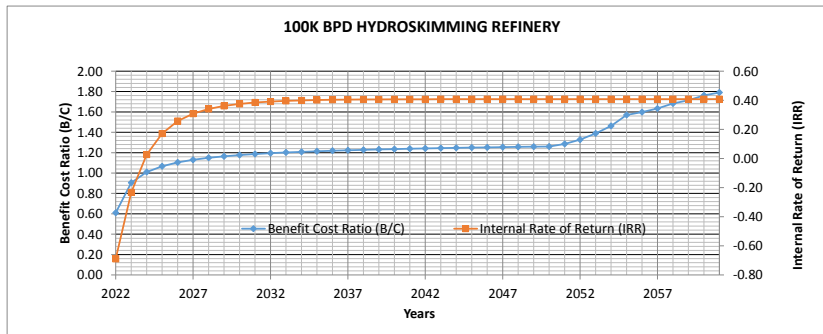
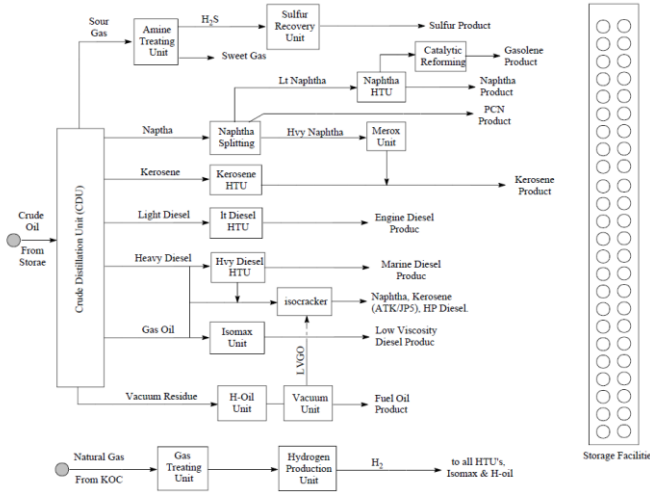


Bangladesh Green Field Crude Oil Catalytic Cracking Refinery Refinery Plant for 150,000BBL

Description	Values	Unit
Work Start Year	2018	Years
Operating Year	2022	Years
Location of Refinery	Green Field	<-- Green Field, Brown Field
Site and Contry for Project	Bangladesh	
Sensitivity of Golobal Financial Crisis	0	Years- Active Crisis Year, Otherwise = 0
Refinery Level	Catalytic Cracking R	
Type of Crude Oil	Low Gravity Sweet C	
Assumed Product Crude Oil Capacity	150,000	BPD
Crude Oil Loading or Product Unloading Periods	23,848	m³/day
Crude Oil and Product Storage Capacity	10	day(7-14days)
Crude Oil and Product Storage Capacity	1,500,000	BBL/each sets of Crude Oil and Product Oil Storage
Crude Oil and Product Storage Capacity	238,481	m³/each sets Crude Oil and Product Oil Storage
Crude Oil and Product Storage Tank Capacity	4.2085	MTPA
Required Electric Power(Diesel fired generator)	42.10	MW(including Storage Tank Control Power)
Power Supply System	1	0 for Power Outer Supply, 1 for Site Power Generation
Power Supply Unit Price	0.11	USD/kwh for Power Outer Supply only
Assumed Crude Oil Density	850	kg/m³
Initial Inflation of Crude Oil Price	0	%
Purchased Crude Oil Unit Cost	56.59	USD/BBL
VLCC Vessel Speed	16	knots
VLCC Vessel Transportation Distance	10000	km
VLCC Transportation Period	32	Days
VLCC Vessel Chatering Price per Day	30,000	USD/day
VLCC transportation Crude Oil Cost	27,980,575.19	USD/Year
Sale for Average Product Unit Price in 2022Years	11,547,136.80	USD/150MBPD
Unit CAPEX of Crude Oil Refinery	8,459.57	USD/BPD, and Total CAPEX is 1268.935MUSD
Unit CAPEX of Storage Tank	67	USD/BBL
Yearly Purchased Crude Oil Cost	3,128,587,825	USD/Year(including Transportation)
Yearly Sale for Average Product Cost	4,217,591,716	USD/Year
Facilities Area	152,390	m² or 37.7Acres
Crude Oil Storage Area	107,325	m² or 26.5Acres
Refinery Plant Area	3,671,546	m² or 907.3Acres
Unit Space Acquisiton Cost	10	USD/m² in Bangladesh
CAPEX of Area Acquisition Cost	39,312,616	USD
CAPEX for Storage Tank and Refinery Plant without Land Cost	1,470,365,204	USD - <i>일시사역원전삼심육만오천이백사달러</i>
CAPEX for Break Water Length is	1,000m	100,000,000 USD
CAPEX for SPM & PLEM of	0k DWT	0 USD
CAPEX for Berthing Dolphine	119k DWT	42,000,000 USD
CAPEX for Trestle and Piers of	Pipe x 20.00inch x 9,000m	118,081,576 USD
CAPEX for subsea Crude Oil	Pipe x 20.00inch x 0m	0 USD
CAPEX for onshore Crude Oil	Pipe x 20.00inch x 1,000m	338,175 USD
CAPEX for Transmission Line Length is	10km	0 USD -29.9Kv --Single C
Total CAPEX for Fabrication and Installation	1,798,554,030	USD - <i>일시원역원전삼심육만오천이백사달러</i>
Construction and Fabrication Period	4	Years
Interest FEE during Construction and Fabrication	233,812,024	USD
TOTAL CAPEX AND INTREST FEE DURING CONSTRUCTION	2,032,366,054	USD - <i>일시원역원전삼심육만오천이백사달러</i>
Fixed and Various OPEX	325,883,619	USD/Year
Fund Intrest	6.5	%
Return rate on investment of Net Profit, r	0	%
Operating Periods	40	Years
Project Design Life	50	Years
Benefit Cost Ratio (B/C)	1.79	≥ 1.1 GOOD For 40Years Operating
IRR(Internal Rate of Return)	40.79%	> 0 GOOD For 40Years Operating
NPV(Net Present Value)	208,671,744,070	USD with Asset value of Project for 40Years
Inflation of Crude Oil Purchased Price	0	%, If Inflation = 0, the Crude Oil Unit price shall be quoted Forecast Price, otherwise consider inflation based on 2022Years Sale Cost, If no consider inflation, the value=10E-11
1. Sale Cost of Product Oil is applicable Based on inflation of Crude Oil Forecast Price	1	<-- 0 : Not Applicable, 1 : Applicable of Crude Oil Forecast Price
2. these inntations are only considered each year inflation based on initial cost of	from 2022Years to 2024 Years	0 % from 1Years to 3 Years
	from 2025Years to 2031 Years	0 % from 4Years to 7 Years
	from 2032Years to 2034 Years	0 % from 8Years to 10 Years
	from 2035Years to 2039 Years	0 % from 11Years to 15 Years
	from 2040Years to 2064 Years	0 % from 16Years to 40 Years

LNG ONSHORE STORAGE TANK						
Storage	Nos of Tank	1 Nos-Storage	Diameters	Center Gap	Edge gap	Required Space
238,481m³	35	6,813.7m³	22.5m	0.5D	0.5D	53,662.5m²



Income tax rate for government	20	%
Inflation of Space Acquisition	1	%
First Project residual value	1,153,076,962	USD after 10 Years
Second Project residual value	494,032,434	USD after 30 Years
Final residual value on Design Life	239,938,775	USD after 50 Years
Net Payback Turn Over Periods	2.133	Years

Actual Payback turn Over Years	4Years	4Years	해 찾기
Initial Value(min 0%, max 25%)	18.511%	18.511%	0 Good
Limit of Initial Value	≤ 25%	≤ 25%	

End of Year	①% of Return of Equity	②% of Return of FUND	③Return of Equity (USD)	④Return of FUND(USD)	⑤Remain Cost(USD)	⑥Fund Interest 6.5%(USD)	⑦OPEX(USD)	⑧Yearly Revenue(USD) W/ Inflation	⑨Yearly Purchased Price of Crude Oil(USD) W/ Inflation	⑩(순이익)Net Profit(USD)	⑪(현재자산가치)Asset value-Residual Value(USD)	⑫(순현재가치)Net Present Value	⑬Benefit Cost Ratio (B/C)	⑭(내부수익률)Internal Rate of Return (IRR)
			20% of Equity	80% of FUND							⑪(현재자산가치)Asset value-Residual Value(USD)			
2022	1	18.51%	75,243,518	300,974,073	2,032,366,054	132,103,794	325,883,619	4,217,591,716	3,128,587,825	203,839,110	1,720,082,510	-1,401,349,576	0.61	-0.69
2023	2	22.84%	92,826,708	371,306,832	1,656,148,463	107,649,650	325,883,619	4,435,638,077	3,288,886,919	199,267,479	1,644,530,969	-688,131,687	0.91	-0.23
2024	3	27.16%	110,409,898	441,639,590	1,192,014,923	77,480,970	325,883,619	4,653,684,441	3,449,186,013	199,267,481	1,572,803,099	113,002,152	1.01	0.03
2025	4	31.49%	127,993,087	511,972,349	639,965,436	41,597,753	325,883,619	4,871,730,802	3,609,485,106	203,839,110	1,504,597,722	1,007,766,475	1.07	0.17
2026	5	0.00%	0	0	0	0	325,883,619	5,089,777,162	3,769,784,200	795,287,474	1,439,914,879	2,001,875,818	1.10	0.26
2027	6	0.00%	0	0	0	0	325,883,619	5,307,823,523	3,930,083,294	841,485,288	1,376,995,367	3,053,732,427	1.13	0.31
2028	7	0.00%	0	0	0	0	325,883,619	5,525,869,887	4,090,382,388	887,683,104	1,317,598,471	4,163,336,307	1.15	0.34
2029	8	0.00%	0	0	0	0	325,883,619	5,743,916,248	4,250,681,481	933,880,918	1,259,964,988	5,330,687,454	1.16	0.36
2030	9	0.00%	0	0	0	0	325,883,619	5,961,962,608	4,410,980,575	980,078,731	1,205,854,204	6,555,785,868	1.18	0.38
2031	10	0.00%	0	0	0	0	325,883,619	6,180,008,973	4,571,279,669	1,026,276,547	1,153,506,918	7,838,631,553	1.19	0.38
2032	11	0.00%	0	0	0	0	325,883,619	6,398,055,333	4,731,578,763	1,072,474,361	1,104,682,414	9,179,224,504	1.19	0.39
2033	12	0.00%	0	0	0	0	325,883,619	6,616,101,694	4,891,877,856	1,118,672,174	1,057,621,494	10,577,564,722	1.20	0.40
2034	13	0.00%	0	0	0	0	325,883,619	6,834,148,058	5,052,176,950	1,164,869,991	1,012,324,202	12,033,652,211	1.21	0.40
2035	14	0.00%	0	0	0	0	325,883,619	7,052,194,419	5,212,476,044	1,211,067,804	968,790,581	13,547,486,966	1.21	0.40
2036	15	0.00%	0	0	0	0	325,883,619	7,270,240,779	5,372,775,138	1,257,265,618	927,020,675	15,119,068,988	1.22	0.40
2037	16	0.00%	0	0	0	0	325,883,619	7,488,287,140	5,533,074,231	1,303,463,431	888,773,772	16,748,398,277	1.22	0.40
2038	17	0.00%	0	0	0	0	325,883,619	7,706,333,504	5,693,373,325	1,349,661,248	852,290,673	18,435,474,837	1.23	0.41
2039	18	0.00%	0	0	0	0	325,883,619	7,924,379,865	5,853,672,419	1,395,859,061	815,812,185	20,180,298,663	1.23	0.41
2040	19	0.00%	0	0	0	0	325,883,619	8,142,426,225	6,013,971,513	1,442,056,875	781,097,593	21,982,869,757	1.24	0.41
2041	20	0.00%	0	0	0	0	325,883,619	8,360,472,590	6,174,270,606	1,488,254,691	748,146,946	23,843,188,121	1.24	0.41
2042	21	0.00%	0	0	0	0	325,883,619	8,578,518,950	6,334,569,700	1,534,452,505	716,960,289	25,761,253,751	1.24	0.41
2043	22	0.00%	0	0	0	0	325,883,619	8,796,565,311	6,494,868,794	1,580,650,318	687,537,670	27,737,066,649	1.24	0.41
2044	23	0.00%	0	0	0	0	325,883,619	9,014,611,675	6,655,167,888	1,626,848,134	659,879,138	29,770,626,817	1.25	0.41
2045	24	0.00%	0	0	0	0	325,883,619	9,232,658,036	6,815,466,981	1,673,045,948	632,225,499	31,861,934,252	1.25	0.41
2046	25	0.00%	0	0	0	0	325,883,619	9,450,704,396	6,975,766,075	1,719,243,761	606,336,044	34,010,988,953	1.25	0.41
2047	26	0.00%	0	0	0	0	325,883,619	9,668,750,757	7,136,065,169	1,765,441,575	582,210,822	36,217,790,922	1.25	0.41
2048	27	0.00%	0	0	0	0	325,883,619	9,886,797,121	7,296,364,263	1,811,639,391	558,090,641	38,482,340,161	1.26	0.41
2049	28	0.00%	0	0	0	0	325,883,619	10,104,843,482	7,456,663,356	1,857,837,205	535,734,794	40,804,636,667	1.26	0.41
2050	29	0.00%	0	0	0	0	325,883,619	10,322,889,842	7,616,962,450	1,904,035,018	515,143,331	43,184,680,440	1.26	0.41
2051	30	0.00%	0	0	0	0	325,883,619	14,498,913,778	7,777,261,544	5,116,614,892	494,557,062	49,580,449,055	1.29	0.41
2052	31	0.00%	0	0	0	0	325,883,619	18,260,890,643	7,937,560,638	7,997,957,109	475,735,281	59,577,895,441	1.33	0.41
2053	32	0.00%	0	0	0	0	325,883,619	22,957,752,711	8,097,859,731	11,627,207,488	456,918,799	74,111,904,801	1.39	0.41
2054	33	0.00%	0	0	0	0	325,883,619	26,386,557,982	8,258,158,825	14,242,012,430	439,866,910	91,914,420,338	1.46	0.41
2055	34	0.00%	0	0	0	0	325,883,619	35,281,156,634	8,418,457,919	21,229,452,076	422,820,426	118,451,235,433	1.57	0.41
2056	35	0.00%	0	0	0	0	325,883,619	20,083,329,420	8,578,757,013	8,942,951,030	407,538,643	129,629,924,221	1.60	0.41
2057	36	0.00%	0	0	0	0	325,883,619	22,557,543,359	8,739,056,106	10,794,082,906	392,262,374	143,122,527,854	1.63	0.41
2058	37	0.00%	0	0	0	0	325,883,619	26,392,712,346	8,899,355,200	13,733,978,821	376,991,674	160,290,001,380	1.68	0.41
2059	38	0.00%	0	0	0	0	325,883,619	23,445,583,737	9,059,654,294	11,248,036,659	363,485,840	174,350,047,204	1.71	0.41
2060	39	0.00%	0	0	0	0	325,883,619	28,710,805,716	9,219,953,388	15,331,974,968	349,985,687	193,515,015,914	1.76	0.41
2061	40	0.00%	0	0	0	0	325,883,619	24,524,613,743	9,380,252,481	11,854,782,114	338,250,514	208,333,493,556	1.79	0.41
2062	41	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2063	42	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2064	43	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2065	44	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2066	45	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2067	46	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2068	47	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2069	48	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2070	49	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
2071	50	0.00%	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Summation		100%	406,473,211	1,625,892,843	5,520,494,875	358,832,167	13,035,344,770	473,936,842,679	250,176,806,132	166,666,794,845	338,250,514	208,671,744,070	1.79	0.41

Natural Gas Markets Prices and CAPEX of Power types and