# THE NIGERIAN GAS FLARE COMMERCIALISATION PROGRAMME: PROSPECTS AND CHALLENGES

**JEREMY ODOR***

**ABSTRACT:** *Flaring of Associated Gas (AG) is a huge resource waste and causes significant emissions of greenhouse gases and air pollutants. Nigeria is one of the world's largest emitters of flared gas. In 2014 alone, Nigeria flared more gases than it used for its domestic consumption and was ranked as the 5th largest global producer of flared gas. Nigeria currently has about 178 gas flaring fields (onshore and offshore), and the government believes that harnessing flared gas from the top 50 fields would significantly cut down the volume of flaring by 80% and could save up to USD1 billion annually. The government in enforcing its ownership rights over all flared gas in marginal fields has formed a legal and regulatory basis to foster the "gathering" of AG from several fields. The Nigerian Gas Flare Commercialization Programme (NGFCP) which introduces a bankable commercial structure for the monetization of flared gas, by providing flare gas buyers with title and access to collect flared gas from the prescribed fields and for such purposes as permitted by the government.*

*This paper critically analyses the salient provisions and possible challenges of the programme in an attempt to determine its viability towards solving Nigeria's gas flaring challenges.. This paper finds that NGFCP has the prospect of ending gas flaring in Nigeria and also generate revenue. However, there are still limited signs of operational engagement from government towards partnership measures for flare reduction infrastructural developments and supply of gas-to-wire downstream.*

**WORD COUNT: 5,458**

* The author holds a Bachelor's degree in Law. He is a member of the Nigerian bar. His major research and policy focus are in sustainable energy development. At the time of writing, he was a postgraduate candidate in International Energy Law and Policy at the Centre for Energy, Petroleum, Mineral Law and Policy (CEPMLP), University of Dundee, Scotland and also an intern with the United Nations Framwork Convention on Climate Change (UNFCCC) Email: odorjeremy@gmail.com

**TABLE OF CONTENTS**

## LIST ABBREVIATIONS

| | |
|---|---|
| AGRA | Associated Gas Reinjection Act 1979 |
| BCMA | Billion Cubic Meters per Annum |
| CU. M | Cubic Metre |
| DGSO | Domestic Gas Supply Obligation |
| DPR | Department of Petroleum Resource |
| DPA | Deliver or Pay Agreement |
| FGPWP | Flare Gas (Prevention of Waste and Pollution) Regulations,2018 |
| GSA | Gas Sales Agreement |
| LNG | Liquified Natural Gas |
| MTPA | Metric Tonnes per Annum |
| MDA | Milestone Development Agreement |
| FGN | Federal Government of Nigeria |
| PPTA | Petroleum Profit Tax Act 1999 |
| SCF | Standard Cubic Feet |

## 1. INTRODUCTION

Flaring of Associated Gas (AG) is a huge resource waste and causes significant emissions of greenhouse gases and air pollutants. Nigeria is one of the world's largest emitters of flared gas. In 2014 alone, Nigeria flared more gases than it used for its domestic consumption and was ranked as the 5th largest global producer of flared gas. Nigeria currently has about 178 gas flaring sites (onshore and offshore), and the government believes that harnessing flared gas from the top 50 sites would significantly cut down the volume of flaring by 80% and could save up to USD1 billion annually.[1]

Commercial unattractiveness of upstream exploration by a single upstream oil producer, may subsequently seem viable through an industrious partnership (for example; a Joint Venture Agreement) involving companies with diverse expertise and enthusiasm to take on risks. Similarly, the government in enforcing its ownership rights over all flared gas in marginal fields across the nation has designed a legal and regulatory avenue to foster the "gathering" of different projects through the collection of AG from several fields. The Nigerian Gas Flare Commercialization Programme (NGFCP) which introduces a bankable commercial structure for the monetization of flared gas, by providing flare gas buyers with title and access to collect flared gas from the prescribed fields for such purposes as permitted by the government.

The Regulation tends to focus on the reduction of flared gas by providing a market-driven solution without negatively impacting on the upstream producers and potential investors and moving away from the past legal regime that incentivised gas flaring in Nigeria.[2] It has also created a new midstream investor in the oil and gas industry known as the permit holders for Associated Gas Projects and Flare Gas Projects.[3]

Typically, the desirability of investors to engage in this nature of investment will depend on the various gas utilization opportunities that are present in the state, which are largely site specific, and essentially depend on a few factors such as; the flare gas volume and its predictable variation over time, the gas composition, the local demand and net-back prices for electricity, gas, heat, etc. and finally, the distance to relevant market.[4] This paper would limit its analyses to the voume risk and distance to relevant market in addressing some of the possible challenges associated with the programme. The volume risk would be discussed in relation to the deliver-or-pay contract as

[1] World Bank Report, *Nigeria's Flaring Reduction Target:2020* (10 March 2017). https://www.worldbank.org/en/news/feature/2017/03/10/nigerias-flaring-reduction-target-2020 Accessed 12 May 2019
[2] Associated Gas Re-injection Act 1979
[3] Nigeria Ministry of Petroleum Resources, 'National Gas Policy' (2017).
[4] Griffin P, Boyle C and Dawson Books, Liquefied Natural Gas : The Law and Business of LNG (2nd ed, Globe Law and Business 2012)

provided by the Regulation and the issue of relevant market will be discussed in relation to gas collection and supply infrastructure.

Hence, chapter 2 gives a general overview of gas flaring in Nigeria and the past legislation, chapter 3 examines the NGFCP by discussing the salient provisions of the Regulations and Guidelines, chapter 4 critically analyses the commercial structure between the parties and the possible challenges the programme may experience, and finally, chapter 5 concludes the paper with recommendations.

## 2. DEFINITION AND BRIEF HISTORY OF GAS FLARING AND LEGISLATION IN NIGERIA

### 2.1. Definition of Gas Flaring

Generally, gas flaring is the combustion means to burn associated or unwanted gases and liquids released during an industrial process such as oil exploration, chemical plants, refineries and the coal industry.[5] Typically in the oil and gas industry, gas flaring occurs in burning off associated gas from wells, hydrocarbon processing plants or refineries as a medium of disposal or safety to relieve pressure.[6] The FGPWP Regulations 2018 defined Flare Gas as any

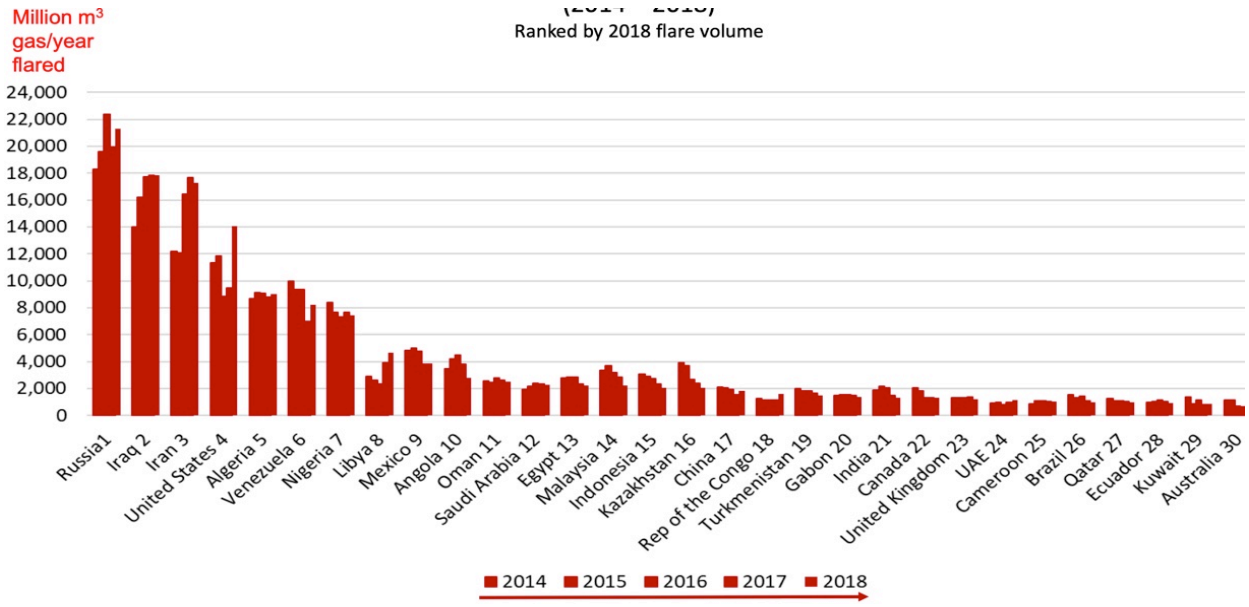
"*natural gas produced in association with crude oil by a producer and finally diverted toward a flare site by the Producer with the intent that the natural gas will be flared, including any such natural gas from a Greenfield Project*".

### 2.2.Gas Flaring in Nigeria

Gas flaring continues to occur in high levels in Nigeria with several adverse effects on health, environment, energy security and the economy. Between March 2012 to April 2019, Nigeria has continued to flare about 1.4 billion Million Standard Cubic Feet (Mscf) of Gas from eight different states[7] across onshore and offshore locations.[8] $CO_2$ emissions stand at about 72.0 million tonnes, with the total gas valued at 4.7 billion USD and a power generation potential of 135.6 thousand GWh.[9] To this end, Nigeria ranked as the 7$^{th}$ largest gas flaring nation globally between 2013 and 2018.

[5] Emam Eman, *'Gas Flaring in Industry: An Overview'* (2015) ISSN 1337-7027 Petroleum & Coal. P. 532
[6] *Ibid*
[7] Edo, Delta, Imo, Abia, AkwaI bom, Rivers, Bayelsa, and Anambra States
[8] 'Nigerian Gas Flare Tracker' (*Gasflaretracker.ng*, 2019) <http://gasflaretracker.ng> accessed 12 May 2019.
[9] *Ibid*

Figure 1. Top 30 Flaring Countries 2013-2018




*__Source__*:* The World Bank (GGFR)[10]

### 2.3.Associated Gas Re-Injection Act (AGRA) 1979

The FGN has made several efforts to solve the problem of gas flaring by enacting different legislation. The foremost regulatory framework to curb gas flaring in the country was the Associated Gas Reinjection Act (AGRA), 1979[11]. This Act required all oil and gas companies in the country to submit concise work programmes incorporating the intended use or the re-injection of associated gas during operations to the Minister of Petroleum Resources.[12] The Act further banned gas flaring all over the country without the express permission of the Minister in writing[13] subject to the payment of a flare gas fee at NGN 10 per Mscf.[14] This statutory flare gas payment proved to be the preferred option for most oil producers in Nigeria with no interest in gas due to the high exploration and development risks coupled with the expensive transportation and storage requirements.[15]

To further complicate this problem, the Petroleum Profit Tax Act (PPTA)[16] provides that any outgoings and expenses, such as the payment for flare gas to the Minister by an oil company (as in

[10] World Bank, (2019) Gas flaring data 2013-2018 for 85 countries. Available at: http://pubdocs.worldbank.org/en/645771560185594790/pdf/New-ranking-Top-30-flaring-countries-2014-2018.pdf accessed 3 Feburary 2020
[11] And the subsidiary legislation – The Associated Gas Reinjection (Continued Flaring of Gas) Regulations 1985
[12] *Ibid*
[13] *Ibid*- "AGRA Certificate"
[14] *Ibid*
[15] P. Roberts, Gas sales and gas transportation agreements : Principles and Practice (2nd ed. edn, London : Sweet & Maxwell 2008) P. 65
[16] Petroleum Profit Tax Act 1999 (as amended), S.10(1).

this instance), should be deducted in computing the adjusted profit of the oil company.[17] This provision was tested in a Tax Appeal Tribunal and was upheld.[18] It is not, however, within the purview of this paper to delve into the nitty-gritty of the instant decision. Kindly refer to the case for further details.

To this end, it appears that oil-producing companies in Nigeria are free to flair as much gas as possible and in turn deduct the flare fees paid to the Minister of Petroleum from their taxable income. The Act also provided deadlines for oil and gas companies throughout the country to end gas flaring at a specific date. Nevertheless, this provision remains largely ignored by the companies engaging in gas flaring.[19]

This Act remains heavily criticised as incentivising gas flaring in Nigeria following the negligible regime of the flare payments by oil companies and the lack of political will in enforcing the flare gas deadlines and other the relevant provisions of the Act. Consequently, the government was compelled to rethink its strategy, which led to a whole new regulatory framework to address the issues of gas flaring, and other lacunas in the instant Act.

## 3. THE NIGERIAN GAS FLARE COMMERCIALIZATION PROGRAMME (NGFCP)

The FGPWP Regulations, 2018 and its implementation Guidelines are the legal bedrock for the NGFCP. The programme, through the Regulation, introduced a new payment regime for gas flaring which also seems to adopt the polluters pay principle like that of carbon tax, with additional reporting obligations on the Department of Petroleum Resource (DPR), and further obligations on producers to collect and report flare gas data with stiff penalties for noncompliance with the Regulations.[20] The significant aspects of the Regulation shall be discussed in relation to the government's objective aimed at ending gas flaring and venting through technically and commercially viable gas utilization projects advanced by qualified third-party investors who will be invited to participate in a competitive bidding process. Consequently, some of the salient provisions of the Act are now discussed summarily.

### 3.1. Ownership of Flare Gas in Nigeria

[17] *Ibid*
[18] *Mobil Producing Nigeria Unlimited and Federal Inland Revenue Service* [2015] TAT/LZ/033/2013 (Tax Appeal Tribunal)
[19] A. Adejugbe B. Onamade, (2014) *Gas Flaring in Nigeria: Challenges & Investment Opportunities* - Energy and Natural Resources - Nigeria
[20] 'Home | Nigerian Gas Flare Commercialization Programme' (*Nigerian Gas Flare Commercialization Programme*) <http://www.ngfcp.gov.ng/> accessed 12 May 2019

The Petroleum Act gives the FGN the right to take all associated gas flared without any form of cost and royalty payment.[21] This right also extends to all-natural gas found during exploration and production, existing under a petroleum licence or lease and requires a licensee or lessee to enter into a separate contract to harness such associated gas recovered during exploration.[22] A licensee or lessee is only permitted to make use its associated gas free of charge for personal consumption which is limited to re-injection or sustaining production of crude oil.[23] This issue shall be broadly discussed in the subsequent heading of this paper. Furthermore, a permit holder or a producer under the Producer Approved Flare Out Project Scheme may be permitted to take flare gas out of a prescribed site subject to the issuance of a permit without obligations to pay royalties to the Federal Government.[24]

### 3.2. Permit to Access Flare Gas (The Permit)

The Minister of Petroleum Resources is empowered under the Regulation to issue a "Permit to Access Flare Gas" to a qualified applicant on behalf of the FGN to take flared gas at any site specified in the permit and subject to the conditions specified in the Regulations.[25] The right of the holder is exclusive. However, it must dispose of or utilise the flared gas in the manner authorised by the Government in the relevant permit.[26] The grant of the permit is by way of a competitive bidding process subject to the requirements and procedures outlined in Schedule A of the Guidelines.[27]

The permit may be granted to only a duly incorporated company in Nigeria, and such holder shall not be a producer with a petroleum licence or lease.[28] Furthermore, the permit cannot be assigned to a third party without the consent DPR subject to the satisfaction of the minimum technical and financial requirements and other obligations contained in the Guidelines.[29] It is worthy to note that the duration of the permit appears to revolve around the subsistence of the producer's relevant licence and oil well lifetime as the Regulation is silent on the specific duration on the permit.[30]

### 3.3. The Permit Holder

A qualified applicant or bidder for the flare gas permit may not necessarily be a company incorporated in Nigeria, but a permit holder must be a company duly incorporated in Nigeria.[31] This provision, therefore, envisages a situation in which foreign-owned investors with the requisite technical and

[21] Petroleum Act 1969. First Schedule S.35 (b) (I)
[22] *Ibid*
[23] Flare Gas (Prevention of Waste and Pollution) Regulations 2018. S.3 (3)
[24] *Ibid*, S. 2 (1)
[25] *Ibid*, S. 3 (1)
[26] *Ibid*, S. 8 (1)
[27] DPR Guidelines For Grant Of Permit To Access Flare Gas (2018)
[28] *Supra*, n.25, S.8 (3)
[29] *Supra*, n.29, S.10 (a) (b)
[30] *Supra*, n.25, S.8 (4)
[31] *Supra*, n.29, S.7

financial capacity can bid for a permit alongside indigenous companies and if successful, they will be given time (30 days)[32] to regularise its incorporation requirements.

This could be a commendable effort by the government to attract foreign direct investment into the oil and gas midstream market. Additionally, it tends to afford foreign investors the flexibility to compete in the bidding process for a permit without having to face the rigours associated with incorporating a Nigerian-owned entity sequel to the successful grant of the permit. Consequently, the permit holder will need to enter into a commercial arrangement with the FGN where both parties may execute a Gas Sale Agreement (GSA) specifying the amount of flare gas the permit holder is entitled to, the flare sites and other rights and obligations of both parties.[33]

The permit holder is responsible for designing and constructing the producer's gas connecting assets on-site[34] and both parties must mutually agree on the construction contractor who is to undertake the project.[35] Furthermore, the Regulation mandates the producer to enter into a connecting agreement with the permit holder to connect their facilities by granting the permit holder the right of way or risk the revocation of its petroleum licence.[36]

It is clear from the Regulation that the Government is out to compel the permit holder and flare gas producer to work together for maximisation of economic recovery and intervenes as a mediator following any dispute between the parties.[37]

### 3.4. The Producers Approved Flare Out Projects (PAFOP)

Producers are obligated to respect the rights of the Government to take flare gas from any site and further assist the Government in its bid to commercialise and transport such flared gas to a market.[38] The producer is not subject to a bid process but is expected to fulfil the laid down conditions stipulated in the Regulation and Guidelines to be granted the permit.[39]

The Regulation stipulates that a producer may seek consent from the Minister to utilise flare gas for commercial purposes[40] subject to the requirements and procedures stipulated under the Guidelines[41]and such application for consent must be made on behalf of the producer by a midstream subsidiary company, either existing or pending its incorporation.[42]

---

[32] DPR, Guidelines For Producer's Associated Gas Utilization Project' (2018) at S.3 (1)
[33] *Ibid*
[34] *Ibid*, S. 8.2
[35] *Ibid*, S. 8.4
[36] *Supra*, n.25, S.21 (g)
[37] *Supra*, n.34, S.8.5
[38] *Supra*, n.25
[39] *Supra*, n.25, S.3
[40] *Supra*, n.25, at S.3(2)
[41] *Supra*, n.35, S.3.1 & 3.2
[42] *Supra*, n.25 S.3 (2) (b)

Furthermore, the Regulation stipulates that the amount of flare gas a producer may choose to utilise must not adversely affect the quantity of flare gas volume that has been assigned to a permit holder or that is subject to an ongoing bid process conducted by the Government.[43] From these provisions, it is apparent that the government is guarding against possible attempts of the producers to sabotage or frustrate the program by way of seeking a permit under the PAFOP.

### 3.5. Associated Gas Projects and Flare Gas Projects

The Guidelines divided the Associated Gas Projects and Flare Gas Projects into two segments, namely:

The Producer's Associated Gas Utilisation Project for Own Consumption; and
The Producer's Gas Utilisation Project for Commercialization.

#### 3.5.1. The Producers Associated Gas Utilisation Project for Own Consumption

A producer may be allowed under the Regulations to utilise its associated gas, free of any royalty payments to the government, provided that the associated gas is used for its own consumption and not for commercial purposes. The producer is required to use the associated gas in the manner prescribed by the Regulation which is limited to such uses as - sustaining or enhancing production of crude oil and condensate,[44] which may involve the reinjection of the associated gas into the underground reservoir to proliferate pressure in the hydrocarbon's reservoir and thus, yield the flow of crude oil for primary production.[45]

The producer is required to ensure that the associated gas it intends to consume does not in any way adversely affect or reduce the volume that has been assigned to a permit holder or subject to a bid conducted by the government.[46] The Regulation also stipulates that prior to the grant, the producer must ensure that the project for own consumption was contained in a duly approved development plan and it must duly report to the DPR all reserved volume of associated gas it intends to utilise for own consumption.[47]

#### 3.5.2. The Producers Gas Utilisation Projects for Commercialisation

The Regulation splits this project into two aspects which are namely; projects with an existing offtake agreement which are operational and in-operational before the effective date of the

[43] *Ibid*, 3 (2) (a)
[44] *Supra*, n.25, S.3 (3)
[45] Ezeudembah, A. S. *Gas Utilization in Nigeria: Overview on Gas Reinjection Prospects for Pressure Maintenance and Underground Storage*. Society of Petroleum Engineers. (1985, January 1)
[46] *Supra*, n.25, S.3 (2) (a)
[47] *Supra*, n.34, S. 4.2

Regulations and Guidelines and projects that existed after the effective date of the Regulations which sought and was duly issued with a permit by the Minister of Petroleum Resources.

#### Projects that are Operational

Operational projects before the effective commencement date of the Regulation are deemed under the Guidelines to include projects with an existing off-taker agreement that were operational and approved before the commencement date of the Regulation, which had also attained the commercial operation date.[48]

Under this category, the producer can freely determine the price for the associated gas between itself and the off-taker but must notify the DPR on such prices following which it is obligated to pay royalties to the Government on all revenue generated from the sale of such associated gas to the off-taker.[49] However, if no price has been set by the producer under the existing off-taker agreement, the DPR shall be notified within four months after the effective date of the commencement of the Regulation, failure of which, the producer shall be required to pay royalties on any price imposed by the DPR in this regard.[50]

#### Projects that are In-operational

In-operational projects include projects that had made initial contractual commitments to deliver associated gas to an off-taker but have not attained its commercial operation date before the effective date of the Regulations. This category of producer is exempted from a programme bid process in obtaining a permit from the Government and the obligation to pay royalty for the utilisation of associated gas for commercialisation or any other authorised purpose, provided that the project must be comprised of a duly approved field development plan and other conditions set out in the Guidelines must be fulfilled.[51]

### 3.6. Prohibition Against Gas Flaring and Venting

The Regulation prohibits producers from engaging in gas flaring in fields operated by such producer except authorised by the Minister of Petroleum Resources through the issuance of a certificate

[48] *Supra,* n.34, S. 2.1
[49] *Supra,* n.34, S.5.1
[50] *Ibid*
[51] *Supra,* n.34, S.5.2

under the AGRA.[52] The issuance of the certificate for gas flaring by the Minister following this new Regulations largely depends on the nature of the field, namely- Greenfields, and Brownfields.

**Greenfield Projects**

A Greenfield project is defined under the Regulations as the development of a new oil or natural gas production from a petroleum licence as of the effective date of the Regulations.[53] Under the AGRA, a producer was permitted to obtain a certificate from the Minister for flaring and venting natural gas under all categories of field projects having paid such prescribed fees and fulfil all other stipulated conditions under the Act.[54] However, the new Regulation prohibits a producer from engaging in routine gas flaring or venting in Greenfield projects.[55]

In enforcing this, the Government will ensure that no Greenfield oil and/or gas project will be commenced/continued unless the producer presents an integrated plan to enhance the development of the hydrocarbons thus, ensuring that no gas flaring occurs in the process of production.[56] A permit holder under the Regulation is consequently, banned from engaging in gas flaring under this provision.[57]

**Brownfield Projects**

Brownfields are referred to as existing fields or sites where the production of oil and/or gas had commenced, technically before the effective date of the Regulation. Under the Regulations, the provisions of AGRA were preserved in connection to Brownfield sites. A producer can still engage in gas flaring and venting provided it has been issued a certificate by the Minister under the provisions of AGRA.[58] However, the Regulation provided that the Minister has the powers to revoke the AGRA certificate and the petroleum licence of the producer in the event of non-compliance with the provisions of the Regulation.[59]

[52] *Supra,* n.25, S.12(1)
[53] *Ibid*
[54] Associated Gas Reinjection Act 1979, S.3
[55] *Supra,* n.25, S.12 (3)
[56] National Gas Policy 2017
[57] *Supra,* n.25, S.12 (2)
[58] *Supra,* n. 56
[59] *Supra,* n.25, S.14 (b)

### 3.7. Increased Flare Fee

The Regulation deviated from the erstwhile payment provisions under the AGRA which stipulated a flat rate fee for gas flaring of NGN10 per 1,000 Standard Cubic Feet (Scf) of gas across the board. However, the 2018 Regulations introduced an increased gas flare fee in proportion to the production outcome of the producer.[60] Producers producing up to 10,000 barrels of oil a day or more are liable to pay a flare fee of USD 2.00/28.317Scm of gas flared involving routine or non-routine flaring while a producer who produces less than 10,000 barrels of oil a day will pay a less sum of USD 0.50 Mscf.[61]

### 3.8. Additional Reporting Obligations

A producer and permit holder are obliged under the Regulations to maintain daily logs of flaring and venting of associated gas and shall submit it to the DPR within 21 days.[62] The Regulation also imposes a duty on the producer and permit holder to install metering equipment on the facility which shall form the bases of the log data report and shall conform with the metering and data collection standards of the DPR as specified in the Regulation.[63] A producer and permit holder are further obliged to prepare and submit an Annual Report containing all flare gas data in respect of each flare sites and flare sites pending the execution of a connecting agreement. [64]

These new provisions of extensive data reporting introduced by the Regulation would enable the Government to closely monitor the rate of gas flaring all over the country and ascertain the level of progress of the NGFCP. However, these broad reporting obligations brings about huge burden of operational cost on producers and permit holders who are required to purchase, install and maintain metering equipment on-site for data reporting or face stiff penalties in the event of non-compliance.[65]

The Regulation also mandates the DPR to prepare and publish an Annual Report on its website by June 30 for the previous year. The annual report shall contain the information prescribed in the Regulation.[66]

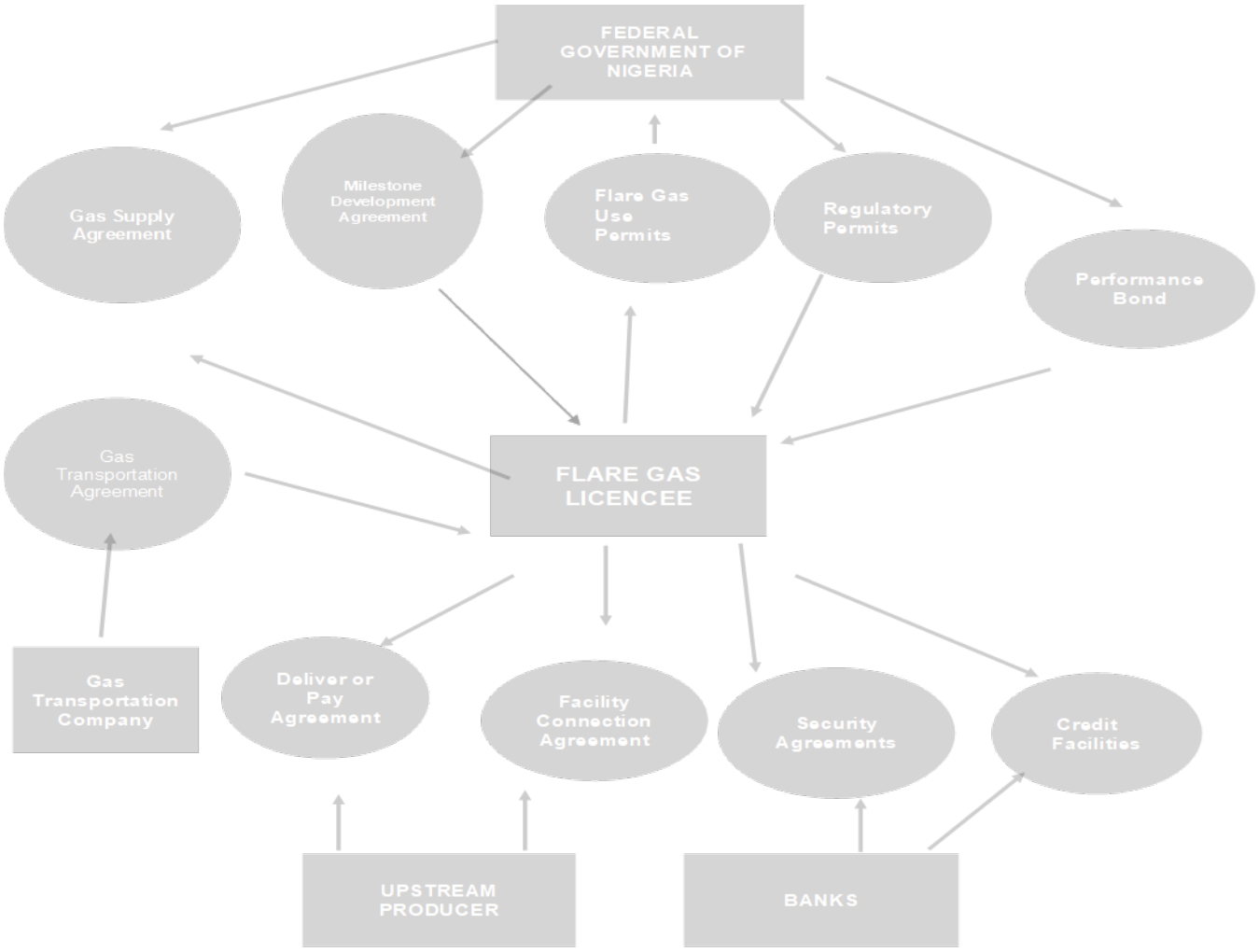
## 4. THE COMMERCIAL STRUCTURE OF THE NGFCP

[60] *Ibid*, S.13(1)
[61] *Ibid*, S.13(2)
[62] *Ibid*, S.15
[63] *Ibid*, S.20
[64] *Ibid*, S.18
[65] *Ibid*, S.21
[66] *Ibid*, S.19

The Guidelines for the grant of permit under the Producers Associated Gas Utilisation Project provides that an approved PAFOP applicant or prospective permit holder, prior to the grant of the permit shall enter into a Milestone Development Agreement (MDA) with the Government where the prospective permit holder shall commit to the development of the flare-out project according to the prescribed milestone, a Gas Sales Agreement (GSA) to buy flare gas from the Government at a floor price, a Connection Agreement with the relevant producer to provide connection to the producer's facilities and a Deliver or Pay Agreement (DPA) where the producer guarantees the supply of an agreed volume of flare gas to the prospective permit holder.[67]

Following what has been stated above, the commercial structure of the parties can be summed up by the following contract matrix:

Figure 2: NGFCP commercial contract matrix




[67] *Supra*, n.34, S.3.2

***Source:** Adopted and modified from Ishaya Amaza[68]

## 4.1. ANALYSIS

### 4.1.1. Deliver or Pay Agreement (DPA)

The current requirement for an upstream producer to enter a DPA with the permit holder may be unattractive to investors. Given that under the DPA, the producer bears the volume risk to guarantee a specified volume of flare gas and will be liable to pay the off-taker compensation upon a shortfall or under-delivery of the agreed volume. First, this will be viewed by the upstream producer as imposing additional onerous obligations not previously contemplated under the preexisting production licence conditions. Importantly, flared gas is a by-product of crude oil production,[69] which defined is as associated gas and has the potential to be affected by natural and corporate factors capable of shortening total production output. Although it may be argued that the producer's work programme may contain data on estimated gas flaring project and the producer is further obliged to annaually report data of gas flaring. Therefore, it could be presumed that the guaranteed volume under the contract will not exceed the estimated amount on the flare gas data report.

Regardless of the appropriateness of the Government's imposition of fresh conditions on the producer, it is deducible that the part of the objectives of the Government is to safeguard against investment sabotage against the permit holder by ensuring a given volume of flared gas is guaranteed under a contract. However, this provision may have not been effectively considered holistically, given that the upstream producer in certain circumstances, may experience a short fall in the scale of oil production due to several factors particularly in existing fields i.e the depletion of the hydrocarbon reserve or other corporate decisions by co-venturers to cap production.

The huge variances in the commercial attractiveness of flare gas utilization investments demands for regulatory flexibility and innovative commercial solutions for companies. Therefore, the contractual arrangement is meant to balance the risks of all parties such that the contract can

[68] Ishaya Amaza (2019*) The Nigerian Flare Gas Commercialization Programme: A Win-Win Situation?* Online article. Available at: https://www.aelex.com/wp-content/uploads/2018/03/THE-NIGERIAN-GAS-FLARE-COMMERCIALIZATION-PROGRAMME1.pdf Accessed 3 Feburary 2020.

[69] Ashok Kumar Bansal, *'Understanding Natural Gas Sales & Purchase Contracts and Principal Contractua*l *Terms*' (2017)

survive changes and eventualities.[70] It is imperative to note that the success of a long term gas contract depends on the parties' ability to mutually agree on beneficial contractual terms, considering specific circumstances of the seller's upstream development and the buyer's downstream consumption with considerations to the peculiar circumstance of associated gas delivery in this case.[71] Hence, the FGN will need to structure and improve on the contractual terms of the parties to foster cooperation and mutual benefit.

### 4.1.2. Flare Gas collection and supply infrastructure

Flare gas in Nigeria would typically be found at the wrong places and therefore, would require large infrastructure to move it to a useful place, unlike oil which has a high energy to volume ratio and could be easily transported.[72] This is because most oil fields in Nigeria are found in remote areas, far from established markets and major population centres.[73]

Therefore, investments is needed in building new infrastructure ( where it is required) to gather flared gas to facilitate recovery and supply to existing downstream infrastructures, such as available gas system with downstream processing or directly to an existing gas fired power plant, or by moving the gas from or to a different market through existing pipelines or to liquification plants to convert to liquified natural gas (LNG) to be transported to foreign markets.[74] These methods are likely the most attractive gas utilization preferences in countries who have large gas reserves such as Nigeria.

The estimated capital investment cost required to construct an LNG chain is about USD10-USD20 billion for an 11 BCMA (8mtpa) LNG project.[75] Therefore, the investors would need to consider the operational cost implication in building a gas gathering infrastructure as well as the cost of evacuating the captured gas from remote flare sites, for processing and utility downstream. How attractive this appears to investors and project financiers is a different story.

However, it is not clear on how the government intends to incentivise investors to invest in large capital projects towards harnessing flared gas from Nigeria's remote fields. Alternatively, the government could make some special provisions for the off-takers to utilise the state company's pipelines (NNPC) and all other existing infrastructures around its operational fields (where available) to run its operations and most importantly, seek to ensure full compliance under the

[70] Ibid
[71] *Ibid*
[72] Rod Morrison, *The principles of project finance* (Burlington, VT : Gower Pub. 2012) at page 200
[73] Dele Babalola, *The Underdevelopment of Nigeria's Niger Delta Region: Who is to Blame?*, vol 7 (2014)
[74] I*bid*, at page 200
[75] *Ibid*, at page 200

Regulation which enjoins the upstream producer to grant the permit holder the right of way, and enter into a connecting facilities agreement. The government must also ensure that its preferred bidders for the permit possess good financial capabilities and good credit ratings in order to fund such large infrastructural projects.

## 5. CONCLUSION

Nigeria could best be described as a gas province due to its proven gas reserves of about 5,627 billion cu. m.[76] The Nigerian power sector is also largely dependent on the availability and affordability of domestic gas supply for efficient power generation,[77] but there has been a progressive short-fall of gas supply to enable efficient power generation despite the introduction of the Domestic Gas Supply Obligation (DGSO) in 2010. This is largely due to insufficient gas supply to gas fired plants due to poor infrastructure.[78] This gives the government the opportunity to redefine its gas flaring problem to solve its power problem.

The proper implemention of the NGFCP is a game-changer to the Nigerian economy and can solve Nigeria's gas flaring problem, provided there is technological progress backed with full regulatory support for commercially innotive players in the industry. The programme has the potential to change Nigeria's narrative as a crude oil-based economy to a more balanced gas-based industrialised economy thereby contributing to adequate security of fuel supply for power generation. However, it remains imperative to consider the need for infrastructural development to facilitate the transit of adequate domestic gas supply to gas-fired plants.

Nevertheless, flare gas investments are exposed to competition between other projects for economic, human and managerial resources. However, it would be much more easier for the government to attract investments for AG utilization in new fields (greenfield) development compared to attracting flare elimination investments in existing producing fields (brownfields), especially if such fields are experiencing decline in production level and have short economic life left. Hence, the government must ensure that there are strong incentives and regulatory support specifically designed to encourage investment in brownfield flare sites that are left with shorter economic life cycle and uncertain return on investment.

Finally, it is projected that Nigeria can realise up to USD3.5 billion worth of investments by flare gas monetization, having received over 700 applications from interested bidders since the launch

[76] OPEC: Nigeria' (*Opec.org*, 2018) <https://www.opec.org/opec_web/en/about_us/167.htm> accessed 12 May 2019
[77] Tade Oyewunmi, *'Examining the legal and regulatory framework for domestic gas utilization and power generation in Nigeria'* (2014) 7 The Journal of World Energy Law & Business 538
[78] Ibid

of the programme in 2018.[79] As the programme gains momentum, this paper concludes that NGFCP has the prospect of ending gas flaring in Nigeria. It also has the potential to generate revenue for the government but the key factor toward solving the power problem remains adequate infrastructure, which remains unclear on how this programme intends to solve, although it can guarantee some sort of security of fuel supply.

## REFERENCING

### PRIMARY SOURCES


**Legislation (Nigeria)**

Associated Gas Re-Injection Act 1979

Associated Gas Reinjection (Continued Flaring of Gas) Regulations 1985

Petroleum Act 1969

Petroleum Profit Tax Act 1999 (as amended)

Flare Gas (Prevention of Waste and Pollution) Regulations (Published in the Official Gazette on 9th July 2018)

Guidelines for Producer's Associated Gas Utilization Project (Issued by the Department of Petroleum Resources 2018)

Guidelines for Grant of Permit to Access Flare Gas (Issued by the Department of Petroleum Resources 2018)

**Cases**

*Mobil Producing Nigeria Unlimited and Federal Inland Revenue Service* [2015], TAT/LZ/033/2013 (Tax Appeal Tribunal)


[79] '700 Jostle for FG'S Gas Flare-Out Scheme | Marine and Petroleum Nigeria' (*Marineandpetroleum.com*, 2019) <http://www.marineandpetroleum.com/content/700-jostle-fg%E2%80%99s-gas-flare-out-scheme> accessed 12 May 2019

## SECONDARY SOURCES

### Books

Griffin P, Boyle C and Dawson Books, Liquefied Natural Gas : The Law and Business of LNG (2nd ed, Globe Law and Business 2012)

Roberts, Peter. Gas Sales and Gas Transportation Agreements: Principles and Practice. (2nd Edition. London: Sweet & Maxwell, 2008)

uMorrison R, The Principles of Project Finance (7th Edition, Burlington, VT: Gower Pub. 2012)

### Journal and Articles

Oyewunmi T, *'Examining the Legal and Regulatory Framework for Domestic Gas Utilization and Power Generation in Nigeria'* (2014) 7 The Journal of World Energy Law & Business

Babalola D, *'The Underdevelopment of Nigeria's Niger Delta Region: Who Is to Blame*?' (2014) 7 Journal of Sustainable Development

Emam Eman, *'Gas Flaring in Industry: An Overview'* (2015) 1337-7027 Petroleum & Coal.

Aderonke Adejugbe Bayo Onamade, (2014) Gas Flaring in Nigeria: Challenges & Investment Opportunities - Energy and Natural Resources – Nigeria

Ezeudembah, A. S. *Gas Utilization in Nigeria: Overview on Gas Reinjection Prospects for Pressure Maintenance and Underground Storage*. Society of Petroleum Engineers (1985, January 1).

Bansal AK, *'Understanding Natural Gas Sales & Purchase Contracts and Principal Contractual Terms'* (2017)

## OTHERS

### Government Policy Document

National Gas Policy (Issued by Ministry of Petroleum Resources, June 2017)

### Internet Sources

'Home | Nigerian Gas Flare Commercialization Programme' (*Nigerian Gas Flare Commercialization Programme*, 2019) <http://www.ngfcp.gov.ng/> accessed 12 May 2019Online Articles

'Nigerian Gas Flare Tracker' (*Gasflaretracker.ng*, 2019) <http://gasflaretracker.ng> accessed 12 May 'Home | Nigerian Gas Flare Commercialization Programme' (*Nigerian Gas Flare Commercialization Programme*) <http://www.ngfcp.gov.ng/> accessed 12 May 2019, 2019

'OPEC: Nigeria' (*Opec.org*, 2018) <https://www.opec.org/opec_web/en/about_us/167.htm> accessed 12 May 2019

'700 Jostle for FG'S Gas Flare-Out Scheme | Marine and Petroleum Nigeria' (*Marineandpetroleum.com*, 2019) <http://www.marineandpetroleum.com/content/700-jostle-fg%E2%80%99s-gas-flare-out-scheme> accessed 12 May 2019

'Zero Routine Flaring By 2030' (*World Bank*, 2019) <http://www.worldbank.org/en/programs/zero-routine-flaring-by-2030> accessed 12 May 2019

'Up in Flames: What to Make of the World's Flare Gas Problem | Gas Strategies' (*Gasstrategies.com*, 2019) <http://www.gasstrategies.com/blogs/flames-what-make-worlds-flare-gas-problem> accessed 12 May 2019

World Bank Report, *Nigeria's Flaring Reduction Target:2020* (10 March 2017). https://www.worldbank.org/en/news/feature/2017/03/10/nigerias-flaring-reduction-target-2020 Accessed 12 May 2019

Ishaya Amaza (2019*) The Nigerian Flare Gas Commercialization Programme: A Win-Win Situation?* Online article. Available at: https://www.aelex.com/wp-content/uploads/2018/03/THE-NIGERIAN-GAS-FLARE-COMMERCIALIZATION-PROGRAMME1.pdf Accessed 3 Feburary 2020.