

## An Example Conventional Oil Field

Sensitivities		1	0%
Oil Price	1	2	+15%
Production	1	3	+30%
Operating Costs & Transport	1	4	-15%
Capex	1	5	-30%

	2017	2018	2019	2020	2021	2022
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	0	0	0	0	0	0
EBIT	0	0	0	0	0	0
Tax on EBIT	0	0	0	0	0	0
<i>Corporate Tax Rate</i>	<i>20%</i>					
Post tax cashflow	0	0	0	0	0	0
CAPEX	0	0	0	0	0	0
Free Cashflow (FCF)	0	0	0	0	0	0
Cumulative FCF	0	0	0	0	0	0
Discount Rate	0.0%					
Discount Factor	1.00	1.00	1.00	1.00	1.00	1.00
Discounted Cashflow (DCF)	0	0	0	0	0	0
NPV (\$mm)	0					
IRR (%)	#ČÍSLO!					
Payback (years)		When does cumulative cashflow turn positive				
Excel Calculation	\$0					
<i>Breakeven Oil Price</i>	<i>\$0</i>	<i>After Goal Seek Function in Data:What If</i>				
Alternative NPV (terminal value)						
FCF for 10 years	0	0	0	0	0	0
Terminal Value						

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

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
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	0	0	0	0	0	0
Free Cashflow	0	0	0	0	0	0
Capex	0	0	0	0	0	0





2032	2033	2034	2035	2036	2037	2038	2039	2040
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0	0	0	0	0	0	0	0	0

1	_____
1	_____
1	_____
1	_____



## Time Value of Money

	At Jan 1						
	2018	2019	2020	2021	2022	2023	2024
US\$	100						
US\$						100	
US\$							
Interest Rate	3%	3%	3%	3%	3%	3%	3%
Multiplier	1.03	1.06	1.09	1.13	1.16	1.19	1.23

## Real versus Nominal

Costs	At Dec 31						
	2018	2019	2020	2021	2022	2023	2024
US\$ Nominal	1	1	1.00	1.00	1.00	1.00	1.00
Inflation Rate	0%	0%	0%	0%	0%	0%	0%
Multiplier		1	1.00	1.00	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	0.0	0.0
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**US\$ Real (2018)**

Money Available  
Cost of Choc Bar



2025	2026	2027	2028
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			100
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3%	3%	3%	
1.27	1.30	1.34	

2025	2026	2027	2028
1.00	1.00	1.00	1.00

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

0.0

0.0

0.0

0.0

## Example Discounted Cashflow

### Example 1

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Cashflow	0	0	0	0	0	0	0	0
Discount Factor								
Discounted Cashflow								
NPV	0.0							
Discount Rate	0%							
Excel Calculation	0.0							

### Example 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Capital Cost	-100	-100	-100					
Revenue				30	60	120	150	
Operating Cost				-5	-5	-5	-5	
Net Cashflow	-100	-100	-100	25	55	115	145	
Discount Factor	1.08	1.17	1.26	1.36	1.47	1.59	1.71	
Discounted Cashflow	-92.6	-85.7	-79.4	18.4	37.4	72.5	84.6	
NPV	173.2							
Discount Rate	8%							
IRR	18.66%							
Excel Calculation	173.2							

Year 8	Year 9	Year 10
0	0	0

Year 8	Year 9	Year 10
150	150	150
-5	-5	-5
145	145	145
1.85	2.00	2.16
78.3	72.5	67.2

**Revenue Calculation**

<i>Export %</i>	<i>Oil</i>	<i>45%</i>
	<i>Gas</i>	<i>20%</i>

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
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>						
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









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

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

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

2040

34.9

19.2

15.7

0

0

0

0

0

17.5

0.0

0.0

14

3

0

0

0

0

34.9

40.2

+15%

45.4

+30%

29.7

-15%

24.4

-30%

17.5

20.1

+15%

22.7

+30%

14.8

-15%

12.2

-30%

0.0

0.0

0.0

0.0

0.0

0.0  
0.0  
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0.0

0.0  
0.0  
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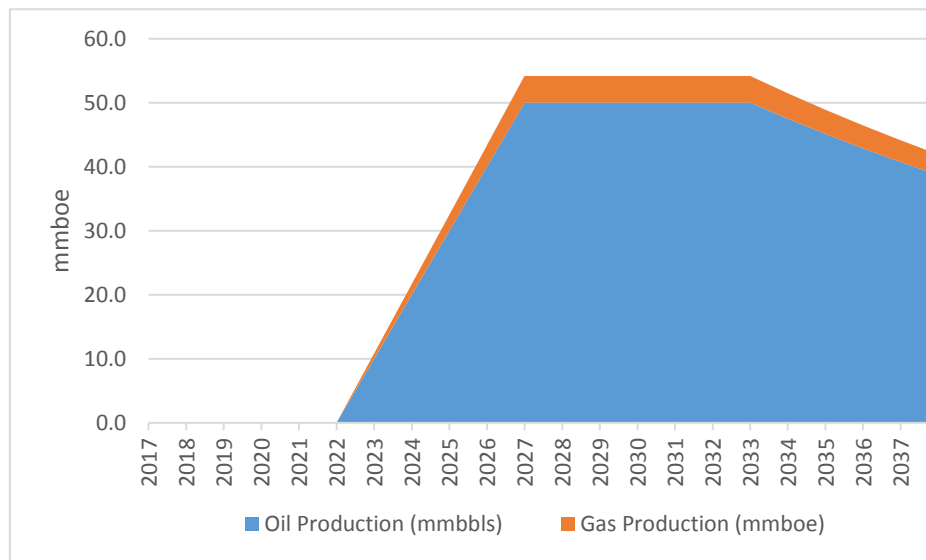
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**Production**

	<b>Oil</b>		
	mmbbls	kbpd	
Resources	0		
Recovery Factor	0%		
Reserves	1000		
Start date	5 years		Peak as %
	after first		Reserves
	capex		
Peak Production (mmbbls)	50	137	5%
Time to Peak (yrs)	4		
Length of Peak (yrs)	7		
Decline rate (%)	5%		

	<i>First capex</i>					
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Oil production						
<b>Total oil produced to 2040</b>	<b>736.6</b>					
Barrels per day		0	0	0	0	0
Gas Production						
<b>Total gas produced to 2040</b>	<b>368.3</b>					

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</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	736.58
2	847.07
3	957.55
4	626.09
5	515.61

Gas Production Scenarios

1	368.29
2	423.53
3	478.78
4	313.05
5	257.80

**Gas**  
Bcf

500

5 years  
after first  
capex

25

4

7

5%

**Total**

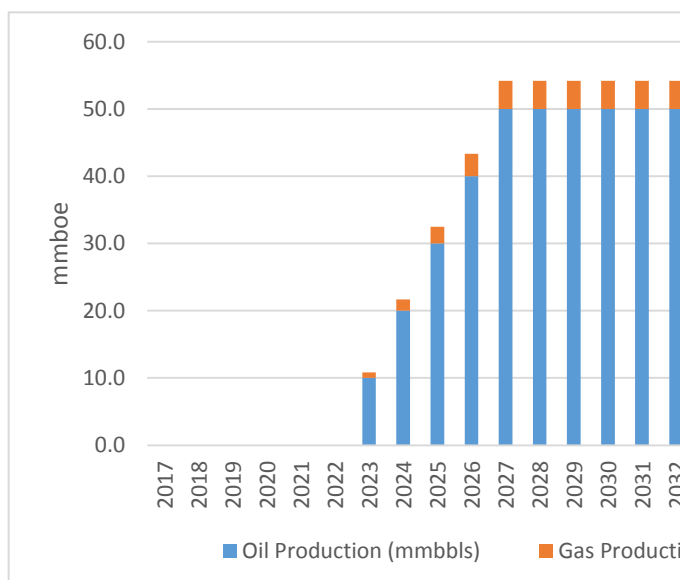
1083

68

1st year

2023	2024	2025	2026	2027	2028	2029	2030	2031
10.00	20.00	30.00	40.00	50.00	50.00	50.00	50.00	50.00
27397	54795	82192	109589	136986	136986	136986	136986	136986
5	10	15	20	25.0	25.0	25.0	25.0	25.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
10.0	20.0	30.0	40.0	50.0	50.0	50.0	50.0	50.0
0.8	1.7	2.5	3.3	4.2	4.2	4.2	4.2	4.2
10.8	21.7	32.5	43.3	54.2	54.2	54.2	54.2	54.2

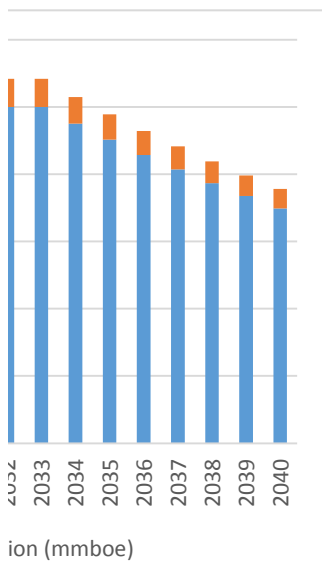






2032	2033	2034	2035	2036	2037	2038	2039	2040
50.00	50.00	47.50	45.13	42.87	40.73	38.69	36.75	34.92
136986	136986	130137	123630	117449	111576	105997	100698	95663
25.0	25.0	23.8	22.6	21.4	20.4	19.3	18.4	17.5

2032	2033	2034	2035	2036	2037	2038	2039	2040
50.0	50.0	47.5	45.1	42.9	40.7	38.7	36.8	34.9
4.2	4.2	4.0	3.8	3.6	3.4	3.2	3.1	2.9
54.2	54.2	51.5	48.9	46.4	44.1	41.9	39.8	37.8



## Capital Expenditure

Reserves	1083	
Capex per bbl	0.00	
Total capex	0	
% before first oil	75%	0
% first oil to peak	20%	0
Maintenance capex	5%	0

US\$mm	First Capex					
	2017	2018	2019	2020	2021	2022
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

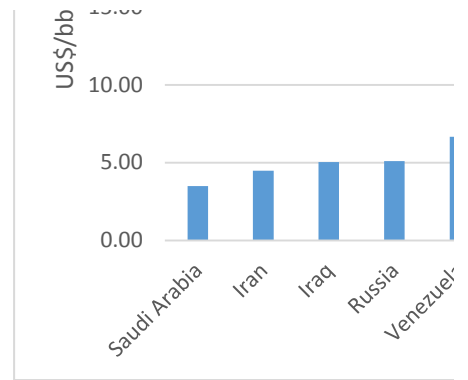
	Cost /bbl	Capex	Reserves	Peak Prod	Peak Prod
	US\$/bbl	US\$mm	mmbbls	kbpd	mmbbls
Kashagan ( Kazakhstan)	10.46	136000	13000	1500	547.5
ACG (Azerbaijan)	4.00	20000	5000	620	226.3
Thunderhorse (Gulf of Mexico)	5.00	5000	1000	250	91.25
Novy Port (Russia onshore)	3.25	4500	1385	161	58.64
Ghawar (Saudi)	3.50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

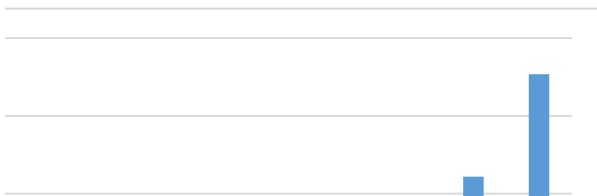
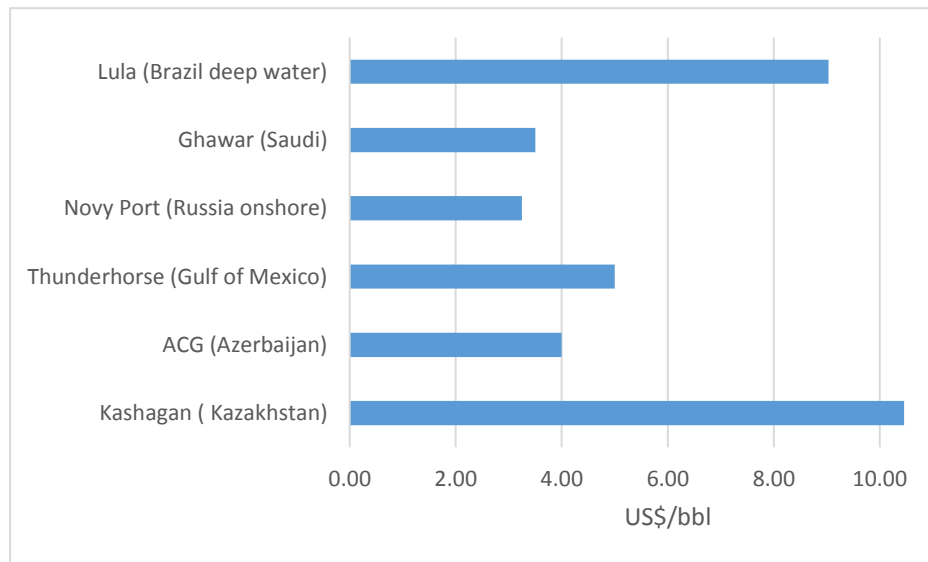


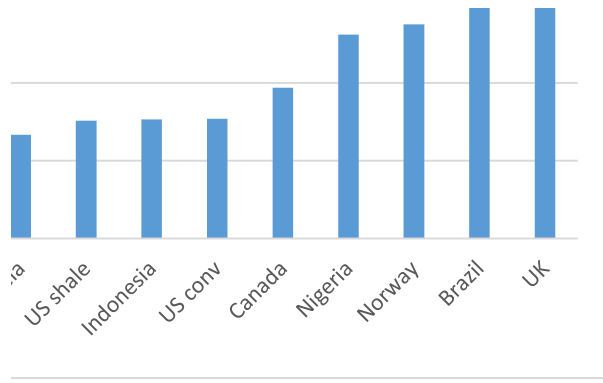
First Oil			Peak Oil						
2023	2024	2025	2026	2027	2028	2029	2030	2031	

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

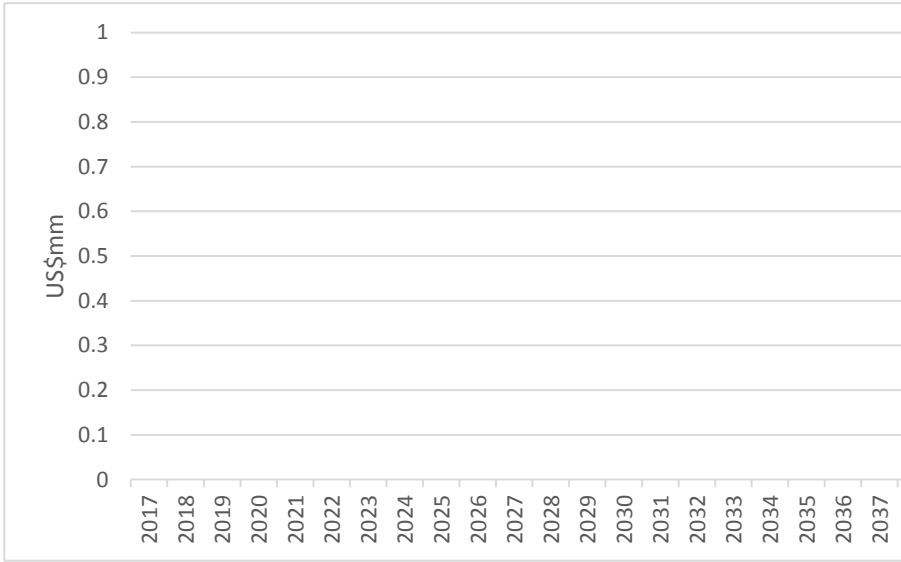
248  
88  
55  
77  
136  
411



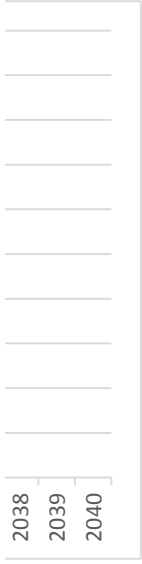


2032      2033      2034      2035      2036      2037      2038      2039      2040

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









## Depreciation

### Straight Line

Total Capex	0
Years of Production	18
Annual Depreciation (US\$mm)	0

	2017	2018	2019	2020	2021	2022
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	
Total Produced	
Total Capex	
Depreciation per barrel	0.00 #####

	2017	2018	2019	2020	2021	2022
Depreciation	0	0	0	0	0	0
Total	0					







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

**Sensitivities**

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

2024

2025

2026

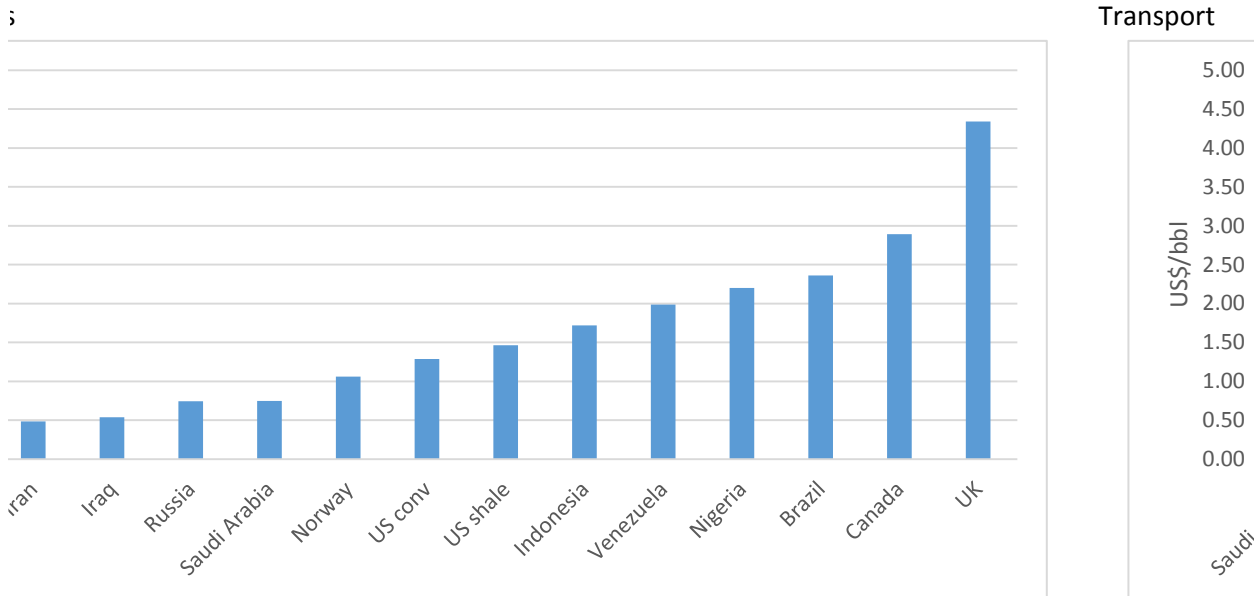
2027

2028

2029

2030

2031



2024

2025

2026

2027

2028

2029

2030

2031

0.0

0.0

0.0

0.0

0.0

0.0

0.0

0.0

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

2032

2033

2034

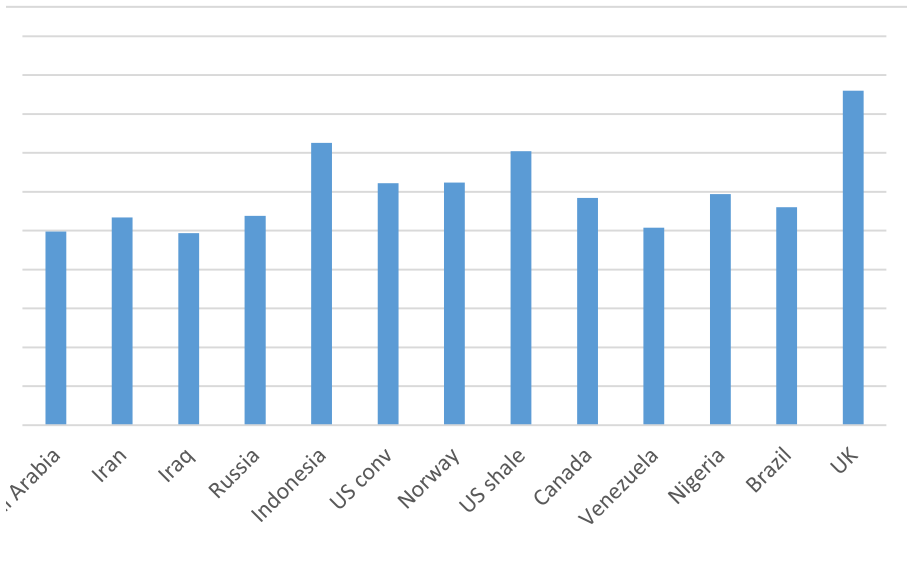
2035

2036

2037

2038

2039



2032

0.0

2033

0.0

2034

0.0

2035

0.0

2036

0.0

2037

0.0

2038

0.0

2039

0.0



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

2040

2040  
0.0

0.0

0.0

## Operating Taxes

### Oil Tax

Export Tax	Sliding	of export barrels
Royalty	5.0%	of oil revenues
Other taxes	1.0%	of total revenues

Export Oil Price	0	0	0	0	0	0
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	2017	2018	2019	2020	2021	2022
Export Tax						
Royalty						
Other						
Total	0	0	0	0	0	0

### Export Tax

Cut-off point	30	US\$/bbl
Tax	25%	above cut-off point

Export Tax (\$/bbl)

### Gas Tax

Export Tax	30%	export revenues
Royalty	0.5	US\$/mcf

	2017	2018	2019	2020	2021	2022
Export Tax						
Royalty						
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









## WACC Calculation

Risk Free Rate

Corporate Interest Rate

Equity market return

Company Beta

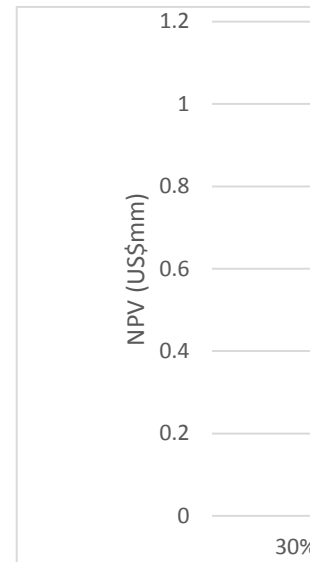
Corporate Tax Rate

	Debt	Equity
Debt:Equity Split		100%
Cost of Debt	0.00%	
Cost of Equity	0.00%	
WACC	0.00%	

## Sensitivities

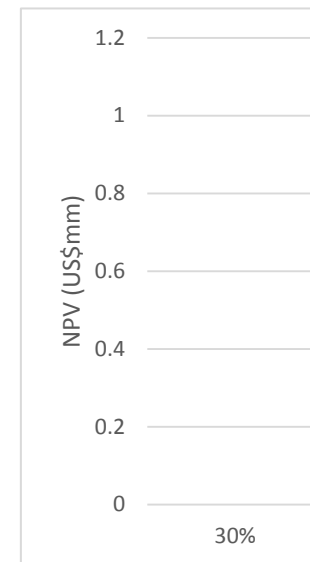
### Oil Price

NPV  
30%  
15%  
0%  
-15%  
-30%



### Production

NPV  
30%  
15%  
0%  
-15%  
-30%



### Capex

NPV  
30%  
15%  
0%  
-15%  
-30%

### Opex

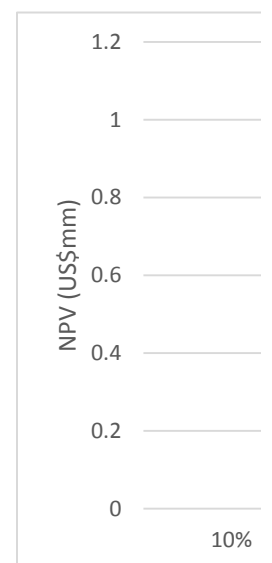
NPV  
30%  
15%  
0%  
-15%  
-30%

### Corporate Tax Rate

NPV  
10%  
15%  
20%  
25%  
30%

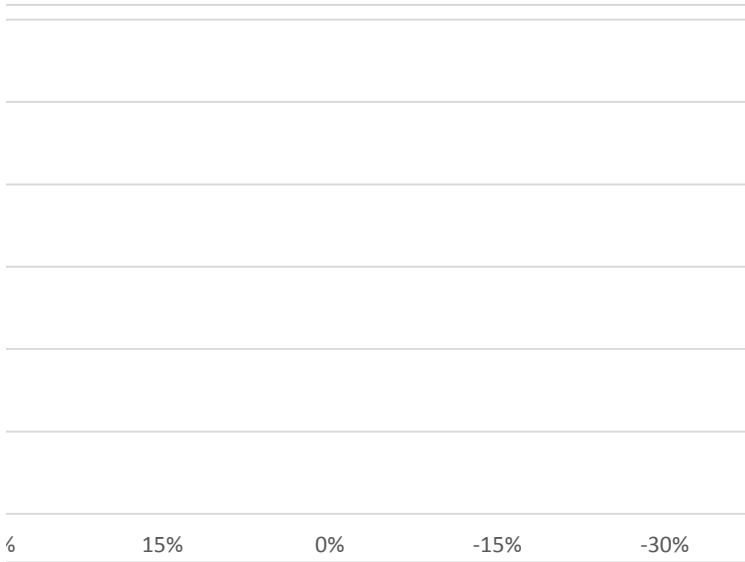
### Discount Rate

NPV  
5.0%  
7.5%  
10.0%  
12.5%  
15.0%

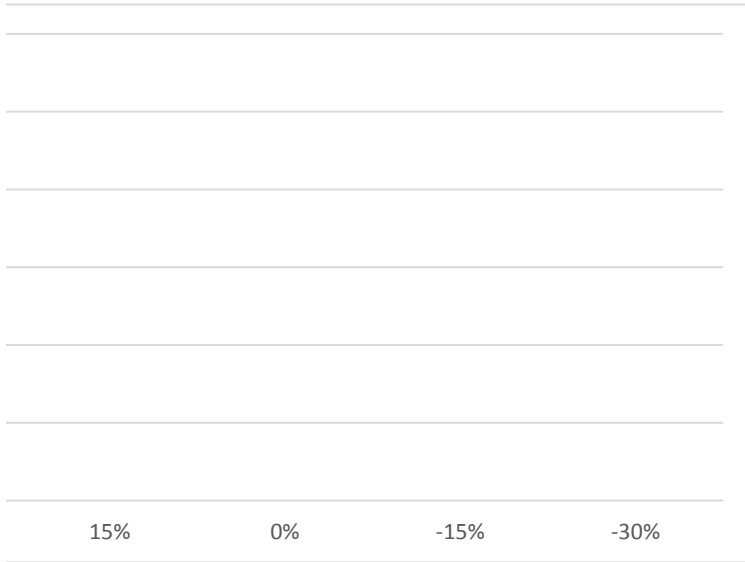


Summary

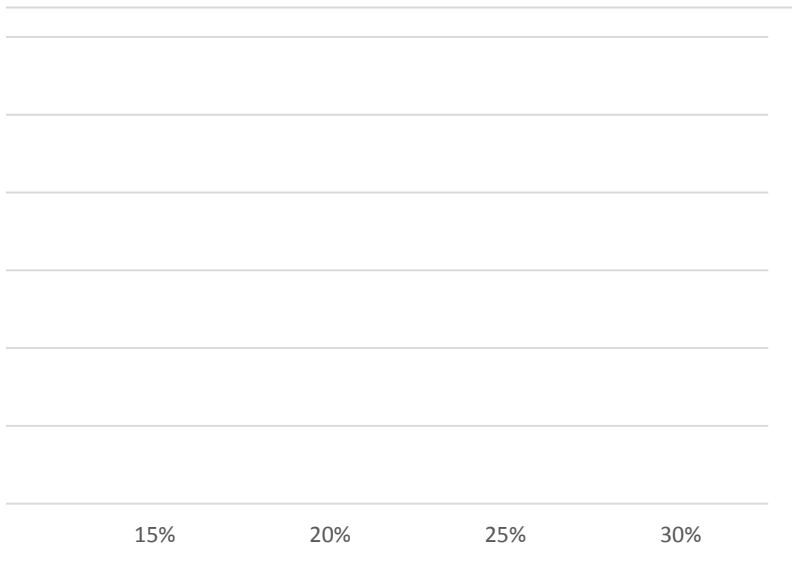
	Oil Price	Production Capex	Opex	Corp Tax	Disc. Rate	
Downside	0	0	0	0	0	0
Low	0	0	0	0	0	0
Base	0	0	0	0	0	0
High	0	0	0	0	0	0
Upside	0	0	0	0	0	0



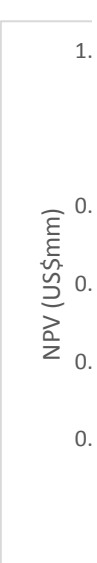
Oil Price

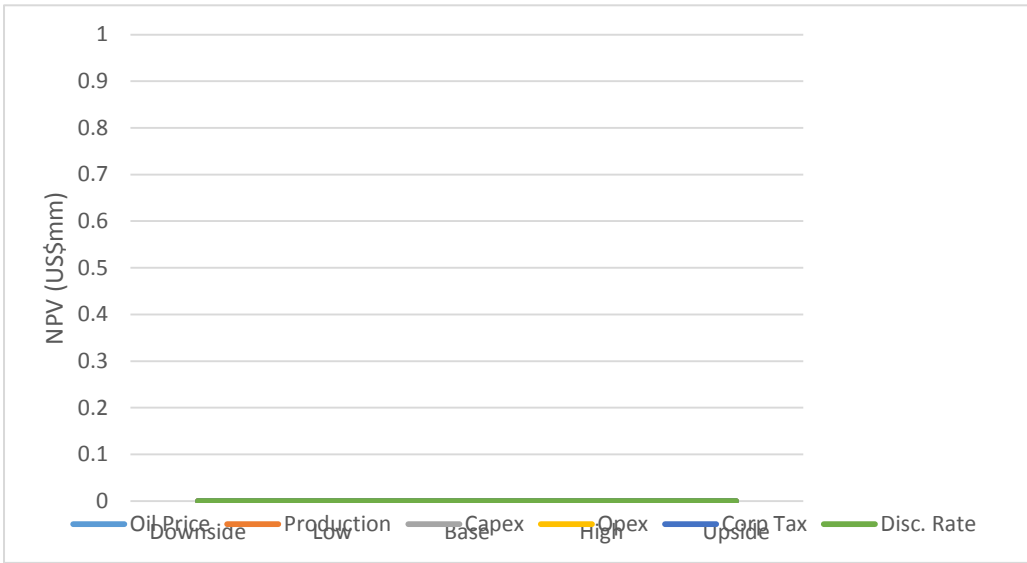


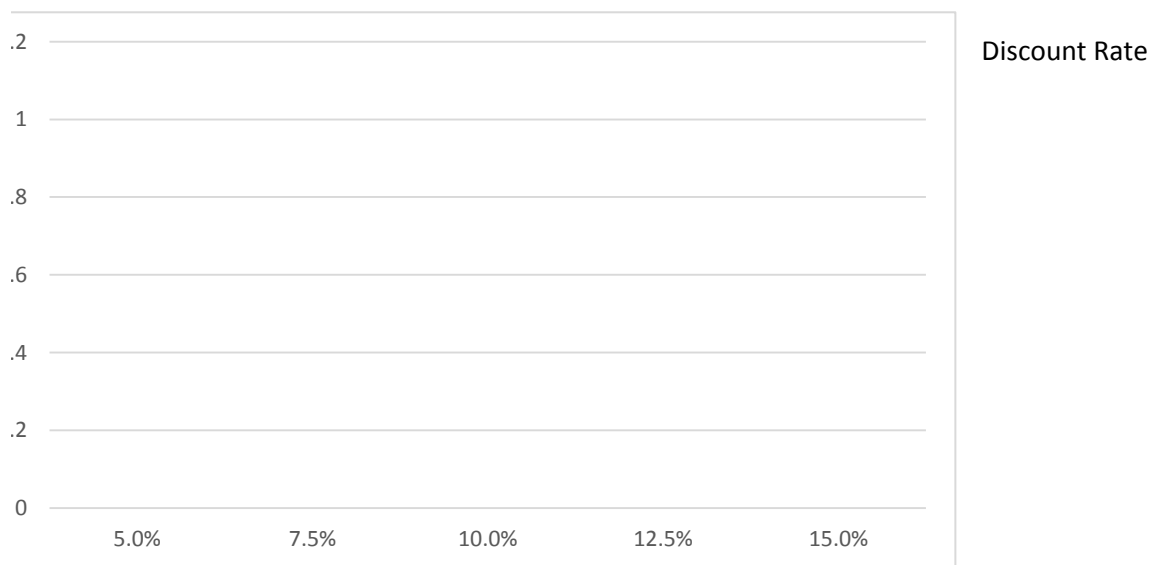
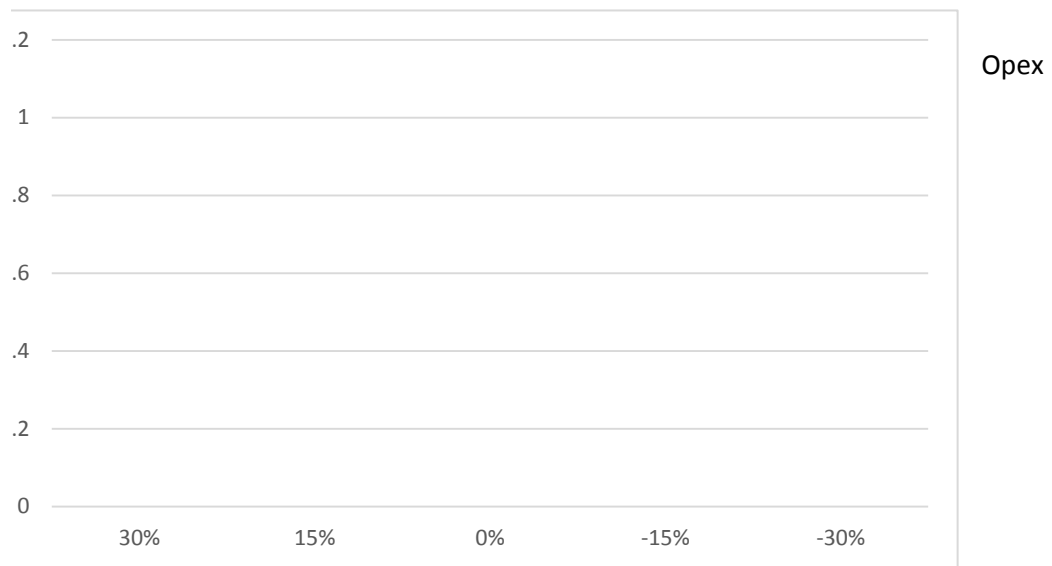
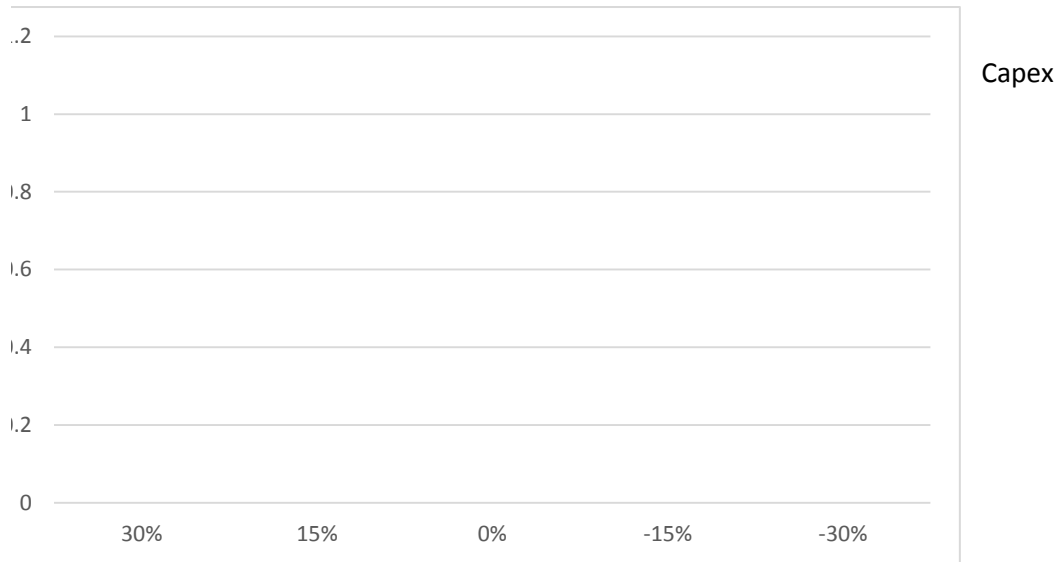
Production



Tax Rate







**PSA Regime**

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Company Revenues	0	0	0	0	0	0	0
Operating Costs	0	0	0	0	0	0	0
Transport Costs	0	0	0	0	0	0	0
Operating Taxes	0	0	0	0	0	0	0
EBITDA	0	0	0	0	0	0	0
Depreciation	0	0	0	0	0	0	0
EBIT	0	0	0	0	0	0	0
Tax on EBIT <i>Corporate Tax Rate</i>	0 20%	0	0	0	0	0	0
Post tax cashflow	0	0	0	0	0	0	0
CAPEX	0	0	0	0	0	0	0
Free Cashflow (FCF)	0	0	0	0	0	0	0
Cumulative FCF	0	0	0	0	0	0	0
Discount Rate	10%						
Discount Factor	1.10	1.21	1.33	1.46	1.61	1.77	1.95
Discounted Cashflow (DCF)	0	0	0	0	0	0	0
NPV (\$mm)	0						
IRR (%)	#ČÍSLO!						

**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>	<b>2023</b>
Total Revenues	0	0	0	0	0	0	0
Govt Royalty	0	0	0	0	0	0	0
Taxable Revenues	1% 0	0	0	0	0	0	0

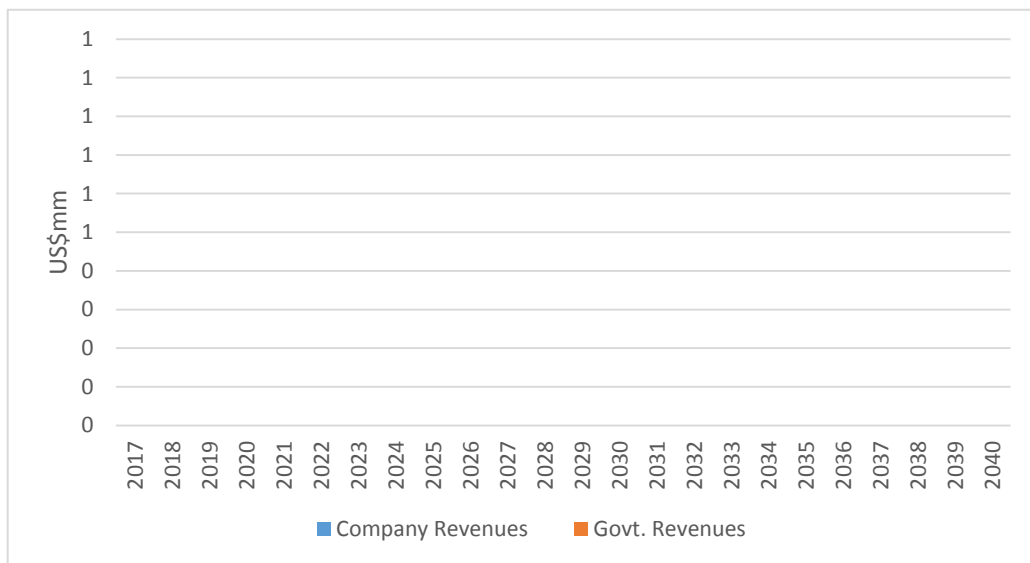
**Cost Oil**

80% of Revenues	0	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>	<b>0</b>
Profit Oil	0	0	0	0	0	0	0
<b>Profit Oil</b>							
Company	0	0	0	0	0	0	0
Govt	0	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>0</b>
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Company Revenues	0	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	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
<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>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0



<b>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>	<b>2038</b>	<b>2039</b>	<b>2040</b>
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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5.05	5.56	6.12	6.73	7.40	8.14	8.95	9.85
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0	0	0	0	0	0	0	0
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<b>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>	<b>2038</b>	<b>2039</b>	<b>2040</b>
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
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>
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>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>	<b>2038</b>	<b>2039</b>	<b>2040</b>
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

**Exploration Well Analysis**

Chance of Success	20%
Cost of Well	50 US\$mm
NPV of Success	0
Dry Hole	-40.0
Successful Well	0
EMV	-40

## 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\$m	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