

COMPARATIVE RISK ASSESSMENT OF NATURAL GAS UTILIZATION PROJECTS UNDER PETROLEUM PROFIT ACT AND PETROLEUM INDUSTRY BILL 2018

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Overview

Nigeria has been in a decade long process of passing into law the Petroleum Industry Bill (PIB) expected to replace its outdated petroleum laws. The PIB will redefine the governance of the petroleum industry and propose new fiscal terms under which investors in the petroleum industry in Nigeria will operate. Successive iterations of the bill have identified natural gas development and utilization, as a key component of the cocktail of initiatives for economic development. A major plank of the bill is to provide explicit terms for gas development and utilization amongst other objectives. Specifically, the Petroleum Industry Fiscal Bill (PIFB) 2018, consistent with its previous versions, proposes to repeal the Associated Gas Framework Agreement (AGFA) in Sec. 11 & 12 of the PPTA. The AGFA incentives which allow for the cost of gas utilization projects to be defrayed against oil income, have birthed projects such as the Escravos Gas To Liquids (EGTL) Plant, the Offshore Gas Gathering System (OGGS) pipeline, the West African Gas Pipeline (WAGP) and the Nigerian Liquefied Natural Gas (NLNG) plant. The objective of this study, therefore, is to assess the change in the risk profile of gas utilization projects if the AGFA provision is repealed as intended in the proposed PIFB 2018.

Methods

This study develops the comparative economics for a 150mmscfd gas plant on a 250mmboe marginal field using Discounted Cash Flow (DCF) model in recognition of the extant fiscal provisions in both the Petroleum Profit Tax Act and the PIFB 2018. The DCF is expressed in nominal terms with sensitivity and stochastic modelling. By focusing on stochastic modelling, the risk reward profile of both investor and government is assessed and compared under the current terms and the PIFB 2018 in which AGFA is repealed.

Results

The outcome from the model shows that on the gas plant, government suffers a decline in tax receipts. Inflow to government under the PPT amount to \$625.51Million which will reduce to \$504.24Million under the proposed PIFB 2018 system. This is just as the investor value (NPV10) declines to \$335.12Million under the proposed fiscal (without AGFA) compared to the value of \$626.63Million under the current PPT system. Furthermore, the repeal of AGFA shifts the Investor Risk in the Gas Plant Upward. By repealing AGFA under PIFB, the chance of an investor loss increases six (6) times to approximately 45% from approximately 7% under the current terms.

Conclusions

The repeal of the AGFA provision in the proposed bill will increase the investor risk profile in gas plant investment, lower the value derived therefrom and perhaps nudge investor behaviour toward cost effectiveness in executing gas utilization projects. However, in what is apparently seen as a way to compensate for this risk increase, the PIFB proposes to allow projects sanctioned under AGFA to continue until the gas projects' capital allowances have been fully enjoyed. Additionally, although there is a wider tax base available from upstream oil from not imposing gas development costs, the reduced tax rates in the upstream ensure the investor value is enhanced on an upstream and midstream portfolio basis – an improvement in portfolio value is seen from ~\$480Million to ~\$740Million.

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