

BEYOND THE DREAM; WHAT ARE THE REAL CHALLENGES OF FINANCING GAS-FIRED POWER PLANTS IN NIGERIA?

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Abstract: *The giant of Africa is a name that is unique to one country – Nigeria. The size of its population, abundance of mineral reserves and its strategic location presumably sets it apart as a haven for investors. However, one cloudy side which continually casts a shadow on it is the state of its electricity industry. A solution to this growling issue would be the provision of adequate infrastructure to ameliorate the solution. Consequently, government has taken the decision to install gas-fired power plants, to take advantage of its rich gas reserves. However, it remains to be proven whether its vast market potential and abundance resource would be enough to attract investors towards eradicating its electricity power poverty and thereby impact positively on the development of its whole economy. Therefore, this paper does not venture into the different financing options available to the power sector, but focuses on ‘Project Finance’, a unique form of financing which mechanism lends against the cash flow generated from the project being financed with limited recourse to the assets of the project sponsors. It concludes that with the right detail, success is possible.*

Keywords: *Project finance, Electricity industry, Project vehicle and Host state*

INTRODUCTION

In the traditional setting, it was usual for power projects to be funded either directly from the government accounts or through loan grants from the international banking market, multilateral institutions, amongst others, (Yescombe, E.R., *Principles of Project Finance* (USA; Academic Press, 2002) p.1), which consequently increases the government’s debt ratio, considering that this process was repeated for other sectors of the economy that also required huge financial commitments (Barger, T.C., *Financial Fiasco in the Pacific Rim: Making Sense of the Mess*. Impact, Vol 2 No. 2 , 1998 [http://www.ifc.org/ifcext/publications.nsf/AttachmentsByTitle/IMPACT_Spring1998/\\$FILE/Impact+Spring+1998.pdf](http://www.ifc.org/ifcext/publications.nsf/AttachmentsByTitle/IMPACT_Spring1998/$FILE/Impact+Spring+1998.pdf) last visited 2nd June 2020).

There is an on-going reform in the Nigerian Power sector, as the government seeks to beef up its local electricity capacity to meet the thresh-hold for contemporary economic development. This reform prompted a drive by the government, which was principally targeted at reducing the inefficiencies in the system and building new capacity by the introduction of competition. As such has, opened up the power sector to funds other, than public funds in the coffers of government (Okoro, O.I., and Chikuni, E., *Power Sector*

Reforms in Nigeria: Opportunities and Challenges, Journal of Energy in Southern Africa. Vol. 18 No. 3. P 55). The vertically integrated monopoly has hitherto, transmuted into unbundled units which are expected to provide more ease in terms of management and in attracting private sector finance.

Financiers are however faced with a dilemma of choice in terms of the means of raising the needed capital. Project finance (PF) presents an attractive and logical option, being a limited recourse type loan, which gives it its distinctive feature as that loan which can be granted to a borrower with little or no recourse to the balance sheet of the project sponsor. As such debt service lies basically with the project company (Buljevich, E.C. and Park, Y.S., *Project Financing and the International Financial Markets* (Mass. U.S.A.: Kluwer Academic Publishers, 1999). The lenders in a PF structure are unwilling to bear risks since they do not partake in the upside benefits of the project. Their interest is basically the repayment of the principal loan as well as the predetermined interests. Achieving this goal is the basis for the determination of success in lending and debt service in any given circumstance.

This paper explores a few of the possible challenges that may be encountered in using PF as a means of funding gas-fired power plants in Nigeria. It considers the general principles that are applicable, matching them with the peculiarities that exist in Nigeria. It concludes that since the mitigation of risk by proper allocation lies in the heart of the success in PF, the actual successes lie in the details of the implementation arrangement and if well articulated will leave all parties satisfied.

LIMITATION

The constraint in data, which was encountered in this research, was as a result of inadequate precedents and data in the field of PF in the Nigeria power sector. The constraint notwithstanding, this research addresses the key issues inherent in project financing gas-fired power plants in Nigeria.

PROJECT FINANCE VIS-À-VIS FINANCING PROJECTS: THE CORE DIFFERENCE

Fundamentally, PF is a mechanism which lends against the future cash flows of the project which is to be undertaken. It is different from the general concept of financing projects which incorporate risks and benefits accruing from the transaction. These popular financing arrangements usually comprise parties aiming to participate in the risks that may arise from a project thereby allowing full recourse to the assets of all parties involved in the event of failure; unless some form of limitation or security had been placed from the onset (Clifford Chance, UK, London; IFR Publishing, 1991). Project finance on the other hand describes the ‘financing of a particular economic unit in which the lender is satisfied to look *initially* to the cash flows and earning of that economic unit from which a loan will be repaid and [*then*] to the assets of the economic unit as collateral for the loan’ (Nevitt, P.K., and Fabozzi, F.J., *Project Finance*, UK, London; Euromoney Books, 2004).

The striking features immediately apparent from this definition are first that, what is being considered as the subject matter of the transaction is a ‘particular economic unit’ suggesting that it is a ring-fenced project; a debt would be involved, since a ‘lender’ forms

a part of the matrix; the said lender bases his lending decision first on the predicted cash flows which though not yet in existence, would begin to accrue on completion; and the assets that belong to the economic unit (not that of its owners). In this regard, the question that easily comes to mind is that if this economic unit is yet to execute the project, what valuable assets can it possibly possess? There would usually be a reason or set of directives that gave rise to the unit and this comes in form of contracts, licences and ownership rights in a natural resource.

Balance sheet finance envisages the use by a company of its retained earnings or short-term debt to fund a project and extends to equity sales in the event that the project requires permanent financing (Hoffman, S.L. *The Law and Business of International Project Finance* (2nd ed.)(The Hague, Netherlands; Kluwer Law International, 2001, 10). This presupposes the idea that the credit decision is usually dependent on the entire company profile and the overall effect that would follow its implementation. It is hardly the first option for a company as sponsor, owing mainly to the effect that it may have on its credit rating, in the event of default. Asset-based finance on the other hand is hinged upon the existence of valuable assets which form the basis against which a lending decision takes place since the assets would serve as collateral against default.

The underlying distinction between PF and other types of financing arrangements lies in the source for the repayment of the debt and the extent to which reliance will be placed on the 'owners' of the project. While the other forms are basically concerned with what the 'borrower' can bring to the table in terms of assets and guarantees, FP looks to what the 'borrower' can yield in terms of cash flows.

Project Finance: The Players

The structure of a project financing arrangement is unique and has different players, all with distinct roles and objectives within the project matrix (Vinter, G.D., *Project Finance* (3rd ed)(UK, London; Sweet & Maxwell, 2006, 3). It is based on some differing objectives that negotiations are successfully concluded. Their major ones include:

The Host Government

The host government (HG) has the objective of staying in power, and providing for the citizens, the necessary utilities to carry-on with their personal and business lives. The competing interests for available funds cause it to 'partner' with unequal partners in a way that it can derive the benefits available from PF. It provides licences and issues contracts. In other words, the HG is the party, which has the power to provide the enabling environment for a PF arrangement between the lender and the borrower. A way the HG can do this is that it could also be a sponsor party in a PF structure, though without assuming the title.

The Project Sponsors (PS)

The Project Sponsors (PS) are the will behind the financing decision and so must monitor the project, ensuring that all the needed documentation like consents and licenses are issued in a timely manner. They aim to make profits for their companies and so are involved in the risks that can arise, and thereby seek ways to minimise the risk exposure.

The Lenders

They are not shareholders and cannot be rightly called investors, but they simply provide loans to the project company, which is to be repaid with a pre-agreed interest and no share in the upside of the project profits. They comprise either one bank or a syndicate of banks working together to achieve the set goals. They could be local commercial banks in the country of the borrower, or international financial institution like the World Bank, amongst others.

The Project Company

PF is usually referred to as off-balance sheet financing; it is however the Project Company (PC) that then has its balance sheet reflecting the debt transaction, hence the question, 'Off whose balance sheet?' It is the Special Purpose Vehicle (SPV), which is set up by the sponsors for the execution of the project.

WHY USE PROJECT FINANCE FOR GAS-FIRED POWER PLANTS?

PF is useful for infrastructural developments in which an assignable cash flow can be secured. Most of these projects while possessing the potential to yield enormous income on the long run, largely because they provide a needed service, are capital intensive and yet do not, at the time of construction have a whole lot of valuable assets at their disposal. Large corporations who recognise the potential that can accrue from funding these projects are wary of tainting their credit rating and have an added mandate to fulfil the dictates of the company philosophy by meeting laid down criteria (Hoffman, *Supra*, note 11 at 11). Power projects are generally capital intensive. The possibility of completing the cycle of construction for a gas-fired power plant from start to finish within twenty-four months - depending on the particular country situation, makes it an attractive option for building quick capacity. This differs from the duration for completing some other power plants like hydro that can take as long as six years. The fact that these equipments produce energy, which is required for various uses and at different levels, means that there is a demand for it. This qualifies it as having assignable cash flows from the sale of the needed commodity and within a short time, all things being equal.

These plants are usually built in remote locations that are close to the source of gas but far from urban areas. This has the effect of rendering most of the equipment 'valueless', particularly since most are built to specification and cannot be easily sold in the event of a default. Again, this means that the surest collateral it possesses is the predicted cash flows and this will not meet the criteria of most lending options which operators do not run as charities but must secure the investments of its shareholders. The existence of contracts and licences give the reasons behind embarking on the projects in the first place. The obvious qualities that distinguish PF as a most likely option for power projects do not mean that all is easy sailing. There are special conditions that must be met to make the project viable and therefore bankable. These conditions differ from country to country. The HG's ability to support the project is one of the most important variables in the financing equation.

Another important point is because gas has become the new bride of environmentalists as it is being promoted as an environmentally friendly energy source. In addition, along with the equator principles in the international finance market, it could be argued that use of gas power plants will offer international lenders and parties in the oil

and gas sector the opportunity to show case their commitment to the principle and thereby boost their public image (See The Equator Principles, <http://www.equator-principles.com/index.shtml>, Last visited 6th June 2020).

THE NIGERIA POWER SECTOR

Power in Nigeria is characterised by incessant blackouts which has led to the decision by government to liberalise the sector (Adetoro, S.H., *Liberalisation in the Energy Industry - Is it Reserved for Countries with Overcapacity?* (2009) 18 EEELR, 186.) While liberalisation will require new players, the issue of setting up a financing structure that will attract the needed investment is rife. In Nigeria, with enormous commercial activity, arising from its ports, oil and gas transactions amongst others, it was and still is a priority of government to increase the available capacity in the power sector. Private sector funds were required to augment government spending.

Reforms

The reforms in the sector took the approach of unbundling the vertically integrated monopoly into generation, transmission, distribution and supply companies and introducing competition and choice and then privatisation. An independent regulator, National Electricity Regulatory Commission (NERC) was put in place with the Federal Ministry of Power having the function of giving directives of a general nature. (Electric Power Sector Regulatory Act (EPSRA, 2005). Since the inability of supply to meet demand was the main motivation for reform, it was only natural for the government to device means to build the needed capacity. The Nigerian power sector was predominantly fuelled by hydroelectric power and with the hydro plants aging and incapable of meeting projected needs, it was important to find an alternative within the shortest time possible. Tackling the capacity needs has seen investing in gas-fired power plants as one of the fastest means of bridging the demand gap. This is premised on the assumption that the country is blessed with an abundance of gas reserves and bearing in mind that installing the gas plants relatively takes a shorter time than the other options like hydro plants.

The Opportunities

In almost every business chain, the opportunities that exist in the Nigerian market are almost unrivalled. Besides its population of over 140 million, The Nigerian population is commercially alert as it has business hubs across the country. The geography of Nigeria and its place as the seat of gas in Africa makes is also significant. Nigeria has the 7th largest gas reserve in the world. (Country analysis and briefs, at <http://www.eia.doe.gov/emeu/cabs/Nigeria/Full.html> last visited 4th June 2020).) As such, investment in gas infrastructure will be a business opportunity for investors. These opportunities notwithstanding, the issues of funding and business climate as mentioned above is an Achilles heel that requires swift action by the HG. That aside, it is almost impossible to transact business in Nigeria and operate at a loss though challenges exist.

THE RISKS AND CHALLENGES

Using PF as a means of financing gas-fired plants requires a careful consideration of the factors that work together to deliver the power. Like most means of generating electricity, a plant, which is not completed, and running is useless. The usefulness of a plant lies in its ability to deliver the power to the consumers at the flick of a switch. While this is the aim, it is not as easy as it seems and therefore requires careful consideration of some the risks that may arise in effectively executing the project. Business in every country is met with some form of risk or another. In most circumstances, these risks are generally applicable. However, some are specific to particular countries and must be dealt with in a manner that takes into consideration, the existing peculiarities and circumstances. A discussion of some of the risks that affect the effective financing of these projects in Nigeria, under a PF structure, forms the basis for this paper.

Where is the Gas?

The decision to rely on gas powered plants was based on Nigeria's rich gas deposits. The environmental concerns associated with the flaring of gas that has continued in the oil and gas rich region – the Niger Delta, also led to a consideration of the most effective and sustainable ways of developing the gas for useful purposes. These plants obviously require a fuel source, which is gas. The oil industry in Nigeria has been the major source of attention but in the past few years, gas has taken centre stage with estimated reserves of about 182 trillion cubic feet (tcf). (See 'Shell in Nigeria: Harnessing the Nigerian Gas' Published at http://www.shell.com/static/nigeria/downloads/pdfs/briefing_notes/harnessing_gas.pdf. Last visited 7th June 2020). This should be the dream of any country basing its power generating source on gas. However, does reserve connote availability?

Most of Nigeria's 'available' gas is 'Associated Gas', which is the gas that comes as a bi-product of extracted oil. As such, it is incidental to the exploration of oil and so forms part of the exports for the International Oil Companies (IOC)s. The new directive of government that the IOCs meet certain Domestic Gas Obligations (DGO) (Igbikiowubo, H., *Domestic Gas: Industry Operators Fault FG's Directive*, Vanguard, September 2008) is principally targeted at these new power plants. They are expected to supply the gas at a regulated price, which is lower than the world price for gas. Without the needed gas, the plants are completely useless and may as well be discarded. The IOCs are reluctant to sell the gas at prices lower than the international price for gas.

Access to Gas Fields

Cash flow can only arise because of supplying electricity and receiving the pay for it. This can only be possible where there is access to gas. A gas plant, which is not in use, means nothing to the lender, and so, is not bankable and therefore cannot be financed. In Nigeria, the concern over access to the gas fields is rife. This is due to the incessant conflicts in the Niger Delta Region; the gas hub of Nigeria. This situation makes it increasingly difficult for companies to continue working in the area. With a wave of kidnappings and fatal attacks on oil fields, many of the oil companies are unable to continue effective operations. This has heightened the cost of political risk and transaction cost generally in this area, an issue that has become the albatross of both the government and

the oil companies involved. Closely related to this is the dearth of the necessary pipelines to evacuate the gas in the event that it becomes available. The gas pipelines have not envisaged the extent of domestic gas use and so are not in place. The obvious question is, how will the plants be fuelled? This leads to the issue of supply risk. The risk of supply and completion are imminent and without these, there is in fact no project to finance.

What Is the Project?

It had been stated that PF envisages a clearly identifiable economic unit. The urgency is not tomorrow or in a year time, but today, and NOW! Are the unbundled structures truly separate and able to identify a cash flow if financed? Assuming for a minute that the project is to be implemented on a Build-Operate and Transfer (BOT) basis, is there an access to the lines or an obvious off-taker who is committed to take and pay for the generated power? The question of being truly unbundled also raises issues of control. Are the unbundled units under the real authority of the Chief Executive Officers (CEO)s and are they able to make the commitments necessary to move the projects forward and allow for the bankability of the project. This is an important issue which creates a challenge for the assurances of cash flow. A sponsor will not get involved with a project which it cannot lay hold of, and obviously the lender would not even touch it with a long stick.

Will The Project Ever Take Off?

A project that will not come into being will never yield any income and will therefore not qualify for PF. The power plants are proposed to be located near the source of gas, which again is the volatile Niger Delta region. Attempts at installing some power plants under the National Integrated Power Plants (NIPP) have failed to materialise. The projects are being carried out under EPC style contracts and though engineering and procurement are 100% complete, the construction of the platforms and other site-related activities have remained undone. The reasons are mainly connected to site access some of which have led to court cases that have remained unresolved. Cost overruns are inevitable but worse still is the fact the plants may never be completed. The original equipment manufacturer (OEM), General Electric, have supplied the equipment subject to certain warranties and testing procedures that are time-limited and which can only happen after installation. The plants are built to strict specification with pre-determined gas composition. What will be the fate of the plants when the warranty period expires without installation and thereby testing? The storage conditions are very strict and if not adhered to, immediately vacate the warranty. Imagine this scenario if the source of funding had been PF and had not envisaged this as a force majeure event. Connected to the implementation of the projects is government's recent directive for the review of licences. (See 'Power Minister wants review of IPP Licences' The NERC Press Release, 2009). About 29 licences have been issued to independent Power Producers (IPP)s and are at different levels of implementation. The outcome of this directive can only be imagined. It is however likely to lead to panic among contractors arising from uncertainties of what further directives could arise.

In What Currency?

One issue which is also of great concern is that of currency as it pertains particularly to foreign exchange. The local currency, the naira, is constantly fluctuating. While it may

be usual that currency fluctuations occur, the extents to which these changes occur are unprecedented. (Within the last six months for example, GBP has moved back and forth between 190 and 280 of the Naira, and the dollar between 98 and 150) It becomes worrisome to then determine the currency in which the project will be denominated bearing in mind that most of the funds emanate from foreign lenders. The extent to which this affects inflation in the country is beyond the imagination of a party who bases a decision on normal principles of economics and business transactions, and this creates problems with converting and transferring foreign exchange from the place of performance to the offshore beneficiaries. The problem of currency differences and fluctuations is more pronounced by the length of time it takes to complete most of the projects and the exposure that can arise. (Hoffman, *Supra* note 11 at 58)

Selling the Generated Power; For How Much?

The issue of pricing for local consumption is very worrisome, especially where the project funds are in hard currency. It is hard to imagine that selling power in the Nigerian currency can easily generate the cash flow that would service debt in hard currency. This is a problem associated generally with developing countries. (Dunkerley, J., *Financing the Energy Sector in Developing Countries*, Energy Policy 1995, Vol.23 No. 11)

ADDRESSING THE RISKS

First amongst the issues raised in chapter four is identifying the risks prevalent in financing the gas-fired power plants and like any other set of challenges, does not indicate that the problems are insurmountable. It's not an exercise targeted at excluding Project Finance as an available option, but challenges the commercial managers to consider possible options that would not exclude them from benefiting from the vast opportunities existing in Nigeria.

Let There Be Gas; and There Was Gas

The gas availability issues must be dealt with if any meaningful progress is to be achieved in the financing the power plants. While the IOCs have shown only reluctance in meeting the set targets, (Kalu, C., *Domestic Gas Obligations and The Gas Masterplan*, Business World) expressing their grievances over failure by the NNPC, to fulfil certain counterpart obligations in their partnership with them, government is not taking their reactions lying-low. The good news is that the Nigeria Petroleum Development Company (NPDC) has made a firm commitment to meet its share of the gas supply obligations. What remains is for government to ensure that the necessary infrastructure will be in place. It is also essential to extract this level of commitments from other companies to ensure that the volumes will be adequate. It is also my opinion that the construction of the power plants be tied directly to the gas suppliers who would realise that these obligations is not necessarily to government and that default would be two way – government and the power plant along with its operators who are fellow businessmen and would take corresponding legal action in the event of failure to deliver. The government should be able to firmly say “there is adequate gas for the power plants.”

Defining the Extent and Bounds of the Project

The autonomy and independence of the regulator as well as the unbundled units is necessary for effective project management and which will incentivise project sponsors. Though this does not preclude the need for Licences and guarantees, it gives a sense of wholeness to the economic unit to be financed. This is particularly important since the lending decision is based on cash flows and must thereby be identifiable. The issue of independence is a crucial requirement in liberalised economy and a reputation for licence reviews is not a good one to be identified with it is important that government ensures that roles are well defined and adhered to. An effective tool for dealing with the project bounds may require identifying the exact unit to be financed along with its selling machinery and breaking them into lots. This will give a clear picture to the lender, what investment is required and what expectations to have, generally injecting the reasons for bankability to the identified unit.

Ensuring Completion

The answer to the issue of completion lies in forces that are beyond academic opinions or literature debates. Nigeria's gas production characterises disruptions even to economic disastrous levels. The Niger Delta crisis has till date defiled all solutions. It is tempting to say that a 'miracle' is required. But in seeking to demystify the problem, the author suggests that the principle of good governance on the platform of public participation in environmental decision making, strategic and aggressive community infrastructure development, amongst others can salvage the situation in the region. Attempts may have been made, but an absolute commitment to this end seems lacking on the part of the government. Until this is solved, investment will be discouraged and this can grind the economy to a halt. Solving this problem will keep the completion times for the plants within the projected limits and in fact ensure that projects come to a successful close so as to start providing the required power and the expected cash flows. The safety of the lives of persons within its territory is one of the crucial roles of government and must be able to take responsibility for the impracticability of a project located in a volatile region in which case it will be compelled to take charge of the unrest and its attendant issues, or loose most investors.

The Money Issue

Foreign currency risk is not an uncommon sight in trans-national transactions. (*Supra* note 11 at 58) Its effects are more profound where devaluation is so common and is hardly a trend that the project team can influence. Indexing payments to the inflation trends is an alternative that can be considered. Lessons can only be learnt from more developed economies who being affected by this trend can proffer suggestions. It is important that this point is well negotiated and agreed upon, to avoid frustration of the project. The Nigerian government desiring to get the projects going must be able to give some guarantees in this regard, or agreement may never be reached.

Subsidies, Government Must Keep Its Promises

It is not a problem that the government decides to subsidise the cost of power to make it affordable to its citizenry and to score a political goal enabling it retain political power. What becomes bothersome is if the subsidy and obligation of government is either not paid or it is delayed. Cash flows being the basis of PF is affected by this and it is only

fair that the promise is honoured and in good time. This acts as an incentive to other companies planning to do business in the country and allows the PF structure to be well maintained. Without this, the cost of the business will increase and ultimately fail. It lies on the Nigerian government to keep up its promise, but this cannot be left to chance

CONCLUSION

The opportunities available for investment and the consequent developmental effects these will have on the Nigerian economy remain a lofty dream and at best will attract second best suitors (investors/international lenders) who might not optimally deliver sustainable and optimal results. All these could change with the provision or determination to guarantee conducive working environment, development of the necessary intrastate and clear competitive regulatory agenda. Then the Nigerian power sector would be a bright shining bride that will give illumination to the desires of all well and able parties ready to compete for her untapped potentials.

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