

AN INVESTORS GUIDE TO DEVELOPING GAS PROJECTS IN NIGERIA

In This Publication:

Background	01
General overview of the Nigerian Gas Space	02
Project development	04
Project Bankability	05
Brockville Projects Team	06

DISCLAIMER

This document and its contents are for general information purposes only, it does not substitute the need to consult an expert or professional advisor in relevant areas and is provided without any warranties (express or implied) of any kind. The authors do not accept any liability for any direct or remote loss or damage arising out of the use of all or any part of the information contained in this document. The document has been prepared without regard to the individual financial circumstances of those who read or use it. The opinions presented in it may be changed without prior notice and is not necessarily definitive, current, or authoritative. Data used in this document was gathered from reliable sources and some of the opinions are those from other literature and authors on the same subject matter. The publishers of this document do not hold themselves responsible for the accuracy or completeness of the data used. This document may not be reproduced, further distributed to any other person, or published, in whole or in part, for any purpose without the consent of Brockville investments limited or the Authors



**WE ARE ENHANCING SUSTAINABLE & PROFITABLE ENERGY & NATURAL
RESOURCE PROJECT DEVELOPMENT ACROSS AFRICA**

AN INVESTORS GUIDE

An investors guide is a series of documents written for the benefit of project sponsors, entrepreneurs, project developers, investors, project financiers, bankers, consultants, and other entities that are seeking clear guidance on market entry into the Nigerian Energy & Natural resources industry. It provides insights covering, industry information, project planning & fundraising. It is not intended to replace detailed business or project development planning as that would be done in a project specific manner.

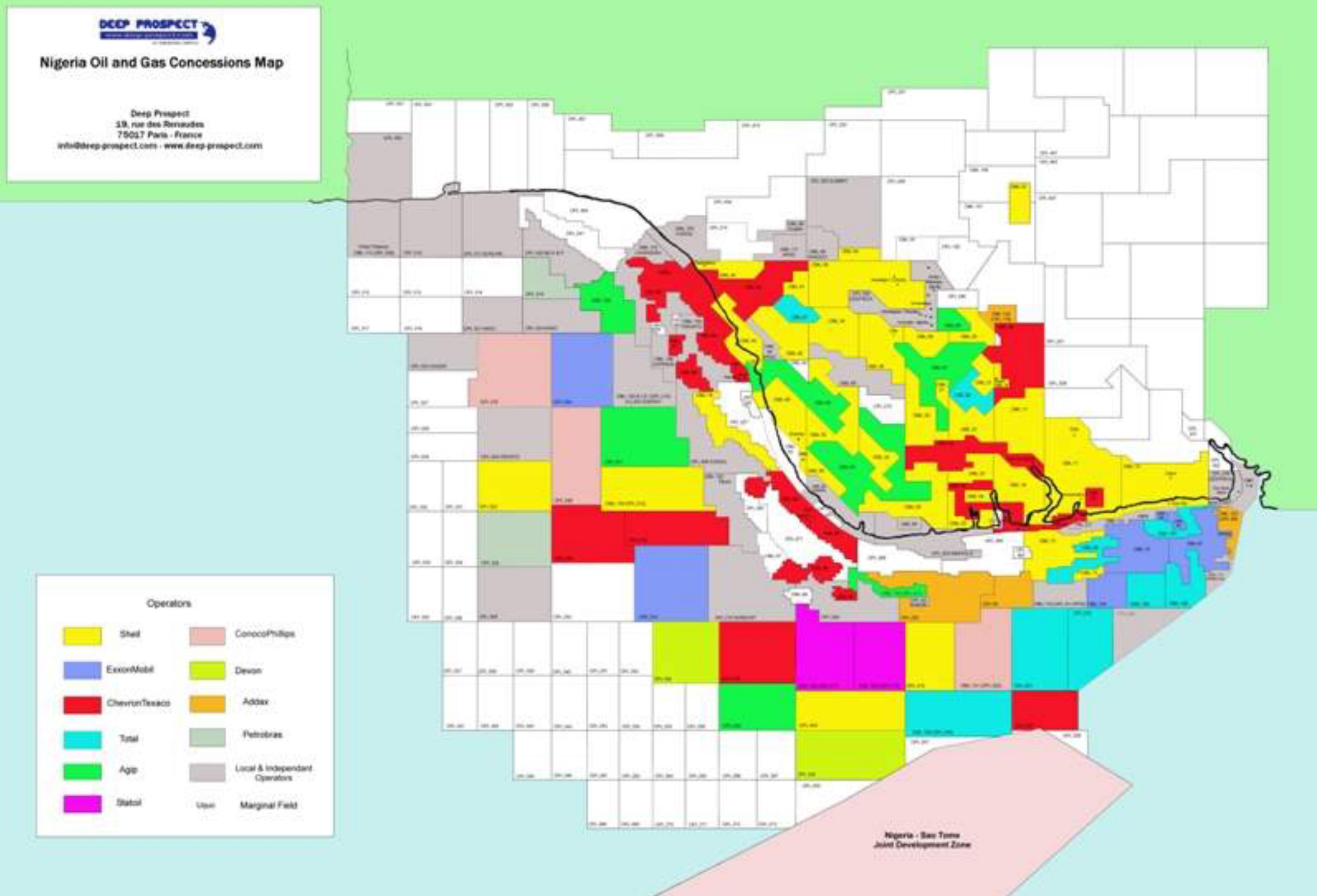
BROCKVILLE

**WE ARE ENHANCING SUSTAINABLE & PROFITABLE ENERGY & NATURAL
RESOURCE PROJECT DEVELOPMENT ACROSS AFRICA**

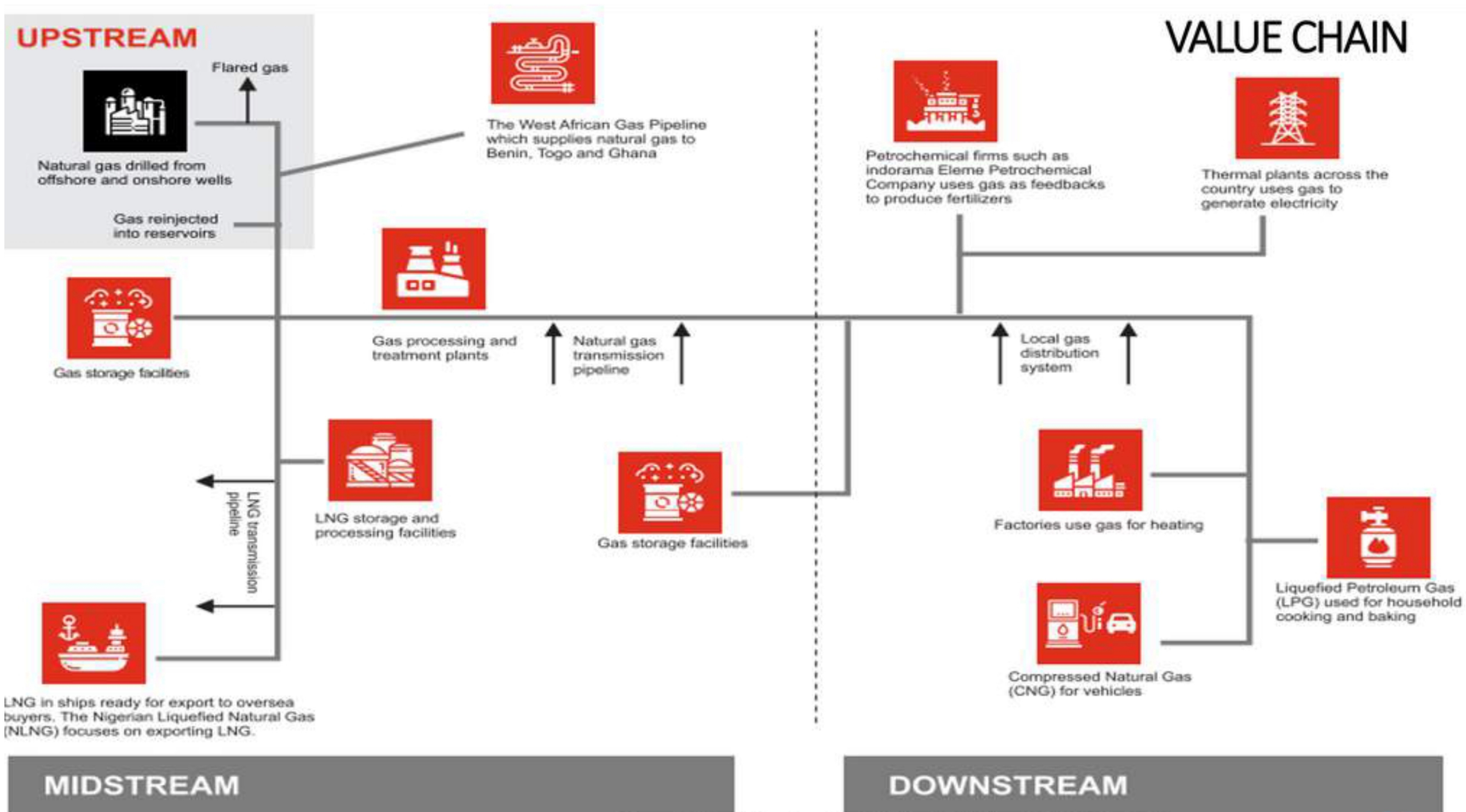
NIGER DELTA

OIL & GAS

CONCESSION MAP



GAS INDUSTRY VALUE CHAIN



Source: Pipeline and Hazardous Materials Safety Administration of the US, PwC analysis



BACKGROUND

Natural gas is a major sector of the energy market and it plays an influential role in the global economy as the world's primary fuel source. The processes and systems involved in producing and distributing gas are highly complex, capital-intensive, and require state-of-the-art technology.

For example, the complex gas infrastructural investment need in Sub-Saharan Africa is projected to be about \$ 174 billion over the next 20 years. The regional ranking of countries with the largest of these infrastructure opportunities is as follows: Nigeria, Mozambique, Tanzania, Ghana Cote D'Ivoire, and South Africa.

Historically, natural gas has been linked to oil, mainly because of the production process in the upstream side of the business. For much of the history of the industry, natural gas was viewed as a nuisance and even today is flared in large quantities in some parts of the world, including Nigeria. Natural gas has taken on a more prominent role in the world's energy supply as a consequence of LNG development globally and its lower greenhouse gas emissions when combusted when compared to oil and coal.

This guide focuses on developing gas projects in Nigeria it provides project sponsors with information on financing gas projects.



Nigeria has an estimated 2.3 billion barrels of crude oil reserves in over 183 fields classified as marginal.



OVERVIEW OF THE NIGERIAN GAS SPACE

In 2021, President Muhammadu Buhari signed the Petroleum Industry Act (PIA) 2021, and this marked the conclusion of a 20-year effort to reform Nigeria's oil and gas sector. The aim of the PIA was to create an environment that is conducive for growth of the sector as well as tackle legitimate grievances of communities most impacted by extractive industries.

Since the beginning of the reform 20 years ago, several changes have occurred in the sector domestically and globally. For one, the number of indigenous oil and gas firms in Nigeria has grown, and so has the number of oil-producing countries in the region and internationally. Furthermore, concerns over climate change promoted the efforts to reduce world consumption of fossil fuels and this has driven divestments of International and gas companies from some countries including Nigeria.

The passage of the PIA supports the declaration of Nigeria's decade of Gas, and the Nigerian gas industry is expected to reveal and create value and opportunity in equal measure from Nigeria's vast gas resources.

THE NATURAL GAS MARKET IN NIGERIA

Nigeria's proven natural gas reserves are estimated at about 185 TCF which is the World's 7th largest gas reserves. Estimates of Nigeria's undiscovered gas reserves range from 300 to 600 TCF. Nigeria has therefore been described as a gas province with some oil. The gas quality is high, particularly rich in liquids and low in sulfur. Nigeria currently produces about 4 BCF/D, a significant portion of which is flared. It is estimated that the amount of natural gas flared is sufficient to generate power for the entire Sub-Saharan Africa.

The growth of the Nigerian oil and gas market was significantly hampered by the COVID-19 pandemic. This is largely as a result of contraction in the global oil and gas demand and global economic slowdown leading to an unprecedented drop in oil prices for extended periods. However, signs of growth and rebound are now evident in the sector as a result of the recent Russia- Ukraine prices with Brent price climaxing at \$126/barrel in March 2022. Over the past few years, the development of the gas sector has been crippled by factors such as attacks on oil and gas infrastructure by militants, and crude theft, coupled with a burgeoning infrastructural gap. These factors will continue to have a negative effect on market growth in the sector.



THE NATURAL GAS MARKET IN NIGERIA

The Gas value chain is expected to witness significant growth and attract investments, owing to the drive by the FGN to expand gas as a fuel for economic growth in the nation. Development projects are springing up in Modular LNG, modular gas to power plants, gas transportation, autogas conversion initiatives, and gas as a feedstock for fertilizers. Such projects include, the plans to raise \$5 billion for the development of Nigeria's first floating liquefied natural gas (FLNG) project by UTM Offshore Limited, African Export-Import Bank (Afreximbank), and other, new independent power plants (IPPs) initiatives are examples.

We expect increasing project developments by various sponsors and in natural gas infrastructure across the value chain, owing to the FGN's quest for a gas-driven economy, supported by new legislation (such as the petroleum industry Act (PIA) and the gas network transportation code), the country's huge gas reserves.

.



GAS FIRED INDEPENDENT POWER PLANT: ALTERNATIVE TO THE NATIONAL POWER GRID FOR MANUFACTURING INDUSTRY?



Among the challenges affecting the growth of the manufacturing sector in Nigeria, an unstable supply of electric power ranks topmost. This challenge manifests in the heavy importation of standby electric generators and the over-dependence on these generators by the industries for their survival resulting in the astronomical cost of manufacturing in the country.

According to the Manufacturers Association of Nigeria (MAN), the cost of alternative electricity generation alone constitutes about 40 percent of production cost. In H1 2020, expenditure on alternative energy was N24.16 billion as manufacturers spent N9.45 billion on diesel; N8.64 billion on Gas; N3.04 billion on Generator; and N3.03 billion on other sources and accessories such as inverter, UPS.

This poor power supply situation gives Independent Power Plants (IPPs) a significant role to play in the growth and sustainability of manufacturing industries in Nigeria.

IPPs are privately financed, independently owned power generation projects that are not part of the regulated entity. The IPP power generation projects are supported by non-recourse or limited recourse project financing with a long-term Power Purchase Agreement (PPA) with the off-taker.

GAS FIRED INDEPENDENT POWER PLANT: ALTERNATIVE TO THE NATIONAL POWER GRID FOR MANUFACTURING INDUSTRY?



These IPPs projects provide stable power and offer an important yardstick against the publicly-owned plants. Despite the challenges in the oil and gas sector, investment opportunities exist in the infrastructure required for gas supply and gas-fired power generation.

Manufacturing companies could develop their own self-generating IPPs from gas supply or partner with technical and financing partners in this space that would help them achieve this goal.

Dangote Group of companies is an example of a manufacturing company that utilizes gas-fired plants for its factories, this solution is also relevant in cement, mining, food and beverage, and more.

Brockville supports the heavy-duty industries in the area of gas to power project development by providing end-to-end technical, market & financing support for gas-powered IPPs.

Brockville can help with
Project Finance Advisory

CONTACT US @
projects@brockvilleinvestments.africa



INVESTMENT READINESS AND PROJECT BANKABILITY



External funding provides vital resources that allow businesses to develop new products, expand production capacity, set up new infrastructure, and access new markets. Securing financing is a critical step to putting the foundation for long-term business growth & sustainability in place

Investment readiness and bankability of projects are key concepts for businesses to secure external funding that meets their expansion or project development needs. Business leaders must have clarity on their growth plans and financing needs so that the new funding supports and does not encumber their sustainability plans. Additionally, it is important for management to understand how their businesses are perceived by external audiences and be prepared to negotiate with potential investors. Management needs to understand and meet specific expectations of funders and this is described as bankability or investment readiness, depending on if the consideration is debt or equity investments

There are two key components that influence a business or projects bankability or investment readiness

- 1) Viability: This aspect talks about the feasibility of the business project. It is critical for the management team to demonstrate that their business or project is sustainable, has good organisational structures, a tested business model, a strong value proposition, and a qualified team.
- 2) Investor documentation: The ability to put together documentation such as business plans, financial models, investment teaser, and information memorandum is the next key step. These documents must be robust, well put together, and make a compelling case for financing the business or project. The fundraising process for a business or project can be fast-tracked with an understanding of investment readiness or project bankability. This involves preparing the document and requisite information in advance and this will shorten the due diligence process and minimize other process delays.

FUND RAISING



PROCESS



Business or project

Raising funding is typically a **multi-step process** involving preparation, investor/financier engagement, and execution. This process typically takes between three and eighteen months but could last longer.

1. Identify the funding need

Prior to seeking external capital, businesses need to develop and refine their growth strategy to evaluate their funding need. The most reasonable thing to do is identify the initiatives that need funding and consider how this funding falls in line with their long-term goals. When business objectives are tied to strategy, management can determine whether their projects or operations can be funded internally. If the need is obvious, funding can be sought externally.

FUNDRAISING PROCESS FOR BUSINESS PROJECTS



2. Collate & develop investor document

The second phase involves the preparation of materials that will be presented to investors.

Asides from these documents' usefulness in supporting investors' engagement, they help business leaders deepen their understanding of the business operation or of a proposed project. This document includes a business plan that describes the business, objectives, and strategy to achieve these objectives. The financial model is the business plan in numbers, translating the business plan into a numerical analytical format. This allows the business to determine the funding needed to execute its growth plan, and complete the project at hand, and potential financial returns. It provides a clear understanding of the risks and sensitivities involved in meeting growth targets. The business planning feeds into the development of a concise investor teaser and an elaborate and thorough investor memorandum. The combination of the three is the sell-side documents that are used both internally and also shared with investors to introduce the business and investment opportunity

4. Due Diligence

Just like in everyday life, where we can take the term due diligence to mean an exercise in risk mitigation, to prevent bad outcomes. In financing, due diligence is also done to understand potential risks and mitigate against undesirable outcomes. Due diligence is an audit done to support a recommended opportunity. Investors want to understand the market opportunity, business model, traction, growth strategy, and capital requirement of the business.

In gas project development, due diligence involves analyzing the project, the financial case, and technical aspects (including geological, and engineering). Commercial due diligence and legal due diligence are also key to risk identification and mitigation.



3. Determine capital structure

Business operation and growth can be funded with either internal funding and external funding or they can combine both sources of funding. Internal funding includes cash flow and retained earnings, while external funding comes in the form of debt, equity, quasi-equity, and grants. Capital structure is the mix of different sources of funding that a business uses to finance itself. In deciding the capital structure, the company management must consider the cost of funds and the proposed use of the funds.

5. Indicative term sheet

A term sheet outlines the commercial material terms and conditions of a potential financing agreement. An indicative Term Sheet is a document describing the proposed basic financing terms and conditions upon which the bank proposes to provide funding to the borrower. It is understood that the Indicative Term Sheet is not binding and would not be deemed a commitment by the bank.



BARRIERS TO A SUCCESSFUL PROJECT/BUSINESS FINANCING

In project & business financing there are certain factors within the management control that lengthen or jeopardize the fundraising process. The absence of key skills in the management team often signals to the investors that the business or project would be unable to achieve its growth potential and this discourages the investment. Another barrier to successful project/business financing is Incomplete or inconsistent information. This makes it difficult for investors/financiers to understand the business or project and may extend the due diligence process. Also, when growth strategies are not supported with historical performance, or in the case of project finance, not backed with achievable operations plans, it may seem impracticable to financiers. On the financier's side, improper coordination of the due diligence process can significantly serve as a barrier to closing the transaction. Due diligence can be a lengthy process that requires the coordination of multiple parties and advisors, such as lawyers, geoscientists, engineers, and other consultants.



PROJECT BANKABILITY

&

INVESTMENT READINESS

Before disbursement of funds towards a project or for a business, financiers will assess it against key standards to determine whether it can realize its growth potential, provide enough cash flow to service its debt obligations, or provide the expected return on investment. Project bankability is a term used to describe how attractive a project is to financiers and if they are willing to fund it. Investors need to justify the risk they are taking and irrespective of whether they are debt or equity providers they will only invest in projects that they perceive to provide sufficient and consistent returns on their investment and justify the risk they are taking.

We have described below a set of key criteria for determining the bankability of gas projects





KEY BANKABILITY CRITERIA FOR GAS PROJECT FINANCE



Cashflow certainty-

For upstream Gas projects poses unique challenges to the security of gas supply because it can be interrupted by activities that affect or disrupt oil production. Players are advised to Consider this supply risk in their plans. Also, prioritize procuring a guaranteed offtake as this will significantly enhance the commercial viability of the project.

Cashflow certainty- For upstream Gas projects poses unique challenges to the security of gas supply because it can be interrupted by activities that affect or disrupt oil production. Players are advised to Consider this supply risk in their plans. Also, prioritize procuring a guaranteed offtake as this will significantly enhance the commercial viability of the project.

The Credit strength of the off-taker: Gas financing depends on the certainty, outlook and robustness of the off-takers cashflows. Where the off-taker's cashflows are in question then fundraising will always remain a challenge. Power generating companies currently represent the bulk of local gas off-takers in Nigeria. The review of electricity tariff rates may have provided improved cash flow and improved the ability to clear off existing invoices to gas suppliers.

Legal Framework: Due to the substantial overhead costs for suppliers to provide gas and the volatility of gas prices, players will be required to execute several agreements such as the take or pay agreement – It is important to ensure the adequacy & enforceability of contracts and agreements.

Infrastructural & regulatory constraints

- There is a limited network of gas infrastructure in Nigeria. The ownership structure of gas pipeline infrastructure kept investors off. However, with the gas transportation network code coming into play, potential investors will be incentivised to construct their own pipelines and allowed to impose economic and market-based tariffs. An example of how this constraint is being addressed is the Federal Government of Nigeria's award of a Gas Infrastructure Development Agreement (GIDA) with seven companies for constructing and installing gas pipelines that will be linked to the existing pipeline network across the country.



KEY BANKABILITY CRITERIA FOR GAS PROJECT FINANCE



Political Risks: Since gas project financing has a long timeline of >7 years, The likelihood of the project being affected by change In the country's political conditions must be assessed.



Security Challenges

Security remains a big challenge. The solutions must include supporting project sponsors in navigating the terrain for job creation and addressing host community issues in the sensitive areas to encourage project acceptance by the local communities and other key stakeholders.



Cashflow certainty-

For upstream Gas projects poses unique challenges to the security of gas supply because it can be interrupted by activities that affect or disrupt oil production. Players are advised to Consider this supply risk in their plans. Also, prioritize procuring a guaranteed offtake as this will significantly enhance the commercial viability of the project.



Project Location: For upstream/midstream, the lack of interconnecting gas pipelines between the gas sources and remote locations and difficult terrains and well sites may require investors to make significant investments in building access roads and transmission/transportation infrastructure. For downstream, location is also key. Competitor and customer adaptation will affect cash flow certainty. Businesses must constantly evolve to overcome these challenges.

GENERAL INVESTMENT READINESS CRITERIA

Focus	Areas of consideration	Implication
Market and industry	<ul style="list-style-type: none">- Target market size- Product/service demand- Competitive landscape- Industry barriers to entry- Regulatory environment	A clear perspective of these factors gives an investor the ability to assess if there is a large enough market for the product or services.
Business model	<ul style="list-style-type: none">- Production processes- Product offerings- Strategic value chain partnerships- Distribution channels- Customer outreach	When investors understand the business model, they are able to identify risks that are associated with scaling the operations and achieving growth targets
Organisational structure	<ul style="list-style-type: none">- Competencies of senior management- Skill assessment framework- Employee retention and succession- Employee compensation	Investors know that having a winning team is key to successful business growth, and information on the team helps investors identify the competencies of the management and team.
Historical performance	<ul style="list-style-type: none">- Sales- Customer base- Gross and net margins- Cash flows	For an existing business, investors want to know what drives historical financial and operational indices This will enable them to access the key growth assumptions.
Growth strategy & projected financial performance	<ul style="list-style-type: none">- Company vision- Growth strategy- Detailed business plan for execution- Financial projections	Sound financial projections are made based on a company’s growth strategy, it ensures that the organization is working towards achieving realistic objectives that will increase profitability and deliver greater value to investors.
Funding need	<ul style="list-style-type: none">- Capital requirement- Investment terms- Exit plan/repay investors- Prior engagements with investors	This is key as it gives investors an understanding of the business expectations
Governance structures	<ul style="list-style-type: none">- Processes and controls- Board of Directors (BOD)- Competencies and role of the BOD- Statutory documentation	Governance structures influence the implementation of the growth strategy, regulatory compliance, and efficiency of the due diligence process
Business impact	<ul style="list-style-type: none">- Understanding of business impact- Impact measurement framework	Social enterprises must demonstrate an understanding of social impact and their own impact to date to qualify for impact capital

PROJECT DEVELOPMENT

There are exciting things happening in the gas environment across Nigeria and Africa, and Brockville Investments is at the front of the pack when it comes to providing specialist solutions across the entire lifecycle of a gas infrastructure project in the Energy and Natural resource Space.

Ideally, it takes 3 to 8 years from the inception of a major project through to its completion. However, this timeline can vary depending on numerous risk components as well as political instability and economic downturn.

It makes good business sense as a project sponsor, to enlist the support of advisors to navigate your way through the complicated process. Brockville Investments has the experience and capacity to guide you on that journey.

This section outlines the key phases of a gas project development and helps you to determine where it is most useful to seek specialist advice



PROJECT DEVELOPMENT

We have outlined 5 key phases of a gas project development and helps you to determine where it is most useful to seek specialist advice, and why.

PRELIMINARY ASSESSMENT

In this early phase, you will need to determine the scope of the project, compile a reasonable cost estimate and identify the challenges you may face, alongside the opportunities that could present themselves as the project progresses. In this phase, it is advisable for project sponsors to identify valuable connections and networks that can assist in getting the project running and ensure its success. Professionals that can forge these kinds of connections for you would help here

FEASIBILITY STUDIES & DUE DILIGENCE

Professional and thorough feasibility studies and due diligence carried out by seasoned specialists is a must to ensure the overall viability of a gas infrastructure project. Financial & technical assumptions will be made. Professionals will judge the project's chances of success & map out the key project success milestones, identify stakeholders & technology needs. Enlisting the services of an experienced team is the best option to see you through the all-important due diligence process.

COMMERCIAL NEGOTIATION & PROCUREMENT

Commercial negotiation and procurement are highly-specialised areas of expertise and you'll need to call in the experts to get the best out of it. Expert advice may be needed on how to navigate disputes and get the best terms out of agreements. When projects sponsors seek tailored and holistic gas infrastructure advice from trusted sources they would be guided through this phase without issues

Project Development & Execution

In this phase, the connections/partnerships & due-diligence established in earlier phases become extremely useful. The sponsors main activities is to supervise construction and overall performance of the contractors as well as monitor financial status of operators /contractors (in case of a PPP).

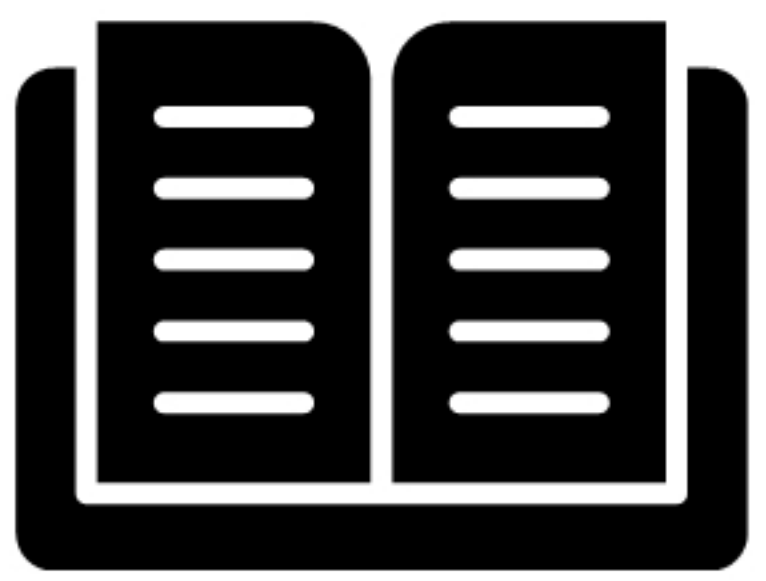
FINANCIAL CLOSE

Financial close come a few years down the line, and the construction & execution phase in complete. Experts come in handy here to a a few commercial negotiations and handle any dispute

STEPS TO GAS PROJECT DEVELOPMENT



STEP 1: IDENTIFY THE PROJECT IDEA



STEP 2: ASSESS POTENTIAL SITES



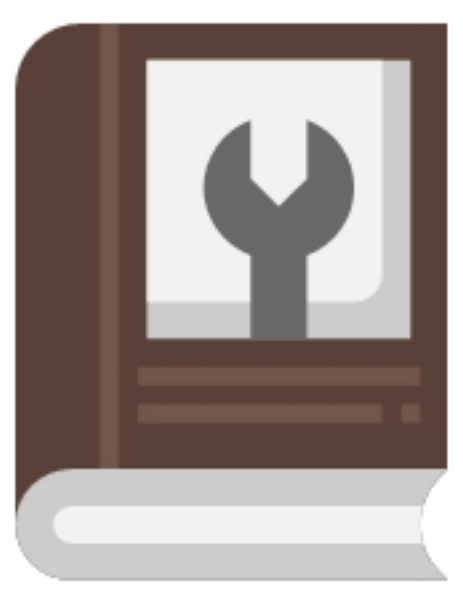
STEP 3: EVALUATE THE PROJECT



STEP 4: DEVELOP THE PROJECT



STEP 5: FINANCING CLOSING



STEP 6: IMPLEMENTATION



STEP 7: OPERATION



STEP 8: DECOMMISSIONING

BUSINESS PLAN DEVELOPMENT

A business plan assesses the feasibility of the project and provides a detailed road map for its implementation. It is typically used to attract funding and business partners, but it is also a valuable management tool. A business plan may begin as a simple document, but as the project idea develops into an operational business, it can become a large and detailed document that includes all the information defining the business. It should answer the following important questions.

- Who is the developer/ Who is the Sponsor?
- What are the products and services that will be provided?
- What is the ownership structure of the business and where will it be located?
- What is the market for the products or services of the project and how will the business attract customers?
- What are the projected financial items (assets, liabilities, revenue and expenses) and financing needs of the business?
- Is the project profitable and able to generate enough cash flow to repay the financiers?
- What resources, people and equipment does the business need during its start-up step and ongoing operation?
- What are the risks of the business and how are they going to be minimized?
- What is the timeline for the project?

INVESTMENT CONSIDERATIONS

Gas field development has significant implications that an investor ought to consider, particularly bearing in mind the huge investment size.

The authors have highlighted important considerations that drive the investment decisions below.

INVESTMENT CONSIDERATIONS



Gas field development has significant implications that an investor should consider. These important considerations highlighted below will drive the investment decisions.

OVER A DECADE-OLD EXPLORATORY WELL:

Gas-rich marginal gas fields would have an old exploratory well drilled over 10 years ago. These wells may likely have outdated, missing, or decayed components that need replacement. Investors will need to appoint technical experts to carry out a facility audit for inspection and verification of the working conditions of all wells and facilities on the ground. In addition, since the facility has not been in operation for over 10 years the wellhead location may be no longer accessible; we have seen instances where the area has become built up with a vibrant community. Such a situation may require an in-depth round-table conversation with the host community to facilitate land access

PROJECT ECONOMICS

Investors ought to answer key questions that relate to the economics of the project. For gas projects in marginal fields, the economic analysis by the original leaseholder has deemed the field marginal, the investor would want to know what new considerations are there to make the field profitable. Considerations must be made for the sunk cost; i.e., the signature bonus paid since it directly indicates the acquisition cost per barrel for the crude. For instance, a field acquisition cost greater than \$3 per barrel for a non-producing onshore field may be too high and lead to unfavorable economics and an excessive payback period. In addition, factors such as the type of fluid and recoverable reserves must be identified as they would determine the engineering expenditure and have a huge impact on the profitability of the field in the long run. The PIA also brings new considerations for gas

Investors ought to answer key questions that relate to the marginality of the field. Since the economic analysis by the original leaseholder has deemed the field marginal, the investor would want to know what new considerations are there to make the field profitable.

Our team at Brockville Investments are trained to carry out high level risk analysis & project economic evaluation that will enable investors evaluate risk and mitigate against financial losses

INVESTMENT CONSIDERATIONS

LOCATION OF ASSET

Location of Asset & Proximity to existing facilities- One of the key drivers of field development is the amount of money spent on Capital Expenditure (Capex), to acquire or construct production & evacuation facilities such as pipelines, vessels, & many more. The proximity of a gas field to these facilities will significantly impact the success of the development. When an asset is isolated and with no commercialization outlay, then a clear hydrocarbon evacuation plan must be carried out to design the commercialization plan for both the oil and gas produced. If this is not done, the hydrocarbon volumes that the field is carrying will at best be a contingent resource and will not be bankable. Contingent Resources, from the Society of Petroleum Engineers' point of view, are estimated recoverable quantities from known accumulations that do not fulfill the requirement of commerciality. They are those quantities of petroleum that are estimated, on a given date, to be potentially recoverable from known accumulations, but which are not currently considered to be commercially recoverable. The definition of commerciality here is in the perspective of available evacuation facilities (including sales or utilization by off-takers esp. in the case of gas) for the produced hydrocarbon.

For gas assets that are in the exploration and appraisal stage and require significant investments with a long gestation period. To determine the profitability of the projects, a standard measure such as net present value, internal rate of return, and payback period are used. However, as a result of long-term changes in gas prices, the local challenge of gas pricing, and community & security challenges that may result in uncertainty in the production profile i.e the revenue stream may not always hit the projected targets. The economic calculations must always be weighed against all technical, financial, and geopolitical risks.

One of the key drivers of field development is the amount of capex spent. The proximity of a marginal field to facilities will significantly impact the success of the development.

Our commercial advisory services at Brockville Investments helps developers get costing right and optimize development strategies.

INVESTMENT CONSIDERATIONS

CORPORATE GOVERNANCE & MANAGEMENT STRUCTURE:

To facilitate the right type and number of third-party investors, companies are advised to set up the appropriate management structure and institute transparent governance. A company's corporate governance is important to investors because it shows the company's direction and business integrity. Corporate governance promotes financial viability for long-term investment opportunities





DEVELOPMENT CONSIDERATIONS

The development consideration discussed in this publication will determine the success or otherwise of the marginal field investments

DEVELOPMENT CONSIDERATIONS

EXPLORATION RISK:

For gas fields that are already discovered, the investor will not bear the risk of drilling a wild cat well. However, technical studies must be made to ascertain reservoir continuity, as well as the presence and integrity of structural geologic elements that allow for the hydrocarbon to hold in sufficient quantities in those reservoirs.

RESERVOIR ENGINEERING:

Detailed Engineering studies are of utmost importance to ensure sustainable hydrocarbon production and maximize further exploration of the asset. These studies will determine the ultimate recovery potential of the hydrocarbon in place and create a dynamic field development plan & reservoir management programs.

CAPEX SIZE:

Due to the size of the marginal field assets, there is an expectation of lower investment costs when compared to larger oil companies' investments. However, investors need to consider the developmental cost of the investment viz a viz production estimates.



DEVELOPMENT CONSIDERATIONS

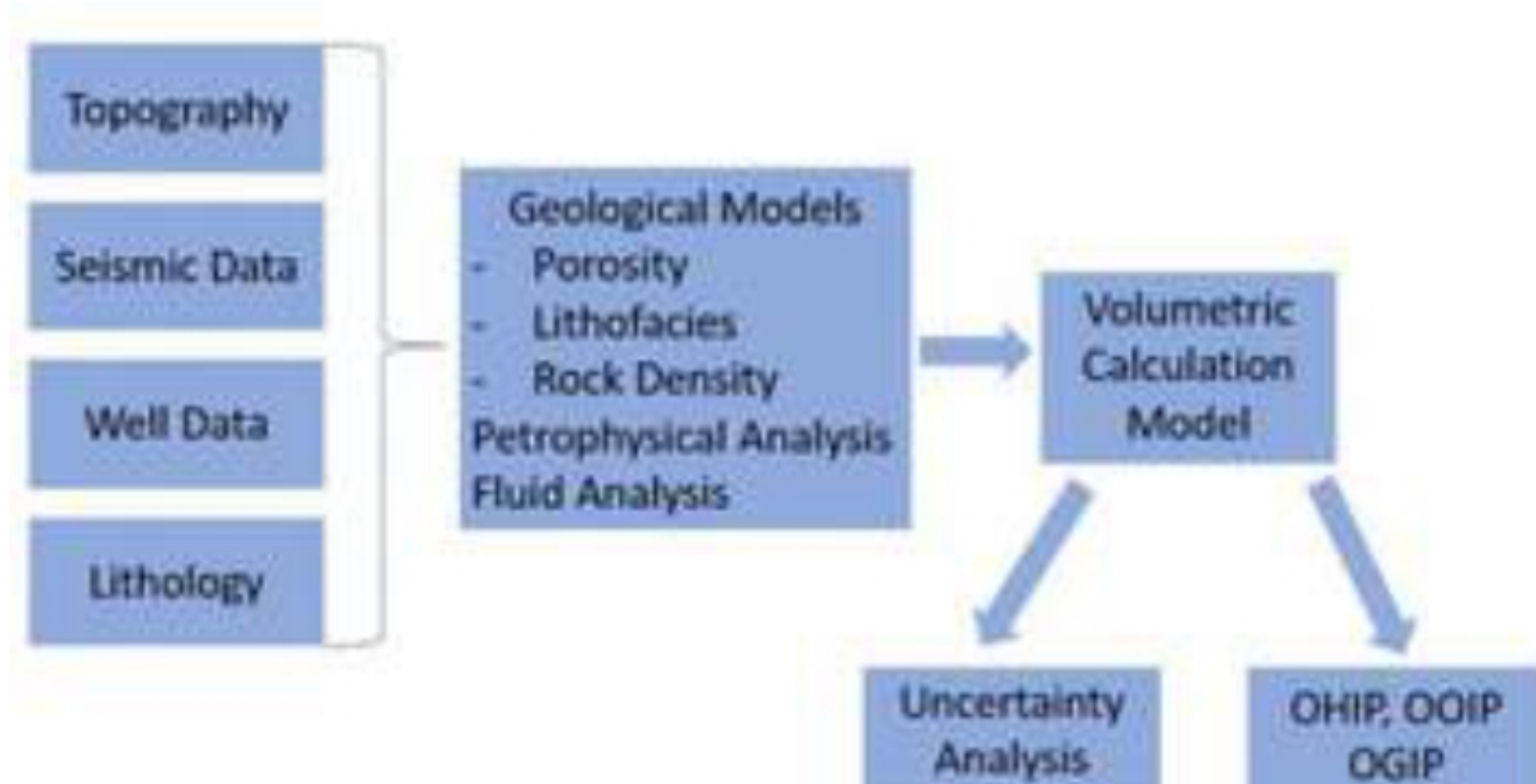


DEVELOPMENT STRATEGY

To bring the gas fields on stream, operators must think strategically in a way that will make the fields profitable while limiting the CAPEX investments. It is recommended that strategies such as creating an efficient integrated field development plan & synergies through facility sharing will significantly lower the cost of production. The authors suggest clever pathways to lower the cost of production and extend the field Lifecycle; developing shared cluster infrastructure such as pipeline or gas processing hub, liaising with the existing leaseholder, installing mini facilities such as modular topping plants or mini gas to liquid facilities are one of the few ways that operators can optimize production strategies

RE-EVALUATION & DETAILED STUDY

Investors are advised to carry out a detailed technical revaluation of the field, to assess the in-place and recoverable oil and gas resources in the field as well as classify the reserves sizes appropriately. Volumetric techniques based on the deterministic methods can be used to indirectly estimate hydrocarbons in place (OOIP and OGIP) from estimates of area, thickness, porosity, water saturation, and hydrocarbon fluid properties. Developers are advised to utilize all available geologic, reservoir engineering, facilities, and pipeline data provided by the original leaseholder via the Nigerian Upstream Petroleum Regulatory Commission (NUPRC), former DPR.



It is also advisable to find additional data from other sources and analog fields which will serve as a proactive way to de-risk the asset. In order to enhance the development stage, it is advisable for gas field developers to come up with a field development plan that suits their investment strategy. This should ideally include a plan for environmental impact assessment, geophysics, geology, reservoir and production engineering, infrastructure, well design and construction, completion design, surface facilities, economics, and risk assessment. The plan should also select the optimal production facilities and evacuation & utilization strategy for the fluids.

DEVELOPMENT CONSIDERATIONS



GAS UTILIZATION & COMMERCIALIZATION-

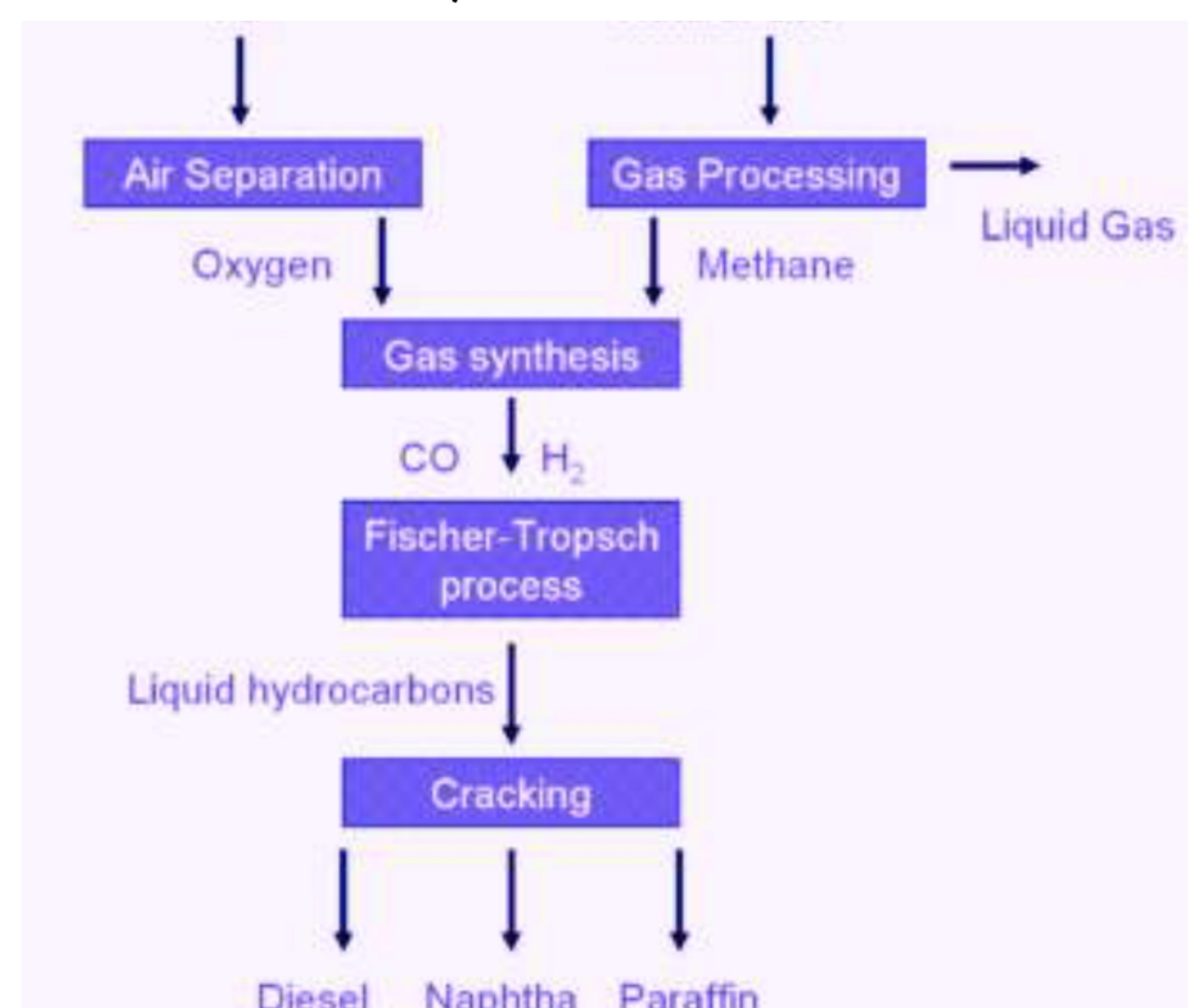
In Nigeria, the next decade has been declared by the federal government as a decade of gas. The initiative is intended to guarantee that the nation can take part in the global energy transition. It then goes without saying that, gas field owners ought to design a well-thought-out Gas Utilization & Commercialization plan. Some factors that determine the gas utilization options include; the size of the gas reserves, the type of the gas (associated vs non-associated), nature of fluids (dry gas vs wet gas) location, and remoteness of the asset (proximity to market or potential use), proximity to existing facilities, capital cost, commodity prices.

Due to the versatile nature of the processes for converting the natural gas reserves to viable commodity products, developers need to engage experts to provide a detailed technology, economic and commercial analysis. The technology analysis would give a review of the various processes, the economics will provide an estimate of the cost of production, sensitivities for gas cost, and profitability analysis, while the commercial analysis would provide an evaluation of regional demand, market information as well as logistics and shipping information.

Some gas utilization options that could be considered include Compressed natural gas (CNG), Liquified natural gas (LNG), Gas to ammonia and urea, Gas to liquids, Gas to methanol, Gas to power



Gas to Liquid Process (Gas Commercialization Option)



FINANCIAL CONSIDERATIONS

Project financing can be arranged when a project is capable of functioning profitably, as an independent economic unit. If sufficient profit is projected, the lender or financier can then finance the construction of the project on a project finance basis.

In the oil and gas industry, upstream activities can be carried out onshore and offshore. Activities require drilling rigs, floating storage & offloading (FPSO) vessels, pipelines, gas processing plant, and so on. All these infrastructure requirements contribute to the capital-intensive nature of the business.

Due to the pre-production nature of most gas projects, they can be challenging to finance through third-party means except the sponsor has sufficient balance sheet financing capability for equity financing. Investment in upstream projects is often high risk and requires specialised hydrocarbon asset management skills ranging from geoscience, reservoir engineering, petroleum economics & asset valuation. These are the core skill sets of project members at Brockville Investments Limited

The Following are key financing considerations from lenders and financiers

1. OFFTAKE AGREEMENT:

To monetize the production processes, a guaranteed offtake agreement will be necessary. An offtake agreement proves to financiers that there is a guaranteed market and source of revenue for the project. Default clauses in the offtake agreement outline the recourse & penalties that both parties have in case of violation of one or multiple clauses.

2. Unbiased Financial Model

A financial model is a financial summary combining historical data, current business metrics, and assumptions about the future. It represents an overall picture of a company's present and future financial position. The best financial models are comprehensive and incorporate all essential elements and components related to the industry this makes them accurate, flexible, and user-friendly.

FINANCIAL CONSIDERATIONS

2. UNBIASED FINANCIAL MODEL (CONTD)

They give investors an unbiased picture of the proposed project and could be convinced to invest in it. As a result, investors are able to run the economic evaluation themselves, making necessary modifications to suit their requirements and checking out the viability of the proposed project. The best model generates transparent transactions and evolves a mutual trust between investors and the project sponsors. The most effective Gas project financial models ensure the following:

- a. Follow the 5 golden rules- Ensure the following rules are followed. Data in One Place, One Model for each project, Consistent Formulae, Consistent Timeline, avoid circular referencing.
- b. The Template fits- The template for Gas projects must be unique and designed to match the project stages and type
- c. Limits Guesswork- Your model must be as accurate as possible, data-driven, limit guesswork & clearly state all assumptions

3. SPONSORS' CAPABILITY

The Capability of the project sponsor is a very important consideration. Sponsors must have a clear understanding of the project, the operational workings, government policies surrounding the industry, and more.

4. RISK ALLOCATION:

Project financing transactions are subject to risk exposures. Risk allocation is critical and it is accomplished in the project documents, attempting to match risks and corresponding returns to the deal participants most capable of successfully managing them. An example is the use of EPC Contracts, which are fixed-price, turnkey contracts for construction; these EPC contracts may also include grave penalties for delays. As a result, the contract puts the construction risk on the contractor instead of the Project Special Purpose Vehicle (SPV)

CAN NIGERIA MAKE HISTORY AS AN ALTERNATIVE GAS SUPPLIER TO EUROPE?

1. Financial information on the sponsor company
2. Sponsor's audited financial statements for past three years (if available); - Tax returns for the past three years;
3. Applicant's articles of incorporation and corporate resolution in case of a private company;
4. Financial analysis report that indicates the financial health of the applicant
5. Information relating to creditworthiness such as assets for collateral and any credit guarantees.
6. Project documents
7. Business-plan document, Information Memorandum, Financial Model
8. Technical feasibility study; - Financial feasibility study;
9. Environment and social impact study, if required;
10. Offtake Agreement, Feedstock Supply Agreement
11. EPC Agreements
12. Any other relevant documents for the project, such as legal authorization, partnership agreements, etc.



REQUIREMENTS FOR FINANCIAL CONSIDERATIONS

1. Financial information on the sponsor company
2. Sponsor's audited financial statements for past three years (if available); - Tax returns for the past three years;
3. Applicant's articles of incorporation and corporate resolution in case of a private company;
4. Financial analysis report that indicates the financial health of the applicant
5. Information relating to creditworthiness such as assets for collateral and any credit guarantees.
6. Project documents
7. Business-plan document, Information Memorandum, Financial Model
8. Technical feasibility study; - Financial feasibility study;
9. Environment and social impact study, if required;
10. Offtake Agreement, Feedstock Supply Agreement
11. EPC Agreements
12. Any other relevant documents for the project, such as legal authorization, partnership agreements, etc.



OIL & GAS REGULATIONS IN NIGERIA

The oil and gas industry is regulated by a variety of laws. Key among these laws were the 1999 Constitution of Nigeria, amendments, and the Petroleum Act. In 2021, the Petroleum Industry Act (PIA, 2021) was signed into law and with its enactment, the PIA became the main Act for the regulation of the Nigerian oil and gas sector

PIA, 2021

The PIA repeals various extant laws regulating the sector such as

- 1) Petroleum Act, 2004
- 2) Associated Gas Reinjection Act 1979 and its amendments
- 3) Hydrocarbon Oil Refineries Act No. 17 of 1965
- 4) Nigerian National Petroleum Corporation (Projects) Act No. 94 of 1993
- 5) Nigerian National Petroleum Corporation (NNPC) Act 1977
- 6) Petroleum Profit Tax Act (PPTA) 2004
- 7) Deep Offshore and Inland Basin Production Sharing Contract Act (DOIBPSCA) 1993 and its 2019 amendment.



AUTHOR'S PROFILE



OLAWUNMI OLATUNJI

Olawunmi Olatunji is a research and investment analyst with over 15 years of professional experience covering banking & finance, energy economics & asset management.

Olawunmi understands risks and commercial development. She is currently Chief Executive at Brockville Investments Limited, a research-based Asset Development & Management company.

Based on her experience at Guaranty Trust Bank Plc, First Bank of Nigeria Plc, and Degeconek Nigeria Limited (Upstream Oil, Gas Asset management). She has successfully advised on over \$10 billion worth of investment & research projects across the value chains of oil, gas, energy & environmental industries. These include various upstream oil and gas field development projects, marginal oil field technical and economic analysis for investment, divestiture, and project finance purposes.

She holds a master's degree in petroleum geoscience with economics and she is a chatter holder at the Chattered Global Investment Analyst Network (CGIA). Olawunmi is a certified financial modeling and valuation analyst (FMVA) from the Corporate Finance Institute, Vancouver Canada. Olawunmi is also the Co-founder of the business Outliers and sits on the board of Solve Education, an Edtech Startup based in Nigeria & Singapore



IBIRONKE OGUNDARE

Ibironke Ogundare is an economist, a graduate of the Federal University of Agriculture with a research interest in energy economics Asset Management. She is also certified in project management.

She serves as a research intern with the Brockville Investments Projects Team

CLOSING THOUGHTS

Gas projects can be successfully developed by employing the appropriate partnerships, both technical & financial, and by seeking professional advice. The ultimate goal must be efficient development strategies to reduce costs and attract financing while maximizing investments.

Project sponsors are advised to focus on developing gas deposits since the ongoing drive for decarbonization has introduced a new dimension in the way the world produces, sells & consumes energy. Gas as a cleaner energy source is constantly in demand.

For Nigeria to develop into a sought-after source of global gas production and a valid investment destination for foreign investing (FDI), all stakeholders, including gas investors must embrace gas development.





OUR SERVICES



PROJECT FINANCE ADVISORY & INVESTMENT RESEARCH

OUR CAPABILITY

Our teams wealth of experience and huge network of capital providers enable use to offer end-to-end project development services and offer project finance advisory and fund arrangement for our clients.

1. Project finance arranging
2. Equipment finance
3. Debt arranging
4. Fund arranging
5. Equity arranging
6. Investment research

OUR ROLE

Our Role includes

- Business Plan preparation
- Project case evaluation.
- Preparation of all transaction documents
- Acquiring relevant regulatory approval
- Pitching presentation to prospective investors/financiers
- Supporting negotiations between fund providers & clients
- Securing investors/fund providers commitment and ensuring smooth transaction process



OUR SERVICES



COMMERCIAL ANALYSIS

OUR CAPABILITY

Our sectors are highly competitive and it is truly rewarding when decisions are rapidly turned into actions. It is also very risky when quick actions are not taken on decisions. Our team of experienced advisors work with clients to execute challenging decisions and complete difficult tasks to provide optimum results.

We help clients decide on which markets to invest in, advise on risk management approaches, we help clients understand areas in which the business is losing out to competitors.

Our teams commercial expertise include:

- Conduct due diligence on potential off-takers
- Negotiating commercial agreements
- Developing commercialization strategies for your oil, gas & mine assets
- Developing utilization & monetization strategies for gas flare

OUR ROLE

Our Role includes

- Project economics & risk analysis
- Industry research on energy & natural resources
- Economic & Financial modelling
- Commercial & economic feasibility
- Market & competitor analysis
- Designing, writing, and implementing business plans.
- Developing utilization & monetization strategies for gas flare
- Analyze a failing mine/quarry asset and execute strategies to revive asset
- Provide project management support to identify & audit vendors, suppliers and off takers
- Assess energy needs and advise on power solutions





BROCKVILLE
INVESTMENTS
Energy & Natural Resources



CONTACT US

BROCKVILLE INVESTMENTS LIMITED PUBLICATION ALL RIGHTS RESERVED

The Outlier Hub



10, Bisi Ogabi Street, By Allen Avenue, Ikeja, Lagos.



+23408033453896 , +234 817 971 4138



www.brockvilleinvestments.africa



projects@brockvilleinvestments.africa