

MINIMUM ECONOMIC FIELD SIZE ANALYSIS ACROSS THE UKCS AND ITS IMPLICATIONS FOR THE DISCOVERED RESOURCES

PERIKLIS SERGIS

1 4 9 5



UNIVERSITY OF ABERDEEN

INTRODUCTION

United Kingdom Continental Shelf (UKCS) is a mature basin that produce oil & gas. The number of fields has increased over time, new discoveries are much smaller and many fields are marginal and inter dependent. This study is an economic evaluation for three different oil & gas fields and examine the feasibility of the development of them.

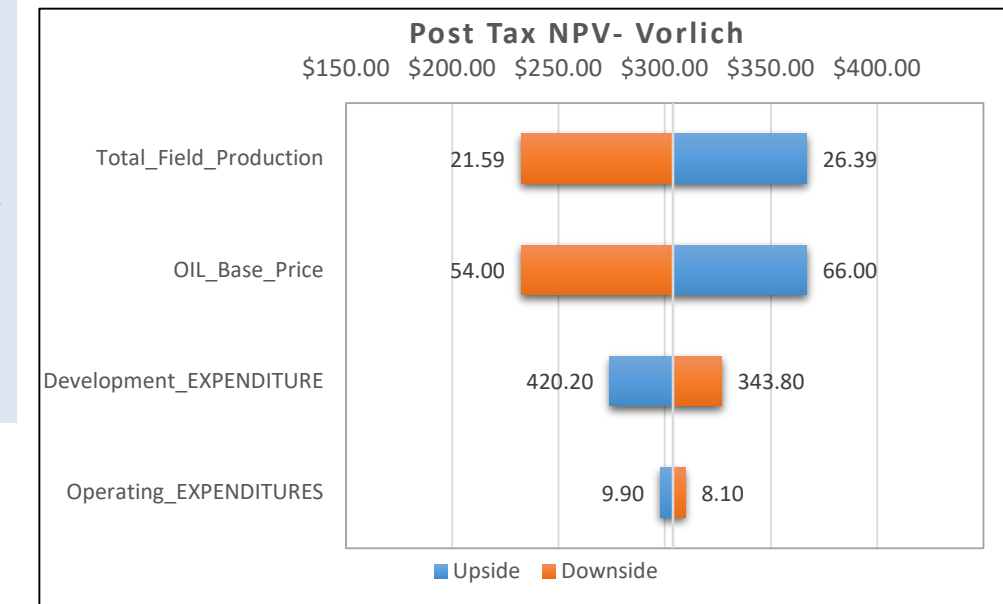
AIM

The project deals with an economic evaluation and investment of some of the un-developed discoveries of the UKCS. The aim of the project is to investigate if the small discoveries close to oil fields in the North Sea are economically viable.

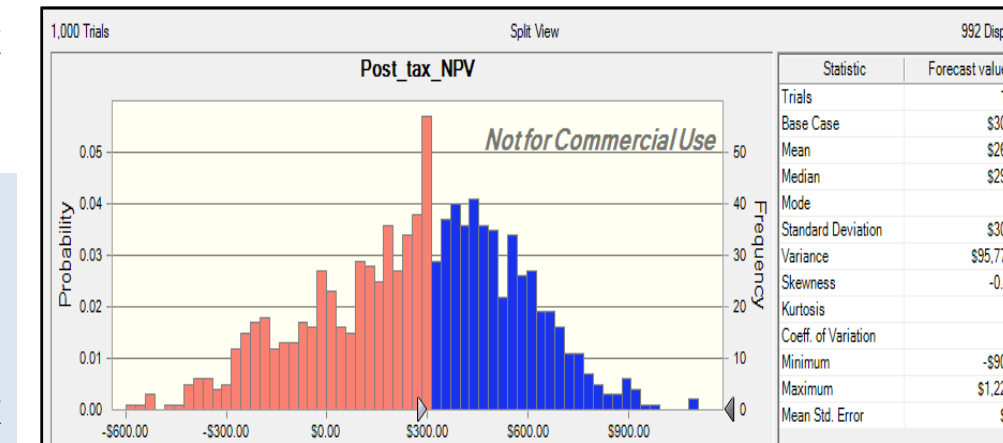
METHOD

Field	Model	Description
Amos	Deterministic	Is the base case scenario for which input variables are fixed. Deterministic analysis is undertaken to estimate NPV, IRR. Sensitivity Analysis on NPV is carried out. Base Price assumed 60 \$/ bbl.
Vorlich	Deterministic	Deterministic analysis is undertaken to estimate NPV, IRR. Sensitivity Analysis on NPV is carried out. Base Price assumed 60 \$/ bbl.

Field	Model	Description
Cepheus	Deterministic	Is the base case scenario for which input variables are fixed. Deterministic analysis is undertaken to estimate NPV, IRR. Sensitivity Analysis on NPV is carried out. Base Price assumed 44 pence/ therm.
Amos & Vorlich	Stochastic	Oil prices were randomly simulated assuming normal distribution. MC Simulation was run (1000 times) to check their effect on the Post Tax NPV of the project.
Cepheus	Stochastic	Gas prices were randomly simulated assuming normal distribution. MC Simulation was run (1000 times) to check their effect on the Post Tax NPV of the project.

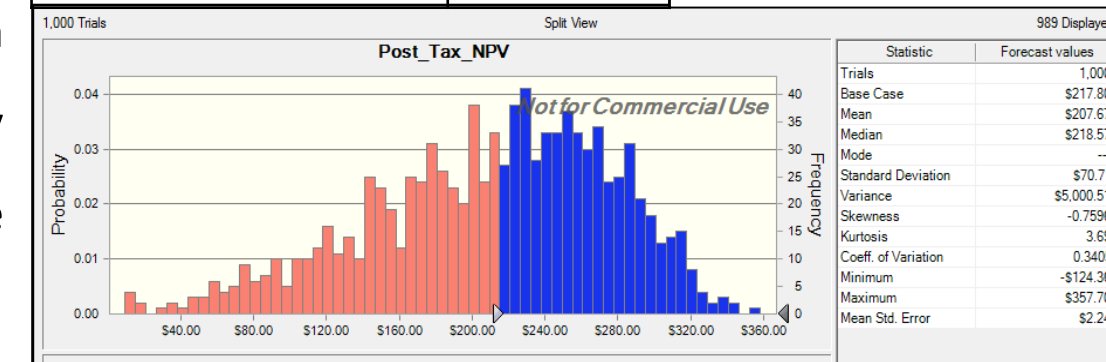
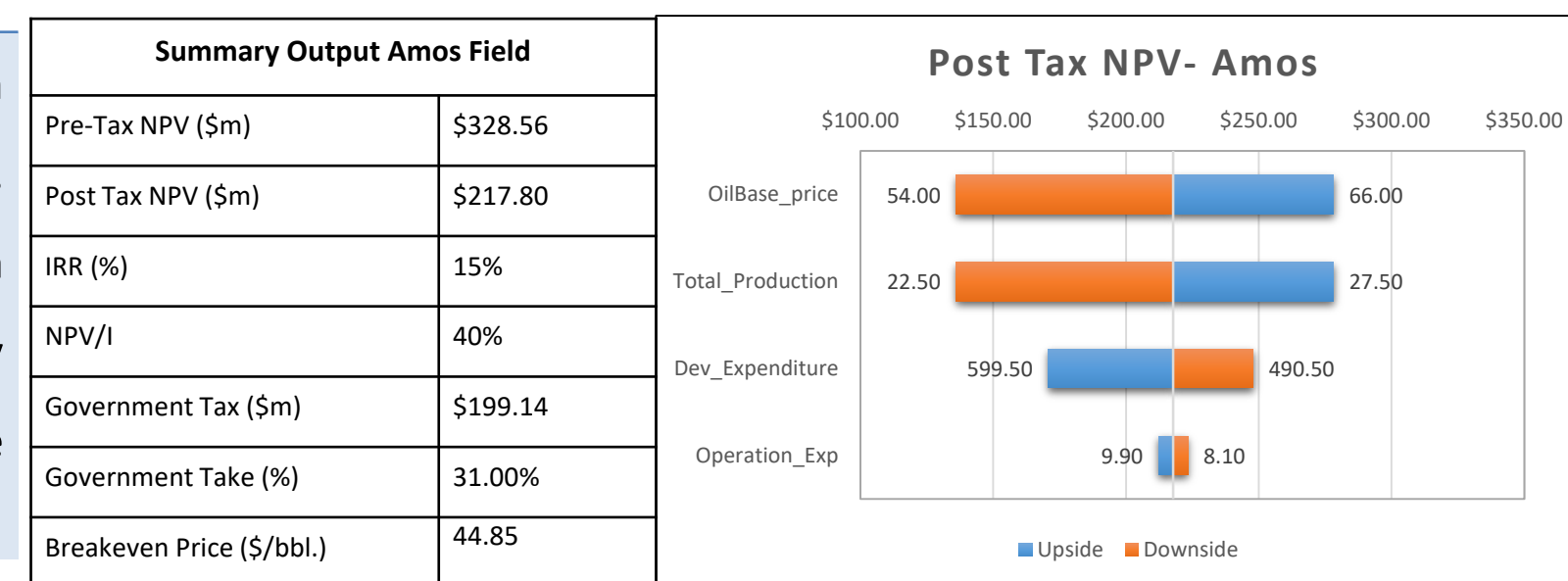


Summary Output Vorlich Field	
Pre-Tax NPV (\$m)	\$497.76
Post Tax NPV (\$m)	\$303.86
IRR (%)	22%
NPV/I	80%
Government Tax (\$m)	\$294.90
Government Take (%)	39.55%
Breakeven Price (\$/bbl.)	37.41

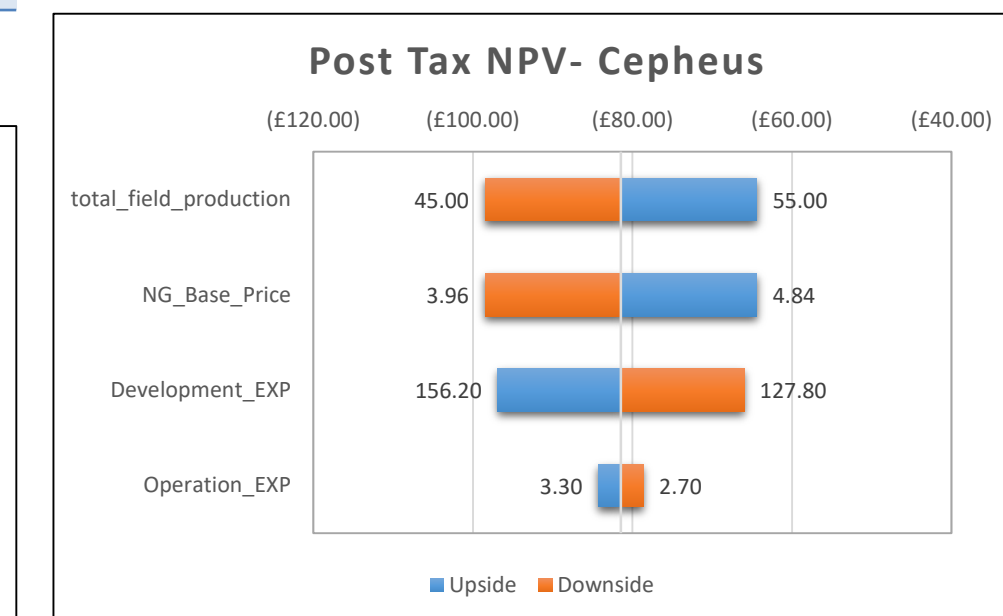


48.75% of generating a positive NPV – Oil Price- Vorlich Field

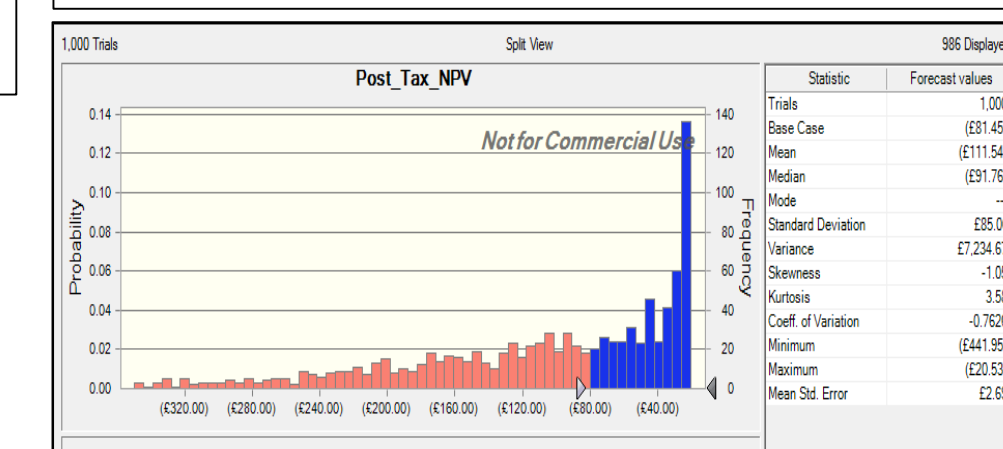
RESULTS



50.25% of generating a positive NPV – Oil Price- Amos Field



Summary Output Cepheus Field	
Pre-Tax NPV (\$m)	-\$78.56
Post Tax NPV (\$m)	-\$81.45
IRR (%)	0%
NPV/I	-66%
Government Tax (\$m)	\$4.83
Government Take (%)	4.13%



45.83% of generating a positive NPV – Gas Price- Cepheus Field