

## Time Value of Money

Money	500				
	Year 1	Year 2	Year 3	Year 4	Year 5
US\$ in wallet	500	500	500	500	500
US\$ in bank	525	551	579	608	638
Inflation	4%	4%	4%	4%	4%
Interest Rate	5%	5%	5%	5%	5%
Cumulative Interest Rate	1.05	1.10	1.16	1.22	1.28

Cost of printer ink	5				
	Year 1	Year 2	Year 3	Year 4	Year 5
US\$ flat	5	5	5	5	5
US\$ inflation	5.20	5.41	5.62	5.85	6.08
US\$					

Amount of printer ink					
	Year 1	Year 2	Year 3	Year 4	Year 5
US\$ no inflation or interest	100.0	100.0	100.0	100.0	100.0
US after inflation	96.2				
US\$ after inflation with interest					

	Year 1	Year 2	Year 3	Year 4	Year 5
Discount Rate = cost of money					

## Real versus Nominal

Costs	At Dec 31				
	2018	2019	2020	2021	2022
US\$ Nominal	1	1	1.00	1.00	1.00
Inflation Rate	0%	0%	0%	0%	0%
Multiplier		1	1.00	1.00	1.00

## Money available

100

Chocolate Bars

## Money Invested

	100.0				
Chocolate Bars	100.0	0.0	0.0	0.0	0.0

**US\$ Real (2018)**

Money Available

Cost of Choc Bar

Year 6	Year 7	Year 8	Year 9	Year 10	
500	500	500	500	500	
670	704	739	776	814	
4%	4%	4%	4%	4%	4%
5%	5%	5%	5%	5%	5%
1.34	1.41	1.48	1.55	1.63	
	500	739			
	355.3407	338.4197	322.3045		

Year 6	Year 7	Year 8	Year 9	Year 10
5	5	5	5	5
6.33	6.58			

Year 6	Year 7	Year 8	Year 9	Year 10	2029
100.0	100.0	100.0	100.0	100.0	
	76.0				

Year 6	Year 7	Year 8
--------	--------	--------

2023	2024	2025	2026	2027	2028
1.00	1.00	1.00	1.00	1.00	1.00

0%	0%	0%	0%	0%	0%
1.00	1.00	1.00	1.00	1.00	1.00

0.0	0.0	0.0	0.0	0.0	0.0
-----	-----	-----	-----	-----	-----

## Real and Nominal

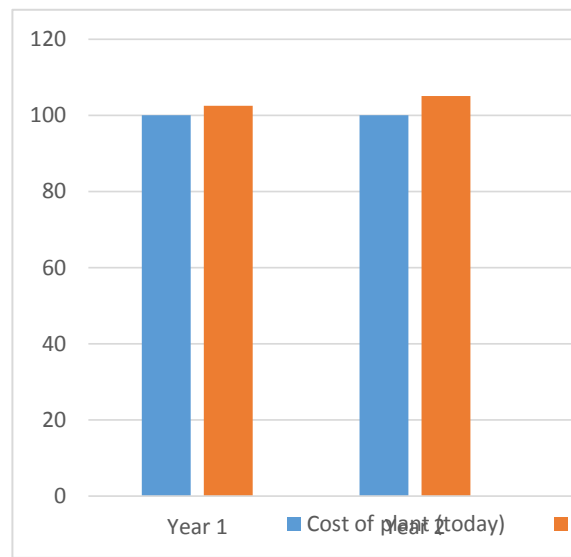
	Year 1	Year 2	Year 3	Year 4	Year 5
Real	100	100	100	100	100
Nominal	102.5	105.1	107.7	110.4	113.1
Inflation	2.5%	2.5%	2.5%	2.5%	2.5%
Inflation Factor	1.025	1.051	1.077	1.104	1.131
Capex US\$2020	500				
Nominal	538.8				

## Oil Price

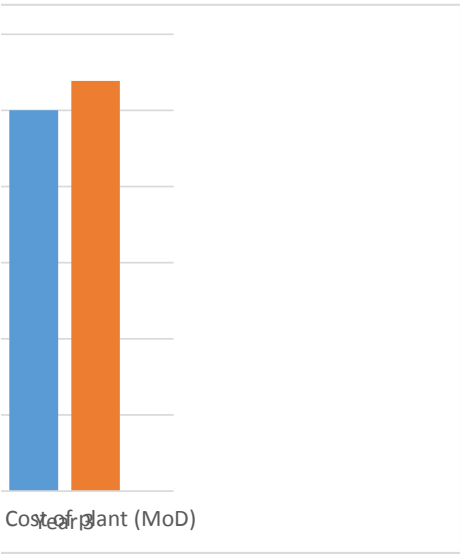
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Real	30	30	30	30	30			
Nominal	30.60	31.21	31.84	32.47	33.12			
Inflation	2%	2%	2%	2%	2%			
Inflation Factor	1.020	1.040	1.061	1.082	1.104			

	Year 1
Cost of plant (today)	100
Cost of plant (MoD)	103

Year 9      Year 10



Year 2	Year 3	Total
100	100	300
105	108	315



## Example Discounted Cashflow

### Example 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Cashflow	-10	-10	-10	20	20	20	20
Discount Factor	1.05	1.10	1.16	1.22	1.28	1.34	1.41
Discounted Cashflow	-9.5	-9.1	-8.6	16.5	15.7	14.9	14.2
NPV (Net Present Value)	<b>72.7</b>						
Discount Rate	5.0%						
Excel Calculation	72.7						
IRR	41.3%						

### Example 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Capital Cost	-200	-200	-200				
Revenue				100	100	100	100
Operating Cost				-20	-20	-20	-20
Net Cashflow	-200	-200	-200	80	80	80	80
Discount Factor	1.05	1.10	1.16	1.22	1.28	1.34	1.41
Discounted Cashflow	-190.5	-181.4	-172.8	65.8	62.7	59.7	56.9
NPV	234.5						
Discount Rate	5.0%						
IRR	9.57%						

*IRR*

*Internal Rate of Return*

*Excel Calculation*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Cumulative Cashflow	-200	-400	-600	-520	-440	-360	-280
Disc Cum Cashflow	-190.5	-371.9	-544.6	-478.8	-416.2	-356.5	-299.6

Payback period

Discounted payback period

Year 8	Year 9	Year 10
20	20	20
1.48	1.55	1.63
13.5	12.9	12.3

Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
100	100	100	100	100	100	100	100	100
-20	-20	-20	-20	-20	-20	-20	-20	-20
80	80	80	80	80	80	80	80	80
1.48	1.55	1.63	1.71	1.80	1.89	1.98	2.08	2.18
54.1	51.6	49.1	46.8	44.5	42.4	40.4	38.5	36.6

Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16
-200	-120	-40	40	120				
-245.5	-193.9	-144.8	-98.0	-53.4	-11.0	29.4	67.9	104.5



Year 17	Year 18	Year 19	Year 20
100	100	100	100
-20	-20	-20	-20
80	80	80	80
2.29	2.41	2.53	2.65
34.9	33.2	31.7	30.2

Year 17	Year 18	Year 19	Year 20
139.4	172.7	204.3	234.5

### WACC Calculation

Risk Free Rate 0.00%

Corporate Interest Rate 0.00%

Equity market return 0.00%

Company Beta 0

Corporate Tax Rate 0%

	Debt	Equity
Debt:Equity Split	100%	0%

Cost of Debt 0.00%

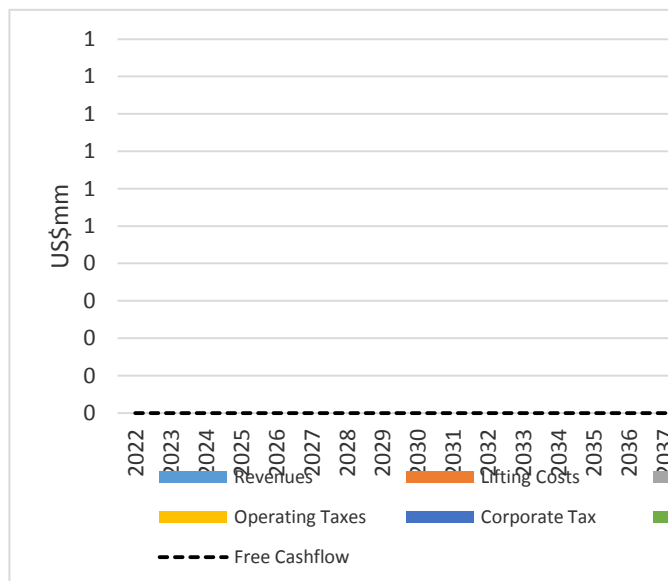
Cost of Equity 0.00%

WACC 0.00%



Terminal Value	
Implied FCF	#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!
Implied DCF	#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!
NPV	#DIV/0!
Plus Cash	0
Less Debt	0
Total NPV	#DIV/0!
IRR	#####
<i>EBITDA Multiple</i>	7

	2022	2023	2024	2025	2026	2027
Revenues	0	0	0	0	0	0
Lifting Costs	0	0	0	0	0	0
Transport	0	0	0	0	0	0
Operating Taxes	0	0	0	0	0	0
Corporate Tax	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Capex	0	0	0	0	0	0
Free Cashflow	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!



Base  
High  
Upside  
Low  
Downside

**Results**  
NPV #DIV/0! US\$mm  
IRR ##### %

2028	2029	2030	2031	2032	2033	2034	2035	2036
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!  
#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

0 0 0 0 0 0 0 0 0

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

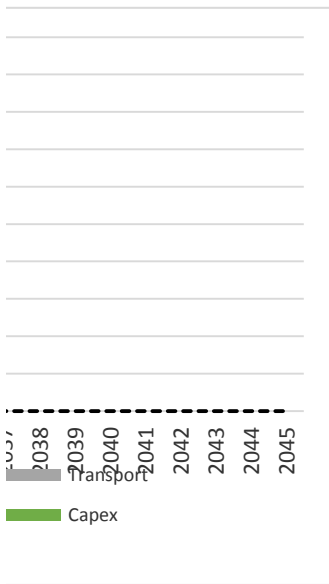
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

					0
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

2028	2029	2030	2031	2032	2033	2034	2035	2036
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
0	0	0	0	0	0	0	0	0
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!



2037	2038	2039	2040	2041	2042	2043	2044	2045
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

0 0 0 0 0 0 0 0 0

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!



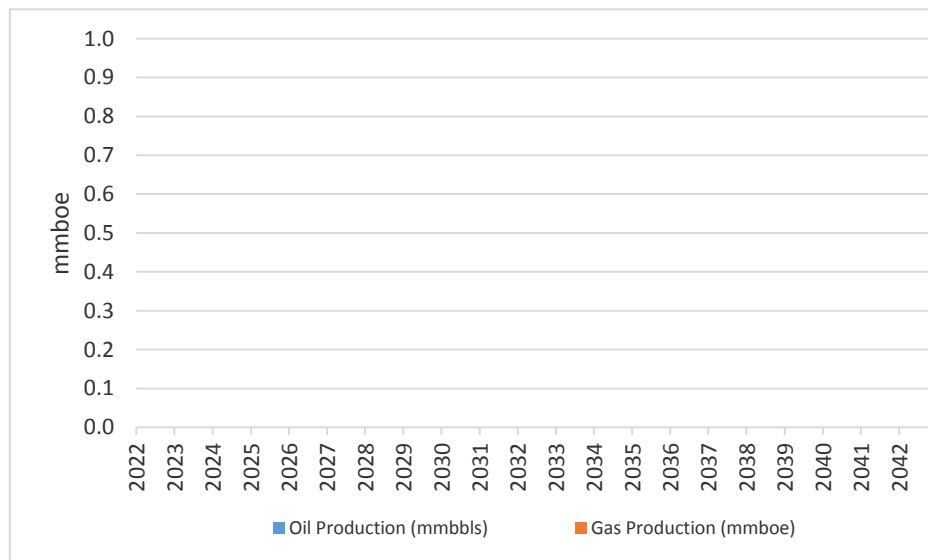


**Production**

	<b>Oil</b>		
	mmbbls	kbpd	
Resources	0		
Recovery Factor	0%		
<b>Reserves</b>	<b>0</b>		
Start date	5 years after first capex		Peak as % Reserves
<b>Peak Production (mmbbls)</b>	<b>0</b>	0	6%
<b>Time to Peak (yrs)</b>	<b>0</b>		
<b>Length of Peak (yrs)</b>	<b>0</b>		
<b>Decline rate (%)</b>	<b>0%</b>		

	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Oil production	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total oil produced to 2040</b>	<b>0.0</b>					
Barrels per day		0	0	0	0	0
Gas Production	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total gas produced to 2040</b>	<b>0.0</b>					

	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Oil Production (mmbbls)	0.0	0.0	0.0	0.0	0.0	0.0
Gas Production (mmboe)	0.0	0.0	0.0	0.0	0.0	0.0
Total (mmboe)	0.0	0.0	0.0	0.0	0.0	0.0



Production Scenarios

Total Produced

Oil Production Scenarios

1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

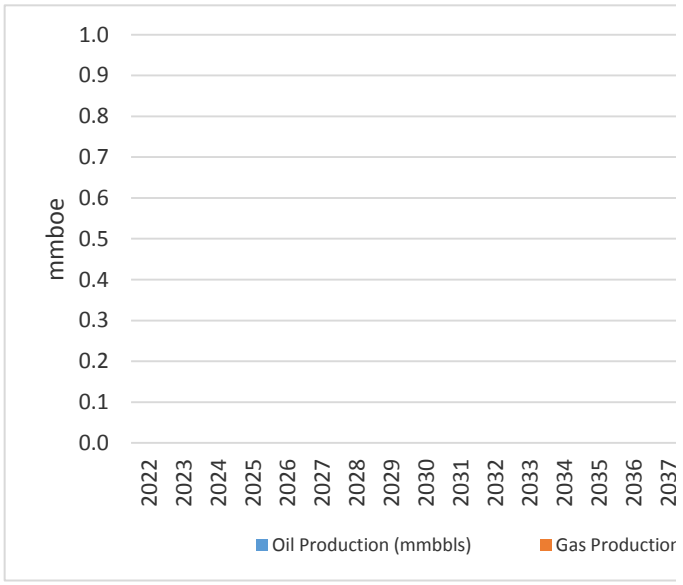
Gas Production Scenarios

1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

**Gas**  
**Bcf**      **mmcf**      **Total**  
                                  **mmboe**  
  
                                  0  
 5 years  
 after first  
 capex  
 0                                   0  
 0  
 0  
 0%

2028	2029	2030	2031	2032	2033	2034	2035	2036
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2028	2029	2030	2031	2032	2033	2034	2035	2036
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0







**Revenue Calculation**

<i>Export %</i>	<i>Oil</i>	<i>100%</i>
	<i>Gas</i>	<i>100%</i>

	2022	2023	2024	2025	2026	2027
Oil Production	0.0	0.0	0.0	0.0	0.0	0.0
Domestic Sales	0.0	0.0	0.0	0.0	0.0	0.0
Export Sales	0.0	0.0	0.0	0.0	0.0	0.0
<i>Domestic Oil Price</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Export Oil Price</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Domestic Revenue	0	0	0	0	0	0
Export Revenue	0	0	0	0	0	0
Total Oil Revenue	0	0	0	0	0	0
Gas Production	0.0	0.0	0.0	0.0	0.0	0.0
<i>Domestic Gas Price</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<i>Export Gas Price</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
Domestic Sales	0	0	0	0	0	0
Export Sales	0	0	0	0	0	0
Domestic Revenue	0	0	0	0	0	0
Export Revenue	0	0	0	0	0	0
Total Gas Revenue	0	0	0	0	0	0
Total Revenues	0	0	0	0	0	0
Oil Production Scenarios						
1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
Gas Production Scenarios						
1	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
<b>Export Oil Price</b>	#DIV/0!					
Base Case	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 2	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 3	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 5	0.0	0.0	0.0	0.0	0.0	0.0

**Domestic Oil Price**

Base Case	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 2	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 3	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 5	0.0	0.0	0.0	0.0	0.0	0.0

**Domestic Gas Price**

Base Case	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 2	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 3	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 5	0.0	0.0	0.0	0.0	0.0	0.0

**Export Gas Price**

Base Case	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 2	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 3	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 4	0.0	0.0	0.0	0.0	0.0	0.0
Scenario 5	0.0	0.0	0.0	0.0	0.0	0.0

Slope 13%









0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2045

0.0

0.0

0.0

0

0

0

0

0

0.0

0.0

0.0

0

0

0

0

0

0

0.0

0.0 15%

0.0 30%

0.0 -15%

0.0 -30%

0.0

0.0 15%

0.0 30%

0.0 -15%

0.0 -30%

0.0

0.0

0.0

0.0

0.0

0.0  
0.0  
0.0  
0.0  
0.0

0.0  
0.0  
0.0  
0.0  
0.0

0.0  
0.0  
0.0  
0.0  
0.0

## Capital Expenditure

Reserves	0	
Capex per bbl	0.00	
Total capex	0	
% before first oil	100%	0
% first oil to peak	0%	0
Maintenance capex	0%	0

	2022	2023	2024	2025	2026	2027
US\$mm	0	0	0	0	0	0
Before first oil	0					
First oil to peak	0					
Maintenance	0					
Total	0					

## Sensitivities

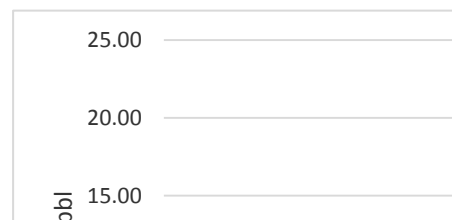
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
15%						
30%						
-15%						
-30%						

## Field Comparisons

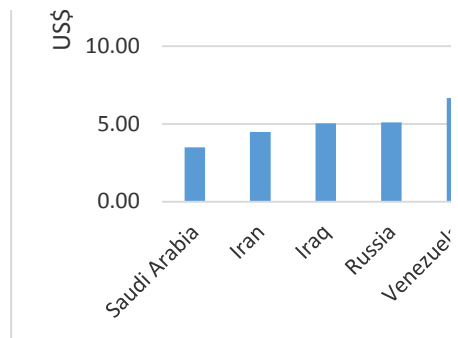
	Cost /bbl	Capex	Reserves	Peak Prod	Peak Prod
	US\$/bbl	US\$mm	mmbbls	kbpd	mmbbls
Kashagan ( Kazakhstan)	10.46	136000	13000	1500	547.5
ACG (Azerbaijan)	4.00	20000	5000	620	226.3
Thunderhorse (Gulf of Mexico)	5.00	5000	1000	250	91.25
Novy Port (Russia onshore)	3.25	4500	1385	161	58.64
Ghawar (Saudi)	3.50	248500	71000	5000	1825
Lula (Brazil deep water)	9.04	75000	8300	500	182.5

## Global Comparisons

	Capex US\$/bbl
Saudi Arabia	3.50
Iran	4.48
Iraq	5.03
Russia	5.10
Venezuela	6.66



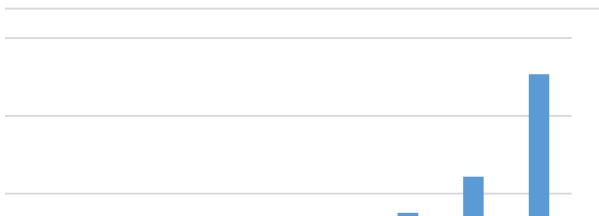
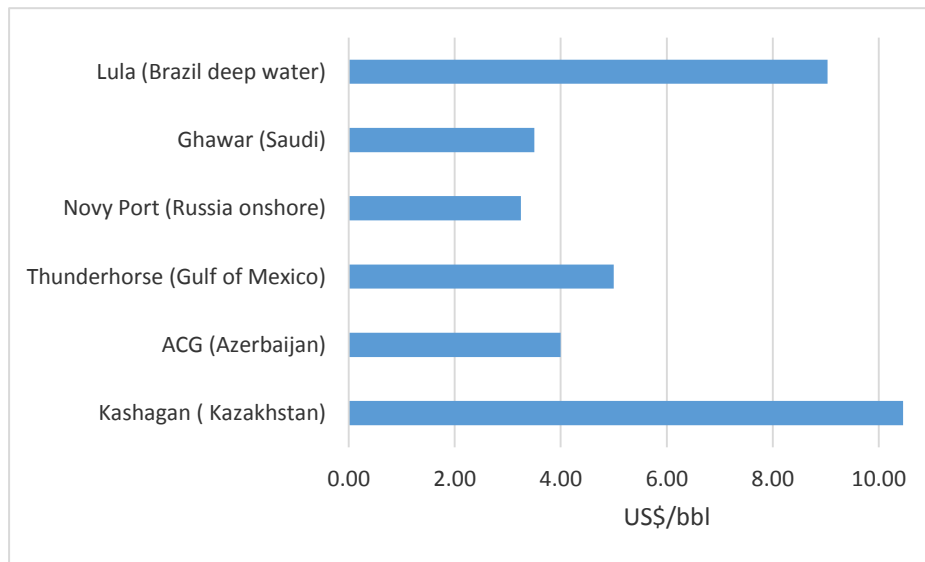
US shale	7.56
Indonesia	7.65
US conv	7.70
Canada	9.69
Nigeria	13.10
Norway	13.76
Brazil	16.09
UK	22.67



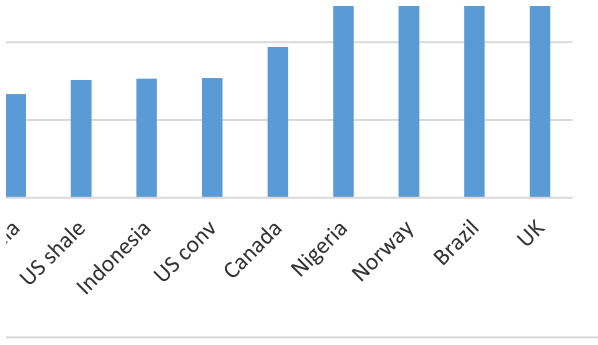
2028      2029      2030      2031      2032      2033      2034      2035      2036

0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

Capex/  
peak bbl  
US\$/bbl  
248  
88  
55  
77  
136  
411

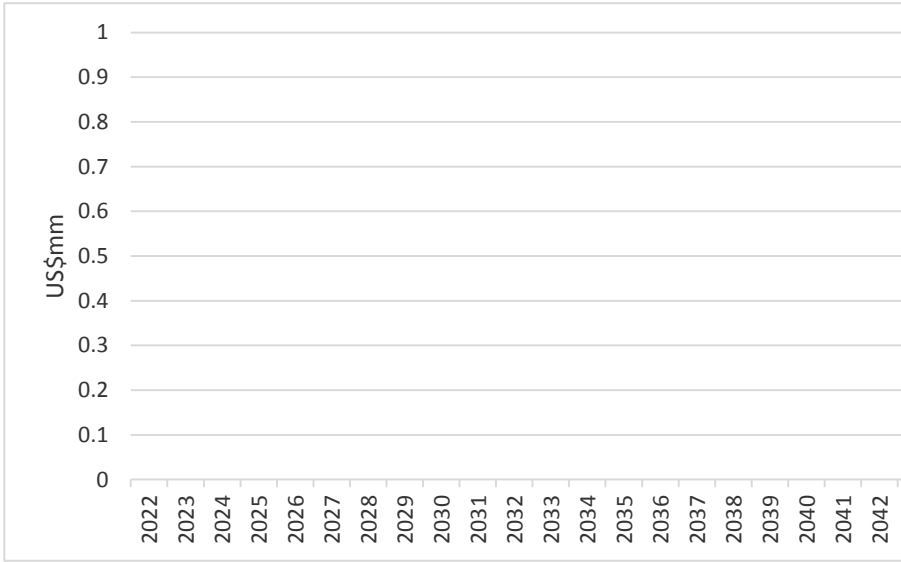






2037      2038      2039      2040      2041      2042      2043      2044      2045

0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0





2043  
2044  
2045





Total (US\$mm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
----------------	-----	-----	-----	-----	-----	-----	-----

**Base Case and Sensitivities**

1	0.00
2	15%
3	30%
4	-15%
5	-30%



0.0

0.0

0.0

0.0

0.0

0.0

0.0

0.0



2037

0.0

2038

0.0

2039

0.0

2040

0.0

2041

0.0

2042

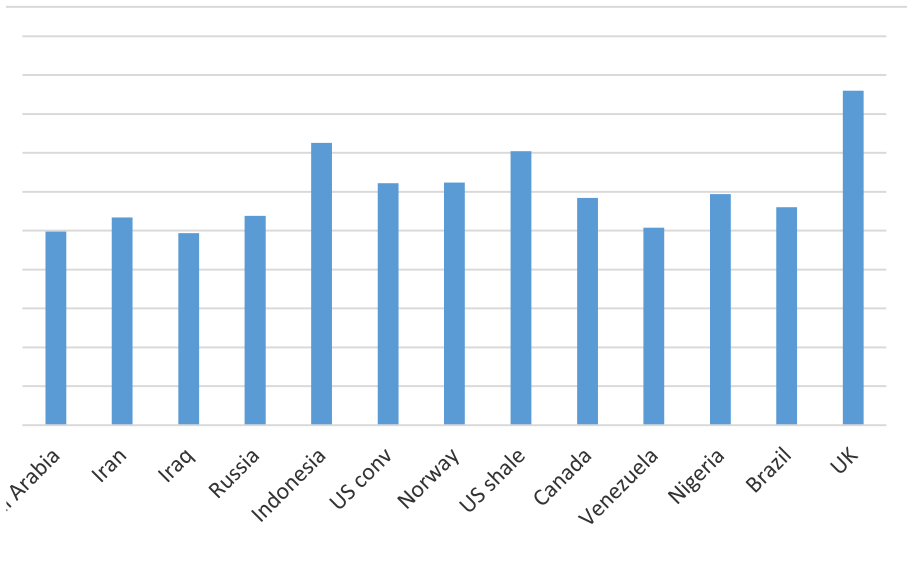
0.0

2043

0.0

2044

0.0



2037

0.0

0.0

2038

0.0

0.0

2039

0.0

0.0

2040

0.0

0.0

2041

0.0

0.0

2042

0.0

0.0

2043

0.0

0.0

2044

0.0

0.0

0.0

0.0

0.0

0.0

0.0

0.0

0.0

0.0

**2045**

0.0

**2045**

0.0

0.0

0.0

## Operating Taxes

### Oil Tax

Export Tax Sliding of export barrels  
**Royalty** 0.0% of oil revenues  
**Other taxes** 0.0% of total revenues

Export Oil Price 0 0 0 0 0 0

	2022	2023	2024	2025	2026	2027
Export Tax	0.0	0.0	0.0	0.0	0.0	0.0
Royalty	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	0	0	0	0	0.0

### Export Tax

**Cut-off point** 0 US\$/bbl  
**Tax** 0% above cut-off point

Export Tax (\$/bbl) 0 0 0 0 0 0

### Gas Tax

**Export Tax** 0% export revenues  
**Royalty** 0 US\$/mcf

	2022	2023	2024	2025	2026	2027
Export Tax	0	0	0	0	0	0
Royalty	0	0	0	0	0	0
Total	0	0	0	0	0	0

Total Operating Taxes 0 0 0 0 0 0

Total US\$/boe

### Gross Taxes

US\$/bbl

Saudi Arabia 0

Iran 0

Iraq 0.91

Russia 8.44

Indonesia 1.55

US conv 5.03

Norway 0.19

US shale 6.42

Canada 2.48

Venezuela 10.48

Nigeria 4.11

Brazil  
UK

6.66  
0









## Depreciation

### Straight Line

Total Capex	0
Years of Production	0
Annual Depreciation (US\$mm)	#DIV/0!

	2022	2023	2024	2025	2026	2027
Depreciation	0	0	0	0	0	0
<i>Production</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Total	0					

### Unit of Production

Total Reserves	0
Total Produced	0
Total Capex	0
Depreciation per barrel	#DIV/0!

	2019	2020	2021	2022	2023	2024
Depreciation	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total	#DIV/0!					

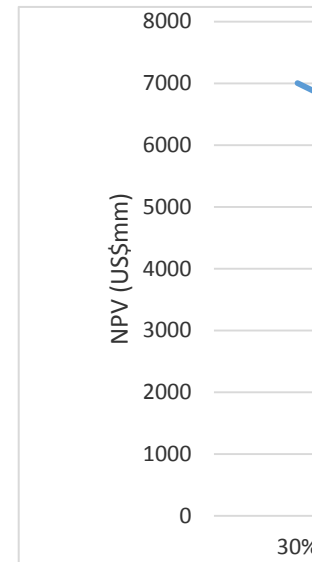




## Sensitivities

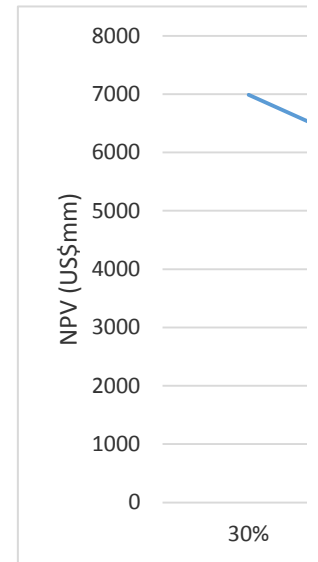
### Oil Price

	NPV
30%	7005
15%	5677
0%	4348
-15%	3020
-30%	1692



### Production

	NPV
30%	6988
15%	5668
0%	4349
-15%	3029
-30%	1709



### Capex

	NPV
30%	2855
15%	3602
0%	4349
-15%	5095
-30%	5842

### Opex

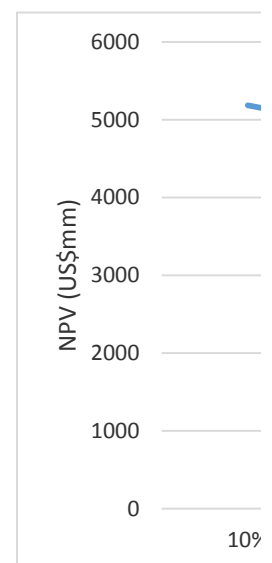
	NPV
30%	3783
15%	4066
0%	4349
-15%	4632
-30%	4914

### Corporate Tax Rate

	NPV
10%	5184
15%	4766
20%	4349
25%	3931
30%	3513

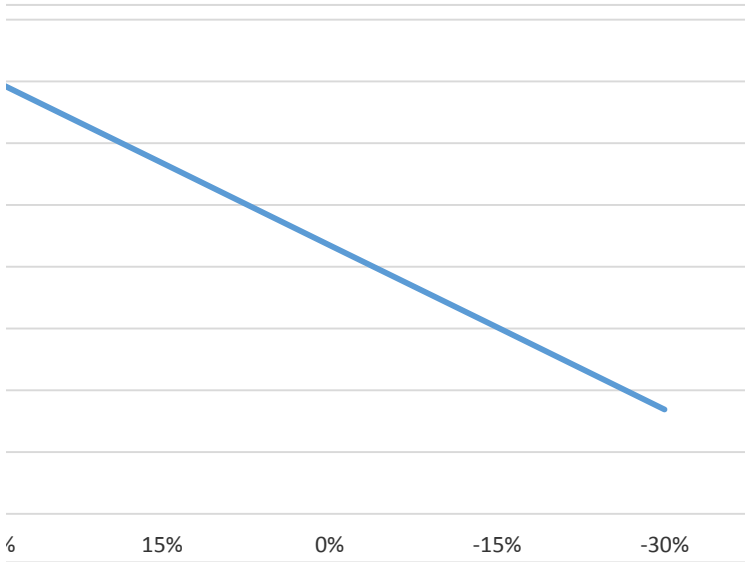
### Discount Rate

	NPV
-30.0%	6668
-15.0%	5406
Base	4349
+15%	3427
+30%	2654

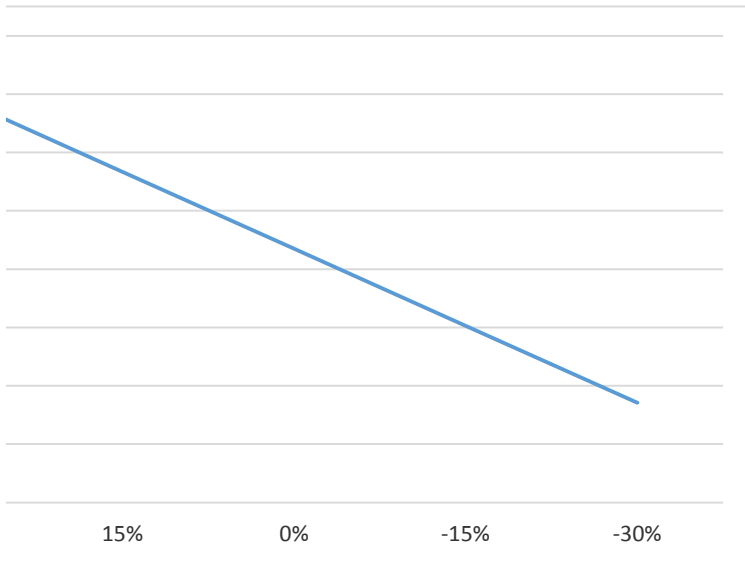


## Summary

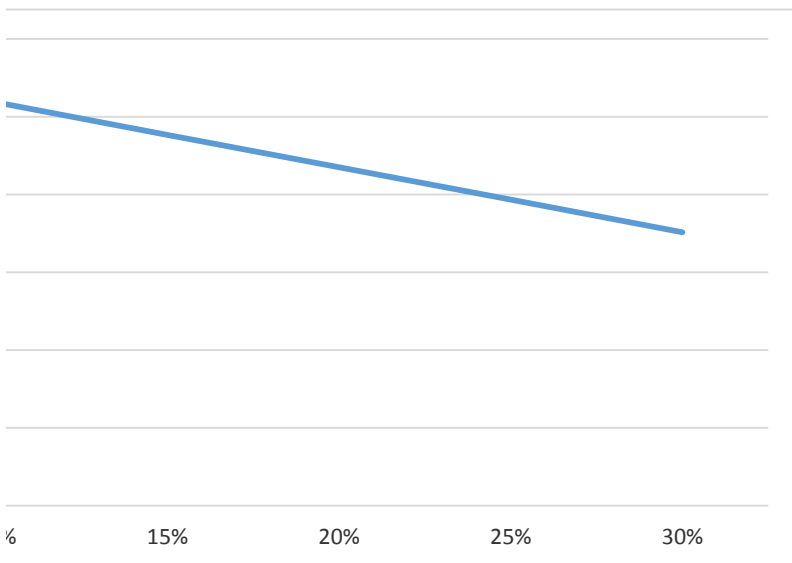
	Oil Price	Production Capex	Opex	Corp Tax	Disc. Rate
Downside	1692	1709	2855	3783	
Low	3020	3029	3602	4066	
Base	4348	4349	4349	4349	
High	5677	5668	5095	4632	
Upside	7005	6988	5842	4914	



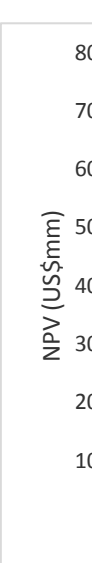
Oil Price

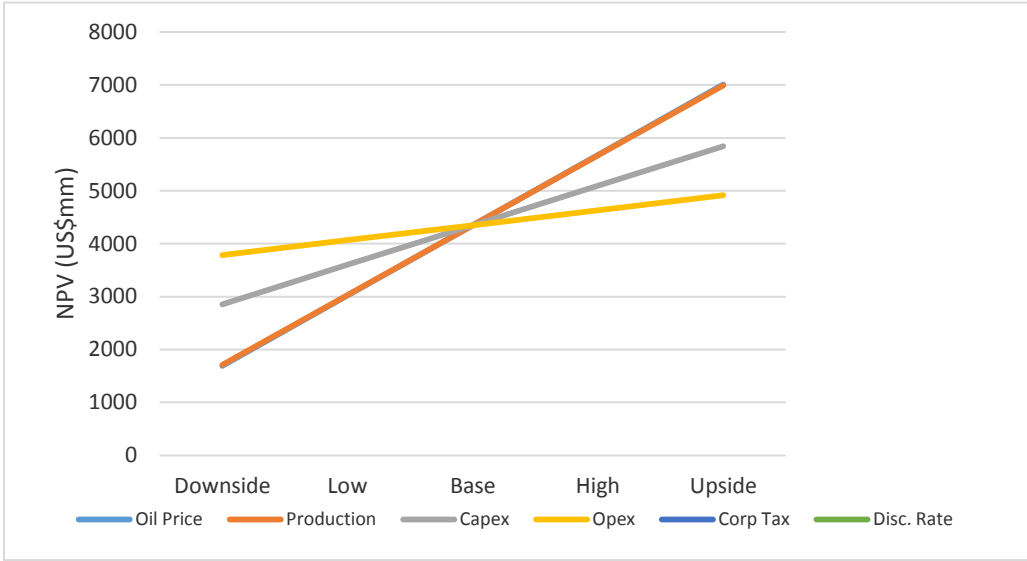


Production

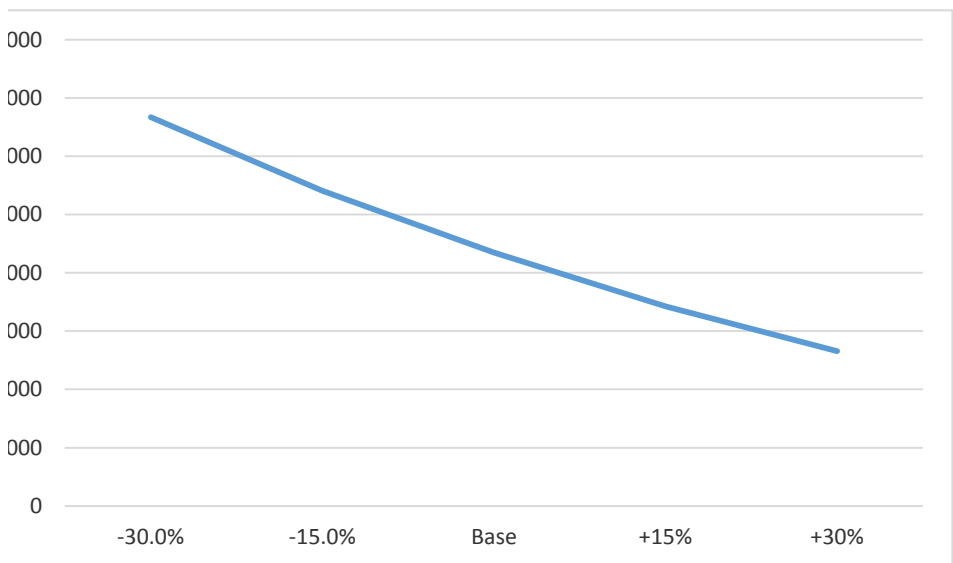
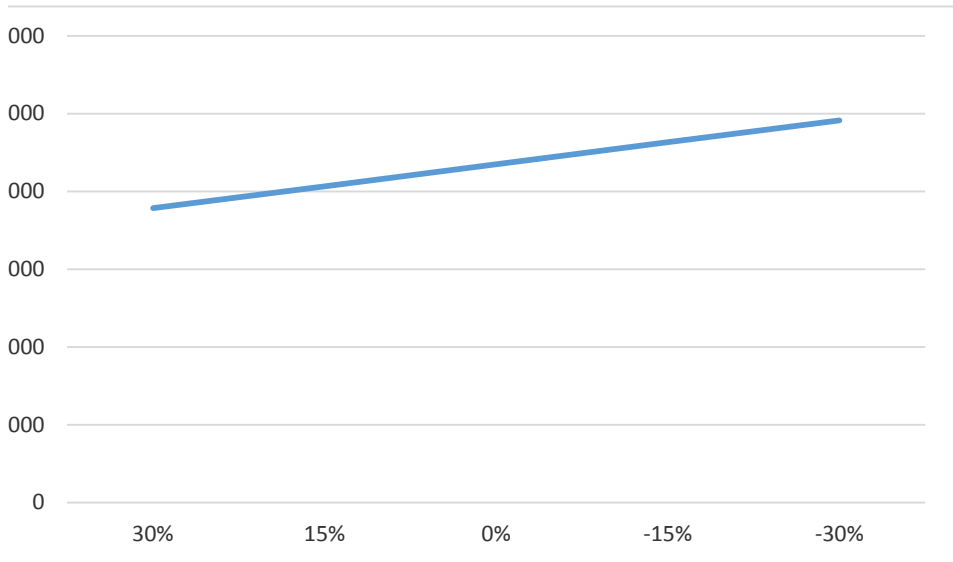
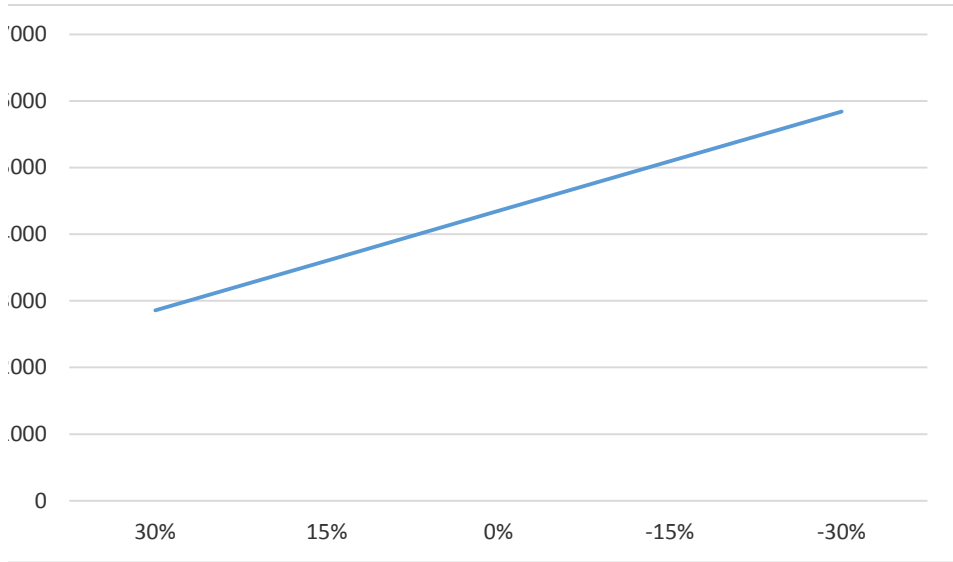


Tax Rate









**Exploration Well Analysis**

Chance of Success	10%
Cost of Well	100 US\$mm
NPV of Success	#DIV/0!
Dry Hole	-90.0
Successful Well	#DIV/0!
EMV	#DIV/0!

**PSA Regime**

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Company Revenues	0	0	0	0	0	0
Operating Costs	0	0	0	0	0	0
Transport Costs	0	0	0	0	0	0
Operating Taxes	0	0	0	0	0	0
EBITDA	0	0	0	0	0	0
Depreciation	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
EBIT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Tax on EBIT <i>Corporate Tax Rate</i>	#DIV/0! 20%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Post tax cashflow	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
CAPEX	0	0	0	0	0	0
Free Cashflow (FCF)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative FCF	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Discount Rate	10%					
Discount Factor	1.10	1.21	1.33	1.46	1.61	1.77
Discounted Cashflow (DCF)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NPV (\$mm)	#DIV/0!					
IRR (%)	#####					

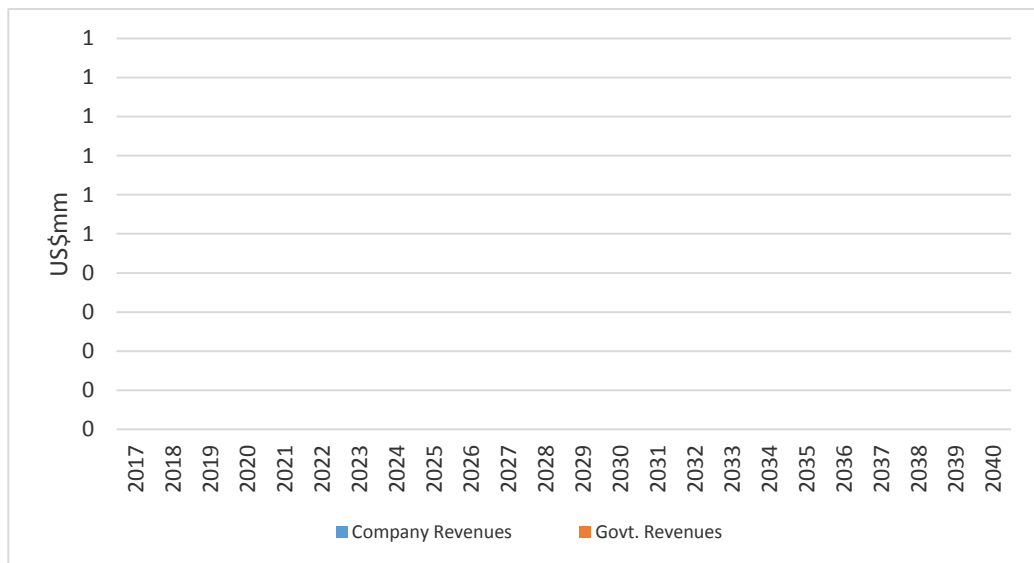
**Revenue Calculation**

	Company	Govt				
Cost Oil	80%					
Profit Oil	50%	50%				
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Total Revenues	0	0	0	0	0	0
Govt Royalty	0	0	0	0	0	0
Taxable Revenues	1%	0	0	0	0	0
<b>Cost Oil</b>						
80% of Revenues	0	0	0	0	0	0

Accumulated Cost Oil	0	0	0	0	0	0
Annual Costs	0	0	0	0	0	0
Accumulated Costs	0	0	0	0	0	0
Payback	0	0	0	0	0	0
<b>Cost Oil to Company</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Profit Oil	0	0	0	0	0	0
<b>Profit Oil</b>						
Company	0	0	0	0	0	0
Govt	0	0	0	0	0	0
<b>Total Company Revenues</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Company Revenues	0	0	0	0	0	0
Govt. Revenues	0	0	0	0	0	0



0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0









## Questions

### Real and Nominal

	2018	2019	2020	2021	2022	2023
<b>Q1</b>	100	102.5	105.1	107.7	110.4	113.1

### Q2

	2018	2019	2020	2021	2022	2023
Real	60	60	60	60	60	60
Nominal	60	61.20	62.42	63.67	64.95	66.24

Inflation 2%

Real +1%	60	60.60	61.21	61.82	62.44	63.06
----------	----	-------	-------	-------	-------	-------

### NPV and DCF

#### Q1

	2018	2019	2020	2021	2022	2023	2024	2025
US\$mm	100	100	100	100	100	100	100	100
Discount factor	1.10	1.21	1.33	1.46	1.61	1.77	1.95	2.14
Discount Rate	10%							
DCF	91	83	75	68	62	56	51	47
NPV	614							
NPV Excel	614							

#### Q2

	2018	2019	2020	2021	2022	2023	2024	2025
Capex	-187.5	-187.5	-187.5	-187.5	-187.5			
Cashflow						100	150	200
Net Cashflow	-188	-188	-188	-188	-188	100	150	200
Discount Factor	1.1	1.21	1.33	1.46	1.61	1.77	1.95	2.14
Discount Rate	10%							
DCF	-170	-155	-141	-128	-116	56	77	93
NPV	381							
NPV Excel	381							
IRR	16%							
Cost Inflation	1.25							

2026	2027
100	100
2.36	2.59
42	39

2026	2027	2028	2029	2030	2031	2032	2033	2034
250	300	300	300	300	300	300	270	243
250	300	300	300	300	300	300	270	243
2.36	2.59	2.85	3.14	3.45	3.80	4.18	4.59	5.05
106	116	105	96	87	79	72	59	48

2035	2036	2037
219	197	177
219	197	177
5.56	6.12	6.73
39	32	26