IRR Calculation Sheets

Region **Middle East 2**

(Assumptions)

EPC Total (Adjusted for Inflation)	**1,108,485**	**1,000US$**
ISBL+OSBL (excluding *1 and *2	**1,050,000**	
NH3 export (tank+P/L, etc.)*1	**120,000**	**OSBL**
CO2 transport (to CCS sites)*2	**20,000**	**OSBL**
Contingency allowance	**178,500**	**for ISBL+OSBL**
EPC Cost reduction	**-136,850**	**for EPC Total**
Owner's Cost	**55,424**	**1,000US$**
	5%	**from 0 to 5 %**
NH3 Production Capacity	**1,000**	**1,000t/y**
Utilization Rate	**100%**	
NH3 Shipping Price (FOB)	**292.50**	**$/t**
Interest Rate	**3.0%**	
Annual % of Price Increase (NH3)	**0.0%**	
Annual % of Price Increase (NG)	**0.0%**	
(other than NH3 and NG)	**0.0%**	
Equity %	**30%**	
Corporate Tax Rate	**20%**	
Debt Service Coverage Ratio	**2.00**	

NG Price	**3.5**	**$/10^6btu**
EPC cost reduction rate	**15%**	**Reduction Rate**
Contingency	**15%**	**of ISBL and OSBL**
Location factor (LF)	**0.90**	
Duration of Project	**20**	**years**
Principal Repayment Period	**15**	**years**
Depreciation Period	**15**	**years**
Capital Raising Cost	**10%**	**10%**
WACC	**4.7%**	
Terminal Value	**0**	**(1=Inc, 0=not)**
EIRR	**9.0%**	

EPC cost distribution

2022	2023	2024	2025	
15.0%	**30.0%**	**40.0%**	**15.0%**	**Input Value**
15.0%	**31.5%**	**34.6%**	**18.9%**	**Default Value**

	Default Value
	ON/OFF
	Sensitivity Analysis
	Financial Input Value

(thousand USD)	Year -3 2022	Year -2 2023	Year -1 2024	Year 0 2025	Year 1 2026	Year 2 2027	Year 3 2028	Year 4 2029	Year 5 2030	Year 6 2031	Year 7 2032	Year 8 2033
				Remaining Depreciation Years	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**
	0	0	0	0	116,434	116,434	116,434	116,434	111,561	106,957	103,505	100,916
<Cash Flow>												
Sales Revenue					292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500
Debt Injection	122,210	244,421	325,895	125,847								
Equity Injection	52,376	104,752	139,669	53,935								
EPC	-166,273	-332,546	-443,394	-166,273								
Owner's Cost	-8,314	-16,627	-22,170	-8,314								
comment				commision								
Operator				-1,860	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720
G&A				-3,335	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671
Maintenance					-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475
Tax Insurance					-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658
Natural Gas					-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026
Other Variables					-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516
Repayment					-54,558	-54,558	-54,558	-54,558	-54,558	-54,558	-54,558	-54,558
Interest					-24,551	-22,914	-21,278	-19,641	-18,004	-16,367	-14,731	-13,094
Tax (Corporate Tax under Tax Code)					0	0	0	0	-4,873	-9,477	-12,929	-15,519
Net CF	0	0	-0	0	37,325	38,962	40,598	42,235	38,998	36,032	34,216	33,263
<B/S>												
Plant Equipment	174,586	523,759	989,323	1,163,909	1,086,315	1,008,721	931,127	853,533	775,940	698,346	620,752	543,158
Cash	0	0	-0	-0	37,325	76,286	116,885	159,120	198,118	234,150	268,366	301,629
Debt	122,210	366,631	692,526	818,373	763,815	709,257	654,699	600,140	545,582	491,024	436,466	381,908
Equity	52,376	157,128	296,797	345,536	356,967	369,708	383,758	399,117	415,786	433,764	453,052	473,649
<P/L>												
Sales Revenue					292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500
Depreciation					-77,594	-77,594	-77,594	-77,594	-77,594	-77,594	-77,594	-77,594
Operator				-1,860	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720
G&A				-3,335	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671
Maintenance					-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475
Insurance					-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658
Natural Gas					-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026
Other Variables					-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516
Interest	0	0	0	0	-24,551	-22,914	-21,278	-19,641	-18,004	-16,367	-14,731	-13,094
EBT	0	0	0	-5,195	14,289	15,926	17,563	19,199	20,836	22,473	24,110	25,746
Tax (Accounting Corporate Tax)	0	0	0	0	-2,858	-3,185	-3,513	-3,840	-4,167	-4,495	-4,822	-5,149
Net Income	0	0	0	-5,195	11,431	12,741	14,050	15,359	16,669	17,978	19,288	20,597
				Operating Income to Net Sales	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%
Debt Service Coverage Ratio (DSCR)					147%	150%	154%	157%	154%	151%	149%	149%
Devidend (Dividend rate is 100%.)					37,325	38,962	40,598	42,235	38,998	36,032	34,216	33,263
Equity IRR	9.0%											
(Debt=non recourse P/F basis)	-52,376	-104,752	-139,669	-53,935	37,325	38,962	40,598	42,235	38,998	36,032	34,216	33,263
Accelerated Depreciation												
Depreciation Rate	25%											
Depreciation for Tax Purposes					-290,977	-218,233	-163,675	-122,756	-92,067	-69,050	-51,788	-38,841
Remaining Book Value at Year End					872,932	654,699	491,024	368,268	276,201	207,151	155,363	116,522
Taxable Income												
(under accelerated depreciation)					-174,543	-101,799	-47,241	-6,322	24,367	47,384	64,647	77,593
TAX					0	0	0	0	-4,873	-9,477	-12,929	-15,519

(thousand USD)	Year 9 2034	Year 10 2035	Year 11 2036	Year 12 2037	Year 13 2038	Year 14 2039	Year 15 2040	Year 16 2041	Year 17 2042	Year 18 2043	Year 19 2044	Year 20 2045
Remaining Depreciation Years	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**-1**	**-2**	**-3**	**-4**
	98,973	97,517	96,425	95,605	94,991	94,530	94,184	93,925	93,731	93,731	93,731	93,731
<Cash Flow>												
Sales Revenue	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500
Debt Injection												
Equity Injection												
EPC												
Owner's Cost												
comment												
Operator	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720
G&A	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671
Maintenance	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475
Tax Insurance	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658
Natural Gas	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026
Other Variables	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516
Repayment	-54,558	-54,558	-54,558	-54,558	-54,558	-54,558	-54,558	0	0	0	0	0
Interest	-11,457	-9,820	-8,184	-6,547	-4,910	-3,273	-1,637	-0	0	0	0	0
Tax (Corporate Tax under Tax Code)	-17,461	-18,917	-20,010	-20,829	-21,443	-21,904	-22,250	-22,509	-22,704	-22,704	-22,704	-22,704
Net CF	32,958	33,138	33,683	34,500	35,522	36,698	37,989	93,925	93,731	93,731	93,731	93,731
<B/S>												
Plant Equipment	465,564	387,970	310,376	232,782	155,188	77,594	0	0	0	0	0	0
Cash	334,587	367,725	401,408	435,908	471,430	508,129	546,118	640,043	733,774	827,504	921,235	1,014,965
Debt	327,349	272,791	218,233	163,675	109,116	54,558	0	0	0	0	0	0
Equity	495,555	518,771	543,297	569,131	596,275	624,729	654,491	747,639	840,786	933,934	1,027,081	1,120,228
<P/L>												
Sales Revenue	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500	292,500
Depreciation	-77,594	-77,594	-77,594	-77,594	-77,594	-77,594	-77,594	0	0	0	0	0
Operator	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720	-3,720
G&A	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671	-6,671
Maintenance	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475	-18,475
Insurance	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658
Natural Gas	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026	-125,026
Other Variables	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516	-12,516
Interest	-11,457	-9,820	-8,184	-6,547	-4,910	-3,273	-1,637	-0	0	0	0	0
EBT	27,383	29,020	30,657	32,293	33,930	35,567	37,204	116,434	116,434	116,434	116,434	116,434
Tax (Accounting Corporate Tax)	-5,477	-5,804	-6,131	-6,459	-6,786	-7,113	-7,441	-23,287	-23,287	-23,287	-23,287	-23,287
Net Income	21,906	23,216	24,525	25,835	27,144	28,453	29,763	93,147	93,147	93,147	93,147	93,147
Operating Income to Net Sales	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%	13.3%	39.8%	39.8%	39.8%	39.8%	39.8%
Debt Service Coverage Ratio (DSCR)	150%	151%	154%	156%	160%	163%	168%	300%	300%	300%	300%	300%
Devidend (Dividend rate is 100%.)	32,958	33,138	33,683	34,500	35,522	36,698	37,989	93,925	93,731	93,731	93,731	93,731
Equity IRR												
(Debt=non recourse P/F basis)	32,958	33,138	33,683	34,500	35,522	36,698	37,989	93,925	93,731	93,731	93,731	93,731
Accelerated Depreciation												
Depreciation Rate												
Depreciation for Tax Purposes	-29,131	-21,848	-16,386	-12,289	-9,217	-6,913	-5,185	-3,888	-2,916	-2,916	-2,916	-2,916
Remaining Book Value at Year End	87,392	65,544	49,158	36,868	27,651	20,738	15,554	11,665	8,749	5,833	2,916	0
Taxable Income												
(under accelerated depreciation)	87,304	94,586	100,048	104,145	107,217	109,521	111,250	112,546	113,518	113,518	113,518	113,518
TAX	-17,461	-18,917	-20,010	-20,829	-21,443	-21,904	-22,250	-22,509	-22,704	-22,704	-22,704	-22,704