

An Economic Study of the Profitability of a Gas-fired Power Plant in the Gulf of Guinea, Nigeria

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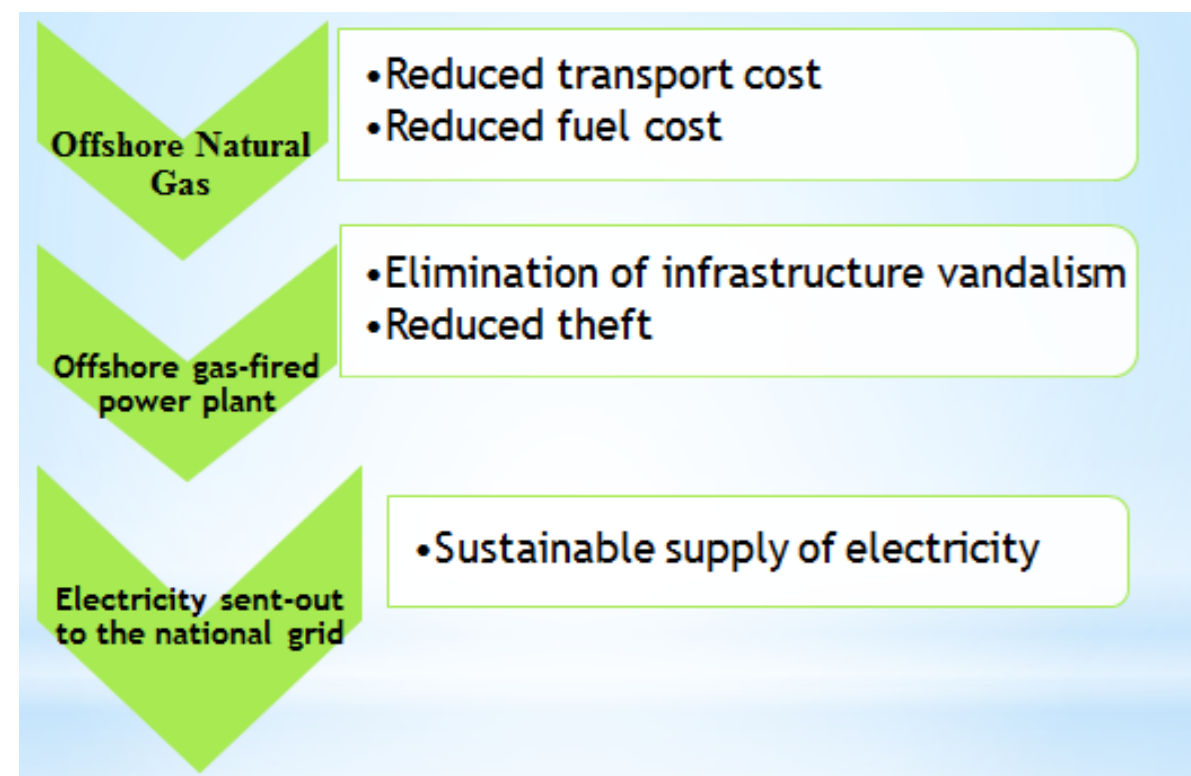
Introduction

- ❖ The study examines the viability of investments in “offshore” natural gas-fired power generation plants in Nigeria

Offshore proven gas reserves in Nigeria

1	Russia	44,800,000,000,000
2	Iran	29,610,000,000,000
3	Qatar	25,370,000,000,000
4	Saudi Arabia	7,807,000,000,000
5	United States	7,716,000,000,000
6	Turkmenistan	7,504,000,000,000
7	United Arab Emirates	6,453,000,000,000
8	Nigeria	5,292,000,000,000
9	Venezuela	5,065,000,000,000
10	Algeria	4,502,000,000,000

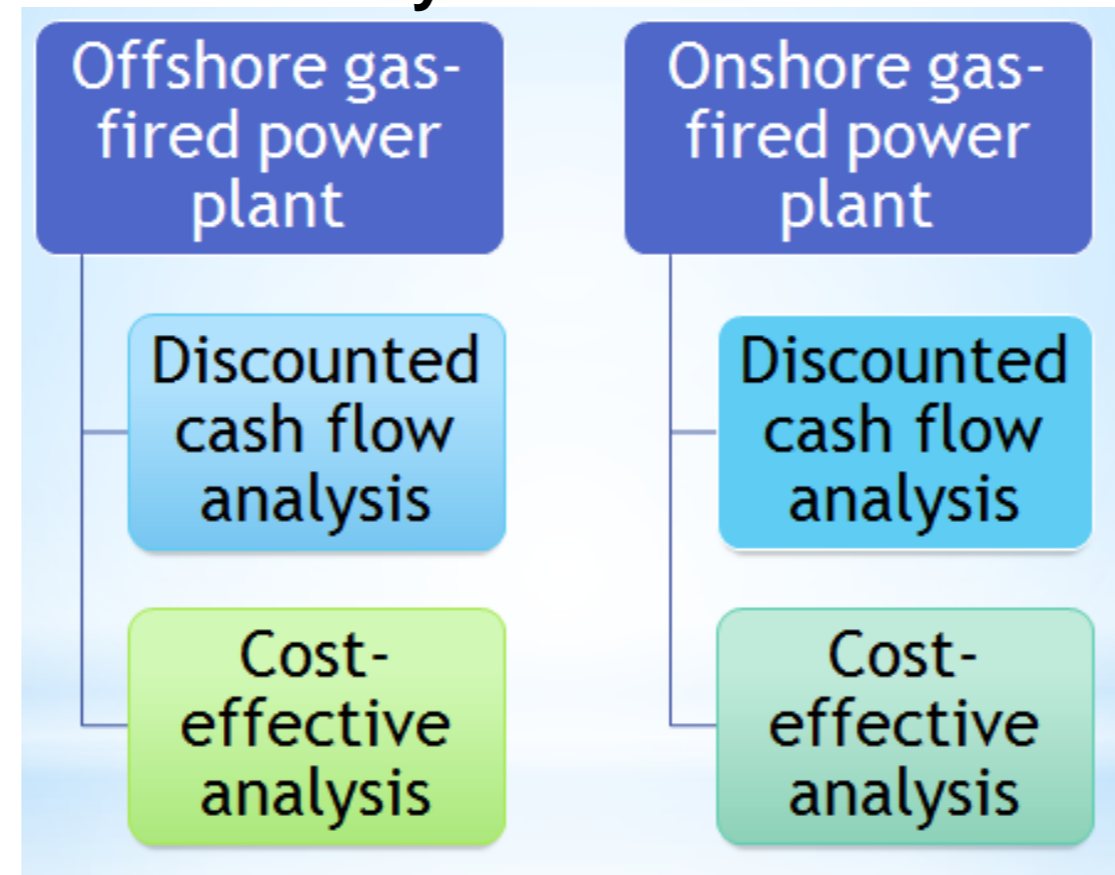
- ❖ The study proposes:



Methodology

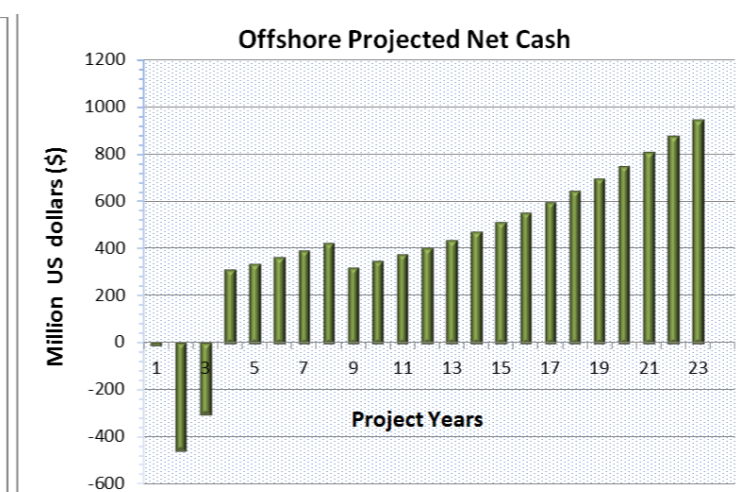
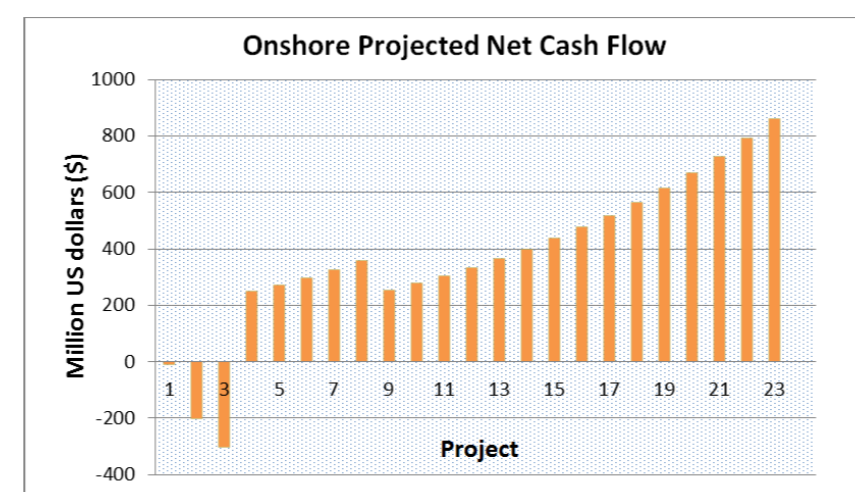
- ❖ The feasibility of the base case offshore gas-fired power plant was measured against a conventional onshore plant

Profitability assessment model

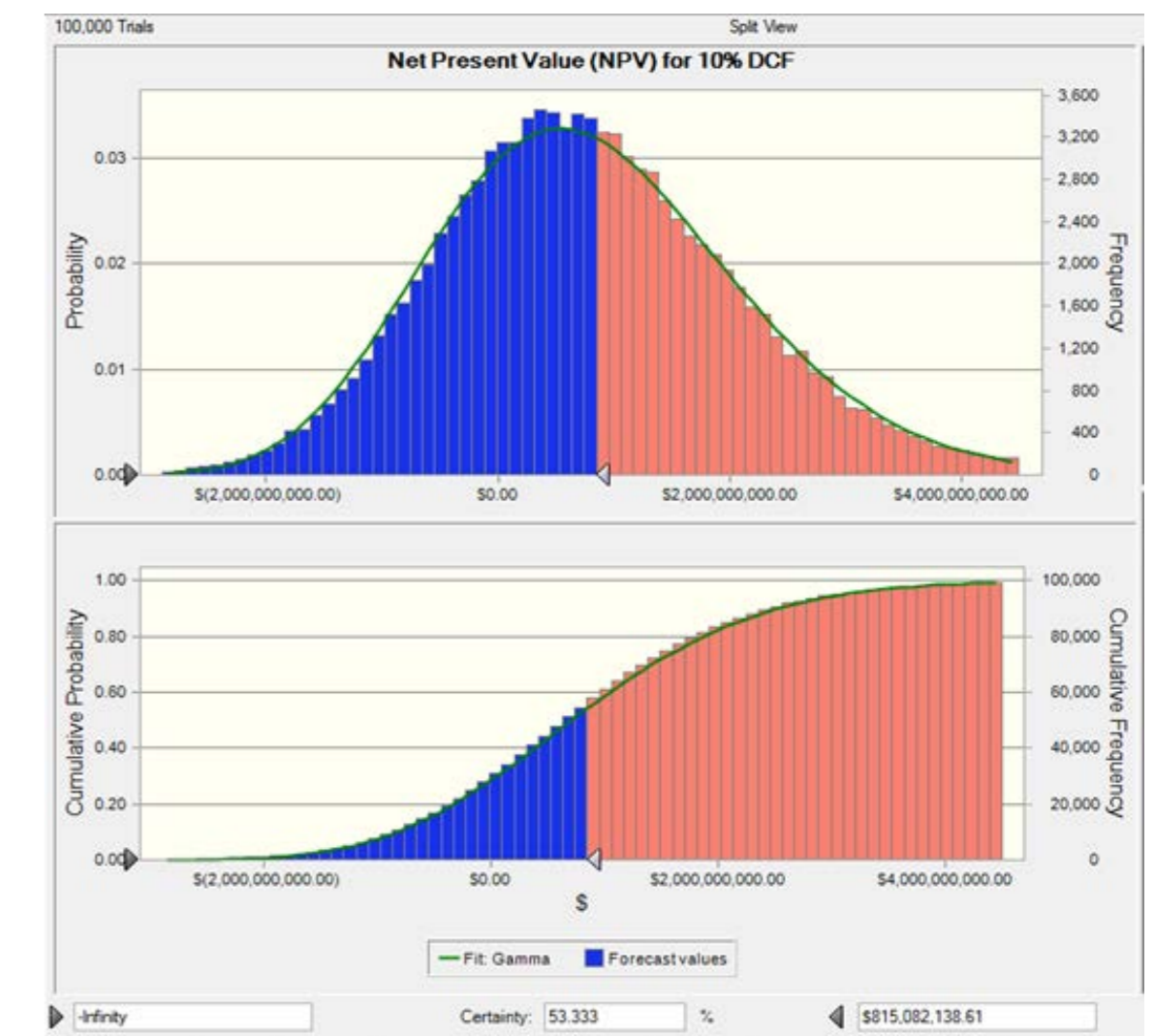


Results

- ❖ Projected cash flow stream
 - ✓ sufficient to ensure total cost recovery
 - ✓ offshore longrun dcf greater than onshore



- ❖ Monte Carlo simulation on wholesale electricity price
 - ✓ 53% certainty of a gain from investment



Conclusion

- ❖ The results suggest that investments in offshore gas-fired power plants are economically viable
- ❖ The wholesale price of electricity and the volume of electricity sent-out from the power station grossly affect the profitability of the investment
- ❖ The government needs to ensure that the electricity price regime is properly regulated, so as to ensure return of investments