

IRR Calculation Sheets Region North America

(Assumptions)

EPC Total (Adjusted for Inflation)	1,231,650	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	61,583	1,000US\$
	5%	from 0 to 5 %
NH3 Production Capacity	1,000	1,000t/y
Utilization Rate	100%	
NH3 Shipping Price (FOB)	341.0	\$/t
Interest Rate	3.0%	
Annual % of Price Increase (NH3)	0.0%	
Annual % of Price Increase (NG)	0.0%	
Annual % of Price Increase (other than NH3 and NG)	0.0%	
Equity %	30%	Equity
Corporate Tax Rate	20%	
Debt Service Coverage Ratio	2.00	

NG Price	3.0	\$/10^6btu
EPC cost reduction rate	15%	Reduction Rate
Contingency allowance	15%	of ISBL and OSBL
Location factor (LF)	1.00	
Duration of Project	20	years
Principal Repayment Period	15	years
Depreciation Period	15	years
Capital acquisition cost	10%	
WACC	4.7%	
Terminal Value	0	(1=Inc, 0=not)
EIRR	9.0%	

EPC cost distriution				
2022	2023	2024	2025	Input Value
15.0%	30.0%	40.0%	15.0%	
15.0%	31.5%	34.6%	18.9%	Default Value

Default Value
ON/OFF
Sensitivity Analysis
Financial Input Value

Remaining Depreciation Years: 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0, -1, -2, -3, -4

(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	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
<Cash Flow>																								
Sales Revenue					341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000
Debt Injection	135,789	271,579	362,105	140,800																				
Equity Injection	58,195	116,391	155,188	60,343																				
EPC	-184,748	-369,495	-492,660	-184,748																				
Owner's Cost	-9,237	-18,475	-24,633																					
<B/S>																								
Plant Equipment	193,985	581,955	1,099,248	1,293,233	1,207,017	1,120,802	1,034,586	948,371	862,155	775,940	689,724	603,509	517,293	431,078	344,862	258,647	172,431	86,216	0	0	0	0	0	0
Cash	0	0	0	0	41,593	85,006	130,240	177,294	220,711	260,834	298,941	335,992	372,705	409,621	447,143	485,576	525,146	566,025	608,341	712,873	817,190	921,507	1,025,823	1,130,140
Debt	135,789	407,368	769,473	910,273	849,588	788,903	728,218	667,534	606,849	546,164	485,479	424,794	364,109	303,424	242,739	182,055	121,370	60,685	0	0	0	0	0	0
Equity	58,195	174,586	329,774	443,097	395,809	410,115	425,878	443,097	461,772	481,904	503,492	526,537	551,038	576,996	604,410	633,281	663,607	695,391	728,631	832,299	935,968	1,039,637	1,143,305	1,246,974
<P/L>																								
Sales Revenue					341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000	341,000
Depreciation					-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	-86,216	
Operator					-2,950	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	-5,900	
G&A					-4,207	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	-8,415	
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	-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	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	-9,658	
Natural Gas					-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	-107,165	
Other Variables					-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	-61,801	
Interest	0	0	0	0	-27,308	-25,488	-23,667	-21,847	-20,026	-18,205	-16,385	-14,564	-12,744	-10,923	-9,103	-7,282	-5,462	-3,641	-1,821	0	0	0	0	
EBT	0	0	0	-7,157	16,062	17,883	19,703	21,524	23,344	25,165	26,985	28,806	30,626	32,447	34,268	36,088	37,909	39,729	41,550	129,586	129,586	129,586	129,586	129,586
Tax (Accounting Corporate Tax)	0	0	0	0	-3,212	-3,577	-3,941	-4,305	-4,669	-5,033	-5,397	-5,761	-6,125	-6,489	-6,854	-7,218	-7,582	-7,946	-8,310	-25,917	-25,917	-25,917	-25,917	
Net Income	0	0	0	-7,157	12,850	14,306	15,763	17,219	18,675	20,132	21,588	23,045	24,501	25,958	27,414	28,870	30,327	31,783	33,240	103,669	103,669	103,669	103,669	
Debt Service Coverage Ratio (DSCR)					12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	38.0%	38.0%	38.0%	38.0%
Dividend (Dividend rate is 100%.)					41,593	43,413	45,234	47,054	48,875	50,696	52,517	54,338	56,159	57,980	59,801	61,622	63,443	65,264	67,085	300%	300%	300%	300%	
Equity IRR					9.0%																			
(Debt=non recourse P/F basis)					-58,195	-116,391	-155,188	-60,343	41,593	43,413	45,234	47,054	48,875	50,696	52,517	54,338	56,159	57,980	59,801	61,622	63,443	65,264	67,085	
Accelerated Depreciation																								
Depreciation Rate					25%																			
Depreciation for Tax Purposes					-323,308	-242,481	-181,861	-136,396	-102,297	-76,723	-57,542	-43,156	-32,367	-24,275	-18,207	-13,655	-10,241	-7,681	-5,761	-4,321	-3,240	-3,240	-3,240	
Remaining Book Value at Year End					969,924	727,443	545,582	409,187	306,890	230,168	172,626	129,469	97,102	72,826	54,620	40,965	30,724	23,043	17,282	12,962	9,721	6,481	3,240	
Taxable Income (under accelerated depreciation)					-193,722	-112,895	-52,275	-6,810	27,289	52,863	72,044	86,429	97,218	105,310	111,379	115,931	119,345	121,905	123,825	125,265	126,345	126,345	126,345	
TAX					0	0	0	0	-5,458	-10,573	-14,409	-17,286	-19,444	-21,062	-22,276	-23,186	-23,869	-24,381	-24,765	-25,053	-25,269	-25,269	-25,269	