

# The Economic Impacts of a 5-Year Leasing Program Delay for the Gulf of Mexico Oil and Natural Gas Industry

Prepared For



American  
Petroleum  
Institute



Prepared By

**E I A P**  
— ENERGY & INDUSTRIAL  
ADVISORY PARTNERS —



## Key Findings

The current (2017-2022) 5-year leasing program for the Gulf of Mexico is scheduled to end on June 30, 2022. Historically, a new 5-year leasing program is approved prior to the expiration of the current program, allowing for the continuous sale of leases. However, no new 5-year leasing program has been approved or even proposed by the current administration. A continued delay in the development of a new 5-year leasing program for the Gulf of Mexico could result in no leases sales taking place for several years. Leasing is critical to the oil and natural gas industry. For example, before a lease is obtained, oil and natural gas companies cannot drill exploratory wells. This potential delay is projected to significantly impact Gulf of Mexico oil and natural gas industry activity. This reduction in leasing activity could lead to reduced industry spending, supported employment and GDP, government revenues, and oil and natural gas production. (Table 1)

**Table 1: Key Findings**

Economic Impact	Base Case Projection Average Annual (2022-2040)	Consequences of a 5-year Leasing Program Delay Reductions from Base Case Projection		
		Maximum Annual Impact	Average Annual Impact (2022-2040)	Total Cumulative Impact (2022-2040)
Capital Investment and Spending (\$ Billions)	\$30.6 / yr.	-\$10.7 / yr.	-\$5.3 / yr.	-\$99.9
Employment (jobs)	372,012	-115,942	-57,259	N/A
Contributions to GDP (\$ Billions)	\$31.4 / yr.	-\$10.0 / yr.	-\$5.0 / yr.	-\$95.0
Government Revenues (\$ Billions)	\$7.4 / yr.	-\$2.5 / yr.	-\$1.5 / yr.	-\$27.8
Oil and Natural Gas Production million of barrels oil equivalent	2.62 / day	-0.88 / day	-0.48 / day	-3.34 Billion Barrels (19-year Total)

Source: Energy and Industrial Advisory Partners

- The Base Case assumes a continuous leasing program including lease sales in the year 2022.
- The 5-year Program Delay Case assumes the first lease sale for the next 5-year Program will occur in 2028 with continuous lease sales thereafter.

# Executive Summary

## Introduction

Rising oil and natural gas prices, which directly impact American consumers, illustrate the importance of domestic oil and natural gas production. In addition to the impact rising energy prices have on consumers, oil and natural gas production is a significant source of employment, gross domestic product, and government revenues. Under an efficient regulatory framework, The Gulf of Mexico oil and natural gas industry will likely continue to be a significant source of energy production, employment, gross domestic product, and government revenues for the United States for decades to come. Additionally, Gulf of Mexico oil and natural gas production has one of the lowest carbon footprints of oil and natural gas production globally.<sup>1</sup> A key requirement for continued Gulf of Mexico oil and natural gas production is continued lease sales, which enable operators to explore new acreage for previously undiscovered resources, develop new projects, and underpin existing and planned projects by allowing operators to backfill production into facilities with declining production. An oil and natural gas lease is a legal agreement that conveys the right to explore for, develop, and produce the oil and natural gas contained within the lease area. Gulf of Mexico leases are offered as blocks which are nine square miles (3 miles on a side). Leases provide the opportunity to explore for hydrocarbons, but there is no guarantee that any will be discovered. Exploratory wells drilled to discover oil and natural gas deposits cannot be drilled without a lease. Leases set the terms of the agreement, such as royalty rates for produced oil and natural gas, rental rates (yearly payments before production), and lease terms. If a lease expires before development, a lease is returned to the Federal Government and may be sold again. Most leases do not contain hydrocarbons in economically recoverable quantities. Almost all offshore oil and natural gas projects produce from multiple leases, both from one reservoir which spans multiple blocks or from different reservoirs in different blocks.

In most cases, additional leases are required to produce an existing field fully or to underpin the economics of processing and transportation infrastructure. It is thus important for the industry to have continued opportunities to secure leases through a predictable leasing program. Typically, Gulf of Mexico lease sales are held at least biannually by the Bureau of Ocean Energy Management (BOEM). The timing and scope of these lease sales are developed under what is known as the National Outer Continental Shelf Oil and Gas Leasing Program for oil and natural gas development in accordance with the OCS Lands Act. The National Outer Continental Shelf (OCS) Program establishes a 5-year schedule of oil and natural gas lease sales proposed for the U.S. This program is often referred to as a “5-Year Plan”. The National OCS Program specifies the size, timing, and location of potential leasing activity that the Secretary of the Interior determines will best meet national energy needs for the 5-year period under consideration. Currently, BOEM is working under the approved 2017–2022 Program. The last lease sales scheduled under this program, lease sales 259 and 261, will not be held before the expiration of the current 5-year leasing program.

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<sup>1</sup> Motiwala, Ama; Ismail, Dr. Huzeifa (2020): Statistical Study of Carbon Intensities in the GOM and PB. ChemRxiv

Under the previous administration, BOEM was directed by Executive Order 13795 (April 28, 2017) and Secretary's Order 3350 (May 1, 2017) to initiate a process to develop the next National OCS Program. The first of three proposals, the Draft Proposed Program, was released on January 4, 2018, with a 60-day comment period that ended on March 9, 2018. However, this program was not finalized by the previous administration. With the current 5-year leasing program expiring shortly, the current administration has not publicly initiated a Draft Proposed Program, as required by the OCS Lands Act. Given the time needed to develop, draft, receive commentary, and finalize a 5-year leasing program, this delay all but ensures that Gulf of Mexico oil and natural gas lease sales will not be held for some time. Any pause in leasing activity would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. However, if this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports.

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies with uninterrupted biannual lease sales (the Base Case), and a scenario examining the potential impacts of a delay in the sale of new offshore leases (The Delayed 5-year Leasing Program Case).

Energy and Industrial Advisory Partners (EIAP) was commissioned by The American Petroleum Institute (API) and The National Ocean Industries Association (NOIA) to develop a report forecasting activity levels, spending, oil and natural gas production, supported employment, GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data and EIAP's expertise and analysis.

## The Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry

The Gulf of Mexico oil and natural gas industry supports significant national employment, gross domestic product, and state and Federal Government revenues. To quantify the potential effects of a delay in Gulf of Mexico leasing, this study forecasted a Base Case activity level for Gulf of Mexico oil and natural gas activity to compare potential activity and economic impacts due to the lack of a 5-year leasing program. The study forecasted key activity indicators, including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

- In 2022, combined Gulf of Mexico oil and natural gas production is projected to be around 2.1 million barrels of oil equivalent per day. Oil and natural gas production from the Gulf of Mexico is projected to average around 2.6 million barrels of oil equivalent per day over the 2022 to 2040 forecast period.

- In 2022, the Gulf of Mexico offshore oil and natural gas industry spending is projected at an estimated \$30.3 billion. Across the forecast period, on average, the Gulf of Mexico offshore oil and natural gas industry spending is projected at around \$30.6 billion per year over the 2022 to 2040 forecast period.
- In 2022, the Gulf of Mexico offshore oil and natural gas industry is projected to support an estimated 372 thousand jobs in the United States, in line with average employment across the 2020-2040 forecast period.
- In 2022, the Gulf of Mexico oil and natural gas industry is projected to support an estimated \$30.8 billion of U.S. gross domestic product. The industry is projected to contribute an average of \$31.4 billion of GDP per year over the 2022 to 2040 forecast period.
- In 2022, government revenues due to the Gulf of Mexico oil and natural gas industry are projected to reach nearly \$6.8 billion. Government revenues derived from offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes) are projected to average over \$7.4 billion per year over the 2022 to 2040 forecast period.
- The Gulf of Mexico oil-producing states are projected to receive around \$375 million of revenues due to revenue sharing under GOMESA in 2022, which is consistent across the forecast period. The Land and Water Conservation Fund (LWCF) is projected to receive nearly \$1.2 billion of distributions. Contributions to the LWCF from GOMESA and non-GOMESA offshore sources are projected to average nearly \$1.4 billion per year.

## Impact of a Delayed 5-Year Leasing Program

Any delay in leasing activity, such as a failure to enact a 5-year leasing program, would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. If this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports. For the purposes of this report, a “Delayed 5-year Leasing Program Case” was developed to compare activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues to the Base Case scenario. This scenario assumes that after lease sale 261 is held in 2022, no further lease sales would occur before 2028. This year is an estimate of the earliest a lease sale could be held if the development of a new 5-year leasing program started at the beginning of the next administration. For more detail on how this timeline was developed, please see the “5-Year Program Overview and Timing” section of this report on page 14. This study assumes existing leases would be unaffected and that no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

- In the Delayed 5-year Leasing Program Case, average combined oil and natural gas production across the forecast period is projected to decline from around 2.6 million barrels of oil equivalent per day to 2.1 million barrels of oil equivalent per day (an over 18 percent decline). In 2036, when

the most significant impacts are projected, combined oil and natural gas production is projected to be around 885 thousand barrels of oil equivalent per day lower than the Base Case.

- In the Delayed 5-year Leasing Program Case, Gulf of Mexico oil and natural gas industry spending is projected to decline to \$25.3 billion each year on average compared to \$30.6 billion in the Base Case (a 17 percent decline). At its maximum in 2029, spending is projected to be reduced by approximately \$10.7 billion, a 31 percent reduction.
- In the Delayed 5-year Leasing Program Case, average employment supported is projected to decline to 314 thousand jobs nationally compared to 372 thousand jobs each year in the Base Case (a 15 percent decline). At its maximum in 2029, supported employment is projected to be approximately 116 thousand jobs fewer, a 29 percent reduction.
- In the Delayed 5-year Leasing Program Case, average yearly contributions to GDP are projected at just under \$26.4 billion, around a 16 percent reduction compared to \$31.4 billion in the Base Case. At its maximum in 2029, GDP contributions are projected to be nearly \$10 billion lower, a 28 percent reduction.
- In the Delayed 5-year Leasing Program Case, government revenues are projected to average around \$6 billion per year, a 20 percent reduction from the \$7.4 billion per year projected in the Base Case. When the impact is at its maximum in 2036, government revenues are projected to be \$2.5 billion lower, a 31 percent reduction.
- In the Delayed 5-year Leasing Program Case, state revenue sharing under the Gulf of Mexico Energy Security Act (GOMESA) is projected to remain relatively steady compared to the Base Case. Contributions to the Land and Water Conservation Fund (LWCF) are projected to average around \$1.1 billion per year, compared to \$1.4 billion per year in the base case over the forecast period. At its maximum in 2036, contributions are projected to be \$420 million lower, a 28 percent reduction.

## Study Limitations

Given the large degree of volatility and uncertainty in oil and natural gas markets and the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may significantly affect the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy environment addressed in this report. These and other policies could impose significantly greater engineering, operational, cost, and other burdens on the oil and natural gas industry and regulators. The report’s projections of the effects of this potential scenario on engineering, operations, and costs are an independent, good faith view derived from reasonable assumptions based on these potential scenarios and the authors’ expertise and experience. Energy and Industrial Advisory Partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for the completeness, accuracy, use, or fitness to any person or party for any reason.

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# Introduction

## Purpose of the Report

Rising oil and natural gas prices, which directly impact American consumers, illustrate the importance of domestic oil and natural gas production. In addition to the impact rising energy prices have on consumers, oil and natural gas production is a significant source of employment, gross domestic product, and government revenues. Under an efficient regulatory framework, The Gulf of Mexico oil and natural gas industry will likely continue to be a significant source of energy production, employment, gross domestic product, and government revenues for the United States for decades to come. Additionally, Gulf of Mexico oil and natural gas production has one of the lowest carbon footprints of oil and natural gas production globally.<sup>2</sup> Continued lease sales are a key requirement of continued Gulf of Mexico oil and natural gas production. Lease sales enable operators to drill new exploratory wells to discover additional resources, develop new projects, and underpin existing and planned projects by allowing operators to backfill production into facilities with declining production. An oil and natural gas lease is a legal agreement that conveys the right to explore for, develop, and produce the oil and natural gas contained within the lease area. Gulf of Mexico leases are offered as blocks which are nine square miles (3 miles on a side). Leases provide the opportunity to explore for hydrocarbons, but there is no guarantee that they will be discovered. Exploratory wells to attempt to discover oil and natural gas deposits cannot be drilled without a lease. Lease agreements set terms of the agreement, such as royalty rates for produced oil and natural gas, rental rates (yearly payments before production), and lease terms. If a lease expires before development, a Gulf of Mexico lease is returned to the Federal Government and may be sold again. Most leases do not contain hydrocarbons in economically recoverable quantities. Almost all offshore oil and natural gas projects produce from multiple leases, both from one reservoir which spans multiple blocks or from different reservoirs in different blocks.

In most cases, additional leases are required to produce an existing field fully or to underpin the economics of processing and transportation infrastructure. It is thus important for the industry to have continued opportunities to secure leases through a predictable leasing program. Typically Gulf of Mexico lease sales are held at least biannually by the Bureau of Ocean Energy Management. The timing and scope of these lease sales are developed under what is known as the National Outer Continental Shelf Oil and Gas Leasing Program for oil and natural gas development in accordance with the OCS Lands Act. The National Outer Continental Shelf (OCS) Program requires a 5-year schedule of oil and natural gas lease sales proposed for the U.S. This program is often referred to as a “5-Year Plan”. The National OCS Program specifies the size, timing, and location of potential leasing activity that the Secretary of the Interior determines will best meet national energy needs for the 5-year period under consideration. Currently, BOEM is working under the approved 2017–2022 Program. The last lease sales scheduled to happen under this program, lease sales 259 and 261, will not take place

<sup>2</sup> Motiwala, Ama; Ismail, Dr. Huzeifa (2020): Statistical Study of Carbon Intensities in the GOM and PB. ChemRxiv

Under the previous administration, BOEM was directed by Executive Order 13795 (April 28, 2017) and Secretary's Order 3350 (May 1, 2017) to initiate a process to develop the next 5-year leasing program. The first of three proposals, the Draft Proposed Program, was released on January 4, 2018, with a 60-day comment period that ended on March 9, 2018. However, this program was not finalized by the previous administration. With the current 5-year leasing program expiring shortly, the current administration has not publicly initiated a Draft Proposed Program, as required by the OCS Lands Act. Given the time required to develop, draft, receive commentary, and finalize a 5-year leasing program, this delay all but ensures that Gulf of Mexico oil and natural gas lease sales will not be held for a period of time. Any pause in leasing activity would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. However, if this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports.

For the purposes of this report, two scenarios were developed, a scenario based on a continuation of current policies with uninterrupted biannual lease sales (the base case) and a scenario examining the potential impacts of a delay in the sale of new offshore leases due to a potential delay in the development and implementation of a new 5-year leasing program for OCS lease sales.

Energy and Industrial Advisory Partners (EIAP) was commissioned by The American Petroleum Institute and The National Ocean Industries Association (NOIA) to develop a report forecasting activity levels, spending, oil and natural gas production, supported employment, GDP, and Government Revenues in these scenarios. The scenarios developed in this report are based solely upon government and other publicly available data and EIAP's expertise and analysis.

## Report Structure

In this report, EIAP first outlines the study's methodology, including data development, the limitations of this study, and how the two scenarios in this report were developed. The study also includes appendices including a more detailed explanation of the report's methodology and data tables of the report's findings. The following section discusses activity levels and the economic impacts of the Gulf of Mexico Offshore oil and natural gas industry. The third section outlines the potential impacts of the second scenario developed for the report, the Delayed 5-year Leasing Program Case. The final section concludes.

## Excluded from Study

This paper has been limited in scope to assessing the potential impacts of the two scenarios developed for the report. Additional changes to regulations or policies outside of the changes assessed in this report (for example, policies that impact already leased blocks or producing projects) would likely have a more significant effect than the impacts laid out in this report. The study also excludes potential domestic supply chain reductions due to reduced activity levels which could lead to further reductions in the

domestic economic impacts of the Gulf of Mexico oil and natural gas industry. This study has also excluded the impacts of activity in the Alaskan and Pacific OCS and Eastern Gulf of Mexico areas not currently open to exploration and production and the Atlantic OCS. The impacts projected in this report would likely be more significant if these areas were included. This study also does not attempt to calculate the effects of leasing delays on the downstream oil and natural gas industry or subsequent impacts on other industries (for example, due to reduced domestic oil and natural gas production), other than the impacts directly due to reduced activity in the offshore oil and natural gas sector.

Additionally, the projected government revenue impacts do not account for personal income taxes, corporate income taxes, or local property taxes. Due to the exclusion of these impacts, the economic impacts presented in this study likely represent conservative projections of the potential impacts of the scenarios developed. Additionally, the impacts presented could be imprecise by as much as 10% or more due to the impacts of the studied scenarios and other factors.

## About EIAP

Energy & Industrial Advisory Partners (EIAP) was founded to provide companies and their management teams, investors, and industry associations across the energy and industrial markets with economic and strategic consulting and M&A advisory services from seasoned advisors with significant industry experience. EIAP is a specialist M&A advisory and consulting firm that utilizes its deep industry experience and rigorous analytical methodologies to help stakeholders gain the insights they require to make more informed, data-driven decisions.

For more information, please visit [eiapartners.com](http://eiapartners.com)

# Methodology

## Data Development

As part of the development of this report, a detailed review of the potential impacts if a delay in Gulf of Mexico leasing were to take place was conducted. This study is in no way exhaustive, especially considering the uncertainty around how the oil and natural gas industry would respond to a delay in leasing and the potential length of any delay. This report focuses on the potential operational effects of a leasing delay based on a reasonable reading of these proposals and considers the potential operational changes oil and natural gas companies could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward-looking and subject to significant changes based on the potential development and implementation of policy changes by Congress, the executive branch, and regulators such as the Department of the Interior (DOI), The Bureau of Ocean Energy Management (BOEM), and The Bureau of Safety and Environmental Enforcement (BSEE).

## Limitations

Given the large degree of volatility and uncertainty in oil and natural gas markets and the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may significantly affect the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy environment addressed in this report. These and other policies could impose significantly greater engineering, operational, cost, and other burdens on the oil and natural gas industry and regulators. The report's projections of the effects of this potential scenario on engineering, operations, and costs are an independent, good faith view derived from reasonable assumptions based on these potential scenarios and the authors' expertise and experience. Energy and Industrial Advisory partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for the completeness, accuracy, use, or fitness to any person or party for any reason.

## 5-Year Leasing Program Overview and Timing

Continued lease sales are a key requirement of continued Gulf of Mexico oil and natural gas production. Leases enable operators to drill new exploratory wells to discover additional resources, develop new projects, and underpin existing and planned projects by allowing operators to backfill production into facilities with declining production. Typically Gulf of Mexico lease sales are held at least biannually by BOEM. The timing and scope of these lease sales are developed under what is known as the National Outer Continental Shelf Oil and Gas Leasing Program for oil and natural gas development in accordance with the OCS Lands Act. The National OCS Program establishes a 5-year schedule of oil and natural gas

lease sales proposed for the U.S. This program is often referred to as a “5-Year Plan” The National OCS Program specifies the size, timing, and location of potential leasing activity that the Secretary of the Interior determines will best meet national energy needs for the 5-year period under consideration. Currently, BOEM is working under the approved 2017–2022 Program. The last lease sales scheduled to happen under this program, Lease sales 259 and 261, will not be held. When this study was conducted, it was unknown if these lease sales would take place, and they were included in the Base Case forecast for this study as they are part of the approved 2017-2022 leasing program.

Under the previous administration, BOEM was directed by Executive Order 13795 (April 28, 2017) and Secretary's Order 3350 (May 1, 2017) to initiate a process to develop the next National OCS Program. The first of three proposals, the Draft Proposed Program, was released on January 4, 2018, with a 60-day comment period that ended on March 9, 2018. However, this program was not finalized by the previous administration. With the current 5-year leasing program expiring shortly, the current administration has not publicly initiated a Draft Proposed Program, as required by the OCS Lands Act. Given the time required to develop, draft, receive commentary, and finalize a 5-year leasing program, this delay all but ensures that Gulf of Mexico oil and natural gas lease sales will not be held for a period of time. Any pause in leasing activity would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. However, if this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports.

Lease sales without an approved 5-year leasing program cannot occur in the Gulf of Mexico. The timing of previous National OCS programs was first examined to estimate the potential delay in Gulf of Mexico lease sales. The development of the 2017 to 2022 program by the Obama administration was used as a baseline for this examination. The timing of the 2017 to 2022 program development was as follows. (Table 2)

**Table 2: 2017 to 2022 5-Year Leasing Program Development Steps and Timing**

Date	Step	Days Between Steps
6/16/2014	Request for Information (RFI), published in the Federal Register, with a 45-day comment period.	66
8/15/2014	The 45-day comment period that was extended by 15 days closed.	60
1/29/2015	Draft Proposed Program, the first proposal in the staged preparation process of the new Program published, with a 60-day comment period.	168
3/30/2015	60-day comment period closes.	60
3/15/2016	The second proposal, the Proposed Program (PP), was published with a 90-day comment period.	352
6/1/2016	The 90-day comment period closes.	79
11/18/2016	The final proposal, the Proposed Final Program, was published.	171
1/17/2017	Sixty days after the transmittal of the Proposed Final Program to the President and Congress, the Secretary approved the 2017-2022 Program.	63
8/16/2017	Lease Sale 249 was held on August 16, 2017, in New Orleans, LA.	211

Source: Bureau of Ocean Energy Management

Based on data provided by BOEM, from the Request for Information (RFI) publishing in the Federal Register to the first lease sale of the 2017 to 2022 plan being held, 1,164 days elapsed. No information was available on the period between the start of the internal development of the plan by BOEM and the publication of the RFI. However, for the incomplete proposed program under the current administration, 66 days elapsed between the announcement that the process to initiate the develop the next 5-year leasing program and the publication of the first RFI.

In addition to the legally required steps, the development of a program requires considerable time and effort due to the environmental and technical requirements of developing a leasing program and the significant volume of comments from the public and stakeholders which are received. During BOEM's development of a 5-year leasing program, drafts are published for review and comment. All leasing areas are initially examined, and the selection is then typically narrowed based on the Bureau's economic and

environmental analysis, including environmental review under the National Environmental Policy Act, before a final leasing schedule is confirmed. Because the program is developed through a winnowing process, the final program will often not include all the acreage proposed in earlier drafts. At the end of the process, the Secretary of the Interior must submit the proposed program to the President and Congress for at least 60 days, after which the proposal will be approved by the Secretary and take effect.

## Delayed 5-year Leasing Program Case Timing Calculation

The timing required to develop previous programs was examined to develop the Delayed 5-year Leasing Program Case presented in this report. In general, this case follows the timing of the 2017 to 2022 program, with a few exceptions. First, given the unknown period between the start of internal development of the plan by the BOEM and the publication of the RFI, the 66 days required in the incomplete proposed program under the previous administration were used as a baseline. Also, given the relatively extended period between the transmittal of the Proposed Final Program to the President and Congress and lease sale 249, the time between the transmittal of the Proposed Final Program for the 2012-2017 OCS Oil and Gas Leasing Program (90 Days) was instead considered. Additionally, this case assumes the development of a new program will not begin before a new administration is potentially inaugurated in January 2025. Also, for simplicity, days were rounded down to the nearest five days. (Table 3)

**Table 3: Delayed 5-year Leasing Program Case Timeline**

Period	Days
Lease Sale 261 to Inauguration	960
Request for Information Published	65
Draft Proposed Program Published	225
Proposed Program Published	410
Proposed Final Program published	250
Approval	60
First Lease Sale	90
<b>Total Time Between Lease Sales</b>	<b>2,060</b>

*Source: Energy and Industrial Advisory Partners*

In this scenario, the time between lease sale 261 and the subsequent sale is around 5.6 years, a reduction from around six years if the timing of the 2017 to 2022 plan (with the addition of time before the first RFI was published for development) was replicated exactly. This timeline was considered a reasonable period

for use in the Delayed 5-year Leasing Program Case, which results in the first lease sales of the potential new program being held in 2028.

## Scenario Development

The study’s data development was undertaken by developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the model are: an Activity Model that assesses near term project activity, Gulf of Mexico reserves and production; and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental policies to forecast potential government revenues; and an economic model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated supported economic activity including employment and gross domestic product.

The Base Case model was initially developed based on forecast production and pricing levels based on the Energy Information Administration’s (EIA) Annual Energy Outlook 2021<sup>3</sup> for long-term prices and the EIA’s Short-Term Energy Outlook<sup>4</sup> for near-term (2022 and 2023) prices. However, modifications to near-term pricing and production levels were made based on current market conditions. Although these forecasts were utilized to develop the Base Case model, due to differences in modeling techniques, especially the project-based model developed in this report, the report’s forecast production levels may vary moderately from those provided in the EIA’s forecasts.

Following the Base Case forecast, the potential effects of the additional scenario (no new leases being sold after lease sale 261 before 2028, the “Delayed 5-year Leasing Program Case”) were considered. These impacts included how this scenario would impact exploration drilling, new project development of underway and future projects, and existing producing projects. The following potential impacts were noted for the Delayed 5-year Leasing Program Case. (Table 4)

<sup>3</sup> Annual Energy Outlook 2021, Energy Information Administration

<sup>4</sup> Short Term Energy Outlook, January 11, 2022, Energy Information Administration

**Table 4: Potential Impacts of a Delayed 5-Year Leasing Program**

Cause of Impact	Potential Effect
Delay in issuing a new National OCS Oil and Gas Leasing Program for oil and natural gas development (5-Year Leasing Program)	No new lease sales after lease sale 261 and until 2028
No lease sales between lease sale 261 (2021) and 2028	Immediate Reduction in Bid Revenue
Leases expire and are not available for leasing	Continuous Reduction in Lease Revenue through 2028
A steady reduction in leases available for exploration through 2028	A steady reduction in exploration drilling and reserves discovered until leasing restarts
As leases expire, an increasing portion of the Gulf of Mexico is not open to activity	A steady reduction in new projects
Long development timelines of large deepwater projects	Reduced production throughout the forecast period
Project economics are impacted by an inability to lease nearby blocks to tie in new production	A steady reduction in new projects
A steady reduction in new projects	Reduced and delayed larger projects reduce tie in opportunities for smaller projects
Reduced tie ins to existing facilities	Reduced production at existing facilities decreases facility life spans
A reduced base of existing production	Larger amounts of project development activity would be required to return the Gulf of Mexico to its previous production curve
Increased shut-ins of existing facilities	Reduced operational spending, increased decommissioning spending
Operators will be less likely to allow leases to expire	A higher retention rate for existing leases

Source: Energy and Industrial Advisory Partners

In addition to the potential impacts above, additional impacts due to these potential policy changes are possible due to potentially increased costs faced by oil and natural gas operators and changes or reductions in the OCS oil and natural gas supply chain as activity in the Gulf of Mexico declines.

The potential impacts listed above were examined to develop assumptions on how near-term projects, longer-term projects, existing projects, drilling, and decommissioning would be impacted. It was assumed that operators would modify their behavior to minimize the impacts of the potential changes by, for example, being more likely to retain already acquired leases. The potential impacts were then applied to the Base Case Scenario to develop the Delayed 5-year Leasing Program Case. These changes in activity levels and subsequent spending levels were then applied to the remaining parts of the model to develop modified production, government revenue, and economic forecasts.

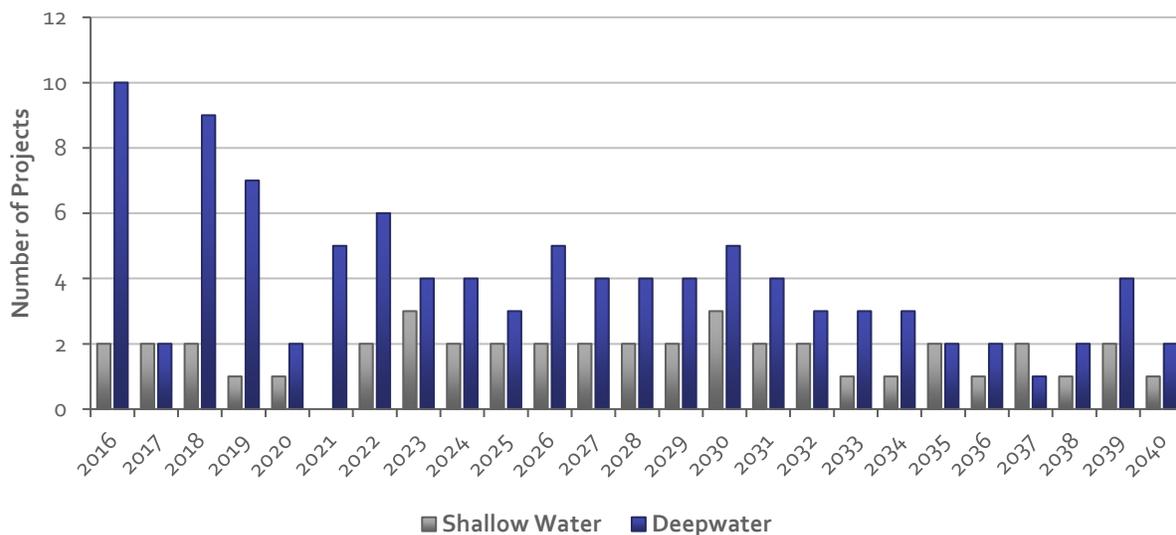
# Gulf of Mexico Economic Impacts

The Gulf of Mexico oil and natural gas industry supports significant employment, gross domestic product, and state and Federal Government revenues. To quantify the potential effects of a potential delay in Federal OCS leasing, this study developed a Base Case activity level for Gulf of Mexico oil and natural gas activity to compare activity levels and subsequent impacts if Gulf of Mexico leasing was delayed. The study forecasted key activity indicators, including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

## Projects

Development of new OCS oil and natural gas projects drives capital and operational spending, supports employment and GDP, and oil and natural gas production. Offshore oil and natural gas projects are complex, and development requires significant periods for planning, engineering, procurement, and installation. New project developments are key indicators for activity and spending levels that drive economic activity due to the Gulf of Mexico oil and natural gas industry. After a period of decline, Gulf of Mexico project executions are expected to recover strongly in 2022, as projects delayed by low oil prices and the pandemic begin production. (Figure 1)

**Figure 1: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year**



Source: Energy and Industrial Advisory Partners

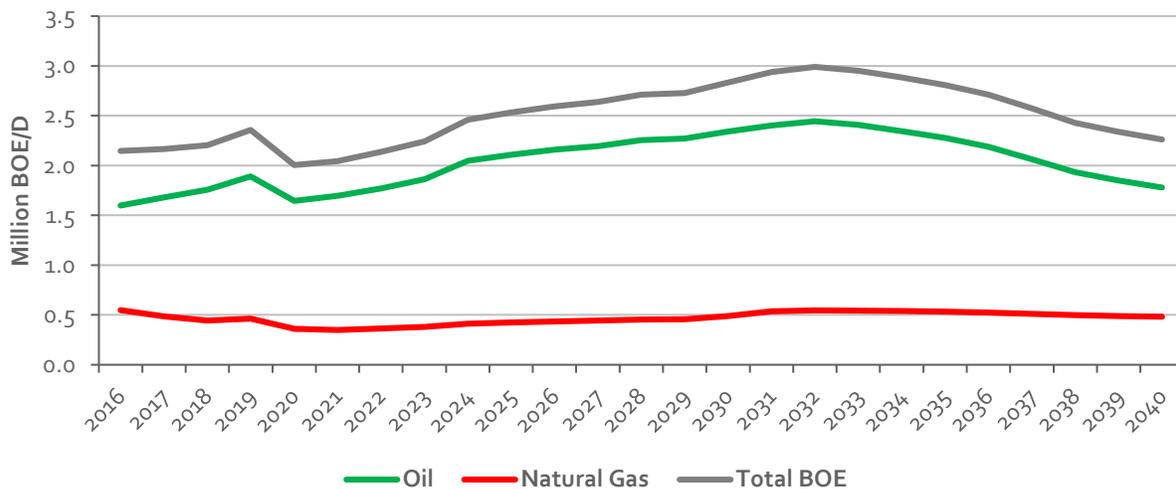
Over the long term, in line with the EIA’s forecast for steadily declining production towards the end of the forecast period, project executions are expected to decline before leveling off, with some year-to-year fluctuations over the last decade of the forecast.

## Production

The decline rate of the existing producing wells and projects and production from new projects are the main determinants of Gulf of Mexico oil and natural gas production. Production is influenced by several factors, including reservoir productivity, oil and natural gas production ratios, well counts, and operational choices by operators. To prepare the production forecast, the Energy Information Administration’s (EIA) production forecasts from the “Annual Energy Outlook 2021”<sup>5</sup>, as well as the EIA’s Short Term Energy Outlook<sup>6</sup> was utilized as the primary indicator of forecast production levels, with revisions to near-term levels due to current market conditions and near-term project development activity. The Base Case production forecast was developed to be relatively in line with the EIA’s long-term forecast. The production forecast in this report differs from this forecast due to the project-based methodology used to develop forecasts for the report. To develop the production forecast for this report, project developments (in addition to the existing production base) were modeled utilizing indicators such as the water depth of the project, the number of projected producing wells, projected per well production levels, assumptions on peak production years, and decline rate assumptions.

This study forecasts that combined Gulf of Mexico oil and natural gas production in 2022 will be around 2.1 million barrels of oil equivalent per day, with oil and other liquids accounting for around 83 percent of production and natural gas accounting for 17 percent of production. The study forecasts that total production will steadily increase through 2032 before beginning to decline. At the end of the forecast period in 2040, the Gulf of Mexico is projected to produce just under 2.3 million barrels of oil equivalent per day. (Figure 2)

**Figure 2: Projected Base Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)**



Source: Energy and Industrial Advisory Partners

<sup>5</sup> Annual Energy Outlook 2021, Energy Information Administration

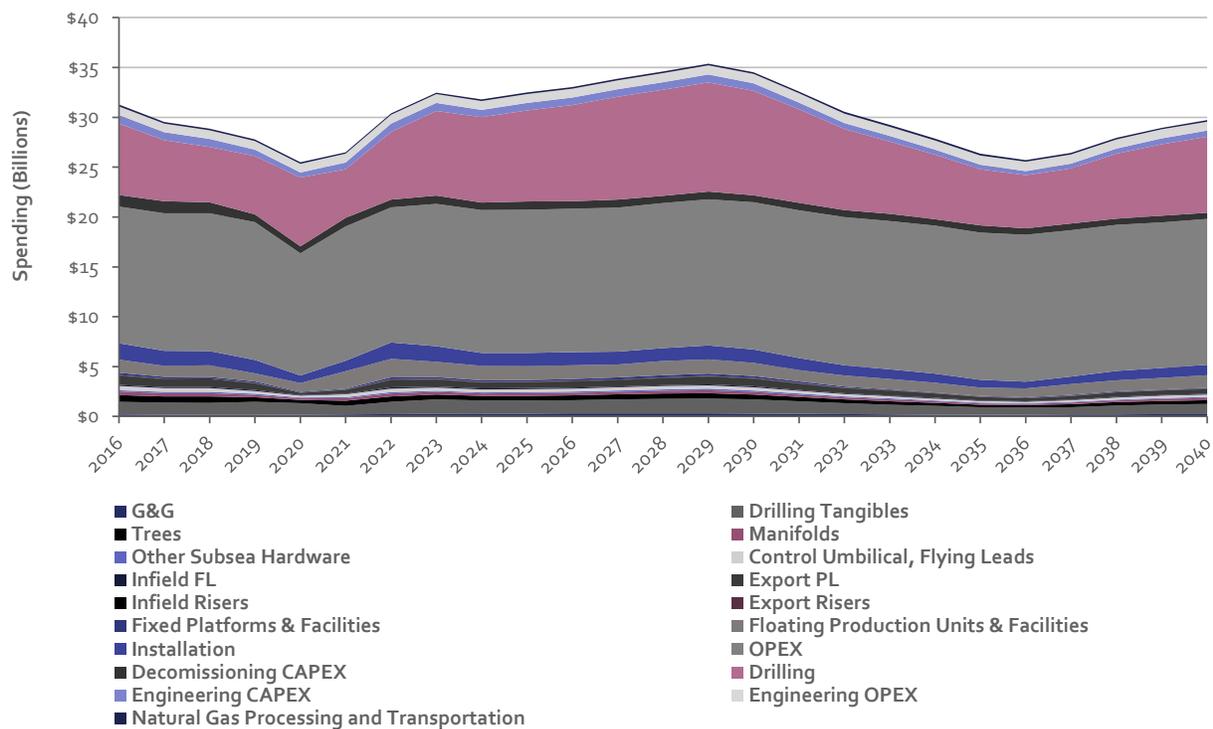
<sup>6</sup> Short Term Energy Outlook, January 11, 2022, Energy Information Administration

## Spending

Offshore oil and natural gas exploration, development, and operations require significant investments due to the various steps required to develop a project. These activities include geological and geophysical surveys, drilling, engineering, surface and subsea production equipment, installation, operational expenditures, and decommissioning. For this study, spending was modeled in 19 categories, encompassing the full range of activities required to identify, explore for, develop, operate, and decommission offshore oil and natural gas projects.

In the Base Case scenario developed for this report, offshore oil and natural gas spending is projected at just under \$30.3 billion in 2022. On average, across the 2022-2040 forecast period, spending is projected to average \$30.6 billion. (Figure 3)

**Figure 3: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending**



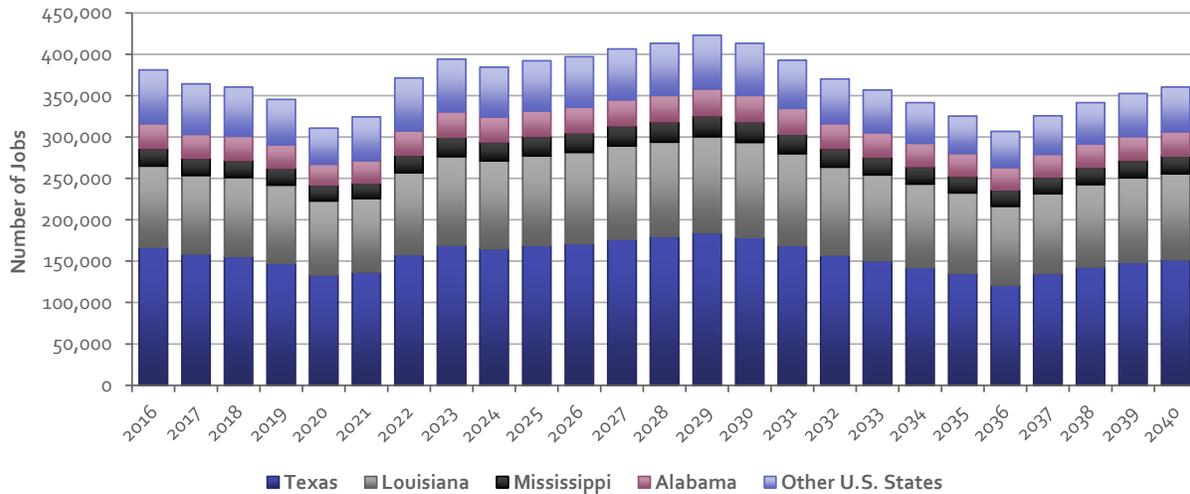
Source: Energy and Industrial Advisory Partners

## Employment

The Gulf of Mexico offshore oil and natural gas industry has supported significant levels of employment in the U.S. for decades. While the most significant employment impacts of the industry are focused on the Gulf Coast states, almost all, if not all, states see employment supported due to industry activity. The Gulf of Mexico offshore oil and natural gas industry directly supports many highly paid jobs, especially

highly paid blue-collar jobs. The industry also supports significant employment through the industry's supply chain (indirect jobs) due to increased spending by workers (induced jobs). In 2022, an estimated 372 thousand jobs are projected to be supported by OCS industry activity. (Figure 4)

**Figure 4: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment**

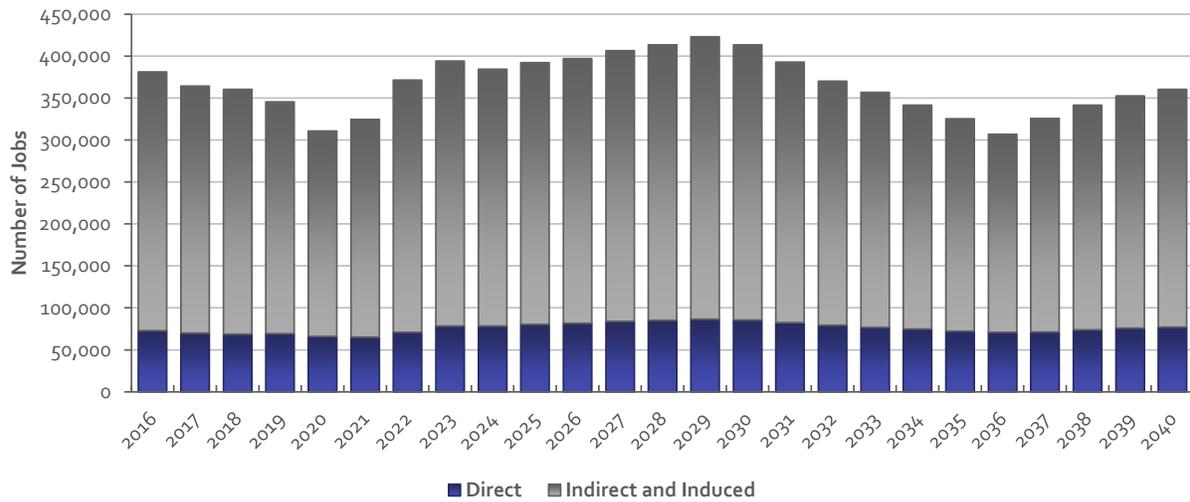


Source: Energy and Industrial Advisory Partners

On average, from 2022 to 2040, around 372 thousand jobs are projected to be supported by the Gulf of Mexico offshore oil and natural gas industry. The most significant employment impacts are projected in the Gulf Coast states, with an average of 158 thousand jobs supported in Texas across the 2022-2040 forecast period, around 106 thousand jobs supported in Louisiana, nearly 30 thousand jobs supported in Alabama, just under 23 thousand jobs supported in Mississippi, and around 56 thousand jobs supported in the rest of the U.S.

The Gulf of Mexico offshore oil and natural gas industry supports employment through direct employment by the industry, indirectly through its suppliers, and induced employment. Indirect employment occurs through the industry's purchases of goods and services, while induced employment is due to the impact of higher income in the economy. Direct employment by oil and natural gas companies and their suppliers due to offshore Gulf of Mexico activity in 2022 is projected to be around 71 thousand jobs. Across the 2022 to 2040 forecast period, direct employment is projected to average around 78 thousand jobs each year. Indirect and induced employment due to the Gulf of Mexico offshore oil and natural gas industry is projected to be around 301 thousand jobs in 2022. Across the 2022 to 2040 forecast period, supported indirect and induced employment is projected to average just under 294 thousand jobs each year. (Figure 5)

**Figure 5: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment**

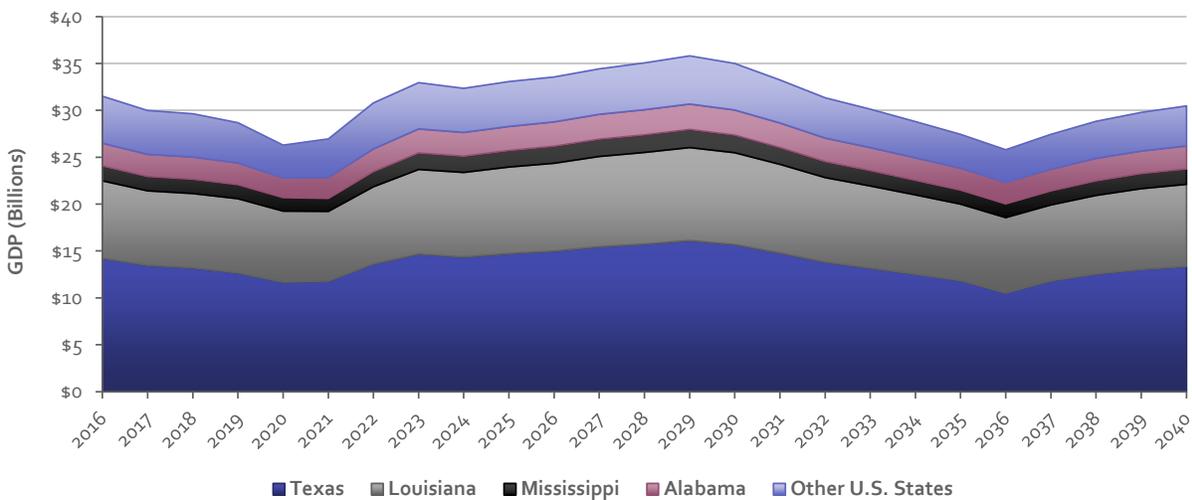


Source: Energy and Industrial Advisory Partners

## GDP

The Gulf of Mexico offshore oil and natural gas industry supports significant GDP in the Gulf Coast states and the overall U.S. In 2022, the industry is projected to support around \$6.8 billion of U.S. GDP. Over the forecast period from 2022 to 2040, contributions to GDP are projected to average just over \$7.4 billion per year. (Figure 6)

**Figure 6: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP**



Source: Energy and Industrial Advisory Partners

## Government Revenues

Gulf of Mexico offshore oil and natural gas activity's contributions to government revenues are primarily derived from three main revenue streams; royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents for blocks leased by operators. A number of policies impact royalties and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production rates, differing rent and royalty regimes for fields in different water depths, and blocks leased at different times. Additionally, the value of oil and natural gas produced in the Gulf of Mexico typically differs from common indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long-term sales contracts, and differentials due to product quality and location. To calculate government revenues due to offshore oil and natural gas activities data from the Office of Natural Resource Revenue<sup>7</sup> (ONRR) as well as oil and natural gas price projections from the Energy Information Administration's Annual Energy Outlook 2021<sup>8</sup> and Short-Term Energy Outlook January 2022<sup>9</sup> were utilized as the basis of the forecast, with some modification in earlier years to take into account current market conditions. Data on disbursements to states are only available as fiscal year data, so for the purposes of this report, fiscal year data was utilized as a stand-in for calendar year data.

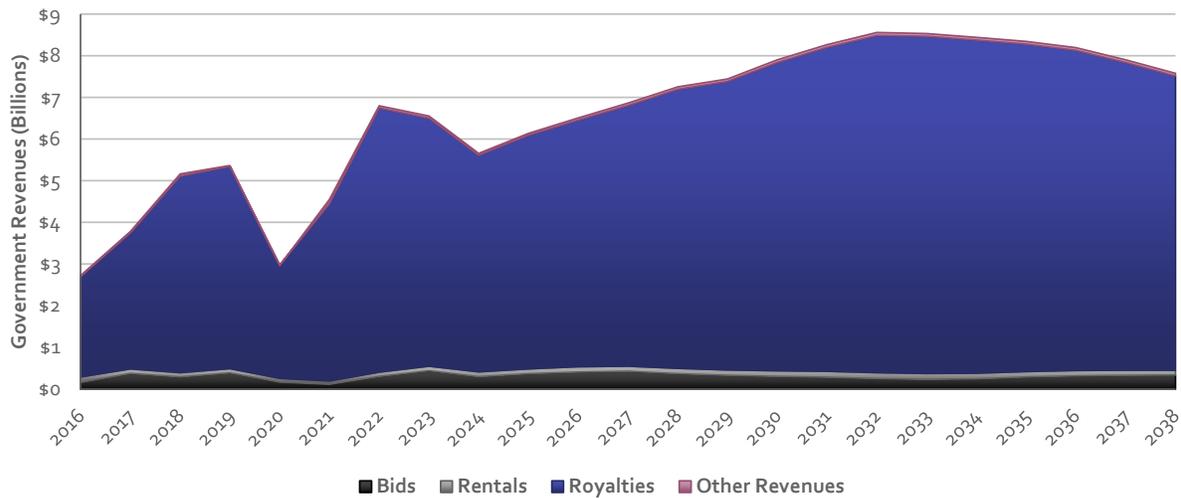
In 2022, government revenues due to offshore oil and natural gas activities in the Gulf of Mexico are projected to reach nearly \$6.8 billion. On average across the 2022 to 2040 forecast period, government revenues due to offshore oil and natural gas activities in the Gulf of Mexico (excluding personal and corporate income taxes and property taxes) are projected to average over \$7.4 billion per year. The largest source of government revenues from Gulf of Mexico offshore oil and natural gas activities is derived from royalties paid on produced oil and natural gas. Across the 2022 to 2040 forecast period, average royalty revenues are projected at over \$6.9 billion per year. Bid revenues are projected to average over \$322 million per year across the forecast period, rental revenues are projected to average around \$102 million per year, and other revenues are projected to average around \$55 million per year. (Figure 7)

<sup>7</sup> Natural Resources Revenue Data, Office of Natural Resource Revenue, U.S. Department of the Interior

<sup>8</sup> Annual Energy Outlook 2021, Energy Information Administration

<sup>9</sup> Short Term Energy Outlook, January 11<sup>th</sup>, 2022, Energy Information Administration

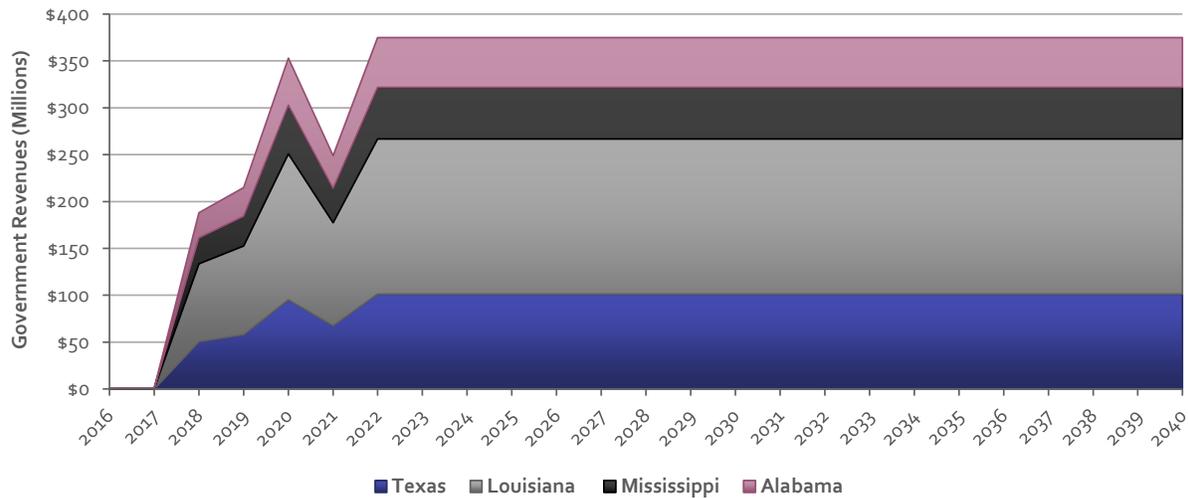
**Figure 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by Type**



Source: Energy and Industrial Advisory Partners

In 2006 Congress passed the Gulf of Mexico Energy Security Act (GOMESA) which created revenue-sharing provisions for the four Gulf oil and natural gas producing States (Alabama, Louisiana, Mississippi, and Texas) and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017, respectively, with revenue sharing caps of \$375 million for fiscal years 2017–2019, \$487.5 million for fiscal years 2020 and 2021, and \$375 million for fiscal years 2022–2055. Total projected Federal Government revenues, actual fiscal year distribution data from the ONRR, and analysis of the growth of revenue sharing and the revenue sharing caps were considered to develop the revenue sharing forecasts in this report. In 2022, the Gulf of Mexico oil and natural gas producing states are projected to receive around \$375 million due to revenue sharing, with revenue projected to remain flat throughout the forecast period due to the revenue sharing cap. (Figure 8)

**Figure 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by State**



Source: Energy and Industrial Advisory Partners

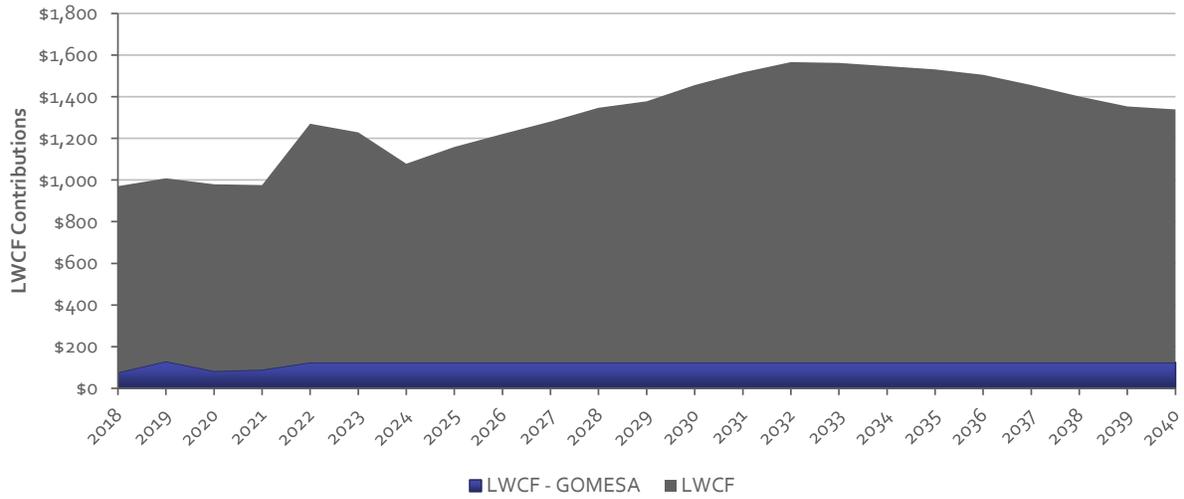
Based on historical distributions, this study projects that Louisiana will see the largest annual distributions due to GOMESA, with distributions averaging around \$165 million over the forecast period. Texas is projected to receive the second-highest average distributions, at over \$101 million per year. Mississippi and Alabama are projected to receive distributions of an average of around \$55 and \$53 million annually, respectively.

In addition to provisions for revenue sharing with the Gulf of Mexico producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF “supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities.”<sup>10</sup> In addition to funding from GOMESA, the LWCF also receives significant additional funding due to offshore oil and natural gas activities.

GOMESA distributions to the LWCF are capped at \$125 million per year as part of a total cap with state distributions of \$500 million. However, in FY 2019, nearly \$130 million was distributed to the LWCF. This study projects that distributions to the LWCF due to GOMESA revenue sharing will remain at or around the \$125 million level for the forecast period. Distributions in 2020 and 2021 were \$83 million and \$89 million, respectively, due to low oil prices. Non-GOMESA LWCF contributions are projected to average just under \$1.3 billion per year. (Figure 9)

<sup>10</sup> Land and Water Conservation Fund, U.S. Department of the Interior

Figure 9: Projected Base Case LWCF Distributions



Source: Energy and Industrial Advisory Partners

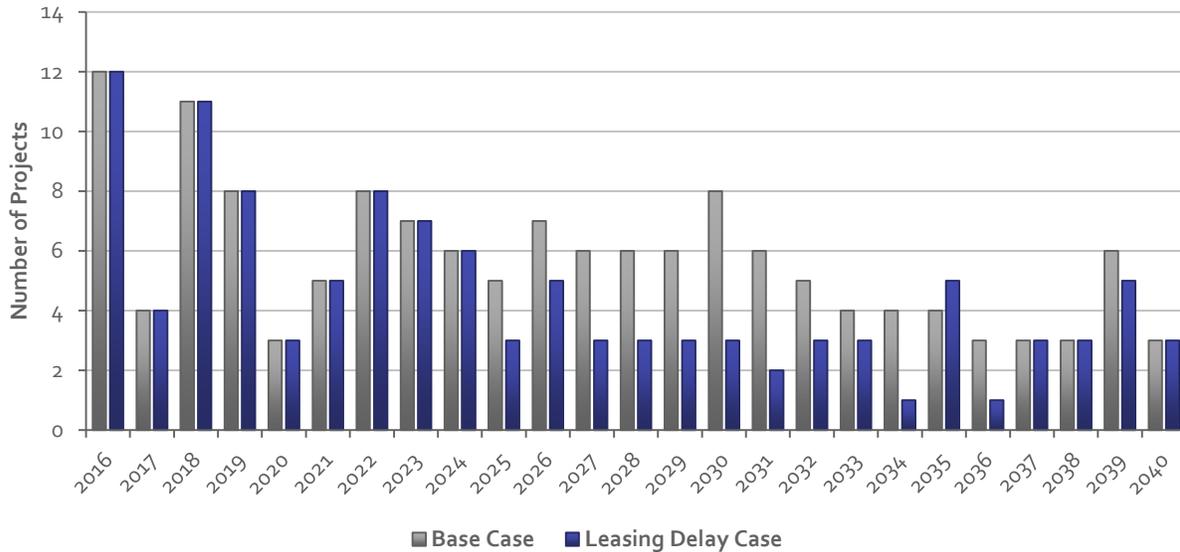
## Delayed 5-year Leasing Program Case Impacts

Any delay in leasing activity would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. However, if this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports. For the purpose of this report, a “Delayed 5-year Leasing Program Case” was developed to compare activity levels (project executions, spending, oil and natural gas production), economic impacts, and government revenues to the Base Case Scenario. This scenario assumes that after lease sale 261 is held in 2022, no further lease sales would occur before 2028. This date is an estimate of the earliest a lease sale could be held if the development of a new 5-year leasing program started at the beginning of the next administration. This scenario also assumes that existing leases would be unaffected, and no other major policy or regulatory changes impacting the Gulf of Mexico offshore oil and natural gas industry would be enacted.

### Projects

Development of new offshore oil and natural gas projects in the Gulf of Mexico drives capital and operational spending, supported employment, oil and natural gas production, and subsequent government revenues. Under the Delayed 5-year Leasing Program Case, project development activity is projected to be reduced as soon as 2025, as projects which would require tiebacks from adjacent unleased blocks to underpin their project economics are the first to be impacted. Over the 2022-2040 forecast period, new project startups are projected to decline by 30 percent, from 100 to 70. (Figure 10)

**Figure 10: Projected Base Case vs. Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Project Startups by Year**



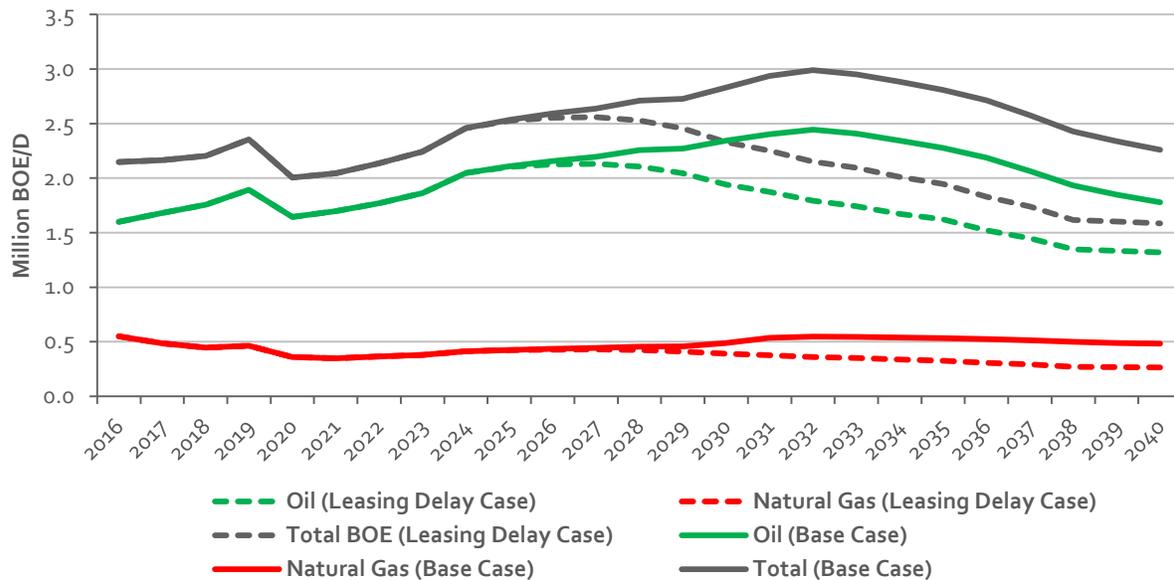
Source: Energy and Industrial Advisory Partners

## Production

To develop the production forecasts for this report, project development (in addition to the existing production base) was modeled utilizing key indicators such as the water depth of the project, the number of producing wells, per well production, assumptions on peak production years, and decline rates. The Delayed 5-year Leasing Program Case modeled the impact of reduced and delayed project development on production.

The average production from 2022 to 2040 in the Base Case is around 2.6 million barrels of oil equivalent while the average production in the Delayed 5-year Leasing Program Case over the same time period is around 2.1 million barrels of oil equivalent, an 18% reduction. At its maximum in 2036, production is projected to be around 885 thousand barrels of oil equivalent per day lower than the base case (an around 33 percent reduction). (Figure 11)

**Figure 11: Projected Base Case vs. Delayed 5-year Leasing Program Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)**

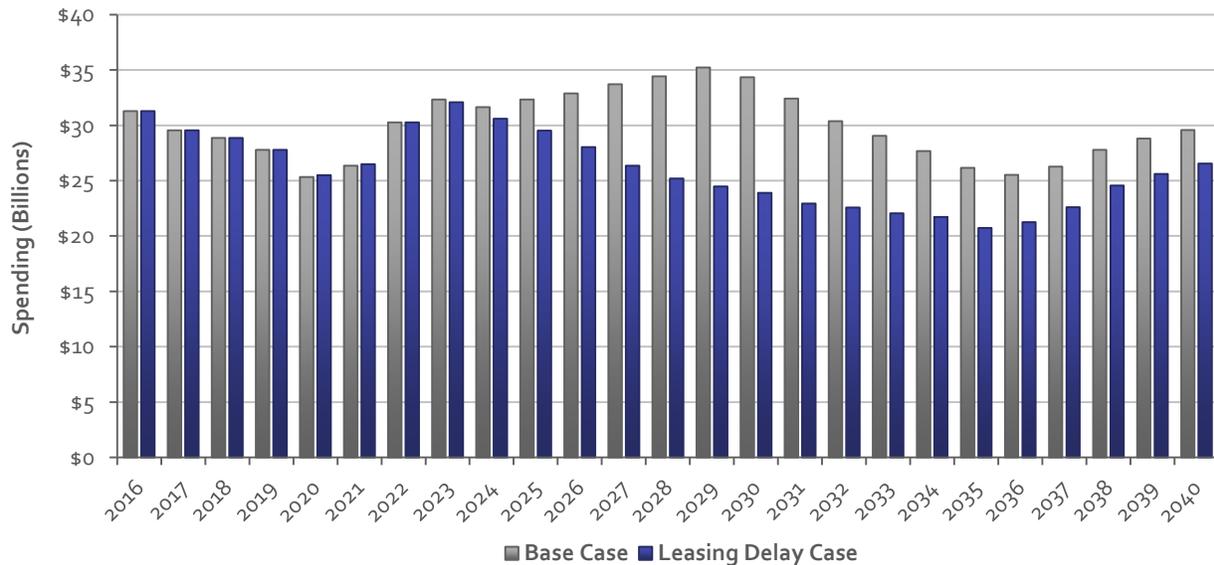


Source: Energy and Industrial Advisory Partners

## Spending

In the Delayed 5-year Leasing Program Case spending is projected at around \$25.3 billion on average per year, a 17 percent reduction from the \$30.6 billion in the Base Case. In 2029, when the maximum impact is projected, spending is projected to be \$10.7 billion lower than Base Case spending of \$35.2 billion, a 31 percent reduction. (Figure 12)

**Figure 12: Projected Base Case vs. Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending**



Source: Energy and Industrial Advisory Partners

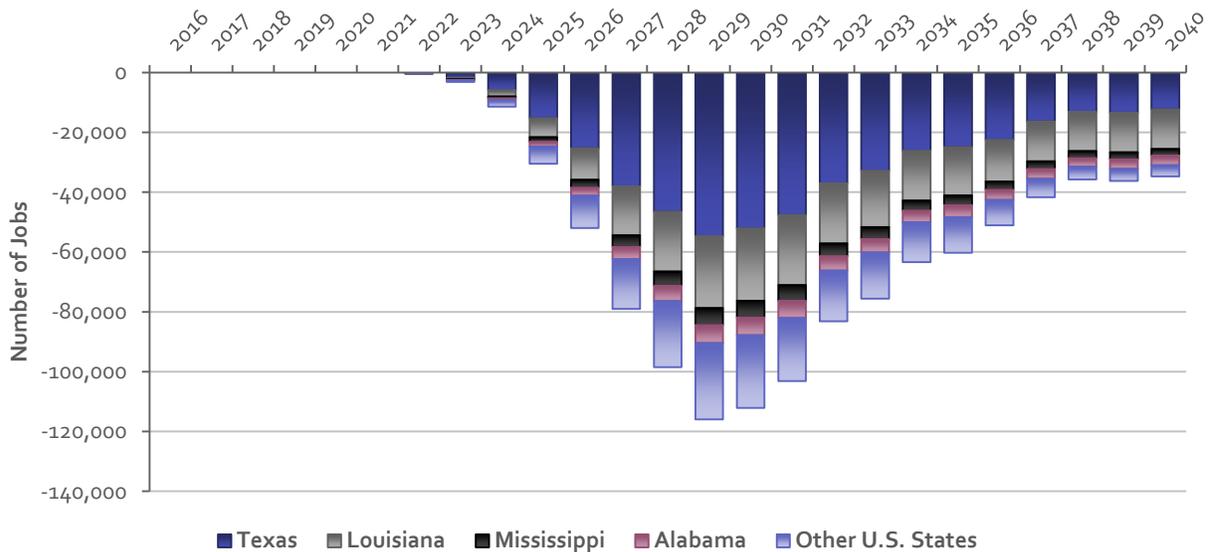
## Employment

This study projects that in the Base Case, during the 2022 to 2040 forecast period, an annual average of around 372 thousand jobs nationally will be supported by Gulf of Mexico Offshore oil and natural gas activity. In the Delayed 5-year Leasing Program Case, average employment is projected to decline to 314 thousand jobs supported annually (a 15 percent reduction). In 2029, when the maximum impact is felt, employment supported by the offshore oil and natural gas industry is projected to decline to just over 307 thousand jobs supported in the Delayed 5-year Leasing Program Case, compared to 423 thousand jobs in the Base Case, a 29 percent reduction.

In the Delayed 5-year Leasing Program Case, Texas’ average annual supported employment across the forecast period is projected to decline from 158 thousand jobs to 133 thousand jobs (a 16 percent decline). In 2029 when the maximum impact is felt, Texas’ supported employment is projected at 307 thousand jobs in the Delayed 5-year Leasing Program Case, compared to 184 thousand jobs in the Base Case. Louisiana is projected to see average annual supported employment decline from around 106 thousand jobs to 92 thousand jobs (a 13 percent decline) in 2029 when the maximum impact is felt. Louisiana’s average supported employment is projected at 92 thousand jobs in the Delayed 5-year Leasing Program Case, compared to 116 thousand jobs in the Base Case. Alabama is projected to see average annual supported employment decline from over 30 thousand jobs to 26 thousand jobs (a 12 percent decline) in 2029 when the maximum impact is felt. Alabama’s average supported employment is projected at 26 thousand jobs in the Delayed 5-year Leasing Program Case, compared to 32 thousand jobs in the Base Case. Mississippi is projected to see average annual supported employment decline from nearly 23

thousand jobs to 20 thousand jobs (a 13 percent decline). In 2029 when the maximum impact is felt, Mississippi’s supported employment is projected at 19 thousand jobs in the Delayed 5-year Leasing Program Case, compared to 25 thousand jobs in the Base Case. The rest of the U.S. is projected to see average annual supported employment decline from nearly 56 thousand jobs to 45 thousand jobs (a 20 percent decline). In 2029 when the maximum impact is felt, the rest of the U.S.’s supported employment is projected at 38 thousand jobs in the Delayed 5-year Leasing Program Case, compared to 65 thousand jobs in the Base Case. (Figure 13)

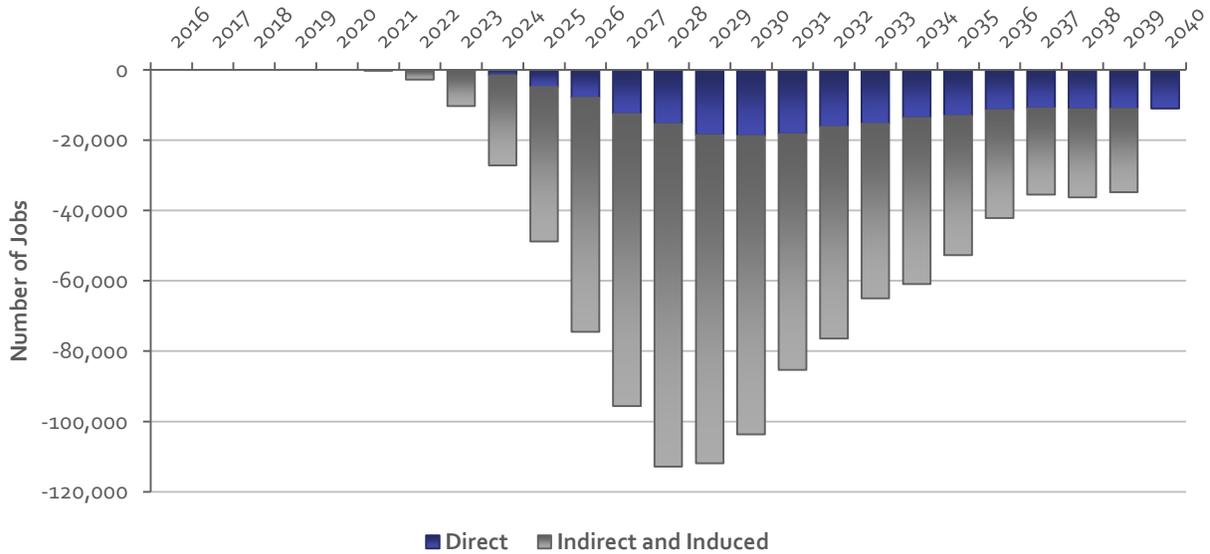
**Figure 13: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions**



Source: Energy and Industrial Advisory Partners

The Gulf of Mexico offshore oil and natural gas industry supports employment through direct employment by the industry, indirect employment by its supplier, and induced employment due to increased spending by workers. Across the 2022 to 2040 forecast period, direct employment is projected to average around 78 thousand jobs each year in the Base Case. In the Delayed 5-year Leasing Program Case, average direct employment across the forecast period is projected at around 67 thousand jobs, an over 14 percent decrease. In 2029 when the most significant impact is projected, direct employment is projected at 68 thousand jobs, a 21 percent reduction from the over 86 thousand supported direct jobs in the Base Case. Across the 2022 to 2040 forecast period, supported indirect and induced employment in the Delayed 5-year Leasing Program Case is projected at around 248 thousand jobs on average, compared to around 294 thousand jobs in the Base Case (a 17 percent decrease). At its maximum in 2029, indirect and induced employment is projected at 247 thousand jobs, a 16 percent reduction from the 294 thousand supported indirect and induced jobs in the Base Case. (Figure 14)

**Figure 14: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions**

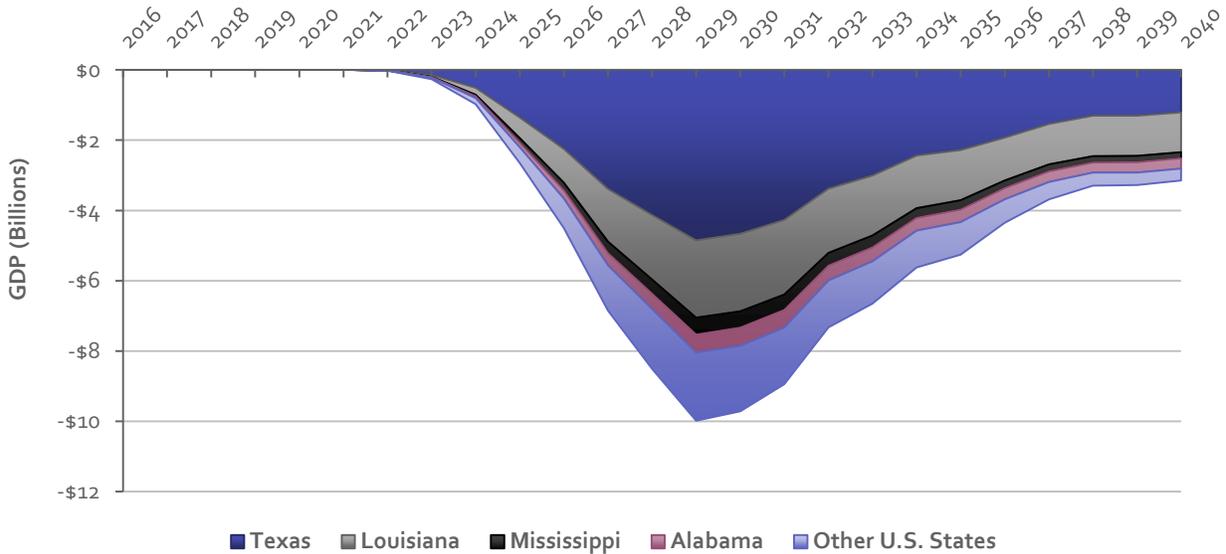


Source: Energy and Industrial Advisory Partners

## GDP

The Gulf of Mexico offshore oil and natural gas industry supports significant levels of gross domestic product (GDP) in the Gulf Coast states' economies and the national economy. On average, the Gulf of Mexico offshore oil and natural gas Industry is projected to contribute \$31.4 billion to national GDP annually over the forecast period in the Base Case. In the Delayed 5-year Leasing Program Case, annual contributions to GDP are projected to average around \$26.4 billion, around a 16 percent reduction. In 2029, when the maximum impact is felt, contributions to GDP in the Delayed 5-year Leasing Program Case are projected at around \$25.8 billion, compared to \$35.8 billion in the Base Case, around a 28 percent reduction. (Figure 15)

**Figure 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions**



Source: Energy and Industrial Advisory Partners

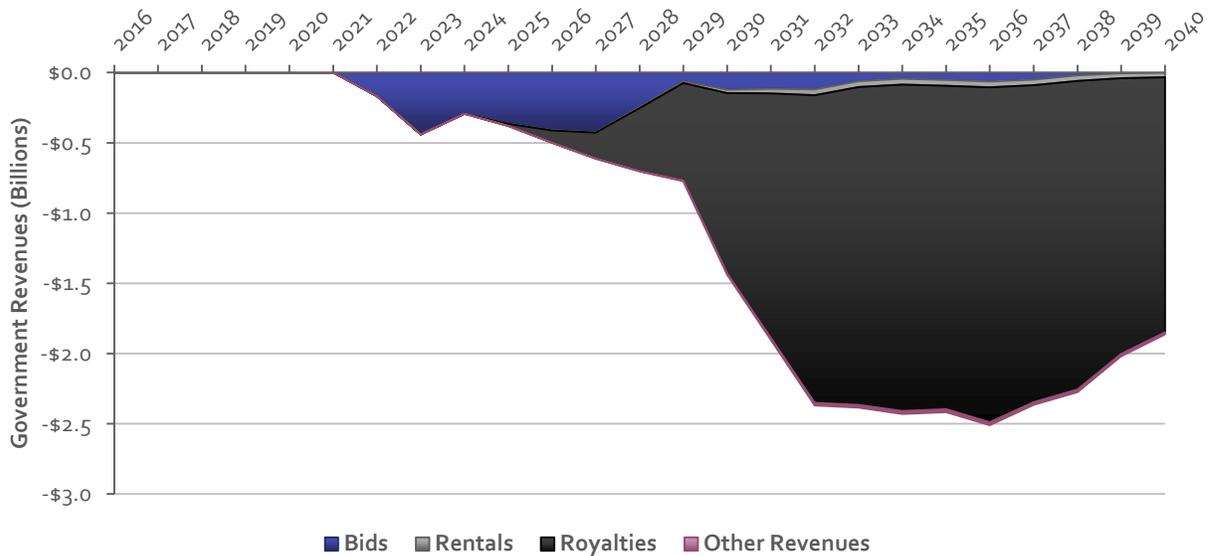
## Government Revenues

In the Base Case developed for this report, average annual government revenues across the 2022 to 2040 forecast period, due to Gulf of Mexico offshore oil and natural gas activities (excluding personal and corporate income taxes and property taxes), are projected at over \$7.4 billion per year. In the Delayed 5-year Leasing Program Case, revenues are projected at an average of around \$6 billion per year (a 20 percent reduction). In 2036, when the maximum impact is felt, government revenues are projected at around \$5.7 billion in the Delayed 5-year Leasing Program Case, compared to \$8.2 billion in the Base Case, a 30 percent reduction.

Across the 2022 to 2040 forecast period, average royalty revenues are projected to be reduced from over \$6.9 billion in the Base Case to \$5.7 billion per year in the Delayed 5-year Leasing Program Case (an 18 percent reduction). In 2036, when the maximum impact is felt, royalty revenues are projected at around \$5.3 billion in the Delayed 5-year Leasing Program Case, compared to \$7.7 billion in the Base Case, an 18 percent reduction. Bid revenues are projected to decline from an average of \$322 million per year in the Base Case to \$161 million per year in the Delayed 5-year Leasing Program Case (a 50 percent reduction). Due to lease sales not being held from 2023 to 2027, projected bid revenues are zero in each of those years. Rental revenues are projected to decline from around \$125 million per year on average in the Base Case to \$102 million (an 18 percent reduction). In 2036, when the maximum impact is felt, rental revenues are projected at around \$87 million in the Delayed 5-year Leasing Program Case, compared to \$130 million in the Base Case, an 18 percent reduction. Other revenues are projected to decline to around \$49

million per year on average in the Delayed 5-year Leasing Program Case compared to \$61 million in the Base Case, an 18 percent reduction. (Figure 16)

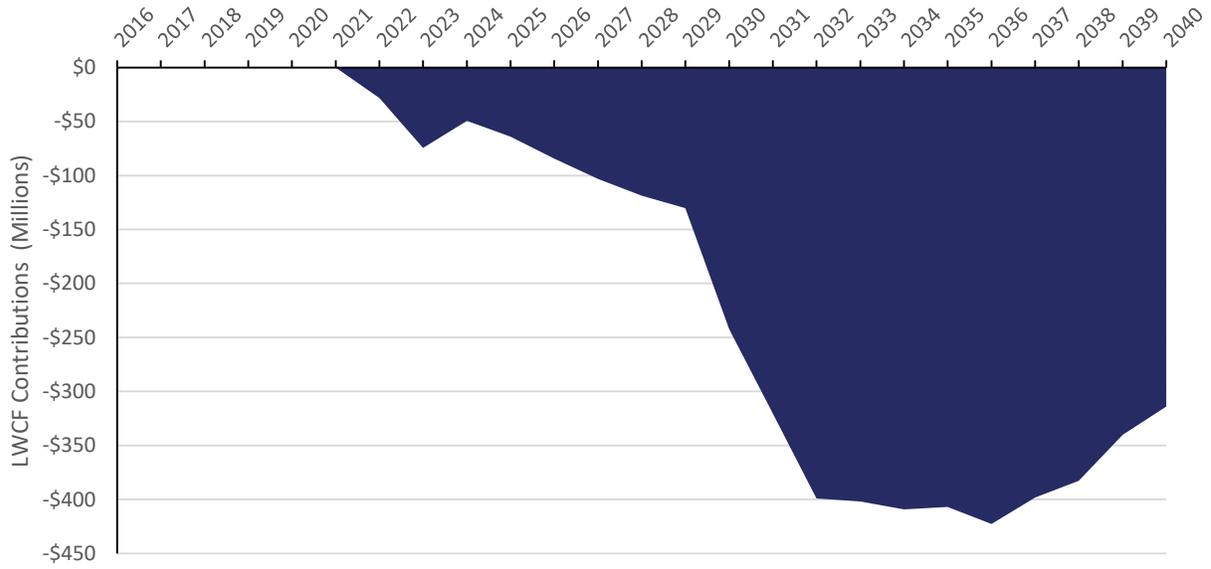
**Figure 16: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type**



Source: Energy and Industrial Advisory Partners

In the Delayed 5-year Leasing Program Case, distributions to states due to GOMESA are projected to be relatively in line with distributions in the Base Case due to the cap on distributions to states. If this cap were removed or increased, distributions to states would likely be reduced. Distributions to the LWCF due to GOMESA are also projected to be relatively in line with those in the Base Case. Non-GOMESA distributions to the LWCF due to offshore activities are projected to average just over \$1 billion compared to around \$1.3 billion in the Base Case (an around 20 percent reduction). (Figure 17)

Figure 17: Projected Delayed 5-year Leasing Program Case Gulf of Mexico LWCF Distribution Reductions



Source: Energy and Industrial Advisory Partners

## Conclusions

Under an efficient regulatory framework, The Gulf of Mexico oil and natural gas industry will likely continue to be a significant source of energy production, employment, gross domestic product, and government revenues for the United States for decades to come. Rising oil and natural gas prices, which directly impact American consumers, illustrate the importance of domestic oil and natural gas production. In addition to the impact rising energy prices have on consumers, oil and natural gas production is a significant source of employment, gross domestic product, and government revenues. Continued lease sales are a key requirement for Gulf of Mexico oil and natural gas production. Leases enable operators to drill new exploratory wells to discover resources, develop new projects, and underpin existing and planned projects by allowing operators to backfill production into facilities with declining production.

Any pause in leasing activity would likely have a negative impact on Gulf of Mexico project development, spending, supported employment and GDP, and government revenues. However, if this delay persists, the impacts will likely continue to grow, reducing long-term oil and natural gas development and production in the region and the economic activity and government revenues that activity supports.

## The Economic Impacts of the Gulf of Mexico Oil and Natural Gas Industry and Impact of a Delayed 5-Year Leasing Program

The Gulf of Mexico oil and natural gas industry supports significant national employment, gross domestic product, and state and Federal government revenues. To quantify the potential effects of a delay in Gulf of Mexico leasing, this study forecasted a Base Case activity level for Gulf of Mexico oil and natural gas activity to compare potential activity and economic impacts due to a delay in the 5-year leasing program. The study forecasted key activity indicators, including the number of wells drilled, projects executed, oil and natural gas production, and spending based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

A delayed 5-year leasing program for the Gulf of Mexico, with new leases sales estimated to begin in 2028, is projected to significantly impact Gulf of Mexico oil and natural gas industry activity. This reduction in activity is projected to lead to reduced industry spending, supported employment and GDP, government revenues, and oil and natural gas production. (Table 5)

**Table 5: Key Findings<sup>11</sup>**

Economic Impact	Base Case Projection Average Annual (2022-2040)	Consequences of a 5-year Leasing Program Delay Reductions from Base Case Projection		
		Maximum Annual Impact	Average Annual Impact (2022-2040)	Total Cumulative Impact (2022-2040)
Capital Investment and Spending (\$ Billions)	\$30.6 / yr.	-\$10.7 / yr.	-\$5.3 / yr.	-\$99.9
Employment (jobs)	372,012	-115,942	-57,259	N/A
Contributions to GDP (\$ Billions)	\$31.4 / yr.	-\$10.0 / yr.	-\$5.0 / yr.	-\$95.0
Government Revenues (\$ Billions)	\$7.4 / yr.	-\$2.5 / yr.	-\$1.5 / yr.	-\$27.8
Oil and Natural Gas Production millions of barrels oil equivalent	2.62 / day	-0.88 / day	-0.48 / day	-3.34 Billion Barrels (19 Year total)

Source: Energy and Industrial Advisory Partners

- The Base Case assumes a continuous leasing program including lease sales in the year 2022.
- The 5-year Program Delay Case assumes the first lease sale for the next 5-year Program will occur in 2028 with continuous lease sales thereafter.

<sup>11</sup> The Base Case assumes a continuous leasing program including lease sales in the year 2022. The 5-year Program Delay Case assumes the first lease sale for the next 5-year Program will occur in 2028 with continuous lease sales thereafter.

# Appendices

## Methodology

### Overall Methodology

As part of the development of this report, a detailed review of the potential impacts if a delay in Federal OCS leasing were to take place was conducted. This study is in no way exhaustive, especially considering the uncertainty around how the oil and natural gas industry would respond to a delay in leasing and the potential length of any delay. This report focuses on the potential operational effects of a leasing delay based on a reasonable reading of these proposals and considers the potential operational changes oil and natural gas companies could undertake to minimize the effects of these changes on their operations. As such, this analysis is inherently forward-looking and subject to significant changes based on the potential development and implementation of policy changes by Congress, the executive branch, and regulators such as the Department of The Interior, The Bureau of Ocean Energy Management, and The Bureau of Safety and Environmental Enforcement.

### Scenario Development

The study’s data development was undertaken by developing a model that accounts for all major parts of the offshore oil and natural gas exploration and production lifecycle. The major sections of the model are: an Activity Model that assesses near term project activity, Gulf of Mexico reserves and production; and the likely project development and drilling activity necessary to meet production targets; a spending model derived from the activities required to develop and operate offshore oil and natural gas projects and reasonable assumptions around the spending levels typically associated with these activities; a government revenue model which uses forecast production levels and other relevant forecasts (leasing, block rentals, etc.), forecast commodity pricing, historical data on actual government revenues and distributions and governmental policies to forecast potential government revenues; and an Economic Model which utilizes the projected spending and government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated supported economic activity including employment and gross domestic product.

The Base Case model was initially developed based on forecast production and pricing levels based on the Energy Information Administration’s (EIA) Annual Energy Outlook 2021<sup>12</sup> for long-term prices and the EIA’s Short-Term Energy Outlook<sup>13</sup> for the near term (2022 and 2023) prices. However, modifications to near-term pricing and production levels were made based on current market conditions. Although these forecasts were utilized to develop the Base Case model, due to differences in modeling techniques,

<sup>12</sup> Annual Energy Outlook 2021, Energy Information Administration

<sup>13</sup> Short Term Energy Outlook, January 11, 2022, Energy Information Administration

especially the project-based model developed in this report, the report’s forecast production levels vary from those provided in the EIA’s forecasts.

Following the creation of the Base Case forecast, the potential effects of the additional scenario (no new leases being sold after lease sale 261 before 2028, the “Delayed 5-year Leasing Program Case”) was considered. Amongst other factors, how this scenario would impact exploration drilling, new project development of both underway and future projects, and existing producing projects were examined. The Base Case model was developed based on forecast production and pricing levels based on the Energy Information Administration’s (EIA) forecasts in their Annual Energy Outlook 2020<sup>14</sup> and Short-Term Energy Outlook<sup>15</sup>. Although these forecasts were utilized to develop the Base Case model, due to differences in modeling techniques, especially the project-based model developed for this report, the report’s forecast production levels vary from those provided in the EIA’s forecasts.

## Project and Activity Methodology

Near-term projects and longer-term projects not currently under development were considered when developing this study to forecast activity levels. Near-term project activity forecasts are based on actual projects operators have stated development plans for or, in some cases, reasonable forecasts for other potential projects when no development decisions have taken place. For long-term activity, project forecasts are based primarily on projected production levels, with project development activity to meet projected production levels forecast. Undeveloped reserves and historical trends in the mix of projects (both sizes and water depths) were used to forecast future project development activity. Historical trends in well counts, per well production levels, peak production years, and decline curves for existing and future projects were utilized. Any significant changes in technology or project development and production trends would likely have a material impact on forecasts.

For the Delayed 5-year Leasing Program Case, the project and activity forecasts presented in the Base Case were used as a baseline for activity levels. For each case, a reasonable reading of this potential scenario’s impacts on activity levels was then developed. This study assumes that operators would adapt their behaviors to minimize the impacts of these proposed scenarios by, for example, retaining leases at a higher rate.

## Spending Methodology

The spending analysis developed for this report attempts to account for the totality of capital and operational spending associated with offshore oil and natural gas project development throughout a project’s lifecycle. This analysis includes spending before project development such as geological and geophysical surveys, exploration drilling, and engineering; spending during a project’s development such as hardware procurement, drilling, and installation; spending during a project’s producing life such as

<sup>14</sup> Annual Energy Outlook 2020, Energy Information Administration

<sup>15</sup> Short Term Energy Outlook, April 7, 2020, Energy Information Administration

operational expenditures and natural gas processing; and spending at the end of a project’s life such as well plugging and abandonment and decommissioning.

Spending for each project is divided into nineteen categories, with each category accounting for one general activity type required to find, develop, operate, or abandon an offshore oil and natural gas project. Costs for each category were developed based on general project sizes (and the associated activity levels and equipment requirements), well counts, water depths, and other factors. Additionally, the distribution of spending over time for each category for different project sizes and water depths was then developed.

After the overall spending forecast for Gulf of Mexico oil and natural gas activity was developed, spending was allocated to individual states and international suppliers. Domestic spending is allocated based on a category-by-category analysis of supply chains and Bureau of Economic Analysis data to provide state-specific spending allocations. Spending with international suppliers is not analyzed further and accounts for no economic impacts in the report. Distributions are constant throughout the three scenarios presented in this report. It is possible that reduced activity levels may lead to changes in supply chains and thus spending distributions.

## Economic Methodology

The Bureau of Economic Analysis’ RIMS II input-output multipliers were used to develop this report's employment and gross domestic product analysis. These multipliers provide state-level employment and gross domestic product estimates based on industry-specific spending levels. For this report, economic activity was also divided into direct (directly related to industries involved in the oil and natural gas supply chain) and indirect and induced (industries not directly involved in the oil and natural gas supply chain as well as economic activity due to increased wages) employment and gross domestic product.

The following RIMS industry categories were used in the development of the report to account for spending by the oil and natural gas industry (all RIMS categories were used in the output of data):

- Mining and oil and gas field machinery manufacturing
- Steel product manufacturing from purchased steel
- Fabricated metal product manufacturing
- Construction
- Drilling oil and gas wells
- Architectural, engineering, and related services
- Support activities for oil and gas operations
- Natural gas distribution

## Government Revenue Methodology

Government revenues due to Gulf of Mexico offshore oil and natural gas activity are primarily derived from three main revenue streams, royalties paid on produced oil and natural gas, bonus bids paid to acquire blocks in lease sales, and rents for blocks leased by operators. A number of policies impact royalty and lease payments received by the Federal Government, including royalty relief for certain blocks depending on production levels and differing rent and royalty regimes for fields in different water depths and blocks leased at different times. Additionally, the value of oil and natural gas produced in the Gulf of Mexico may differ from major indicators such as West Texas Intermediate (WTI) crude due to transportation costs, long-term sales contracts, and differentials due to product quality and location. Data from the Office of Natural Resource Revenue<sup>16</sup> (ONRR) and oil and natural gas price projections from the Energy Information Administration’s Annual Energy Outlook 2020<sup>17</sup> and Short-Term Energy Outlook<sup>18</sup> were utilized to calculate government revenues due to offshore oil and natural gas activities. In some cases (especially regarding disbursements to states), calendar year data was unavailable. In these cases, fiscal year data was utilized as a stand-in for calendar year data. Lease sale bid revenues and rental revenues were calculated through the simulation of yearly lease sales based on the current 5-year leasing program. The number of leases acquired and retained was modeled on the oil price forecasts used to develop the report and historical bid number and levels correlated with activity levels.

In 2006 Congress passed the Gulf of Mexico Energy Security Act (GOMESA) which created revenue-sharing provisions for the four Gulf oil and natural gas producing states (Alabama, Louisiana, Mississippi, and Texas) and their coastal political subdivisions. Revenue sharing was enacted in two phases beginning in 2007 and 2017, respectively, with revenue sharing caps of \$375 million for fiscal years 2017–2019, \$487.5 million 2020 and 2021, and \$375 million for 2022–2055 enacted. Total projected Federal Government revenues, actual revenue distribution data from the ONRR, analysis of the growth of revenue sharing based on eligible leases, and the revenue sharing caps were considered to develop the revenue sharing forecasts in this report.

In addition to provisions for revenue sharing with the Gulf of Mexico producing States, GOMESA also included a provision for distributions to the Land and Water Conservation Fund (LWCF). The LWCF “supports the protection of federal public lands and waters – including national parks, forests, wildlife refuges, and recreation areas – and voluntary conservation on private land. LWCF investments secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities”.<sup>19</sup> LWCF distributions forecasts are based on total projected Federal Government revenues, actual distribution data from the ONRR, and analysis of revenue sharing growth based on eligible leases and revenue sharing caps.

<sup>16</sup> U.S. Department of the Interior, Natural Resources Revenue Data, <https://revenue.data.doi.gov/>

<sup>17</sup> Annual Energy Outlook 2021, Energy Information Administration

<sup>18</sup> Short Term Energy Outlook, January 11<sup>th</sup>, 2022, Energy Information Administration

<sup>19</sup> Land and Water Conservation Fund, U.S. Department of the Interior

## Data Tables by Case

### Gulf of Mexico Economic Impacts

Table 6: Projected Base Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)

	2016	2017	2018	2019	2020	2021	2022
Oil	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200	1,770,904
Natural Gas	548,251	484,225	445,142	463,627	360,395	349,089	364,464
Total BOE	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289	2,135,368

	2023	2024	2025	2026	2027	2028
Oil	1,862,644	2,045,883	2,109,445	2,157,480	2,194,981	2,256,299
Natural Gas	379,846	411,896	423,869	435,216	443,651	454,074
Total BOE	2,242,490	2,457,779	2,533,314	2,592,696	2,638,632	2,710,373

	2029	2030	2031	2032	2033	2034
Oil	2,271,322	2,342,453	2,402,462	2,443,896	2,407,104	2,344,299
Natural Gas	456,644	489,210	535,392	546,145	543,756	538,374
Total BOE	2,727,966	2,831,663	2,937,854	2,990,041	2,950,860	2,882,674

	2035	2036	2037	2038	2039	2040
Oil	2,276,146	2,187,721	2,062,724	1,930,878	1,849,058	1,779,534
Natural Gas	532,478	524,431	511,863	497,875	489,172	481,191
Total BOE	2,808,623	2,712,152	2,574,587	2,428,753	2,338,230	2,260,725

Source: Energy and Industrial Advisory Partners

**Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions**

	2016	2017	2018	2019	2020
G&G	\$189	\$167	\$160	\$156	\$176
Drilling Tangibles	\$1,265	\$1,227	\$1,211	\$1,310	\$1,159
Trees	\$680	\$611	\$627	\$451	\$328
Manifolds	\$358	\$321	\$328	\$237	\$167
Other Subsea Hardware	\$145	\$143	\$143	\$130	\$81
Control Umbilical, Flying Leads	\$412	\$366	\$373	\$268	\$182
Infield FL	\$127	\$114	\$119	\$102	\$44
Export PL	\$892	\$781	\$782	\$658	\$223
Infield Risers	\$66	\$60	\$61	\$53	\$22
Export Risers	\$33	\$29	\$30	\$25	\$8
Fixed Platforms & Facilities	\$204	\$166	\$135	\$114	\$76
Floating Production Units & Facilities	\$1,320	\$1,082	\$1,155	\$825	\$880
Installation	\$1,640	\$1,527	\$1,439	\$1,328	\$752
OPEX	\$13,721	\$13,783	\$13,816	\$13,829	\$12,276
Decommissioning CAPEX	\$1,150	\$1,212	\$1,100	\$773	\$696
Drilling	\$7,157	\$6,112	\$5,560	\$5,847	\$6,892
Engineering CAPEX	\$874	\$808	\$792	\$663	\$506
Engineering OPEX	\$858	\$861	\$863	\$864	\$877
Natural Gas Processing and Transportation	\$189	\$172	\$163	\$157	\$144
<b>Total</b>	<b>\$31,281</b>	<b>\$29,542</b>	<b>\$28,857</b>	<b>\$27,789</b>	<b>\$25,344</b>

Source: Energy and Industrial Advisory Partners

**Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions  
(Continued)**

	2021	2022	2023	2024	2025
G&G	\$192	\$236	\$260	\$271	\$289
Drilling Tangibles	\$863	\$1,224	\$1,439	\$1,323	\$1,304
Trees	\$506	\$558	\$495	\$464	\$477
Manifolds	\$261	\$290	\$258	\$242	\$249
Other Subsea Hardware	\$90	\$135	\$133	\$121	\$126
Control Umbilical, Flying Leads	\$308	\$354	\$314	\$291	\$299
Infield FL	\$68	\$119	\$107	\$91	\$92
Export PL	\$358	\$734	\$692	\$590	\$587
Infield Risers	\$33	\$57	\$52	\$44	\$45
Export Risers	\$14	\$29	\$27	\$23	\$23
Fixed Platforms & Facilities	\$88	\$168	\$170	\$152	\$158
Floating Production Units & Facilities	\$1,760	\$1,870	\$1,540	\$1,467	\$1,412
Installation	\$1,038	\$1,636	\$1,552	\$1,298	\$1,320
OPEX	\$13,474	\$13,548	\$14,288	\$14,332	\$14,350
Decommissioning CAPEX	\$858	\$785	\$827	\$754	\$827
Drilling	\$4,882	\$6,790	\$8,483	\$8,547	\$9,144
Engineering CAPEX	\$679	\$847	\$811	\$734	\$741
Engineering OPEX	\$886	\$891	\$893	\$896	\$897
Natural Gas Processing and Transportation	\$124	\$127	\$135	\$142	\$149
<b>Total</b>	<b>\$26,359</b>	<b>\$30,272</b>	<b>\$32,340</b>	<b>\$31,641</b>	<b>\$32,340</b>

Source: Energy and Industrial Advisory Partners

**Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions  
(Continued)**

	2026	2027	2028	2029	2030
G&G	\$304	\$317	\$318	\$306	\$278
Drilling Tangibles	\$1,317	\$1,400	\$1,445	\$1,488	\$1,427
Trees	\$485	\$495	\$529	\$542	\$496
Manifolds	\$254	\$262	\$281	\$288	\$263
Other Subsea Hardware	\$131	\$134	\$139	\$149	\$143
Control Umbilical, Flying Leads	\$303	\$310	\$335	\$346	\$316
Infield FL	\$95	\$91	\$94	\$104	\$101
Export PL	\$622	\$637	\$698	\$777	\$748
Infield Risers	\$47	\$46	\$49	\$54	\$52
Export Risers	\$24	\$24	\$26	\$29	\$28
Fixed Platforms & Facilities	\$181	\$199	\$211	\$218	\$199
Floating Production Units & Facilities	\$1,375	\$1,283	\$1,430	\$1,412	\$1,320
Installation	\$1,307	\$1,299	\$1,286	\$1,417	\$1,351
OPEX	\$14,397	\$14,448	\$14,544	\$14,635	\$14,756
Decommissioning CAPEX	\$757	\$803	\$733	\$781	\$710
Drilling	\$9,636	\$10,318	\$10,635	\$10,948	\$10,474
Engineering CAPEX	\$737	\$746	\$773	\$807	\$758
Engineering OPEX	\$900	\$903	\$909	\$915	\$922
Natural Gas Processing and Transportation	\$153	\$157	\$162	\$168	\$174
<b>Total</b>	<b>\$32,872</b>	<b>\$33,716</b>	<b>\$34,436</b>	<b>\$35,215</b>	<b>\$34,344</b>

Source: Energy and Industrial Advisory Partners

**Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions  
(Continued)**

	2031	2032	2033	2034	2035
G&G	\$246	\$217	\$192	\$173	\$163
Drilling Tangibles	\$1,277	\$1,110	\$985	\$878	\$767
Trees	\$424	\$374	\$347	\$303	\$245
Manifolds	\$224	\$197	\$183	\$159	\$129
Other Subsea Hardware	\$125	\$107	\$98	\$89	\$75
Control Umbilical, Flying Leads	\$268	\$237	\$222	\$195	\$158
Infield FL	\$88	\$74	\$70	\$67	\$55
Export PL	\$634	\$518	\$480	\$446	\$366
Infield Risers	\$45	\$38	\$35	\$33	\$27
Export Risers	\$24	\$20	\$19	\$18	\$15
Fixed Platforms & Facilities	\$154	\$110	\$79	\$63	\$65
Floating Production Units & Facilities	\$1,137	\$1,100	\$1,045	\$953	\$825
Installation	\$1,207	\$1,029	\$982	\$907	\$777
OPEX	\$14,822	\$14,869	\$14,851	\$14,844	\$14,783
Decommissioning CAPEX	\$758	\$688	\$736	\$667	\$716
Drilling	\$9,368	\$8,152	\$7,238	\$6,443	\$5,631
Engineering CAPEX	\$677	\$598	\$564	\$509	\$452
Engineering OPEX	\$926	\$929	\$928	\$928	\$924
Natural Gas Processing and Transportation	\$180	\$183	\$182	\$179	\$175
<b>Total</b>	<b>\$32,403</b>	<b>\$30,366</b>	<b>\$29,054</b>	<b>\$27,674</b>	<b>\$26,171</b>

Source: Energy and Industrial Advisory Partners

**Table 7: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions  
(Continued)**

	2036	2037	2038	2039	2040
G&G	\$172	\$190	\$211	\$223	\$222
Drilling Tangibles	\$722	\$748	\$880	\$968	\$1,028
Trees	\$240	\$291	\$339	\$370	\$391
Manifolds	\$125	\$152	\$177	\$194	\$204
Other Subsea Hardware	\$64	\$72	\$88	\$97	\$104
Control Umbilical, Flying Leads	\$154	\$186	\$215	\$232	\$245
Infield FL	\$44	\$53	\$65	\$70	\$74
Export PL	\$292	\$346	\$423	\$446	\$474
Infield Risers	\$22	\$26	\$32	\$34	\$37
Export Risers	\$12	\$14	\$17	\$18	\$19
Fixed Platforms & Facilities	\$83	\$94	\$82	\$68	\$78
Floating Production Units & Facilities	\$880	\$1,063	\$1,100	\$1,155	\$1,247
Installation	\$674	\$771	\$947	\$991	\$1,062
OPEX	\$14,745	\$14,661	\$14,642	\$14,602	\$14,631
Decommissioning CAPEX	\$647	\$695	\$626	\$676	\$608
Drilling	\$5,314	\$5,510	\$6,498	\$7,167	\$7,637
Engineering CAPEX	\$427	\$486	\$535	\$570	\$597
Engineering OPEX	\$922	\$916	\$915	\$913	\$914
Natural Gas Processing and Transportation	\$170	\$163	\$155	\$149	\$145
<b>Total</b>	<b>\$25,536</b>	<b>\$26,274</b>	<b>\$27,792</b>	<b>\$28,793</b>	<b>\$29,573</b>

Source: Energy and Industrial Advisory Partners

**Table 8: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment (Number of Jobs)**

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Texas	166,737	158,715	155,767	147,462	133,381	136,682	158,256	169,253	164,634
Louisiana	98,247	94,932	95,089	94,621	89,432	89,175	98,473	107,040	106,535
Mississippi	21,524	20,740	20,926	20,415	19,110	19,116	21,593	23,268	22,947
Alabama	29,595	28,870	29,053	28,011	25,157	26,508	29,250	30,871	30,276
Other U.S. States	65,041	60,861	59,631	54,989	43,624	52,990	63,954	63,667	59,865
<b>Total</b>	<b>381,144</b>	<b>364,119</b>	<b>360,465</b>	<b>345,498</b>	<b>310,703</b>	<b>324,472</b>	<b>371,525</b>	<b>394,099</b>	<b>384,257</b>

	2025	2026	2027	2028	2029	2030	2031	2032
Texas	168,823	171,201	176,391	179,528	184,119	178,814	168,823	157,130
Louisiana	108,625	110,246	112,832	114,379	116,248	114,839	111,109	106,689
Mississippi	23,447	23,748	24,349	24,675	25,165	24,710	23,765	22,605
Alabama	30,713	30,922	31,489	31,855	32,460	31,972	31,020	29,808
Other U.S. States	60,641	60,881	61,335	62,846	65,014	62,801	58,175	53,819
<b>Total</b>	<b>392,249</b>	<b>396,997</b>	<b>406,396</b>	<b>413,284</b>	<b>423,006</b>	<b>413,136</b>	<b>392,892</b>	<b>370,050</b>

	2033	2034	2035	2036	2037	2038	2039	2040
Texas	150,541	142,724	135,170	120,756	135,144	142,858	148,587	151,886
Louisiana	103,567	100,503	97,262	95,642	96,386	99,700	101,946	103,580
Mississippi	21,901	21,106	20,333	19,889	20,198	20,982	21,564	21,916
Alabama	29,166	28,325	27,531	27,014	27,432	28,141	28,694	29,009
Other U.S. States	51,622	48,733	45,040	43,496	46,369	49,944	51,839	53,838
<b>Total</b>	<b>356,797</b>	<b>341,392</b>	<b>325,336</b>	<b>306,798</b>	<b>325,529</b>	<b>341,625</b>	<b>352,631</b>	<b>360,229</b>

Source: Energy and Industrial Advisory Partners

**Table 9: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Direct vs. Indirect and Induced Supported Employment (Number of Jobs)**

	2016	2017	2018	2019	2020	2021	2022
Direct	72,786	70,085	68,677	69,356	66,074	65,276	70,925
Indirect and Induced	308,358	294,034	291,788	276,142	244,629	259,196	300,600
Total	381,144	364,119	360,465	345,498	310,703	324,472	371,525

	2023	2024	2025	2026	2027	2028
Direct	78,305	78,578	80,284	81,801	83,869	85,128
Indirect and Induced	315,794	305,680	311,965	315,196	322,527	328,156
Total	394,099	384,257	392,249	396,997	406,396	413,284

	2029	2030	2031	2032	2033	2034
Direct	86,375	85,516	82,700	79,507	76,925	74,687
Indirect and Induced	336,631	327,620	310,192	290,543	279,872	266,704
Total	423,006	413,136	392,892	370,050	356,797	341,392

	2035	2036	2037	2038	2039	2040
Direct	72,183	71,083	71,385	74,029	75,712	77,105
Indirect and Induced	253,153	235,715	254,144	267,595	276,918	283,123
Total	325,336	306,798	325,529	341,625	352,631	360,229

Source: Energy and Industrial Advisory Partners

**Table 10: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP \$ Millions**

	2016	2017	2018	2019	2020	2021	2022
Texas	\$14,208	\$13,469	\$13,196	\$12,638	\$11,677	\$11,769	\$13,590
Louisiana	\$8,268	\$7,950	\$7,929	\$7,933	\$7,576	\$7,453	\$8,269
Mississippi	\$1,586	\$1,515	\$1,525	\$1,504	\$1,436	\$1,399	\$1,600
Alabama	\$2,432	\$2,368	\$2,381	\$2,323	\$2,109	\$2,198	\$2,415
Other U.S. States	\$5,017	\$4,693	\$4,609	\$4,291	\$3,497	\$4,138	\$4,901
<b>Total</b>	<b>\$31,511</b>	<b>\$29,994</b>	<b>\$29,640</b>	<b>\$28,690</b>	<b>\$26,296</b>	<b>\$26,957</b>	<b>\$30,775</b>

	2023	2024	2025	2026	2027	2028
Texas	\$14,654	\$14,348	\$14,733	\$14,985	\$15,453	\$15,743
Louisiana	\$9,050	\$9,029	\$9,223	\$9,384	\$9,622	\$9,766
Mississippi	\$1,743	\$1,725	\$1,768	\$1,798	\$1,849	\$1,878
Alabama	\$2,565	\$2,530	\$2,566	\$2,590	\$2,638	\$2,672
Other U.S. States	\$4,935	\$4,701	\$4,767	\$4,801	\$4,849	\$4,981
<b>Total</b>	<b>\$32,946</b>	<b>\$32,332</b>	<b>\$33,056</b>	<b>\$33,558</b>	<b>\$34,411</b>	<b>\$35,042</b>

	2029	2030	2031	2032	2033	2034
Texas	\$16,115	\$15,674	\$14,792	\$13,789	\$13,177	\$12,502
Louisiana	\$9,926	\$9,799	\$9,450	\$9,048	\$8,751	\$8,473
Mississippi	\$1,915	\$1,879	\$1,797	\$1,701	\$1,637	\$1,572
Alabama	\$2,718	\$2,683	\$2,604	\$2,508	\$2,450	\$2,384
Other U.S. States	\$5,126	\$4,961	\$4,607	\$4,286	\$4,104	\$3,880
<b>Total</b>	<b>\$35,799</b>	<b>\$34,996</b>	<b>\$33,249</b>	<b>\$31,332</b>	<b>\$30,119</b>	<b>\$28,812</b>

	2035	2036	2037	2038	2039	2040
Texas	\$11,831	\$10,523	\$11,824	\$12,521	\$13,020	\$13,333
Louisiana	\$8,175	\$8,036	\$8,097	\$8,409	\$8,616	\$8,772
Mississippi	\$1,506	\$1,472	\$1,495	\$1,564	\$1,613	\$1,646
Alabama	\$2,316	\$2,278	\$2,306	\$2,368	\$2,412	\$2,442
Other U.S. States	\$3,600	\$3,501	\$3,706	\$3,968	\$4,118	\$4,272
<b>Total</b>	<b>\$27,428</b>	<b>\$25,811</b>	<b>\$27,428</b>	<b>\$28,831</b>	<b>\$29,778</b>	<b>\$30,464</b>

Source: Energy and Industrial Advisory Partners

**Table 11: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by Type \$ Millions**

	2016	2017	2018	2019	2020	2021	2022
Bids	\$158	\$374	\$291	\$387	\$165	\$112	\$305
Rentals	\$133	\$111	\$103	\$107	\$94	\$83	\$102
Royalties	\$2,408	\$3,262	\$4,715	\$4,852	\$2,716	\$4,250	\$6,337
Other Revenues	\$25	\$33	\$54	\$15	-\$14	\$104	\$55
<b>Total</b>	<b>\$2,723</b>	<b>\$3,780</b>	<b>\$5,163</b>	<b>\$5,361</b>	<b>\$2,961</b>	<b>\$4,549</b>	<b>\$6,799</b>

	2023	2024	2025	2026	2027	2028
Bids	\$441	\$293	\$364	\$409	\$424	\$371
Rentals	\$107	\$118	\$121	\$124	\$126	\$130
Royalties	\$5,950	\$5,200	\$5,604	\$5,918	\$6,256	\$6,692
Other Revenues	\$52	\$45	\$49	\$52	\$55	\$58
<b>Total</b>	<b>\$6,550</b>	<b>\$5,656</b>	<b>\$6,139</b>	<b>\$6,503</b>	<b>\$6,862</b>	<b>\$7,251</b>

	2029	2030	2031	2032	2033	2034
Bids	\$328	\$305	\$285	\$251	\$232	\$244
Rentals	\$131	\$136	\$141	\$143	\$141	\$138
Royalties	\$6,920	\$7,398	\$7,771	\$8,091	\$8,089	\$7,990
Other Revenues	\$60	\$65	\$68	\$71	\$71	\$70
<b>Total</b>	<b>\$7,439</b>	<b>\$7,903</b>	<b>\$8,264</b>	<b>\$8,556</b>	<b>\$8,533</b>	<b>\$8,441</b>

	2035	2036	2037	2038	2039	2040
Bids	\$288	\$313	\$328	\$336	\$321	\$284
Rentals	\$134	\$130	\$123	\$116	\$112	\$108
Royalties	\$7,854	\$7,686	\$7,382	\$7,061	\$6,797	\$6,757
Other Revenues	\$69	\$67	\$64	\$62	\$59	\$59
<b>Total</b>	<b>\$8,345</b>	<b>\$8,196</b>	<b>\$7,898</b>	<b>\$7,575</b>	<b>\$7,289</b>	<b>\$7,208</b>

Source: Energy and Industrial Advisory Partners

**Table 12: Projected Base Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenues by State \$ Millions**

	2016	2017	2018	2019	2020	2021	2022
Texas	\$0.04	\$0.12	\$51	\$58	\$95	\$67	\$101
Louisiana	\$0.10	\$0.32	\$83	\$95	\$156	\$110	\$165
Mississippi	\$0.08	\$0.25	\$28	\$32	\$52	\$37	\$55
Alabama	\$0.09	\$0.26	\$27	\$31	\$50	\$35	\$53
<b>Total</b>	<b>\$0.31</b>	<b>\$0.96</b>	<b>\$188</b>	<b>\$215</b>	<b>\$353</b>	<b>\$375</b>	<b>\$375</b>

	2023	2024	2025	2026	2027	2028
Texas	\$101	\$101	\$101	\$101	\$101	\$101
Louisiana	\$165	\$165	\$165	\$165	\$165	\$165
Mississippi	\$55	\$55	\$55	\$55	\$55	\$55
Alabama	\$53	\$53	\$53	\$53	\$53	\$53
<b>Total</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>

	2029	2030	2031	2032	2033	2034
Texas	\$101	\$101	\$101	\$101	\$101	\$101
Louisiana	\$165	\$165	\$165	\$165	\$165	\$165
Mississippi	\$55	\$55	\$55	\$55	\$55	\$55
Alabama	\$53	\$53	\$53	\$53	\$53	\$53
<b>Total</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>

	2035	2036	2037	2038	2039	2040
Texas	\$101	\$101	\$101	\$101	\$101	\$101
Louisiana	\$165	\$165	\$165	\$165	\$165	\$165
Mississippi	\$55	\$55	\$55	\$55	\$55	\$55
Alabama	\$53	\$53	\$53	\$53	\$53	\$53
<b>Total</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>	<b>\$375</b>

Source: Energy and Industrial Advisory Partners

**Table 13: Projected Base Case LWCF Distributions \$ Millions**

	2016	2017	2018	2019	2020
LWCF	\$0.88	\$0.89	\$0.89	\$0.88	\$0.90
LWCF - GOMESA	\$0.00	\$0.07	\$0.08	\$0.13	\$0.08
Total	\$0.88	\$0.96	\$0.97	\$1.01	\$0.98

	2021	2022	2023	2024	2025
LWCF	\$0.89	\$1.15	\$1.10	\$0.95	\$1.03
LWCF - GOMESA	\$0.09	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$0.98	\$1.27	\$1.23	\$1.08	\$1.16

	2026	2027	2028	2029	2030
LWCF	\$1.10	\$1.16	\$1.22	\$1.25	\$1.33
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.22	\$1.28	\$1.35	\$1.38	\$1.46

	2031	2032	2033	2034	2035
LWCF	\$1.39	\$1.44	\$1.44	\$1.42	\$1.41
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.52	\$1.57	\$1.56	\$1.55	\$1.53

	2036	2037	2038	2039	2040
LWCF	\$1.38	\$1.33	\$1.28	\$1.23	\$1.21
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.51	\$1.46	\$1.40	\$1.35	\$1.34

Source: Energy and Industrial Advisory Partners

## Delayed 5-year Leasing Program Case Impacts

**Table 14: Projected Base Case vs. Delayed 5-year Leasing Program Case Gulf of Mexico Oil and Natural Gas Production (BOE/D)**

	2016	2017	2018	2019	2020	2021	2022
Oil (Delayed 5-year Leasing Program Case)	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200	1,770,904
Oil (Base Case)	1,598,583	1,680,500	1,757,167	1,892,167	1,644,083	1,696,200	1,770,904
Natural Gas (Delayed 5-year Leasing Program Case)	548,251	484,225	445,142	463,627	360,395	349,089	364,464
Natural Gas (Base Case)	548,251	484,225	445,142	463,627	360,395	349,089	364,464
Total BOE (Delayed 5-year Leasing Program Case)	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289	2,135,368
Total BOE (Base Case)	2,146,834	2,164,725	2,202,309	2,355,794	2,004,478	2,045,289	2,135,368

	2023	2024	2025	2026	2027	2028
Oil (Delayed 5-year Leasing Program Case)	1,862,644	2,045,883	2,104,153	2,125,785	2,131,351	2,104,996
Oil (Base Case)	1,862,644	2,045,883	2,109,445	2,157,480	2,194,981	2,256,299
Natural Gas (Delayed 5-year Leasing Program Case)	379,846	411,896	422,762	427,058	428,169	422,875
Natural Gas (Base Case)	379,846	411,896	423,869	435,216	443,651	454,074
Total BOE (Delayed 5-year Leasing Program Case)	2,242,490	2,457,779	2,526,915	2,552,844	2,559,520	2,527,871
Total BOE (Base Case)	2,242,490	2,457,779	2,533,314	2,592,696	2,638,632	2,710,373

	2029	2030	2031	2032	2033	2034
Oil (Delayed 5-year Leasing Program Case)	2,044,281	1,940,296	1,873,776	1,791,263	1,743,126	1,673,276
Oil (Base Case)	2,271,322	2,342,453	2,402,462	2,443,896	2,407,104	2,344,299
Natural Gas (Delayed 5-year Leasing Program Case)	410,677	389,788	376,425	359,849	350,178	336,146
Natural Gas (Base Case)	456,644	489,210	535,392	546,145	543,756	538,374
Total BOE (Delayed 5-year Leasing Program Case)	2,454,958	2,330,084	2,250,200	2,151,111	2,093,304	2,009,422
Total BOE (Base Case)	2,727,966	2,831,663	2,937,854	2,990,041	2,950,860	2,882,674

	2035	2036	2037	2038	2039	2040
Oil (Delayed 5-year Leasing Program Case)	1,620,909	1,522,137	1,447,031	1,346,578	1,332,971	1,320,109
Oil (Base Case)	2,276,146	2,187,721	2,062,724	1,930,878	1,849,058	1,779,534
Natural Gas (Delayed 5-year Leasing Program Case)	325,626	305,784	290,695	270,515	267,782	265,198
Natural Gas (Base Case)	532,478	524,431	511,863	497,875	489,172	481,191
Total BOE (Delayed 5-year Leasing Program Case)	1,946,535	1,827,921	1,737,726	1,617,094	1,600,752	1,585,307
Total BOE (Base Case)	2,808,623	2,712,152	2,574,587	2,428,753	2,338,230	2,260,725

Source: Energy and Industrial Advisory Partners

**Table 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions**

	2016	2017	2018	2019	2020
G&G	\$189	\$167	\$160	\$156	\$176
Drilling Tangibles	\$1,265	\$1,227	\$1,211	\$1,310	\$1,159
Trees	\$680	\$611	\$627	\$451	\$328
Manifolds	\$358	\$321	\$328	\$237	\$167
Other Subsea Hardware	\$145	\$143	\$143	\$130	\$81
Control Umbilical, Flying Leads	\$412	\$366	\$373	\$268	\$182
Infield FL	\$127	\$114	\$119	\$102	\$44
Export PL	\$892	\$781	\$782	\$658	\$223
Infield Risers	\$66	\$60	\$61	\$53	\$22
Export Risers	\$33	\$29	\$30	\$25	\$8
Fixed Platforms & Facilities	\$204	\$166	\$135	\$114	\$76
Floating Production Units & Facilities	\$1,320	\$1,082	\$1,155	\$825	\$880
Installation	\$1,640	\$1,527	\$1,439	\$1,328	\$752
OPEX	\$13,721	\$13,783	\$13,816	\$13,829	\$12,276
Decommissioning CAPEX	\$1,150	\$1,212	\$1,100	\$773	\$696
Drilling	\$7,157	\$6,112	\$5,560	\$5,847	\$6,892
Engineering CAPEX	\$874	\$808	\$792	\$663	\$506
Engineering OPEX	\$858	\$861	\$863	\$864	\$877
Natural Gas Processing and Transportation	\$189	\$172	\$163	\$157	\$144
<b>Total</b>	<b>\$31,281</b>	<b>\$29,542</b>	<b>\$28,857</b>	<b>\$27,789</b>	<b>\$25,488</b>

Source: Energy and Industrial Advisory Partners

**Table 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions (Continued)**

	2021	2022	2023	2024	2025
G&G	\$192	\$230	\$237	\$224	\$206
Drilling Tangibles	\$863	\$1,224	\$1,418	\$1,248	\$1,079
Trees	\$506	\$554	\$470	\$404	\$374
Manifolds	\$261	\$288	\$245	\$211	\$195
Other Subsea Hardware	\$90	\$135	\$131	\$111	\$104
Control Umbilical, Flying Leads	\$308	\$352	\$301	\$261	\$241
Infield FL	\$68	\$119	\$106	\$85	\$81
Export PL	\$358	\$734	\$692	\$562	\$521
Infield Risers	\$33	\$57	\$51	\$41	\$39
Export Risers	\$14	\$29	\$27	\$22	\$21
Fixed Platforms & Facilities	\$88	\$168	\$168	\$130	\$98
Floating Production Units & Facilities	\$1,760	\$1,870	\$1,540	\$1,412	\$1,265
Installation	\$1,038	\$1,632	\$1,525	\$1,222	\$1,151
OPEX	\$13,474	\$13,548	\$14,288	\$14,310	\$14,263
Decommissioning CAPEX	\$858	\$785	\$827	\$754	\$827
Drilling	\$4,882	\$6,790	\$8,351	\$8,025	\$7,517
Engineering CAPEX	\$679	\$846	\$800	\$692	\$642
Engineering OPEX	\$886	\$891	\$893	\$894	\$891
Natural Gas Processing and Transportation	\$124	\$127	\$135	\$142	\$148
<b>Total</b>	<b>\$26,483</b>	<b>\$30,252</b>	<b>\$32,071</b>	<b>\$30,609</b>	<b>\$29,517</b>

Source: Energy and Industrial Advisory Partners

**Table 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions (Continued)**

	2026	2027	2028	2029	2030
G&G	\$189	\$171	\$160	\$147	\$138
Drilling Tangibles	\$956	\$841	\$782	\$715	\$692
Trees	\$332	\$278	\$236	\$209	\$186
Manifolds	\$174	\$147	\$125	\$111	\$99
Other Subsea Hardware	\$96	\$84	\$71	\$64	\$59
Control Umbilical, Flying Leads	\$212	\$175	\$148	\$133	\$119
Infield FL	\$73	\$60	\$45	\$41	\$37
Export PL	\$471	\$403	\$339	\$313	\$285
Infield Risers	\$35	\$30	\$24	\$22	\$19
Export Risers	\$19	\$16	\$13	\$12	\$10
Fixed Platforms & Facilities	\$90	\$95	\$106	\$113	\$115
Floating Production Units & Facilities	\$935	\$678	\$495	\$605	\$495
Installation	\$1,026	\$800	\$626	\$522	\$546
OPEX	\$14,212	\$14,138	\$14,050	\$13,934	\$13,759
Decommissioning CAPEX	\$757	\$845	\$891	\$980	\$998
Drilling	\$7,008	\$6,223	\$5,784	\$5,265	\$5,078
Engineering CAPEX	\$552	\$475	\$418	\$413	\$394
Engineering OPEX	\$888	\$884	\$878	\$871	\$860
Natural Gas Processing and Transportation	\$150	\$151	\$150	\$149	\$146
<b>Total</b>	<b>\$28,024</b>	<b>\$26,342</b>	<b>\$25,192</b>	<b>\$24,469</b>	<b>\$23,889</b>

Source: Energy and Industrial Advisory Partners

**Table 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions (Continued)**

	2031	2032	2033	2034	2035
G&G	\$127	\$123	\$116	\$116	\$121
Drilling Tangibles	\$609	\$594	\$542	\$546	\$491
Trees	\$176	\$190	\$207	\$188	\$150
Manifolds	\$93	\$100	\$109	\$99	\$77
Other Subsea Hardware	\$52	\$52	\$54	\$56	\$46
Control Umbilical, Flying Leads	\$113	\$121	\$130	\$115	\$89
Infield FL	\$35	\$35	\$38	\$40	\$30
Export PL	\$256	\$250	\$273	\$267	\$191
Infield Risers	\$17	\$17	\$20	\$20	\$15
Export Risers	\$9	\$9	\$10	\$10	\$7
Fixed Platforms & Facilities	\$103	\$78	\$53	\$42	\$55
Floating Production Units & Facilities	\$605	\$495	\$550	\$403	\$477
Installation	\$459	\$530	\$493	\$541	\$397
OPEX	\$13,608	\$13,409	\$13,214	\$13,013	\$12,832
Decommissioning CAPEX	\$977	\$1,012	\$1,045	\$1,052	\$979
Drilling	\$4,454	\$4,348	\$3,978	\$4,041	\$3,635
Engineering CAPEX	\$379	\$377	\$380	\$363	\$326
Engineering OPEX	\$850	\$838	\$826	\$813	\$802
Natural Gas Processing and Transportation	\$142	\$140	\$136	\$133	\$129
<b>Total</b>	<b>\$22,924</b>	<b>\$22,578</b>	<b>\$22,038</b>	<b>\$21,727</b>	<b>\$20,719</b>

Source: Energy and Industrial Advisory Partners

**Table 15: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Spending \$ Millions (Continued)**

	2036	2037	2038	2039	2040
G&G	\$141	\$165	\$191	\$210	\$215
Drilling Tangibles	\$549	\$615	\$763	\$877	\$963
Trees	\$165	\$245	\$318	\$358	\$387
Manifolds	\$84	\$127	\$167	\$188	\$202
Other Subsea Hardware	\$43	\$56	\$79	\$91	\$100
Control Umbilical, Flying Leads	\$101	\$157	\$204	\$227	\$243
Infield FL	\$25	\$41	\$61	\$68	\$73
Export PL	\$139	\$241	\$394	\$446	\$474
Infield Risers	\$12	\$19	\$29	\$33	\$36
Export Risers	\$5	\$9	\$16	\$18	\$19
Fixed Platforms & Facilities	\$80	\$93	\$82	\$68	\$78
Floating Production Units & Facilities	\$660	\$1,027	\$1,100	\$1,155	\$1,247
Installation	\$443	\$608	\$904	\$967	\$1,048
OPEX	\$12,692	\$12,514	\$12,342	\$12,188	\$12,084
Decommissioning CAPEX	\$929	\$935	\$961	\$899	\$851
Drilling	\$4,049	\$4,524	\$5,618	\$6,483	\$7,148
Engineering CAPEX	\$356	\$454	\$546	\$579	\$614
Engineering OPEX	\$793	\$782	\$771	\$762	\$755
Natural Gas Processing and Transportation	\$124	\$119	\$115	\$113	\$113
<b>Total</b>	<b>\$21,266</b>	<b>\$22,613</b>	<b>\$24,548</b>	<b>\$25,615</b>	<b>\$26,538</b>

Source: Energy and Industrial Advisory Partners

**Table 16: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Supported Employment Reductions (Number of Jobs)**

	2016	2017	2018	2019	2020	2021	2022	2023
Texas	0	0	0	0	0	0	-159	-1,684
Louisiana	0	0	0	0	0	0	-21	-545
Mississippi	0	0	0	0	0	0	-9	-150
Alabama	0	0	0	0	0	0	-17	-168
Other U.S. States	0	0	0	0	0	0	-70	-594
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-275</b>	<b>-3,140</b>

	2025	2026	2027	2028	2029	2030	2032
Texas	-15,274	-25,344	-38,058	-46,490	-54,668	-52,126	-37,024
Louisiana	-6,337	-10,536	-16,303	-20,000	-24,028	-24,150	-20,080
Mississippi	-1,551	-2,575	-3,929	-4,780	-5,703	-5,572	-4,312
Alabama	-1,617	-2,753	-4,122	-5,101	-6,085	-6,011	-4,791
Other U.S. States	-5,724	-10,739	-16,608	-22,096	-25,458	-24,323	-17,011
<b>Total</b>	<b>-30,503</b>	<b>-51,948</b>	<b>-79,020</b>	<b>-98,466</b>	<b>-115,942</b>	<b>-112,182</b>	<b>-83,218</b>

	2033	2034	2035	2036	2037	2039	2040
Texas	-32,757	-26,109	-24,919	-22,476	-16,375	-13,422	-12,366
Louisiana	-18,923	-16,681	-16,163	-13,978	-13,346	-13,242	-13,149
Mississippi	-3,971	-3,333	-3,258	-2,679	-2,489	-2,339	-2,272
Alabama	-4,516	-3,970	-4,028	-3,481	-3,295	-3,184	-3,178
Other U.S. States	-15,415	-13,278	-11,916	-8,486	-6,165	-4,014	-3,755
<b>Total</b>	<b>-75,582</b>	<b>-63,370</b>	<b>-60,284</b>	<b>-51,100</b>	<b>-41,669</b>	<b>-36,202</b>	<b>-34,720</b>

Source: Energy and Industrial Advisory Partners

**Table 17: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Direct and Indirect and Induced Supported Employment Reductions (Number of Jobs)**

	2016	2017	2018	2019	2020	2021	2022
Direct	0	0	0	0	0	0	-2
Indirect and Induced	0	0	0	0	0	0	-273
Total	0	0	0	0	0	0	-275

	2023	2024	2025	2026	2027	2028
Direct	-371	-1,542	-4,839	-8,010	-12,551	-15,394
Indirect and Induced	-2,769	-9,905	-25,664	-43,937	-66,468	-83,073
Total	-3,140	-11,448	-30,503	-51,948	-79,020	-98,466

	2029	2030	2031	2032	2033	2034
Direct	-18,499	-18,834	-18,312	-16,166	-15,328	-13,699
Indirect and Induced	-97,443	-93,348	-84,830	-67,052	-60,254	-49,671
Total	-115,942	-112,182	-103,142	-83,218	-75,582	-63,370

	2035	2036	2037	2038	2039	2040
Direct	-13,042	-11,414	-10,949	-11,188	-11,086	-11,040
Indirect and Induced	-47,242	-39,686	-30,720	-24,518	-25,116	-23,679
Total	-60,284	-51,100	-41,669	-35,706	-36,202	-34,720

Source: Energy and Industrial Advisory Partners

**Table 18: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Contributions to GDP Reductions \$ Millions**

	2016	2017	2018	2019	2020	2021	2022
Texas	\$0	\$0	\$0	\$0	\$0	\$0	-\$13
Louisiana	\$0	\$0	\$0	\$0	\$0	\$0	-\$2
Mississippi	\$0	\$0	\$0	\$0	\$0	\$0	-\$1
Alabama	\$0	\$0	\$0	\$0	\$0	\$0	-\$1
Other U.S. States	\$0	\$0	\$0	\$0	\$0	\$0	-\$5
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>-\$21</b>

	2023	2024	2025	2026	2027	2028
Texas	-\$146	-\$510	-\$1,357	-\$1,357	-\$2,244	-\$3,385
Louisiana	-\$49	-\$195	-\$583	-\$583	-\$966	-\$1,498
Mississippi	-\$12	-\$46	-\$131	-\$131	-\$217	-\$333
Alabama	-\$13	-\$50	-\$135	-\$135	-\$229	-\$346
Other U.S. States	-\$43	-\$172	-\$446	-\$446	-\$838	-\$1,283
<b>Total</b>	<b>-\$264</b>	<b>-\$973</b>	<b>-\$2,652</b>	<b>-\$2,652</b>	<b>-\$4,494</b>	<b>-\$6,846</b>

	2029	2030	2031	2032	2033	2034
Texas	-\$4,135	-\$4,852	-\$4,659	-\$4,271	-\$3,383	-\$3,008
Louisiana	-\$1,835	-\$2,197	-\$2,205	-\$2,120	-\$1,823	-\$1,707
Mississippi	-\$406	-\$482	-\$472	-\$444	-\$365	-\$333
Alabama	-\$432	-\$515	-\$517	-\$495	-\$425	-\$403
Other U.S. States	-\$1,702	-\$1,930	-\$1,862	-\$1,609	-\$1,333	-\$1,201
<b>Total</b>	<b>-\$8,510</b>	<b>-\$9,977</b>	<b>-\$9,715</b>	<b>-\$8,939</b>	<b>-\$7,329</b>	<b>-\$6,652</b>

	2035	2036	2037	2038	2039	2040
Texas	-\$2,436	-\$2,283	-\$1,928	-\$1,533	-\$1,308	-\$1,301
Louisiana	-\$1,495	-\$1,427	-\$1,222	-\$1,159	-\$1,148	-\$1,142
Mississippi	-\$279	-\$264	-\$214	-\$196	-\$183	-\$182
Alabama	-\$362	-\$359	-\$316	-\$300	-\$284	-\$295
Other U.S. States	-\$1,050	-\$925	-\$673	-\$498	-\$373	-\$358
<b>Total</b>	<b>-\$5,622</b>	<b>-\$5,259</b>	<b>-\$4,353</b>	<b>-\$3,686</b>	<b>-\$3,297</b>	<b>-\$3,278</b>

Source: Energy and Industrial Advisory Partners

**Table 19: Projected Delayed 5-year Leasing Program Case Gulf of Mexico Offshore Oil and Natural Gas Government Revenue Reductions by Type \$ Millions**

	2016	2017	2018	2019	2020	2021	2022
Bids	\$0	\$0	\$0	\$0	\$0	\$0	-\$167
Rentals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Royalties	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>-\$167</b>

	2023	2024	2025	2026	2027	2028
Bids	-\$441	-\$293	-\$364	-\$409	-\$424	-\$242
Rentals	-\$1	-\$1	-\$1	-\$2	-\$4	-\$9
Royalties	\$0	\$0	-\$14	-\$88	-\$183	-\$449
Other Revenues	\$0	\$0	\$0	-\$1	-\$2	-\$4
<b>Total</b>	<b>-\$441</b>	<b>-\$294</b>	<b>-\$379</b>	<b>-\$500</b>	<b>-\$613</b>	<b>-\$704</b>

	2029	2030	2031	2032	2033	2034
Bids	-\$62	-\$123	-\$116	-\$120	-\$61	-\$44
Rentals	-\$13	-\$24	-\$33	-\$40	-\$41	-\$42
Royalties	-\$692	-\$1,281	-\$1,739	-\$2,190	-\$2,264	-\$2,323
Other Revenues	-\$6	-\$11	-\$15	-\$19	-\$20	-\$20
<b>Total</b>	<b>-\$773</b>	<b>-\$1,439</b>	<b>-\$1,903</b>	<b>-\$2,370</b>	<b>-\$2,386</b>	<b>-\$2,429</b>

	2035	2036	2037	2038	2039	2040
Bids	-\$54	-\$64	-\$50	-\$21	-\$6	-\$2
Rentals	-\$41	-\$42	-\$40	-\$39	-\$35	-\$32
Royalties	-\$2,301	-\$2,383	-\$2,255	-\$2,195	-\$1,961	-\$1,814
Other Revenues	-\$20	-\$21	-\$20	-\$19	-\$17	-\$16
<b>Total</b>	<b>-\$2,416</b>	<b>-\$2,510</b>	<b>-\$2,365</b>	<b>-\$2,273</b>	<b>-\$2,020</b>	<b>-\$1,864</b>

Source: Energy and Industrial Advisory Partners

**Table 20: Projected Delayed 5-year Leasing Program Case LWCF Distributions \$ Millions**

	2016	2017	2018	2019	2020
LWCF	\$0.88	\$0.89	\$0.89	\$0.88	\$0.90
LWCF - GOMESA	\$0.00	\$0.07	\$0.08	\$0.13	\$0.08
Total	\$0.88	\$0.96	\$0.97	\$1.01	\$0.98

	2021	2022	2023	2024	2025
LWCF	\$0.89	\$1.12	\$1.03	\$0.90	\$0.97
LWCF - GOMESA	\$0.09	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$0.98	\$1.24	\$1.15	\$1.03	\$1.10

	2026	2027	2028	2029	2030
LWCF	\$1.01	\$1.05	\$1.10	\$1.12	\$1.09
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.14	\$1.18	\$1.23	\$1.25	\$1.21

	2031	2032	2033	2034	2035
LWCF	\$1.07	\$1.04	\$1.04	\$1.01	\$1.00
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.20	\$1.17	\$1.16	\$1.14	\$1.12

	2036	2037	2038	2039	2040
LWCF	\$0.96	\$0.93	\$0.89	\$0.89	\$0.90
LWCF - GOMESA	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Total	\$1.08	\$1.06	\$1.02	\$1.01	\$1.03

Source: Energy and Industrial Advisory Partners

# Contact

## Houston

Sean Shafer  
Managing Partner

[s.shafer@eiapartners.com](mailto:s.shafer@eiapartners.com)

Tel: +1 713-309-9020

1210 W Clay, Suite 3, 77019, Houston, TX

## New York

Cameron Lynch  
Managing Partner

[c.lynch@eiapartners.com](mailto:c.lynch@eiapartners.com)

+1 (212) 763-8901

156 W 56th, 3rd Floor, New York, NY 10019

[eiapartners.com](http://eiapartners.com)

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