

Guyana's Oil Deal: Promise of Quick Cash Will Leave Country Shortchanged

Long-term Costs Far Outweigh Benefits as Oil Industry Declines

I. Executive Summary

Over the next five years, revenues from Guyana's newly discovered oil reserves will be insufficient to cover the country's deficits, support new spending and build its wealth. New oil revenues will provide Guyana with some choices, but will not generate enough revenue to satisfy all of these needs. Longer term, the declining oil and gas sector faces challenges that will result in it becoming even smaller and an increasingly less reliable partner for Guyana.

IEEFA's review of Guyana's contract with its oil producer partners, coupled with IEEFA's assessment of the oil and gas markets that support the industry, leads to the following conclusions:

- Oil revenues to Guyana will be constrained during the next five years by low global oil prices. While the Brent oil price averaged \$74 per barrel (bbl) over the last 10 years, the price of oil is likely to remain below \$50/bbl.
- For the next three years, oil revenues will not fully cover Guyana's budget deficit. This is likely to lead to an aggregate shortfall of \$482 million. Even with some price improvement in years four and five, the aggregate deficit for the five years is likely to be \$160 million. The shortfall can be expected to create increased pressure for Guyana to borrow money even as it receives additional oil revenues.
- Given the structure of the contract, at the end of five years Guyana will carry a minimum \$20 billion outstanding balance owed to its oil producer partners. This amount must be paid, along with other contractually obligated development costs, before the country can fully enjoy any long-term benefits that might materialize.

If Guyana acts prudently during this time, it can provide modest but steady contributions to its Sovereign Wealth Fund. This will, however, come at the expense of continuing deficits and constraints on new spending.

The recent budget message by Minister Juan Edghill outlined several caveats regarding low oil prices, unstable market conditions, Guyana's tendency to overspend and missed production targets by the contractor. Since the contract was

signed in 2016, several risks have surfaced that have caused the minister to call for new contract negotiations.

Beyond five years, any projections of oil prices are at best uncertain, given the negative outlook for the oil industry. Expectations of rising Guyanese revenues—both the amount and the timing—must be weighed against this negative outlook and provisions of the contract that require Guyana to reimburse 100% of all development costs before it can enjoy substantial future benefits.

The factors driving the negative outlook for the oil sector stem from structural, irreversible changes in the global economy. The oil and gas sector growth has decoupled from the growth of the stock market and the economy. Competition with oil from other energy sources, combined with increased efficiency in energy use, is eroding demand growth. Competition within the sector has upended its business model and created chronic oversupply. Political conflict among resource-rich countries only reinforces market tendencies toward oversupply, leading to unstable, low prices. Profits for major oil and gas companies have been declining for a decade, and given current trends, they will not rebound to the high levels of the past. Countries that have depended on oil and gas revenues for years can no longer do so.

ExxonMobil, the lead company under the contract, is in severe financial distress. It was once the leader of the world's economy. It had a market capitalization of \$527 billion in 2007. It is now worth less than \$140 billion, and it recently announced that it may write off 20% of the company's assets at the end of the year. Several of the company's recent major oil investment plans have failed to meet profit expectations, and others have failed completely. The company faces an uncertain future regarding its investment priorities, and its current short-term problems make its role as a partner for Guyana more of a source of concern than a guarantor of stable future profits.

The long-term decline in the oil and gas sector has been made worse by a recent demand shock created by the pandemic and an oil price war between Russia and Saudi Arabia that drove the worldwide price of oil down to \$9/bbl earlier this year. The declining financial fortunes of the oil and gas sector are part of a worldwide trend that is unlikely to turn around in the foreseeable future.

- Investors have lost confidence in the oil and gas market. Oil and gas stocks once commanded 29% of the Standard and Poor's 500-stock index. Today, this sector accounts for only 2.3% of the index. Oil and gas stocks constitute the smallest holdings of any sector in the economy.
- Profits are down substantially for every major oil company, and have been over the last decade. In 2017, ExxonMobil posted annual returns of 25%. In 2019, prior to the pandemic, its profits had already fallen to 6.5%.
- During the last two years, ExxonMobil fell from the top 10 list of companies in the S&P 500, a position it held for 90 years. This year, the company was dropped from the Dow Jones Industrial Average, a position it had held for more than 100 years.

- Norway, a country that has amassed a Sovereign Wealth Fund in excess of \$1 trillion from oil and gas sales over the past 30 years, is projecting long-term budget deficits through 2060. It is planning for broad economic diversification and less reliance on fossil fuels.
- Worldwide popular opposition to fossil fuels, driven by increasingly intense weather events, has changed traditional concepts of political and regulatory risk. Opposition efforts and new public policies are supported by substantial changes in capital market allocations and together now constitute a permanent, resourced and skilled material risk to continued fossil fuel use and development. The development of new capital allocations toward alternatives to fossil fuels and the establishment of new organizational formations have created a growing institutional force for change.

While the coronavirus pandemic is causing a reassessment of many aspects of public life, these changes should not divert attention from the fact that the oil and gas sector was declining prior to the virus; its weakened financial condition was made worse by the virus; and its outlook coming out of this period is negative. Guyana is integral to the plans of the oil companies that are party to this contract because the country is perceived as a steady source of revenue for them at a time when a large segment of the world's oil reserves fail to meet profitability targets.

For Guyana, a clear-eyed view of the interests at play creates a cautionary tale. Many experts and public hopes point to a future with abundant revenues for the country and its people. The likelihood that abundant revenues will materialize, however, is low. The contract frontloads revenues to oil interests and backloads revenues to Guyana. The country will receive some new revenues in the next five years, but it has tough budget choices. In the longer term, Guyana is likely to see continued low prices, unstable partners, and conditions under which its oil reserves will lose value and face obsolescence.

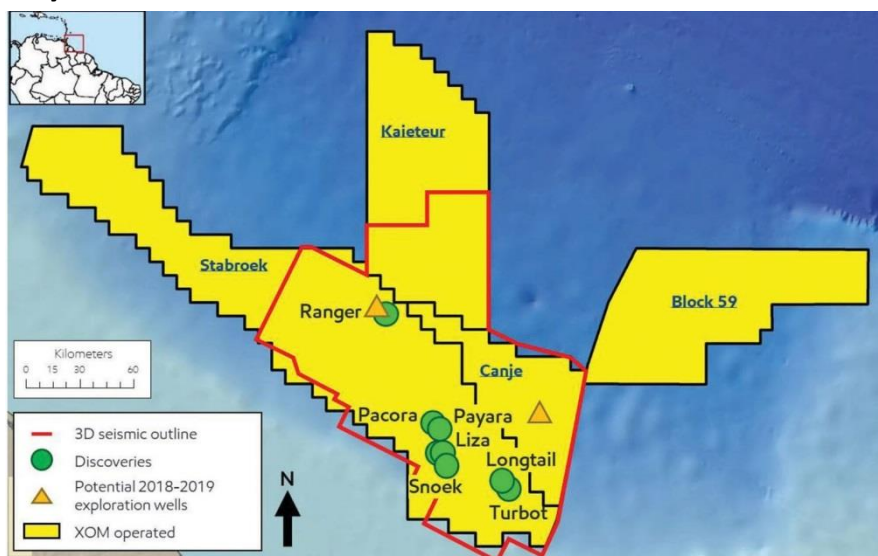
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II. Background

On June 27, 2016, the Government of Guyana signed an agreement with ENH (ExxonMobil, China National Offshore Oil Company and Hess ("ENH")),¹ a consortium of oil and gas companies referred to as "the contractor." ExxonMobil, a member of the consortium, is the operator charged with the day-to-day activities of the contractor.² The contract sets forth the terms and conditions of a production-sharing agreement. The agreement details how oil production will take place, how costs are calculated and how "profit oil" is divided among the parties. "Profit oil" is the amount left over after the oil is extracted and sold, and recoverable contract costs have been satisfied.³

Guyana's Identified Oil Reserves⁴



The contract area is 26,800 square kilometers and extends over 300 kilometers in width, all the way from the border with Venezuela to the border with Suriname.⁵ This is a contract area of extraordinary size. For example: As of 2019, there were 159 million acres under lease in 2,451 leases, which equates to 53,000 acres each, or 214 square kilometers for each block in the U.S. federal waters in the Outer

¹ Petroleum Agreement (the "Agreement") Between the Government of the Cooperation of Republic of Guyana and Esso Exploration and Production Guyana Limited (for purposes of this paper, "ExxonMobil"), CNOOC Nexin Petroleum Guyana Limited (China National Offshore Oil Company, for the purposes of this paper "CNOOC"), and Hess Guyana Exploration Limited (for the purposes of this paper, "Hess"). The consortium is considered the "Contractor." (See: The Agreement, Article 1.1, Definitions). The corporate consortium will be referred to as "ENH" for the purposes of this paper, and the companies will be identified individually when being discussed individually. The Guyanese government and ENH will be referred to as "the parties" to the agreement.

² Agreement, Liabilities and Indemnities, Article 2.2 (a).

³ Agreement, Cost Recovery and Production Sharing, Article 11.4.

⁴ Stabroek News. [Oil reserves now at 3.7 billion barrels in Guyana basin](#). June 21, 2018.

⁵ ExxonMobil. [ExxonMobil announces Redtail discovery offshore Guyana](#). September 8, 2020.

Continental Shelf of the Gulf of Mexico.⁶ If you compare that to the ExxonMobil acreage in Stabroek of 26,800 square kilometers for one lease, it means the Guyana lease is more than 100 times the size of the average U.S. Gulf of Mexico lease.

A. Terms and Conditions

The Agreement continues in full force and effect as long as the Contractor holds a petroleum prospecting license or a petroleum production license. Each petroleum production license is granted for twenty years. The agreement comes to an end when the last petroleum production license expires.

The basic formula is:

Table 1: Contract Formula to Establish Level of Profit Oil from Development

Price of Oil x Production Volume (barrels of oil) = Gross Revenue – Recoverable Costs = Profit Oil

ENH and Guyana share “profit oil” on the basis of a 50-50 split. (ENH further divides its share, allocating 45% to ExxonMobil, 30% to Hess and 25% to CNOOC).

Payments are made monthly to Guyana. The country also receives a 2% royalty on gross revenues.⁷

Recoverable costs include 100% of all development costs, operating expenses, estimated cost of future abandonment, interest and parent company expenses. Annual recoverable costs are capped at 75% of revenues, and any balance in recoverable costs is carried over until the next month.⁸ Since recoverable costs include 100% of all development costs (initially \$33 billion over the first five years),⁹ the project carries a substantial balance that accrues to ENH through at least 2028. The substantial balance of outstanding development costs could take even longer to satisfy, since operational delays and market factors can disrupt financial plans. Repayment of the development and other recoverable costs diminishes the size of Guyana’s cash receipts and delays its ability to benefit from the full annual revenue that it ultimately expects.

The provision of the contract that creates this significant liability allows ENH to charge Guyana for any development cost it incurs and to charge that cost against any active field that is producing oil and revenues.¹⁰ This means exploration costs in search of new discoveries in a completely separate part of the block can be recovered from production in another part of the block with revenue-producing oil wells (see [Map](#)). It also means the costs of developing discoveries in new fields (like the as-yet-undeveloped Payara field) can be charged against revenues from the Liza

⁶ U.S. Bureau of Ocean Energy Management. [BOEM Gulf of Mexico OCS Region Blocks and Active Leases by Planning Area, September 1, 2020](#). September 26, 2020.

⁷ [Agreement](#), Taxation and Royalty, Article 15.6.

⁸ [Agreement](#), Cost Recovery and Production Sharing, Article 11.3.

⁹ [Appendix I](#): The \$33 billion is comprised of the total Pre-Effective Date Costs, Exploration Cost and Total Development Costs (Pre-2020 through 2024) identified on the spreadsheet.

¹⁰ [Agreement](#), Cost Recovery and Production Sharing, Section 11.5.

Field, which is the first field with revenue-producing wells. The Guyanese government is aware that this contract provision holds up the flow of revenue to Guyana. The IMF identified the issue in its recent report:

"The rapid appraisal and development of multiple oil fields could affect the timing and amount of profit oil to be shared with the government from a producing oil field by allocating costs from various fields under development to the producing field."¹¹

Another unique provision of the contract requires Guyana to pay the income taxes that are owed to the government by ENH. The consortium owes taxes under Guyana law. The Guyanese government has agreed to pay that tax liability. The companies receive confirmation that they paid Guyana's income tax and thus derive a benefit. The government of Guyana, on the other hand, foregoes a direct cash payment from the contractor. The government effectively diverts a portion of its share of profit oil to cover the contractor's tax liability.

Another provision prohibits Guyana from unilaterally renegotiating, amending or modifying the agreement. It also requires Guyana to compensate ENH if any governmental action impairs the economic benefits accruing to ENH.¹²

B. Critical Variables That Drive the Amount of Profit Oil for Guyana

Three major variables affect how much "profit oil" is received by Guyana.

The first factor is the price of oil, which is set by global markets. This determines how much revenue is raised for each barrel of oil sold. According to ExxonMobil, Guyanese oil is a "light, low-sulfur crude suitable as a general-purpose crude oil and suitable for production of middle distillates and mogas. The atmospheric residue is suitable as feedstock for catalytic crackers a light sweet."¹³ The oil is comparable in quality with Alaskan North Shore Oil and Angolan Gindungo oil.^{14,15}

Guyanese oil is trading at Brent oil prices.¹⁶ The average price of Brent for 2020 through mid-September is \$41/bbl.¹⁷ The price of Brent oil has proven to be volatile, hitting a high of \$126/bbl in 2012 (and a more recent high of \$84 in 2018) to a low of \$9/bbl, driven by demand reduction from the pandemic and the April 2020 price

¹¹ International Monetary Fund. [Guayana: Staff Report for the 2019 Article IV Consultation – Key Issues/Authorities Views](#). September 17, 2019, p. 12.

¹² [Agreement](#), Stability of Agreement, Section 32.1,2,3.

¹³ ExxonMobil. [Crude oils/Crude Trading/Liza](#). June 18, 2020.

¹⁴ ExxonMobil. [Crude oils/Crude Trading/Alaska North Shore](#). November 21, 2018.

¹⁵ ExxonMobil. [Global Crude Oils Gindungo Assay](#). September 11, 2020.

¹⁶ This type of oil would typically trade in the WTI price range. See: Alaska Department of Revenue. [Daily Oil Prices](#), . September 11, 2020. The price of oil is historically very volatile. The WTI reached heights of \$160/bbl. and lows below \$20/bbl. over the last forty years. Also see: MacroTrends. [Crude Oil Prices – 70 Year Historical Chart](#). September 11, 2020. The oil is currently trading in the low \$40/bbl range, and futures prices through 2025 rise to \$46/bbl. CME Group. [Crude Oil Futures Quotes](#). September 11, 2020.

¹⁷ MacroTrends. [Brent Prices Historical Data](#) (2010 to present). September 17, 2020

war between Russia and Saudi Arabia. Futures price estimates of Brent oil range from \$43/bbl in 2021 to \$50/bbl by 2024.¹⁸

Table 2: Brent Oil Prices Historical (2010 to Present)¹⁹



Under the contract, as annual oil prices increase, so do Guyana’s annual revenues. The revenues rise, and some of it is used to retire Guyana’s \$33 billion obligation to ENH for development costs. On the other hand, if prices remain persistently in the low range, then Guyana’s receipt of revenue will be commensurately small. Persistently low revenues require additional years and additional barrels of oil to fully reimburse development costs.

The second factor is the volume of oil produced and sold. ENH’s operator, ExxonMobil, has published the expected production and sales volume that will be sold. The company has disclosed the following expected production schedule for the next five years.²⁰

Table 3: Production Schedule: Estimated Barrels of Oil Produced from Guyana Reserves (2020-2024)

	Measure	2020	2021	2022	2023	2024
Annual	MMB	40	44	79	157	233
Daily	Bpd	110,000	120,000	216,000	430,000	640,000

This production schedule is based on ExxonMobil’s assessment of the construction and investment pace, consideration of market factors affecting demand, price, transport and logistical issues related to the site, and regulatory concerns. Guyana’s government recently estimated that ENH will produce and sell 31.8 million barrels

¹⁸ CME Group. [Brent Crude Oil Futures Quote](#). October 10, 2020.

¹⁹ Macrotrends. [Brent Crude Oil Prices - 10 Year Daily Chart](#). September 17, 2020.

²⁰ ExxonMobil. [ExxonMobil begins production in Guyana](#). December 20, 2019. Also see: ExxonMobil. [2020 Investor Day](#). March 5, 2020.

in 2020, its first full year of production.²¹

ENH will miss its first-year production goal, however, due to ENH's technical problems;²² a halt in production due to a dispute with the government over flaring;²³ and the company's reported pandemic-related issues.²⁴

The third factor is on the cost side of the equation. Recoverable costs are deducted from gross revenue (See [Table 1](#) and [Appendix I](#)) to arrive at the "profit oil" figure. What is a recoverable cost?²⁵ This report identifies the most significant cost items as the pre-development and development costs to operationalize the Liza and Payara phase of the plan.^{26,27} The contract requires that 100% of the development costs be reimbursed to ENH as part of the recoverable costs of the project.

During the first five years of the project, the development costs amount to \$33 billion. This sum, plus normal operational expenses and other contractually obligated costs, comprises the total recoverable cost and is paid first, up to the 75% of revenue cap ([Appendix I](#)). Another way of viewing the bottom-line nature of the contract for Guyana is to understand that during the first five years, Guyana receives 14.5% of gross revenue and in theory only after the development costs are satisfied does its portion of gross revenue rise to 40% (See [Appendix I](#)).

C. Methodological Considerations

This report is based on documents in the public domain related to the investment; Guyana's public budget documents; corporate filings; additional market data from business, government and international organizations; and media reports.

Despite these sources of information, the investment lacks transparency, impeding the exercise IEEFA has conducted. Additional information and analysis would have improved the quality of the findings in this study. Nevertheless, the available information allows for certain findings and conclusions.

The first methodological problem would confront anyone trying to gauge the fiscal benefits that are to be derived by Guyana as it develops its oil resources. The current global market for oil and gas is in a state of decline and quite fragile. The decline has a direct impact on the price of oil and the financial condition of ExxonMobil, CNOOC and Hess. The oil and gas sector also is changing, and ExxonMobil's distressed financial situation in particular portends unknown changes for the company. The

²¹ Minister of Public Works. [2020 Budget Speech](#). September 9, 2020, paragraph 5.6, p. 22.

²² ArgusMedia. [ExxonMobil working to fix offshore glitch](#). June 12, 2020.

²³ O&GLinks. [ExxonMobil Forced to Curtail Production in Guyana](#). June 16, 2020.

²⁴ Bloomberg. [Exxon Resumes Guyana Drilling](#). July 13, 2020.

²⁵ [Agreement](#), Annex C.

²⁶ IEEFA is currently conducting research on several other aspects of the development including the contract agreement. The details will be covered in a forthcoming analysis.

²⁷ The capital cost projections are taken from a Rystad public document: Rystad. [Guyana, Suriname basin poised for upgrade while oil firms prep to splurge billions on Stabroek](#). February 14, 2020. Since that time, Hess has announced an additional discovery which may also impact the total development costs for the project. Also see: Hess. [Hess Announces Oil Discovery at Redtail, Offshore Guyana](#). September 8, 2020.

evolution of the partnership between Guyana and ExxonMobil is uncertain. The changes make projections of future exploration efforts and oil prices difficult to forecast. For this report, IEEFA has chosen to restrict its oil price outlook to five years as a result of these unstable conditions.

Second, no public document sets out the business assumptions that guide this investment. IEEFA has performed its own scenario exercise ([Appendix I](#)) to document how it arrived at the estimates in this report. The financial scenario developed by IEEFA is taken from the contract document, several disclosures by the parties and independent market analysts. A much stronger public report would have been possible if a similar exercise had been performed by Guyana and ENH and released publicly. As it stands, data provided by ExxonMobil, Guyana or even market analysts have no context without such a public document. The lack of any agreed-upon set of operational assumptions provided in a standard business plan that can be used as baseline data and adjusted accordingly leaves the public, and the parties, without a practical understanding of how the parties are interpreting key financial provisions of the contract. This leaves the oil price, production estimates and actual reports—as well as the all-important discussion of profit oil—open to misunderstanding, not only for the interested public but also between the parties.

Third, the government of Guyana prepares an annual budget²⁸ that reconciles the previous year’s spending to its prior budget and projects forward one year.²⁹ The country would be better served by a one-year budget and the adoption of a five-year financial plan. How the energy deal works out for the oil producers is only one part of the fiscal equation. How cash revenues are treated and then used in the annual budget should be projected forward in a financial plan so that legislators and the public can properly debate Guyana’s future. As it stands, the only publicly available multiyear treatment of Guyana’s finances is prepared by the International Monetary Fund (IMF). IEEFA relies on the fiscal research prepared by the IMF in this paper, but the research is an inadequate substitute for Guyana’s own budget and financial plan, prepared and issued by its own independently elected leadership.

The combination of difficult market conditions and a lack of transparency on the energy, finance and fiscal side of the equation also increases the difficulty of performing external reviews and increases the likelihood of misunderstandings.

III. How It Works

From a bottom-line perspective, Guyana will receive a limited amount of revenue in the first five years, with most of the money coming in the fifth year. (See [Appendix I](#))

A. Why Five Years?

Those who have commented on this investment using a fiscal debt management or

²⁸ Ministry of Finance, Cooperative Republic of Guyana, [Estimates of the Public Sector, Current and Capital Revenue Expenditure for the year 2020, Volume I, II, and III](#). (“The Budget”)

²⁹ Guyana. [Fiscal Management and Accountability Act 2003](#), Part I, Section 2 Definitions, Annual Budget. December 16, 2003.

oil and gas exploration framework have adopted 15-³⁰, 20-³¹, and 40-year time horizons. The contract itself is for a maximum of 10 years and is expected to be renewed.

This paper provides a quantitative assessment of the next five years. IEEFA's analysis extends only that far for the following reasons:

- Guyana is currently experiencing significant fiscal deficits. Its national budget is produced on an annual basis, with prior year revenues and expenses reconciled against planned budgets projected one year forward. Expected oil revenues and their use over the next few years will be critical to closing those deficits and setting the stage for a discussion of how new revenue will be used.³² High expectations exist both inside and outside Guyana about the type and level of revenues that will materialize, as well as their impact on the country's economic growth and fiscal solvency.³³ The recent budget message makes clear that Guyanese concerns exist about the terms of the contract, low prices, volatility in the market and uncertainty over the volume targets. Near-term fiscal planning and concentration on cash receipts is of paramount importance.
- Global oil prices are low and are likely to remain below \$50/bbl through 2024. (See discussion above on short- and medium-term Brent prices and the discussion below on longer term global markets). The oil and gas industry is in a state of decline. While the industry typically takes a long-term view of investments, annual cash generated from reserves has become of utmost importance for oil and gas companies. Projections, even within the five-year time frame, are difficult to make with confidence. Projections beyond five years are less reliable for the purposes of a government body estimating future revenues.
- ExxonMobil is increasingly driven by short-term cash considerations. ExxonMobil, the lead partner and operator for the contractors, faces significant challenges during the next five years.³⁴ The company's financial profile is in a state of decline and disarray. In 2007, the company had a market capitalization of \$528 billion. Today, its market capitalization is less than \$150 billion.³⁵ The company posted profits of 25% in 2012; in 2019, ExxonMobil reported profits of 6.5%. The company's annual revenues peaked in 2011 at \$486 billion. In 2019, its annual revenues were \$265

³⁰ International Monetary Fund. [Guayana: Staff Report for the 2019 Article IV Consultation – Debt Sustainability Analysis](#). July 23, 2019.

³¹ Rystad Energy. [Guyana's GDP to Skyrocket in coming years as oil output gathers momentum](#). February 4, 2020.

³² For a discussion of Guyana deficits, see: International Monetary Fund, [Guayana: Staff Report for the 2019 Article IV Consultation – Key Issues](#), July 23, 2019, p. 8.

³³ The IMF's positive outlook on the Guyana economy is largely based upon the development of oil and gas. See: International Monetary Fund. [IMF Executive Board Concludes 2019 Article IV Consultation with Guyana, Press Release](#). September 17, 2019.

³⁴ Wall Street Journal. [Exxon Used to Be America's Most Valuable Company. What Happened?](#) September 13, 2020.

³⁵ Macrotrends. [ExxonMobil Market Cap 2006-2020](#). September 17, 2020.

billion.³⁶ The company has made significant errors in judgment on most of its major investments for the last 10 years. Significant investment plans that the company championed in Russia,³⁷ the United States,³⁸ Canada,³⁹ and the Permian Basin⁴⁰ have either been cancelled or have become the subject of strategic pullbacks as original plans failed to materialize. The company's strategic direction next year is uncertain as it is laying off employees,⁴¹ contemplating a significant asset write-downs,⁴² and even considering cutting its dividend.⁴³ How the company alters its strategic direction over the next five years is uncertain, but the frontloading of the cost reimbursement to ExxonMobil and its partners in the early years of this contract increases Guyana's risk.

With the recent announcement by ExxonMobil that it is pulling back its investments in the Permian Basin,⁴⁴ the company's investment in Guyana has become the leading strategic investment for ExxonMobil as it struggles to maintain investor confidence.⁴⁵ ExxonMobil has identified the Guyana investment as a key component of its plans to improve its cash flow,⁴⁶ a driver of its plan to bolster flagging profits,⁴⁷ and an engine for near-term growth.⁴⁸

B. How Much Revenue and When?

The fundamental fiscal question for Guyana is, how much will the government receive and what can be transferred annually to the budget for the next five years?

³⁶ Macrotrends. [ExxonMobil Revenue](#). September 17, 2020.

³⁷ Financial Times. [ExxonMobil abandons joint ventures with Russia's Rosneft](#). March 1, 2018.

³⁸ OK Energy Today. [Tillerson admits Exxon paid too much for XTO Energy](#). June 6, 2019. Also see: S&P Global. ['How not to do M&A': A look back at Exxon's deal for XTO 10 years later](#). December 16, 2019.

³⁹ Financial Times. [ExxonMobil forced to make cuts to reported oil and gas reserves](#). February 22, 2017. Also see:

Fortune. [Exxon's Big Oil Sands Write-Off Could Help It Dodge SEC Troubles](#). February 23, 2017.

Also see: EnergyIntel. [Exxon Reserves Shrink Nearly 20%](#). February 23, 2017.

⁴⁰ Exxon Mobil. [ExxonMobil Q2 2020 Earnings Call Transcript](#). July 31, 2020.

⁴¹ Bloomberg. [Exxon Prepares to Make Job Cuts Across Oil Giant's U.S. Offices](#). June 26, 2020.

⁴² ExxonMobil, [ExxonMobil 10-Q Q2 2020](#), p. 21/40. Also see: S&P Global Platts. [ExxonMobil, Chevron may write down big chunk of reserves if weak prices persist](#). August 6, 2020. Also see: Bloomberg. [Exxon Says 20% of Oil, Gas Reserves Threatened by Low Prices](#). August 6, 2020.

⁴³ Seeking Alpha. [Exxon Mobil Stuck While The World Moves On](#). August 13, 2020.

⁴⁴ Associated Press. [Exxon Mobil pulls back on Permian rigs as energy demand weakens](#). March 5, 2020. Also see: Natural Gas Intel. [ExxonMobil Capex Cuts Weighted to Permian; More Lower 48 Operators Pull Back on Coronavirus](#). April 7, 2020.

⁴⁵ ExxonMobil. [Investor Day 2020](#), March 5, 2020, p. 73. Identifies the Permian Basin and Guyana as the drivers of the company's plans for earnings growth.

⁴⁶ ExxonMobil. [Investor Day 2019](#). March 6, 2019, p. 37

⁴⁷ ExxonMobil. [Investor Day, 2020](#). March 5, 2020, p. 36. Identifies Guyana as an investment that can produce double digit returns. On page 151, the company notes that its 2015-2019 companywide returns were just under 8%.

⁴⁸ ExxonMobil. [Investor Day 2019](#). March 6, 2019, p. 69.

Table 4: IEEFA Estimated Guyana Share of Oil Profits and Royalties From 2020 Thru 2024 (USD \$ Millions)

Year	Government Share of Oil Profit + Royalties	Minus Tax Payment	Total Available Revenue to Guyana
Pre-2020	22	4	18
2020	256	44	212
2021	273	47	226
2022	524	90	434
2023	1,094	189	905
2024	1,619	279	1340
Total	3,788	653	3135

The total amount of revenue in any year will vary by the price of oil, the volume generated, and the total recoverable costs. Revenue will be decreased by the corporate tax payment that the government of Guyana has agreed to absorb (See [Appendix I](#) and [Appendix II](#)). Table 4 projects annual profits for the full five-year period (2020-2024) ranging from \$256 million to \$1.6 billion annually. Aggregate revenues are reduced by \$653 million (17%) during the period due to the provision in the contract that requires Guyana to pay ENH’s income taxes.

The tax provision of the agreement (see [Appendix II](#)) states that ENH is subject to Guyana’s income tax law and is responsible for filing annual tax returns.⁴⁹ Guyana agrees that taxes assessed “will be paid by the Minister ... on behalf of the contractor.”⁵⁰ The contract states that the receipt of Guyana’s share of profit oil shall constitute full payment for the taxes levied.⁵¹ ENH is required to submit its tax returns to Guyana so that “the Minister can pay income tax on behalf of the contractor.”⁵² Guyana is required to then provide an appropriate record of the payment to ENH as evidence that the taxes have been paid.⁵³

The amount of the annual taxes is subtracted from profit oil ([Table 4](#)). The contract obligates Guyana to accept that its profit oil effectively covers ENH’s annual tax liability. As a revenue matter for Guyana, a tax owed by a taxpayer is not being paid by the taxpayer but by the government of Guyana. The taxpayer is therefore not adding to Guyana’s annual revenue, but the liability instead is being satisfied by a diversion of resources from one Guyanese account to another. The purpose of the tax—to support the Guyanese government through payments from its third-party taxpayers—is compromised in favor of this contractual obligation.

Stated another way: If this contract provision did not exist, Guyana would receive a

⁴⁹ [Agreement](#), Taxation and Royalty, Section 15.2.

⁵⁰ [Agreement](#), Taxation and Royalty, Section 15.4 (a).

⁵¹ [Agreement](#), Taxation and Royalty, Section 15.4 (b), (i), (ii).

⁵² [Agreement](#), Taxation and Royalty, Section 15.5.

⁵³ [Agreement](#), Taxation and Royalty, Section, 15.5.

separate, \$653 million payment from ENH over the five-year period.

C. How Much Revenue Is Available? Fiscal Choices in a Period of Modest Revenue Increases

If the Guyanese government follows prudent fiscal planning for the use of the anticipated revenues during the next five years, the new resources will be insufficient to cover the country's expected annual deficit. [Table 5](#) shows that aggregate revenues available for the budget after contributions are made to the sovereign wealth fund would be insufficient to cover budget deficits in 2020, 2021 and 2022, leading to a shortfall of \$152 million over the full five years. The revenue level during the next five years indicates that new spending of any kind would have to be delayed. The choice is whether to use the revenues to balance the budget and grow Guyana's sovereign wealth fund or to spend the money now on new budget priorities.

According to the IMF, Guyana's government is committed "to follow a fiscal framework that constrains the annual non-oil deficit to not exceed the expected transfer from the NRF..." (Natural Resource Fund)⁵⁴ To maintain accountability, the NRF Act applies a rule that directs one-half of annual oil revenues to the annual budget. Under a fiscal plan that constrains annual spending, half of the annual revenues are transferred to the sovereign wealth fund. The growth of the fund is meant to protect Guyana from oil market shocks and to provide a cushion to smooth over volatility created by oil price fluctuations. The fund is also expected to be invested to support Guyana when the oil and gas reserves are either no longer valuable or fully depleted.⁵⁵

The IMF points out this is a "medium-term rule" but that current law allows Guyana to spend the entire annual balance in the first few years that oil revenues are available. The IMF specifically warns that Guyana needs additional fiscal legislation to cap spending to prevent the new revenues from becoming an incentive to overspend in the early years.⁵⁶ Spending the entire balance or engaging in new debt

⁵⁴ Statement by Alexandre Tombini, Executive Director for Guyana and Zahrah Mohammad, Senior Advisor to Executive Director, August 2019, p. 10, included in International Monetary Fund. [Guyana: Staff Report for the 2019 Article IV Consultation \(July 2019\)](#).

⁵⁵ See Discussion in Last Section of Paper on Norwegian Fund and its Economy.

⁵⁶ [IMF Staff Report](#), p. 8 and 9. The basis for the non-oil GDP deficit through 2024 is taken from data provided in the IMF Report, Table 1 and Table 6 Guyana Medium Term Macroeconomic Framework (p.38). This chart provides non-oil and all inclusive GDP data. A Table entitled Guyana Fiscal Overall Balance and non-oil Overall Balance (p. 8) discloses the IMF's estimate of non-oil budget balance and imbalance with and without the fiscal rule through 2030 discussed in this report. The charts shows a 2020 percent out of balance for 2020 through 2024 ranging from 6% to 8%. IEEFA multiplied the non-oil GDP estimates times the projected percent imbalance to achieve the amount of the projected deficit for each fiscal year. See discussion on methodological problems as these assumptions are IMF assumptions not the assumptions of the Guyanese government. The government does not provide a medium term budget and macroeconomic forecast in its budget documents. See: The Budget, Section 4, Appendix B Central Government Financial Operations, Section 4.2 Macroeconomic Framework, Appendix G,H,I. These documents provide the government of Guyana's calculations of its recent actual deficits as a percent of GDP and basis for its GDP scenario projections.

deals to support unsustainable new spending would, according to the IMF, be an imprudent outcome.

Guyana’s use of annual revenues in the first years will set a precedent for future budgets. If the medium-term rule or another fiscal reform is adopted immediately to create stable, annual contributions to the sovereign wealth fund, then the following scenario emerges:

Table 5: IEEFA Estimate of Available Annual Oil Revenues To Transfer To Budget in Relation To Annual Estimated Deficits (2020-2024)

Year	Total Available Revenue to Guyana	50% Transfer to the Budget	Annual Non-Oil GDP Deficit	Balance of Budget Transfer over Deficits
Pre2020	18	9	NA	
2020[1]	212	106	362	-256
2021	226	113	255	-142
2022	434	217	301	-84
2023	905	453	373	80
2024	1340	670	428	242
	3135	1568	1,719	-160

The presentation in Table 5 shows that annual oil revenues would not cover estimated non-oil deficits in the first five years.⁵⁷ Under the current fiscal arrangement, the government theoretically would need to borrow approximately \$482 million for 2020, 2021 and 2022 in order to achieve budget balance. The oil revenues managed according to the fiscal rule whereby one-half of the revenues are provided to the sovereign wealth fund and one-half for annual spending would be insufficient to cover estimated deficits without deferring or canceling transfers to the sovereign wealth fund.

Guyana faces ongoing annual budget deficits.⁵⁸ The non-oil GDP annual budget deficit in 2020 is \$362 million,⁵⁹ a significant deficit due in large measure to unforeseen expenditures caused by the pandemic. The non-oil deficit declines in 2021, reflecting a return to spending levels more consistent with historical patterns. The IMF then projects an annual imbalance in revenue to expenses in 2021 through 2024 as a percentage of non-oil GDP (ranging from 6% to 8% of non-oil GDP).⁶⁰

⁵⁷ Non-Oil deficits refer to the size of the budget deficit as a percentage of the non-oil portion of Guyana’s GDP. (See: IMF Staff Report – Selected Data)

⁵⁸ The Budget, Table 1 Central Government Summary of Revenue and Expenditure, Overall Surplus/Deficit, p 3 in each budget document.

⁵⁹ Ministry of Finance, Cooperative Republic of Guyana, [Estimates of the Public Sector, Current and Capital Revenue Expenditure for the year 2020, Volume I](#), Section 1.1 Public Sector Tables/Central Government Revenue and Expenditure, Table 1, Central Government Summary of Revenue and Expenditure, Budget 2020, Overall Surplus/Deficit, p. 3. (“The Budget”)

⁶⁰ [IMF Staff Report](#), p. 8 and 9.

IEEFA estimates show that oil revenues from 2022 through 2024 do not cover the non-oil deficit. Assuming no major spending increases, the revenue is insufficient to cover existing spending. This means that no new spending will be available if Guyana adheres to its plan of fiscal discipline to build a sovereign wealth fund. According to the IMF:

"The authorities have indicated that despite their capacity constraints, they intend to prioritize investment to improving quality of education, health care and caring for the vulnerable sections of the population whilst improving conditions for private sector growth and job creation."⁶¹

It is expected that the spending increase will be gradual, at best.⁶²

The IMF recommends that Guyana adopt additional expenditure controls to ensure that spending remains within the commitment levels made by the government.⁶³ Absent new legislation, and then adherence to it, pressure on the Guyanese government to spend \$1.6 billion (See Table 5) is likely and would reduce or eliminate transfers to the Sovereign Wealth Fund. Assuming even modest spending increases over the five-year period, Guyana could spend its entire allotment from profit oil and royalties.

New revenues can be used to reduce annual deficits; meet new spending needs build the sovereign wealth fund or reduce debt. If substantial revenues are realized over a period of years, all of these budget needs can be responsibly addressed. As a practical matter over the next five years, however, Guyana's revenues are constrained. This creates a condition of risk, since its budget needs are likely to create pressure to increase spending beyond prudent fiscal limits.

IV. What Are the Risks To This Analysis?

A. Risk Overview

This year's budget speech identified the positive growth impact of oil investments on Guyana's GDP.⁶⁴ It also offered four cautions:

1. Oil prices are low and tend to be volatile.⁶⁵ Low prices will decrease the flow of funds to Guyana and the amount available for budget transfers.
2. The 2020 production goals were not met, as 87,000 barrels per day were produced while 100,000 were promised.⁶⁶ A 13% shortfall in annual

⁶¹ *Ibid*, p 4.

⁶² *Ibid*, p. 11-12

⁶³ *Ibid*, p. 10.

⁶⁴ Minister of Public Works. [2020 Budget Speech: Our Plan for Prosperity](#). September 9, 2020.

⁶⁵ *Ibid*, paragraph 2.6, p. 8-9.

⁶⁶ *Ibid*, p. 22.

production creates a material impact on Guyana's budget.⁶⁷

3. Additional oil revenues must be used prudently.
4. The contract should be renegotiated to correct certain one-sided provisions and to improve administrative support.⁶⁸

The speech acknowledged that the IMF has issued an extensive warning based on the experience of other countries about the tendency toward overspending as oil production proceeds and revenues increase.⁶⁹ The speech also reflected the fact that the current contract has come under criticism due to certain one-sided provisions that favor ENH over Guyana.⁷⁰

B. Risks To Guyana's Annual Revenues Over the Next Five Years

The size and timing of Guyana's revenue receipts from its new oil reserves present short- and medium-term upside and downside risks. Upside risks refer to those generated by Guyana receiving additional revenue. As discussed above, the actual fiscal benefit of new oil revenues needs to be measured against how those resources help Guyana support annual spending, absorb new spending needs and contribute to the sovereign wealth fund to protect Guyana against oil price volatility and inevitability of resource depletion or market-driven obsolescence.

Downside risks refer to those factors that would result in Guyana receiving less revenue either due to low prices or less volume sold. Under the agreement, periods of low oil prices are periods of low revenues for Guyana. Annual revenue fluctuations require constant monitoring to correct for mid-year adjustments in spending during periods of revenue shortfalls.

As there are no formal publicly-available consensus plans for production, oil prices and ultimately oil revenues accruing to Guyana's interest, IEEFA has made certain assumptions.

⁶⁷ It also highlights the difference between how Guyana looks at production and revenue shortfalls and how ENH sees it. For example, for the Guyanese government a revenue shortfall of approximately \$200 million per year creates more than a 10% deficit in current year spending. To ENH, a \$200 million shortfall is less of a burden when spread among three oil companies with substantial annual revenues.

⁶⁸ *Ibid*, paragraph 4.130, p. 58.

⁶⁹ *Ibid*, paragraph 4.129, p. 58.

⁷⁰ Stabroek News. [Guyanese want a renegotiation of the oil contract for more revenues](#). August 19, 2020. Also see: S&P Global Market Intelligence. [Guyana Election could force oil majors to renegotiate production-sharing deals](#). February 17, 2020. Also see: Kaiteur News. [Extensive Review of 130 oil contracts exposes inferiority of Guyana & ExxonMobil's PSA](#). July 21, 2019. Also see: Kaiteur News. [Guyana Exxon PSA definitely in bottom pile of worst contracts – consultants](#). July 23, 2019.

Upside Risks

If oil prices rise, revenues for Guyana could increase above those referenced in this report.

This report estimates an average \$46/bbl price of oil from 2020 to 2024.⁷¹

While the average Brent price over the last 10 years was \$74/bbl,⁷² the current Brent price from September 2019 through September 2020 has ranged from \$19/bbl to \$68/bbl.⁷³ The EIA projects in 2020 that the average price of Brent will be \$41.90/bbl.⁷⁴

Oil price estimates through 2024 average below \$50/bbl. For the 2020-2024 period, the price of oil estimated by averaging five publicly available forecasts—including EIA, Fitch, World Bank, IMF, and CME Futures—is under \$50/bbl. Some forecasts place the upper level of oil prices at \$67.00/bbl by 2024.

The annual price of Brent oil is a major determinant of the amount of revenue received by Guyana. The potential for a significant increase in the price of oil over the next five years is possible, but unlikely.

Downside Risks

Fiscal

Oil revenue growth may be too small to cover expected deficits for Fiscal Years 2020 through 2024. Guyana may spend modest levels of new oil revenues on immediate spending priorities.

The risk of overspending is high. As discussed above, Guyana's ability to close budget deficits, support new spending and contribute to the growth of the Sovereign Wealth Fund during the next five years is constrained. All of the goals will be difficult to achieve. The pressure to increase spending is particularly acute given the needs of Guyana when it emerges from the pandemic. The budget choices made during the next five years will set the pattern for how the country uses its new oil revenues.

Over the next five years, Guyana could spend down oil revenues on immediate needs. The country may face the same or higher levels of debt as a result.

Guyana's debt levels could increase during the next five years even as it receives more revenue. Guyana's current debt level is \$1.7 billion.⁷⁵ It is unlikely that during the next five years, the principal balance of the debt will decrease due to a pay-down

⁷¹ See [Appendix I \(Oil Price\)](#).

⁷² Macrotrends. [Crude Oil Prices – 10 Year Daily Chart](#).

⁷³ Trading Economics. [Brent Crude Oil](#). September 17, 2020.

⁷⁴ Energy Information Administration. [Short Term Outlook](#). September 9, 2020

⁷⁵ Minister of Public Works. [2020 Budget Speech: Our Plan for Prosperity](#). September 9, 2020, p. 19.

from oil revenues. As demonstrated above, Guyana’s borrowing could increase in the range of \$482 million.

Under any scenario, Guyana will have an outstanding balance of \$20 billion on its contractual obligations to ENH at the end of five years—and face additional development costs.

Under current contract provisions, at the end of the five years Guyana will have an outstanding balance due on its contract obligations to ENH of approximately \$20 billion (see [Appendix I – 2024 Unrecovered Costs](#)). The amount will exist whether or not Guyana transfers some or all of the promised amounts to the Sovereign Wealth Fund. The modest payments being received by Guyana from 2020 through 2024 are due to the fact that the government must reimburse 100% of all pre-development and development costs before it is able to gain access to the robust revenue resources promised by project proponents of the investment. The \$20 billion is not classified as “debt” on Guyana’s books. It is nevertheless an obligation that must be paid so long as the contract is in force.

Moreover, that \$20 billion owed by Guyana to ENH by 2024 will continue to rise, because an additional \$5.5 billion in capital expenditures must be added.⁷⁶ This must be retired before Guyana can have a sufficient amount of annual revenues to comfortably cover deficits, allow for additional new spending and increase the sovereign wealth fund. ENH has projected that the overall development cost could exceed \$50 billion between 2019 and 2030.⁷⁷ These costs, plus interest, are legitimate, recoverable costs under the contract. The integration of development costs into the cost structure that is passed along to Guyana over time will have a direct bearing on how much Guyana receives and when it receives it.

V. Future Oil and Gas Markets

IEEFA’s five-year scenario of oil prices, production and revenues for Guyana contains upside and downside risks. Beyond five years, any specific prediction about oil and gas sector markets or prices is, at best, a guess, but certain trends are apparent.

The oil and gas industry is in a state of structural decline and has been for most of the last decade. As noted above, the current short-term problems of low demand and very low prices stemming from the pandemic and political conflict among producer nations only compounded existing long term structural weaknesses in the market. These structural weaknesses are affecting conditions in Guyana.

The outlook for price and demand is largely negative beyond five years. A historically unique set of risks now faces the industry. In fact, it is quite difficult to predict with reliable specificity the demand growth for oil and its impact on Guyanese demand for oil or its price or the relative strength of any of the companies

⁷⁶ Rystad Energy. [Guyana Suriname basin poised for upgrade while oil firms prep to splurge billions on Staborek](#). February 14, 2020.

⁷⁷ *Ibid.*

that currently lead the industry. It's clear that the oil and gas industry is in the midst of change that is making it smaller. The decline is demonstrably changing assumptions about the long-term viability of oil and gas investments from positive to negative.

The implication for Guyana is that the next five years are the most predictable and therefore require concentrated attention.

A. The Decline of the Oil and Gas Sector

- The oil and gas sector held 29% of the S&P 500 in 1980.⁷⁸ It now commands only 2.3%.⁷⁹ Once the world's financial powerhouse, the oil and gas industry now holds the smallest position of any sector in the stock market.⁸⁰
- ExxonMobil hit an industry-leading high market capitalization of \$527 billion in 2007, compared to its current low value of less than \$150 billion.^{81,82} By the end of the year, the company reports, it may write off one-fifth of its current reserves because they are no longer extractable.
- ExxonMobil lost its position as one of the top 10 companies in the S&P 500 in 2019. It had held a top 10 position for 90 years.⁸³
- The company was removed from the Dow Jones Industrial Average in 2020. It had held a position in the index for almost a century.⁸⁴

B. Structural Decline

Fundamental changes in the economy now support economic growth strategies that require less dependence on fossil fuels. Major oil and gas companies, like ExxonMobil,⁸⁵ acknowledge that current and future economic growth will require less energy. Energy experts now discuss this insight as fact and chart corporate strategies to address the decoupling of economic growth from fossil fuel growth.⁸⁶

Broad changes in production, business models, profits, technology, finance, competition, political relations among nations and climate change have combined to disrupt the institutional alignments that once maintained the oil and gas sector at the top of world financial and energy markets. Today, a cumulative set of issues

⁷⁸ Sibilis Research, SP 500 Sector Averages 1979 to 2020 (proprietary available upon request)

⁷⁹ S&P Global. [S&P 500 Overview](#). August 31, 2020.

⁸⁰ *Ibid.*

⁸¹ Macrotrends. [Exxon Market Cap 2006-2020](#). September 25, 2020.

⁸² Yahoo! Finance, [ExxonMobil Corporation](#). September 15, 2020.

⁸³ Bloomberg. [Exxon Poised to Drop From S&P 500 for First Time Ever](#). August 31, 2019.

⁸⁴ World Oil. [ExxonMobil exits exclusive Dow Jones industrial Average club as focus shifts to tech firms](#). August 24, 2020.

⁸⁵ ExxonMobil's annual Energy Outlook charts worldwide growth of GDP through 2040 and a declining amount of BTU's per unit of GDP as part of that growth trajectory. The trend is evident in every region of the world at varying levels. ExxonMobil. [2019 Outlook for Energy](#), p. 53.

⁸⁶ McKinsey. [The Decoupling of GDP and Energy Growth: A CEO Guide](#). April 24, 2019.

beset the industry – its short-term cash positions have deteriorated, asset sales and consolidation transactions are distressed, and the outlook is largely negative.

These changes, now more than a decade in the making, occur even when the economy grows, with whole new sectors in formation and older ones in transformation, displacing oil and gas companies as market leaders.

Oversupply of the market will likely continue to create competition between oil and gas producers.

Oil and gas markets were oversupplied before the pandemic.⁸⁷ The economic factors driving oversupply were increases in capacity and production from hydrofracking in the United States and the expansion of the number and types of oil producers for over the last decade, including in Russia and Canada. The pandemic drove demand down, and a price war between Saudi Arabia and Russia pushed prices down even further.

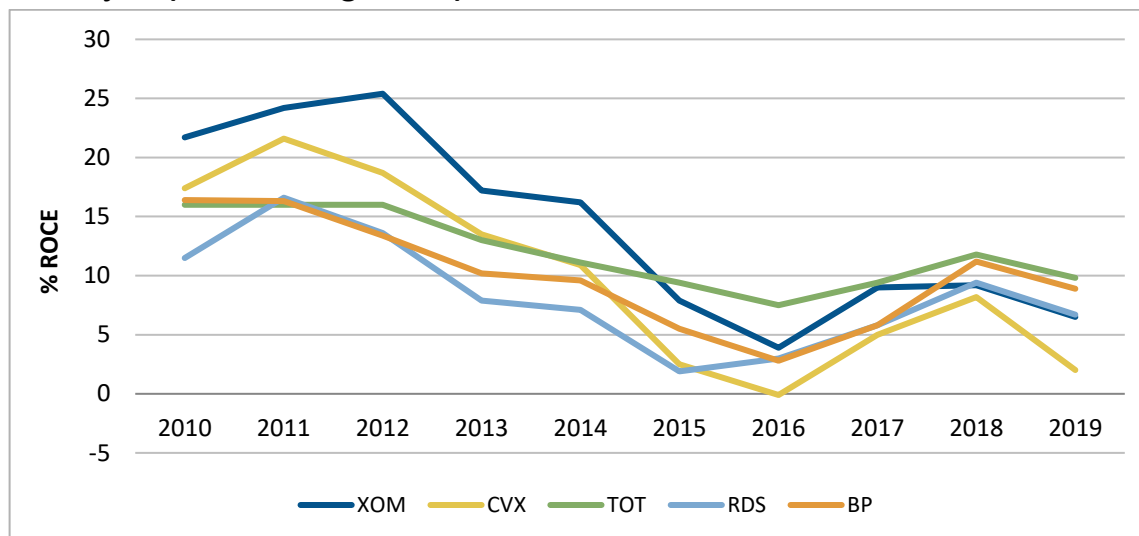
The same dynamics that drove oversupply before the pandemic persist, except that the urgent need for cash by oil-producing nations and private companies has accelerated. Temporary cutbacks in supply may occur as private producers slash capex budgets and OPEC enforces production agreements. As prices rise, cash-strapped producers immediately flood the market again and drive down prices. This strategy leads to a persistent risk of oversupply and is the chief determinant of the long-term lower price scenarios amplified by oil companies, state-owned operations and oil forecasters.

Oil and gas industry profits are in decline and likely will continue to decrease for the foreseeable future.

The top oil majors have faced declining profits for most of the past 10 years. ExxonMobil, for example, returned 25% to investors in 2012. In 2019—prior to the pandemic—it returned only 6.5% on its capital employed.

⁸⁷ Oilman Magazine. [Petroleum markets react to oversupply](#). July 8, 2020.

Table 6: Declining Annual Return on Capital Employed (Profits) for Five Oil Majors (2010 Through 2019)⁸⁸



Current industry-wide reductions in new capital spending portend a slowing of future production. Announcements in the wake of the pandemic amounted to \$85 billion in capital expenditure reductions covering large integrated oil and gas, independent, midstream, oil services and national oil companies.⁸⁹ ExxonMobil has announced a 30% cut in its 2020 capital spending and has stated that the two phases of Liza fields in Guyana will not be affected. The Payara project awaits government approval, and some expenditures related to it have been deferred.⁹⁰

Large oil and gas companies like ExxonMobil are having to recognize that the future of the company is smaller, with less global reach.⁹¹ ExxonMobil announced last month that it might have to write off 20% of its worldwide assets if prices remain the same for the rest of the year.

In anticipation of lower profits and less investment in oil and gas projects, major oil interests are writing down their oil and gas inventories.⁹²

Competition from alternative sources of fuel in the electricity, transportation and petrochemical fields are challenging long-term growth projections of fossil fuel producers.

Several fast-growing sectors of the economy are now in competition for market share with slower-growing oil and gas products.

⁸⁸ See discussion and documentation in IEEFA (ExxonMobil woods report).

⁸⁹ Offshore. *Capex cuts reach more than \$85 billion*. May 4, 2020.

⁹⁰ ExxonMobil. *Exxon reduces capex by 30%, cash opex by 15%; maintains long-term outlook*. April 7, 2020.

⁹¹ Reuters. *Exxon Downsizes Global Empire as Wall Street worries about dividend*. September 15, 2020.

⁹² JDSupra, *2020 Oil & Gas Impairments: What's Behind the Numbers?* February 14, 2020.

McKinsey has outlined the trajectory of future demand for plastics (produced with natural gas) in recent reports. The business consultant sees a 5% rising annual demand for plastics continuing worldwide, but only a 1% rise in the demand for virgin plastics. McKinsey sees recycled plastics taking up most of the growth in the plastics space through 2030. Recently, major corporations that utilize plastics have announced support for long-term efforts to encourage the recycling market.⁹³

As the economy begins to recover from the pandemic, IHSMarkit has stated that the use of wind, solar and energy efficiency is likely to result in diminished demand for natural gas in the electricity sector.⁹⁴ Recent IEEFA research shows renewable energy gaining market share at the expense of natural gas in several states in the United States.⁹⁵ Similarly, recent cancellation of gas pipeline projects indicate a slowdown in the growth of natural gas use for home heating, while alternative fuel strategies are on the rise.⁹⁶

Vehicular demand for gasoline can reasonably be expected to decline for three reasons—improved fuel efficiency,⁹⁷ a likely overall increase over pre-pandemic levels in working and shopping from home,⁹⁸ and competition from electric vehicles on which investors are “increasingly placing bets.”⁹⁹

The impact of the pandemic on transportation fuel demand has been most severe for jet fuel, and the possibility of a return of jet fuel sales over the long term is uncertain.¹⁰⁰ Business travel in particular may see a permanent impact as people have become more accustomed to virtual meetings. Short-term sales remain low based largely on the pandemic and restrictions on travel. The full impact of the pandemic on new ways of business and tourist travel remain unknown.¹⁰¹

Private oil and gas companies and state-owned oil enterprises are locked in a competitive downward spiral of overproduction and downward prices.¹⁰²

⁹³ Plastics News. [U.S. plastics pact targets big growth in recycling](#). September 7, 2020.

⁹⁴ National Journal. [Coronavirus crisis could fuel move to renewable energy](#). 2019.

⁹⁵ IEEFA. [Utilities are now skipping the gas 'bridge' in transition from coal to renewables](#). July 1, 2020.

⁹⁶ IEEFA. [Three major pipelines are scrapped in short order](#). July 8, 2020.

⁹⁷ Environmental Protection Agency. [Highlights of the Automotive Trends Report](#). March 2020. Fuel efficiency continues to improve. The U.S. Environmental Protection Agency reports that in model year 2018, fuel economy increased by 0.2 miles per gallon to 25.1 mpg, achieving a record high. Fuel economy in 2019 is projected to increase 0.4 mpg to 25.5 mpg. As old cars “turn over,” these newer cars’ fuel-savings will have a greater and greater downward influence on oil demand.

⁹⁸ KPMG, LLP. [Automotive's new reality: Fewer trips, fewer miles, fewer cars?](#) July 2020. The report by KPMG predicts that the pandemic-precipitated trends of more people working and shopping from home “will continue – and could cut U.S. annual VMT [vehicle miles traveled] by up to 270 billion miles.” It predicts that 10-20 percent of workers will continue to work from home after the pandemic subsides, while shopping trips will decline from pre-pandemic levels by 10-30 percent.

⁹⁹ Wall Street Journal. [Auto Makers Charge Ahead With Electric-Vehicle Plans](#). July 19, 2020.

¹⁰⁰ S&P Global Platts. [APPEC: COVID-19 puts brakes on oil demand, jet fuel recovery to lag – Vitol execs](#). September 14, 2020.

¹⁰¹ ICIS. [U.S. Jet Fuel recovery uncertain as demand hits unprecedented lows](#). May 12, 2020.

¹⁰² NS Energy. [Major state-owned oil and gas companies in the world](#). March 29, 2019.

The impact of changing interests of oil and gas producers has resulted in a breakdown of market discipline, creating a dynamic of oversupply for which no solution has emerged.¹⁰³ During past periods of expansion, the oil and gas sector worked together as annual growth rates papered over differences. As decline has set in, however, new interests have emerged and old alliances have broken down. State-owned operations are in conflict where cooperation among members of the Organization of Petroleum Exporting Countries (OPEC) could once be assumed. Competition in the oil and gas sector between oil majors, and then between large producers and independents, has resulted in political fragmentation.

Recent price wars show that political conflict is likely to drive production strategies from various quarters around the world. This also continues to threaten to destabilize market balance, even as such strategies result in financial distress for those involved.

Other countries that have depended on oil and gas revenue for decades no longer consider it a stable resource for the future. Norway currently relies heavily on fossil fuel sales revenue, but acknowledges that its long-term dependence on oil and gas revenue is coming to an end.

After having relied heavily for 40 years on oil and gas revenues, Norway is now projecting structural budget deficits through 2060. The Norwegian experience has particular relevance for Guyana. The industry provides approximately 25% of the revenues for Norway’s national budget and comprises roughly 25% of the country’s Gross Domestic Product. Norway’s sovereign wealth fund, now one of the world’s largest, was established with the premise that the country’s vast oil reserves eventually would become either depleted or obsolete. The chart below shows that Norway was able to curtail annual spending over decades and contribute to its fund, now worth more than \$1 trillion.

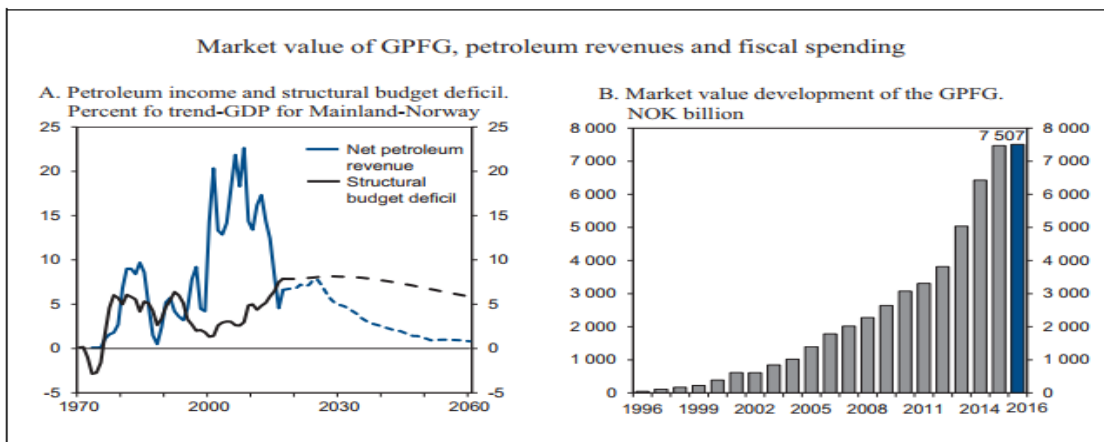


Figure 3.7 Developments in petroleum revenues, budget deficits and the market value of the Fund
Source: Ministry of Finance.

¹⁰³ CNBC. Pioneer Natural Resources CEO warns independent oil companies could go bankrupt if production continues amid coronavirus. March 26, 2020.

The government of Norway has acknowledged the slower growth in revenues from oil and gas sales, and is making adjustments to fiscal and economic policy to respond to the shifting circumstances. Its 2020 Budget Summary states:

*"In recent years, fiscal policy has entered a new phase. The era of large increases in petroleum revenue spending since the fiscal rule was introduced in 2001 is coming to an end. Petroleum revenue spending as a share of mainland GDP has been kept rather stable in the last few years. Going forward, growth in the Government Pension Fund Global (GPF) is expected to slow. Petroleum revenues will gradually start to decline, and in a decade from now the revenue from the Fund as a share of mainland GDP will most likely be on a downward path. Consequently, the scope for further expanding petroleum revenue spending is severely limited."*¹⁰⁴

Thus, even though Norway now has almost 30 years of experience drilling for oil and gas and selling it in world markets, the country sees its future reliance on oil and gas substantially diminished and recognizes the need for broader budgetary reforms and economic diversification.

Popular opposition to fossil fuels based on environmental and climate concerns are spurring new policies that curb demand for fossil fuels and increasingly restrict supply.

Guyana's oil and gas development plans are taking place while popular concern over climate change and fossil fuel use is rising. Citizen and governmental actions create further risk for long-term development of oil and gas reserves. The risk to Guyana is that short-term financial and climate concerns combine to further depress global prices and demand for fossil fuels. Longer-term institutional changes taking place regarding the use of fossil fuels may diminish or eliminate the value proposition driving this initiative.

This is not a future risk, but rather a part of the current landscape of oil and gas investing. Its origins are in pre-pandemic market forces, and the pandemic has accelerated substantial value deterioration. For financial and climate-related reasons, oil and gas projects are being abandoned,¹⁰⁵ postponed, slowed down,¹⁰⁶ written off,¹⁰⁷ and sold at distressed prices.¹⁰⁸ Many of those that are moving forward face diminished profit potential.¹⁰⁹

Popular concern over climate change has moved past a debate over the scientific validity that human actions cause and can mitigate the negative impact of carbon

¹⁰⁴ Royal Ministry of Finance. [The National Budget 2020: A Summary](#). September 25, 2020.

¹⁰⁵ Reuters. [Teck drops C\\$20.6 billion oil sands Frontier project, to take writedown](#). February 23, 2020.

¹⁰⁶ S&P Global Platts. [Argentina's fracking activity in Vaca Muerta slowed to zero in April](#). May 5, 2020

¹⁰⁷ Wall Street Journal. [Big Oil's Big Write-downs](#). January 8, 2020.

¹⁰⁸ Oil and Gas Journal. [Shell sells Appalachia Assets to National Fuel for \\$541 million](#). May 5, 2020.

¹⁰⁹ Inside Climate News. [Market Headwinds Buffet Appalachia's Future as a Center for Petrochemicals](#). March 21, 2020.

emissions on the planet. The discussion now is dominated by the latest climate-related catastrophic events. More intense hurricanes and forest fires are causing the loss of human life, destruction of property and disruption of communities, as well as the economies they support.

Popular concern over climate change is a permanent part of any risk calculation about the viability of a long-term project like the plans for Guyana. Popular concern is a material risk to this type of fossil fuel development.¹¹⁰

- The concern over climate change is **permanent**—increasingly driven by events that show the power and force of its destructive path.
- The efforts to further articulate the problem and compel a discussion of alternative policy and investment are **resourced by public and private policy and investment**. The Paris Agreement remains an important focus of policy and discourse as countries struggle to meet its goals. Policy responses that curtail investment in fossil fuel use have produced a steady stream of corporate,¹¹¹ financial,¹¹² and government plans and implementation schedules.¹¹³ Corporate, governmental and private philanthropic investments continue to develop initiatives that are both practical in reducing emissions and mitigating destruction and consensus projecting as new markets and organizations form to drive toward a solution.¹¹⁴
- The elements of the climate change movement are **skilled**. Its growing sophistication to respond to the oil and gas sector's development plans with financial, legal and public participation (and more broadly, to exert influential pressure at the policy level) creates new venues at financial institutions, governments, company boards, markets and community organizations.¹¹⁵
- Climate change efforts are further validated by the increasingly negative financial performance of the fossil fuel industry as each new report brings further evidence of a decline in the industry's attractiveness,¹¹⁶ size,¹¹⁷

¹¹⁰ IEEFA. [Material Risks](#). October 29, 2014.

¹¹¹ Science Based Targets. [Over 150 global corporations urge world leaders for net-zero recovery from COVID-19](#). May 18, 2020.

¹¹² S&P Global Market Intelligence. [Wave of institutional divestment from coal mining, generation develops in 2019](#). December 20, 2019.

¹¹³ The Guardian. [Paris climate deal world not on track to meet goal amid continuous emissions](#). December 4, 2019.

¹¹⁴ Philanthropy News Digest. [Philanthropies Pledge \\$4 Billion to Combat Climate Change](#). September 17, 2018.

¹¹⁵ U.S. Chamber of Commerce. [New Analysis Demonstrates Massive Costs of 'Keep It In the Ground' Anti-Energy Movement](#). Also see: IEEFA. [IEEFA Response to the U.S. Chamber of Commerce Analysis of the "Keep it in the Ground" Movement](#). February 2019.

¹¹⁶ Rigzone. [Oil Has a Millennial Problem](#). August 2, 2019.

¹¹⁷ S&P Global Platts. [Fossil fuels' shrinking share of global energy mix after 2020 shock](#). June 23, 2020.

value¹¹⁸ and political power. Its decline is also marked by a loss of market confidence as energy stock prices plummet.¹¹⁹

- Climate change efforts are empowered by the growth in policy consensus regarding—and concomitant rising levels of capital allocation to—renewable energy,¹²⁰ energy efficiency,¹²¹ alternative transportation and recycling.^{122,123}

The combination of climate change events, financial decline and the growth of a permanent, institutional challenge to the fossil fuel sector have altered traditional concepts of financial, political and regulatory risk. Last year, BlackRock, one of the world's leading investment houses, made headlines by positing a simple idea: Sustainable investing improves financial performance. It was a substantial change from the market's long-term perspective that sustainable investing impairs financial performance.¹²⁴

Conclusion

The receipt of new revenues is welcome news to a government under any circumstances. The news is particularly welcome when a government is facing economic and fiscal stress. When there is a promise of more revenue, hopes for long-term fiscal solvency can appear to be in reach.

This is also a time for public questioning. Is the amount currently being received the right amount, all things considered? Are the corporations making promises of future revenues capable of producing those future revenues? Are there conditions on the receipt of revenue—factors within the control of government and outside the control of the government? What is known about those objective conditions today and what do they say about the future? How are the new resources to be used? What are the limits?

These are questions that are ultimately of a political nature and cannot be answered by an exercise like that conducted by IEEFA. They are questions nevertheless that must be answered.

¹¹⁸ Energy Information Administration, [Early 2020 drop in crude oil prices led to write down of U.S. oil producer assets](#), July 27, 2020.

¹¹⁹ Washington Post. [Big Oil just isn't as big as it once was](#). September 4, 2020.

¹²⁰ Statista. [Value of investments in renewable energy in the U.S. from 2004 to 2019](#). September 2, 2020.

¹²¹ McKinsey. [Energy Efficiency: A Compelling Global Resource](#). March 2010.

¹²² Reuters. [Global carmakers to invest at least \\$90 billion in electric vehicles](#). January 15, 2018.

¹²³ Environmental Leader. [The Coca-Cola Company Invests in Enhanced Recycling Technologies](#). December 14, 2018.

¹²⁴ New York Times. [BlackRock C.E.O. Larry Fink: Climate Crisis Will Reshape Finance](#). January 14, 2020.

Notes to IEEFA Profit Oil Projections

Item	Source
Gross Production	https://corporate.exxonmobil.com/News/Newsroom/News-releases/2019/1220_ExxonMobil-begins-oil-production-in-Guyana
Price	IEEFA Estimate: EIA, CME Group, ExxonMobil, World Bank, IMF.
Annual Operating Expenses	Best Estimate
Pre-Effective Date Costs Recovered	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Annex C, Section 3.1 (k)
Exploration Costs from Effective Date to	https://www.rystadenergy.com/newsevents/news/press-releases/guyana-suriname-basin-poised-for-upgrade-while-oil-firms-prep-to-splurge-billions-on-stabroek/
Amortized Abandonment Costs	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Article 11.3.
Total Development Costs	https://www.rystadenergy.com/newsevents/news/press-releases/guyana-suriname-basin-poised-for-upgrade-while-oil-firms-prep-to-splurge-billions-on-stabroek/ and https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf Annex C, Article 2.2.
Interest on Loans	Best Estimate
Cost Recovery Cap	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Article 11.2.
Profit Oil	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Article 11.
PCO Threshold	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Annex C, Section 2.5
Royalty	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Article 15.
Income Tax	https://nre.gov.gy/wp-content/uploads/2017/12/Petroleum-Agreement-Oct-7-2016.pdf , Article 15.

Appendix II: Contract Provisions Related to Taxation (pages 38 and 39)

Article 15 - Taxation and Royalty

15.2 Except as provided in this Article 15, Contractor, Affiliated Companies, Sub-Contractors and individuals who are expatriates shall be subject to the income tax laws of Guyana, including, the Income Tax Act of Guyana (Cap. 81:01) and the Corporation Tax Act of Guyana (Cap. 81:03) and shall separately comply with the requirements of those laws, in particular with respect to filing returns, assessment of tax, and keeping and showing of books and records.

15.3 The taxable income of the Contractor arising in each year of assessment under this Agreement for purposes of the income tax laws of Guyana, (including the Income Tax Act and the Corporation Tax Act referred to in Article 15.2) shall include the amounts of Contractor's income tax and corporation tax paid pursuant to Article 15.4.

15.4 The Minister hereby agrees:

- (a) that a sum equivalent to the tax assessed pursuant to Article 15.2 and 15.3 will be paid by the Minister to the Commissioner General, Guyana Revenue Authority on behalf of the Contractor and that the amount of such sum will be considered income of the Contractor; and
- (b) that the appropriate portion of the Government's share of Profit Oil delivered in accordance with the provisions of this Agreement shall be accepted by the Minister as payment in full by the Contractor of Contractor's share of each of the following levies, whatsoever the applicable rate of such levies may be, which the Minister shall then pay on behalf of the Contractor under Article 15.4 (a) to the Commissioner General, Guyana Revenue Authority or such successor authority:

- (i) the Contractor's share of the income taxes imposed by the laws of Guyana, including, but not limited to, income tax imposed by the Income Tax Act and corporation tax imposed by the Corporation Tax Act and payable at the date hereof, or from time to time thereafter, and any other levy or charge on income or profits which may become payable from time to time under any laws, acts, statutes, regulations or orders by the Government; and

- (ii) any other similar charge imposed and payable in respect of Petroleum Operations at the date hereof, or from time to time hereafter, except charges of the type specified in Article 15.1 (a-b).

15.5 The Contractor shall provide the Minister with the Contractor's income tax returns to be submitted by the Minister to the Commissioner General, Guyana Revenue Authority so the Minister can pay income tax on behalf of the Contractor as provided under Article 15.4 (a). On such returns, the Minister shall note that he is paying the income taxes on behalf of the Contractor, so that the Commissioner General, Guyana Revenue Authority can properly prepare the receipts required under this Article 15.5. Within one hundred and eighty (180) days following the end of each year of assessment, the Minister shall furnish to Contractor proper tax certificates in Contractor's name from the Commissioner General, Guyana Revenue Authority evidencing the payment of the Contractor's income tax under the Income Tax Act and corporation tax under the Corporation Tax Act. Such certificates shall state the amount of tax paid individually on behalf of Contractor or parties comprising the Contractor and other particulars customary for such certificates.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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