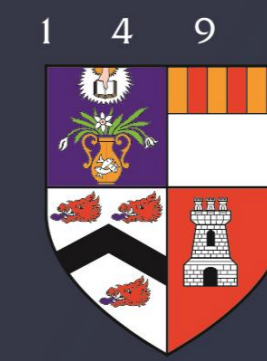


Title Monetizing Nigeria's Gas industry: EVALUATING THE VIABILITY OF THE WEST AFRICAN GAS PIPELINE

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1. Introduction

- Nigeria currently produces 1.35 tcf of gas, consumes only 490 Bcf of gas and flares about 428 Bcf of gas as at 2013, with the remaining used for gas-reinjection by oil companies to enhance oil recovery (EIA report, 2015).
- Flaring has been attributed to inadequate infrastructure, legislative and regulatory frameworks.
- Nigeria has recognized the opportunities that commercializing its gas industry will offer its economy and designed a gas master plan to address infrastructural and regulatory deficit.
- However, gas monetisation infrastructures are capital intensive and their viability are threatened due to the impact of potential discovery of unconventional sources like shale gas.
- This dissertation will mainly seek to identify if the West African gas pipeline (WAGPL) can be a profitable alternative outlet for Nigeria's gas.
- Impact of sabotage and supply disruptions on the WAGPL is also examined.

2. Methodology



DCF Analysis

- Definition of base case input and model assumptions.
- Determination of Cash Flows (Pre-tax & Post-tax)
- Calculation of profitability parameters (i.e NPV, IRR, DROI and Payback period).

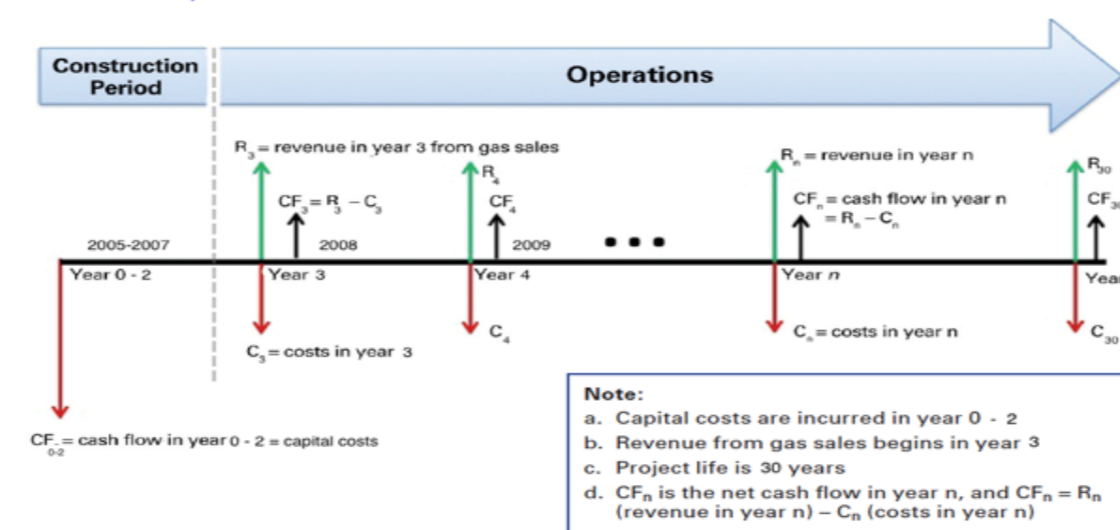
Sensitivity Analyses

- Tornado diagram on 10 input variables
- Sensitivity analyses on Capacity Utilization factor and Operational days to measure impact of sabotage.

Monte Carlo Simulation

- MC simulation on delivered gas price using Log-normal distribution.

Figure 4.1: Illustration of the WAGPL project lifespan and Assumptions



3. Results and Main Findings

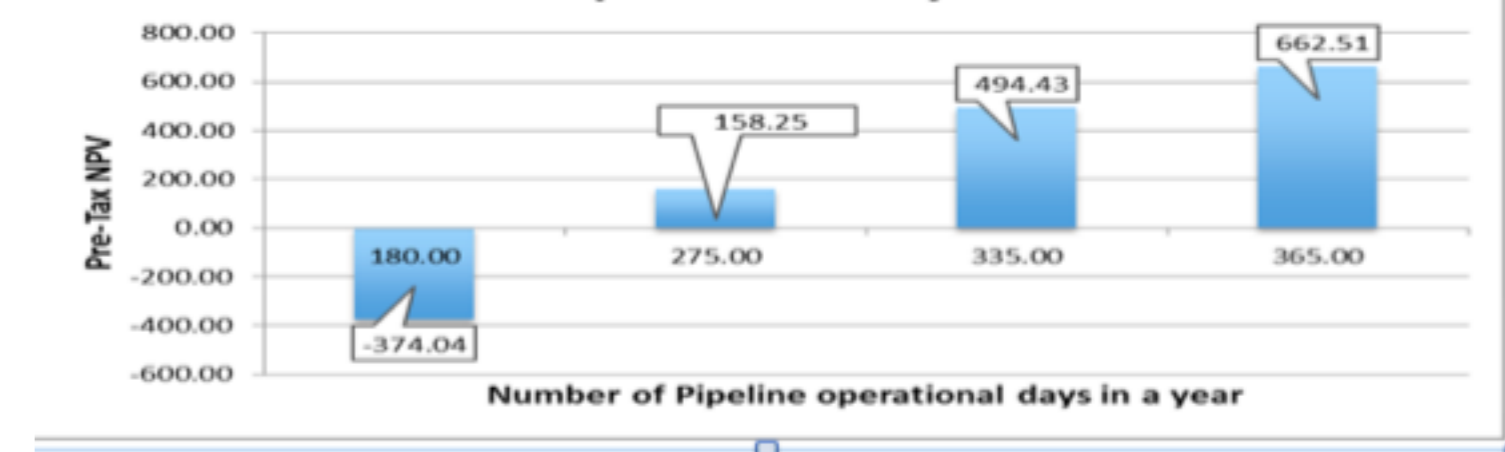
DCF Analysis Results

NPV (Pre-Tax)	DROI	IRR	PAYBACK
\$662 million	0.31	17%	7 years

Table 4.3: Yearly Assumptions for Supply scenerios of WAGPL

Supply scenerio	Duration of shutdown (days)	Total days of operation in a year
Extreme case of supply disruption	185	180
severe case of supply disruption	90	275
moderate case of supply disruption	30	335
base case of supply disruption	0	365

figure 5.7: Sensitivity Analyses on Pipeline operational days



Conclusion

- WAGPL is profitable
- However, Price and sabotage constitute a substantial impact on the profitability of the WAGPL.
- Nigerian government and stakeholders will have to address issues of sabotage.