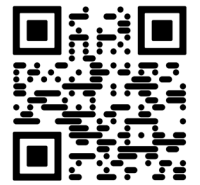




**GOVERNMENT
OF GUYANA**

GUYANA ENERGY **BRIEF** 2023



LCDS 2030



© Pete Oxford

First Oil from Prosperity

- The Prosperity Floating Production, Storage and Offloading (FPSO) vessel, is anticipated to arrive in the second quarter of 2023. The FPSO will support Guyana's third development, Payara, in the prolific offshore Stabroek Block.
- Prosperity is outfitted with steel fabricated by two Guyanese companies. This achievement is a massive milestone, entirely in keeping with local content objectives.
- Accelerated development will bring Guyana's daily production capacity to 580,000 barrels of oil – only eight years after black gold was first struck in the block.



Prosperity FPSO



Liza Unity FPSO started production in February 2022



Liza Destiny FPSO started production in December 2019

GUYANA ENERGY **BRIEF** 2023



Table of Contents

| | | | |
|-----------|---|-----------|---|
| 04 | Energy Outlook | 27 | Growth of the Midstream and Downstream Markets |
| 15 | Transformation of the Upstream Market | 34 | Development of the Natural Gas Market |
| 05 | Message from His Excellency | 25 | Stabroek Block development |
| 07 | Importance of the oil and gas industry for Guyana | 26 | Local Content Act yields positive results as estimated USD\$710M expended in first year of law's implementation |
| 09 | Guyana's policy position on fossil fuel subsidies, price on carbon and net-zero targets | 28 | Local content development |
| 10 | Guyana leads low-carbon development | 31 | Review and enhancement of the regulatory framework |
| 11 | Government of Guyana, Hess Corporation enter USD750 million carbon credits deal | 32 | Natural Resource Fund Act 2021 for effective management of oil earnings |
| 12 | Forward-looking energy agenda | 35 | Gas-to-Energy Project: overview and economic impact |
| 13 | Guyana's first licensing round underway... | 38 | Exploring regional energy integration |
| 16 | Geological overview | 39 | LCDS 2030—The low-carbon vision |
| 17 | Guyana's petroleum economy advances by 43 discoveries | 42 | Guyana's infrastructural development |
| 19 | List of operators | 43 | Investing in Guyana |

ENERGY OUTLOOK





Message from His Excellency

**Dr. Mohamed Irfaan Ali,
President of the Co-operative
Republic of Guyana**

Even in the face of geopolitical conflict, the long-standing and doldrum effects of the COVID-19 pandemic and production shortfalls as a consequence of climate-related events, Guyana continues to outperform itself. The strong, bold and transformative policies by the Government of Guyana have reaped benefits that are beyond remarkable, as manifested in the growth rate of 62.3 percent for 2022 – signifying that for two years, Guyana has been the fastest growing economy in the world.

This remarkable percentage is on the account of the continued unprecedented expansion of the nation's oil and gas sector, which in 2022, saw Guyana producing 101.4 million barrels of oil, and closing off the year with US\$1.271.8 billion in oil earnings. Such performance is attributed to the operationalisation of the nation's second Floating Production, Storage and Offloading (FPSO) vessel – the Liza Unity, with production upwards of 220,000 barrels of oil per day.

These performances, though outstanding, have not divorced Guyana from remaining faithful to its promises of building a resilient non-oil economy. With increases in sectors such as

agriculture, mining, forestry, manufacturing, construction and services, the country's non-oil economy benefited from a strong expansion of 11.5 percent in 2022. Key to the sustainability and expansion of these growth levels is energy.

Energy is the backbone on which all things revolve. It continues to be one of the crucial pillars of a thriving country and to an extent, a prosperous planet. That fortune, however, is increasingly threatened due to the energy and climate crises – two misfortunes that, if left unaddressed, could ravage existence as we know it. It is in light of the precarious foregoing that Guyana has moved most appropriately to devise an energy policy that is audacious and metamorphic.

As part of Budget 2023 – one that is to the tune of GY\$781.9 billion, huge investments were identified to continue the government's work on energy efficiency and the management of our oil and gas sector. Major allocations within this massive sum include GY\$43.3 billion for the Gas-to-Energy project which will add 300MW of clean, cheap and reliable energy to the grid by the end of

2024; GY\$500 million to boost local capacity to attain the continued prudent management of the oil and gas sector; GY\$1.5 billion for small hydropower projects, and GY\$1.755 billion for the improved solar electricity generation homes within the hinterland region and riverain communities.

With an energy mix of natural gas, hydropower, solar and wind, and where applicable biomass, Guyana is on track to have 70 percent of its power supplied through clean and renewable sources of energy by 2030. These targets are key tenets in Guyana's Low-Carbon Development Strategy (LCDS) 2030 – our nation's low-carbon blueprint.

Acknowledging the realities of the region and the world, and Guyana already being a low-carbon economy, it can also be recognised that our oil and gas sector, ironically, plays a crucial role in the road to Net-Zero and the energy transition. Buttressed with the funds from the petroleum sector, our country has a fair chance of meeting the energy transition targets while simultaneously continuing work to diversify and build the non-oil sector. Already, we see this happening

as reflected in the impactful and massive investments made in Budget 2023. I recognise, too, that there are nations within the Caribbean Community (CARICOM) that have the potential to attain energy security in the face of the ongoing energy crisis. I reinforce here what I promulgated at Trinidad and Tobago's 2023 Energy Conference; every country in the region with potential in natural gas should be allowed to aggressively explore that potential to its fullest to ensure the energy security of this region. Countries like Guyana where these opportunities exist should be allowed to blossom for the benefit of the people of this region and the globe.

As has been the trend since I assumed office in August 2020, Guyana promotes investments and the forging of partnerships in this great nation of ours. We encourage investors to partner with our local knowledgeable and thriving private sector – a key component here in the world's fastest-growing economy. We welcome you to our breathtakingly beautiful land to explore business opportunities and fortress economic relations.



© Pete Oxford



Importance of the oil and gas industry for Guyana

The expansion in Guyana’s oil and gas sector continues to evolve at a pace that exceeds industry records. In a matter of eight years since the first discovery in 2015 to date, Guyana has managed to aggressively pursue two offshore developments, namely Liza One and Liza Two. Combined, the two Floating Production, Storage and Offloading (FPSO) vessels produce 360,000 barrels of oil daily. This has translated to the small South American nation reaping over US\$1 billion in petroleum proceeds in 2022 alone. For a country with a population under one million, these revenues are massive while their impacts are profound and life-changing.

With low breakeven costs, below-average emissions intensity and an economy that preserves the sanctity of contracts, Guyana’s prolific Stabroek Block can propel the country from a relatively small producer to a global leader in the coming years, solidifying the country’s position as a competitive and policy-friendly player for offshore production. As the fruit of the foregoing, revenues from oil production possess the potential to accelerate to more than US\$10 billion annually by the end of this decade.

The mammoth investments and expansions in Guyana’s oil and gas industry have boosted growth in the non-oil industry. Across every sector, whether it be hospitality, construction, medical services, machinery, catering, agriculture or mining, a significant widening of growth levels has manifested. This has translated into more opportunities for training, employment, economic diversification and overall social change.

The People’s Progressive Party/Civic (PPP/C) government is resolute in ensuring that Guyanese benefit directly from the blossoming petroleum sector. It is in keeping with this fidelity that the government implemented the Local Content Act a year ago, which prioritises Guyanese nationals and companies for the supply of goods, services and capacity development. Through these local content measures, Guyana retains an estimated US\$700 million annually in revenue spent in-country. As the petroleum sector balloons, so will the local content revenue.

| Government of Guyana - Oil lifts and payments for 2022 | |
|---|----------------------|
| Lift date in 2022 | Payment (USD) |
| January | \$95,928,020.91 |
| April | \$102,548,225.10 |
| May | \$108,556,874.23 |
| June | \$122,973,557.40 |
| June | \$117,546,414.61 |
| July | \$102,543,824.89 |
| August | \$99,186,120.01 |
| September | \$88,996,551.12 |
| October | \$89,149,282.73 |
| October | \$87,993,773.93 |
| November | \$83,808,725.98 |
| November | \$82,612,294.01 |
| December | \$75,074,493.46 |
| Total: \$1,256,918,158 | |

Source: Ministry of Natural Resources

Bringing Prosperity to Guyana

Guyana's third and largest FPSO officially named



Modelled and built after the Fast4ward® design by SBM Offshore, the Prosperity Floating Production, Storage and Offloading (FPSO) was officially named in Singapore in February 2023. First Lady of Guyana, Her Excellency Arya Ali was named Godmother of the vessel. The Prosperity FPSO has a production capacity of 220,000 barrels of oil per day and storage capacity of two million barrels of crude. The FPSO also features an associated gas treatment capacity of 400 million cubic feet per day and water injection capacity of 250,000 barrels per day. The vessel is the largest FPSO built for Guyana so far and is expected to arrive in Guyana and begin production by the end of 2023.

Guyana's policy position on fossil fuel subsidies, price on carbon and net-zero targets

Guyana has maintained the second highest percentage of forest cover on earth, with more than 99.5 percent of the forest's 18.3 million hectares remaining. Deforestation rates are among the lowest in the world and Guyana is one of only four countries in the world (and one of only two in the Amazon Basin) verified to have sustained a High Forest Low Deforestation (HFLD) state.

Guyana is one of four countries which host the Guiana Shield, one of the most pristine rainforest landscapes in the world. The Guiana Shield stores around 18 percent of the world's tropical forest carbon and 20 percent of the world's fresh water.

The country has extremely high levels of biological diversity and endemism. It is home to approximately four percent of known animal species, including the following iconic Amazonian species: jaguar, giant river otter, harpy eagle, tapir, giant anteater, and giant armadillo. There are more bird species in Guyana than the entire United States of America. The country is also home to 2.4 percent of known plant species and unique tepui. Natural savannahs give Guyana exceptionally high levels of endemism. It also maintains a percentage of littoral forest in the coastal area.

Indeed, the maintenance of Guyana's extraordinary forestland is an apt illustration of its unwavering commitment to supporting the goal of net zero by 2050. But those who bear the brunt of the effects of climate change, particularly Small Island Developing States (SIDS), cannot shoulder the responsibility of net zero by 2050 alone. Key global policies must begin to take effect quickly to ensure all nations are putting due effort into the fight against climate change.

Calls for a carbon price have been made for many years – notably in the 2010 report of the United Nations Secretary-General High Level Advisory Group on Climate Change Financing, for which Guyana was a part of the 15-member team. Subsequent analysis emphasised the criticality of this issue, including the “Report of the High-Level Commission on Carbon Prices”, sometimes known as the “Stiglitz-Stern

Report”, which concluded that a carbon price between US\$50 and US\$100 will be needed to achieve the dual goals of increasing low-carbon investment and aligning with a Paris Agreement target for reducing fossil fuel usage.

The Government of Guyana supports calls for the international community – working through the United Nations Framework Convention on Climate Change (UNFCCC) and other relevant international institutions – to accelerate work on both the methodology and implementation of this pricing regime.

In 2019 alone, 50 of the largest economies in the world – which account for 80 percent of global greenhouse gas emissions – increased their support for fossil fuel production by 30 percent, with total support reaching US\$178 billion. Most of this was in developed countries who are members of the Organisation for Economic Cooperation and Development (OECD). The Government of Guyana therefore supports calls for the elimination of such fossil fuel subsidies, especially in OECD countries where subsidies are the most distorting. This will lead to the breakup of the current monopoly-like situation, and the stabilising of price levels.

Combined, these two policies can drive the most carbon-intensive and least economically-rational oil and gas out of the market, enabling the remaining post-2050 supply of oil to be the lowest carbon and most economically efficient. At the same time, to drive down carbon intensity further and remain relevant in a Paris Climate Agreement-compatible oil market, Guyana will significantly increase domestic policy measures.

The Government implemented one of the very few taxes on flaring in the world – where beyond the commissioning period, all flaring is taxed at US\$45 per tonne of carbon. The PPP/C Government will continue dialogue with oil producers to ensure that, alongside the above measures, exploration and production operations continue to explore all possibilities for lower carbon technological innovation – including the use of renewable energy in oil production, Carbon Capture Utilisation and Storage (CCUS) and, – when technologically viable – green hydrogen.

Guyana leads low-carbon development... Oil-producing country first in the world to be issued carbon credits

In 2022, Guyana became the first country to be issued the REDD+ Environmental Excellence Standard (TREES) credits, specifically designed for the voluntary and compliant carbon markets for successfully preventing forest loss and degradation – a process known as jurisdictional REDD+. Waves of excitement travelled through the length and breadth of the country, when Architecture for REDD+ Transactions (ART) in December 2022, issued 33.47 million TREES credits to Guyana for the five-year period from 2016 to 2020.

This milestone followed the completion of an independent validation and verification process and approval by the ART Board of Directors. These serialised credits, listed on ART's public registry, are available to buyers on the global carbon market, including for use by airlines for compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA), as well as for use toward voluntary corporate climate commitments.

Guyana's completion of the ART process paves the way for other governments that are looking to receive carbon market finance for success in protecting and restoring forests. Currently, 14 other countries and large sub-national jurisdictions are working toward their own issuances of TREES credits.

Vice President of Guyana, Dr. Bharrat Jagdeo lauded Guyana's leadership and tenacity, which started in 2007 when Guyana set out a far-reaching vision for how national scale action on forests could unlock huge global benefits in the fight against climate change, the preservation of biodiversity, and building energy and food security. The Vice President stressed that ambitious progress was possible – in Guyana and elsewhere – if the peoples of forest countries designed their own way forward so that action on forests boosted their legitimate development aspirations.

Dr. Jagdeo outlined, "The people of Guyana continue to be willing to play their part – but we also need international standards that keep pace with what science tells us is

needed to safeguard the world's vital tropical forests. We are pleased that ART-TREES was created to help accelerate global climate action – by recognising what forest countries like Guyana have long called for: that the time for small-scale pilots and projects is long past, the world needs jurisdiction-scale action to make the required impact, and the world also needs to value the ecosystem services that tropical forests provide. Today, the vision set out in 2007 moves to the next phase – where payments for forest climate services can be sourced from global carbon markets. We are pleased that the vision of fifteen years ago moves forward in a major way today."

Meanwhile, ART Board Chairman, Frances Seymour, congratulated the Government of Guyana and the many domestic stakeholder groups who contributed to this achievement, which recognizes the success the country has had in protecting its forests. He said, "ART, other governments, and important stakeholder groups, especially indigenous peoples and local communities, around the world can now build on Guyana's experience to accelerate progress towards meeting global forest and climate goals in ways that ensure environmental and social integrity."

Guyana's TREES credits are also the first market-ready credits issued to a jurisdiction classified as High Forest, Low Deforestation (HFLD), which means it has high forest cover and low historical rates of deforestation. Carbon markets have historically focused predominantly on areas that have already experienced high rates of deforestation. This is now starting to change with the first TREES credits issued to Guyana.

Prior to the crediting approach in TREES, there had not been a market-oriented approach that allows HFLD jurisdictions to benefit from carbon market finance. The HFLD crediting approach in TREES recognises that HFLD jurisdictions must continue to aggressively protect forests to avoid deforestation and degradation, and that carbon market finance can be a powerful incentive to help achieve this. All HFLD credits are tagged as such on ART's public registry.



Government of Guyana, Hess Corporation enter USD750 million carbon credits deal

On the heels of the ART-TREES issuance of 33.47 million carbon credits to Guyana, Stabroek Block partner, Hess Corporation, entered into a ten-year agreement with the Government of Guyana to purchase high-quality carbon credits. With US\$15/tonne per of carbon dioxide equivalents (CO₂e) sequestered and a minimum of US\$750 million for the ten-year agreement, this deal will serve to support Guyana's efforts to protect the country's vast forests and provide capital to improve the lives of Guyana's citizens through investments made by the Government as part of Guyana's Low-Carbon Development Strategy (LCDS) 2030.

President Dr. Mohamed Irfaan Ali was joined in December 2022 by Vice President, Dr. Bharrat Jagdeo and Chief Executive Officer of Hess Corporation, John Hess, for a signing ceremony to commemorate this historic agreement.

The multi-year agreement is for 37.5 million REDD+ jurisdictional carbon credits (current and future issuances). These credits will be on the ART (Architecture for REDD+ Transactions) registry and will be independently verified to represent permanent and additional emissions reductions under ART's REDD+ Environmental Excellence Standard. President Ali, at the signing, had explained that the purchase covers 2.5 million credits per year for the period 2016-2020 when the current PPP/C government was out of office. These credits are referred to as legacy credits. The government expects to receive US\$187 million from Hess in the first 18 months, for credits developed from this period.

In keeping with the policies of LCDS 2030, specifically one which sees that indigenous communities receive 15 percent of all carbon credit proceeds, the Government of Guyana will set aside US\$28 million for indigenous communities. For the full period of the Guyana - Hess Corporation deal, the government anticipates that it will allocate at least US\$112 million to the first peoples.

Notably, in January 2023, the government announced that it received its first receipt of carbon credit payments valued at US\$75 million from Hess Corporation. These monies boosted the country's 2023 budget by some US\$150 million. The payments have been deposited into a US dollar-denominated account held by the Bank of Guyana overseas.



Forward-looking energy agenda

- Benefits of double-taxation treaties with the United Kingdom, Canada, Kuwait and the Caribbean Community;
- Access to markets in Latin America and the Caribbean, North America, North Brazil and Africa;
- Full and unrestricted repatriation of capital, profit and dividends;
- Accelerated depreciation on plant and equipment;
- Unlimited carry-over of losses from previous years;
- Economic stability, attainable national policies and a fair tax regime are all hallmarks of this prime investment destination;
- With Guyana only in the burgeoning stages of fully developing its thriving oil and gas sector, there are numerous opportunities for support companies to provide goods and services. Under the game-changing Local Content Act, passed in Guyana's National Assembly in December 2021, oil and gas support companies benefit from special carve-outs in the supply of goods, services, employment and capacity development. Foreign companies can benefit from these carve-outs if they partner with Guyanese companies;
- According to the World Bank's latest Global Economic Prospects Report, Guyana is projected to realise a real GDP growth rate of 25 percent in 2023. The report highlights, "Growth in the Caribbean is expected to slow to 5.6 percent in 2023 and 5.7 percent in 2024, from 7.7 percent last year. Aside from Guyana, which remains in a natural resources-fuelled growth boom, the sub-region faces renewed headwinds."
- With continued interventions and policies geared at building a resilient economy, the government projects Guyana's real GDP to grow by 25.1 percent this year, a rate of growth which currently puts Guyana among the five fastest growing economies in 2023. This position can be largely attributed to the further ramping up of oil production anticipated in the Stabroek Block. Growth in the non-oil economy is currently projected at 7.9 percent this year, driven by continued expansion in construction, other crops, and wholesale and retail trade and repairs, alongside a rebound in gold mining.
- Even as growth in Latin America and the Caribbean is expected to reduce from an estimated 3.6 percent in 2022 to 1.3 percent this year, the World Bank says that Guyana's perspectives remain positive.





Guyana's first licensing round underway... European, Middle Eastern oil companies tender interests to secure prime oil blocks

In keeping with the People's Progressive Party/Civic's (PPP/C) manifesto promise of securing more benefits and revenue from all future oil deals, the government in last November launched the 2022 Guyana Licensing Round. With fourteen (14) oil blocks up for tender – three (3) located in the ultra-deepwater and the remaining eleven (11) in the shallow water – the competitive bid round is open to all local, regional and international energy players. Already, oil majors operating out of Europe, the Middle East and South America have tendered their interest in securing oil blocks which range from acreages of 1,000 square kilometres to 3,000 square kilometres.

As the guiding terms for the 2022 licensing round, the government has identified, too, a new and enhanced fiscal framework. This structure will form the basis for a draft new model Production Sharing Agreement (PSA) that is scheduled to be released in February 2023. The royalty has been increased to 10 percent. The current 75 percent cost recovery ceiling has been lowered to 65 percent. Profit sharing after cost recovery remains the currently applied 50/50 system between the contractor and the Government of Guyana. These new terms have increased Guyana's profit share from 14.5 percent to 27.5 percent, plus the newly introduced 10 percent tax.

Commenting on the improved fiscal terms, Minister of Natural Resources, Hon. Vickram Bharrat M.P., highlighted that these changes come on the heels of reviewing the licensing models of global oil producers, complemented by the advice of industry experts.

"These incentives are expected to attract major international oil companies with the necessary finance and expertise to expedite the prospecting and development

of oil discoveries within the shortest possible timeframe," Minister Bharrat said. "This is in keeping with the government's vision to increase the extraction of petroleum resources to satisfy global demands, while at the same time utilising earnings to strengthen Guyana's non-oil sectors for a robust and stable economy. The government remains steadfast in realising the 'One Guyana' vision where all Guyanese will benefit from our extractive resources."

Oil companies participating in the licensing round will be required to pay a minimum signing bonus of US\$10 million for shallow blocks while the deepwater acreage carries a signing bonus of US\$20 million.

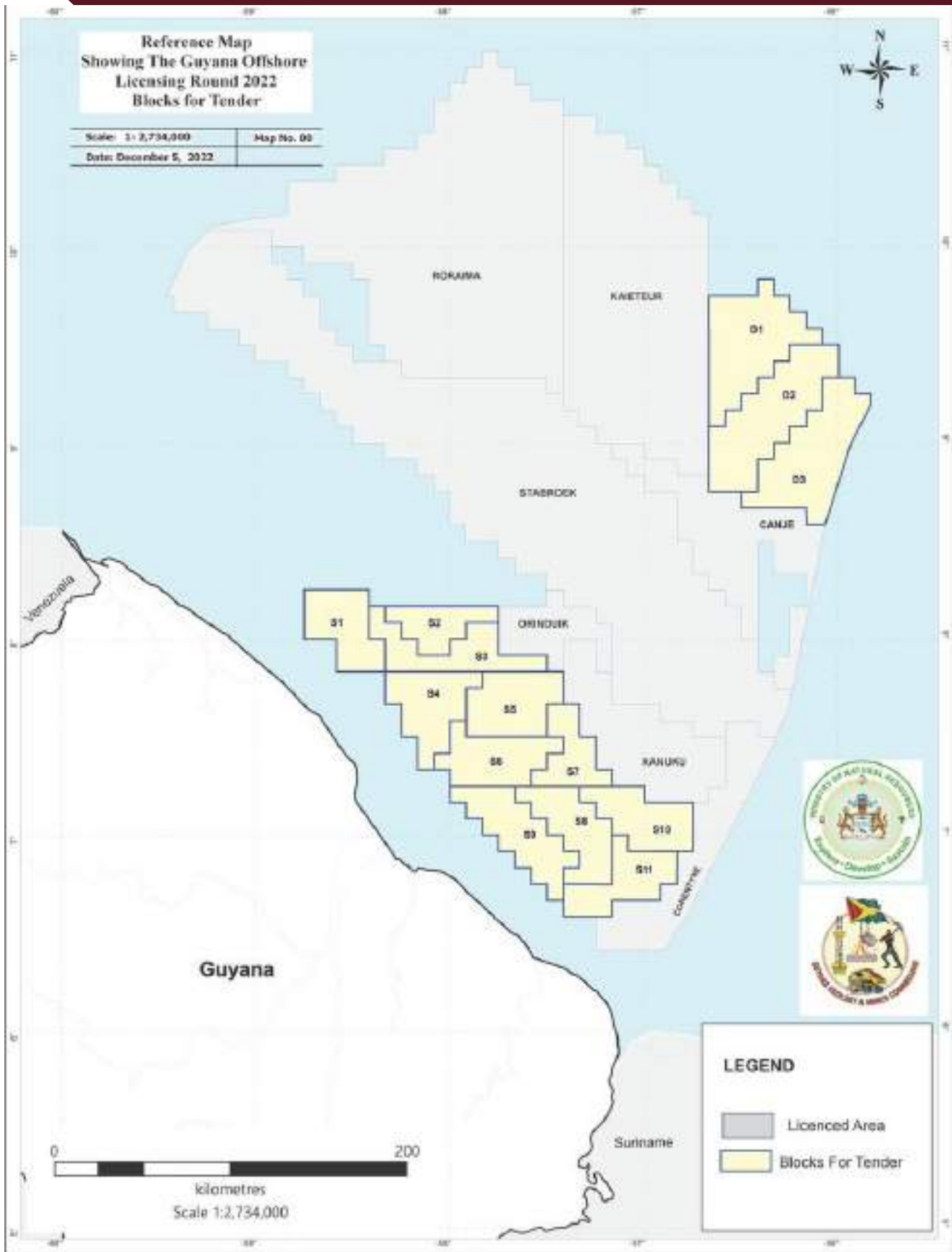
Although both international and local companies will be given an opportunity to bid for blocks, they must, however, must possess a proven track record of technical, financial, health and safety, and environmental capabilities. Bidders will be assessed based on their guaranteed work programmes which will be weighed with the offered signing bonus. Local content commitments will also be fully examined.

While there will be no restrictions on how many bids a company may submit, each successful bidder will be limited to an award of three blocks.

This licensing round gives qualified international and local companies the opportunity to tap a country whose hydrocarbon potential places it among the top-five non-OPEC countries set to lead as global producers by 2030.

This licensing round comes to a close in April 2023 with the expectation for the new model PSA to be applicable for awards by the end of the first half of this year.

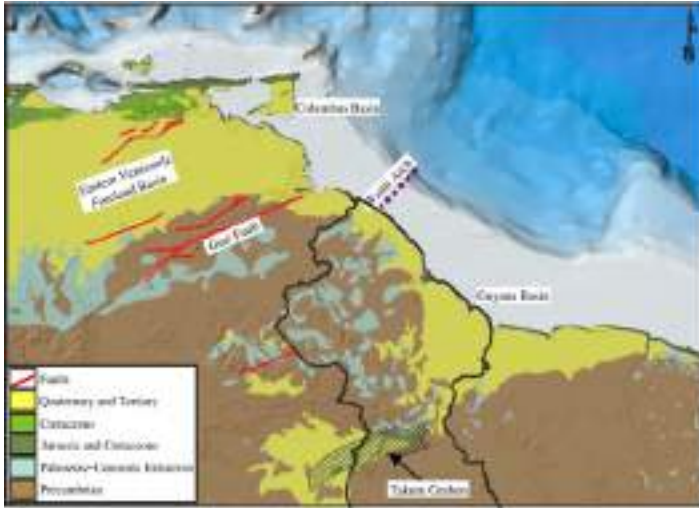
Available blocks for tender



An offshore oil rig is shown at sea, with a large yellow derrick and other structures visible against a cloudy sky. The rig is positioned in the upper half of the frame, with the ocean filling the lower half. The text is overlaid on the rig and the sky.

TRANSFORMATION OF THE UPSTREAM MARKET

Geological Overview



Guyana has two main petroleum provinces:

1. The Guyana Basin which comprises an onshore and offshore section; and
2. The Takutu Basin which is situated in south-western Guyana.
3. The age of these discoveries ranges from the early Cretaceous to the Neogene;
4. Discoveries were made in both sandstone and carbonate reservoirs;
5. Discoveries made range from gas condensates to heavy crude;
6. Within seven years, the country has moved from having no recoverable resource to over eleven (11) billion oil-equivalent barrels, and an over 80 percent geological chance of success with exploration wells encountering hydrocarbons in the basin.

The Guyana Basin has proven to be a super-prolific source for oil with a total of 43 discoveries in the Stabroek Block (~11 billion BOE estimated recoverable resource) and four oil fields currently in development.

The recent offshore exploration success in the Stabroek Block has led to increased interest in the prospectivity of the wider Guyana Basin.

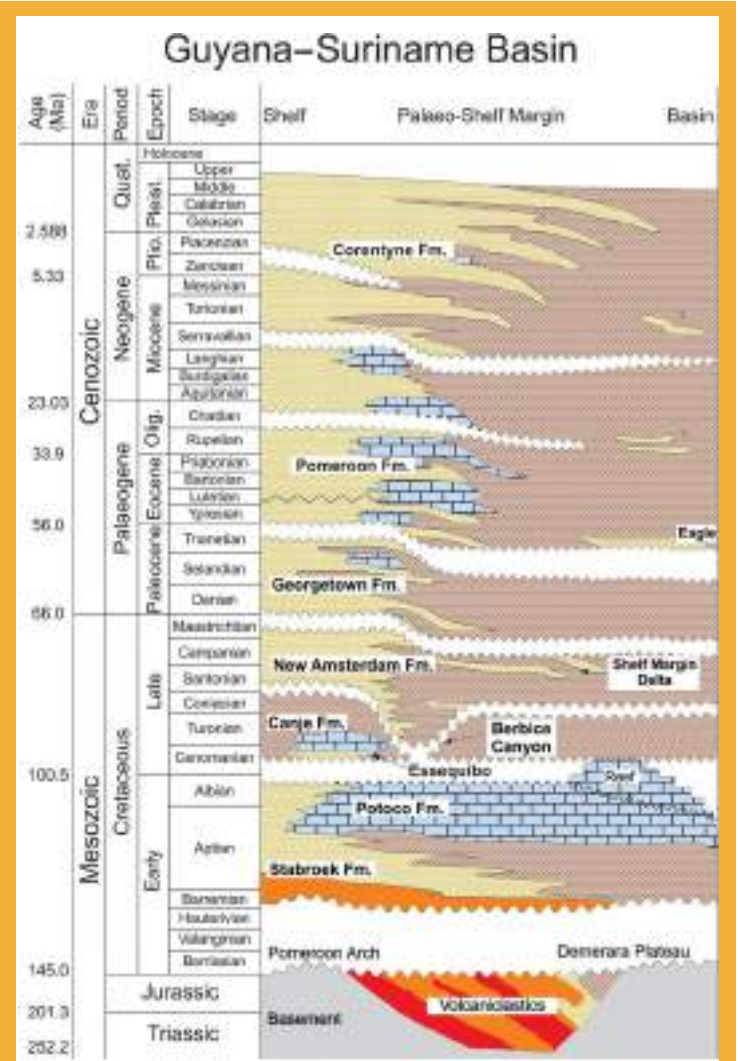
Petroleum System

The Guyana Basin is approximately 120,000 km², with most of it lying offshore Guyana.

Sediment deposits are canyon features off major rivers, and slumped deposits off the shelf edge with river deposition and carbonates.

Source Rock

Guyana's world class source rocks are the Canje (>300m) marine shale oil source rocks, which were deposited during marine transgression.



The main source kitchen is the Canje-Saramacca formation of Cenomanian to Turonian age. The main risks in the Guyana Basin remain migration pathways, seals, and timing.

Reservoir Rocks

The main reservoir rocks are as follows:

1. New Amsterdam
2. Stabroek
3. Georgetown
4. Potoco

Seal/Trap

There are multiple stacked reservoirs where hydrocarbons can be trapped at different levels. The Pomeroon Formation, for example, consists of seasonal carbonates which is a recognised seal.

The geology also features sealing of reservoir sands when encased in deep marine shales as the sands flow under gravity along incisions.



Guyana's petroleum economy advances by 43 discoveries

International Oil Companies (IOCs) operating in Guyana have discovered more than 11 billion oil-equivalent barrels of recoverable petroleum. This resource promises to diversify the non-oil economy, as reflected in the recorded growth of 11.5 percent of Guyana's non-oil economy for 2022. Oil production presents a momentous opportunity to boost inclusive growth and diversify the economy by providing resources to address human development needs and infrastructure gaps.

Since the beginning of Guyana's offshore journey (2015 to present), there have been, to date, 43 discoveries in the Guyana basin, spread across the Stabroek, Kaieteur, Kanuku, Orinduik and Corentyne blocks.

Offshore, there are currently two developments that have been operationalised – Liza Phase One and Liza Phase Two. The developments are supported by the Liza Destiny and Liza Unity FPSOs, respectively. Combined, the two vessels produce 360,000 barrels of oil per day and collectively, produced over 100 million barrels last year. The third FPSO, Prosperity, sails for Guyana this second quarter and first

oil is expected in the fourth quarter. Prosperity should take daily oil production to 560,000 barrels daily. Combined with the fourth development which has been approved and the fifth development which is being reviewed, Yellowtail and Uaru, production estimates are poised to reach one million barrels before the end of this decade.

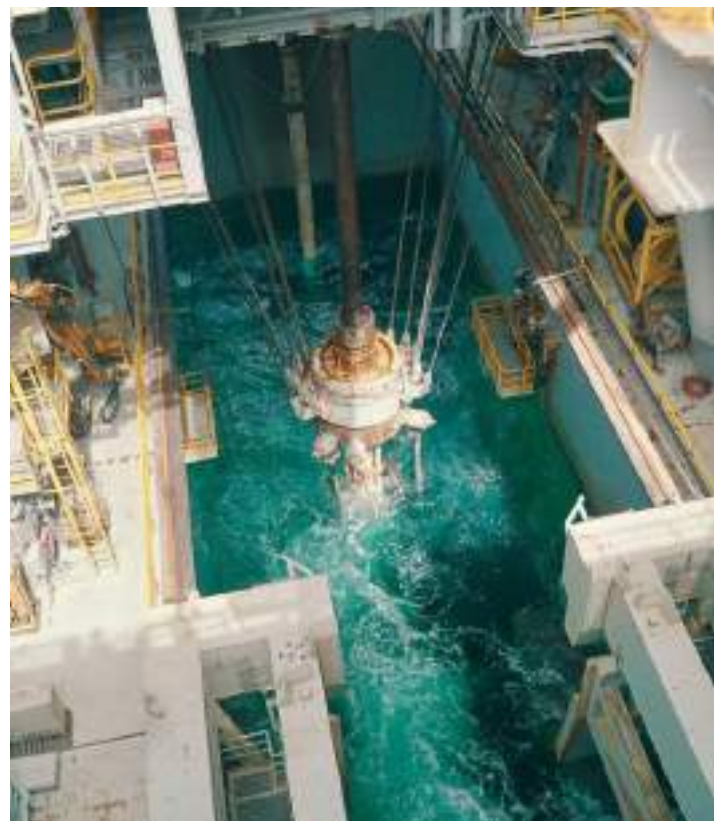
The current estimate of Guyana's gas resource is pegged at 16 trillion cubic feet (Tcf). Liza Phase One and Liza Phase Two will be exporting a combined total of 50 million standard cubic feet per day (mscfd) for the country's imminent and transformational 300MW Gas-to-Energy project. A Gas Utilisation Study, under the Yellowtail Licence, is currently being undertaken which intends to further monetise the country's gas resource.

This year, the Stabroek Block co-venturers - ExxonMobil Guyana, Hess Corporation and CNOOC Petroleum Guyana Limited - intend to drill 10 exploration and appraisal wells. These wells are part of the massive 25-well exploration campaign by the Operator that kicked off last year and is expected to conclude in 2023.

Meanwhile, outside of the Stabroek Block, Canadian company CGX Energy and its partner Frontera Energy Corporation in 2022 announced that it made a discovery at the Kawa-1 well in the Corentyne Block. After pursuing black gold for some 20 years, the Kawa-1 well was drilled to a depth of 21,578 feet (6,578 metres) on the northern section of the Corentyne Block, encountering approximately 177 feet (54 metres) of hydrocarbon-bearing reservoirs within Maastrichtian, Campanian and Santonian horizons based on initial evaluation of Logging While Drilling (LWD) data. The fluid type from this discovery was found to be light oil and gas condensate.

On the news of the discovery, Chairman of Frontera's Board of Directors and Co-Chairman of CGX's Board of Directors Gabriel de Alba had iterated, "The Kawa-1 discovery adds to the growing success story unfolding offshore Guyana and the integrated Kawa-1 well results further support our belief in the potentially transformational opportunity the Joint Venture has in one of the most exciting basins in the world." CGX is currently drilling the Wei-1 Exploration and Appraisal well which will further aid in understanding the Kawa-1 discovery's potential for development.

In the Kanuku Block, Tullow Oil and Repsol Exploration Guyana both own a 37.5 percent stake. Drilling operations at the Beebei-Potaro exploration well, drilled in the Kanuku licence, offshore Guyana, were completed in August last. The well encountered 71 metres of water-bearing targets and it was subsequently plugged and abandoned. Six wells were previously drilled in the Kanuku Block, namely Carapa-1, Jaguar-1, Berbice -2, Abary-1 and Mahaica-1 and 2. These wells have provided crucial information which allows for a better understanding of the basin and future exploration.



List of Operators



Esso Exploration and Production Guyana Ltd. (EEPGL)

| | |
|---------------------------|---|
| History in Guyana: | <p>EEPGL, an affiliate of ExxonMobil initiated oil and gas exploration activities in Guyana in 2008, collecting and evaluating substantial 3-D seismic data that led to the company drilling its first exploration well in 2015, Liza-1.</p> <p>ExxonMobil is now firmly established in Guyana, operating an office in Georgetown, with numerous ongoing exploration and development operations offshore. ExxonMobil Guyana has made 31 discoveries since 2015 and begun production in December 2019 from the Liza Phase 1 Development. Liza Phase 2 began production in February 2022.</p> |
| Block/s: | 1. Stabroek – 45 percent 2. Kaieteur – 35 percent 3. Canje – 35 percent |
| Location: | 99 New Market Street, North Cummingsburg, Georgetown, Guyana |
| Tel #: | 592-231-2866 |
| Email: | guyanastaff@exxonmobil.com |
| Website: | https://corporate.exxonmobil.com/Locations/Guyana |



Repsol Exploration Guyana S.A.

| | |
|---------------------------|--|
| History in Guyana: | <p>Repsol's current activity in Guyana is focused on the Kanuku Block 150 kilometres offshore Guyana. Repsol operates the block with a 37.5 percent working interest. Repsol has been present in Guyana since 1997.</p> <p>Repsol drilled its first Guyana exploration well in 2012 in the Georgetown Block, and at the end of the Georgetown license, the company successfully applied for and received a new Petroleum Prospecting License in 2013 for the Kanuku Block. We completed 2D and 3D seismic acquisitions in the Kanuku Block in 2013 and 2017.</p> |
| Block/s: | 1. Kanuku – 37.5 percent |
| Location: | 107-108 Duke Street, Kingston, Georgetown, Guyana |
| Tel #: | N/A |
| Email: | N/A |
| Website: | https://www.repsol.com/en/repsol-worldwide/the-americas/guyana/index.cshtml |



Tullow Guyana B.V.

| | |
|---------------------------|---|
| History in Guyana: | <p>Tullow has interests in two neighbouring licenses offshore Guyana with a 60 percent operated interest in the Orinduik Block and a 37.5 percent non-operated interest in the Kanuku Block. Tullow's position in Guyana dates back to 2008, when the Group farmed into the then named Georgetown licence, operated by Repsol.</p> <p>In 2013, Repsol re-secured the newly-defined Kanuku Block, and Tullow secured a 30 percent interest.</p> <p>In early 2018, Tullow agreed to increase its equity share in the Kanuku licence from 30 percent to 37.5 percent in a farm-in deal with Repsol. In early 2016, Tullow increased its Guyana position after being awarded a 60 percent operated interest in the Orinduik licence, which is a 1,776 square kilometre offshore block. Tullow has made 2 discoveries, Joe and Jethro.</p> |
| Block/s: | 1. Orinduik – 60 percent 2. Kanuku – 37.5 percent |
| Location: | 176 Middle Street, South Cummingsburg, Georgetown, Guyana |
| Tel #: | 592-231-9967 |
| Email: | www.tulloil.com |
| Website: | eon.stephens@tulloil.com |

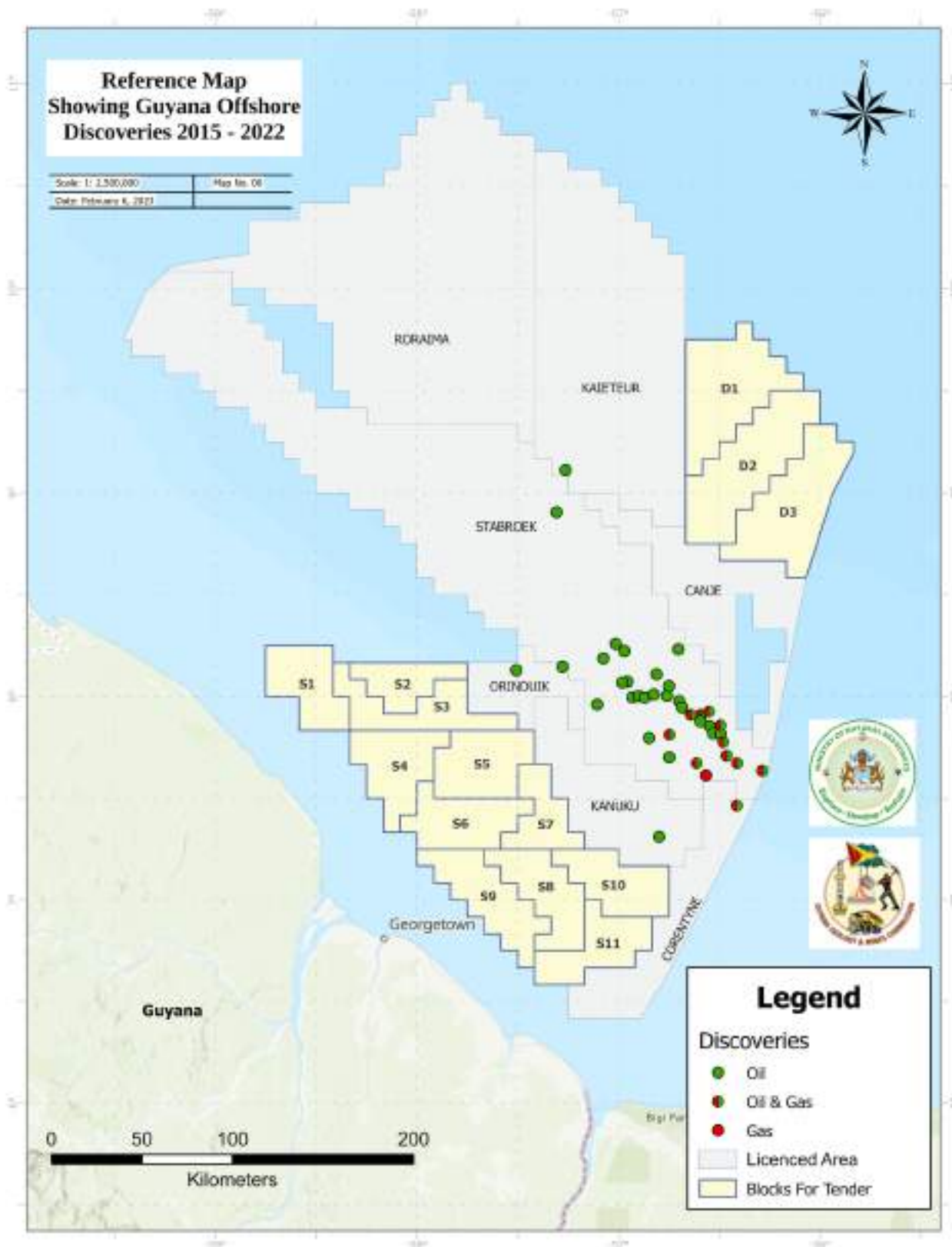


CGX Resources Inc.

| | |
|---------------------------|---|
| History in Guyana: | <p>CGX is a Canadian oil and gas exploration company that holds interests in three licenses in the Guyana Basin, a proven petroleum basin with over 10 billion barrels of recoverable oil equivalent discovered to date.</p> <p>Since 1997, CGX has been an active explorer both onshore and offshore Guyana. The company has drilled two operated exploration wells on its offshore Corentyne Block. In addition, CGX has acquired and processed over 7,000 km² of 3D seismic data on its offshore licenses.</p> <p>CGX has made the Kawa-1 Discovery in 2022 in the Corentyne Block. They are currently drilling the Wei -1 exploration/ appraisal well.</p> |
| Block/s: | 1. Corentyne – 66.6 percent |
| Location: | 234 Lance Gibbs and Irving Streets, Queenstown, Georgetown, Guyana |
| Tel #: | 592-225-5038 |
| Email: | info@cgxenergy.com |
| Website: | https://cgxenergy.com |

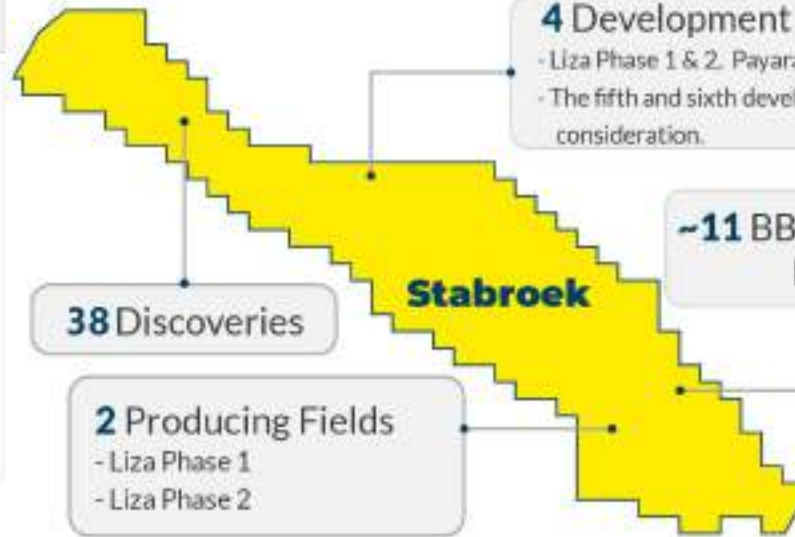
Transformation of the Upstream Market

Layout of offshore Guyana



STABROEK BLOCK

ExxonMobil



4 Development Projects

- Liza Phase 1 & 2. Payara and Yellowtail.
- The fifth and sixth developments are under consideration.

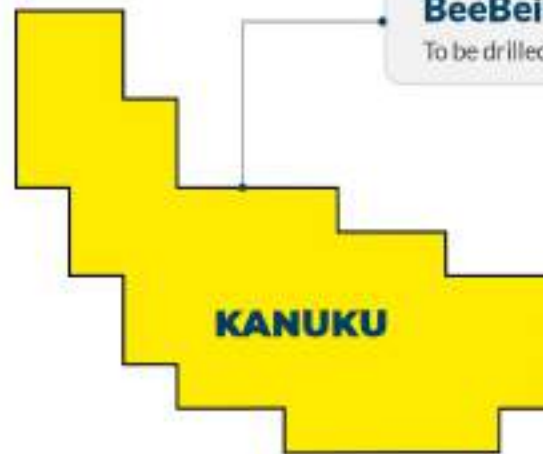
38 Discoveries

2 Producing Fields

- Liza Phase 1
- Liza Phase 2

~11 BBOE Recoverable Resource

KANUKU BLOCK



BeeBei-1 well

To be drilled in Q2 2022

1 Discovery

Carapa-1

ORINDUIK BLOCK



~771 MMBOE Net prospective resource



2 Discoveries

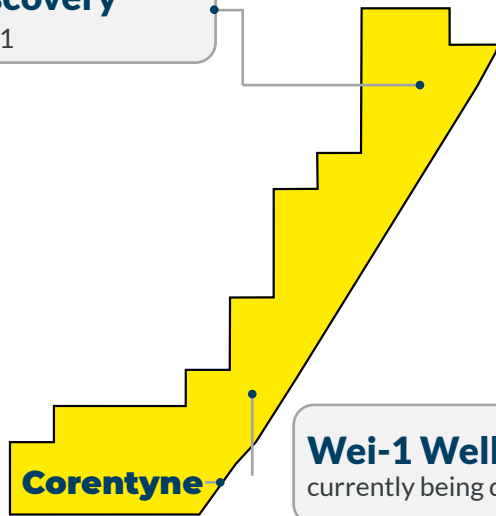
- Jethro-1
- Joe-1

CORENTYNE BLOCK



1 Discovery

Kawa- 1



Wei-1 Well

currently being drilled.

KAIETEUR BLOCK



Kaieteur

Tanager-1 Discovery

- Confirms continuance of Cretaceous Play into Kaieteur Block

CANJE BLOCK



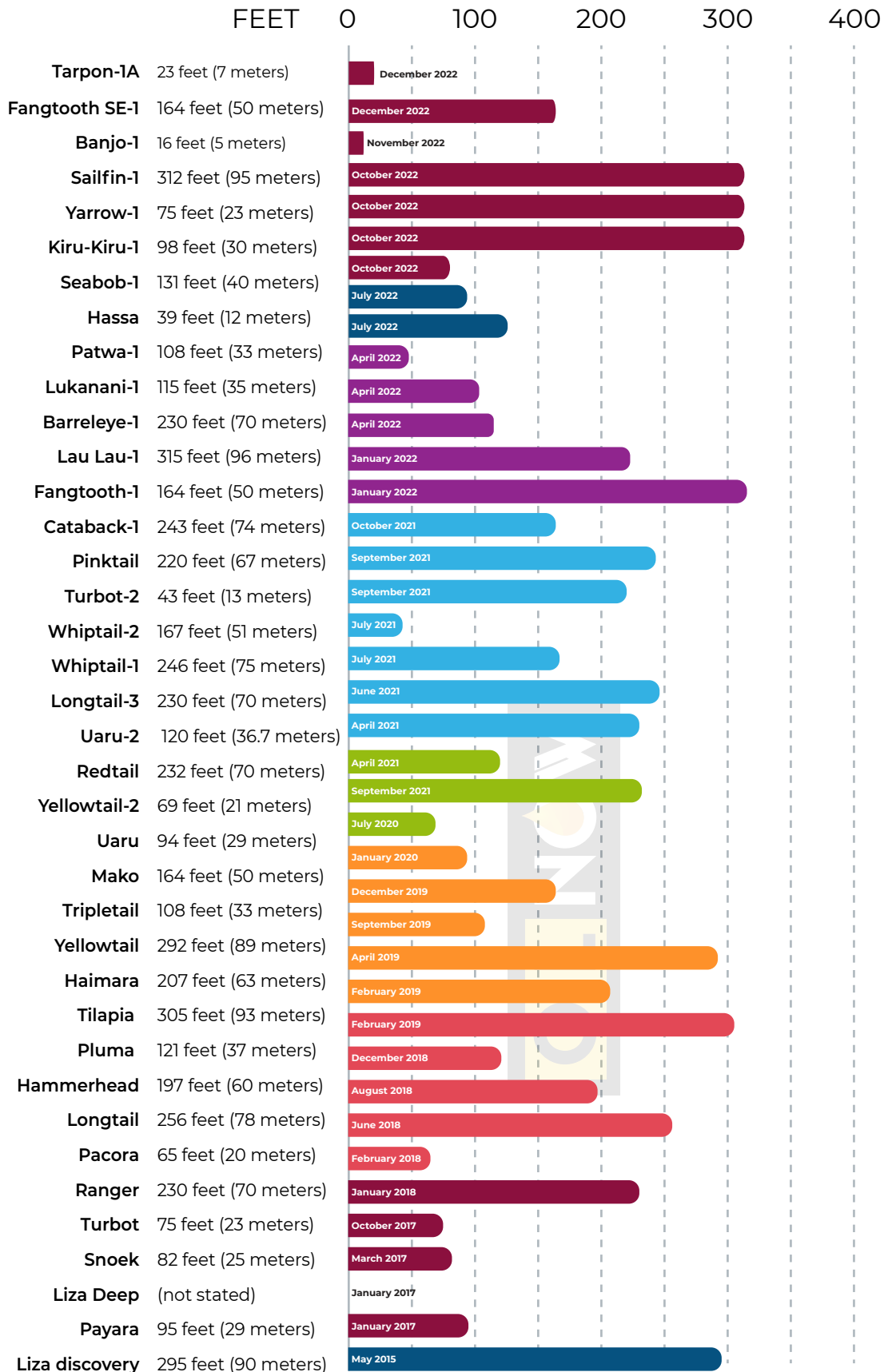
3 Wells Drilled

Allowing for better understanding of the block

CANJE

~82,718 sq.km/ ~20.4 million acres Total Unallocated Acreage

Guyana discoveries: Stabroek Block



Prepared by OilNOW
www.oilnow.gy

~11 Billion BOE

Stabroek Block development

With a proven reserve of 11 billion oil-equivalent barrels (boe) and oil discoveries totalling 43, Guyana outranks Norway, Qatar and Saudi Arabia with the world's second-highest reserve per capita (International Monetary Fund). More developments are already in the pipeline - Payara, Yellowtail, Uaru and Whiptail, respectively. Fused with the two current offshore developments, daily oil production capacity is anticipated to reach 1.3 million barrels by 2027. The Uaru and Whiptail projects are currently at different stages in their review process. These two developments if approved will place Guyana's production at a rate of 1.3 million barrels of oil per day by 2027.

Last year was dubbed as the Stabroek Block's "best exploration year" on the account of nine discoveries - namely at Lau Lau -1 and Fangtooth SE -1 (January); Barreleye, Patwa and Lukanani (April); Seabob and Kiru-Kiru (July); Sailfin and Yarrow (October). Of these finds, S&P Global Platts determined that six of the discoveries in the Stabroek Blocks' 6.6 million acres are among the "most valuable discoveries" made in 2022. These are Lau Lau-1, Seabob-1, Barreleye-1, Fangtooth-1, Kiru Kiru-1 and Sailfin-1, ranked 4th to 8th, and 11th in value, respectively.

In keeping with its aggressive development of the Stabroek Block, ExxonMobil also planned a new 35-well exploration campaign to commence this year. This campaign, of course, pends on the approval of the regulators, namely the Ministry of Natural Resources and the Environmental Protection Agency (EPA). In the Kaieteur and Canje Blocks, the energy major intends to drill 12 wells each.

Upcoming projects

Payara

Payara is the third project in the Stabroek Block and is expected to produce up to 220,000 barrels of oil per day after startup in 2024, using the Prosperity floating production, storage and offloading (FPSO) vessel. The US\$9 billion development will target an estimated resource base of about 600 million oil-equivalent barrels. Ten drill centres are planned along with up to 41 wells, including 20 production and 21 injection wells. Production operations on the FPSO will require approximately 100-120 persons at peak. Startup for the Prosperity FPSO is expected in 2024. The design of the Prosperity FPSO is based on SBM Offshore's Fast4Ward® programme.

SBM Offshore was contracted for the construction and installation of the Prosperity FPSO in October 2020. It will lease and operate the FPSO initially for two years before transferring the ownership and operatorship to EEPGL. SBM

Offshore will also be used for the construction of Guyana's fourth FPSO to be used at the Yellowtail development area following regulatory approvals. Notably, Prosperity is outfitted with steel fabricated by two Guyanese companies. This achievement is a massive milestone, entirely in keeping with local content objectives.

Yellowtail

The Yellowtail project will develop the Yellowtail and Redtail fields and is located approximately 203 KM (approximately 126 miles) northeast of the coastline of Georgetown in waters approximately 1,700 to 1,900 M (5,577 to 6,234 ft.) deep. It is expected to utilise an FPSO that can produce up to 250,000 barrels of oil per day.

Yellowtail production from the One Guyana FPSO will develop an estimated resource of more than nine-hundred (900) million barrels of oil. The \$10 billion project will include six drill centres and up to 25 injection wells and 26 production wells. The initial production is expected to begin by end of 2025, or early 2026, with operations continuing for at least 20 years.

Uaru

Drawing light, sweet crude from the Uaru, Snoek and Mako developments, the proposed Uaru development project is estimated to attract a price tag of US\$12.683 billion. Uaru, Guyana's fifth offshore development, will be the largest ever project to date.

Oil production rate is set at 250,000 barrels per day (bpd) but with the enhancement of the vessel's design, production can reach up to 300,000 barrels. The FPSO will have a storage capacity of two million barrels of stabilised crude. The project is expected to produce crude for at least 20 years, starting late 2026/early 2027, if approved.

Whiptail

Targeting some 50 development wells, Whiptail will be Guyana's sixth project in the prolific Stabroek Block, with anticipated production levels in the range of 220,000 and 275,000 barrels of oil per day. First oil is expected between 2027 and early 2028, with production running for at least 20 years.

As part of Budget 2023, the government allocated over GY\$100 million to review Whiptail's field development plan. ExxonMobil Guyana has already submitted an application to Guyana's Environmental Protection Agency for the project's authorisation.



GROWTH OF THE
MIDSTREAM AND
DOWNSTREAM
MARKETS



Local content development

As it relates to the petroleum sector, local content development is focused on transforming the economy and enhancing the well-being of all Guyanese by improving the local workforce, supply chain and business environment. The overall goal is to maximise the level, quality and benefits of participation in the petroleum sector value chain by Guyanese.

For Guyana, local content development will be directed towards the following areas:

Value maximisation

Value Maximisation from the sector can and will be gained in various ways such as skills development, job creation, slowing and reversing the brain-drain, inclusivity, supply chain development and management, increased in-country activity by foreign parties and capacity building for local suppliers, etc.

Supplier development

This would include raising the local standards, boosting productivity through training, transfer of knowledge and technology, etc.

Capital market enhancement – creating investment opportunities

This will entail creating investment opportunities such as those related to procuring goods and services through local supply chains and other methods.

Good governance

This will encapsulate clear and utilitarian regulations, an empowered regulator, and systems to ensure accountability and transparency.

Training, skill development and employment

This will involve knowledge transfer to locals for the acquisition of posts in the upstream market, while also providing locals with the skills needed to expand in the midstream and downstream markets.

Local Content Secretariat

Register: lcregister.petroleum.gov.gy

Email: lcregistration@nre.gov.gy

www.nre.gov.gy | www.petroleum.gov.gy



EXPANSION OF GUYANA'S LARGEST SHORE BASE FACILITY

Guyana Shore Base Incorporated (GYSBI) extending facilities to meet energy sector growing needs



Guyana Shore Base Incorporated (GYSBI), in 2022 secured a US\$ 10 million loan to facilitate an expansion of their infrastructure. GYSBI is extending their facility by 170 acres which will allow for growth of services including storage, berthing supply for vessels and logistics among others. The company also acquired ISO 9001:2015 and ISO 45001:2018 certification. In February 2023, GYSBI also commissioned a heavy lift berth at its Houston, Georgetown shore base.

DEVELOPMENT OF VREED-EN-HOOP SHORE BASE UNDERWAY

First shore base in Region three being built on artificial island



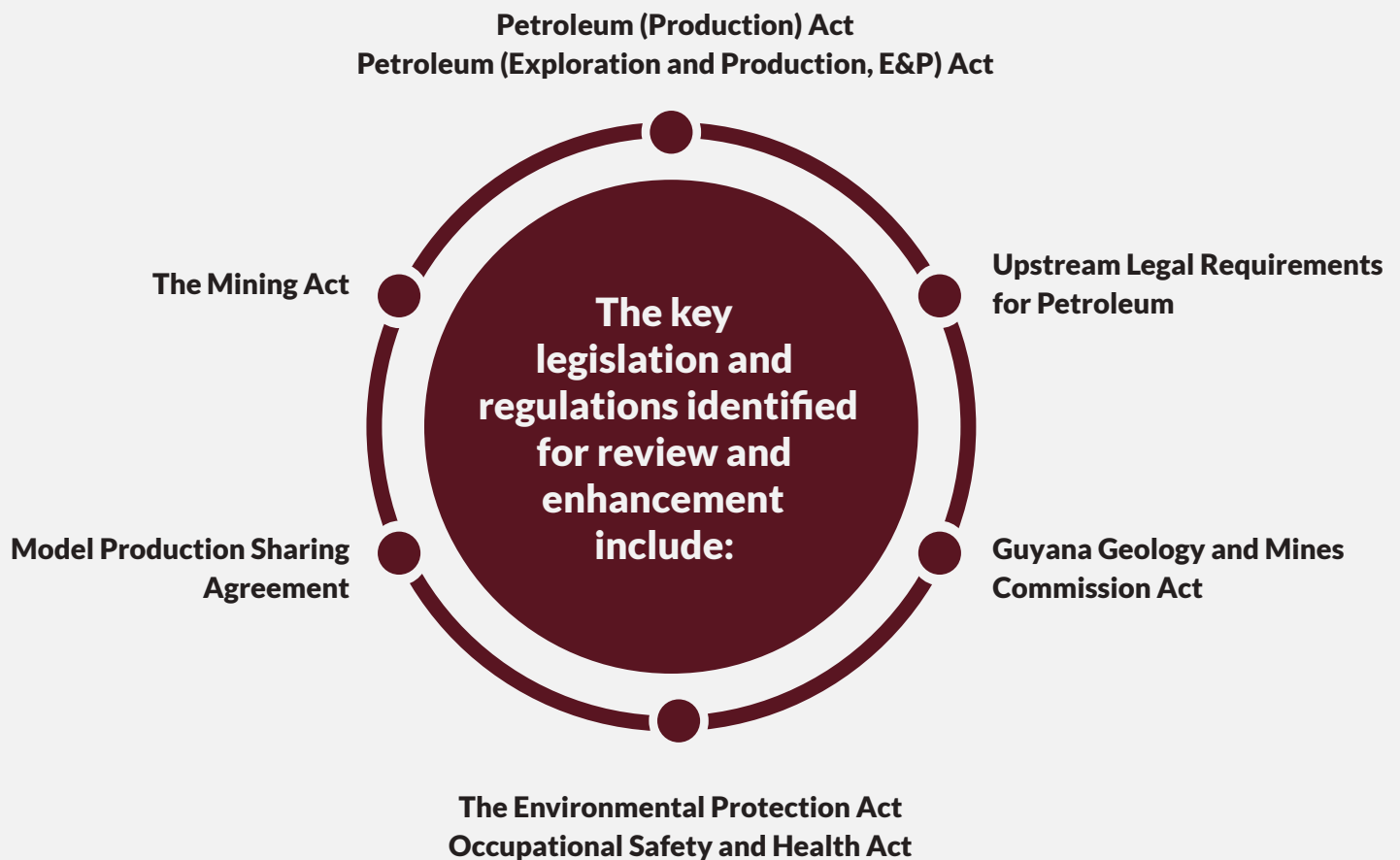
Vreed-en-Hoop Shorebase Incorporated (VEHSI) is developing the first shore base facility in Region Three at Plantation Best. The shore base is being developed on an artificial island which is currently being constructed on the foreshore of Plantation Best. When complete it will serve as a logistics and service hub for vessels supporting offshore activities as well as shipping services in Guyana.



Review and enhancement of the regulatory framework

The Government of Guyana seeks to modernise its legal and regulatory framework as it relates to the petroleum sector to address issues such as oil revenue management, licensing, Production Sharing Agreement models, local content, and Health, Safety, Environmental and Security (HSES) management.

The result would be maximising the economic benefits to the country, improved management of the technical, environmental, social and financial risks linked to the sector and building capacity to engage effectively with investors.



Natural Resource Fund Act 2021

for effective management of oil earnings

Upon its assumption to office in August 2020, the Government of Guyana worked assiduously towards replacing its predecessor's deficient Natural Resource Fund (NRF) Act 2019 with the new NRF Act 2021 which now allows for the prudent management of oil revenues.

The new legislation addressed some of the most egregious deficiencies of the former law which included: fundamental weaknesses in the governance arrangements, including a high concentration of powers and responsibilities in the hands of the Minister of Finance, and the complete absence of a Board of Directors or similar governing body, as required by the Santiago Principles; lack of transparency, including an opaque and unnecessarily complicated formula for determining the ceiling on withdrawals from the Fund, and which was open to manipulation by the Minister of Finance; and loose arrangements that allowed for expenditure to be met directly from the Fund, bypassing the appropriation process, and therefore without prior parliamentary approval.

The new NRF Act remedied these fundamental deficiencies by:

- Scaling back the excessive powers of the Minister of Finance and removing any possibility of ministerial discretion in determining the ceiling on withdrawals;
- Establishing a Board of Directors for the first time, and vesting in that Board the powers that were previously, concentrated in the hands of the Minister and;
- Removing the possibility of any expenditure from the Fund being met without prior parliamentary approval

Purpose & areas of focus

The new legislation states that the purpose of Guyana's Natural Resource Fund is to ensure there is prudent management of the nation's oil earnings for the present and future benefit of the people by ensuring that volatility in natural resource revenues does not lead to volatile public spending. The objective of the Fund is also hinged on ensuring revenues collected do not lead to a loss of

economic competitiveness along with fairly transferring natural resource wealth across generations to ensure all Guyanese benefit from the sector. The Fund is also intended to ensure Guyana's natural resource wealth is used to finance national development priorities including any initiative aimed at realising an inclusive green economy.

To ensure that its purpose is realised, the NRF Act 2021 focuses on four key areas:

- Providing notification of all oil receipts to the National Assembly
- Ensure withdrawals are governed by a transparent process
- Parliamentary oversight and approval of every cent to be used
- Effective management and oversight via a Board of Directors, Public Accountability and Oversight Committee, the Audit Office of Guyana and ensure disclosure of their respective reports

Governance & oversight arrangements

To ensure the purpose of the fund is carried out in accordance with the principles of good governance and international best practices including the Santiago Principles, a Board of Directors comprising not less than three and not more than five persons will soon be appointed by the President.

The Board would be responsible for overall management of the Fund, reviewing and approving the policies of the Fund; and preparing the Fund's investment. The law allows for an Investment Committee to be established and provide advice to the Board on the Fund's investment mandate. The Board would also be assisted by a Senior Investment Advisor and Analyst.

Furthermore, the legislation also paves the way for the establishment of a Public Accountability and Oversight Committee (PAOC) which will comprise of a nominee from the National Assembly, three representatives from the religious community, two from the private sector, two from organised labour and one from the professions. These persons would all be appointed by the President for a period not exceeding two years.

Guyana's Central Bank is responsible for the operational management of the Fund which includes establishing risk management arrangements and all necessary internal management systems for the fund.

Four Key Areas of the NRF Act

Receipts

- Notification to Parliament
- Publication in the Official Gazette
- Failure of Disclosure will result in a penalty of 10 years imprisonment



Withdrawal

- Transparent Process
- Formula-based, where every citizen can calculate the funds flowing into the budgetary process for the following year



Uses of Funds

- Every cent for every project to be financed by the Fund will be debated and appropriated in the National Assembly



Management and Oversight

- Reduce ministerial authority by strengthening governance with Board of Directors, Public Accountability and Oversight Committee, and Investment Committee

Deposits & withdrawals

The NRF Act states that petroleum revenues shall be directly paid into a bank account denominated in United States dollars and held by the US Federal Reserve Bank in New York.

With respect to withdrawals, the law states that the maximum amount that may be withdrawn from the Fund in a fiscal year shall not exceed the total withdrawal from the Fund approved by the National Assembly for that fiscal year. It categorically states that all withdrawals shall be deposited into the Consolidated Fund and shall be used only to finance national development priorities including any initiative aimed at realising green economy and essential projects that are related to ameliorating the effect of a major natural disaster. Furthermore, the amount that may be withdrawn from the Fund in a fiscal year shall be subject to a ceiling calculated in accordance with the First Schedule in the Act.

Reporting and auditing

The legislation empowers the Auditor General of Guyana to audit the accounts of the Fund. He can also engage an internationally recognised auditing firm to assist in the discharge of this function.

The Board of Directors is also required to prepare and submit to the Minister, an annual report of the Fund.

Furthermore, the Minister is required to provide Guyana's National Assembly with an Annual Report on the Fund.

The Ministry of Finance is also mandated to publish on its website for public perusal: annual reports on the fund, audited financial statements and the external auditor's report; quarterly reports and financial statements submitted to the minister by the bank; monthly reports; and the Fund's investment mandate.

Earnings

From the commencement of oil production in December 2019 to the end of 2022, there were 171 lifts of oil exported from Guyana, 21 of which were for the government.

By mid-2022, earnings from the sale of oil stood at US\$102 million. In keeping with the requirements under the NRF Act, the proceeds were deposited into the fund's account.

For the year 2022, the fund received US\$1,099.1 million in profit oil - US\$510.2 million from the Liza Destiny and US\$588.9 million from the Liza Unity. The sum of US\$155.2 million was received in royalty payments from the Stabroek Block operator. At the end of 2022, the overall balance in the fund, inclusive of interest income and after transfers to Budget 202, amounted to US\$1,271.8 million.

An aerial photograph showing a large-scale pipeline construction project in a body of water. Several large, dark-colored pipes are laid out in parallel rows, extending from the foreground towards the background. The pipes are connected by large, circular flanges with visible bolts. The water is dark and shows some ripples and small waves. The overall scene is industrial and suggests a major infrastructure project.

DEVELOPMENT OF THE NATURAL GAS MARKET

Gas-to-Energy Project: Overview and economic impact



Overview

The Gas-to-Energy (GtE) project moved forward from 2021 after a thorough site review to establish the optimal location for the proposed project. The project includes the construction and operation of a 12-inch 225km pipeline from the Liza Destiny and Liza Unity Floating Production, Storage and Offloading (FPSO) vessels to an onshore natural gas liquids (NGL) and natural gas processing plant (NGL Plant), at Wales, West Bank of Demerara.

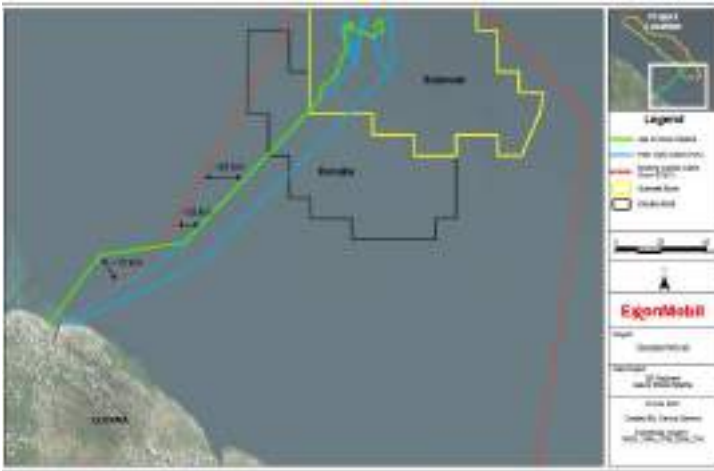
In the initial phase, the pipeline will carry up to 50 million standard cubic feet of dry gas per day (MSCFD) to the NGL Plant. The NGL Plant will drop the pressure of the gas, dehydrate the gas, separate out propane, butane, and pentanes, and treat the gas to the specification to be received by the planned power plant. The power plant will be owned and operated by Government of Guyana and is expected to generate 300MW of electricity.

Remaining on schedule for commissioning and operationalisation by 2024, the Gas-to-Energy Project is transformational for Guyana, with the primary objective of providing low-cost reliable electricity to every citizen, with generation costs being less than half the current cost derived from HFO generation (less than 5 cents per kwh).

On June 30, 2022, the Heads of Agreement was signed between the Government of Guyana and Esso Exploration and Production (Guyana) Limited (EEPGL) and Co-venturers, Hess Guyana Exploration Limited and CNOOC Petroleum Guyana Limited, setting out the primary project principles that allowed the project to meet the Final Investment Decision (FID) for parties by December 2022. Further, following a publicly tendered prequalification process for the

Engineering, Procurement and Construction Contract (EPC) to build the 300MW CC Power plant and NGL Plant at Wales, the Government of Guyana selected the EPC Contractor in November 2022. This EPC Contract will be supervised by a global supervision firm, which was also selected in October 2022 pursuant to an open international competitive tender. In tandem, the government is further concluding the engagement, consultation, and acquisition process regarding lands to facilitate the construction and placement of the pipeline corridor and site preparation for the integrated facility at Wales. The Environmental Protection Agency also granted approval and issued the requisite Environmental Permit for the development of the gas pipeline, NGL facility and Gas Fired Power Plant.

Prior to Final Investment Decision, the Gas-to-Energy Project shall also be subject to the conclusion and execution of the operation Gas Supply Agreement (GSA) and other associated agreements to guide the implementation of project parameters. Prior to conclusion of the construction in 2023/2024, an international firm will be competitively selected to operate the project to international standards and best practice. EEPGL is expected to deliver the completed pipeline to the power plant by the fourth quarter of 2024, and achieve commissioning and testing of the 300 MW power plant by end of 2024.



Gas-to-Energy: A reliable electricity supply

The natural gas at the Liza Destiny FPSO and Liza Unity FPSO locations is estimated to be 0.2 Trillion Cubic Feet (TCF), which is sufficient to supply how many MMscfd for approximately 11 years. The result will be a reliable, low-cost energy supply for many years to come that has the potential to continue to grow with each new discovery.

Wales Development Zone

The Wales location has been identified for the landing of the gas pipeline for the Gas-to-Energy project after a comprehensive analysis was conducted on over 20 locations.

Economic impact of Gas-to-Energy

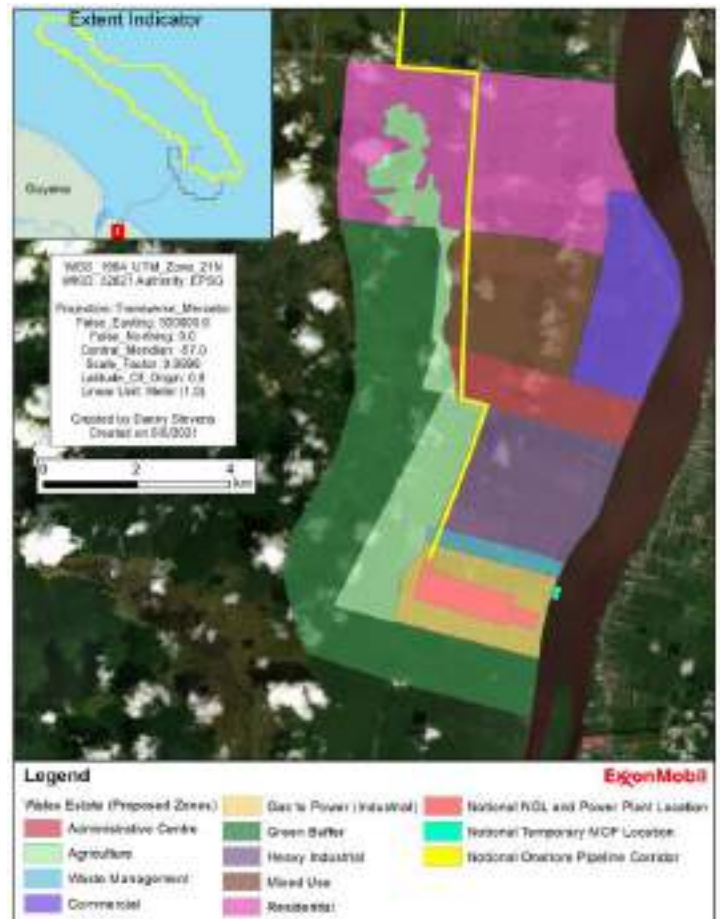
The Gas-to-Energy project will generate a number of economic benefits which include:

- Significant reductions in electricity tariffs for the economy and the dependency of imported resources related to power production
- Development of the domestic manufacturing industry
- Harmonisation with the clean-and-green society policy
- Significant job creation for new and emerging sectors
- Increased business for industries tied directly and indirectly with the natural gas processing plant
- Increased power generation allowing for high energy consumption sectors such as industrialisation to be satisfied and expanded
- Encourages foreign investment in new businesses due to low power costs

This area will include sections for the following:

- Oil and Gas Shore Base Activities
- Heavy Industrial
- Waste Management
- Agriculture
- Commercial
- Administrative Centre
- Residential

The project is in the tendering stages.



Enhanced manufacturing opportunities

As previously stated, the inclusion of the Gas-to-Energy facility will provide low-cost power for high-capacity manufacturing facilities that will occupy the Wales Development Zone.

In addition, being in proximity to the natural gas plant will allow for quick access to the natural gas and the by-products produced by the plant. Furthermore, the Wales Industrial Zone will consist of a number of complementary businesses/industries that will improve collective efficiency and reduce operating costs for all those industries. Among these will be the inclusion of a waste management facility that would be utilised by the various industries operating in the Wales Development Zone. Rather than individual businesses establishing their own elaborate waste management facility, all of their needs will be met by the central Waste Management Facility for the Development Zone.

This concept is also used for the inclusion of the other facilities and continuous evaluation will be done to identify and include other critical facilities in the future.



Preliminary Artist's Impression of Natural Gas Plant (Source: EEPGL)

Exploring regional energy integration



1. A connected 'Regional Energy Hub' offers large economic and environmental benefits for transitioning to a low-carbon energy economy;
2. The regional economies are growing and the demand for energy has increased significantly;
3. The Government of Guyana is taking the lead in encouraging regional leaders to promote a coordinated and integrated approach for energy security;
4. There are several studies being conducted within Guyana, Suriname and Trinidad and Tobago, and other countries, to clarify and explore a cost-effective approach that is consistent with the concept of a regional energy hub;
5. These studies are examining potential energy sources (crude oil, natural gas, hydropower, solar, wind and biomass); clarifying and documenting the demand for energy for consumers and industrial purposes; mapping the geography of the demand, and the feasibility of the necessary infrastructure to meet these growing demands;
6. The studies will also promote the development of both inter and intra-regional energy trade to support and expand manufacturing and the industrialization of the economic hub;
7. The demand for energy in northern Brazil, Guyana and Suriname will allow our economies to develop both traditional and new sources of energy supply through investments in transmission infrastructure;
8. Infrastructure and port developments are key pillars in the advancement of the region's energy policy;
9. Guyana and other regional countries are currently exploring the best comparative and competitive advantages for energy supply;
10. The local and regional private sectors are urged to explore these opportunities for energy sources, as well as capital investment in energy sources, transmission, and distribution.

***Energy security aids in food security and economic well-being,
which further informs political stability.***

Guyana Forest Carbon Credits



CONSERVE

Guyana's 18 million hectares of forest store over 19.5Gt of Co2. Guyana aims to maintain 99.5% of this forest as a global asset.



REMOVE

Every year, Guyana's forests remove 154 million tons of Co2 from the earth's atmosphere.



REDUCE

Guyana aims to keep deforestation rates at 90% below the global average.



RESTORE

Guyana aims to regrow about 200,000 hectares of forest as a priority.

LCDS 2030—The low-carbon vision

With an increase in the energy demand, the Dr. Mohamed Irfaan Ali-led government intends to implement a strategy of decoupling economic growth from using fossil fuels for electricity by developing low-carbon energy resources (solar, hydro, wind, biomass, and natural gas) to meet rapidly rising demand and keep greenhouse gas emissions low.

Natural gas

To use natural gas for power generation, plans are on stream to utilise a pipeline to bring the natural gas to shore from the Stabroek Block. A Liquefied Natural Gas (LNG) and a gas-fired power plant are other key components of this transformational project which will add 300MW of energy to the grid by 2025.

Create New Incentives for a Low-Carbon Economy

Sustainability Planning

- Forestry
- Biodiversity
- Water Resources
- Ocean/Marine Resources

Protect against Climate Change and Biodiversity Loss

Climate Adaptation and Resilience

- Climate Resilient Agriculture
- Climate Risk Assessment & Insurance
 - Coastal Infrastructure
- Mangroves Restoration and Expansion
 - Drought and Flood Management



Stimulate Future Growth: Clean Energy and Low-carbon Development

Green Jobs and Sustainable Livelihoods

- Clean and Renewable Energy
- Ocean Economy Opportunities
- Digital Infrastructure
- Low-carbon Transportation

Align with Global Climate and Biodiversity Goals

- UN Sustainable Development Goals
 - Nationally Determined Contributions
- Aichi Targets on Protected Areas
 - Leaders Pledge for Nature
 - UN: Net Zero by 2050

Hydropower

The 165MW Amaila Falls Hydropower Project will be Guyana's largest hydro-development. Despite delays in awarding the contract, President Ali had shared that businesses from Guyana's private sector are interested in bringing the project to fruition.

Meanwhile, an Engineering, Procurement and Construction (EPC) contract was awarded to a Sri Lankan company for the construction of the 1.5MW Kumu and 0.7MW Moco Moco hydropower plants. The scope of work is to the tune of US\$12,850,000. Combined, the projects will supply power to thousands of residents.

Solar photovoltaic (PV)

In 2022, the Government of Guyana signed a contract with the Inter-American Development Bank (IDB) to fund eight utility-scale photovoltaic solar projects totalling 33 megawatt-peak (MWp). Once completed, the project is expected to bring affordable and clean energy to over 70,000 households. In total, Guyana will have 14 solar farms and 28 solar mini-grids with an accumulated installed capacity of 39 megawatts (MW) over the next three years.

With commissioning scheduled for the end of 2023, over 2800 residents of Mahdia will benefit from a new 686 kilowatt-peak (kWp) solar farm within their community. A 1.7-acre plot has been earmarked for the solar farm, to be secured by two-metre-high perimeter fencing along with solar-powered perimeter lighting.

Wind

Guyana's coast is exposed to the steady North-East Trade Winds. In light of this, a private developer has installed a tower with a wind speed data logger to measure the potential to install large wind turbines. The project is expected to provide 25MW of power. Plans are in place to conduct wind measurements along the coast and at Leguan. The measures taken in the other locations together with the practical experience from the 25MW wind farm installation will inform the design of the future wind programme.

Biomass

There is some practical experience in the use of biomass as an energy resource for self-consumption like rice husk in the rice mills, the use of the distillate waste to produce biomethane at Demerara Distillers Limited (DDL) or the use of bagasse for co-generation at the Skeldon Sugar Estate.

The Skeldon Estate Co-generation Power Plant – for 30MW of electricity generation using bagasse from the sugar process – was designed to produce excess power that would be exported to the grid. The plant is no longer working as a co-generation system due to the closure of the sugar factory.

An assessment report on the co-generation possibilities at Albion and Uitvlugt Sugar Estates concluded that it is feasible to install at least a total power capacity of 23MW.

LCDS 2030 and Guyana's oil wealth

Following the discovery of the eleven (11) billion barrels of oil-equivalent resources discovered off Guyana's coast, the PPP/C Government has outlined in LCDS 2030 that the oil revenues will be managed strategically and responsibly by:

- Ensuring increased social and economic investments, most notably in health and education, to enable all Guyanese to reach higher standards of living and well-being;
- Diversifying the economy by supporting non-oil sectors and development all across Guyana. This will involve support for physical infrastructure – including river, road and air transport networks; the national digital connectivity network; and repairing coastal and Hinterland climate protection infrastructure. It will also involve targeted support for agricultural expansion in non-forested parts of Guyana to enable Guyana to become self-sufficient in key agricultural products, as well as an exporter to the region and beyond.
- Participating in a global low-carbon transition, the majority of Guyana's oil and gas will be sold in the global marketplace. The government believes that this market needs to develop in alignment with the goals of the Paris Climate Agreement, specifically, to stabilise global temperature increases at less than 1.5 degrees Celsius above pre-industrial levels. As a result, most of Guyana's oil and gas will serve global demand, and the trajectory will be set by those who create the demand.



© Pete Oxford

Guyana's infrastructural development



Expansion of the Cheddi Jagan International Airport (CJIA)

With billions invested in expansion works, Guyana's main international air transport hub will accommodate more air traffic and larger volumes of travellers. When complete, the airport will allow for cheaper passenger and cargo flights. Already, the government has moved to upgrade and expand runways for larger aircraft and new air bridges have been installed.



Guyana's four-lane road network

The has devised a massive plan to construct a four-lane road network that will connect Mandela Avenue to Diamond on the East Bank of Demerara. Road infrastructure being developed also includes the \$11.8 billion Schoonard to Crane Highway on the West Bank to the West Coast of Demerara, as well as the US\$106.3 million Ogle, East Coast Demerara to Eccles East Bank Demerara Highway.



Bridging a new Guyana...

The new, state-of-the-art Demerara Harbour Bridge

Spanning 2.65 kilometres long across the deepest river in Guyana, the planned new Demerara Harbour Bridge will be one of the country's biggest infrastructural projects. A contract for this four-lane, high-span bridge was signed in 2022 with the China Railway Construction Company to the tune of GY\$52 billion. Preparatory works have already kicked off with commissioning anticipated by 2025. The New Demerara Harbour Bridge will replace its current floating bridge which has already lived out its lifespan.



Corentyne River Bridge

This river crossing will connect Guyana and Suriname, creating a convenient and cheaper access to the two CARICOM sister countries. The Corentyne Bridge is poised to create opportunities for the area to become a booming economic zone and transit point supporting increased efficiency of trade and services. The high-span Corentyne River bridge will run approximately 3.1 kilometres, connecting Moleson Creek in Guyana to South Drain in Suriname with a landing on Long Island in the Corentyne River, where a commercial hub and tourist destination will be established. That free zone will see major infrastructural development such as hotels, recreational parks, entertainment spots, tourist attractions, malls, and farmers' markets. Construction on the bridge is expected to commence this year

Investing in Guyana

The government is keen to quickly diversify the economy to avoid the fate of other developing countries that have fallen victim to Dutch disease and the resource-curse effect; whereby a natural-resources boom triggers a decline in other sectors.

Guyana is on the verge of becoming the largest oil producing country in the world on a per capita basis. With these projected growths, there are a wealth of opportunities that exist within the tourism, agriculture, construction, manufacturing, energy, transportation, mining and services sectors.

Under the leadership of President Dr. Mohamed Irfaan Ali, the Government is committed to economic transformation of Guyana and has embraced an investor-friendly and a strong private sector position. To stimulate investment, the Government is offering a wide range of tax and fiscal incentives to investors.



Why invest in Guyana

- One of the fastest growing economies in the world
- Resource rich country
- English-speaking
- Multi-sector opportunities
- Low operation costs
- Ideal location to access regional and global markets
- Fiscal incentives for investments
- Tax exemptions for risk bearing investments
- Private sector focused government
- Diverse cultures and heritage
- Affordable labour
- Land availability

Incentives

The Government of Guyana is pro-business and therefore believes in creating an enabling environment, which offers a number of incentives and opportunities to facilitate investments and spur economic growth in all sectors. Some of these include:

- Provide tax incentives for new investments, re-tooling and technological improvements;
- Establish industrial parks/estates for manufacturing in coastal and Hinterland regions;
- Establish a fund to stimulate innovation and new businesses.
- Provide complementary infrastructure such as roads, bridges, airstrips, training institutes, etc.
- Exemption of Duty and VAT on all critical building materials and equipment.
- Dock yard and shipping building: Exemption of Duty and taxes are available for the operation of dry-docking facilities.
- Recycling: Exemption of Duty and VAT on all machinery and equipment used.
- Land availability
- Incentives for incorporated companies
- ICT liberalisation

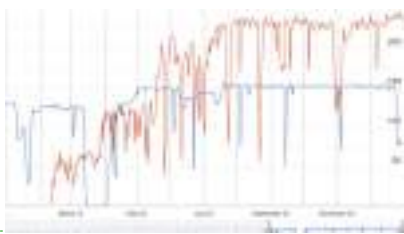




GOVERNMENT OF GUYANA OPERATIONAL UPDATE

DATA CENTRE

OIL PRODUCTION



OIL LIFTS (Guyana)

Approximately

13 MILLION BARRELS

OIL REVENUE (Guyana)

US\$1.27 BILLION

as of December 2022

Ministry of Natural Resources introduces Petroleum Management Programme

The Petroleum Management Programme is one of three major initiatives within the Ministry of Natural Resources which contributes to achieving the Ministry's overall mission of developing, implementing and overseeing policies for the responsible exploration, development and utilization of natural resources.

This is being executed while ensuring the protection and conservation of the environment and advancement of the green economy.

The Petroleum Management Programme's objective is to promote and support the exploration, development and production of petroleum (oil and gas) resources by regulating, managing, and monitoring the industry to ensure that the resources are developed in an economically viable manner to attain an improved level of national prosperity that will provide for maximum economic benefits for all Guyanese.

