 256) to modify the law that created the AHFC, putting into place a transfer plan between the AHFC and the state. The governor signed the legislation into law the same year, and the Legislature modified it in 2006 with Senate Bill 236. The law calls for annual transfers that do not exceed the lesser of (1) 75% of adjusted change in net position for the fiscal year two years prior to the current fiscal year or (2) $103 million less debt service on certain state capital project bonds, less any legislative appropriation of AHFC's unrestricted, unencumbered funds other than appropriations of its operating budget. Since 1991, AHFC has paid nearly $2 billion total in dividends to the state, including $19.1 million in FY 2016.

Alaska Industrial Development and Export Authority

The Alaska Industrial Development and Export Authority (AIDEA) provides various means of financing and investment to advance economic growth and job opportunities in Alaska. AIDEA's financing tools include loan participations, direct loans, credit enhancements, issuing of revenue bonds, and equity investments in projects. AIDEA also makes financing available for industrial, commercial, and other business enterprises in Alaska. The corporation generates income from interest on its loans, investments, leases, and operations of its properties.

Between 1981 and 1991, the State of Alaska transferred various loan portfolios worth $297.1 million and $69.2 million in cash to the corporation. Since then, it has sustained itself without further state assistance while also paying annual dividends to the state. As defined by statute, AIDEA must make available to the state each year not less than 25% and not more than 50% of its audited "net income" (as defined in statute) for the "base year." The "base year" is the fiscal year ending two years prior to the end of the fiscal year in which the dividend payment is made to the State of Alaska. In no case may the dividend exceed the base year unrestricted audited "net income." The actual transfer of the dividend requires a legislative appropriation that may be a line item vetoed by the governor. Since 1997, AIDEA has paid more than $373 million in dividends to the state treasury, including $17.7 million in FY 2016.

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Public Entities – FY 2016 Revenue and Dividends

In millions of dollars

	Millions of Dollars				
	Revenue	Expenditures	Net Income	Dividend	State Contribution
Alaska Aerospace Corporation	1.4	12.3[1]	-10.9	0.0	0.1[2]
Alaska Energy Authority	52.6	93.8	-31.4	0.0	9.8
Alaska Gasline Development Corporation[3]	145.2	293.1	-147.9	0.0	144.3
Alaska Housing Finance Corporation	274.2	260.1[4]	14.1	19.1	0.2
Alaska Industrial Development and Export Authority	77.6	40.1	21.2	17.7	1.4
Alaska Mental Health Trust Authority	12.5	26.1	-13.6	0.0	0.0
Alaska Municipal Bond Bank Authority	46.3	46.3	0.0	0.0	0.0
Alaska Railroad Corporation	183.8	172.9	10.9	0.0	0.0
Alaska Seafood Marketing Institute	13.9[5]	15.9[6]	-2.0	0.0	4.9
Alaska Student Loan Corporation	18.4	14.8	3.5	0.0	0.0
University of Alaska	772.4	848.7	-68.6	0.0	359.3[7]

[1] For AAC, insurance payments and capitalized expenditures for rebuilding launch complex are not included.

[2] For AAC, on-behalf payments made by the State of Alaska for pension included in "State Contribution."

[3] AGDC's numbers are unaudited and subject to revision.

[4] For AHFC, "Expenditures" inlcude operating expenses, nonoperating expenses, special items, and transfers, as applicable.

[5] Revenue from the Seafood Marketing Assessment Tax of $9.5 mil are included in the Revenue column, not the State contribution column.

[6] ASMI expenses increased by $3.5 million related to GASB 68 for Net Pension Obligation.

[7] Does not include on-behalf payments made by the State of Alaska for pension.

Alaska Mental Health Trust Authority

The Alaska Mental Health Trust Authority, a public corporation of the state within the Department of Revenue, carries out the state's obligations under the Mental Health Enabling Act of 1956, namely to ensure an integrated comprehensive mental health program. The Mental Health Enabling Act established the Alaska Mental Health Trust as a perpetual trust and capitalized it with 1 million acres of land that were to be managed to generate income for mental health services in Alaska. During the course of class-action litigation, the Alaska Supreme Court concluded the state breached its fiduciary duty while managing Trust land. A 1994 settlement created the Alaska Mental Health Trust Authority and established a seven-member board of trustees to oversee it. The settlement recapitalized the Mental Health Trust with $200 million and 1 million acres of land consisting of original Trust land as well as replacement land.

Earnings on this asset base are used to fund a variety of programs and are accounted for separately in the annual Mental Health budget, which is typically passed in conjunction with the operating budget.

Under the terms of the settlement and state statute, the Alaska Permanent Fund Corporation manages the cash principal. The Alaska Department of Natural Resources manages the land assets and a portfolio of directly owned real estate investments. The Trust Authority operates similar to a private foundation to administer, protect and enhance the Mental Health Trust. The Trust Authority provides leadership in advocacy, planning, implementing and funding Alaska's comprehensive integrated mental health program and coordinates with state agencies on programs and services to help improve the lives of Trust beneficiaries.

Alaska Municipal Bond Bank Authority

The Alaska Municipal Bond Bank Authority (AMBBA) lends monies to authorized borrowers within the state to finance capital projects, primarily through the issuance of AMBBA bonds. Bond proceeds are used to purchase authorized borrower's debt instruments.

Limited State of Alaska credit support combined with a cross-collateralized loan portfolio and pooled reserve fund structure result in a strong credit rating, and enable the AMBBA to sell bonds with lower interest rates than authorized borrowers could obtain on their own.

Between 1976 and 2016, the total State of Alaska-appropriated equity to the AMBBA was $33.4 million, and total transfers back to the state were $27.8 million. For the last nine years, the state's operating budget has not appropriated any AMBBA net earnings to the AMBBA. Due to the current low-interest rate environment, there has been no statutory net income amount available for transfer since FY 2011.

Alaska Railroad Corporation

The Alaska Railroad Corporation operates 683 track miles, providing both freight and passenger rail services between Seward and Fairbanks, including a spur line to Whittier and the Ted Stevens Anchorage International Airport. The corporation serves the ports of Whittier, Seward, and Anchorage as well as Denali National Park and military installations. In addition, the corporation generates revenues from its real estate assets.

The state bought the railroad from the federal government in 1985. The purchase price of $22.7 million was recorded as the state's capitalization. The corporation does not pay a cash dividend to the state's general fund.

Alaska Seafood Marketing Institute

The Alaska Seafood Marketing Institute is a marketing organization with the mission of increasing the economic value of Alaska seafood. It conducts advertising campaigns and public relations for the seafood industry, and works directly with foodservice distributors, retailers and restaurants to build the "Alaska seafood" brand. ASMI is a public-private partnership and receives funding from the state, federal government, and private industry.

The state levies the Seafood Marketing Assessment, a 0.5% assessment on fisheries, to support ASMI's operations. In addition, in FY 2016, ASMI received $4.2 million in federal funding and $4.9 million from the state's general fund.

Alaska Student Loan Corporation

The Alaska Student Loan Corporation issues debt and recycles student loan payments to finance other student loans. Payments of the student loans also provide funding for the corporation's operations.

In fiscal year 1988, the State of Alaska transferred $260 million of existing student loans to the corporation. Additional appropriations of cash between FY 1988 and FY 1992 totaled $46.7 million.

The corporation, at the discretion of its board of directors, may make available to the state a return of contributed capital or dividend for any base year in which the net income of the corporation is $2 million or more. A base year is defined as the year two years before the payment year. If the board authorizes a payment, it must be between 10% and 35% of net income for the base year (AS 14.42.295).

The corporation may also issue bonds in an aggregate amount not to exceed $280 million, for the purpose of financing projects of the state (AS 14.42.220). To date, the corporation has issued $163 million in bonds, the proceeds of which have been appropriated to fund capital projects of the state.

University of Alaska

The University of Alaska is a constitutionally created corporation of the State of Alaska that is authorized to hold title to real and personal property and to issue debt in its own name. The University of Alaska system is the only public institution of higher learning in the state. It has a university in Anchorage, another in Fairbanks and a third in Juneau. The universities have extended satellite colleges and sites throughout the state. The system's administrative offices are located on the Fairbanks campus. The University is governed by an 11-member Board of Regents, which is appointed by the governor.

The University of Alaska system is primarily supported by the state's general fund appropriations, student tuition and fees, as well as grant and contract revenue from the State of Alaska, federal agencies, and private sponsors, including the University of Alaska Foundation.

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Glossary

Constitutional Budget Reserve Fund (CBRF)
Created by voters in 1990, the CBRF receives proceeds from settlements of oil, gas, and mining tax and royalty disputes. The Legislature may, with a three-quarters majority vote in each chamber, withdraw money from the fund.

Designated General Fund Revenue
General fund revenue that is designated for a specific purpose, typically using a general fund subaccount. The Legislature can at any time remove the restrictions on this category of revenue as they are solely imposed by either Alaska statute or customary practice. At times, this category of revenue may be included in legislative and public debate over the budget.

Federal Revenue
When the federal government gives money to states, it typically restricts how that money can be used. For example, highway and airport construction funds, Medicaid, and education funding cannot be used for other purposes. In addition to restricting how the money is spent, the federal government often requires states to put up matching funds to qualify for the federal funding.

General Fund Revenue
General fund revenue has different meanings in different contexts. In the state's official financial reports, general fund revenue is used to designate the sum of general fund unrestricted revenue, general fund sub-account revenue, program receipts and other funds spent through the general fund. In budget reports, general fund revenue is split into revenue with no specific purpose, and revenue with a specific purpose. These categories are called unrestricted general fund revenue and designated general fund revenue, respectively.

General Fund Unrestricted Revenue
Revenue not restricted by the Alaska Constitution, state or federal law, trust or debt restrictions, or customary practice. This revenue is deposited into the state's unrestricted general fund and most legislative and public debate over the budget each year centers on this category of revenue. In deriving the department's Unrestricted Revenue figure from total general fund revenue, the department has excluded general fund subaccount revenue, as well as customarily restricted revenue such as shared taxes and pass-through revenue for qualified fisheries associations. The department has also added certain revenue such as transfers to the state treasury from the Unclaimed Property Trust and dividends from component units.

Other Restricted State Revenue
Non-federal revenue that is not deposited to the general fund or a subaccount of the general fund. This revenue is restricted by the Alaska Constitution, state or federal law, trust or debt restrictions, or by customary practice.

Permanent Fund GASB (or Market) Income
Under standards adopted by the Governmental Accounting Standards Board, the Permanent Fund's income – and that of any other government fund – is the difference between the purchase price of the investments and their market value at a given point in time, plus any dividends, interest or rent earned on those investments. Under GASB standards, the Permanent Fund does not have to sell the investment to count the gain or loss as it changes value. It is called "marking to market," that is, measuring the value of the fund's investments by the current market price. This can produce a much different picture than Permanent Fund statutory income, which does not reflect fluctuating investment values until the assets are sold.

Permanent Fund Statutory Income
The annual Permanent Fund dividend is based on statutory income. This is the sum of realized gains and losses of all Permanent Fund investment transactions during the year, plus interest, dividends and rents earned by the fund. The Legislature may appropriate the earnings for any purpose it chooses. The historical practice has been to use realized income primarily for dividends and inflation-proofing, and then either leave the excess in the realized earnings account, or transfer it to the principal of the Permanent Fund.

Restricted Program Receipts
This revenue is earmarked in state statute or by contract for specific purposes and is usually appropriated back to the program that generated the revenue. Examples include University of Alaska tuition payments, marine highway receipts, payments to various revolv-

ing loan funds, and public corporation receipts. Some of this revenue is actually dedicated as a consequence of provisions of the Alaska Constitution. The remainder, while statutorily earmarked, may be appropriated to purposes other than those reflected in statute if the Legislature so chooses. These earmarked funds are categorized as designated general funds.

Restricted Revenue

Restricted revenue represents revenue that is restricted by the Alaska Constitution, state or federal law, trust or debt restrictions, or by customary practice. The Legislature can at any time remove restrictions that are solely imposed by either Alaska statute or customary practice. Program receipts, revenue allocated to sub-accounts of the general fund, and general fund revenue customarily shared with other entities are all considered restricted revenue for the purposes of this report. In this report, the department presents three categories of restricted revenue: designated general fund revenue, other restricted state revenue, and federal revenue.

Revenue Available for Current-Year Appropriation

All revenue that is technically available for the Legislature to appropriate, regardless of customary practice. Includes General Fund Unrestricted Revenue, Designated General Fund Revenue, deposits to and earnings from the CBRF, a portion of deposits to the Permanent Fund, and realized earnings from the Permanent Fund.

Glossary and Appendices

Acronymns

AAC	Alaska Aerospace Corporation
ACWI	All Country World Index
AEA	Alaska Energy Authority
AGDC	Alaska Gasline Development Corporation
AGI	Adjusted gross income
AHFC	Alaska Housing Finance Corporation
AIDEA	Alaska Industrial Development and Export Authority
APFC	Alaska Permanent Fund Corporation
AMBBA	Alaska Municipal Bond Bank Authority
AMHTA	Alaska Mental Health Trust Authority
ANCSA	Alaska Native Claims Settlement Act
ANS	Alaska North Slope
AOGCC	Alaska Oil and Gas Conservation Commission
APFC	Alaska Permanent Fund Corporation
ARC	Alaska Railroad Corporation
AS	Alaska Statutes
ASAP	Alaska Stand Alone Pipeline
ASLC	Alaska Student Loan Corporation
ASMI	Alaska Seafood Marketing Institute
bbl	Barrel of oil
B&O	Business and occupation tax
BOE	Barrels of oil equivalent
BTU	British thermal unit
CAFR	Comprehensive Annual Financial Report
CAPEX	Capital expenditures
CBRF	Constitutional Budget Reserve Fund
CDQ	Community development quota
CIT	Corporate income tax
CP	Currently producing
CPI-U	Consumer Price Index for All Urban Consumers
CPV	Commercial passenger vessel
CY	Calendar year
CZE	Combat zone exclusion
DCCED	Department of Commerce, Community and Economic Development
D/I	Data incomplete
DNR	Department of Natural Resources
DOR	Department of Revenue
EAFE	Europe Australasia and Far East
EPA	Environmental Protection Agency
ERG	Economic Research Group
EU	European Union
FBT	Fisheries business tax
FERC	Federal Energy Regulatory Commission
FICA	Federal Insurance Contributions Act tax
FTSE	Financial Times Stock Exchange
FY	Fiscal year
GAAP	Generally Accepted Accounting Principles
GASB	Governmental Accounting Standards Board
GDP	Gross domestic product
GeFONSI	General fund and other non-segregated investments
GFUR	General fund unrestricted revenue
GST	Goods and services tax
GVPP	Gross value at point of production
GVR	Gross value reduction
HB 247	House Bill 247, passed in 2016
LLC	Limited Liability Corporation
LNG	Liquefied natural gas
mcf	Thousand cubic feet
MLT	Mining license tax
MFT	Motor fuel tax
MSCI	Morgan Stanley Capital International
NAREIT	National Association of Real Estate Investment Trusts
NGL	Natural gas unit
NOL	Net Operating Loss Credit
NPR-A	National Petroleum Reserve in Alaska
N/T	Not tracked
OECD	Organisation for Economic Co-operation and Development

OMB	Office of Management and Budget
OPEC	Organization of Petroleum Exporting Countries
OPEX	Operating expenditures
PBU	Prudhoe Bay Unit
PSTF	Public School Trust Fund
PTV	Production tax value
QCE	Qualified Capital Expenditure Credit
QR	Quick response
RCA	Regulatory Commission of Alaska
REIT	Real Estate Investment Trusts
RIK	Royalty in kind
RIV	Royalty in value
RSA	Royalty settlement agreement
RSB	*Revenue Sources Book*
SB 21	Senate Bill 21, passed in 2013
SBRF	Statutory Budget Reserve Fund
SSUTA	Streamline Sales and Use Tax Agreement
TAPS	Trans-Alaska Pipeline System
UA	University of Alaska
UD	Under development
UE	Under evaluation
VAT	Value-added tax
WLE	Well Lease Expenditure Credit
WTI	West Texas Intermediate

Appendix A
1

Unrestricted General Fund Revenue Matrices

Revenue sensitivity to oil price

Millions of Dollars

FY 2017		FY 2018		FY 2019	
At forecasted ANS production of 490,300 barrels per day		At forecasted ANS production of 455,600 barrels per day		At forecasted ANS production of 442,100 barrels per day	
Alaska North Slope Dollars per Barrel[1]	Unrestricted General Fund Revenue	Alaska North Slope Dollars per Barrel	Unrestricted General Fund Revenue	Alaska North Slope Dollars per Barrel	Unrestricted General Fund Revenue
$20	$820	$20	$860	$20	$930
$30	$1,010	$30	$1,060	$30	$1,100
$40	$1,260	$40	$1,270	$40	$1,270
$46.81	$1,447	$50	$1,520	$50	$1,600
$50	$1,450	$54.00	$1,624	$60	$1,873
$60	$1,830	$60	$1,790		
$70	$2,370	$70	$2,100	$70	$2,100
$80	$3,240	$80	$2,540	$80	$2,420
$90	$4,100	$90	$3,340	$90	$2,930
$100	$4,970	$100	$4,110	$100	$3,670
$110	$5,950	$110	$4,900	$110	$4,410
$120	$6,810	$120	$5,720	$120	$5,160

[1] Alaska North Slope dollars per barrel values are fiscal-year averages that incorporate actual prices for the first three months of FY 2017. Because oil prices averaged $44.25 for the first three months, it can take a different price for the remainder of the year to bring the fiscal-year average to levels in the table. For example, a fiscal-year price of $70 per barrel would require nine months of oil prices around $79 per barrel.

Note:

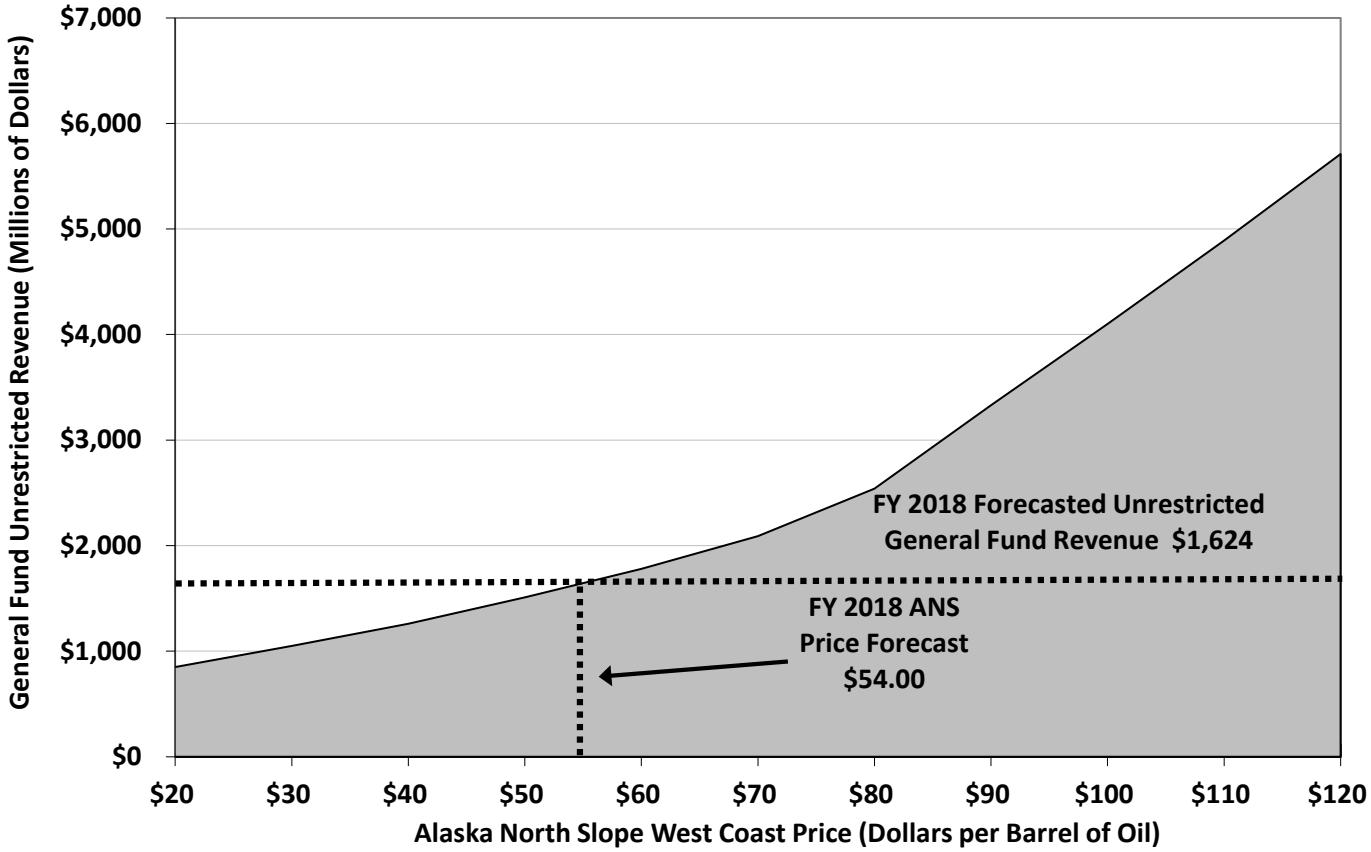
This table presents estimated General Fund Unrestricted Revenue at a range of ANS prices, holding all other variables constant. Analysis assumes that the given price is in place for all three years shown. Only production tax, royalties, and corporate income tax are adjusted for purposes of this analysis. Users should be cautioned that changes in any number of variables may cause revenue to vary significantly from amounts shown. These variables include but are not limited to production, lease expenditures, and netback costs. In addition, revenues may vary from the amount shown due to changes in company decision-making, company-specific tax calculation issues, month-to-month variations in price or production, and changes in non-oil revenue.

Appendix A

A

GFUR Relative to Price per Barrel

Price sensitivity for FY 2018



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History of Unrestricted General Fund Revenue[1]

By type and category

	Millions of Dollars									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Unrestricted General Fund Tax Revenue										
Petroleum Property Tax	**65.6**	**81.5**	**111.2**	**118.8**	**110.6**	**111.2**	**99.3**	**128.1**	**125.2**	**111.7**
Excise Tax										
Alcoholic Beverages	17.1	20.0	19.5	19.5	19.4	19.4	19.8	18.3	17.7	22.2
Tobacco Products	43.8	44.9	46.6	45.1	46.5	45.6	44.8	42.8	40.5	45.5
Insurance Premium[2]	46.5	47.1	45.5	50.4	49.6	54.8	52.4	54.6	59.1	0.0
Electric and Telephone Cooperative	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2
Motor Fuel Tax	39.2	41.8	10.1	28.8	39.5	40.9	41.9	41.9	41.8	48.9
Vehicle Rental Tax[3]	8.0	8.5	8.0	7.3	8.3	8.5	8.4	8.3	9.7	0.0
Tire Fee	1.5	1.5	1.5	1.4	1.5	1.4	1.4	1.3	1.5	1.5
Total Excise Tax	**156.3**	**164.0**	**131.3**	**152.6**	**164.9**	**170.8**	**168.9**	**167.5**	**170.5**	**118.3**
Income Tax										
General Corporate	176.9	182.7	120.9	81.9	157.7	98.5	112.5	99.9	136.2	90.2
Petroleum Corporate	594.4	605.8	492.2	446.1	542.1	568.8	434.6	307.6	94.8	-58.8
Total Income Tax	**771.3**	**788.5**	**613.1**	**528.0**	**699.8**	**667.3**	**547.1**	**407.5**	**231.0**	**31.4**
Oil and Gas Production										
Oil and Gas Production Tax	2,198.3	6,810.9	3,100.9	2,860.7	4,543.2	6,136.7	4,042.5	2,605.9	381.6	176.8
Oil and Gas Conservation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oil and Gas Hazardous Release	10.1	11.7	11.1	10.3	9.7	9.4	7.8	8.8	8.1	9.2
Total Oil and Gas Production	**2,208.4**	**6,822.6**	**3,112.0**	**2,871.0**	**4,552.9**	**6,146.1**	**4,050.3**	**2,614.7**	**389.7**	**186.0**
Fish Tax										
Fisheries Business Tax	17.1	14.7	19.3	14.0	20.1	26.4	19.2	25.1	21.3	22.2
Fishery Resource Landing Tax	5.3	7.9	4.7	8.3	2.7	6.3	5.5	7.1	5.1	0.3
Total Fish Tax	**22.4**	**22.6**	**24.0**	**22.3**	**22.8**	**32.7**	**24.7**	**32.2**	**26.4**	**22.5**
Other Tax										
Estate	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mining	79.1	54.4	15.5	29.7	49.0	40.7	46.7	23.3	38.6	10.7
Charitable Gaming	2.5	2.7	2.8	2.6	2.5	2.6	2.5	2.5	2.5	2.6
Large Passenger Vessel Gambling	0.0	0.0	0.0	6.3	5.8	5.2	6.0	6.7	6.6	7.7
Total Other Tax	**81.7**	**57.1**	**18.5**	**38.6**	**57.3**	**48.5**	**55.2**	**32.5**	**47.7**	**21.1**
Total Unrestricted General Fund Tax Revenue	**3,305.7**	**7,936.3**	**4,010.1**	**3,731.3**	**5,608.3**	**7,176.6**	**4,945.5**	**3,382.5**	**990.5**	**490.9**

(Table continued, next page)

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History of Unrestricted General Fund Revenue[1]

By type and category *(Continued)*

	Millions of Dollars									
	History									
Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Unrestricted General Fund Non-Tax Revenue										
Licenses and Permits[4]	**42.0**	**38.9**	**35.5**	**39.5**	**42.8**	**42.3**	**41.9**	**42.7**	**34.4**	**41.2**
Intergovernmental Receipts										
Federal Shared Revenues	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Charges for Services	**28.5**	**29.3**	**19.3**	**17.1**	**18.5**	**29.2**	**25.2**	**24.2**	**20.1**	**21.5**
Fines and Forfeitures	**7.8**	**8.9**	**10.5**	**10.4**	**7.0**	**10.9**	**15.8**	**11.3**	**11.5**	**11.4**
Rents and Royalties										
Oil and Gas Royalties[5]	1,583.8	2,420.6	1,451.2	1,469.0	1,821.3	2,022.8	1,748.4	1,685.0	1,052.1	840.3
Oil and Gas Bonuses, Rents, Interest[5, 6]	29.2	25.5	14.4	8.0	22.0	8.9	19.4	27.4	26.1	30.3
Other[7]	11.8	14.6	15.6	13.2	17.6	20.4	24.7	34.5	36.3	24.7
Total Rents and Royalties	**1,624.8**	**2,460.7**	**1,481.2**	**1,490.2**	**1,860.9**	**2,052.1**	**1,792.5**	**1,746.9**	**1,114.5**	**895.3**
Investment Earnings	**140.1**	**227.9**	**247.6**	**184.0**	**96.3**	**107.8**	**28.1**	**130.2**	**47.9**	**22.5**
Miscellaneous Revenue[8]	**9.7**	**26.2**	**27.0**	**40.8**	**39.1**	**66.3**	**79.5**	**52.3**	**37.5**	**57.0**
Total Unrestricted General Fund Non-Tax Revenue	**1,852.9**	**2,791.9**	**1,821.1**	**1,782.0**	**2,064.6**	**2,308.6**	**1,983.0**	**2,007.6**	**1,265.8**	**1,048.9**
Total Unrestricted General Fund Revenue	**5,158.6**	**10,728.2**	**5,831.2**	**5,513.3**	**7,672.9**	**9,485.2**	**6,928.5**	**5,390.1**	**2,256.4**	**1,539.8**

[1] Unrestricted General Fund Revenue includes revenue that is not restricted by statute or custom, as reported elsewhere in this publication. A summary of historical Unrestricted General Fund Revenue can be found on the Tax Division's website at www.tax.alaska.gov/sourcesbook/qr.aspx?Chapter=15&FY=2016.

[2] Starting in FY 2016 these revenues are deposited into a subfund of the general fund and are considered restricted.

[3] Starting in FY 2016 to be consistent with other budget documents Vehicle Rental Tax is now classified as designated general fund revenue.

[4] Starting in FY 2016 to be consistent with other budget documents revenue from Alcoholic Beverage Licenses is now classified as designated general fund revenue.

[5] Net of Permanent Fund, Public School Trust Fund, and Constitutional Budget Reserve Fund deposits.

[6] This category is primarily composed of petroleum revenue.

[7] Includes non-petroleum rents and royalites.

[8] Starting in FY 2010, dividends and payments from state-owned corporations are included in unrestricted miscellaneous revenue.

Appendix A
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Petroleum Revenue

By restriction and type

	Millions of Dollars									
	History[1]									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Unrestricted Petroleum Revenue										
Petroleum Property Tax	65.6	81.5	111.2	118.8	110.6	111.2	99.3	128.1	125.2	111.7
Petroleum Corporate Income Tax	594.4	605.8	492.2	446.1	542.1	568.8	434.6	307.6	94.8	-58.8
Production Tax	2,198.3	6,810.9	3,100.9	2,860.7	4,543.2	6,136.7	4,042.5	2,605.9	381.6	176.8
Oil and Gas Hazardous Release	10.1	11.7	11.1	10.3	9.7	9.4	7.8	8.8	8.1	9.2
Oil and Gas Conservation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oil and Gas Royalties[2]	1,583.8	2,420.6	1,451.2	1,469.0	1,821.3	2,022.8	1,748.4	1,685.0	1,052.1	840.3
Bonuses, Rents and Interest[2, 3]	29.2	25.5	14.4	8.0	22.0	8.9	19.4	27.4	26.1	30.3
Petroleum Special Settlements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Unrestricted Petroleum Revenue	**4,481.4**	**9,956.0**	**5,181.0**	**4,912.9**	**7,048.9**	**8,857.8**	**6,352.0**	**4,762.8**	**1,687.9**	**1,109.5**
Cumulative Total Petroleum Revenue[4]	66,291	76,247	81,428	86,340	93,389	102,247	108,599	113,362	115,050	116,159
Restricted Petroleum Revenue										
NPR-A Rents, Royalties, Bonuses	12.8	5.2	14.8	21.3	3.0	4.8	3.6	6.8	3.2	1.8
Royalties to Permanent Fund	535.0	834.0	659.8	696.1	857.3	904.9	842.1	773.7	510.4	390.5
Royalties to Public School Trust Fund	10.6	16.5	11.0	11.1	13.6	14.7	13.8	12.5	7.9	6.4
Constitutional Budget Reserve Fund Deposits	101.9	476.4	202.6	552.7	167.3	102.1	176.6	141.4	149.0	119.1
Total Restricted Petroleum Revenue	**660.3**	**1,332.1**	**888.2**	**1,281.2**	**1,041.2**	**1,026.5**	**1,036.1**	**934.4**	**670.5**	**517.8**

(Table continued, next page)

Appendix A
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Petroleum Revenue

By restriction and type *(Continued)*

	Millions of Dollars									
					Forecast					
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Unrestricted Petroleum Revenue										
Petroleum Property Tax	115.8	109.7	107.1	105.0	103.1	101.2	99.0	96.9	94.7	92.4
Petroleum Corporate Income Tax	96.4	235.4	260.0	250.3	243.1	249.7	251.1	244.7	259.0	260.5
Production Tax	135.0	82.1	247.9	265.4	276.5	306.6	304.9	328.1	368.8	391.1
Oil and Gas Hazardous Release	8.1	7.6	7.4	7.2	6.9	6.6	6.3	6.0	5.7	5.5
Oil and Gas Conservation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oil and Gas Royalties[2]	592.1	645.4	702.2	713.1	729.1	747.0	757.3	758.4	785.1	793.0
Bonuses, Rents and Interest[2, 3]	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
Petroleum Special Settlements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Unrestricted Petroleum Revenue	**966.9**	**1,099.8**	**1,344.2**	**1,360.6**	**1,378.3**	**1,430.6**	**1,438.2**	**1,453.7**	**1,532.9**	**1,562.0**
Cumulative Total Petroleum Revenue[4]	117,126	118,226	119,570	120,931	122,309	123,740	125,178	126,632	128,165	129,728
Restricted Petroleum Revenue										
NPR-A Rents, Royalties, Bonuses	4.3	4.3	9.0	27.3	43.7	39.5	40.5	45.0	41.6	37.9
Royalties to Permanent Fund	271.6	293.5	322.3	336.9	351.2	355.6	358.3	358.6	365.3	364.1
Royalties to Public School Trust Fund	4.4	4.8	5.2	5.4	5.5	5.6	5.7	5.7	5.9	5.9
Constitutional Budget Reserve Fund Deposits	350.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Restricted Petroleum Revenue	**630.3**	**402.6**	**436.6**	**469.5**	**500.4**	**500.7**	**504.6**	**509.3**	**512.7**	**507.9**

[1] Historical petroleum revenue can be found on the Tax Division's website at www.tax.alaska.gov/sourcesbook/qr.aspx?Chapter=16&FY=2016.

[2] Net of Permanent Fund, Public School Trust Fund, and CBRF deposits.

[3] This category is primarily petroleum revenue.

[4] Based on revenue beginning in FY 1959.

Appendix A
4

Unrestricted General Fund Revenue

Petroleum versus non-petroleum revenue

	Millions of Dollars									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Unrestricted General Fund Revenue										
Total Unrestricted Petroleum Revenue	4,481.4	9,956.0	5,181.0	4,912.9	7,048.9	8,857.8	6,352.0	4,762.8	1,687.9	1,109.5
Unrestricted General Fund Non-Petroleum Revenue	677.2	772.2	650.2	600.4	624.0	627.4	576.5	627.3	568.5	430.3
Total Unrestricted General Fund Revenue	**5,158.6**	**10,728.2**	**5,831.2**	**5,513.3**	**7,672.9**	**9,485.2**	**6,928.5**	**5,390.1**	**2,256.4**	**1,539.8**
Percent of Total Unrestricted General Fund Revenue from Petroleum	87%	93%	89%	89%	92%	93%	92%	88%	75%	72%

(Table continued, next page)

Appendix A

4

Unrestricted General Fund Revenue

Petroleum versus non-petroleum revenue *(Continued)*

	Millions of Dollars									
						Forecast				
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Unrestricted General Fund Revenue										
Total Unrestricted Petroleum Revenue	966.9	1,099.8	1,344.2	1,360.6	1,378.3	1,430.6	1,438.2	1,453.7	1,532.9	1,562.0
Unrestricted General Fund Non-Petroleum Revenue	479.8	524.3	528.5	546.2	565.3	581.7	600.8	620.8	641.4	662.8
Total Unrestricted General Fund Revenue	**1,446.7**	**1,624.1**	**1,872.7**	**1,906.7**	**1,943.7**	**2,012.4**	**2,039.0**	**2,074.5**	**2,174.3**	**2,224.8**
Percent of Total Unrestricted General Fund Revenue from Petroleum	67%	68%	72%	71%	71%	71%	71%	70%	70%	70%

Appendix B
1

Nominal Netback Costs, Actual and Forecast

By netback segment

	Dollars per Barrel									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Alaska North Slope West Coast	**61.60**	**96.51**	**68.34**	**74.90**	**94.49**	**112.65**	**107.57**	**107.57**	**72.58**	**43.18**
Netback Costs [1]										
Marine Costs	1.62	1.93	2.05	2.21	2.44	3.24	3.64	3.70	3.25	3.15
TAPS Tariff	4.37	5.08	4.59	3.81	4.02	5.06	5.93	6.52	6.11	6.25
Feeder Tariff	0.45	0.31	0.31	0.31	0.29	0.31	0.35	0.38	0.42	0.39
Quality Bank	-0.86	-1.26	-0.52	-0.41	-0.54	-0.68	-0.67	-0.59	-0.37	-0.04
Other [2]	-0.18	-0.01	-0.05	0.09	0.46	0.44	0.51	0.41	0.33	0.13
Total of Netback Costs	**5.40**	**6.05**	**6.38**	**6.01**	**6.67**	**8.37**	**9.76**	**10.42**	**9.74**	**9.88**
ANS Wellhead Weighted Average All Destinations	**56.20**	**90.46**	**61.96**	**68.89**	**87.82**	**104.28**	**97.81**	**97.15**	**62.83**	**33.30**

(Table continued, next page)

Appendix B
1

Nominal Netback Costs, Actual and Forecast

By netback segment *(Continued)*

	Dollars per Barrel									
	Forecast									
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Alaska North Slope West Coast	**46.81**	**54.00**	**60.00**	**63.00**	**67.00**	**71.00**	**75.00**	**78.00**	**84.00**	**88.00**
Netback Costs [3]										
Marine Costs	3.13	3.19	3.25	3.30	3.35	3.40	3.45	3.50	3.56	3.62
TAPS Tariff	5.81	6.18	6.54	6.96	7.39	7.83	8.30	8.81	9.32	9.85
Feeder Tariff	0.41	0.42	0.42	0.43	0.45	0.47	0.49	0.51	0.54	0.57
Quality Bank	-0.12	-0.14	-0.16	-0.18	-0.19	-0.20	-0.21	-0.21	-0.21	-0.21
Other [2]	0.10	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20
Total of Netback Costs	**9.33**	**9.77**	**10.19**	**10.64**	**11.15**	**11.67**	**12.21**	**12.79**	**13.41**	**14.03**
ANS Wellhead Weighted Average All Destinations	**37.48**	**44.23**	**49.81**	**52.36**	**55.85**	**59.33**	**62.79**	**65.21**	**70.59**	**73.97**

[1] Costs reported here are meant to be average costs for barrels that incurred the transportation expense. For example, marine costs should represent the average for barrels shipped on a tanker, not the average for all barrels sold. The Department of Revenue's data sources are variable and the department has not been able to confirm that this is the case for all years.

[2] Primarily tanker and pipeline losses.

[3] Forecasted transportation costs for barrels that incurred the transportation expense. For example, marine costs represent the average for barrels shipped on a tanker, not the average for all barrels sold.

Appendix B
2

Price Difference

Spring 2016 forecast and Fall 2016 forecast

	Dollars per Barrel									
Fiscal Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Spring 2016 Forecast										
ANS West Coast	39.99	38.89	43.79	48.89	54.48	60.29	61.64	63.03	64.45	65.90
ANS Wellhead Weighted Average All Destinations	29.49	28.03	32.44	37.03	41.86	46.70	47.14	47.54	47.87	48.12
Fall 2016 Forecast										
ANS West Coast	43.18	46.81	54.00	60.00	63.00	67.00	71.00	75.00	78.00	84.00
ANS Wellhead Weighted Average All Destinations	33.30	37.48	44.23	49.81	52.36	55.85	59.33	62.79	65.21	70.59
Dollar Amount Change from Prior Forecast										
ANS West Coast	3.19	7.92	10.22	11.11	8.53	6.71	9.36	11.97	13.55	18.10
ANS Wellhead Weighted Average All Destinations	3.81	9.46	11.80	12.78	10.50	9.16	12.20	15.24	17.34	22.47
Percent Change from Prior Forecast										
ANS West Coast	8.0%	20.4%	23.3%	22.7%	15.6%	11.1%	15.2%	19.0%	21.0%	27.5%
ANS Wellhead Weighted Average All Destinations	12.9%	33.8%	36.4%	34.5%	25.1%	19.6%	25.9%	32.1%	36.2%	46.7%

Appendix C
1

Production Difference

Spring 2016 forecast and Fall 2016 forecast

	Thousand Barrels per Day									
Fiscal Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Spring 2016 Forecast										
Alaska North Slope	520.2	507.1	488.8	484.4	454.1	418.6	387.1	356.8	327.0	300.5
Non-North Slope	17.3	16.1	14.7	13.5	12.5	11.7	10.9	10.2	9.6	9.0
Total	**537.5**	**523.2**	**503.5**	**497.9**	**466.6**	**430.3**	**398.0**	**367.0**	**336.6**	**309.5**
Fall 2016 Forecast										
Alaska North Slope	514.9	490.3	455.6	442.1	428.6	413.5	398.2	380.4	363.4	345.9
Non-North Slope	16.6	15.5	14.2	15.7	14.6	13.0	11.7	10.6	9.7	8.9
Total	**531.5**	**505.8**	**469.7**	**457.8**	**443.1**	**426.5**	**410.0**	**391.0**	**373.1**	**354.7**
Volume Change from Prior Forecast										
Alaska North Slope	-5.3	-16.8	-33.2	-42.3	-25.5	-5.1	11.1	23.6	36.4	45.4
Non-North Slope	-0.7	-0.6	-0.5	2.2	2.1	1.3	0.8	0.4	0.1	-0.1
Total	**-6.0**	**-17.4**	**-33.7**	**-40.1**	**-23.4**	**-3.8**	**11.9**	**24.0**	**36.5**	**45.3**
Percent Change from Prior Forecast										
Alaska North Slope	-1.0%	-3.3%	-6.8%	-8.7%	-5.6%	-1.2%	2.9%	6.6%	11.1%	15.1%
Non-North Slope	-4.1%	-3.7%	-3.4%	16.3%	16.8%	11.1%	7.3%	3.9%	1.0%	-1.1%
Total	**-1.1%**	**-3.3%**	**-6.7%**	**-8.1%**	**-5.0%**	**-0.9%**	**3.0%**	**6.5%**	**10.8%**	**14.6%**

Appendix C
2

Annual Average Daily Crude Oil Production

By production area

	Thousand Barrels per Day									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**[1]	**2015**[1]	**2016**
Alaska North Slope										
Prudhoe Bay[2, 3]	270.8	291.1	291.4	276.7	267.6	265.2	247.4	247.5	228.5	232.1
PBU Satellites[2, 4]	75.7	67.5	67.9	63.1	55.4	50.7	46.5	44.3	41.4	44.0
GPMA[5]	36.9	44.3	38.5	34.0	30.8	29.7	26.3	26.2	22.4	23.3
Kuparuk	121.4	112.6	105.6	99.2	91.0	91.6	86.4	85.9	78.5	78.4
Kuparuk Satellites[6]	43.8	36.5	36.9	35.0	31.9	27.5	25.3	25.1	26.6	26.0
Endicott[7]	16.4	14.1	14.2	12.7	11.7	11.3	10.4	9.5	9.0	9.1
Alpine[8]	124.4	114.9	106.7	93.5	84.6	78.2	64.5	56.8	47.8	55.2
Offshore[9]	44.9	34.4	31.5	28.4	27.0	25.2	24.8	35.0	46.8	46.5
NPR-A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Point Thomson	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Alaska North Slope	**734.2**	**715.4**	**692.8**	**642.6**	**599.9**	**579.3**	**531.6**	**530.4**	**501.0**	**514.9**
Cook Inlet	**16.1**	**13.9**	**10.1**	**8.9**	**10.4**	**10.7**	**12.2**	**16.3**	**18.3**	**16.6**
Total Alaska	**750.4**	**729.4**	**702.9**	**651.5**	**610.3**	**590.0**	**543.8**	**546.6**	**519.2**	**531.5**

(Table continued, next page)

Appendix C
2

Annual Average Daily Crude Oil Production

By production area *(Continued)*

	Thousand Barrels per Day									
						Forecast				
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Alaska North Slope										
Prudhoe Bay	213.1	194.9	185.4	176.7	168.7	161.4	154.7	148.5	142.8	137.6
PBU Satellites[4]	37.4	33.6	31.5	29.7	29.8	31.3	29.2	27.4	26.0	24.8
Greater Point McIntyre Area[5]	23.1	21.1	19.9	18.8	17.9	17.2	16.5	15.9	15.4	14.9
Kuparuk	75.5	72.7	71.4	69.9	68.6	67.4	66.3	65.3	64.4	63.5
Kuparuk Satellites[6]	25.2	22.9	21.9	20.9	19.8	18.5	17.4	16.5	15.8	15.2
Endicott[7]	8.3	8.2	7.9	7.7	7.5	7.3	7.1	7.0	6.8	6.7
Alpine[8]	60.7	58.8	60.3	56.7	50.8	45.5	41.1	37.3	34.1	31.4
Offshore[9]	44.4	37.8	36.6	35.2	33.0	34.0	32.6	29.2	25.8	23.3
NPR-A	0.0	0.0	1.6	7.2	11.6	9.8	9.5	10.3	8.7	7.5
Point Thomson	2.7	5.3	5.6	5.8	5.8	5.9	6.0	6.0	6.1	6.1
Total Alaska North Slope	**490.3**	**455.6**	**442.1**	**428.6**	**413.5**	**398.2**	**380.4**	**363.4**	**345.9**	**331.0**
Cook Inlet	**15.5**	**14.2**	**15.7**	**14.6**	**13.0**	**11.7**	**10.6**	**9.7**	**8.9**	**8.2**
Total Alaska	**505.8**	**469.7**	**457.8**	**443.1**	**426.5**	**410.0**	**391.0**	**373.1**	**354.7**	**339.2**

[1] FY 2014 and FY 2015 production figures have been revised from the Fall 2015 *Revenue Sources Book* due to revised company submissions.

[2] Milne Point Unit production is now being reported with PBU Satellites instead of with PBU volume. Historical volumes, therefore, will not match the Fall 2011 *Revenue Sources Book*.

[3] Includes NGLs from Central Gas Facility shipped to TAPS.

[4] Aurora, Borealis, Midnight Sun, Orion, Polaris, Milne Point, Sag River, Schrader Bluff, Ugnu.

[5] Lisburne, Niakuk, Point McIntyre, Raven, West Beach, West Niakuk.

[6] Meltwater, NEWS, Tabasco, Tarn, West Sak.

[7] Endicott, Minke, Sag Delta, Eider, Badami.

[8] Alpine, Fiord, Nanuq, Qannik, Mustang (after 2016).

[9] Northstar, Oooguruk, Nikaitchuq, Liberty (delayed).

NOTE: Totals may show slight differences from other sources due to rounding and aggregation differences.

Appendix D
1

Lease Expenditures

Operating and capital expenditures by geographic region

	Millions of Dollars									
	History									
Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
North Slope Lease Expenditures										
Operating Expenditures [OPEX]	2,081	2,027	2,085	2,270	2,614	3,001	3,110	3,254	3,439	3,267
Capital Expenditures [CAPEX]	1,578	1,953	2,212	2,389	2,317	2,383	2,969	3,738	3,992	3,387
Total North Slope Lease Expenditures	**3,659**	**3,980**	**4,297**	**4,659**	**4,931**	**5,385**	**6,079**	**6,992**	**7,431**	**6,654**
Non-North Slope (includes Cook Inlet)										
Operating Expenditures [OPEX]	223	279	201	165	191	245	261	252	242	285
Capital Expenditures [CAPEX]	134	247	341	168	123	350	415	595	640	382
Total Non-North Slope Lease Expenditures	**357**	**526**	**542**	**332**	**314**	**594**	**676**	**848**	**881**	**668**
Total Statewide Lease Expenditures										
Operating Expenditures [OPEX]	2,304	2,306	2,286	2,435	2,805	3,246	3,370	3,506	3,680	3,552
Capital Expenditures [CAPEX]	1,712	2,200	2,553	2,557	2,440	2,733	3,384	4,333	4,632	3,769
Total Statewide Lease Expenditures	**4,016**	**4,506**	**4,839**	**4,991**	**5,245**	**5,979**	**6,754**	**7,839**	**8,312**	**7,322**
Additional Detail for North Slope Lease Expenditures										
Operating Expenditures[OPEX]										
Producing non-GVR eligible units	2,061	1,987	2,040	2,182	2,488	2,838	2,879	3,021	3,161	2,921
Other operating expenditures	20	40	45	88	126	163	231	233	278	346
Total North Slope OPEX	**2,081**	**2,027**	**2,085**	**2,270**	**2,614**	**3,001**	**3,110**	**3,254**	**3,439**	**3,267**
Capital Expenditures[CAPEX]										
Producing non-GVR eligible units	1,185	1,573	1,648	1,343	1,370	1,367	1,563	2,191	2,454	1,921
Other capital expenditures	393	380	564	1,046	947	1,016	1,406	1,547	1,538	1,466
Total North Slope CAPEX	**1,578**	**1,953**	**2,212**	**2,389**	**2,317**	**2,383**	**2,969**	**3,738**	**3,992**	**3,387**

(Table continued, next page)

Appendix D
1

Lease Expenditures

Operating and capital expenditures by geographic region *(Continued)*

	Millions of Dollars									
	Forecast									
Fiscal Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
North Slope Lease Expenditures										
Operating Expenditures [OPEX]	2,829	2,797	2,886	2,963	3,039	3,087	3,023	2,965	2,905	2,858
Capital Expenditures [CAPEX]	2,425	2,662	2,807	2,779	2,508	2,260	2,236	2,210	2,167	2,136
Total North Slope Lease Expenditures	**5,255**	**5,460**	**5,693**	**5,743**	**5,547**	**5,347**	**5,259**	**5,175**	**5,072**	**4,994**
Non-North Slope (includes Cook Inlet)										
Operating Expenditures [OPEX]	245	258	260	255	249	245	246	248	250	252
Capital Expenditures [CAPEX]	210	172	140	135	133	133	133	133	133	133
Total Non-North Slope Lease Expenditures	**455**	**430**	**400**	**390**	**382**	**377**	**379**	**380**	**382**	**385**
Total Statewide Lease Expenditures										
Operating Expenditures [OPEX]	3,074	3,055	3,146	3,219	3,289	3,331	3,269	3,213	3,154	3,110
Capital Expenditures [CAPEX]	2,635	2,834	2,947	2,914	2,641	2,393	2,369	2,342	2,300	2,269
Total Statewide Lease Expenditures	**5,709**	**5,890**	**6,093**	**6,133**	**5,930**	**5,724**	**5,638**	**5,555**	**5,454**	**5,379**
Additional Detail for North Slope Lease Expenditures										
Operating Expenditures[OPEX]										
Producing non-GVR eligible units	2,495	2,458	2,542	2,601	2,653	2,707	2,648	2,877	2,876	2,829
Other operating expenditures	334	339	344	363	387	380	376	88	29	29
Total North Slope OPEX	**2,829**	**2,797**	**2,886**	**2,963**	**3,039**	**3,087**	**3,023**	**2,965**	**2,905**	**2,858**
Capital Expenditures[CAPEX]										
Producing non-GVR eligible units	1,576	1,691	1,852	1,870	1,821	1,787	1,762	1,808	1,917	1,886
Other capital expenditures	849	971	955	909	687	473	474	402	250	250
Total North Slope CAPEX	**2,425**	**2,662**	**2,807**	**2,779**	**2,508**	**2,260**	**2,236**	**2,210**	**2,167**	**2,136**

Appendix E
1

Production Tax Estimate for FY 2016

Using income statement format

Note: This table presents an approximation of the production tax calculation, and does not match production tax estimates throughout this publication.

	Price	Barrels (Thousands)	Value (Millions of Dollars)
Avg ANS Oil Price ($/bbl) and Daily Production	$43.18	514.9	$22.2
Annual Production			
Total		188,453	$8,137.4
Royalty, Federal and other barrels [1]		-24,600	($1,062.2)
Taxable barrels		163,854	$7,075.2
Downstream (Transportation) Costs ($/bbl)			
ANS Marine Transportation	-$3.15		
TAPS Tariff	-$6.25		
Other	-$0.48		
Total Transportation Costs	-$9.88	163,854	($1,618.9)
Gross Value at Point of Production (GVPP)			$5,456.3
Deductible Lease Expenditures [2]			
Deductible Operating Expenditures	-$16.53		($2,707.7)
Deductible Capital Expenditures	-$14.71		($2,411.1)
Total Lease Expenditures	-$31.24	163,854	($5,118.8)
Production Tax			
Gross minimum tax (4%*GVPP)			$218.3
Production Tax Value (PTV)			$337.5
Gross Value Reduction (GVR)			($16.2)
Production Tax Value (PTV) after GVR			$321.3
Base Tax (35%*PTV after GVR)			$112.5
Total Tax before credits (base tax or minimum tax)			**$218.3**
North Slope Credits applied against tax liability [3]			**($90.7)**
Estimated Total Tax after credits [4]			**$127.6**

[1] Royalty, Federal and other barrels represents the Department of Revenue's best estimate of barrels that are not taxed. This estimate includes both state and federal royalty barrels, barrels produced from federal offshore property, and barrels used in production.

[2] Deductible Lease Expenditures represents the Department of Revenue's best estimate of lease expenditures that are applicable to companies that are likely to have a tax liability for the year. The per-barrel expenditures reflect expenditures per taxable barrel and do not reflect expenditures per all barrels produced.

[3] Some credits may reduce a producer's liability below the minimum tax; those provisions are reflected in these estimates. For more information on how specific tax credits may be applied, please see Chapter 8 of this publication.

[4] Estimated Total Tax after credits is a calculated total based on constant daily production, constant oil prices, constant expenditures for the entire year, and no company-specific information. Variations in these assumptions captured in larger revenue models will produce results that differ from the estimates in the simple model above. Therefore, the estimate shown here will not exactly match the Department of Revenue's official revenue numbers published elsewhere in this book.

Appendix E
2

Production Tax Estimate for FY 2017

Using income statement format

Note: This table presents an approximation of the production tax calculation, and does not match production tax estimates throughout this publication.

	Price	Barrels (Thousands)	Value (Millions of Dollars)
Avg ANS Oil Price ($/bbl) and Daily Production	$46.81	490.3	$23.0
Annual Production			
Total		178,961	$8,377.6
Royalty, Federal and other barrels [1]		-21,314	($997.8)
Taxable barrels		157,647	$7,379.8
Downstream (Transportation) Costs ($/bbl)			
ANS Marine Transportation	-$3.13		
TAPS Tariff	-$5.81		
Other	-$0.39		
Total Transportation Costs	-$9.33	157,647	($1,470.6)
Gross Value at Point of Production (GVPP)			$5,909.2
Deductible Lease Expenditures [2]			
Deductible Operating Expenditures	-$17.68		($2,786.9)
Deductible Capital Expenditures	-$13.20		($2,080.6)
Total Lease Expenditures	-$30.88	157,647	($4,867.6)
Production Tax			
Gross minimum tax (4%*GVPP)			$236.4
Production Tax Value (PTV)			$1,041.6
Gross Value Reduction (GVR)			($68.7)
Production Tax Value (PTV) after GVR			$973.0
Base Tax (35%*PTV after GVR)			$340.5
Total Tax before credits (base tax or minimum tax)			**$340.5**
North Slope Credits applied against tax liability [3]			**($225.0)**
Estimated Total Tax after credits [4]			**$115.5**

[1] Royalty, Federal and other barrels represents the Department of Revenue's best estimate of barrels that are not taxed. This estimate includes both state and federal royalty barrels, barrels produced from federal offshore property, and barrels used in production.

[2] Deductible Lease Expenditures represents the Department of Revenue's best estimate of lease expenditures that are applicable to companies that are likely to have a tax liability for the year. The per-barrel expenditures reflect expenditures per taxable barrel and do not reflect expenditures per all barrels produced.

[3] Some credits may reduce a producer's liability below the minimum tax; those provisions are reflected in these estimates. For more information on how specific tax credits may be applied, please see Chapter 8 of this publication.

[4] Estimated Total Tax after credits is a calculated total based on constant daily production, constant oil prices, constant expenditures for the entire year, and no company-specific information. Variations in these assumptions captured in larger revenue models will produce results that differ from the estimates in the simple model above. Therefore, the estimate shown here will not exactly match the Department of Revenue's official revenue numbers published elsewhere in this book.

Appendix E

3

Production Tax Estimate for FY 2018

Using income statement format

Note: This table presents an approximation of the production tax calculation, and does not match production tax estimates throughout this publication.

	Price	Barrels (Thousands)	Value (Millions of Dollars)
Avg ANS Oil Price ($/bbl) and Daily Production	$54.00	455.6	$24.6
Annual Production			
Total		166,276	$8,978.9
Royalty, Federal and other barrels[1]		-19,678	($1,062.6)
Taxable barrels		146,597	$7,916.3
Downstream (Transportation) Costs ($/bbl)			
ANS Marine Transportation	-$3.19		
TAPS Tariff	-$6.18		
Other	-$0.39		
Total Transportation Costs	-$9.77	146,597	($1,431.8)
Gross Value at Point of Production (GVPP)			$6,484.4
Deductible Lease Expenditures[2]			
Deductible Operating Expenditures	-$18.62		($2,730.0)
Deductible Capital Expenditures	-$15.02		($2,201.2)
Total Lease Expenditures	-$33.64	146,597	($4,931.2)
Production Tax			
Gross minimum tax (4%*GVPP)			$259.4
Production Tax Value (PTV)			$1,553.3
Gross Value Reduction (GVR)			($81.7)
Production Tax Value (PTV) after GVR			$1,471.6
Base Tax (35%*PTV after GVR)			$515.1
Total Tax before credits (base tax or minimum tax)			**$515.1**
North Slope Credits applied against tax liability[3]			**($395.0)**
Estimated Total Tax after credits[4]			**$120.1**

[1] Royalty, Federal and other barrels represents the Department of Revenue's best estimate of barrels that are not taxed. This estimate includes both state and federal royalty barrels, barrels produced from federal offshore property, and barrels used in production.

[2] Deductible Lease Expenditures represents the Department of Revenue's best estimate of lease expenditures that are applicable to companies that are likely to have a tax liability for the year. The per-barrel expenditures reflect expenditures per taxable barrel and do not reflect expenditures per all barrels produced.

[3] Some credits may reduce a producer's liability below the minimum tax; those provisions are reflected in these estimates. For more information on how specific tax credits may be applied, please see Chapter 8 of this publication.

[4] Estimated Total Tax after credits is a calculated total based on constant daily production, constant oil prices, constant expenditures for the entire year, and no company-specific information. Variations in these assumptions captured in larger revenue models will produce results that differ from the estimates in the simple model above. Therefore, the estimate shown here will not exactly match the Department of Revenue's official revenue numbers published elsewhere in this book.

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