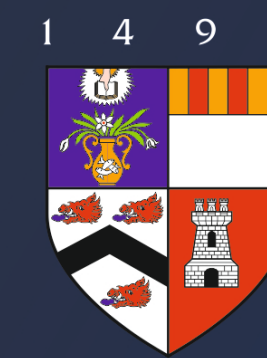


The Potential of FLNG Option: Real Options and Discounted Cash Flow Analysis on the Prelude FLNG Case

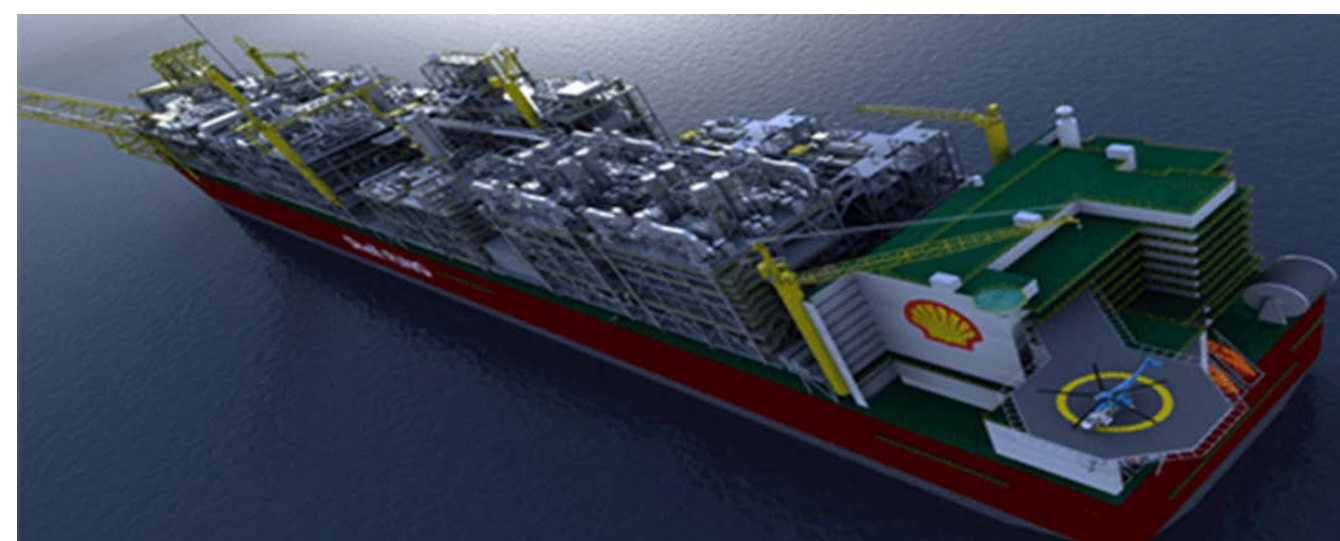
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1. Introduction

- The necessity for exploiting more stranded reserves offshore drove to the innovation of a water-based platform with the purpose to produce natural gas, known as FLNG
- This study aims to provide a deeper insight on the FLNG option by examining the economic viability of the Prelude FLNG project
- Prelude FLNG is characterized by high capital expenditure and a great degree of uncertainty
- The main issues of interest in terms of the project are:
 - The estimation of the project's net profitability
 - The determination of sources of uncertainty as well as their impact on the project's performance
 - The estimation of its net profitability by taking into account the option to expand, the option to abandon and the option to expand or abandon



2. Methods Adopted



DCF ANALYSIS

- Definition of Basic Inputs
- Determination of Cash Flows
- Calculation of NPV, IRR, DROI and Payback Period

SENSITIVITY ANALYSIS

- Sensitivity Analysis on Price, Discount Rate and Inflation Rate
- Tornado Diagram

MONTE CARLO SIMULATION

- MC Simulation on Price with the use of Geometric Brownian Motion
- MC Simulation on Production, Capital and Operating Costs with the use of Triangular Distribution

REAL OPTIONS ANALYSIS

- Estimation of project's volatility and calculation of options' basic inputs
- Valuation of project's value after paying dividends with the option to abandon, option to expand and option to expand or abandon (combined option)

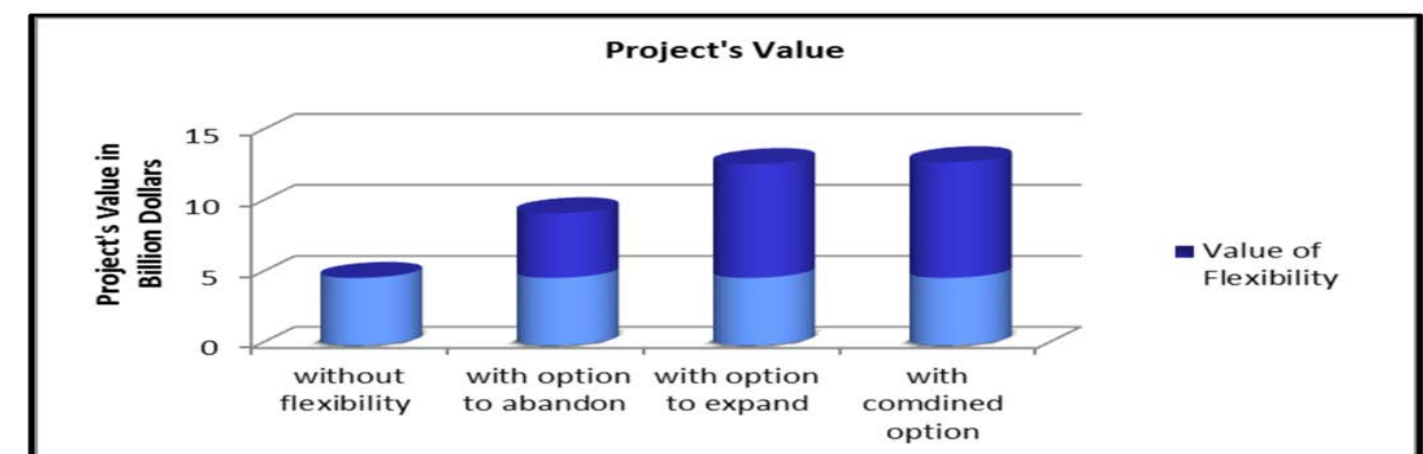
3. Main Findings

DCF ANALYSIS

NPV	IRR	DROI	PAYBACK
\$B4,756	15%	0.42	8

REAL OPTIONS ANALYSIS

VALUE	OPTION TO ABANDON	OPTION TO EXPAND	COMBINED OPTION
PROJECT	\$B9,315	\$B10,782	\$B10,915
OPTION	\$B4,555	\$B8,022	\$B8,156



4. Conclusions

- The project is expected to be highly profitable
- Price constitutes a substantial source of uncertainty and attention should be paid on its progression through time
- Real options should be taken into account since they increase the value of the project, with the combined option being the most valuable providing profitable alternatives in case of a low or high project's performance