The Economic Benefits of Increasing U.S. Access to Offshore Oil and Natural Gas Resources in the Eastern Gulf of Mexico

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Prepared for:

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Section 1 – Key Findings

1.1 - Key Findings

This report quantifies the significant benefits to the U.S. economy that would stem from opening the Eastern Gulf (Eastern Gulf of Mexico) to oil and natural gas development. Quest projected the potential impacts of offshore oil and natural gas exploration and production in the Eastern Gulf assuming first seismic activity in 2017, first lease sales in 2018, and first oil and natural gas production in 2023. This report estimates economic benefits through 2035.

Developing oil and natural gas resources in the Eastern Gulf would require an estimated $115 billion in cumulative investment and operational spending between 2017 and 2035. Investment would primarily be spent inside the U.S., mostly in the Gulf Coast states. By 2035, Eastern Gulf offshore oil and natural gas development could produce nearly one million barrels of oil equivalent per day (MMboe/d), generate nearly 230,000 jobs, contribute over $18 billion per year to the U.S. economy, and generate $70 billion in cumulative government revenue. The amount of revenue accrued to state governments would be dependent on any legislated federal / state revenue sharing agreements[1] (Table 1).

Table 1: Projected Economic Impacts[2] due to Eastern Gulf Oil and Natural Gas Exploration and Production – Total Area

Economic Impact	2020	2025	2035	Cumulative 2017 to 2035
Capital Investment and Spending ($Millions)	$363	$4,910	$12,539	$114,529
Employment	7,519	74,988	228,074	n/a
Contributions to Economy - GDP ($Millions)	$632	$6,028	$18,109	$156,611
Federal / State Government Revenue ($millions)	$456	$1,029	$10,421	$69,704
Natural Gas and Oil Production (MMboe)	0/d	0.071/d	0.98/d	2,493

Source: Quest Offshore Resources, Inc.

[1] The report assumes a 37.5/62.5 percent state / federal revenue sharing

[2] All spending, contributions to economy, and government revenues are constant 2012 dollars

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Section 2 – Executive Summary

2.1 - Executive Summary

Offshore oil and natural gas production in federal totaled 1.93 million barrels of oil equivalent per day in 2013 or around nine percent of total U.S. production. The U.S. offshore oil and natural gas industry is a significant contributor to domestic energy production, the national economy, employment, and government revenues. New offshore oil and gas exploration and development in the U.S. is essentially limited to the Central and Western Gulf of Mexico, although limited to some production off California and Alaska remains. In total, approximately 85 percent of the total acreage in federal offshore waters is inaccessible to offshore oil and natural gas development, either through lack of federal lease sales or outright moratoriums. The Eastern Gulf planning area is one such restricted area. The Eastern Gulf, at least the vast majority of it[3] is under a drilling moratorium until 2022[4].

Seismic acquisition in the Eastern Gulf is a limited but ongoing process. The seismic has been mainly 2D, although additional 3D has been acquired in the small portion of the Eastern Gulf that is not off-limits to development

Although there are other assessments, this report assumes that the Eastern Gulf oil and natural gas resources in place are those outlined in the Bureau of Ocean Energy Management's (BOEM) Assessment of Technically Recoverable Hydrocarbon Resources of the Gulf of Mexico Outer Continental Shelf as of January 1, 2009. The report takes into account that the northern portion of the Eastern Gulf is likely to be a little more gas rich, while oil reserves increase as you move south along the coastline or into the deepwater plays. In many places the various geologic plays overlap throughout different depths.

This report constructs a scenario of oil and natural gas development in the Eastern Gulf, based on the resource potential of the area, geologic analogs, and the full value chain of oil and natural gas development and production. It quantifies the capital and other investments projected to be undertaken by the oil and natural gas industry, identifies linkages to the oil and gas supply chain at both the state and national levels, and estimates job creation, contributions to economies associated with oil and natural gas development and, government revenues due to lease bids, rents, and production royalties. The report relies on Quest Offshore Resources, Inc. (Quest) proprietary database[5] on the offshore oil and natural gas supply chain.

2.2 - Leasing

This study assumes that leasing will begin in the Eastern Gulf in 2018 coinciding with the first full year of the next BOEM five year leasing program. According to the study's analysis, demand from operators for Eastern Gulf leases would parallel the strength of historic lease sales within other parts of the Gulf. Leasing activity in 2018 is projected at around 270 leases sold. Subsequent years are expected

[3] 1.3 million of the 64.5 million acres are available to oil and gas companies.
[4] The Eastern Gulf is under Moratorium until 2022 through GOMESA legislation.
[5] See Appendix 8.1 "Overview of Quest Offshore Data"

to follow the general mean of the region, although leases sold per year would be projected to decline slightly as the pool of available leases shrinks as the area is developed.

2.3 - Drilling

Drilling is the key activity both to discover oil and natural gas resources and to prepare them for production. With leasing starting in 2018, Eastern Gulf drilling would be expected to begin shortly after in 2019. Total exploratory and development wells drilled is projected to average about 25 wells from 2017 to 2035; around 65 percent of these would be in deepwater. Drilling in the area is projected to trend upwards as infrastructure is developed and a higher percentage of development wells are drilled each year. In the last five years of the forecast (2031-2035) an average of 46 wells are projected to be drilled annually.

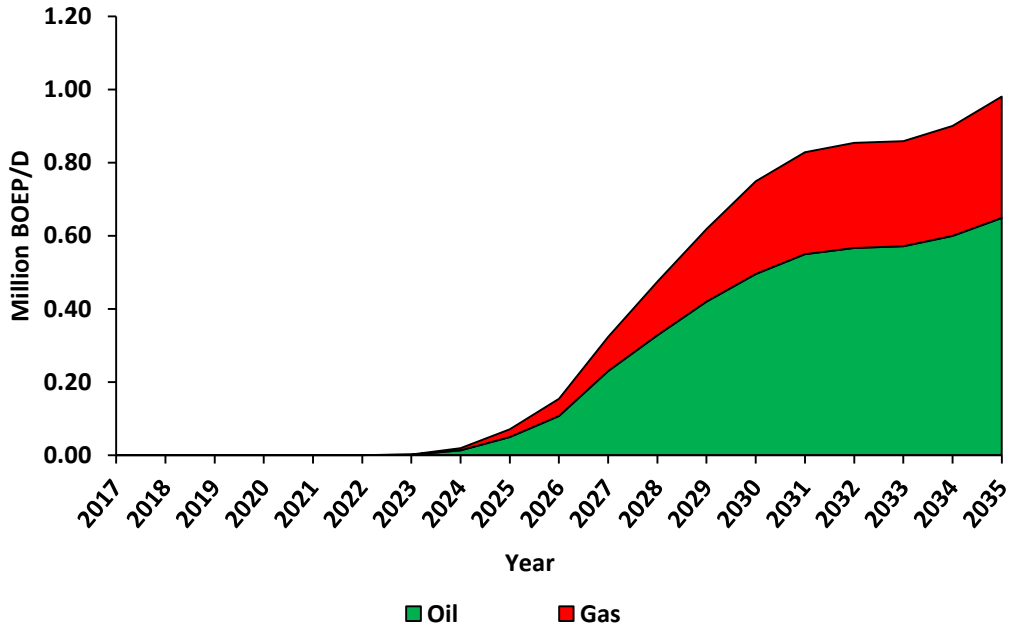
2.4 - Projects

Offshore project development is a key factor in oil and natural gas production. It is also the main factor in the capital and operational expenditures that lead to increases in employment and economic activity. Offshore projects are complex, requiring a multitude of diverse engineers, contractors, and equipment suppliers working over a number of years prior to the start of production. For the purposes of this study, offshore project development was generalized into six project types based on project size and water depth. This study estimates that 82 projects could begin oil and natural gas production in the Eastern Gulf between 2017 and 2035, of which 51 would be deepwater projects and 31 would be shallow water projects.

2.5 - Oil and Natural Gas Production

Opening the Eastern Gulf to offshore oil and natural gas production would lead to an increase in domestic energy production. If leasing started in 2018, the first oil and natural gas production from the Eastern Gulf is projected to start in 2023. Within three years of initial production, Eastern Gulf production is projected to increase to over 75 thousand barrels of oil equivalent per day (Mboe/d). Production is projected to reach nearly 1 million barrels of oil equivalent per day (MMboe/d) by 2035, with production expected to be around 65 percent oil and 35 percent natural gas (Figure 1). Over 60 percent of production is expected to be from deepwater projects.

Figure 1: Projected Production by Type & Year



Source: Quest Offshore Resources, Inc.

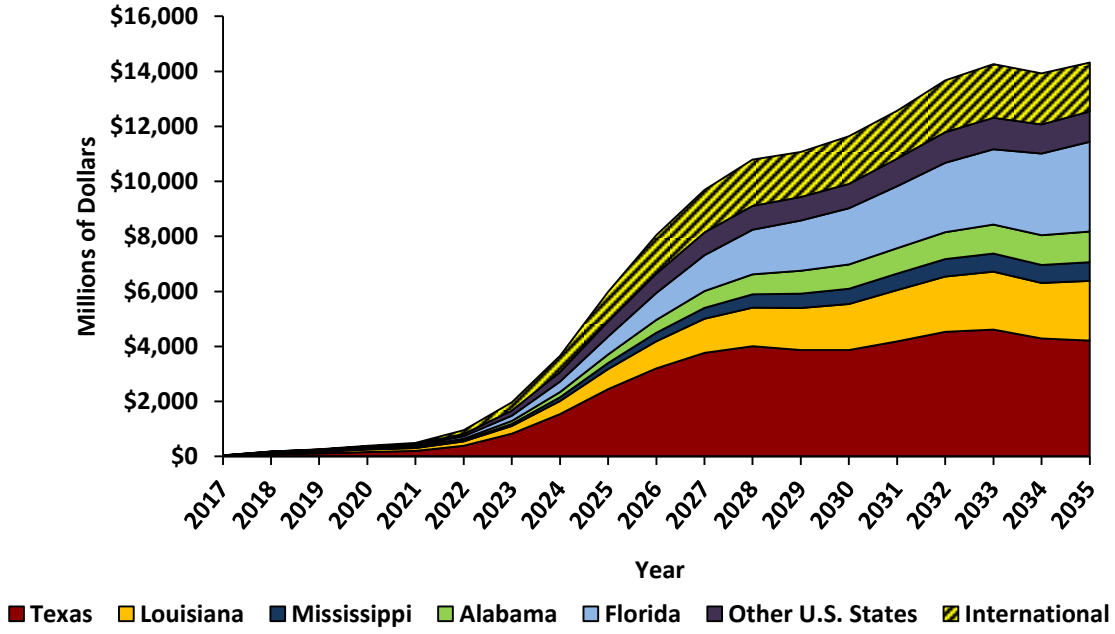
2.6 - Spending

Total cumulative spending from 2017 to 2035 is projected to be $134 billion, of which $115 billion will be spent domestically. Spending is projected to grow from an average of $270 million during the first five years of initial leasing, seismic, and exploratory drilling to over $14 billion per year in 2035. Total capital spending on offshore oil and natural gas developments in the Eastern Gulf is expected to be over $110 billion from 2017 to 2035 (Figure 2).

The largest amounts of expenditures are for drilling, operational expenditures, engineering, manufacturing and fabrication of platforms and equipment. Cumulative operational expenditures (OPEX), which occur after a well's initial production, are projected at $23 billion.

Domestic spending is expected to account for over 90 percent of cumulative spending from Eastern Gulf of Mexico offshore development, with the remained taking place internationally. Within domestic spending 91 percent of spending from Eastern Gulf oil and natural gas developments is expected to take place in the Gulf Coast states, with Texas (40 percent), Florida (20 percent) and Louisiana (17 percent) accounting for the largest share. Alabama is expected to account for eight percent of total spending, with Mississippi accounting for five percent. States outside of the Gulf Coast are expected to account for nine percent of total spending.

Figure 2: **Projected Overall Spending Gulf Coast States vs. Other U.S States vs. International**



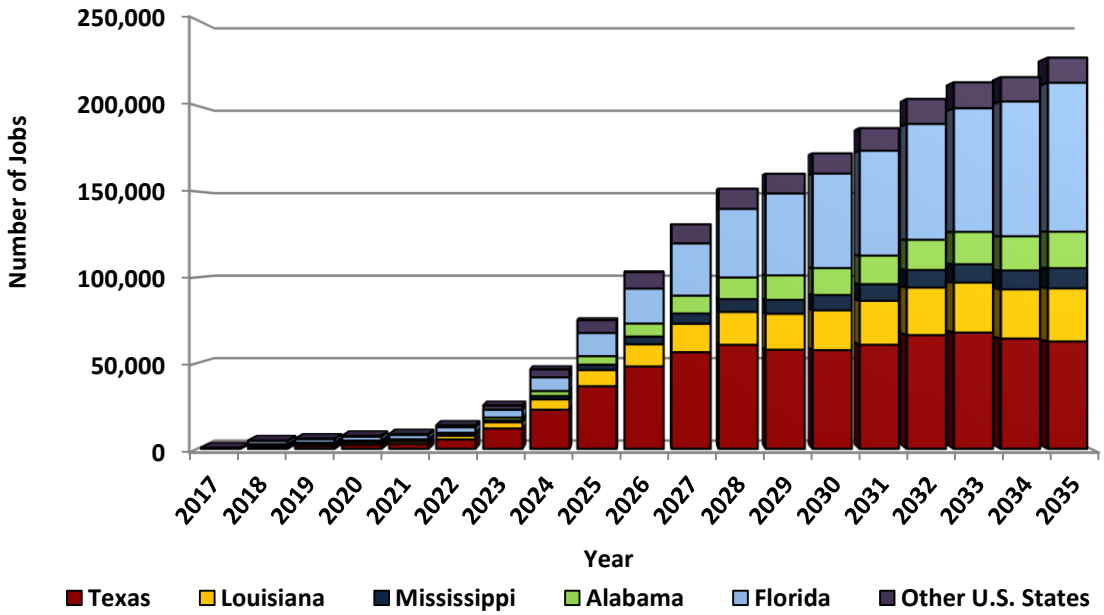
Source: Quest Offshore Resources, Inc.

2.7 - Employment

Eastern Gulf oil and natural gas development is expected to lead to significant employment gains, both in the Gulf Coast region and nationally. Employment impacts are expected to grow throughout the forecast period, with total incremental U.S. employment reaching nearly 230 thousand jobs by 2035.[6] Total Gulf Coast employment in 2035 is projected to reach nearly 215 thousand jobs. States outside the region are projected to see employment gains of 15 thousand jobs in 2035. The largest employment impacts of Eastern Gulf oil and natural gas activity are projected in Florida and the traditional offshore oil and gas states of Texas and Louisiana. The share of incremental employment within the eastern states of Alabama, Mississippi, and Florida is anticipated to steadily grow as the area is developed – allowing for additional goods and services to be sourced locally (Figure 3).

[6] Includes total supported jobs; direct, indirect, and induced. See section 5.7.

Figure 3: **Projected Employment by State**



Source: Quest Offshore Resources, Inc.

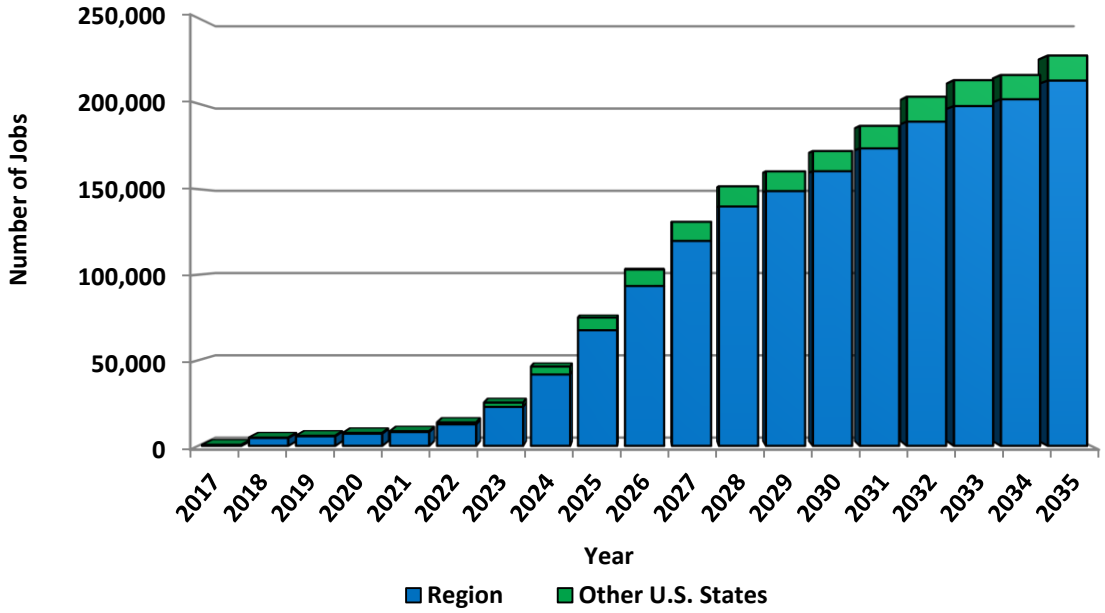
The employment impact of Eastern Gulf oil and natural gas development will be spread among industries. In 2035, employment directly in the oil and gas sector is projected to be 31 thousand jobs. Other industries which are directly involved in oil and natural gas activities such as, manufacturing, professional, scientific and technical services (engineering), and construction (installation) are also expected to see the large employment effects with a combined 44 thousand jobs in 2035. Sectors not directly related to oil and gas development or the supply chain will also see impacts[7] mainly due to a general increase of income in the economy.

2.8 - Contributions to the Economy and Government Revenues

Spending by the oil and gas industry, combined with the impact of increased revenues to state governments is expected to lead to a significant increase of the nation's GDP. Total contributions to the economy are projected to be over $18 billion per year in 2035, with nearly $17 billion of the total expected impact to occur in the Gulf Coast states. The largest contributions to states' economies are expected to be seen in Florida, Texas, and Louisiana (Figure 4).

[7] For example the retail sector is projected to increase by 17,000 jobs in 2035. Estimated employment by industry sector can be found in section 5.7.

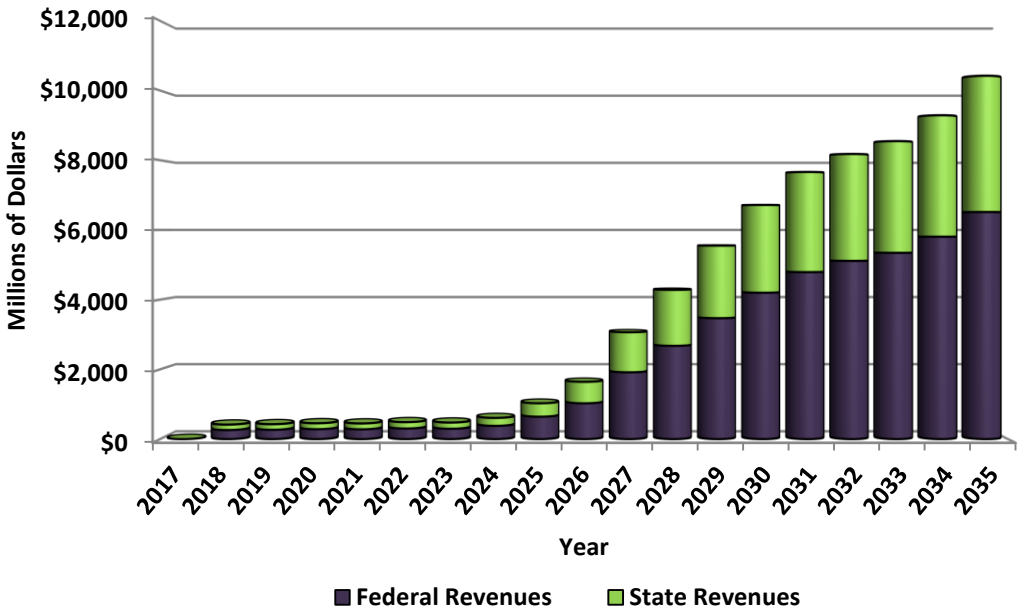
Figure 4: Projected Contributions to State Economies Gulf Coast vs. Other U.S. States – Total



Source: Quest Offshore Resources, Inc.

Eastern Gulf oil and natural gas development has the potential to increase government revenue from royalties, bonus bids, and rents on leases by an estimated $69 billion cumulatively from 2017 to 2035. Total government revenues are projected to reach around $10 billion per year in 2035. The majority of cumulative revenues are from royalties on produced oil and natural gas which total approximately $61 billion. Leasing bonus bids are projected to account for around $6.6 billion while rental income from offshore blocks is expected to account for approximately $1.8 billion. This report assumes that associated government revenue is split 37.5 percent to the coastal states and 62.5 percent to the federal government. This is similar to the arrangement in place with currently producing Gulf States without an associated cap on state government revenue. Actual revenue proportion going to state governments, if any, would be determined by future legislation. Cumulative state revenues through 2035 for the Gulf Coast states could reach approximately $26 billion (Figure 5).

Figure 5: Projected Government Revenues from Rentals, Royalties, and Bonus Bids, State and Federal – Total



Source: Quest Offshore Resources, Inc.

2.9 - State Results

Although the employment, economic, and government revenue impacts of Eastern Gulf oil and natural gas development would be felt nationwide, the majority of the effects would be expected to go to the states along the Gulf Coast. Among the Gulf States, Florida, Texas, and Louisiana would be expected to see the largest benefits. All Gulf Coast states are expected to see cumulative spending by the industry of at least $6 billion dollars from 2017 to 2035. Each state is also expected to see at least ten thousand jobs created by 2035. Contributions to their economies are projected from about $900 million to $6.5 billion per year by 2035.

Florida is expected to see the largest effects of Eastern Gulf offshore oil and gas development with spending reaching $3.2 billion per year in 2035, employment reaching 85 thousand jobs, and government revenues reaching $2.8 billion per year. Texas and Louisiana are projected to see the second and third largest effects with spending reaching $4.2 billion and $2.2 billion, employment reaching 62 thousand jobs and 31 thousand jobs and government revenues expected in Louisiana at $344 million from royalty sharing. Texas is not projected to receive royalty sharing from Eastern Gulf development due to its distance from the area. Alabama and Mississippi are expected to see spending reach $1.1 billion and $700 million, employment reaching 21 thousand jobs and 12 thousand jobs, and government revenues reaching $550 million per year and $50 million per year respectively.

Table 2: Projected Spending, Employment, Contributions to Economy and Government Revenue by State – Total Area

State	2017-2035 Cumulative Spending ($Millions)	2035 Employment	2035 Contributions to Economy ($Millions/year)	2017-2035 Cumulative State Government Revenue ($Millions)
Florida	$22,956	86,825	$6,458	$18,650
Texas	$46,308	62,591	$5,300	$0
Louisiana	$18,962	30,986	$2,534	$2,297
Mississippi	$6,017	11,750	$894	$1,609
Alabama	$9,452	21,266	$1,723	$3,583
Other U.S. States	$10,834	14,655	$1,201	$0
Total	**$114,529**	**228,074**	**$18,109**	**$26,139**

Source: Quest Offshore Resources, Inc.

Allowing access for Eastern Gulf oil and natural gas development would increase employment, economic activity, and government revenues with comparatively little additional spending required by federal and state governments. The nation as a whole, but especially the Gulf Coast states would likely see large employment gains, increased economic activity, and additional government revenue. In addition, the nation will see increased domestic oil and natural gas production, thus increasing the nation's energy security.

Section 3 – Introduction

3.1 - Introduction

Oil and natural gas development contributes significantly to the U.S. economy. Their impacts are felt both throughout the nation and throughout all sectors of the economy. Oil and natural gas account for over 60 percent of U.S. primary energy consumption. Despite the benefits of oil and natural gas development, a significant portion of the oil and natural gas resources of the United States are inaccessible, most notably 85 percent of the U.S. outer continental shelf's (OCS). These offshore areas are limited due to a lack of lease sales by the federal government or outright moratoriums.[8] The vast majority of the Eastern Gulf planning area, 98 percent of 64.5 million acres, is under Congressional leasing moratorium until 2022. A small portion of the Eastern Gulf along the border with the Central Gulf planning area is not under the moratorium but leases offered for sale since 2001 have been limited.

Several prospects have been developing just across the border in the adjacent Central Gulf planning area. Given these developments, it is highly likely that there is already strong demand to development with the full Eastern Gulf. Providing companies with additional opportunities under safe well regulated exploration and production from this area would further enhance the nation's energy security while providing significant employment and economic benefits both to the affected region as well as the country as a whole.

3.2 - Purpose of the Report

Quest Offshore Resources, Inc. (Quest) was commissioned by the American Petroleum Institute (API) and the National Ocean Industries Association (NOIA) to provide a comprehensive evaluation regarding the development of America's offshore oil and gas resources within the Eastern Gulf. Quest is a full-service market research and consulting firm focused on the global offshore oil and natural gas industry.

The report estimates the economic and employment impacts if oil and natural gas development restrictions for the Eastern Gulf were lifted. The report assumes a favorable regulatory environment for development such as regular lease sales and reasonable rate of permit approvals for projects and drilling within areas that are currently under moratorium. The provided analysis uses existing USGS and Bureau of Ocean Energy Management (BOEM) resource estimates. This analysis identifies key areas of economic activity as follows: resources and production, project development and spending, and economic and governmental impacts.

This scenario in no way covers all previous or possible future proposals for the Eastern Gulf oil and natural gas activity. The report projects the timing and magnitude of potential oil and gas development activities in the Eastern Gulf, analyzes the spending patterns that would be associated with these activities, and assesses the economic and employment effects of this spending on the economies of the directly affected states as well as the nation as a whole. The analysis tracks the full lifecycle of oil

[8] The Eastern Gulf is under Moratorium until 2022 through GOMESA legislation.

and natural gas development that is projected to take place following the opening of the Eastern Gulf. The report therefore projects spending from leasing and seismic imaging to exploration drilling, onto project development and through production. The associated ongoing spending needed to maintain and operate projects is also estimated.

The report assumes that the first expanded lease sale of Eastern Gulf blocks takes place in 2018, or the first year of the governments forthcoming 2017-2022 5-year plan. Initial seismic activity is assumed to begin one year earlier in 2017. The study projects activity, spending, employment, economic impacts, and government revenues associated with these activities from 2017 through 2035.

Economic and employment impacts calculated on expected industry spending are based on the report's forecasted timing of oil and natural gas exploration and production activity as well as projections for where the development activity and associated economic activity will take place. The report also projects estimated state and federal government revenues from sources such as bids, rents, and royalties, and projects the economic and employment effects of these where applicable.

3.3 - Report Structure

The report is structured as follows; preceding this introductory section is the Key Findings and Executive Summary outlining all principal results and findings of this report. Immediately following the section is Data Development outlining Quest's methods for data aggregation and analysis, including a comprehensive overview of the project and model flow. Data Development may further be broken down into subsets based on; resource and production modeling, project spending inputs encompassing capital expenditures (CAPEX) and operational expenditures (OPEX), allocated spending into individual states, economic development representing job growth, and governmental revenues. Applications of the model and its results are presented in further detail within the Results section of the paper. Included within Results are the distributions of production, spending, economic, and governmental effects upon the national, regional, and states. The final Conclusions section provides further assessment and analysis drawn from Quest. Additional essential information can be found within the appendix sections following the report.

For the purpose of this report the directly affected states along the Eastern Gulf are defined as: Texas, Louisiana, Mississippi, Alabama, and Florida.

3.4 - Current status of Offshore Oil & Natural Gas Production

Within the past decade, technological advancement coupled with the development of deeper waters and new regions have driven development in world offshore oil and natural gas production. Production from offshore now accounts for nearly one third of the world's oil and natural gas production and 55 percent of non-OPEC reserves according to the International Energy Administration (IEA).[9] Continuing growth will require expanding into additional deeper water depths and new regions. These untapped regions exist within the U.S.; including the Eastern Gulf, Atlantic OCS, Pacific OCS, and basins

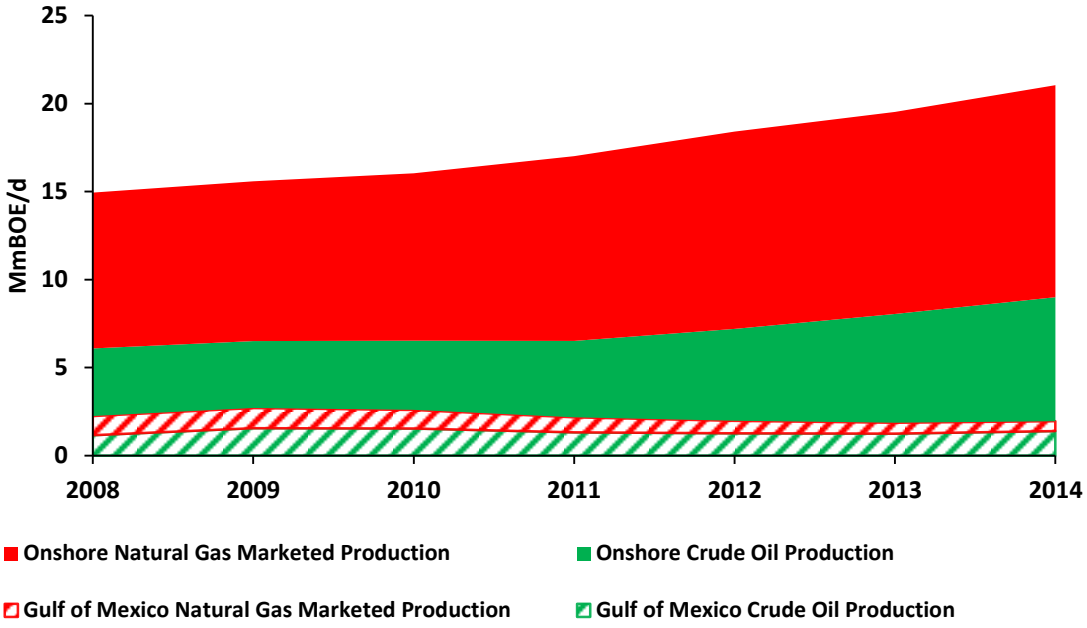
[9] International Energy Agency. *World Energy Outlook 2012*. International Energy Agency, 12 Nov. 2012.

offshore Northern Alaska to name a few. Expansion of offshore oil and natural gas activities into these regions has the potential to foster increased energy production and support job growth all while adding revenues to a diverse range of industries and federal and state governments.

3.5 - Current U.S. Oil and Natural Gas Production

Total U.S. oil and natural gas production has significantly increased in recent years. From January of 2008 to May of 2014, average U.S. crude oil production has increased 3.25 million barrels per day at a compound annual growth rate (CAGR) of 7.96%, while natural gas production has increased 19.53 Bcf per day in the same period, with a CAGR of 4.7%. However, this is almost entirely due to rising onshore production from shale gas and tight oil formations. U.S. offshore oil and natural gas production, predominately from the Gulf of Mexico, has recently declined (Figure 6).

Figure 6: U.S. Oil and Natural Gas Production 2008-2014



Source: Energy Information Administration

As of May 2014, U.S. domestic crude production has grown to 8.36 MMboe/d (million barrels of oil equivalent per day), distributed through:

- 1.33 MMboe/d from the Gulf of Mexico Federal Outer Continental Shelf
- .049 MMboe/d from offshore California and Alaska
- 7.18 MMboe/d from offshore State waters and onshore (including shale)

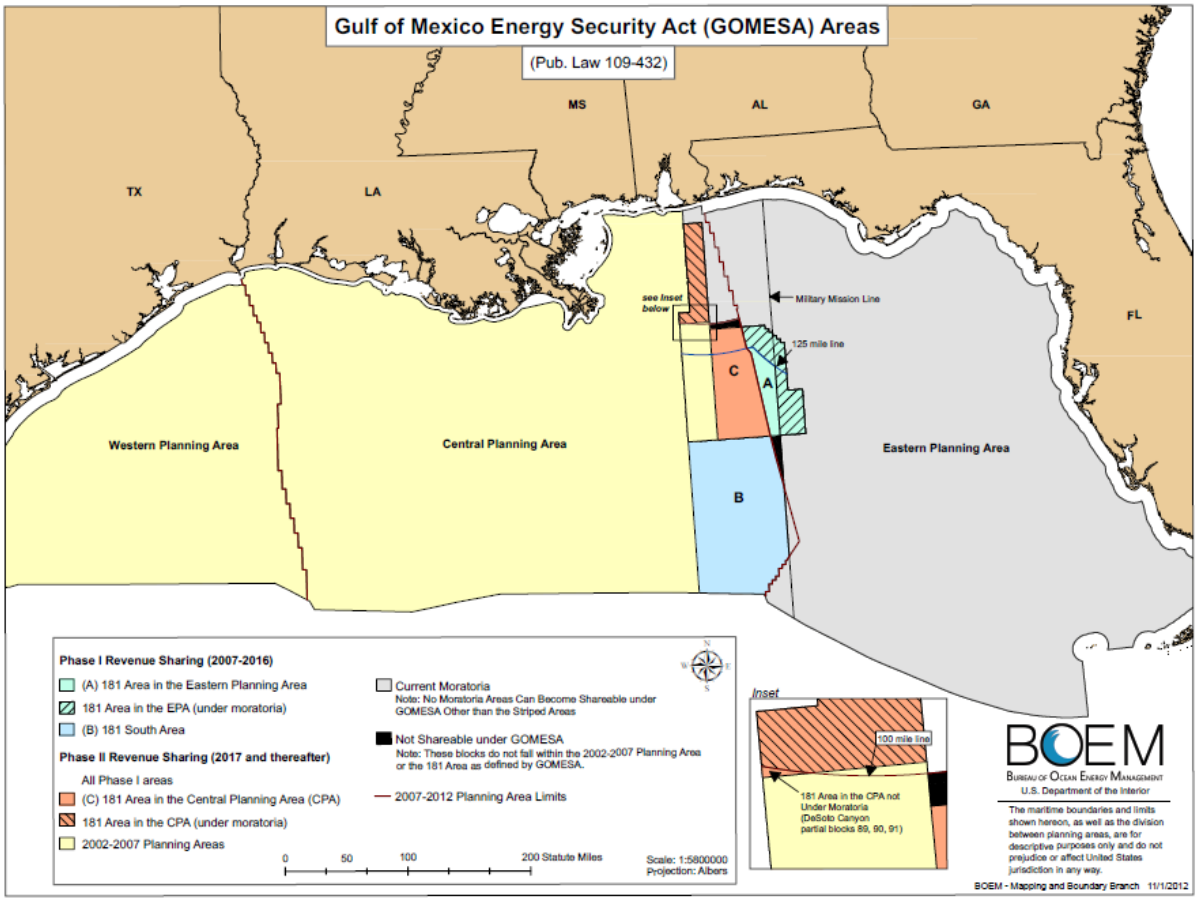
Marketed natural gas production nationwide has paralleled this growth, eclipsing 73 BCF/d (billion cubic feet of gas per day), while production offshore in the Gulf of Mexico has declined to 3.6 BCF/d in

2013 and is projected to be 3.2 BCF/d in 2014. It is further estimated that the oil and gas industry currently supports 9.8 million jobs nationwide[10].

3.6 - The Eastern Gulf

The Eastern Gulf is the second largest OCS planning area within the Gulf of Mexico comprising 64.5 million acres of federal waters stretching southeast of the Florida and Alabama border. Currently 98% of the acreage, as well as the majority of projected oil and gas reserves, remains inaccessible under the most recent 5-year leasing plan. Within the unoffered acreage, further delineation has been placed on the region within 125 miles of Florida, which through GOMESA, is under moratorium until 2022. Since 2001 approximately 1.3 million acres or 233 lease blocks have been offered under the following lease sales. Accounting for leases purchased in the subsequent year, the most recent lease sale was retained only 465 thousand acres or 134 lease blocks (Figure 7).

Figure 7: Eastern Gulf Planning Area Map



Source: Bureau of Ocean Energy Management

[10] PWC, "Economic Impacts of the Oil and Natural Gas Industry on the U.S. Economy in 2011", American Petroleum Institute, July 2013

3.7 - 2006 GOMESA Moratorium

Eastern Gulf oil and gas development is prohibited under the 2006 Gulf of Mexico Energy Security Act (GOMESA). The GOMESA Moratorium covers a portion of the Central Gulf of Mexico Planning Area (CPA), and, until 2022, nearly all of the Eastern Planning Area (EPA). The specific locations restricted from leasing activities include that portion of the Eastern Planning Area within 125 miles of Florida, all areas in the Gulf of Mexico east of the Military Mission Line (86° 41' west longitude), and the area within the Central Planning Area that is within 100 miles of Florida.

3.8 –Lease History

Federal lease sales within the Eastern Gulf took place between the years of 1959-2014, with the most recent sales taking place in a selected portion along the Central and Eastern Gulf border. Overall, nine lease sales have been completed within federal waters; 1959, 1973, 1984, 1985, 1988, 2001, 2003, 2005, 2008, and 2014.

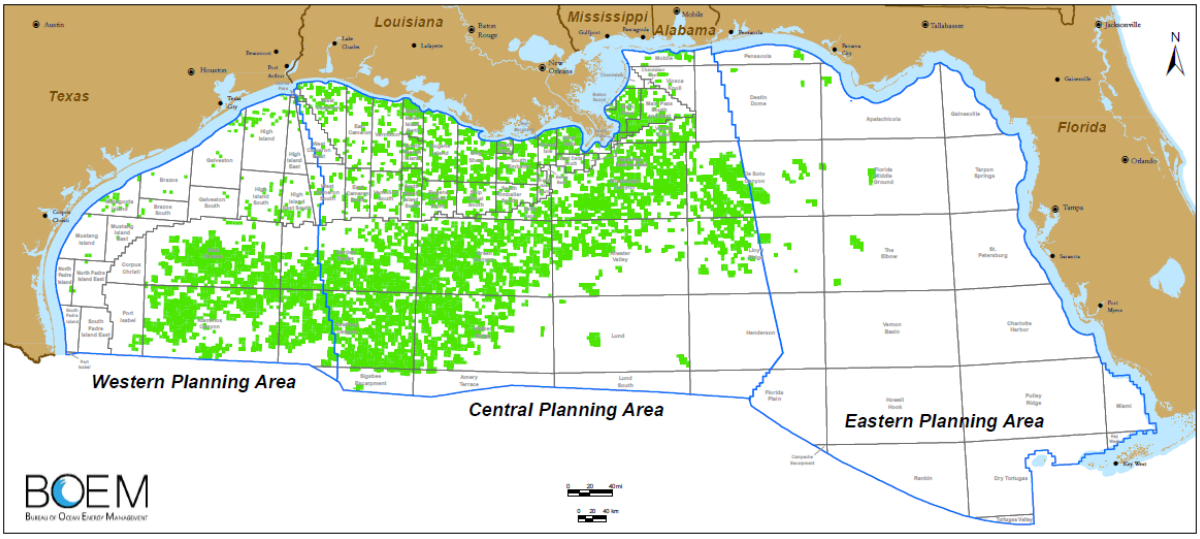
Historically, sales in the area stretch back to the 1950's when the first lease comprising 80 blocks were offered in 1957. While federal lease where limited in the following years, offshore drilling continued through the period in shallow water areas upon the Florida shelf culminating in the late 1970's additional lease sales in state waters were halted.

In the late 1980's Florida and Department of Interior (DOI) began to pass legislation outlining a proposed ban on lease sales as well as drilling in the Eastern Gulf, including placing a 100 mile buffer zone along the Florida coast. This legislation led to the repurchasing of leases from operators throughout the period though several operators have been permitted to hold leases for future exploration if the moratorium was lifted within the region.

In 2001, small concentrated lease sales returned to the Eastern Gulf under lease sale 181 which offered 233 lease blocks in a portioned section directly east of the Central Gulf of Mexico planning area border - incorporating sections of De Soto Canyon and Lloyd Ridge[11]. Limited lease sales continued in recent years with four additional lease sales, the most recent in 2014, which has included an ever decreasing number of acres and blocks on offer to operators as the leases on offer in the limited area along the western edge of the Eastern Gulf are leased (Figure 8).

[11] http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Regional-Leasing/Gulf-of-Mexico-Region/Lease-Sales/181/map181-pdf.aspx

Figure 8: Eastern Gulf Active Leases



Source: Bureau of Ocean Energy Management

3.9 - Seismic

Recent seismic studies have taken place throughout the Eastern Gulf, although in limited capacities depending on the location. Given the open leasing structure upon a portion of the Central and Eastern Gulf divide, this area has seen the most active 2D and 3D seismic in recent years. To the east in the area that is currently off-limits, 2D seismic studies have focused on the area west of the Florida escarpment in anticipation of increased lease offerings within the area, while shallow water seismic has been the most limited given the relatively higher regulatory hurdles.

3.10 – Drilling & Production

The history of offshore drilling in the Eastern Gulf has mainly been focused on a select number of historical opportunities in shallow water. Developed prospects include Alabama's Mobile Bay, Florida's Charlotte Harbor, Key West, as well as several recent prospects within the currently available deepwater region.

Throughout the 1960's and 1970's, exploration was limited but mainly focused on the Destin Dome region along the Alabama and Florida boarder. These exploration wells, while dry holes, helped delineate and define the sandstone and reservoir possibilities within the Norphlet play. Further exploration within deeper portions of the area led to discoveries and projects within Alabama state waters, particularly the Mobile Bay region, as well Chevron's Destin Dome project in block 56. Additional drilling has taken place in the majority of areas upon Florida shelf as well as the southern Key West region, though the wells are dated and limited in number.

More recently, deepwater drilling has taken place within the available region within De Soto Canyon and Lloyd Ridge along the Central Gulf border. These wells have led to several discoveries within the Eastern Gulf, while additional resources and wells have been completed in the nearby Central Gulf of Mexico. Wells in the Norphlet play in particular, which overlaps into the Eastern Gulf, have been

successful in recent years as projects such as Appomattox and Vicksburg move ahead to production status in the coming years and represent some of the larger Gulf of Mexico discoveries in recent years.

Recent production from the Eastern Gulf began in February 1999 with a limited production growing from 1,000 boe/d throughout the years until peaking in 2009, when it contributed 108,000 boe/d. Given the largely gaseous reservoirs within De Soto Canyon, economics for such projects has rescinded in the near-term. Since early 2014 the Eastern Gulf has ceased to produce any oil or gas reserves as operators delay projects due to declining economics for Gulf of Mexico gas projects.

3.11 – Eastern Gulf Resources

Numerous studies have estimated the oil and gas resources in the Gulf of Mexico including the Department of Interiors assessment on all OCS regions (Lore et.al, 1995), the Eastern Gulf and Florida's shelf (Gohrbandt, 2001), the conceptual Mesozoic Ultra-Deep plays (Post and Hunt, 2001), the Assessment of Technically Recoverable Hydrocarbon Resources of the Gulf of Mexico OCS (Crawford et. al, 2008). While these studies provide a general framework and consistent estimation of recoverable resources within the Eastern Gulf, there is more ambiguity around defining plays within the sparsely explored area. For this analysis, Quest has assumed the amount and general location of oil and natural gas resources based on the BOEM's Assessment of Technically Recoverable Hydrocarbon Resources of the Gulf of Mexico Outer Continental Shelf as of January 1, 2009.

The report identified possible oil and gas bearing geologies throughout the Gulf of Mexico including the Eastern Gulf. The report projects that the northern portion of the Eastern Gulf is likely to be a little more gas rich, while oil reserves increase as you move south along the coastline as well as into deepwaters of the Burried Hill plays. In many places the various plays overlap throughout different depths. More detailed maps of the individual plays can be found in Appendix Section 8.2.

The play by play reserve assessments presented in the study by the BOEM are the basis for both the resource and production models used to formulate this study as discussed in the data development section and resource appendix (Table 3).

Table 3: BOEM 2008 Resource Estimates by Play and Resource Type

UTRR by Play	Oil (Bbbl)	Gas (Tcf)	Oil %	Gas %	BOE (Bbbl)*
Buried Hull Structural	1.232	2.073	77%	23%	1.601
Buried Hill Stratigraphic	.488	1.462	65%	35%	.748
Buried Hill Drape	.536	2.468	55%	45%	.975
Tuscaloosa	.062	.106	77%	23%	.081
Lower Cretaceous Clastic	.019	.047	70%	30%	.027
Andrew	.037	.110	65%	35%	.057
James	.043	.922	21%	79%	.207
Sligo	.032	.251	42%	58%	.077
Knowles Carbonate	.001	.208	3%	97%	.037
Cotton Valley Clastic	.051	.355	45%	55%	.114
Smackover	.016	.188	33%	67%	.049
Sunniland	.355	.288	87%	13%	.407
Basement Clastic	.003	.051	25%	75%	.012
Norphlet	2.293	13.291	49%	51%	4.658
Total Eastern Gulf	**5.168**	**21.82**	**57%**	**43%**	**9.05**

Source: Bureau of Ocean Energy Management
** All resourced are not enclosed within the Eastern Gulf OCS*

3.12 - Excluded From This Study

This paper has been limited in scope to the assessment of the development of oil and natural gas resources from known Eastern Gulf formations in federal waters identified in the BOEM report. Any potential benefits from the development of onshore midstream and downstream infrastructure are not included. In addition, the calculated government revenue potential does not include personal income taxes, corporate income taxes or local property taxes. The development of additional oil and natural gas resources not identified in the BOEM report are not included even though new formations will likely be found as the area is developed.

Section 4 – Data Development

4.1 - Data Development

Quest's data development scenario focused on constructing a tiered "bottom-up" model that separates the complete life cycle of offshore operations and subsequent effects into three main categories and five sub categories. The three main categories are as follows; an "Activity" model assessing potential reserve information under the expectation of estimating the possible number of projects based on the resources within the Eastern Gulf, a "Spending" model based on the requirements to develop projects within the "Activity Forecast", and an "Economic" model focused on the economic impact on employment and government revenue from the "Spending" model. Individual subsections of each of the three major models were further examined under six additional criteria that create an individual "Project" model. These categories include; reserves, seismic, leasing activity, drilling, infrastructure & project development, and production & operation (Table 4).

Table 4: Oil and Gas Project Development Model

	Activity Forecast	Spending Model	Economic Model
Reserves	• Total Eastern Gulf Reserves • Reserves by Play • Reserves by Field • Fields into Projects	N/A	N/A
Seismic	• Pre-Lease Seismic • Leased Block Seismic • Shoot Type	• Cost per acre	• Economic activity due to seismic spending within states
Leasing	• Yearly Lease Sales	• Bonus Bid Prices • Rental Rates	• Federal and state revenues created through lease sales • Economic activity due to increased state/personal spending
Exploration Drilling	• Number of wells drilled • Water depth of wells drilled • Number of drilling rigs required	• Cost per well	• Economic activity due to exploration drilling within states vicinity
Project Development & Operation	• Project size • Project development timeline	• Spending per project • Per project spending timeline	• Division of state spending • Economic activity due to project development within states vicinity
Production	• Production type and amount	• Oil and gas price forecast	• Federal and state revenues created royalty sharing • Economic activity due to increased state/personal spending

Source: Quest Offshore Resources, Inc.

4.2 - Resources

Methodology used in the calculation of resources was derived from previous reports of the Bureau of Ocean Energy Management (BOEM) and its predecessor agencies on estimated resources in place. Given the predictive nature of these reports, Quest deemed it reasonable to extrapolate from BOEM estimates to closer reflect undiscovered technically recoverable reserves (UTRR) growth patterns within developed regions. This important step was principally modeled through analysis on historical reserve assessment growth within the developed areas of the Gulf of Mexico, Alaska, and the North Sea.

A resulting multiplier of 2.07 and UTRR alternative case of 15.95 MMboe were calculated using this methodology (Table 5).

Table 5: Adjusted Reserves by Eastern Gulf

UTRR by Play - Adjusted	Oil (Bbbl)	Gas (Tcf)	Oil %	Gas %	BOE (Bbbl)
Buried Hill	3.480	9.632	67%	33%	5.193
Norphlet	4.629	14.008	65%	35%	7.121
Shallow – Key West Region	1.994	1.977	85%	15%	2.345
Shallow – Alabama Region	0.515	4.343	40%	60%	1.288
Total Eastern Gulf OCS	**10.618**	**5.329**	**67%**	**33%**	**15.947**

Source: The Bureau of Ocean Management and Quest Offshore Resources, Inc.

After recalculating UTRR play resources, further subdivision was assigned based on USGS field size distributions within similar geological plays. The combination of field sizing and number of fields allows for the distribution estimation of possible discoveries within each play, while the potential reserves within each discovery were then further discounted based on a recovery factor of similar geological plays. Quest's assessments of potential field developments led to the creation of multiple project development scenarios dependent on the field sizing, with the assumption that large fields are more likely to be discovered first. Through the allocation of field discoveries into project categories based on individual play reserve expectations, Quest concluded a forecast of the number of projects expected within each play. It is important to note the uncertainty around the location of fields and projects within each play, and thereby placing them within the associated vicinity of states becomes a challenge. In order to account for this, Quest drew a 200 mile buffer around each individual states border, reweighting reserves and spending for each project based on the reserves in proximity to a state's border.

Projects were developed under two major criteria that allowed for six development scenarios. These criteria were separated between deepwater and shallow water projects and furthermore between small, medium, and large projects. This allowed for further delineation between projections, as each individual scenario has defined characteristics behind timing, spending, and production that drive later modeling. These delineations allowed for smaller projects to be developed under a shorter time-frame, require less hardware and engineering, as well as produce lower volumes for fewer years, while the opposites holds true for larger projects.

Project timing was developed based on Quest's proprietary offshore sector data[12], as each project was given an individual timeline representing the required time for a generic project of that size and scope. Assumptions were made for different development scenarios given the infrastructure currently in place within the Eastern Gulf. Timelines and infrastructure requirements were adjusted as infrastructure grew within certain areas, allowing for increased subsea tie-backs for deepwater projects and increased project numbers given decreasing infrastructure requirements and increasing project economics. Once in

[12] See Appendix 8.1 "Overview of Quest Offshore Data"

place, projects are expected to produce based on a set production curve based on historical ramp-up and peak production data for existing fields, while declines were expected to follow an Arps equation[13].

4.3 - Project Spending

This spending analysis accounts for all capital investment and operational spending through the entire "life cycle" of operations. Every offshore oil or natural gas project must go through a series of steps in order to be developed. Initial expenditures necessary to identify targets and estimate the potential recoverable resources in place include seismic surveys (G&G) and the drilling and evaluation of exploration & appraisal (E&A) wells. For projects that are commercially viable, the full range of above surface and below water (subsea) equipment must be designed and purchased. Offshore equipment includes production platforms and potentially on-site processing facilities as well as below water equipment generally referred to as SURF (Subsea, Umbilicals, Risers and Flowlines). Finally, the equipment must be installed and additional development wells must be drilled. Once under production, further operational expenditures (OPEX) are required to perform ongoing maintenance, production operations and other life extension activities as necessary for continued field production and optimization.

Spending for individual projects was subdivided into sixteen categories covering the complete life cycle of a single offshore project, excluding decommissioning, as well as two additional groups for natural gas processing and operation. Timing and cost for individual categories were assigned based on the previously mentioned project types where prices scale given the complexity and size of the project (Table 6).

Table 6: Oil and Gas Project Spending Model

	Activity Model	Spending Model	Economic Model
Seismic (G&G)	• Number of leases • 2D vs. 3D	• Cost per acre	• Operation requirements
SURF	• Trees, manifolds, and other subsea equipment • Umbilicals • Pipelines, flowlines, and risers	• Cost per item • Cost per mile	• Fabrication locations
Platforms	• Fixed Platforms • Floating Production System	• Unit size	• Fabrication locations
Installation	• Surf Installation • Platform Installation	• Number of vessels • Type of vessels • Vessel dayrate	• Operation requirements • Shorebase locations
Drilling	• Exploration drilling • Development drilling	• Rig type • Rig dayrate	• Operating requirements • Shorebase locations
Engineering	• FEED	• CAPEX • OPEX	• Technological centers
Operating Expenditures (OPEX)	• Supply and personnel requirements • Project maintenance • Project reconfiguration	• Type of project	• Shorebase locations

Source: Quest Offshore Resources, Inc.

[13] Arps represents the hyperbolic shaped decline curve of an oil and gas field after peak production. Arps, J.J "Analysis of Decline Curves" Trans. AIME (1944) 160, 228-47.

Upon compiling the scenario of overall spending estimates, Quest deconstructed the "local content" of oil and gas operations within the studied region. Individual tasks were analyzed on a component by component basis to provide an estimate of the percentage of regional, national, and international construction required by offshore operations. Once compiled, further modeling was prepared to forecast changing distributions as oil and gas development activity increases within new regions of the Gulf of Mexico. Additionally, delineations were made at the regional level in order to project spending for individual states. Considerations were based on the proximity to reserves and production, strategic locations such as shore bases and ports, as well as Bureau of Economic Analysis (BEA) data pertaining to each state's present economic distribution.

4.4 - Economic Data Development

Development of GDP and job data were calculated using the BEA's RIMs II Model providing an input-output multiplier on spending at the industry and state levels for each defined category. Model outputs considered from spending effects include number of jobs and GDP multiplier effects. Further delineation is presented in the form of direct and indirect and induced job numbers, which encompass the number of jobs relating to the spending in that category versus indirect and induced jobs that are created from pass-through spending.

Rims Categories used:

- Architectural, Engineering, and Related Services
- Construction
- Drilling Oil and Gas Wells
- Fabricated Metal Product Manufacturing
- Mining and Oil and Gas Field Machinery Manufacturing
- Natural Gas Distribution
- Oil and Gas Extraction
- Steel Product Manufacturing from Purchased Steel
- Support Activities for Oil and Gas Operations

4.5 - Governmental Revenue Development

Governmental revenue data is presented in three categories; bonus bids from lease sales, rents from purchased but not yet developed leases, and royalty payments from producing leases. The projected revenue was calculated assuming the current operating structure of the Gulf of Mexico where applicable. Lease sales and rental rates were calculated through the simulation of lease sales within each individual area, while the number of leases acquired has been modeled on historical rates and based on the estimated amount of reserves in the region. Given the uncertainty around the form of lease sales that may be presented within the Eastern Gulf, Quest has modeled yearly area wide sales within each region - thus contrasting the current sales which have included a sale approximately every two to three years.

The federal / state government revenue split of leases, rents and royalties were modeled assuming a similar percentage split as in GOMESA (Gulf of Mexico Energy Security Act). Under

GOMESA 37.5 percent of OCS bonus bid, rent, and royalty income is distributed to the appropriate states. GOMESA has an annual revenue cap per state. No such cap was assumed in this analysis.

Currently there is no legislated federal / state revenue sharing agreement applicable to Florida under GOMESA. Calculations in this report were made to distinguish the potential State government revenue impacts among all gulf coast states. These revenue estimates will need to be adjusted based on future legislated sharing arrangements if and when they occur.

Production pricing was calculated using the EIA estimates for both Brent crude spot and Henry Hub natural gas prices[14]. Additional governmental revenues such as income and corporate taxes were considered outside of the scope of this study, and are likely to provide additional government revenues throughout the studied period.

[14] United States. Energy Information Administration. *Annual Energy Outlook 2013*. Energy Information Administration, 2 May 2013.

Section 5 – National Results

Opening the Eastern Gulf, the majority of which is currently under a leasing moratorium to oil and natural gas exploration and production activity, would be expected to provide large contributions to employment, gross domestic product, and state and federal government revenues. These benefits would be felt throughout the Gulf Coast as well as the nation as a whole. This study examines the total activities and impacts expected to result from Eastern Gulf oil and gas development. Offshore oil and natural gas exploration and production requires diverse activities such as; seismic imaging of reservoirs, drilling of wells, manufacturing equipment, and installing specialized equipment. These field developed further require, capital and operational expenditures associated with these activities. In addition increased state government revenues are projected to lead to increased employment and economic activity.

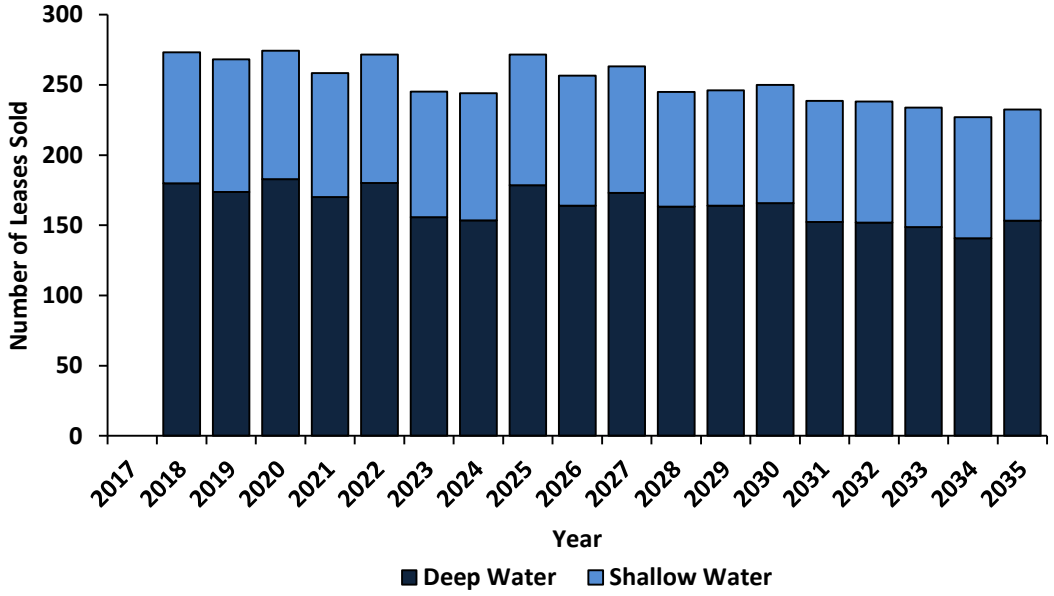
5.1 – Seismic and Leasing Activity

In contrast to other areas currently without active lease programs, the Eastern Gulf has had a limited number of lease sales. Lease sales from 2001 forward have included an area of 233 leases along the western border of the region and a limited number of leases that were carried over before the moratorium which are distributed throughout the region. These historical sales have provided a basis for seismic and leasing activity within the area and provided some 2D seismic data throughout the region as well as more recent 3D seismic along the central and eastern planning area border.

Given that seismic activity is normally the first step required for offshore exploration, both to enable oil companies to make bids on lease blocks and to identify drilling targets after leasing, some pre-leasing seismic activity is expected. Upon the beginning of wide spread sustained leasing in the Eastern Gulf, seismic and leasing activity would be expected to increase in relationship to present and historic levels. This study assumes that widespread leasing begins in 2018, coinciding with the first full year of the next five-year leasing schedule while seismic activity is assumed to start one year earlier in 2017.

Additionally, despite some geologic differences to other parts of the Gulf, the level of understanding of the Eastern Gulf's geology is greater than other areas not currently subject to leasing - such as the Atlantic Coast. This is due in part to the significant development in the neighboring Central Gulf Region. The area's geology coupled with the accessibility of the area to existing exploration infrastructure should see lease sales draw significant interest from oil and gas operators. The number of leases sold each year in the study's scenario is the estimated amount necessary to develop the projected number of projects, given historical leasing trends in other areas. From 2018 to 2035 the number of leases sold is expected to range from 200 to 275 per year (Figure 9).

Figure 9: **Projected Leases Sold Eastern Gulf**



Source: Quest Offshore Resources, Inc.

Leasing is expected to be strongest in deepwater, with an average of around 165 leases sold per year compared to around 90 a year in shallow water. A slow declining trend in leases purchased is projected as the area is more fully developed, fewer lease blocks are available, and the number of potential targets is reduced.

5.2 - Projects

Offshore project development is the key determinant of oil and natural gas production. Developing offshore projects is complex, requiring time, planning, and high levels of capital investment. An offshore oil and natural gas project is based on one or more discoveries of oil and natural gas fields, often after further delineation or appraisal drilling. Although seismic and other surveys can identify possible oil and natural gas deposits; only drilling can confirm the existence of oil and natural gas in a given location. After confirmation of a viable oil and natural gas field that meets stringent technical and economic constraints, project development may begin.

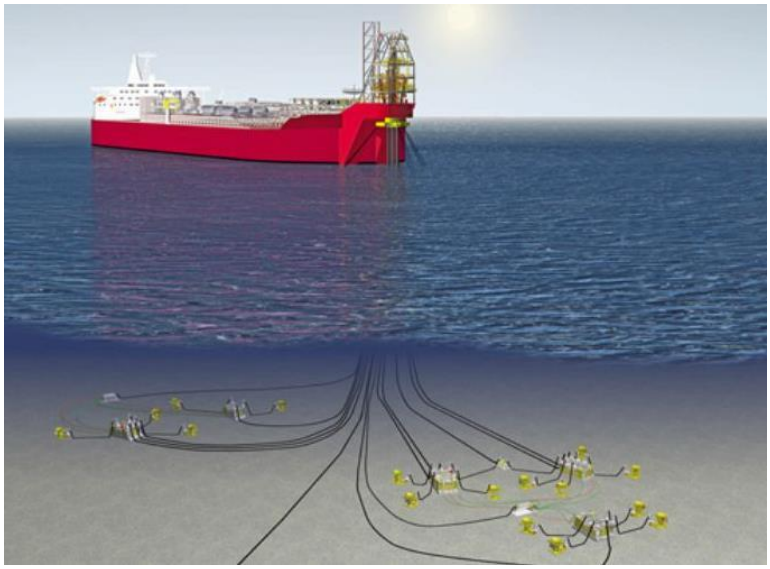
Although no two offshore oil and natural gas projects are exactly alike, for the purposes of this study, offshore project developments were generalized into six generic project types based on project size and water depth. Water depth range is one of the key determinants of project development, as field development scenarios vary greatly from shallow to deepwater fields. In shallow water fields so called “fixed” infrastructure is most often used with drilling, processing, and production taking place from one or more platform or platforms that are fixed directly to the seafloor (fixed platforms) (Figure 10).

Figure 10: Fixed Platform

Source: McDermott International, Inc.

Deepwater projects are typically more complex and thus more capital intensive. Most deepwater projects utilize floating production and subsea infrastructure. Due to their increased complexity, deep water projects typically have longer development timeframes (Figure 11).

Figure 11: Deepwater Project using Floating Production and Subsea Hardware



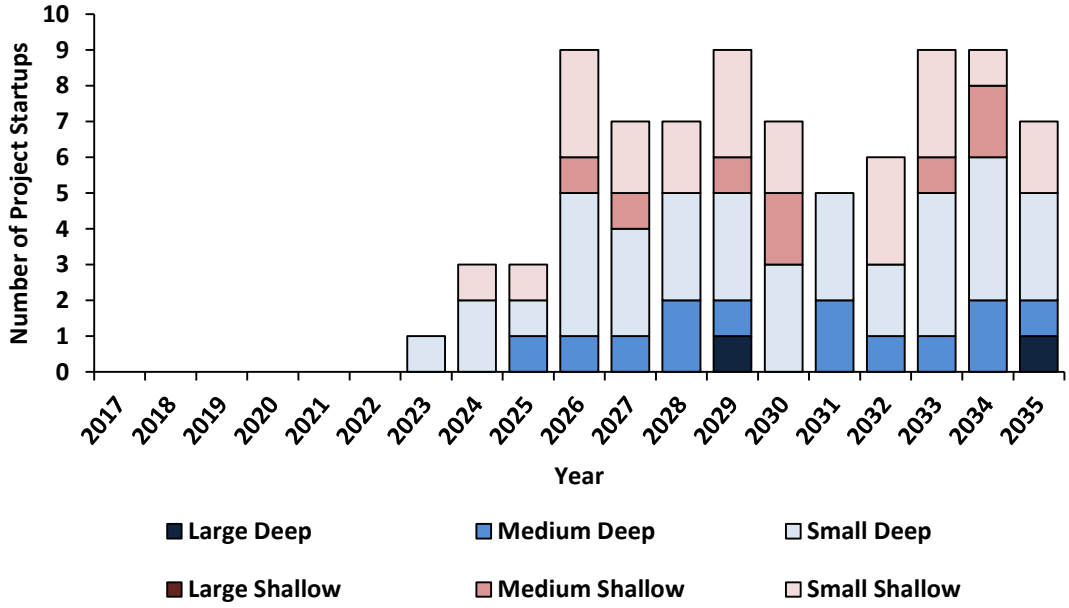
Source: Royal Dutch Shell

Apart from water depth, project size is typically defined by reservoir characteristics, hydrocarbon volumes, and expected production, all which define the timeline and capital investment required to develop the project. Larger projects typically require more wells, a longer development period, increased material resources, and larger equipment such as; platforms, trees, and pipelines. Smaller projects, on the other hand, often rely on larger projects for certain types of infrastructure such as pipelines or

processing facilities. Thus smaller projects are normally delayed, especially in undeveloped areas such as the Eastern Gulf until larger projects are in place or processing is available - though in the Eastern Gulf areas which border the Central Gulf some projects could tie into existing infrastructure such as platforms and pipelines to speed development.

During the 2017 to 2035 period the study projects that around 80 projects could begin oil and natural gas production in the Eastern Gulf planning area. Given the location of the resource potential, most of these projects would be expected to be deepwater projects; with around 50 deepwater projects and 30 shallow water projects projected (Figure 12).

Figure 12: Projected Number of Projects by Start-Up Year, Size and Water Depth



Source: Quest Offshore Resources, Inc.

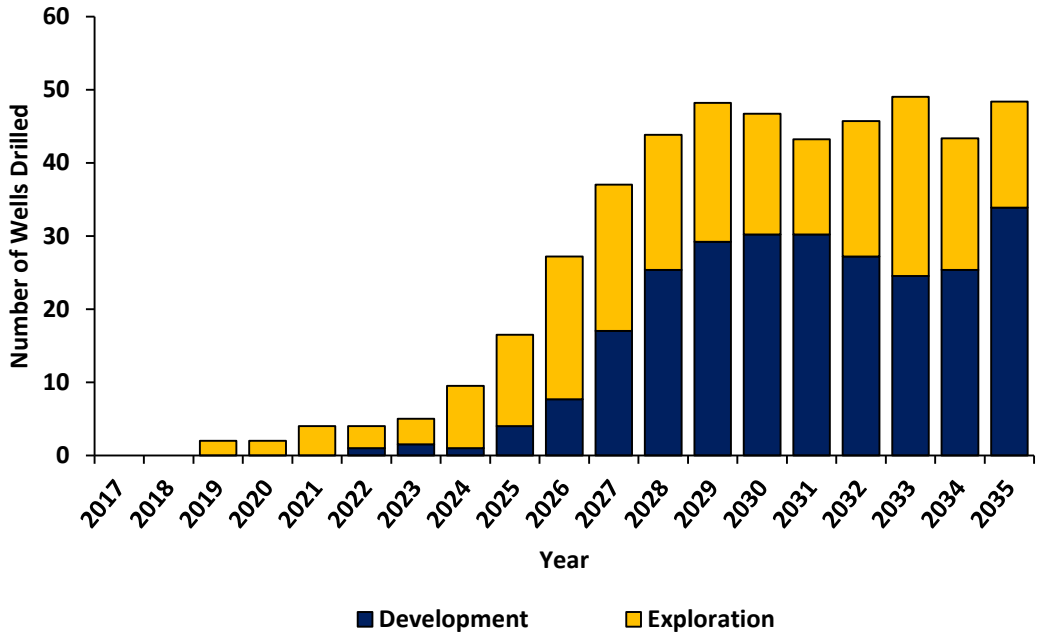
If Eastern Gulf planning area leasing begins in 2018, projects could begin producing oil and natural gas by 2023. The number of projects anticipated to start up each year is expected to vary between one and nine annually. Project startup is dependent on variables such as discovery timing, water depth, available infrastructure already in place, and project development lead times.

5.3 - Drilling Activity

Exploration and production drilling is used to identify, confirm, delineate, and produce oil and natural gas, making it one of the most important offshore activities. Drilling is a very capital intensive process employing drilling rigs that require large crews as well as significant quantities of consumables ranging from food and fuel to drill pipe and drilling fluids. Drilling rigs (mobile offshore drilling units – MODU's) must constantly be resupplied and crewed, and thus lead to high levels of activity in the areas and ports that support offshore drilling rigs.

Drilling activity in the Eastern Gulf is expected to be highly robust upon the commencement of offshore oil and natural gas activity. If leasing begins in early 2018, exploratory drilling would be expected to begin in 2019 or about two years after the first lease sales. Only exploratory drilling is expected to take place for the first five years. In 2022 development drilling is expected to begin and continue to accelerate. Total drilling activity is projected to level off at around 45 wells per year after 2030. During this time, the proportion between development and exploratory wells is expected to shift to around 60 and 40 percent respectively, which is in line with other mature provinces (Figure 13).

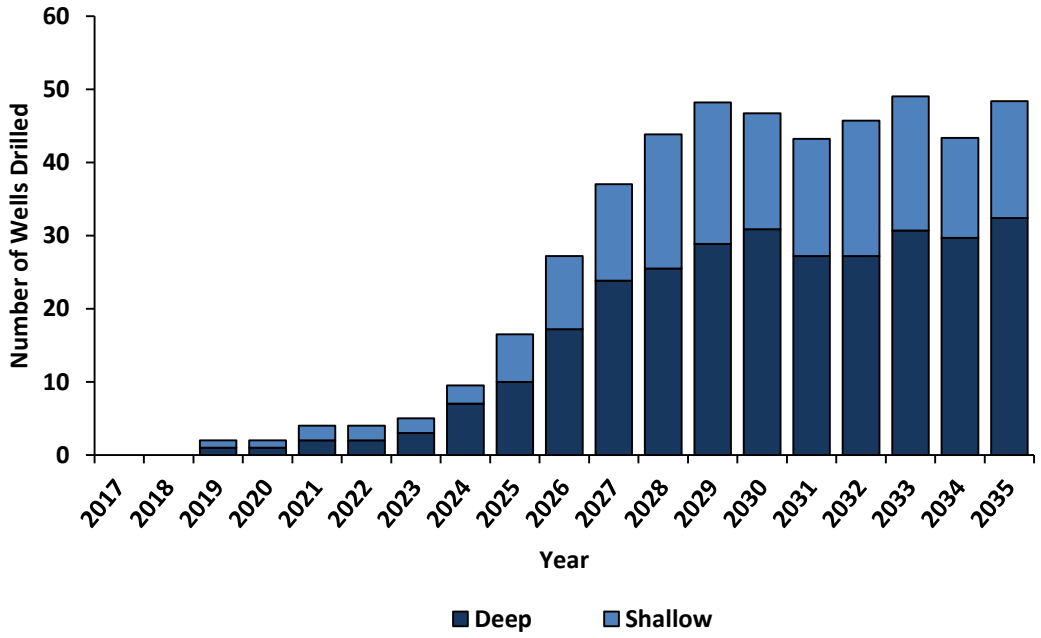
Figure 13: Projected Number of Wells Drilled by Well Type



Source: Quest Offshore Resources, Inc.

Due to the interconnected nature of exploration, drilling, and development, Eastern Gulf drilling follows a trend similar to project development regarding water depths of wells. As the basin matures, drilling is projected to trend to a 65 to 35 ratio of deepwater to shallow water wells. A total of around 475 wells are projected to be drilled from 2017 to 2035.

Figure 14: Projected Number of Wells Drilled by Water Depth and Year



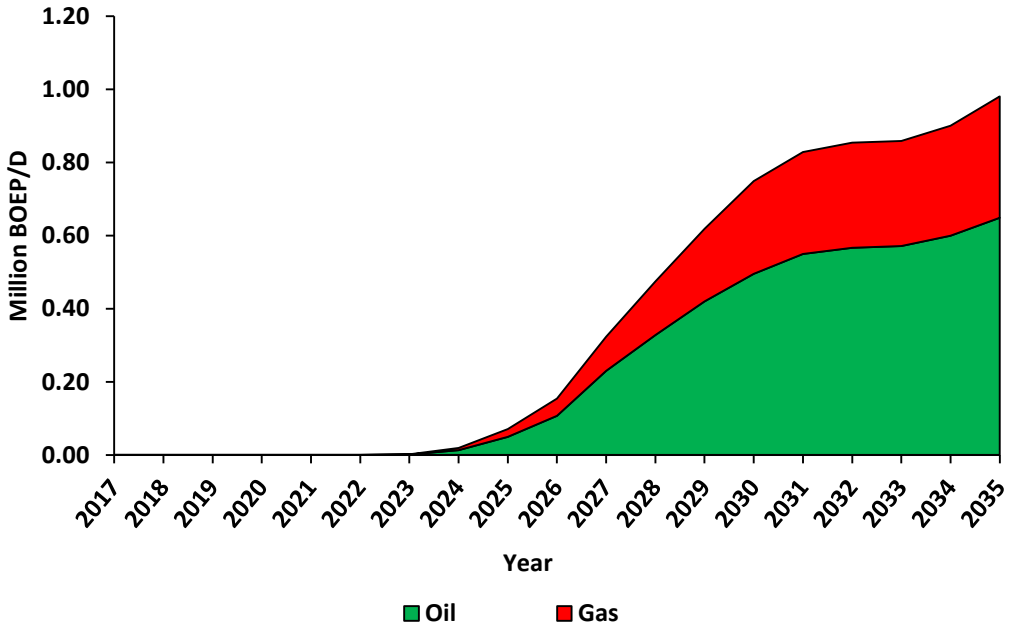
Source: Quest Offshore Resources, Inc.

5.4 - Production Activity

The number of projects developed, coupled with reservoir size and reservoir productivity, is the main determinant of oil and natural gas production levels. Most oil and natural gas reservoirs contain a combination of oil, natural gas, water, and many other substances. Some reservoirs may contain nearly all oil or all natural gas. Most reservoirs possess both oil and natural gas in varying ratios with oil sometimes expressed as condensate. All of the resource plays defined by BOEM studies are constructed under the expectation that both oil and natural gas are present, with the relative ratios defined on a play by play basis. Oil and gas ratios for individual fields are likely to vary, though for the purpose of this study they were modeled as consistent within each play. Production for each project was modeled based on standard production curves taking into account the start-up, ramp-up, peak, and decline timing, as well as the expected hydrocarbon mix.

This study projects that first oil and natural gas production in the Eastern Gulf would take place in 2023, five years after the beginning of leasing in the area. Initial production is expected to be in the deepwater, likely tying into existing oil and gas infrastructure. Since the first projects come online relatively slowly, annual production would be expected to reach only 60 thousand BOED by the third year. Production is then projected to grow relatively consistently throughout the period, at a compound annual growth rate of over 14 percent per year from 2026 to 2035. Production is projected to reach just over one million BOED by 2035, with approximately 66 percent of production oil (650 thousand BOED), and 34 percent of the production natural gas (330 thousand BOED or 1.9 billion cubic feet per day) (Figure 15).

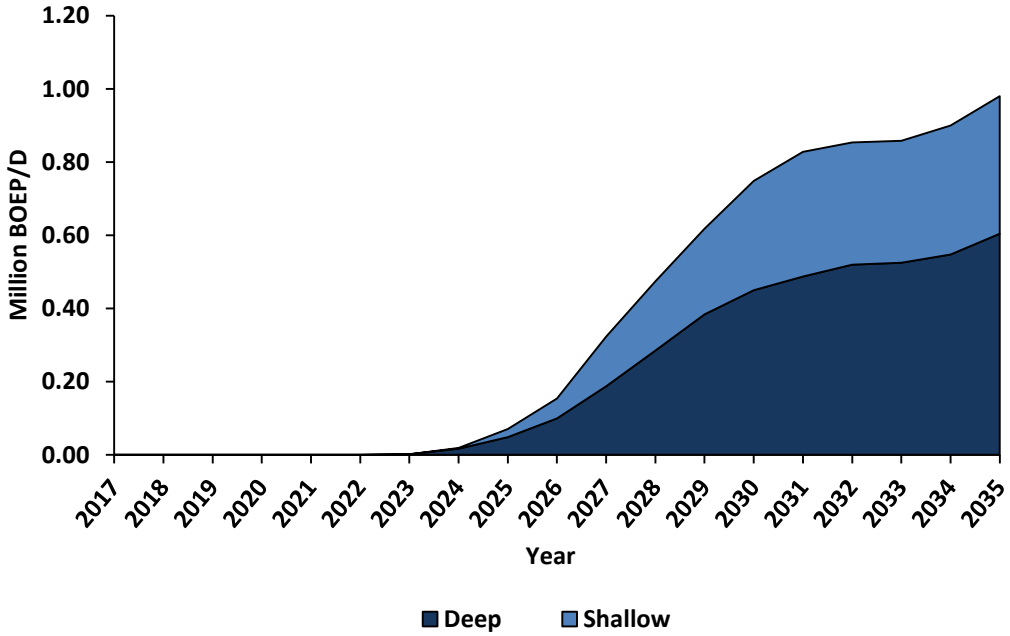
Figure 15: Projected Production by Type and Year



Source: Quest Offshore Resources, Inc.

Since project development and drilling is expected to be concentrated in deepwater, deepwater production is expected to outweigh shallow water production by a large margin. Deepwater production is expected to account for 62 percent of production in 2035, compared to 38 percent of production from shallow water fields (Figure 16).

Figure 16: Projected Production by Water Depth



Source: Quest Offshore Resources, Inc.

5.5 - Spending Activity

Offshore oil and natural gas development is capital intensive. Offshore projects require exploratory seismic surveys and drilling, production equipment, services such as engineering, operational expenditures including the ongoing supply of consumables, and maintenance. The combined effects of one individual project flow through the entire economy driving employment and economic growth. From 2017 to 2035, total cumulative spending on Eastern Gulf offshore oil and natural gas development is projected to be nearly $134 billion, of which around $115 billion will be spent domestically. Total spending in the first five years is projected to be around $270 million per year, of which $255 million is expected to be spent domestically. Annual spending levels are expected to increase as projects are constructed and development drilling begins. Total drilling activity is projected to continuously increase through 2031. By 2032 total spending is projected to remain relatively constant at about $14 billion per year.

For the purposes of this report, spending is divided into eight main categories, with each category encompassing a major type of exploration and production activity. For example, seismic (G&G)[15] spending is normally associated with imaging of possible reservoirs prior to exploration drilling and thus takes place primarily at the early stages of a project's lifecycle.

Although critically important, seismic spending is a relatively low percentage of overall spending at an average of $240 million per year or less than four percent of overall spending from 2017 to 2035. Seismic spending is one of first categories of spending expected in the region, accounting for over 70 percent of spending from 2017 to 2021, as offshore prospects require a significant amount of time to identify.

Given the expense and logistics requirements of offshore drilling, where rigs command large day rates in conjunction with high operational supply costs, drilling expenditures represent one of the largest sources of spending for any offshore project. Drilling expenditures from 2017 to 2035, both exploration and development drilling are projected to average over $1.75 billion per year. Drilling expenditures are projected to increase throughout the forecast to approximately $3.6 billion per year by 2030 and remain relatively level to 2035.

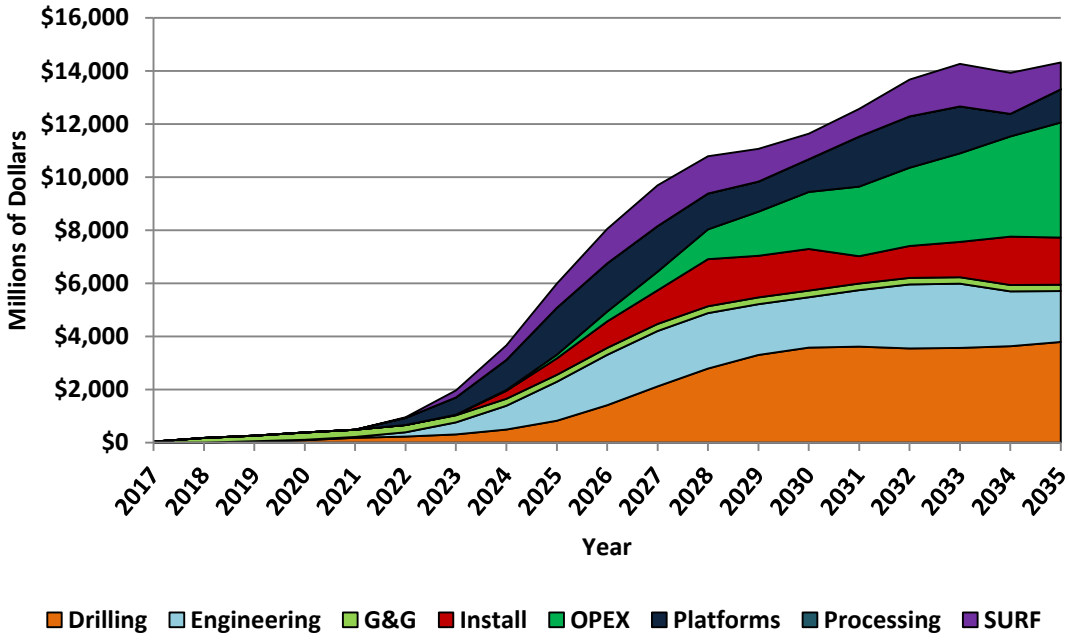
Engineering spending takes place at all stages of an offshore projects lifecycle; from exploration to project development as well as during a projects operational phase. Engineering activities vary from overall project-focused engineering to the engineering of very specific equipment and components. Engineering spending is projected to average over $1.2 billion per year from 2017 to 2035; increasing steadily as the Eastern Gulf is developed. From 2031 to 2035 engineering spending is projected to stabilize just over $2.1 billion per year.

Most of the equipment utilized in developing offshore oil and natural gas fields falls into either the platform (both fixed and floating) or SURF (subsea equipment, umbilicals, risers and flowlines) categories.

[15] G&G is defined as geological and geophysical and is primary the study of the structure and composition of subsurface formation especially using seismic imaging to identify possible oil and natural gas deposits.

This equipment is traditionally purchased and constructed prior to production of oil and natural gas. The types of equipment includes complicated structures like floating platforms that weigh tens of thousands of tons, complex subsea trees that control wells at the ocean floor, and miles of pipeline that transport production back to shore. Some of the equipment required is less complex, for instance, offshore accommodation modules as wells as equipment such as mats which are metal frames placed on the seafloor to hold other equipment. Due to the varying timelines for procurement of equipment, spending for platforms and SURF equipment is more variable year to year than most other offshore exploration and development spending. Platform spending is expected to average under $1 billion per year from 2017 to 2035 and over $1.5 billion per year from 2031 to 2035. From 2017 to 2035, SURF spending is projected to average over $750 million per year, while in the last five years of the forecast SURF spending is expected to rise to $1.3 billion per year (Figure 17).

Figure 17: Projected Overall Spending by Category[16]



Source: Quest Offshore Resources, Inc.

Installation of platforms and SURF equipment is normally carried out by multiple vessels, each with specialized functions such as pipe-lay or heavy-lift. Some vessels might lay large diameter pipelines (14 inch+), while other vessels lay smaller diameter infield pipelines (2-10 inches), or lift equipment and install hardware. Additional specialized vessels supply drill-pipe, fuel and other fluids, and food. Nearly everything installed offshore must first be prepared onshore at specialized bases in the region prior to execution. Equipment is sometimes transported to the field on the installation vessels themselves, and at other times is transferred to the field in specialized barges or transportation vessels. Installing offshore equipment often requires complex connection or integration operations and uses vessels that can

[16] OPEX is defined as operational expenditures, SURF is defined as subsea, umbilical, riser and flowline equipment, processing is defined as onshore natural gas processing. Please see previous footnote for definition of G&G

command day rates of over $1 million. Overall, these variable are expected to drive annual installation spending to above $800 million per year from 2017 to 2035. From 2031 to 2035 installation spending is projected to average over $1.4 billion per year.

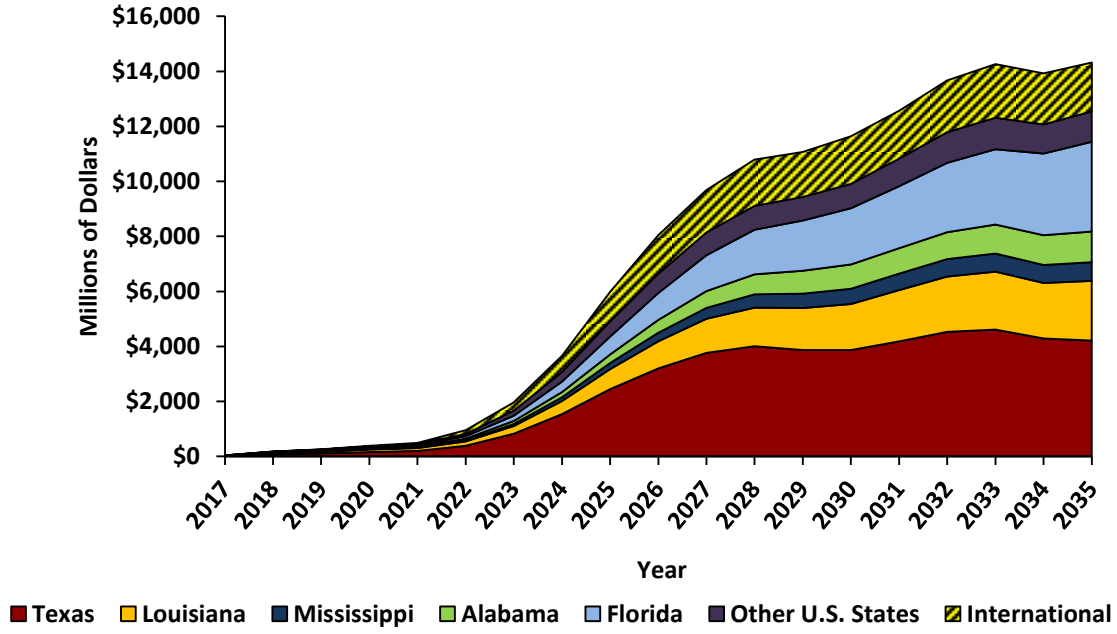
Once the initial wells have been drilled and the necessary equipment installed, a field can enter the operational phase. The operation phase requires manning and operating facilities and equipment, continuously supplying essential fluids, and constant general maintenance. These operational expenditures (OPEX) are a significant source of ongoing spending by oil and gas companies within the region. In 2027 when production has been underway for five years, operational expenditures are expected to be around $700 million per year, and continue to climb to climb $4.3 billion per year by 2035.

5.6 - Spending Trends

The location of spending for Eastern Gulf oil and natural gas development will be dependent on a variety of factors, including the type of equipment and services, the location of the projects being developed, and the time period in which the spending takes place. Developing an offshore oil and gas project requires a complex supply chain with suppliers located all over the country and often the world. Depending on the activity type, some spending can take place far from the activity area while other spending must be undertaken geographically close to projects. For instance, activity such as G&G seismic or drilling must take place in the waters of the affected region, with support required from nearby shore bases and ports to supply items such as fuel, food, and other consumables. Specialized equipment may be manufactured in far off states or even foreign countries with more developed oil and natural gas supply chains, especially in the early years of a basin's development. In contrast to most other undeveloped oil and natural gas areas in the United States, the Eastern Gulf has more ready access to the existing offshore oil and natural gas supply chain and infrastructure, which could lead to relatively faster development in the area.

During the initial seismic and exploratory drilling phase, 2017 to 2022, an average of 88 percent of total domestic Eastern Gulf oil and natural gas spending is projected to take place along the Gulf Coast states. However, as projects begin to be developed and spending on platforms and SURF equipment begin, the Gulf Coast's share of spending is projected to dip to a low of 73 percent, with some high value SURF equipment and platforms to be supplied by other countries (Figure 18).

Figure 18: Projected Overall Spending Gulf Coast States vs. Other U.S States vs. International



Source: Quest Offshore Resources, Inc.

Spending among the Gulf Coast states is projected to vary based on the location of offshore oil and natural gas reserves, projects, and production as well as the makeup of the individual state's economies. The large existing offshore oil and gas supply chains in Texas as and Louisiana will lead to these states capturing large shares of spending despite their relative distance from exploration and production. Initially, it is anticipated that much of the Eastern Gulf development will be directly supplied through ports of Louisiana and Texas. However, as the region develops, suppliers of offshore oil and natural gas equipment are expected to take advantage of the high-tech manufacturing capabilities, as well the extensive port infrastructure states such as Florida, Alabama, and Mississippi. This shift would therefore be distributive for spending from Texas and Louisiana towards the more eastern states in the Gulf. By 2035, 35 percent of development expenditures will be spent in Florida, Alabama, and Mississippi versus an average of only 20 percent in the first five years. In this scenario, total Gulf Coast spending from Eastern Gulf exploration and development activity is expected to reach nearly $11.5 billion per year in 2035, of which over $5 billion would be received by the three eastern most Gulf States. Other U.S. state spending is projected to increase to over $1 billion per year by 2031 (Table 7).

Table 7: Projected Spending Gulf Coast States and Other U.S. States (Millions of Dollars per Year)

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Texas	$17	$76	$112	$160	$201	$388	$828	$1,540	$2,448	$3,201
Louisiana	$11	$52	$67	$92	$104	$159	$280	$474	$729	$985
Mississippi	$1	$6	$10	$15	$21	$38	$75	$136	$221	$311
Alabama	$3	$14	$21	$32	$42	$60	$108	$189	$311	$467
Florida	$3	$13	$21	$36	$50	$91	$192	$382	$651	$978
Other U.S. States	$3	$14	$20	$28	$34	$81	$188	$348	$551	$708
Total	**$38**	**$174**	**$251**	**$363**	**$452**	**$817**	**$1,670**	**$3,070**	**$4,910**	**$6,650**

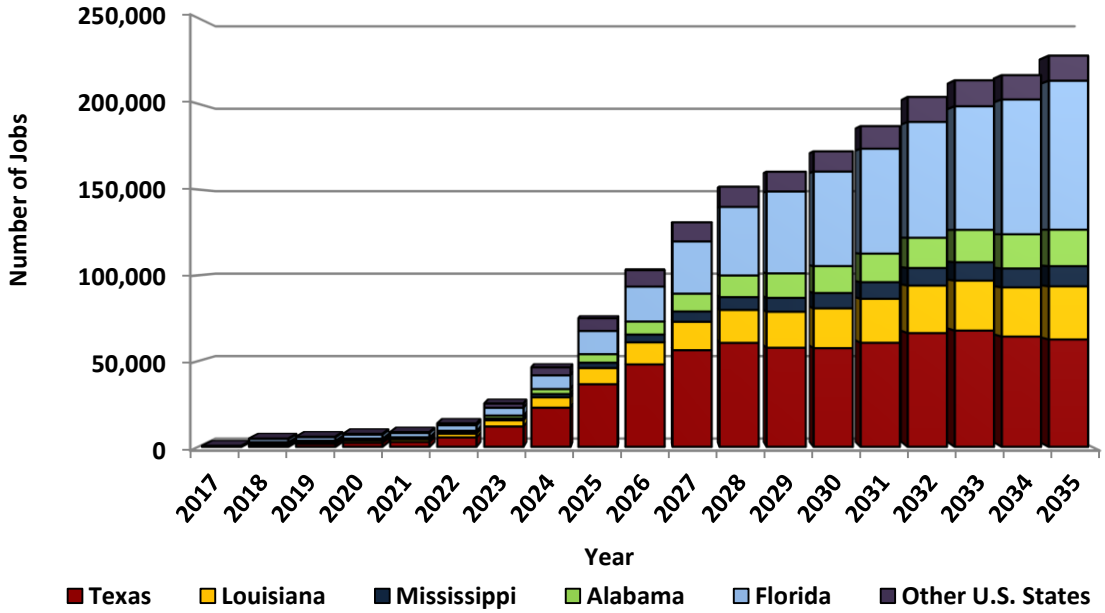
State	2027	2028	2029	2030	2031	2032	2033	2034	2035
Texas	$3,766	$4,008	$3,868	$3,869	$4,183	$4,530	$4,612	$4,289	$4,212
Louisiana	$1,239	$1,402	$1,528	$1,672	$1,864	$2,010	$2,106	$2,018	$2,170
Mississippi	$395	$485	$522	$555	$600	$635	$658	$654	$679
Alabama	$611	$726	$833	$883	$924	$977	$1,054	$1,082	$1,115
Florida	$1,305	$1,622	$1,826	$2,044	$2,252	$2,524	$2,737	$2,968	$3,262
Other U.S. States	$826	$867	$858	$883	$1,007	$1,108	$1,147	$1,061	$1,101
Total	**$8,143**	**$9,110**	**$9,435**	**$9,905**	**$10,830**	**$11,784**	**$12,314**	**$12,072**	**$12,539**

Source: Quest Offshore Resources, Inc.

5.7 - Employment

Spending on goods and services to develop oil and natural gas in the Eastern Gulf is expected to provide large employment gains both nationally and regionally. Employment generally follows spending patterns. Employment effects are expected to steadily grow throughout the forecast period, reaching nearly 230 thousand jobs in 2035. Total Gulf coast employment in 2035 is projected to reach nearly 215 thousand jobs in 2035. U.S. states outside the gulf coast region are projected to see additional employment of approximately 15 thousand jobs in 2035 (Figure 19).

Figure 19: Projected Employment by State

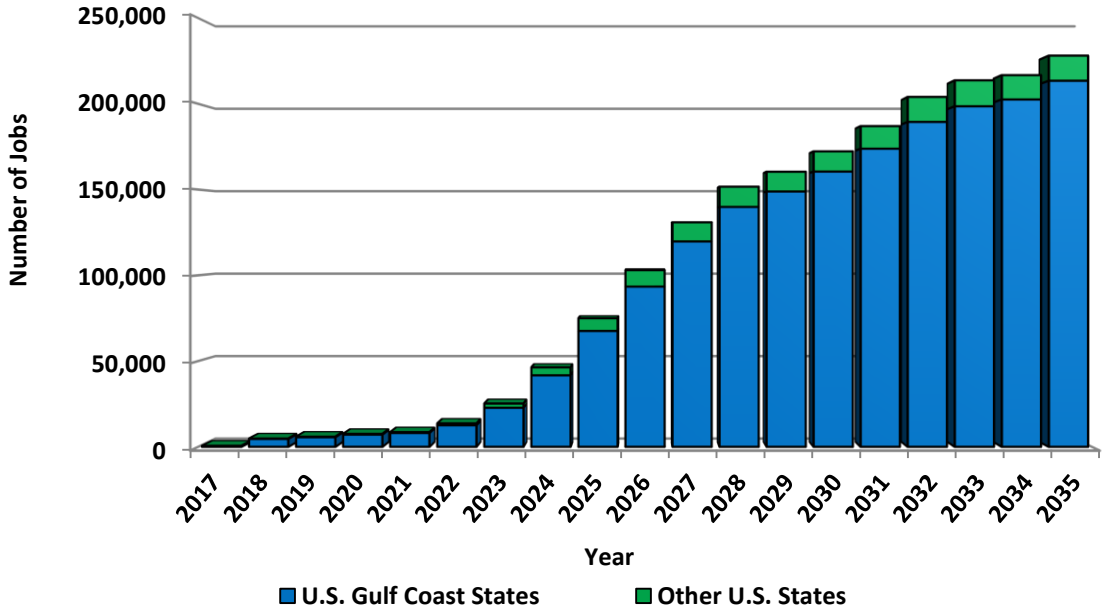


Source: Quest Offshore Resources, Inc.

The largest impact on employment by number of jobs is expected to be seen in the traditional offshore oil and natural gas production states of Texas and Louisiana as well as Florida. Employment in Florida is expected to reach nearly 87 thousand jobs by 2035. Eastern Gulf oil and natural gas development is projected to support employment gains of approximately 62 thousand and 31 thousand jobs in Texas and Louisiana respectively in 2035. Alabama and Mississippi are also projected to see employment gains of over 21 thousand jobs and nearly 12 thousand jobs respectively by 2035.

As the Eastern Gulf is developed, the oil and gas industry is expected to take advantage of the skilled workforce and extensive infrastructure in place within states such as Florida with less developed oil and gas supply chains while also relying on the extensive infrastructure and expertise in states such as Texas and Louisiana. The Gulf coasts' existing oil and gas supply chain coupled with expected expansion of the supply chain in Alabama, Mississippi, and Florida is expected to see the majority of the employment effects within the Gulf region. In the early years of the forecast period from 2017 to 2021, prior to the beginning of significant project development, an average of 95 percent of employment benefits are expected to accrue to the Gulf coast region. As spending on items such as SURF equipment and platforms with larger out of state and country components increases, the percentage of overall employment effects in Gulf Coast states is expected to fall as low as 90 percent in 2023 to 2025, albeit with overall employment in the region still growing rapidly. By 2035, the Gulf Coast states are projected to account for 94 percent of the employment effects of Eastern Gulf development (Figure 20).

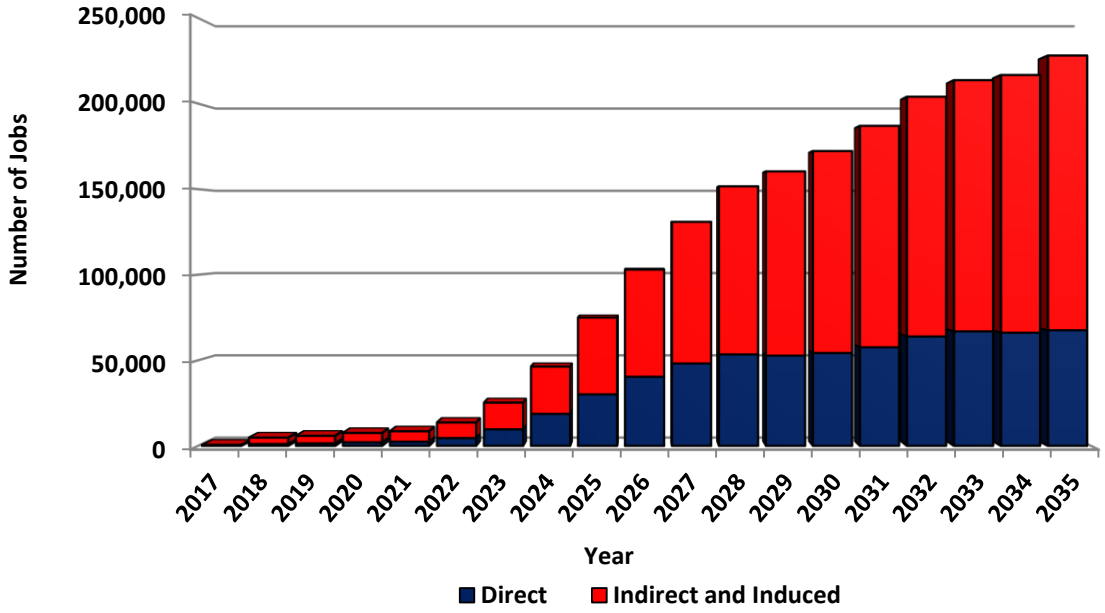
Figure 20: Projected Employment Gulf Coast vs. Other U.S States – Total



Source: Quest Offshore Resources, Inc.

The opening of the Eastern Gulf to offshore oil and natural gas production is expected to increase employment not only through direct employment in the industry, but also indirectly. Indirect employment occurs through the purchases of needed goods and services and the induced employment impact of greater income in the economy. Direct employment by oil and natural gas companies and their suppliers is projected to reach nearly 68 thousand jobs in 2035. Jobs generated through the purchase of goods and services coupled with the income effects of increased employment are expected to contribute a further 160 thousand jobs (Figure 21).

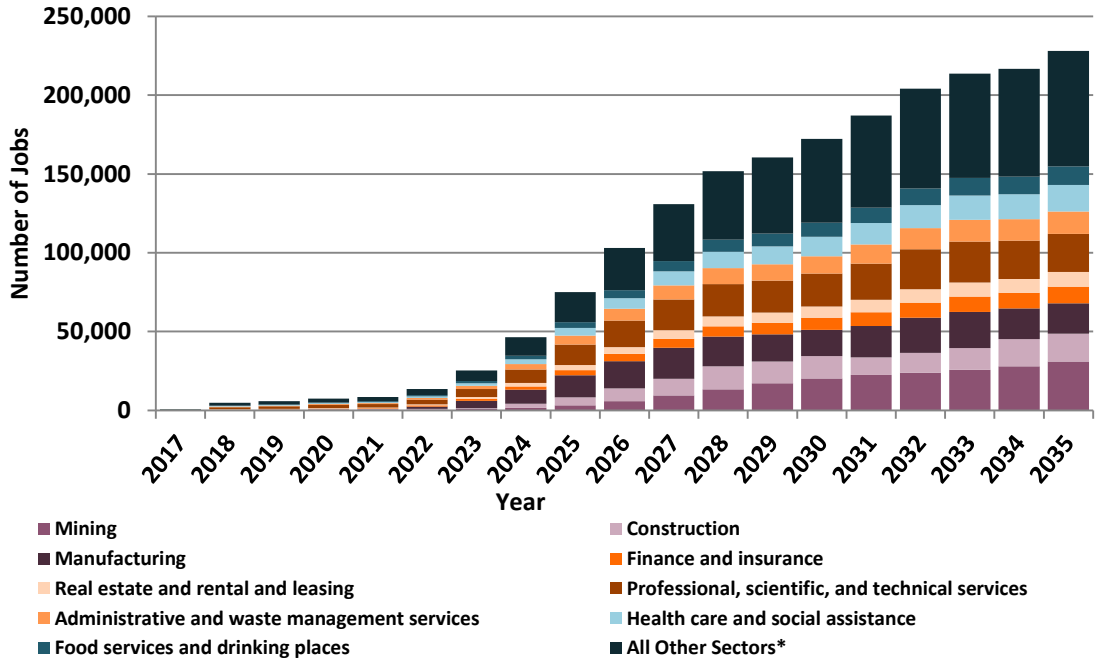
Figure 21: Projected Employment Direct vs. Indirect and Induced



Source: Quest Offshore Resources, Inc.

Offshore oil and natural gas development in the Eastern Gulf is expected to support a diverse spectrum of industries both nationally and along the Gulf coast. Industry sectors which are directly involved in oil and natural gas activities such as mining, which includes the oil and gas industry, manufacturing, professional, scientific, and technical Services (engineering), and Construction (installation) are expected to see the largest employment impacts with a combined 90 thousand jobs created by 2035. Additionally, employment impacts are expected to be significant for a variety of other industries outside oil and gas, with 135 thousand jobs projected outside of these four categories in 2035 (Figure 22).

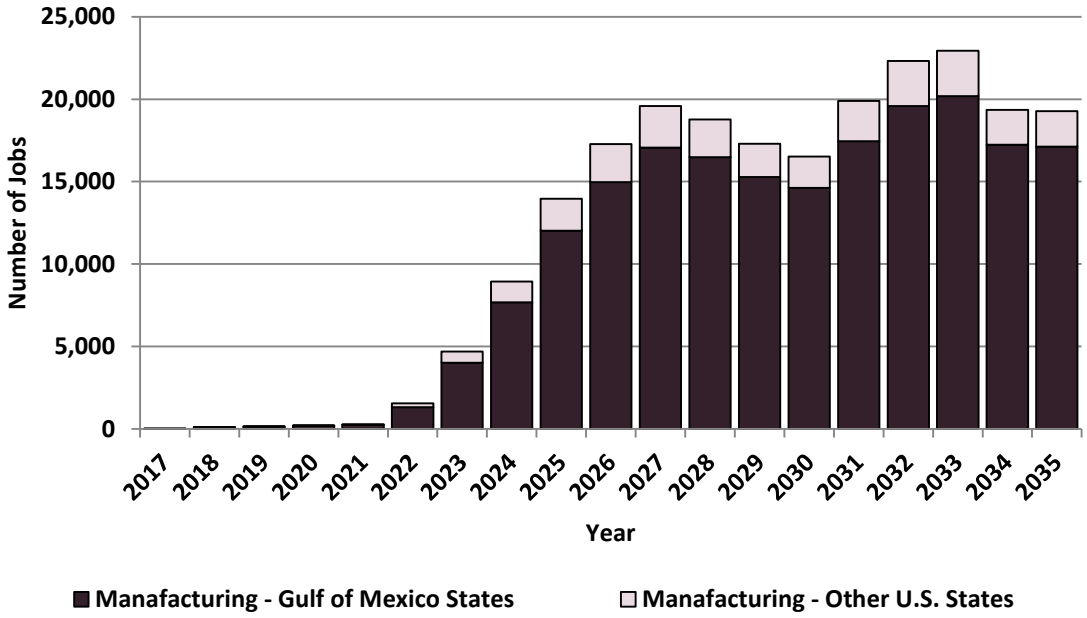
Figure 22: Projected Employment by Industry Sector



Source: Quest Offshore Resources, Inc.

The manufacturing sector includes those businesses that manufacture and fabricate oil and gas equipment, platforms, and otherwise produce the goods required to develop oil and natural gas fields. Manufacturing is projected to see some of the largest gains due to Eastern Gulf offshore oil and natural gas production, with around 20 thousand jobs created by 2035; 17 thousand jobs in Gulf Coast states and over 2 thousand in the rest of the U.S. (Figure 23).

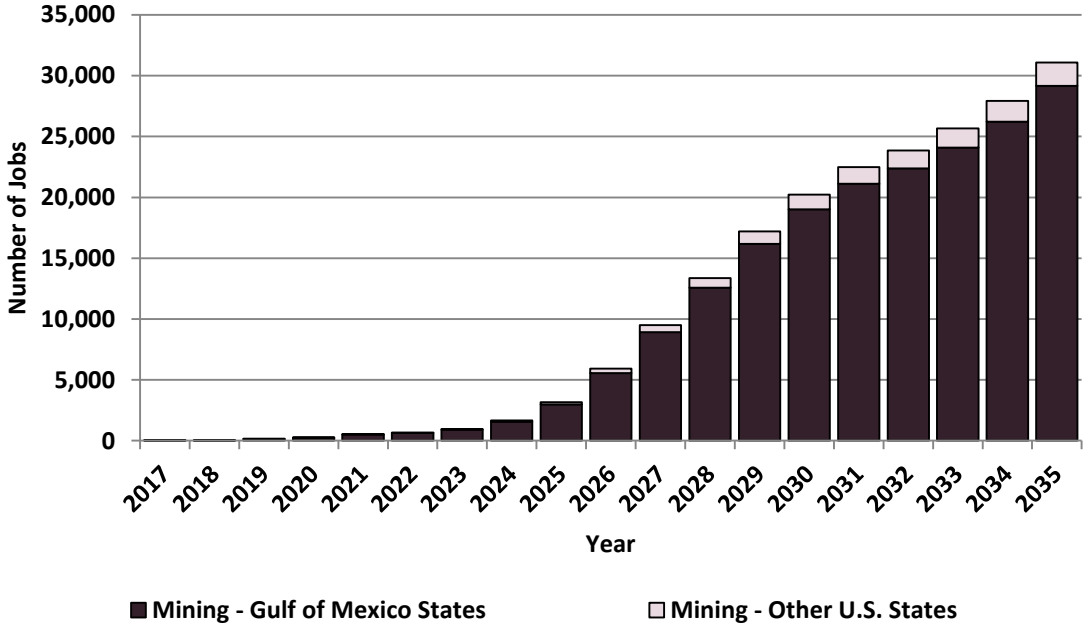
Figure 23: Projected Manufacturing Employment



Source: Quest Offshore Resources, Inc.

Employment in the mining sector, which includes oil and gas development, is also expected to see significant growth. In 2035 total employment is projected to reach around 31 thousand jobs; 30 thousand jobs expected in Gulf Coast states and over one thousand jobs in the rest of the U.S. (Figure 24).

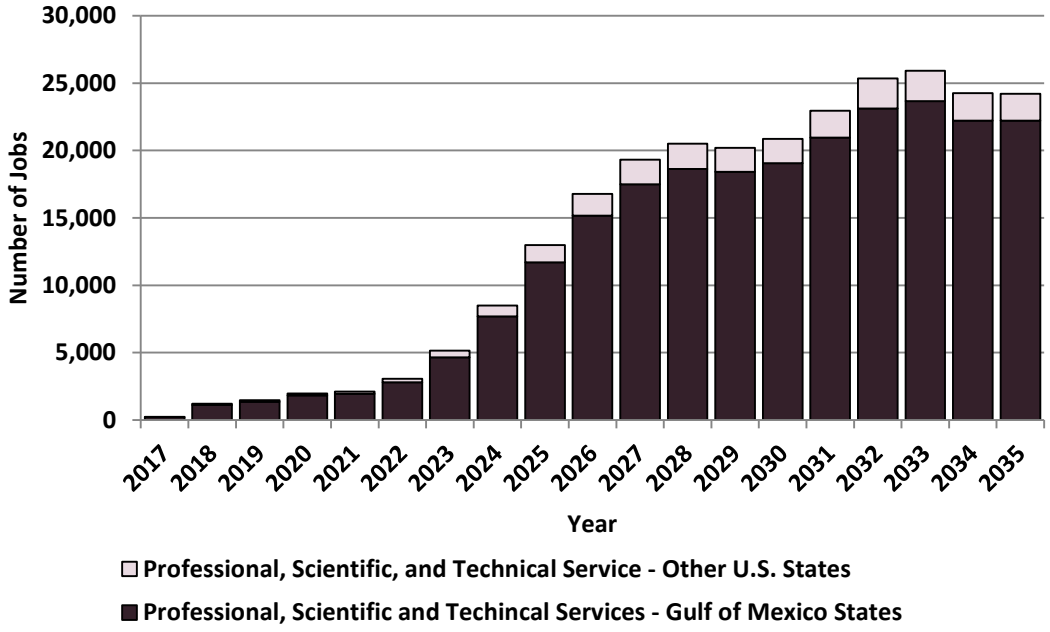
Figure 24: Projected Mining (Oil & Gas) Employment



Source: Quest Offshore Resources, Inc.

Another employment sector expected to see large gains as a result of Eastern Gulf offshore oil and natural gas activity is the professional, scientific, and technical service sector which includes high value engineering employment. This sector is projected to see in excess of 23 thousand additional jobs in 2035, with nearly 22 thousand jobs in the Gulf Coast states and around two thousand jobs in other U.S. states (Figure 25).

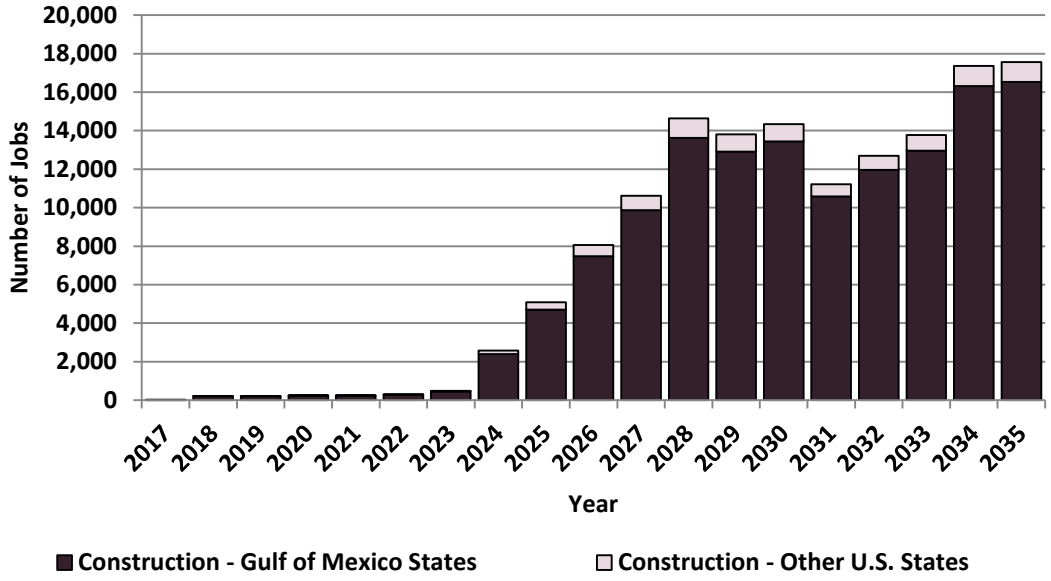
Figure 25: Projected Professional, Scientific, and Technical Service Employment



Source: Quest Offshore Resources, Inc.

The construction sector, which includes industrial construction activities such as offshore installation and construction of natural gas processing infrastructure, is also expected to see large employment gains. Due to the cyclical nature of installation, construction employment is expected to be more variable than most other sectors. By 2035, employment in the construction sector is expected to reach over 17 thousand jobs (Figure 26).

Figure 26: Projected Construction Employment



Source: Quest Offshore Resources, Inc.

Many employment sectors of the economy outside oil and gas development or the direct supply chain will also be impacted, mainly due to greater income in the economy. The most affected sectors are projected to be retail with over 18 thousand jobs created in 2035, health care and social assistance with nearly 17 thousand jobs created, administrative and waste management services with over 14 thousand jobs, food services and drinking places with nearly 12 thousand jobs, and finance and insurance, and real estate, rental and leasing with both industries individually projected to see the creation of nearly 11 thousand jobs by 2035. The summary table of projected total employment supported at the state level is provided below (Table 8).

Table 8: Projected Employment Gulf Coast States and Other U.S. States

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Texas	256	1,168	1,664	2,333	2,846	5,494	11,864	22,800	36,487	48,049
Louisiana	149	878	1,066	1,398	1,511	2,179	3,601	6,077	9,447	12,868
Mississippi	17	207	257	319	377	594	1,040	1,876	3,102	4,526
Alabama	44	492	587	728	825	1,077	1,707	2,935	4,981	7,589
Florida	47	1,869	2,023	2,355	2,510	3,233	4,577	7,995	13,543	20,372
Other U.S. States	44	203	274	386	452	1,067	2,465	4,672	7,427	9,583
Total	**558**	**4,816**	**5,872**	**7,519**	**8,521**	**13,645**	**25,255**	**46,355**	**74,988**	**102,987**

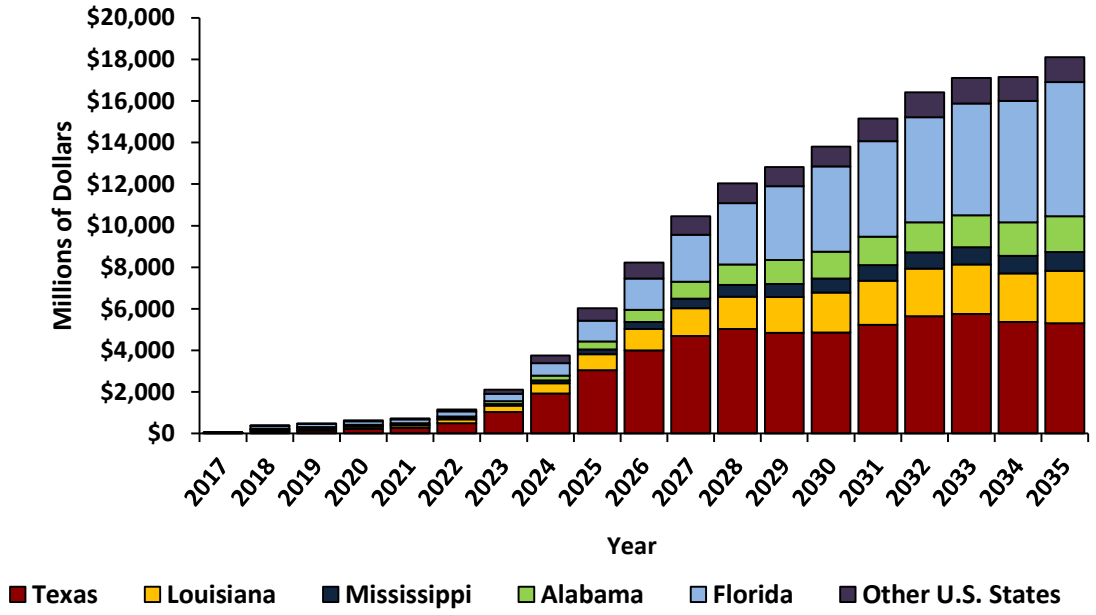
State	2027	2028	2029	2030	2031	2032	2033	2034	2035
Texas	56,318	60,604	57,744	57,514	60,655	66,287	67,773	64,272	62,591
Louisiana	16,579	19,211	20,997	23,234	25,649	27,715	29,136	28,688	30,986
Mississippi	6,006	7,431	8,091	8,903	9,668	10,243	10,694	11,016	11,750
Alabama	10,383	12,654	14,294	15,722	16,681	17,625	18,891	19,955	21,266
Florida	30,453	39,968	47,738	55,104	61,156	67,544	72,042	78,577	86,825
Other U.S. States	11,157	11,803	11,526	11,796	13,185	14,589	15,149	14,196	14,655
Total	**130,895**	**151,672**	**160,391**	**172,272**	**186,994**	**204,004**	**213,684**	**216,704**	**228,074**

Source: Quest Offshore Resources, Inc.

5.8 - State Income Impacts

Along with employment benefits, significant contributions to state and national gross domestic product are also expected due to Eastern Gulf oil and natural gas development. Total contributions to state economies are projected at over $18 billion per year in 2035, with around 93 percent expected to occur in Gulf Coast states and seven percent in the rest of the U.S. (Figure 27).

Figure 27: Projected Contributions to State Economies Gulf Coast vs. Other U.S. States – Total



Source: Quest Offshore Resources, Inc.

Presented below are the projected economic effects of Eastern Gulf exploration and production. The largest contributions are expected to mimic spending at the state level. The states of Florida, Texas, and Louisiana receive the majority of contributions to their states' economies (Table 9).

Table 9: Projected Contributions to State Economies Gulf Coast States and Other U.S. States

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Texas	$23	$105	$152	$215	$265	$498	$1,035	$1,923	$3,056	$3,994
Louisiana	$13	$74	$91	$121	$132	$187	$303	$497	$762	$1,036
Mississippi	$1	$16	$20	$25	$31	$48	$82	$143	$234	$341
Alabama	$4	$38	$47	$59	$69	$89	$138	$228	$381	$588
Florida	$4	$141	$153	$179	$191	$246	$347	$595	$1,001	$1,504
Other U.S. States	$4	$18	$24	$34	$40	$91	$204	$376	$594	$763
Total	**$48**	**$392**	**$487**	**$632**	**$728**	**$1,160**	**$2,108**	**$3,762**	**$6,028**	**$8,226**

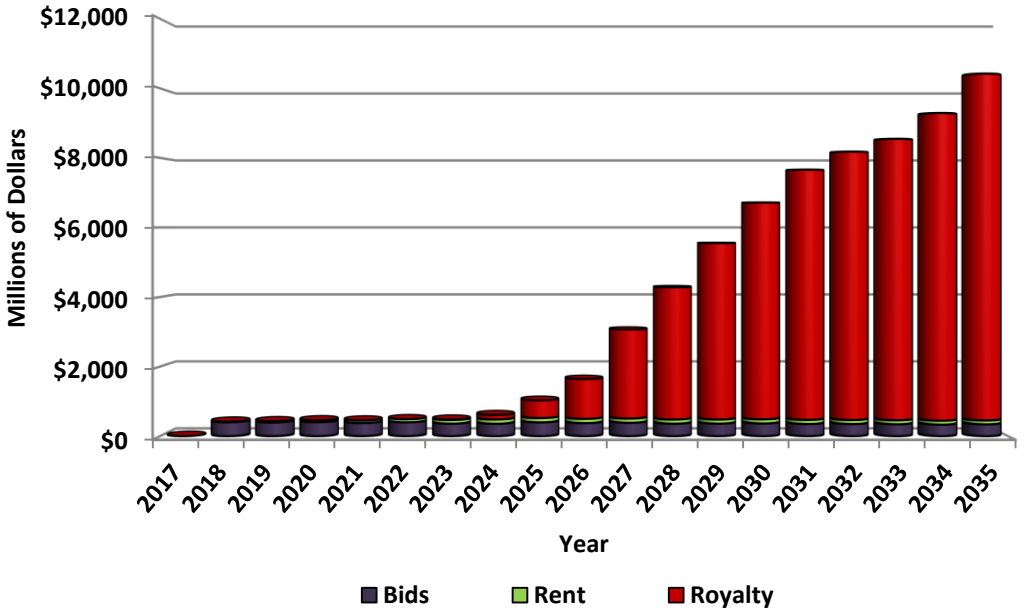
State	2027	2028	2029	2030	2031	2032	2033	2034	2035
Texas	$4,695	$5,027	$4,853	$4,869	$5,229	$5,651	$5,748	$5,374	$5,300
Louisiana	$1,341	$1,550	$1,718	$1,909	$2,125	$2,281	$2,392	$2,336	$2,534
Mississippi	$455	$566	$623	$687	$751	$789	$819	$835	$894
Alabama	$814	$996	$1,156	$1,278	$1,370	$1,436	$1,536	$1,610	$1,723
Florida	$2,251	$2,951	$3,543	$4,102	$4,582	$5,055	$5,379	$5,839	$6,458
Other U.S. States	$890	$941	$932	$963	$1,092	$1,198	$1,239	$1,151	$1,201
Total	**$10,447**	**$12,030**	**$12,826**	**$13,808**	**$15,150**	**$16,410**	**$17,113**	**$17,146**	**$18,109**

Source: Quest Offshore Resources, Inc.

5.9 – Government Revenue Impacts

In addition to economic and employment growth, expanding current oil and gas production in the Eastern Gulf would increase government revenue. Extrapolating from current Gulf of Mexico regulatory environment, total government revenues are projected to reach over $10.4 billion dollars per year in 2035, with the majority of revenues from royalties on produced oil and natural gas at $9.9 billion. In 2035, leasing bonus bids are projected to account for around $340 million per year in government revenue, while rental income from offshore blocks is expected to account for $110 million. From 2017 to 2035, royalties on oil and natural gas production are expected to total $61 billion if activity takes place throughout the area (Figure 28).

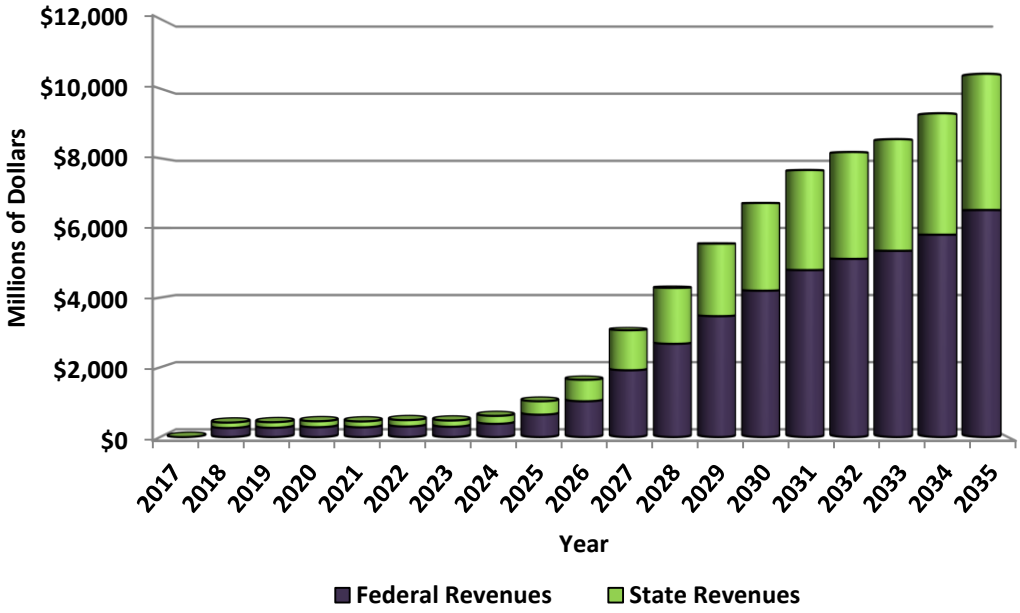
Figure 28: Projected Government Revenues – Rentals, Royalties, and Bonus Bids



Source: Quest Offshore Resources, Inc.

There is a high likelihood that revenue generated from Eastern Gulf oil and natural gas development will be shared between the federal government and the various state governments, although there currently is no revenue sharing agreement in place that covers all of Gulf of Mexico. However, an assumption that government revenues would be split on the basis of 62.5 percent for the federal government and 37.5 percent for state governments was assumed for this analysis to compare potential revenue streams among the Gulf Coast states. This is in-line with the percentage split currently in place with states in the Gulf of Mexico covered by GOMESA, but with no annual revenue cap and the addition of Florida. Such projected state government revenue streams will need to be adjusted proportionally when or if a legislated agreements arise. Given the assumed 37.5 percent revenue share to the Gulf of Mexico states, federal government revenues from Eastern Gulf offshore oil and natural gas production are projected to reach $6.5 billion per year in 2035. Combined state revenues for the Gulf Coast states are projected at about $3.9 billion per year (Figure 29).

Figure 29: Projected Government Revenues from Rentals, Royalties, and Bonus Bids, State and Federal



Source: Quest Offshore Resources, Inc.

Deriving from the location of the potential oil and natural gas production, Florida and Alabama are most likely to receive significant amount returns of any revenue sharing agreement. At a 37.5 percent take for state governments, these states would receive a cumulative $18.6 billion and $3.5 billion. Most Gulf Coast states, with the exception of Texas, would receive at least $250 million per year by 2035. Florida is projected to receive the highest revenues in 2035, with revenues projected at nearly $2.8 billion (Table 10).

Table 10: Projected Government Revenues from Rentals, Royalties, and Bonus Bids by State and Federal[17]

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Texas	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Louisiana	$0	$14	$14	$15	$15	$16	$16	$20	$34	$56
Mississippi	$0	$9	$9	$10	$10	$10	$10	$13	$23	$43
Alabama	$0	$20	$21	$22	$22	$23	$23	$28	$52	$96
Florida	$0	$114	$116	$125	$123	$133	$129	$168	$277	$422
Other U.S. States	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$156**	**$161**	**$171**	**$169**	**$183**	**$178**	**$228**	**$386**	**$616**

State	2027	2028	2029	2030	2031	2032	2033	2034	2035
Texas	$0	$0	$0	$0	$0	$0	$0	$0	$0
Louisiana	$103	$142	$182	$222	$253	$268	$281	$305	$344
Mississippi	$77	$103	$126	$156	$179	$184	$193	$211	$244
Alabama	$171	$229	$281	$348	$398	$409	$430	$469	$542
Florida	$799	$1,132	$1,492	$1,793	$2,043	$2,206	$2,301	$2,498	$2,778
Other U.S. States	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,150**	**$1,605**	**$2,081**	**$2,519**	**$2,873**	**$3,067**	**$3,205**	**$3,483**	**$3,908**

Source: Quest Offshore Resources, Inc.

[17] For comparison purposes only for potential revenue among states. Assumes 37.5 percent of bonuses, rents and royalties go to state governments. There is a current revenue sharing agreement in place (GOMESA), but this excludes Florida.

Section 6 – Conclusions

6.1 – Conclusions

The offshore U.S. oil and natural gas industry is a key component of the nation's energy supply, as well a significant source of employment, economic activity, and government revenue throughout the nation. However, large portions of the nations' federal waters are currently inaccessible to oil and gas operators, including around 98 percent of the Eastern Gulf. Allowing oil and gas operators increased access to the Eastern Gulf and its resources would be expected to benefit oil and natural gas production, employment, the national economy, and government revenue.

- If leasing in the Eastern Gulf began in 2018 and seismic in 2017, annual capital investment and other spending due to offshore oil and natural gas development would be projected to grow from nearly $6 billion per year in 2025 to over $14 billion per year in 2035. Cumulative capital investments and other spending from 2017 to 2035 are projected at $135 billion.

- Eastern Gulf oil and gas activities can create nearly 75 thousand jobs by 2025, of which nearly 70 thousand would be in the Gulf Coast states.

- By 2035, total national employment due to Eastern Gulf oil and gas exploration and production would reach nearly 230 thousand jobs, with nearly 215 thousand of these jobs in Gulf Coast states.

- Development of the Eastern Gulf's offshore oil and natural gas resources would lead to production of over 980 thousand barrels of oil equivalent per day by 2035.

- Eastern Gulf activity would contribute over $6 billion per year to the national economy in 2025, with Gulf Coast states receiving contributions of nearly $5.5 billion per year.

- In 2035 total national contributions to the economy could reach over $18 billion per year, with Gulf Coast states receiving combined contributions of nearly $17 billion per year.

- Combined state and federal revenues from bonuses, rents and royalties are projected to reach over $1 billion per year in 2025, with these revenues projected to grow to nearly $10.4 billion per year in 2035.

- If a legislated state / federal revenue sharing agreement is enacted, the Eastern Gulf coast states could see significant gains to their state budgets. With a 37.5 percent sharing agreement, state revenues are projected to be around $385 million per year by 2025, with revenues expected to grow to nearly $4 billion per year by 2035, leading to further increases in economic activity and

employment.[18] If a different revenue percentage were enacted, projected state revenues should be adjusted proportionally.

Under the development scenario put forth by Quest Offshore Resources, it is clear that the Eastern Gulf displays significant potential to grow the American economy across numerous industries and areas. Allowing access to the entire Eastern Gulf for oil and gas exploration and production activities is likely to lead to large capital investments and operational spending by oil and gas operators to develop key resource areas. This spending would likely lead to large increases in employment and economic activity both in Gulf Coast states and nationally. Additionally, this activity is projected to lead to a large increase in domestic energy production and the royalties plus other revenues received are expected to lead to healthy increases in revenues to state and federal governments.

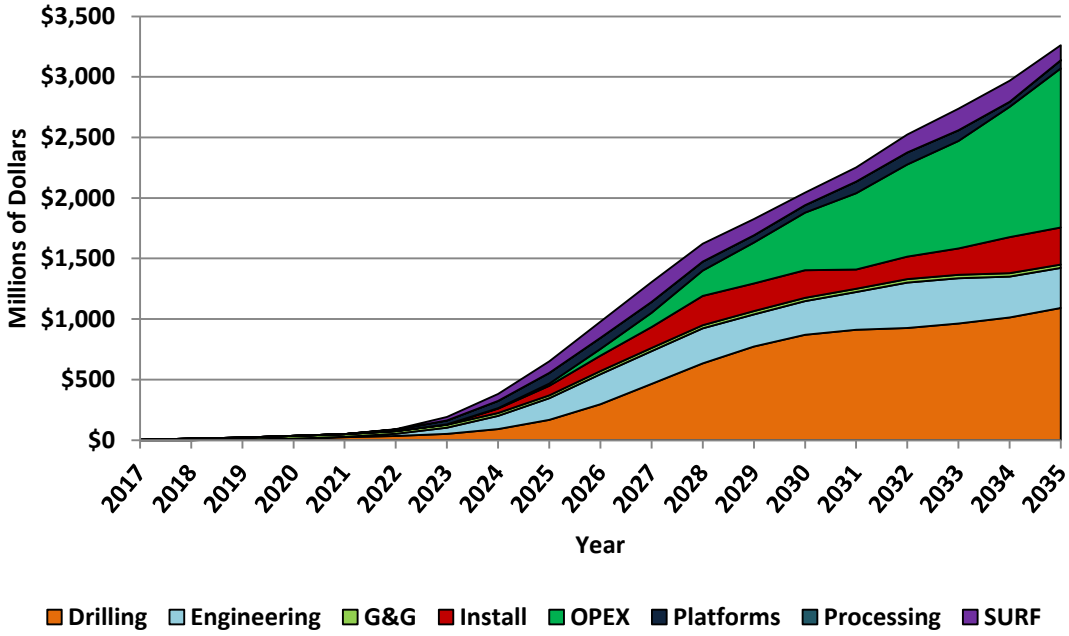
[18] Under assumed effective 67.5 / 32.5 percent revenue sharing

Section 7 – State Results Appendix

7.1 - Florida

Florida is expected to be one of the states to benefit the greatest by the opening of the Eastern Gulf to offshore oil and natural gas exploration and production activity. Annual spending in 2035 in the state is projected at around $3.2 billion per year, with spending primarily focused on drilling, operational expenditures, and installation. (Figure 30)

Figure 30: Projected Florida Spending by Sector



Source: Quest Offshore Resources, Inc.

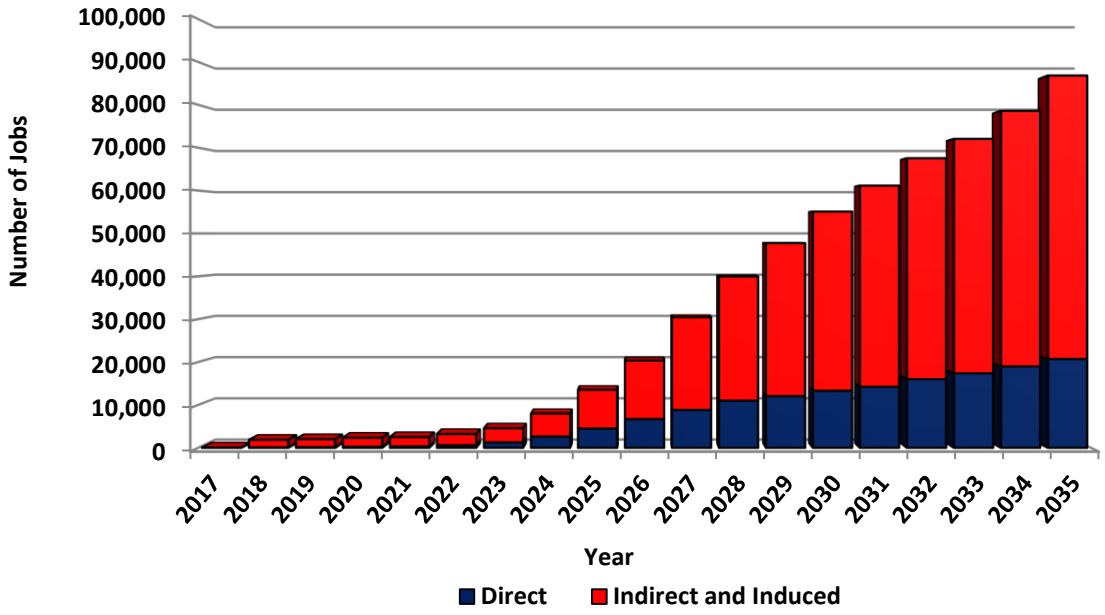
In 2035, spending on drilling is expected to reach over $1 billion, operational expenditures are projected to reach over $1.3 billion per year, and installation spending at over $300 million per year. Florida is already host to major oil and natural gas industry suppliers such as Crowley, one of the largest operators of large offshore tugs used for the transportation of drilling rigs and production units and Oceaneering's Panama City umbilical plant which is one of the largest facilities of its type in the world. Florida is also home to a large manufacturing industry, as well as possessing multiple deepwater Gulf Coast ports such as Tampa Bay and Pensacola - an active port utilized for offshore oil and natural gas operations. (Figure 31)

Figure 31: Port of Pensacola with Offshore Installation Vessels Docked

Source: Florida Ports Council

Employment in Florida due to spending on Eastern Gulf oil and natural gas activity is projected to reach over 85 thousand jobs in. Direct employment due to offshore oil and natural gas exploration and production is expected to reach over 21 thousand jobs in 2035, with indirect and induced employment of nearly 66 thousand jobs expected in the same year. (Figure 32)

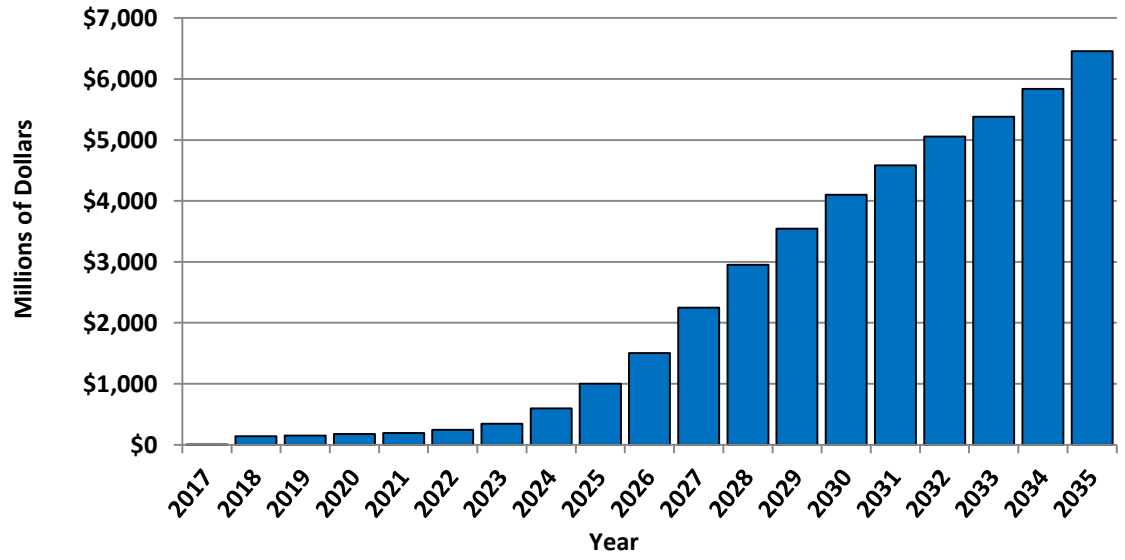
Figure 32: Projected Florida Employment Direct vs. Indirect and Induced



Source: Quest Offshore Resources, Inc.

Contributions to Florida's state economy due to spending by the Eastern Gulf oil and natural gas industry are projected to be nearly $6.5 billion per year by 2035. (Figure 33)

Figure 33: **Projected Florida Contributions to the State Economy**



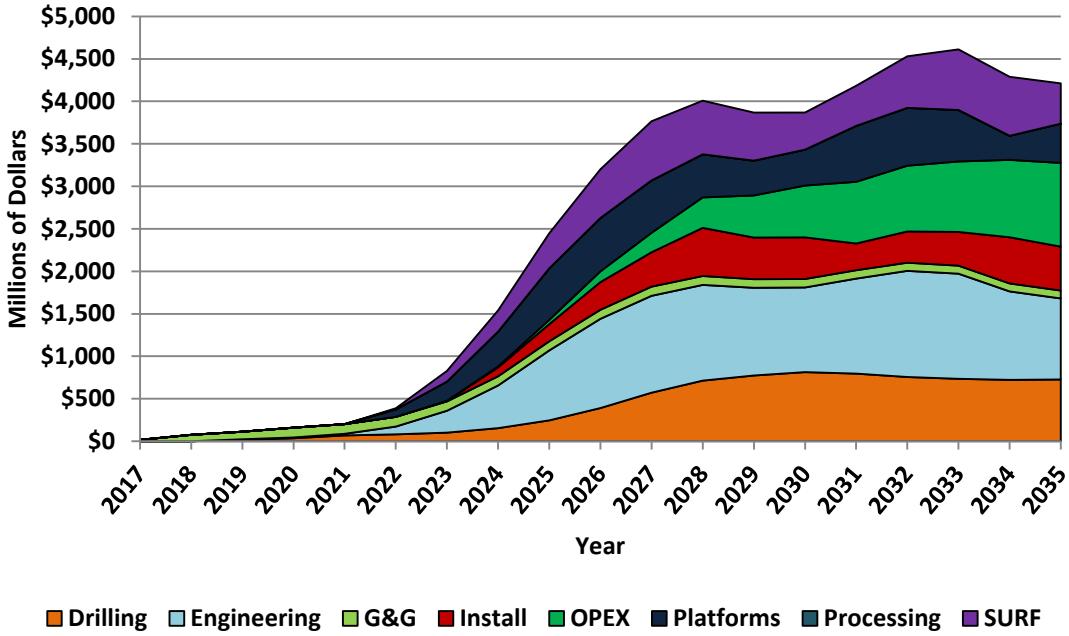
Source: Quest Offshore Resources, Inc.

With an assumed 37.5 percent revenue sharing agreement in place, Eastern Gulf oil and natural gas activities are projected to contribute nearly $2.8 billion per year to Florida's budget in 2035; cumulative contributions from 2017 to 2035 are projected to be over $18.7 billion. If a different revenue percentage were enacted, projected state revenues should be adjusted proportionally.

7.2 - Texas

Texas is expected to be one of the states which will receive the greatest benefits from the opening of the Eastern Gulf to offshore oil and natural gas exploration and production activity. Annual spending in 2035 in the state is projected at around $4.2 billion per year. Spending is expected to primarily to be strongest from the engineering, SURF equipment, and platform construction segments. (Figure 34)

Figure 34: Projected Texas Spending by Sector



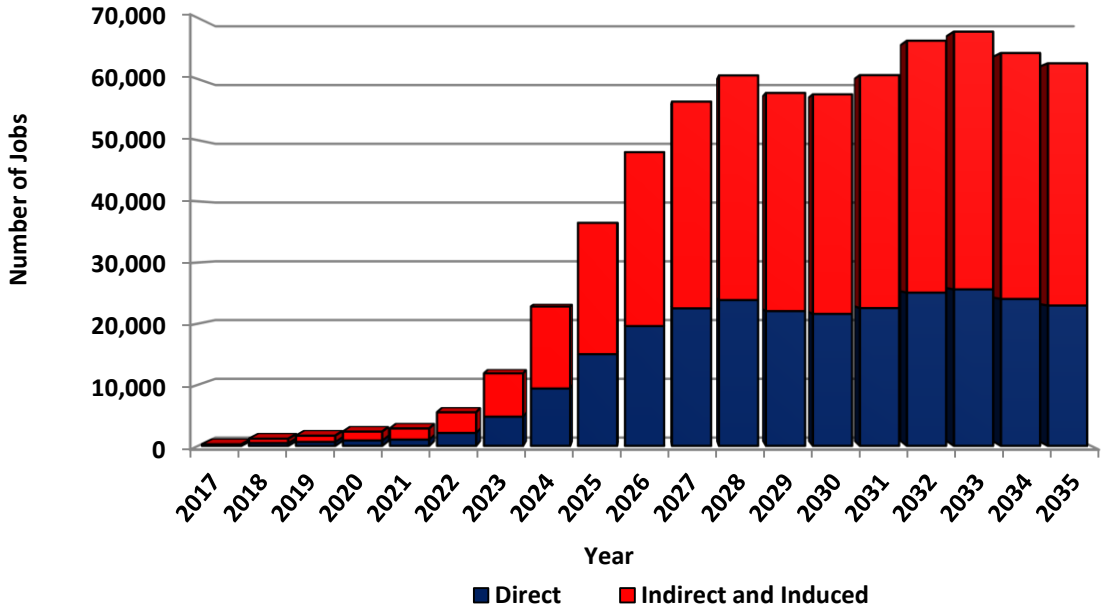
Source: Quest Offshore Resources, Inc.

Spending on engineering is expected to reach nearly $1 billion per year, SURF spending is projected to reach over $475 million per year, with platform spending at over $450 million per year in 2035. Texas is one of the largest suppliers to the worldwide oil and gas industry, with Houston considered a worldwide center for the offshore oil and natural gas industry. The state is home the headquarters or major offices of major operators such as ExxonMobil, ConocoPhillips, Chevron, and BP. Independent operators leveraged to offshore oil and natural gas such as Anadarko are also based out of the state. Some of the largest suppliers to the offshore industry are based in the state or have large manufacturing presences including; Cameron, FMC Technologies, GE Oil and Gas, National Oil Well Varco, Schlumberger and many others. Thousands of other companies leveraged to offshore oil and gas are based in or have major operations in Texas, including facilities such as shipyards in areas like Brownsville and Ingleside, spool bases in South Texas, and ports in Houston, Galveston, Port Arthur and other locations.

Employment in Texas due to spending on Eastern Gulf offshore oil and natural gas development is projected to reach over 62 thousand jobs in 2035. Direct employment due to offshore oil and natural

gas exploration and production is expected to reach over 23 thousand jobs in 2035, with indirect and induced employment of nearly 40 thousand jobs expected in the same year. (Figure 35)

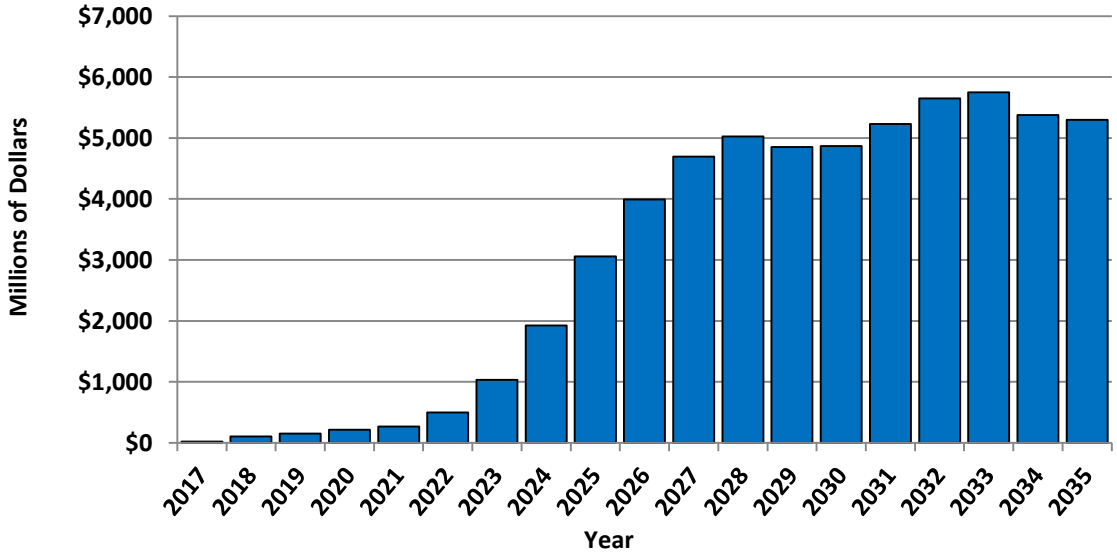
Figure 35: Projected Texas Employment Direct vs. Indirect and Induced



Source: Quest Offshore Resources, Inc.

Contributions to Texas' state economy due to spending on Eastern Gulf oil and natural gas exploration and development industry are projected to be nearly $5.3 billion per year by 2035. (Figure 36)

Figure 36: Projected Texas Contributions to the State Economy



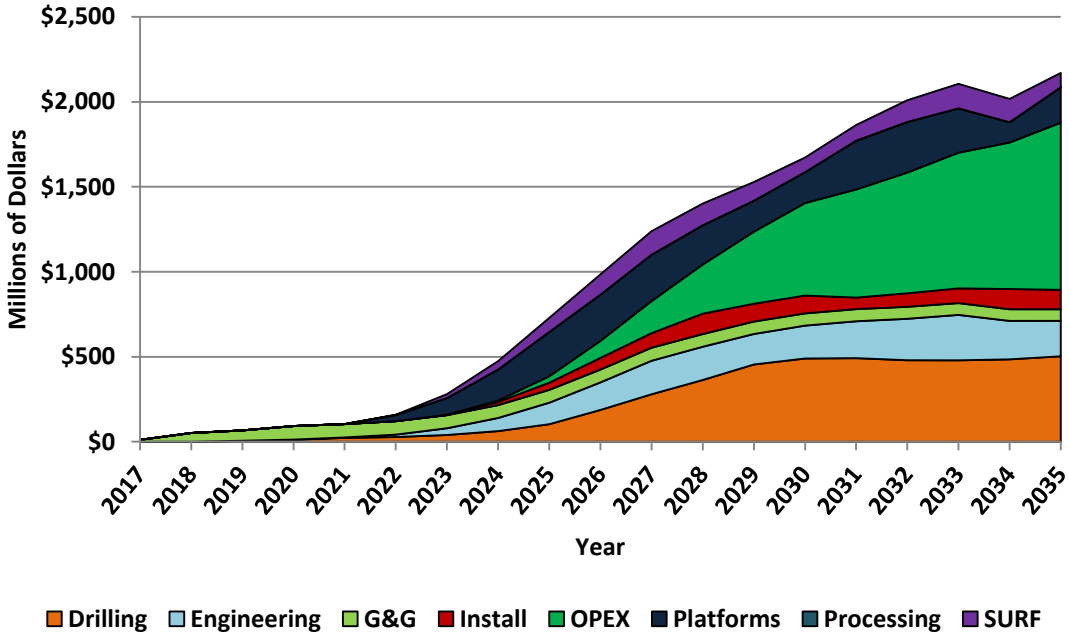
Source: Quest Offshore Resources, Inc.

Due to the distance of Texas from Eastern Gulf oil and natural gas exploration and production, under the scenario used in this report, Texas is not expected to see additional government revenues from Eastern Gulf production royalties.

7.3 – Louisiana

Louisiana is expected to receive the third highest levels of spending, employment and gross domestic product due to offshore oil and natural gas activity in the Eastern Gulf. Spending in the state is projected to reach just over $2.1 billion per year in 2035. (Figure 37)

Figure 37: Projected Louisiana Spending by Sector

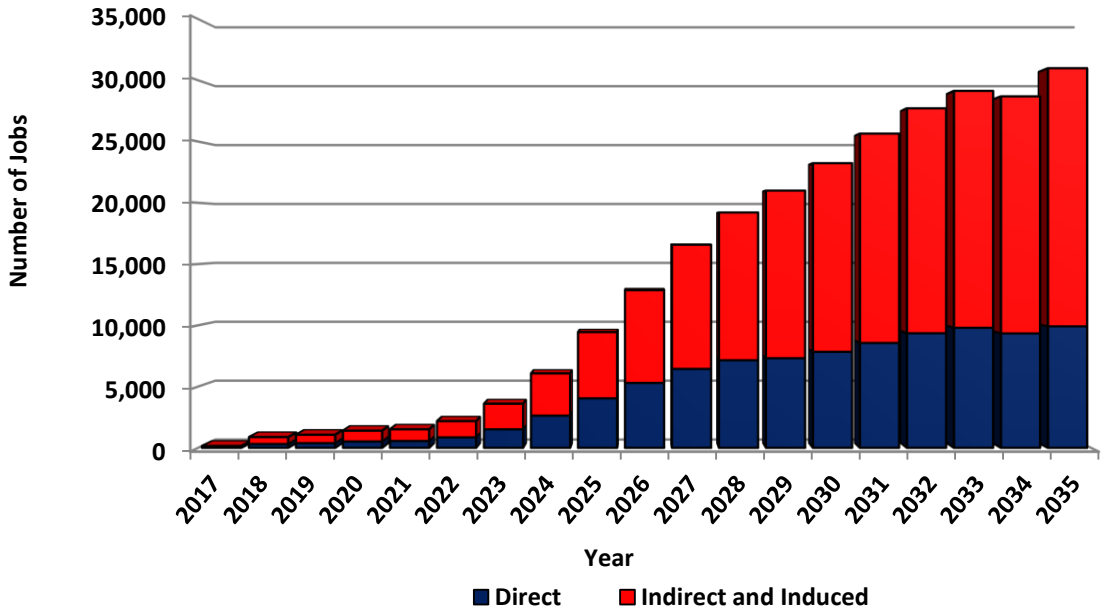


Source: Quest Offshore Resources, Inc.

Spending in Louisiana is expected to be driven by drilling, operational expenditures and platform fabrication, with these categories accounting for around $503 million, $983 million, and $209 million per year in spending in 2035. Engineering spending is projected to reach over $209 million in the same year. Louisiana is home to important independent offshore operators such as Stone Energy and LLOG, as well as many suppliers to the oil and gas industry such as the Gulf Island shipyard, the state is also home to the largest offshore supply base in the country at Port Fourchon, as well as many offshore vessel suppliers such as Harvey Gulf International.

Employment in Louisiana due to Eastern Gulf coast offshore oil and gas production is projected to reach nearly 31 thousand jobs in 2035, with direct employment expected to reach nearly ten thousand jobs, and indirect and induced employment of over 21 thousand jobs expected in the same year. (Figure 38)

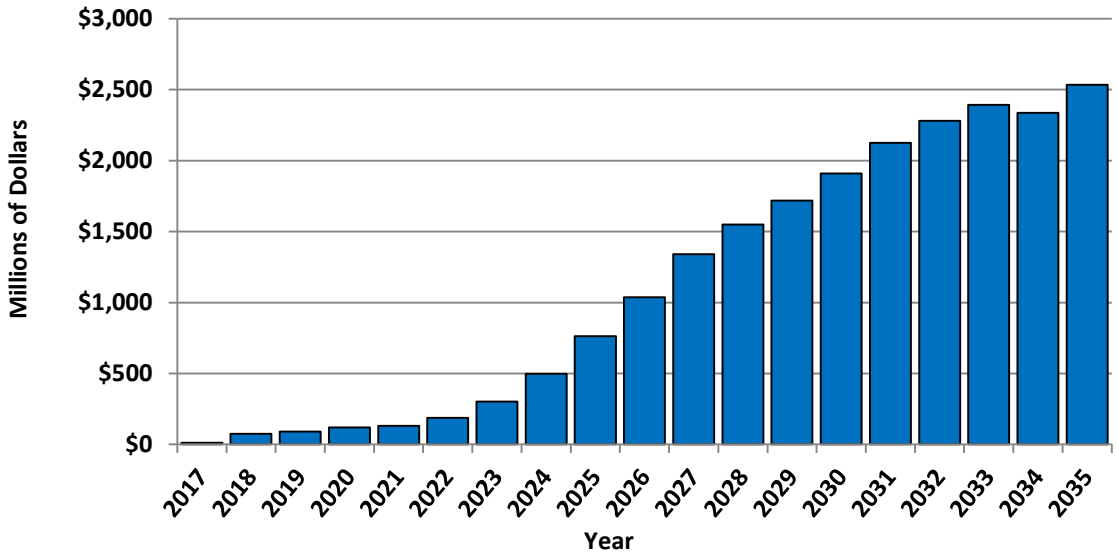
Figure 38: **Projected Louisiana Employment Direct vs. Indirect and Induced**



Source: Quest Offshore Resources, Inc.

In 2035, contributions to the state economy from Eastern Gulf offshore oil and natural gas exploration and production in Louisiana are projected to reach over $2.5 billion per year. (Figure 39)

Figure 39: **Projected Louisiana Contributions to the State Economy**



Source: Quest Offshore Resources, Inc.

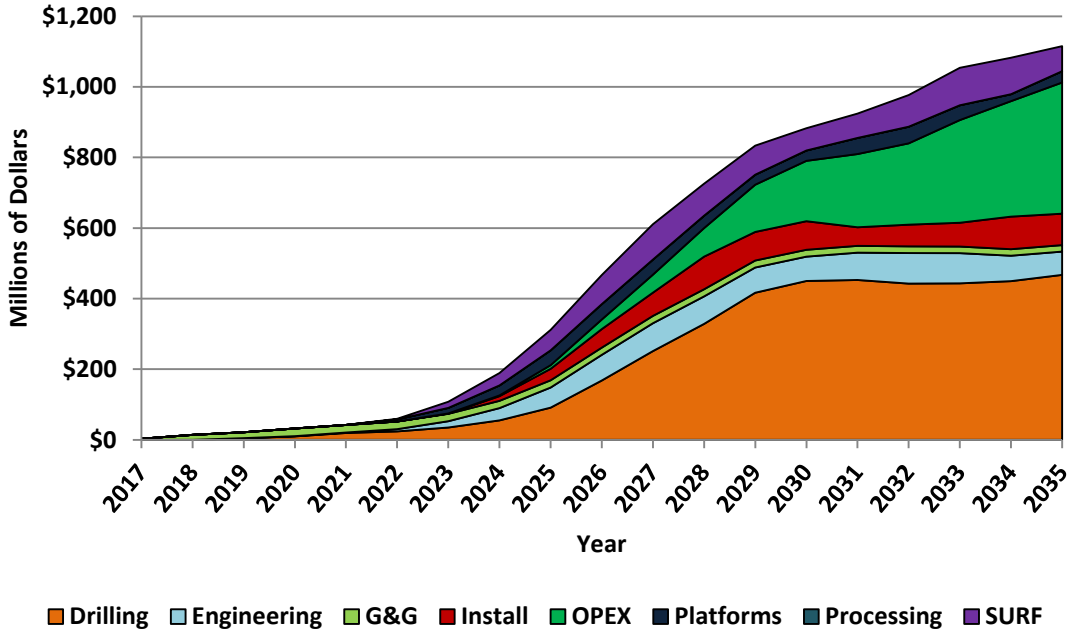
Governmental revenues collected under a 37.5 percent state / federal revenue sharing agreement would be expected to create $344 million per year in new revenues for the state of Louisiana

in 2035, with cumulative revenues from 2017 to 2035 projected to be nearly $2.3 billion. If a different revenue percentage were enacted, projected state revenues should be adjusted proportionally.

7.4 - Alabama

Alabama is expected to receive the fourth highest levels of spending, employment, and contributions to its economy due to offshore oil and natural gas activity in the Eastern Gulf. Eastern Gulf oil and natural gas activity is estimated to lead to spending of over $1.1 billion per year in 2035. Spending in Alabama is expected to be focused on drilling, operational expenditures, and SURF manufacturing, with these three sectors seeing $467 million, $371 million, and $72 million in spending. (Figure 40)

Figure 40: Projected Alabama Spending by Sector

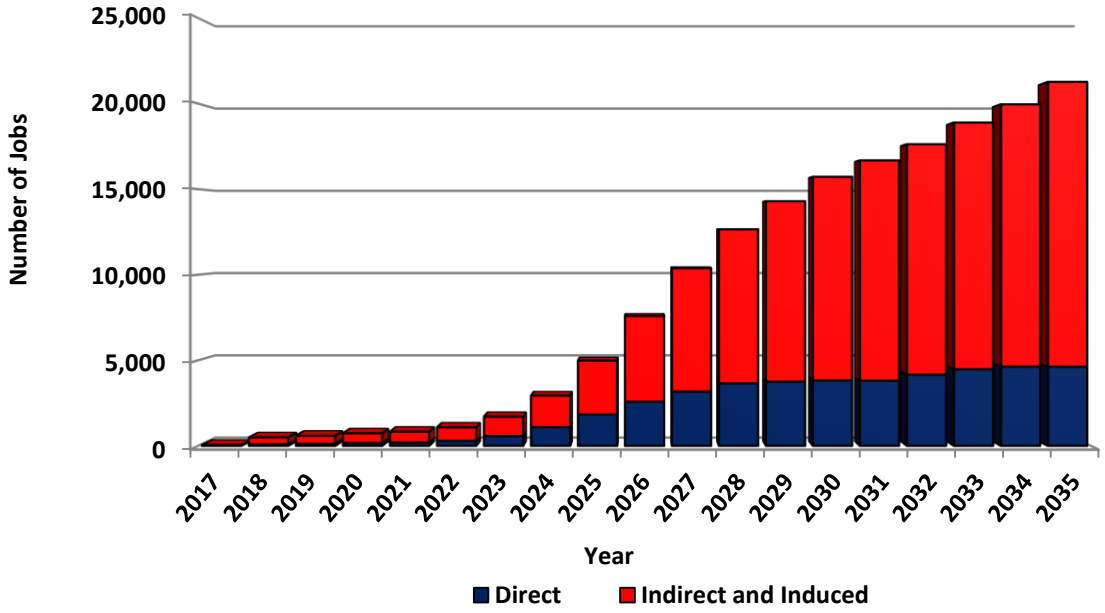


Source: Quest Offshore Resources, Inc.

Alabama is home to many suppliers to the offshore oil and natural gas industry such as Aker Solutions umbilical plant in Mobile Alabama, with one of the largest capacities in the world, and Signal Ship Repair in Mobile, Alabama. The state is also home to Offshore Inland who provides marine, subsea, and drilling and other services to the oil and gas industry, as well as material suppliers such as Alabama Metal Industries, and Consolidated Pipe and Supply which is based in Birmingham.

Employment in Alabama due to spending on Eastern Gulf offshore oil and natural gas development is projected to reach over 21 thousand jobs in 2035. Direct employment due to offshore oil and natural gas exploration and production is expected to reach over four thousand jobs in 2035, with indirect and induced employment of over 16 thousand jobs expected in the same year. (Figure 41)

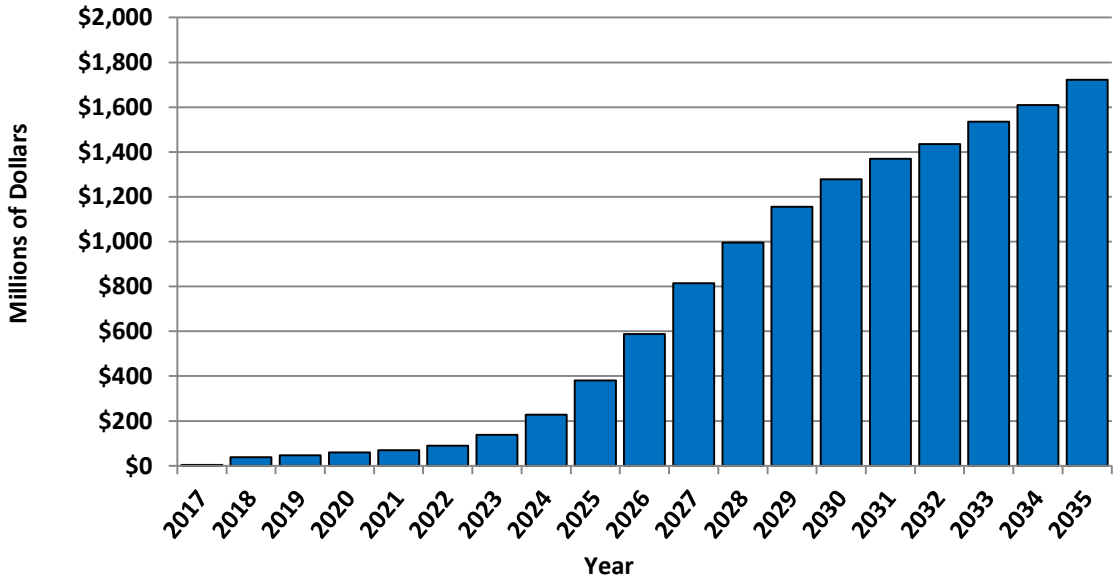
Figure 41: Projected Alabama Employment Direct vs. Indirect and Induced



Source: Quest Offshore Resources, Inc.

Contributions to Alabama's state economy due to spending by the Eastern oil and natural gas industry are projected to be over $1.7 billion per year by 2035. (Figure 42)

Figure 42: Projected Alabama Contributions to the State Economy



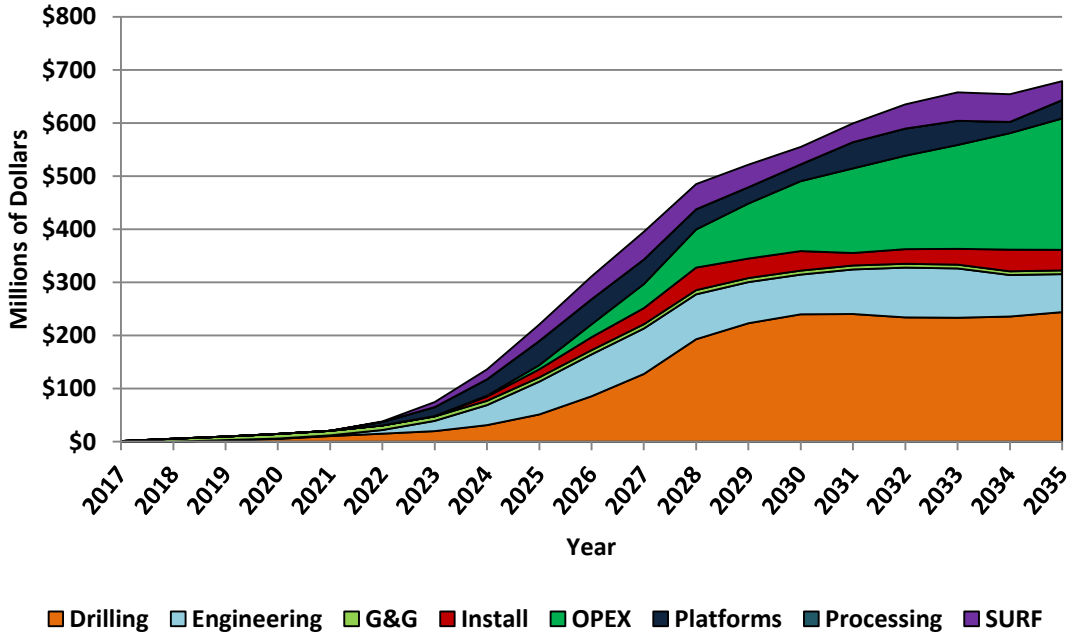
Source: Quest Offshore Resources, Inc.

With an assumed 37.5 percent revenue sharing agreement in place, Eastern Gulf oil and natural gas activities are projected to contribute nearly $550 million per year to Alabama's budget in 2035. If a different revenue percentage were enacted, projected state revenues would be adjusted proportionally.

7.5 – Mississippi

Mississippi is expected to receive the fifth highest levels of spending, employment and gross domestic product due to offshore oil and natural gas activity in the Eastern Gulf. Spending in the state is projected to reach just nearly $700 million per year in 2035. (Figure 43)

Figure 43: Projected Mississippi Spending by Sector

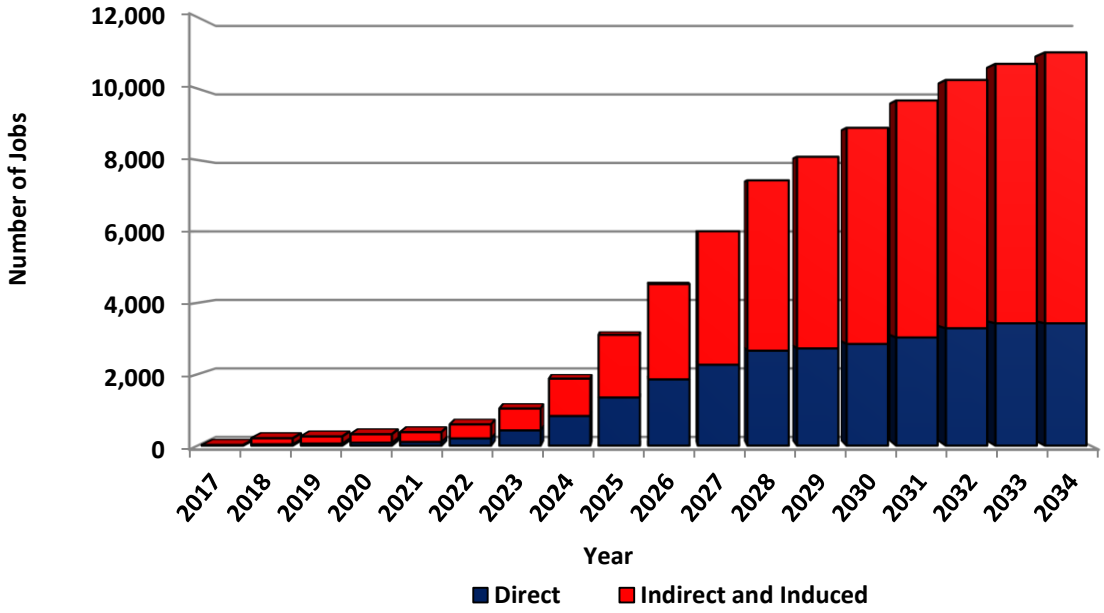


Source: Quest Offshore Resources, Inc.

Spending in Mississippi is expected to be driven by drilling, operational expenditures, and SURF equipment, with these categories accounting for around $244 million, $247 million, and $36 million per year respectively in 2035. Mississippi is home to many suppliers to the oil and gas industry including major shipyards such as Signal International, VT Halter Marine, and Ingalls Shipyard in in Pascagoula.

Employment in Mississippi due to Eastern Gulf coast offshore oil and gas production is projected to reach nearly 12 thousand jobs in 2035, with direct employment due to offshore oil and natural gas exploration and production expected to reach nearly four thousand jobs in 2035, and indirect and induced employment levels of over eight thousand jobs expected in the same year. (Figure 44)

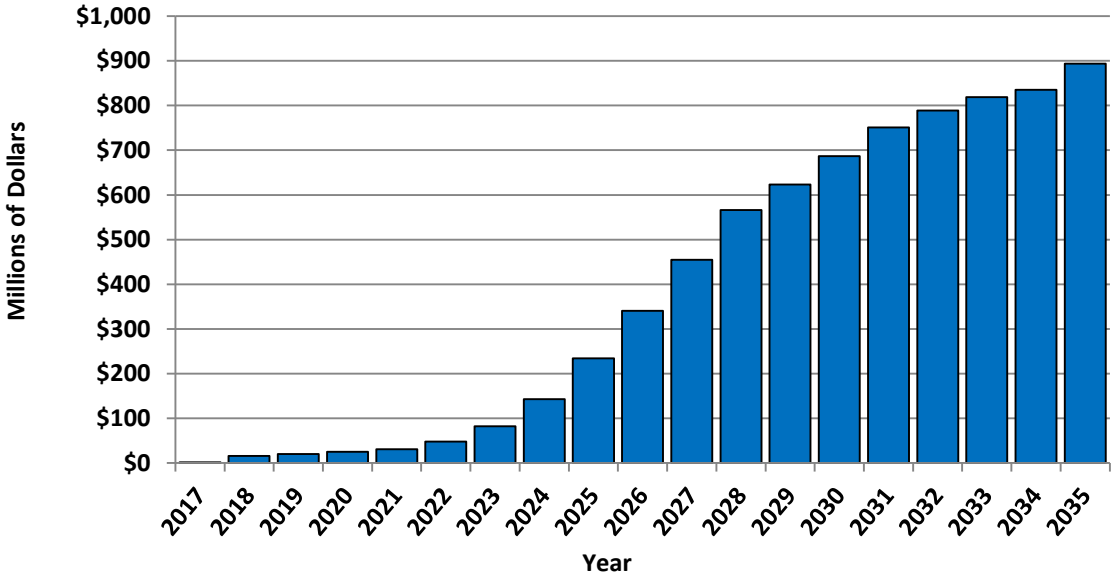
Figure 44: Projected Mississippi Employment Direct vs. Indirect and Induced



Source: Quest Offshore Resources, Inc.

Contributions to Mississippi' state economy due to spending on Eastern Gulf oil and natural gas exploration and development industry are projected to be nearly $900 million per year by 2035. (Figure 45)

Figure 45: Projected Mississippi Contributions to the State the State Economy



Source: Quest Offshore Resources, Inc.

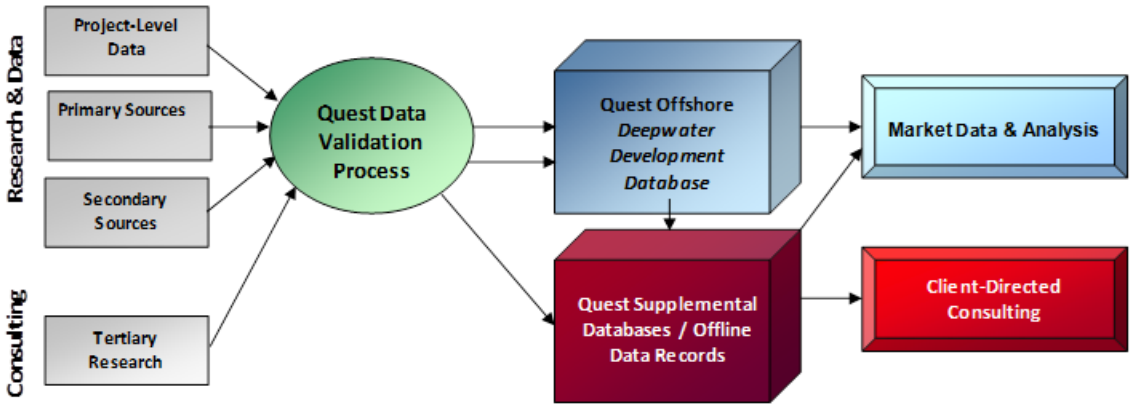
Governmental revenues collected under a 37.5 percent state / federal revenue sharing agreement would be expected to create $244 million per year in new revenues for the state of Mississippi in 2035, with cumulative revenues from 2017 to 2035 projected to be over $1.6 billion.

Section 8 – Other Appendices

8.1 Overview of Quest Offshore Data

Quest Offshore Resources, Inc. is a full-service market research and consulting firm focused on the global deepwater oil and natural gas industry. As a function of Quest's core business, the company is engaged daily in the collection and analysis of data as it relates to the offshore oil and natural gas industry. Quest serves the global community of operating oil and natural gas companies, their suppliers, financial firms, and many others by providing detailed data and analysis on capital investment and operational spending undertaken by the offshore industry. Quest collects and develops market data from a variety of sources at the project level for projects throughout the world. (Figure 46)

Figure 46: Generalized Quest Offshore Data Gathering Methodology



Source: Quest Offshore Resources, Inc.

A unique feature of this analysis, which lends it credibility, is its reliance on primary data through direct contact with the industry's supply chain. This connection with oil and natural gas companies and equipment and service providers throughout the world imparts a high quality and degree of accuracy to the data. Data is tracked in Quest's proprietary Quest Enhanced Deepwater Development Database as well as additional proprietary databases related other facets of the global supply chain worldwide. Quest aggregates capital and operating expenditures on a project by project basis for projects worldwide, with detailed information recorded on the supply of the equipment and services necessary to develop individual offshore oil and natural gas projects. Quest Offshore tracks not only existing or historical projects, but also projects that are in all stages of development from the prospect (or undrilled target) stage through to producing and decommissioned projects. For projects without firm development information, Quest utilizes benchmarking based on Quest's proprietary databases to forecast development timing and scenarios appropriate to the type of development, the developments' characteristics and region. This information, coupled with operators expected exploration and appraisal programs, is used to take into account yet to be discovered and delineated fields that may be developed in the forecast time frame. Secondary data development was also undertaken in this analysis and refers to any source of information and data that is not collected via direct contact with the industry, such as

press releases, financial reports, other SEC filings, industry white papers, industry presentations, and other publicly available sources.

This proprietary approach allows Quest to ensure a comprehensive “canvassing” of the industry worldwide, which in turn facilitates a high level of validation and quality control needed to produce accurate analysis and forecasts. Once collected and verified, the data is housed and maintained in Quest Offshore’s Deepwater Development Database. The primary components of this proprietary database are the numerous pieces of offshore oilfield equipment and services that are used in the development of an offshore project.

8.2 – Reservoir Tables

Table 11: BOEM 2008 Resource Estimates by Play and Resource Type

UTRR by Play	Oil (Bbbl)	Gas (Tcf)	Oil %	Gas %	BOE (Bbbl)*
Buried Hull Structural	1.232	2.073	77%	23%	1.601
Buried Hill Stratigraphic	.488	1.462	65%	35%	.748
Buried Hill Drape	.536	2.468	55%	45%	.975
Tuscaloosa	.062	.106	77%	23%	.081
Lower Cretaceous Clastic	.019	.047	70%	30%	.027
Andrew	.037	.110	65%	35%	.057
James	.043	.922	21%	79%	.207
Sligo	.032	.251	42%	58%	.077
Knowles Carbonate	.001	.208	3%	97%	.037
Cotton Valley Clastic	.051	.355	45%	55%	.114
Smackover	.016	.188	33%	67%	.049
Sunniland	.355	.288	87%	13%	.407
Basement Clastic	.003	.051	25%	75%	.012
Norphlet	2.293	13.291	49%	51%	4.658
Total Eastern Gulf	**5.168**	**21.82**	**57%**	**43%**	**9.05**

Source: Bureau of Ocean Energy Management

Table 12: USGS Field Sizes by Maximum and Average BOE in Field Class

Class	Maximum MMboe	Average Barrels in Field in Class
USGS -5	1	750,000.00
USGS -6	2	1,500,000.00
USGS -7	4	3,000,000.00
USGS -8	8	6,000,000.00
USGS -9	16	12,000,000.00
USGS -10	32	24,000,000.00
USGS -11	64	48,000,000.00
USGS -12	128	96,000,000.00
USGS -13	256	192,000,000.00
USGS -14	512	384,000,000.00
USGS -15	1024	768,000,000.00
USGS -16	2048	1,536,000,000.00
USGS -17	4096	3,072,000,000.00

Source: U.S. Geological Survey

8.3 – Data Tables

Table 13: Project Leasing Activity

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Leases	0	273	268	274	258	272	245	244	272	257	263	245	246	250	239	238	234	227	233

Source: Quest Offshore Resources, Inc.

Table 14: Projected Production by Oil & Natural Gas

MMBOE	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Daily Oil - MMBOE/D	-	-	-	-	-	-	1,058	12,949	49,327	106,855
Daily Gas - MMBOE/D	-	-	-	-	-	-	521	6,001	21,265	47,167

MMBOE	2027	2028	2029	2030	2031	2032	2033	2034	2035
Daily Oil - MMBOE/D	229,868	327,725	419,786	495,240	549,496	566,430	571,235	599,496	648,497
Daily Gas - MMBOE/D	93,398	146,595	198,515	253,564	278,778	287,542	287,304	300,719	331,976

Source: Quest Offshore Resources, Inc.

Table 15: Projected Spending by Activity Type (Millions of Dollars)

Activity Type	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Drilling	$ -	$ -	$ 46	$ 92	$183	$229	$ 310	$ 493	$ 824	$ 1,410
Engineering	$ -	$ -	$ 8	$ 16	$ 32	$161	$ 453	$ 895	$1,467	$ 1,896
G&G	$39	$177	$209	$275	$272	$273	$ 266	$ 262	$ 261	$ 262
Install	$ -	$ -	$ -	$ -	$ -	$ -	$ 16	$ 301	$ 619	$ 997
OPEX	$ -	$ -	$ -	$ -	$ -	$ -	$ 6	$ 31	$ 138	$ 370
Platforms	$ -	$ -	$ -	$ -	$ -	$267	$ 650	$1,133	$1,767	$ 1,817
Processing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SURF	$ -	$ -	$ -	$ -	$ -	$ 25	$ 265	$ 546	$ 911	$ 1,296
Total	**$39**	**$177**	**$263**	**$383**	**$487**	**$955**	**$1,967**	**$3,662**	**$5,986**	**$ 8,048**

Activity Type	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Drilling	$ 2,118	$ 2,790	$ 3,302	$ 3,579	$ 3,616	$ 3,548	$ 3,568	$ 3,632	$ 3,791	$ 33,532
Engineering	$ 2,085	$ 2,087	$ 1,913	$ 1,896	$ 2,127	$ 2,410	$ 2,420	$ 2,065	$ 1,918	$ 23,851
G&G	$ 266	$ 259	$ 255	$ 251	$ 248	$ 246	$ 242	$ 240	$ 238	$ 4,542
Install	$ 1,266	$ 1,773	$ 1,568	$ 1,568	$ 1,029	$ 1,202	$ 1,331	$ 1,822	$ 1,775	$ 15,266
OPEX	$ 702	$ 1,122	$ 1,660	$ 2,147	$ 2,621	$ 2,946	$ 3,335	$ 3,773	$ 4,334	$ 23,183
Platforms	$ 1,717	$ 1,350	$ 1,133	$ 1,233	$ 1,883	$ 1,933	$ 1,767	$ 850	$ 1,250	$ 18,750
Processing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SURF	$ 1,537	$ 1,405	$ 1,234	$ 961	$ 1,043	$ 1,387	$ 1,603	$ 1,545	$ 1,011	$ 14,769
Total	**$ 9,690**	**$10,786**	**$11,064**	**$11,635**	**$12,568**	**$13,674**	**$14,265**	**$13,927**	**$14,319**	**$133,895**

Source: Quest Offshore Resources, Inc.

Table 16: Projected Spending By State (Millions of Dollars)

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Alabama	$ 3	$ 14	$ 21	$ 32	$ 42	$ 60	$ 108	$ 189	$ 311	$ 467
Florida	$ 3	$ 13	$ 21	$ 36	$ 50	$ 91	$ 192	$ 382	$ 651	$ 978
Louisiana	$11	$ 52	$ 67	$ 92	$104	$159	$ 280	$ 474	$ 729	$ 985
Mississippi	$ 1	$ 6	$ 10	$ 15	$ 21	$ 38	$ 75	$ 136	$ 221	$ 311
Texas	$17	$ 76	$112	$160	$201	$388	$ 828	$1,540	$2,448	$ 3,201
Other U.S. States	$ 3	$ 14	$ 20	$ 28	$ 34	$ 81	$ 188	$ 348	$ 551	$ 708
Total	**$38**	**$174**	**$251**	**$363**	**$452**	**$817**	**$1,670**	**$3,070**	**$4,910**	**$ 6,650**

State	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Alabama	$ 611	$ 726	$ 833	$ 883	$ 924	$ 977	$ 1,054	$ 1,082	$ 1,115	$ 9,452
Florida	$ 1,305	$ 1,622	$ 1,826	$ 2,044	$ 2,252	$ 2,524	$ 2,737	$ 2,968	$ 3,262	$ 22,956
Louisiana	$ 1,239	$ 1,402	$ 1,528	$ 1,672	$ 1,864	$ 2,010	$ 2,106	$ 2,018	$ 2,170	$ 18,962
Mississippi	$ 395	$ 485	$ 522	$ 555	$ 600	$ 635	$ 658	$ 654	$ 679	$ 6,017
Texas	$ 3,766	$ 4,008	$ 3,868	$ 3,869	$ 4,183	$ 4,530	$ 4,612	$ 4,289	$ 4,212	$ 46,308
Other U.S. States	$ 826	$ 867	$ 858	$ 883	$ 1,007	$ 1,108	$ 1,147	$ 1,061	$ 1,101	$ 10,834
Total	**$ 8,143**	**$ 9,110**	**$ 9,435**	**$ 9,905**	**$10,830**	**$11,784**	**$12,314**	**$12,072**	**$12,539**	**$114,529**

Source: Quest Offshore Resources, Inc.

Table 17: Projected Employment by State

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Alabama	44	492	587	728	825	1,077	1,707	2,935	4,981	7,589
Florida	47	1,869	2,023	2,355	2,510	3,233	4,577	7,995	13,543	20,372
Louisiana	149	878	1,066	1,398	1,511	2,179	3,601	6,077	9,447	12,868
Mississippi	17	207	257	319	377	594	1,040	1,876	3,102	4,526
Texas	256	1,168	1,664	2,333	2,846	5,494	11,864	22,800	36,487	48,049
Other U.S. States	44	203	274	386	452	1,067	2,465	4,672	7,427	9,583
Totals	**558**	**4,816**	**5,872**	**7,519**	**8,521**	**13,645**	**25,255**	**46,355**	**74,988**	**102,987**

State	2027	2028	2029	2030	2031	2032	2033	2034	2035
Alabama	10,383	12,654	14,294	15,722	16,681	17,625	18,891	19,955	21,266
Florida	30,453	39,968	47,738	55,104	61,156	67,544	72,042	78,577	86,825
Louisiana	16,579	19,211	20,997	23,234	25,649	27,715	29,136	28,688	30,986
Mississippi	6,006	7,431	8,091	8,903	9,668	10,243	10,694	11,016	11,750
Texas	56,318	60,604	57,744	57,514	60,655	66,287	67,773	64,272	62,591
Other U.S. States	11,157	11,803	11,526	11,796	13,185	14,589	15,149	14,196	14,655
Totals	**130,895**	**151,672**	**160,391**	**172,272**	**186,994**	**204,004**	**213,684**	**216,704**	**228,074**

Source: Quest Offshore Resources, Inc.

Table 18: **Projected Employment by Industry**

Industry	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Agriculture, forestry, fishing, and hunting	2	25	33	43	53	79	134	246	409	594
Mining	1	10	138	269	529	679	971	1,667	3,156	5,913
Utilities*	2	15	20	26	32	59	121	223	357	483
Construction	3	196	207	229	234	286	475	2,581	5,089	8,063
Manufacturing	14	106	155	217	285	1,550	4,690	8,936	13,971	17,274
Wholesale trade	8	84	108	142	173	301	618	1,149	1,868	2,584
Retail trade	39	400	480	604	682	1,040	1,836	3,395	5,552	7,752
Transportation and warehousing*	12	93	124	166	203	343	675	1,249	2,023	2,793
Information	9	67	82	107	122	199	372	669	1,072	1,450
Finance and insurance	27	245	293	370	413	657	1,185	2,097	3,360	4,562
Real estate and rental and leasing	30	219	270	351	395	642	1,176	2,083	3,307	4,440
Professional, scientific, and technical services	242	1,199	1,476	1,977	2,109	3,060	5,142	8,508	12,981	16,783
Management of companies and enterprises	5	29	43	62	83	150	310	559	909	1,273
Administrative and waste management services	58	368	455	599	666	1,069	1,991	3,524	5,574	7,440
Educational services	6	66	78	98	110	168	293	520	840	1,161
Health care and social assistance	35	391	465	578	648	977	1,690	2,995	4,843	6,713
Arts, entertainment, and recreation	7	67	80	99	109	167	292	513	824	1,128
Accommodation	7	34	44	60	69	116	228	408	648	864
Food services and drinking places	34	289	348	442	492	751	1,329	2,341	3,753	5,133
Other services*	14	155	188	236	271	410	724	1,320	2,162	3,045
Households	4	52	60	72	79	117	196	341	548	753
Government	-	707	725	772	762	827	807	1,032	1,744	2,786
Total	**558**	**4,816**	**5,872**	**7,519**	**8,521**	**13,645**	**25,255**	**46,355**	**74,988**	**102,987**

Source: Quest Offshore Resources, Inc.

Table 19: Projected Employment by Industry (Continued)

Industry	2027	2028	2029	2030	2031	2032	2033	2034	2035
Agriculture, forestry, fishing, and hunting	801	982	1,089	1,192	1,274	1,363	1,431	1,490	1,586
Mining	9,490	13,351	17,201	20,224	22,494	23,856	25,677	27,935	31,082
Utilities*	600	673	704	745	824	897	935	916	956
Construction	10,622	14,638	13,815	14,346	11,213	12,698	13,771	17,369	17,567
Manufacturing	19,580	18,778	17,296	16,516	19,894	22,314	22,943	19,350	19,276
Wholesale trade	3,308	3,783	4,019	4,269	4,670	5,082	5,339	5,366	5,597
Retail trade	10,100	12,001	12,865	13,939	14,951	16,234	17,049	17,603	18,632
Transportation and warehousing*	3,542	4,060	4,282	4,540	4,925	5,339	5,583	5,592	5,816
Information	1,820	2,072	2,184	2,337	2,571	2,800	2,927	2,926	3,080
Finance and insurance	5,795	6,667	7,161	7,791	8,694	9,476	9,884	9,919	10,543
Real estate and rental and leasing	5,520	6,251	6,584	7,077	7,857	8,568	8,910	8,825	9,328
Professional, scientific, and technical services	19,311	20,500	20,206	20,866	22,951	25,352	25,922	24,261	24,214
Management of companies and enterprises	1,650	1,909	2,111	2,288	2,562	2,766	2,928	2,943	3,136
Administrative and waste management services	9,085	10,088	10,407	10,986	12,113	13,281	13,832	13,590	14,074
Educational services	1,515	1,778	1,930	2,098	2,296	2,482	2,598	2,644	2,805
Health care and social assistance	8,824	10,416	11,367	12,423	13,627	14,744	15,448	15,789	16,833
Arts, entertainment, and recreation	1,464	1,703	1,843	2,007	2,219	2,411	2,526	2,565	2,730
Accommodation	1,056	1,171	1,212	1,278	1,412	1,549	1,630	1,610	1,681
Food services and drinking places	6,590	7,617	8,185	8,844	9,716	10,548	11,058	11,184	11,809
Other services*	4,032	4,810	5,245	5,712	6,183	6,691	7,047	7,291	7,746
Households	992	1,169	1,282	1,410	1,563	1,692	1,764	1,795	1,920
Government	5,196	7,255	9,405	11,384	12,986	13,861	14,485	15,742	17,663
Total	**130,895**	**151,672**	**160,391**	**172,272**	**186,994**	**204,004**	**213,684**	**216,704**	**228,074**

Source: Quest Offshore Resources, Inc.

Table 20: Projected Contributions to State Economies by State (Millions of Dollars)

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Alabama	$4	$38	$47	$59	$69	$89	$138	$228	$381	$588
Florida	$4	$141	$153	$179	$191	$246	$347	$595	$1,001	$1,504
Louisiana	$13	$74	$91	$121	$132	$187	$303	$497	$762	$1,036
Mississippi	$1	$16	$20	$25	$31	$48	$82	$143	$234	$341
Texas	$23	$105	$152	$215	$265	$498	$1,035	$1,923	$3,056	$3,994
Other U.S. States	$4	$18	$24	$34	$40	$91	$204	$376	$594	$763
Totals	**$48**	**$392**	**$487**	**$632**	**$728**	**$1,160**	**$2,108**	**$3,762**	**$6,028**	**$8,226**

State	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Alabama	$814	$996	$1,156	$1,278	$1,370	$1,436	$1,536	$1,610	$1,723	$13,559
Florida	$2,251	$2,951	$3,543	$4,102	$4,582	$5,055	$5,379	$5,839	$6,458	$44,522
Louisiana	$1,341	$1,550	$1,718	$1,909	$2,125	$2,281	$2,392	$2,336	$2,534	$21,404
Mississippi	$455	$566	$623	$687	$751	$789	$819	$835	$894	$7,360
Texas	$4,695	$5,027	$4,853	$4,869	$5,229	$5,651	$5,748	$5,374	$5,300	$58,012
Other U.S. States	$890	$941	$932	$963	$1,092	$1,198	$1,239	$1,151	$1,201	$11,755
Totals	**$10,447**	**$12,030**	**$12,826**	**$13,808**	**$15,150**	**$16,410**	**$17,113**	**$17,146**	**$18,109**	**$156,611**

Source: Quest Offshore Resources, Inc.

Table 21: Projected Contributions to State Economies by Industry (Millions of Dollars)

Industry	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Agriculture, forestry, fishing, and hunting	$0	$1	$1	$2	$2	$3	$5	$10	$16	$23
Mining	$0	$2	$21	$40	$78	$98	$138	$231	$422	$771
Utilities*	$1	$6	$7	$9	$10	$18	$35	$64	$103	$140
Construction	$0	$12	$13	$14	$14	$17	$27	$131	$255	$402
Manufacturing	$1	$11	$16	$22	$28	$140	$394	$737	$1,143	$1,384
Wholesale trade	$1	$12	$15	$19	$23	$41	$83	$154	$249	$342
Retail trade	$2	$19	$23	$28	$32	$49	$88	$162	$264	$365
Transportation and warehousing*	$1	$7	$8	$11	$14	$23	$45	$82	$132	$182
Information	$1	$11	$13	$16	$18	$29	$54	$96	$154	$208
Finance and insurance	$3	$24	$29	$37	$41	$64	$115	$204	$329	$451
Real estate and rental and leasing	$4	$46	$55	$69	$78	$120	$210	$371	$598	$822
Professional, scientific, and technical services	$27	$132	$162	$217	$230	$331	$553	$908	$1,378	$1,767
Management of companies and enterprises	$0	$3	$5	$7	$9	$16	$33	$60	$97	$136
Administrative and waste management services	$2	$13	$16	$20	$23	$36	$67	$118	$186	$246
Educational services	$0	$2	$3	$4	$4	$6	$11	$19	$30	$41
Health care and social assistance	$2	$23	$27	$33	$37	$55	$94	$166	$267	$368
Arts, entertainment, and recreation	$0	$3	$3	$4	$4	$6	$10	$18	$29	$39
Accommodation	$0	$2	$3	$4	$4	$7	$13	$24	$37	$50
Food services and drinking places	$1	$9	$10	$13	$14	$22	$37	$65	$104	$141
Other services*	$1	$8	$10	$13	$14	$22	$40	$72	$117	$159
Households	$0	$0	$1	$1	$1	$1	$2	$3	$5	$7
Government	$0	$46	$47	$50	$50	$54	$53	$67	$114	$182
Totals	**$48**	**$392**	**$487**	**$632**	**$728**	**$1,160**	**$2,108**	**$3,762**	**$6,028**	**$8,226**

Source: Quest Offshore Resources, Inc.

Table 22: Projected Contributions to State Economies by Industry (Millions of Dollars) (Continued)

Industry	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Agriculture, forestry, fishing, and hunting	$31	$38	$41	$45	$49	$52	$54	$56	$60	$490
Mining	$1,213	$1,676	$2,119	$2,447	$2,670	$2,788	$2,966	$3,181	$3,491	$24,353
Utilities*	$177	$200	$211	$226	$250	$272	$283	$280	$293	$2,585
Construction	$534	$733	$700	$732	$587	$662	$715	$891	$907	$7,344
Manufacturing	$1,578	$1,523	$1,427	$1,394	$1,696	$1,856	$1,893	$1,581	$1,662	$18,485
Wholesale trade	$435	$493	$520	$551	$606	$660	$691	$690	$718	$6,305
Retail trade	$470	$553	$588	$635	$684	$743	$779	$798	$843	$7,124
Transportation and warehousing*	$230	$262	$276	$293	$320	$347	$362	$360	$374	$3,328
Information	$263	$301	$319	$343	$378	$411	$429	$429	$453	$3,927
Finance and insurance	$579	$673	$725	$789	$873	$950	$994	$1,006	$1,069	$8,955
Real estate and rental and leasing	$1,067	$1,247	$1,352	$1,475	$1,628	$1,765	$1,845	$1,873	$1,995	$16,622
Professional, scientific, and technical services	$2,013	$2,112	$2,058	$2,109	$2,321	$2,563	$2,611	$2,412	$2,382	$26,284
Management of companies and enterprises	$176	$203	$223	$241	$270	$292	$309	$311	$332	$2,723
Administrative and waste management services	$300	$332	$342	$362	$402	$441	$458	$447	$464	$4,276
Educational services	$53	$62	$67	$72	$80	$86	$90	$91	$97	$817
Health care and social assistance	$484	$569	$621	$680	$749	$811	$848	$864	$921	$7,619
Arts, entertainment, and recreation	$52	$60	$66	$72	$80	$87	$91	$93	$99	$817
Accommodation	$60	$67	$69	$73	$81	$88	$93	$91	$96	$861
Food services and drinking places	$180	$208	$223	$242	$268	$291	$304	$306	$324	$2,761
Other services*	$204	$235	$251	$270	$296	$322	$336	$339	$357	$3,066
Households	$9	$11	$12	$13	$15	$16	$17	$17	$18	$148
Government	$340	$474	$615	$744	$849	$906	$947	$1,029	$1,154	$7,721
Totals	**$10,447**	**$12,030**	**$12,826**	**$13,808**	**$15,150**	**$16,410**	**$17,113**	**$17,146**	**$18,109**	**$156,611**

Source: Quest Offshore Resources, Inc.

Table 23: Projected Revenue Sharing Under 37.5/62.5 Percent Revenue Sharing by State (Millions of Dollars)

State	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Texas	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Louisiana	$0	$8	$8	$9	$9	$10	$9	$13	$19	$24
Mississippi	$0	$3	$3	$3	$3	$4	$3	$5	$7	$9
Alabama	$0	$7	$7	$8	$8	$8	$8	$11	$17	$21
Florida	$0	$84	$85	$93	$91	$99	$95	$129	$198	$251
Total	**$0**	**$103**	**$104**	**$114**	**$111**	**$121**	**$116**	**$158**	**$242**	**$306**

State	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
Texas	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Louisiana	$50	$74	$103	$121	$137	$154	$160	$172	$186	$1,266
Mississippi	$19	$28	$39	$45	$51	$58	$60	$65	$70	$475
Alabama	$43	$64	$90	$106	$120	$135	$140	$151	$163	$1,108
Florida	$508	$755	$1,055	$1,239	$1,404	$1,576	$1,636	$1,768	$1,910	$12,978
Total	**$619**	**$921**	**$1,287**	**$1,511**	**$1,713**	**$1,922**	**$1,995**	**$2,156**	**$2,330**	**$15,827**

Source: Quest Offshore Resources, Inc.