Bullion

Volume 19 | Number 4 Article 5

12-1995

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THE SIGNIFICANCE OF THE OSO CONDENSATE PROJECT IN THE NIGERIAN ECONOMY

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INTRODUCTION

Of the few projects in the natural gas sector of the Nigerian economy, the most successful is the Oso condensate project. In addition, the Oso condensate project is the first project in gas sector to earn foreign exchange for Nigeria and the first where international financial institutions cooperated with the owners of the project to finish it in record time. Moreover, the Oso condensate has contributed to the diversification of petroleum sector exports. This is particularly important, realising that crude oil currently accounts for 95 per cent of export revenue and 83 per cent of Federal Government collectible revenue. The project is also significant given the uncertainties and vagaries of the international oil market and the fact that Nigeria has more gas than oil reserves. Other gas projects still under construction include the Liquefied Natural Gas (LNG), the Integrated Gas Pipeline (IGP), Natural Gas Liquid (NGL) by Chevron Nigeria Limited and the Butanization project.

Although condensate was discovered by Mobil Oil Company (now Mobil Producing (Nigeria) Unlimited[1] in 1867, serious effort to revive the project did not start until 1991 when NNPC and Mobil agree to develop it. In December 1992, the project was commissioned and shortly after production began.

The objective of this paper is to outline the historical background and financing of the Oso condensate project, examine the benefits of the project in terms of revenue expectation, infrastructure development, employment and investment opportunities, benefit to the communities and owners of the project, as well as underline the potential constraints.

For the ease of presentation, the paper is organised into sections and an introduction. Section I describes the features of the project while section II analyses the benefits. Section III outlines the potential constraints and section IV is summary and conclusion.

SECTION I
Features of the Project

A. Characteristics of Condensate

Condensate is a hydrocarbon, midway between crude oil and natural gas. It is normally seen as part of the heavier fraction of natural gas consisting of pentanes, hexanes, natural gasoline and pentane plus.[2] Under certain temperature, pressure and environment, condensate exists underground as gas, but at a normal atmospheric temperature it changes into liquid and can, therefore, be stored and transported, like crude oil, in tankers. It exists as liquid at 47° to 52° API.[3] In this form it is light hydrocarbon which when processed in a refinery yields kerosine, gasoline, distillates, naphta and light ends.[4]

B. History of Oso Condensate:

The Oso condensate was discovered by Mobil Oil Company in oil mining lease (OML) 70 in Akwa Ibom State. An immediate development of the field was not feasible owing to the Nigerian civil war. In the period 1970 to 1979, the development of the field did not also take place because it was too expensive to do so and the reservoir had not been explored sufficiently to warrant exploitation.

The drastic decline in crude

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1 *Mobil Producing Nigeria, is the only company in Nigeria, to my knowledge, which uses the designation "Unlimited" instead of "Limited".*

2 *World Bank, "Natural Gas: Physical Properties, Terminology and Commercialization...", Office Memorandum (Washington, D.C. June 1991), p.1.*

3. *API stands for American Petroleum Institute, an organisation universally recognised for prescribing standards for petroleum and petroleum products.*

4. *Pentane plus (c5+) is an example of light ends.*

oil production, export and revenue during the first half of the 1980s prompted search for alternative source of revenue. This made NNPC and Mobil to reconsider the development of the Oso condensate. Although the collapse of petroleum prices in 1986 did not encourage more exploration of oil and gas, government was still determined to sponsor more exploration of hydrocarbons; hence, it entered into a memorandum of Understanding (MOU) with all oil companies in Nigeria. The MOU contained a package of incentives for companies to enable them intensify their search for oil and gas[5]. One of the incentives is for government to pay $2.30 per barrel of crude additional to existing reserve for on-shore operation and $2.50 per barrel for off-shore. Other incentives include reduction in exploration charges and increases in tax holidays and depreciation allowances.

Responding to the incentive of 1986 MOU, NNPC and Mobil agreed in 1987 to form a finance committee to look into internal and external financial organizations which might want to invest in the Oso condensate project. In 1988, bids were sent out to contractors and in 1990, Mc Dermott, Bouygues, and JGC Corporation were awarded the contracts for engineering, procurement and construction. In 1991, the foundation stone of the project was laid. In a rare combination of cooperation, management and government support, NNPC and Mobil were able to complete the project in under one year.

C. Financing

It took a long time to arrange for the financing of the Oso condensate project since one of the precondition of getting international assistance was approval of the World Bank. For the approval to be given, the International Finance Corporation (IFC) of the World Bank Group had to conduct a feasibility study and convince itself of the viability of the project. With an assurance from IFC, the principal finance coordinator and a strong guarantee by the Nigerian Government to support the project until completion, the World Bank approved the project. Below is a summary of the financial plan of the project.

D. Outlook of Oso Condensate

Condensate production started at the Oso Field in December 1992 at the rate of 84,000 barrels a day, representing 8.2 per cent of 1992 OPEC daily condensate output.[6] This rate is expected to continue till the end of 1994 after which a production rate of 100,000 barrels a day will start and last during the period 1995 - 1999. As reserve depletion approaches, production is projected to decline to 70,000 barrels a day until 2010 A.D. and to 50,000 barrels a day for the remaining life of the project.

The World Bank, European Investment Bank and Japan Eximbank loans were made to NNPC, representing the Nigerian Government in the project, while IFC and U.S. Eximbank

TABLE 1
Financial Plan of Oso condensate project
($'Million)

Lender/Borrower	*NNPC*	*MPN*	*Total*
World Bank	218	-	218
IFC	-	170	170
U.S. Eximbank	-	95	95
European Investment Bank	65	-	65
Japan Eximbank	47	-	47
Sub-Total	330	265	595
Equity	190	115	305
Total	520	380	900

Source: Mobil Producing Nigeria NNPC–MPN Joint Venture OSO Condensate Field Development Information Summary, Lagos 1991, p.17.

5. *The MOU was revised in 1991 and additional incentives were offered not just for intensification of exploration effort but for actual additional discovery of crude oil and gas.*

6. *Before December 1992, Nigeria produced about 50,000 barrels a day of condensate from other companies fields. The condensate was sold to overseas refineries using it as blend. The revenue from the sales was indicated as part of the revenue from crude oil. Today, revenue from condensates are reported separately.*

made loans to Mobil. The loans totalled $595 million or 66 per cent of the $900 million cost of the project. The remaining $305 million or 34 per cent represented equity from NNPC and Mobil with NNPC contributing $183 million or 60 per cent and Mobil $122 million or 40 per cent. The international financial interests were motivated to invest in the project by the IFC report on the outcome of the feasibility study and by their growing confidence in the Nigerian economy at the commencement of the Structural Adjustment Programme (SAP).

SECTION II

Analysis of the Benefits of the Project

The benefits of the Oso condensate project can be evaluated in terms of foreign exchange earnings, employment and investment opportunities, reduction in gas flaring, transfer of technology and benefits of Oso communities.

(a) Foreign Exchange Earnings

During its life span of 16 years, the Oso condensate project is expected to yield an estimated revenue of $11 billion to $12 billion in foreign exchange. On annual basis, this amounts to $688-$750 million. Data on revenue earned from condensate since December 1992 is not readily available. However, data for April to September 1993 and January to June 1994 is available. For the six months of 1993, 18.23 million barrels of condensate at the rate of 101 thousand barrels a day, were exported, and revenue of $311.0 (N6,841.69) million was realized[7]. For the first half of 1994, $294,43 (N6,477.27 million) was obtained. The significance of the Oso condensate in foreign exchange earning is that condensate is not a part of Nigeria's OPEC quota.

(b) Transfer of Technology

The project has already attracted many technologies especially those in design and construction of platforms for production and compression of gas. In addition, Mobil has introduced state-of-art technologies in offshore exploration and exploitation of condensate and many Nigerian petroleum engineers have been working hand in hand with expatriates in order to master the technologies. It is hoped that more technological diffusion will take place when Nigeria establishes condensate refineries.

(c) Employment and Investment Opportunities

The condensate project has already employed 100 permanent staff, mainly Nigerians. Some of these are engineers trained in Europe, Japan and the United States for the purpose of working in the Oso condensate project. Indigenous contractors are now working with foreign firms in various aspects of the project. It is envisaged that more Nigerian entrepreneurs will actively invest in the project when Nigeria builds a refinery that will use condensate to produce distillates, naphta, kerosine and gasoline.

(d) Reduction in Gas Flaring

In 1992, Nigeria produced about 32 billion cubic metres of natural gas of which 78.0 per cent was flared. Flaring of gas from the Oso condensate field will be much reduced since most of the gas produced will be reinjected in order to recover more condensate. Gas from other fields owned by Mobil and near the Oso field will be gathered, partly reinjected into the Oso reservoir for future use and partly to release more condensate. As a result of reinjection, it is expected that 3.5 trillion cubic feet of gas from the Mobil/NNPC concession will not be flared.

(e) Social and Economic Benefits

The Oso condensate project has made possible the development of some infrastructure in Eket and neighbouring communities. These include: roads, electricity, pipe borne water, schools and clinics. In the riverine area, Mobil donated motorised boats for public transportation. Majority of the workers employed in the project come from Akwa Ibom State.

SECTION III

Potential Constraints

Although the prospects of the Oso condensate are high, given the above mentioned potentialities, there are some constraints that will affect full realization of the benefits of the project. These include: the price of condensate in the world market, environmental consideration in the exploitation and disposal of condensate, and competition with other con-

7. *Condensate exports exceeding the projected output of 84,000 b/d from the Oso field implies that condensate produced in other oil fields was included in the volume exported.*

densate producers.

The price of Oso condensate in the world market is only marginally higher than the price of Nigeria's Bonny Light. When the Bonny Light was $19.50 a barrel, the Oso condensate sold at $20.00 a barrel. Thus, if the price of Nigeria's crude oil continues to fall in the world market, the price of Oso condensate will proportionately fall and revenue from the condensate export will fall unless there is an increase in the current daily output of 84,000 barrels a day. In the world market the price of condensate is directly related to the price of light crudes.

Demand for safe and clean environment in all aspects of petroleum activities is likely to be a major issue in the 21st century. Already, the United States and other OECD countries have imposed carbon/energy taxes which will increase cost of hydrocarbon production and reduce revenue expectations of petroleum exports[8]. Such taxes will affect condensate exports although to a lesser extent than crude oil exports because crude oil has more carbon dioxide than gas or condensate, on burning.

Another constraint to the realisation of the full potential of Oso condensate is competition from other condensate producers. In the Organisation of Petroleum Exporting Countries (OPEC), there are three condensate producers – Nigeria, Indonesia and Venezuela. Indonesia is the largest condensate exporter, followed by Venezuela. Venezuela has advantage over Nigeria in the United States market as a result of distance although, Nigeria has some advantage being closer to the European market where it is currently exporting some of the Oso condensate, and the U.S. market, from Mobil being a joint venture partner in the Oso project. Indonesia sells condensate mostly to Japan and Nigeria has no access to Japanese market. Thus, the export of condensate by Indonesia and Venezuela, to some degree, will affect the export potential of Oso condensate to the same markets.

While some potential constraints of condensate production, marketing, price and competition are parts of the fundamentals of the petroleum industry and can only be reduced when the market is stable, other constraints like environment and financing can be controlled right from the start of the project. Greater cooperation among participants will make for ease of financing. Environmental assessment studies should be done at every stage of the project exploration, production and marketing in order to reduce adverse impact on the environment.

PART IV
Summary and Conclusion

The Oso condensate was discovered in 1967 by Mobil Oil Company but its development did not start until 1991. Despite political, technical and financial constraints, the project was completed in December 1992. Its completion was made possible by the financial support from the World Bank, International Finance Corporation, the United States Export-Import Bank, Japan Export-Import Bank and European Investment Bank. Other factors that helped the completion include: cooperation between Mobil and NNPC, the Memorandum of Understanding between the Nigerian Government and Oil Companies and availability of market for the Oso condensate in Europe and the United States The expected benefits of the project are generation of foreign exchange earnings, employment and investment opportunities, reduction in gas flaring, transfer of technology, and infrastructure development in Oso communities.

One important lesson from the financing of the Oso condensate project is that a viable project assessed through strict evaluation process and guidelines can compete favourably for funds in the international capital market especially where such a project is judged to be self sustaining. Although the project has taken off, its sustained growth will depend on thorough understanding of market developments likely to affect the condensate trade in Europe and the United States.

8. *For more details on the carbon/energy tax see Petroleum Economist. "Playing International Football with Oil".*