## CACULATONS OF NPV OF THE PROPOSED PROJECT ACTIVITY

Explanations, Definitions and Assumptions

I fotal investment of the technologic facility	means the sum of transferring fees of the technology and costs for facility, catalyst cost in first two years of operation, construction works, engineering studies and supervision and others.					
The annual operation fees of the proposed project	means the sum of annual Electricity consumption, annual Catalyzer consumption and annual Fixed costs.					
The annual economic benefits	ns the value of the steam, , which is the sole non-CDM economic benefit, genertated from the proposed project.					
Discount rate	neans the discount rate used to calculate the NPV. Six scenarios were considered based on 6 different discount rates (0%, 2%, 4%, 5%, 10% and 15%).					
Net Present Value (or NPV)	means the financial indicator which is used to assess the economical value of the Proposed Project.					
Proposed Project	means the installation of the decomposition facility, and from which shall generate CERs as specified in the PDD					
NPV (i)	means the NPV in the year i of the operation of the Proposed Project.					

It has been assumed that the facility operates 21 years as per the total crediting period of the proposed project.

The annual operation fees and economic benefits of the proposed project are assumed based on manufacturer's data and plant data from 2004, and financing costs have not been taken into account.

Data used for the NPV calculation also included in the supporting document "China Petrochemical Engineering Liaoyang Division, Supplement statement for the parameter value used in NPV calculation", referenced as document number /15/ in Section 3.1 of the validation report. in which the data source used to calculate NPVs as follows are included, including total investment of the technologic facility, electricity consumption, catalyst cost, maintenance cost, and the amount and unit price for steam generated by the project activity. The data used for calculation are as follows:

	ID		Value	Note
Total investment of the t	echnologic facility		US\$10,880,000.00	Currency exchange rates used:
The annual operation fee	s of the proposed project			US\$100=¥774.08, €100=¥1016.39
Annual fixed cost	s (A)	¥2,030,000.00	US\$262,246.80	
Electricity (B)				
Available da	Unit price of electricity (/kwh)	¥0.50		
Avanable da	Consumption (kwh/yr) 8,	8,400,000.00		
	Annual eletricity consumption is equal to:	¥4,200,000.00	US\$542,579.58	
Catalyst cost (C)				
Available da	ta Catalyst cost (/2 yr)	€2,000,000.00		The catalyst cost in the first two years of operation ha been included in the total investment of the technolog
	Annual catalyst cost is equal to:	€1,000,000.00	US\$1,313,029.66	
Economic benefits				
Available da	Available data Unit price (/t)			
	The annual economic benefits is equal to:	¥2,554,464.00	US\$330,000.00	

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			Net Present Val	ue calculations at 0%	discount rate			
		The annual operation fees of	1 1 1 0		Total investment of the	The annual	Discount	
Year	Fixed costs (A)	Electricity consumption (B)	Catalyzer cost (C)	A+B+C	technologic facility	economic benefits	rate	NPV(i)
1	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$10,880,000.00	US\$330,000.00	0%	-US\$11,354,826.37
2	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$0.00	US\$330,000.00	0%	-US\$474,826.37
3	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
4	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
5	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
6	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
7	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
8	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
9	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
10	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
11	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
12	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
13	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
14	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
15	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
16	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
17	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
18	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
19	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
20	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
21	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	0%	-US\$1,787,856.04
			The total NPV	of 21 years				-US\$45,798,917.42

	Net Present Value calculations at 2% discount rate								
		The annual operation fees of	the proposed project		Total investment of the	The annual	Discount		
Year	Fixed costs (A)	Electricity consumption (B)	Catalyzer cost (C)	A+B+C	technologic facility	economic benefits	rate	NPV(i)	
1	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$10,880,000.00	US\$330,000.00	2%	-US\$11,132,182.72	
2	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$0.00	US\$330,000.00	2%	-US\$456,388.29	

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4	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,651,702.62
5	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,619,316.29
6	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,587,565.00
7	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,556,436.27
8	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,525,917.91
9	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,495,997.95
10	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,466,664.66
11	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,437,906.53
12	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,409,712.28
13	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,382,070.87
14	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,354,971.44
15	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,328,403.37
16	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,302,356.24
17	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,276,819.85
18	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,251,784.16
19	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,227,239.38
20	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,203,175.86
21	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	2%	-US\$1,179,584.18
			The total NPV	of 21 years				-US\$38,530,932.54
			Net Present Val	ue calculations at 4%	discount rate			
		The annual operation fees of	the proposed project	-	Total investment of the	The annual	Discount	
Year	Fixed costs (A)	Electricity consumption (B)	Catalyzer cost (C)	A+B+C	technologic facility	economic benefits	rate	NPV(i)
1	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$10,880,000.00	US\$330,000.00	4%	-US\$10,918,102.28
2	US\$262,246.80	US\$542,579.58	US\$0.00	US\$804,826.37	US\$0.00	US\$330,000.00	4%	-US\$439,003.67
3	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,589,397.51
4	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,528,266.83
5	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,469,487.34
6	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,412,968.59
7	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,358,623.65
8	US\$262 246 80	119\$512 579 58	118\$1 313 020 66	118\$2 117 856 04	115\$0.00	118\$330.000.00	10%	TI&\$1 3UE 3E8 80

9	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,256,123.94		
10	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,207,811.48		
11	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,161,357.19		
12	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,116,689.60		
13	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,073,740.00		
14	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$1,032,442.31		
15	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$992,732.99		
16	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$954,550.95		
17	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$917,837.46		
18	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$882,536.02		
19	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$848,592.32		
20	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$815,954.16		
	US\$262,246.80	US\$542,579.58	US\$1,313,029.66	US\$2,117,856.04	US\$0.00	US\$330,000.00	4%	-US\$784,571.30		
21	The total NPV of 21 years									
21			The total NPV	of 21 years				-US\$33,067,158.50		
21			The total NPV	of 21 years				-05\$33,067,158.50		
21				of 21 years	discount rate			-0\$\$33,067,138.50		
		The annual operation fees of	Net Present Val	·	discount rate Total investment of the	The annual	Discount	-0\$\$33,067,158.50		
21 Year	Fixed costs (A)	The annual operation fees of Electricity consumption (B)	Net Present Val	·	_	The annual economic benefits	Discount rate	-US\$33,067,158.50		
	Fixed costs (A) US\$262,246.80	1	Net Present Val	lue calculations at 5%	Total investment of the			NPV(i)		
Year		Electricity consumption (B)	Net Present Val f the proposed project Catalyzer cost (C)	lue calculations at 5%	Total investment of the technologic facility	economic benefits	rate	NPV(i) -US\$10,814,120.36		
Year 1	US\$262,246.80	Electricity consumption (B) US\$0.00	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58	A+B+C US\$804,826.37	Total investment of the technologic facility US\$10,880,000.00	economic benefits US\$330,000.00	rate 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52		
Year 1 2	US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37	Total investment of the technologic facility US\$10,880,000.00 US\$0.00	economic benefits US\$330,000.00 US\$330,000.00	rate 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26		
Year 1 2 3	US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04	Total investment of the technologic facility US\$10,880,000.00 US\$0.00 US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26		
Year 1 2 3 4	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66	Net Present Val   f the proposed project   Catalyzer cost (C)   US\$542,579.58   US\$542,579.58   US\$542,579.58   US\$542,579.58   US\$542,579.58   US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility US\$10,880,000.00 US\$0.00 US\$0.00 US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99		
Year 1 2 3 4 5	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility US\$10,880,000.00 US\$0.00 US\$0.00 US\$0.00 US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99 -US\$1,334,125.70		
Year 1 2 3 4 5 6	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility US\$10,880,000.00 US\$0.00 US\$0.00 US\$0.00 US\$0.00 US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99 -US\$1,334,125.70 -US\$1,270,595.91		
Year 1 2 3 4 5 6 7	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility   US\$10,880,000.00   US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59		
Year 1 2 3 4 5 6 7 8	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility   US\$10,880,000.00   US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99 -US\$1,334,125.70 -US\$1,270,595.91 -US\$1,210,091.34 -US\$1,152,467.94		
Year 1 2 3 4 5 6 7 8 9	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val   f the proposed project   Catalyzer cost (C)   US\$542,579.58   US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility   US\$10,880,000.00   US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99 -US\$1,334,125.70 -US\$1,270,595.91 -US\$1,210,091.34 -US\$1,152,467.94 -US\$1,097,588.52		
Year 1 2 3 4 5 6 7 8 9 10	US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80 US\$262,246.80	Electricity consumption (B) US\$0.00 US\$0.00 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66 US\$1,313,029.66	Net Present Val f the proposed project Catalyzer cost (C) US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58 US\$542,579.58	A+B+C US\$804,826.37 US\$804,826.37 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04 US\$2,117,856.04	Total investment of the technologic facility   US\$10,880,000.00   US\$0.00   US\$0.00	economic benefits US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00 US\$330,000.00	rate 5% 5% 5% 5% 5% 5% 5% 5% 5%	NPV(i) -US\$10,814,120.36 -US\$430,681.52 -US\$1,544,417.26 -US\$1,470,873.59 -US\$1,400,831.99 -US\$1,334,125.70 -US\$1,334,125.70 -US\$1,270,595.91 -US\$1,210,091.34		

14	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$902,988.79
15	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$859,989.32
16	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$819,037.45
17	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$780,035.67
18	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$742,891.11
19	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$707,515.34
20	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$673,824.14
21	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	5%	-US\$641,737.27
			The total NPV	/ of 21 years				-US\$30,842,818.96

			Net Present Val	ue calculations at 10%	discount rate			
Year	Fixed costs (A)	The annual operation fees of Electricity consumption (B)	the proposed project Catalyzer cost (C)	A+B+C	Total investment of the technologic facility	The annual economic benefits	Discount rate	NPV(i)
1	US\$262,246.80	US\$0.00	US\$542,579.58	US\$804,826.37	US\$10,880,000.00	US\$330,000.00	10%	-US\$10,322,569.43
2	US\$262,246.80	US\$0.00	US\$542,579.58	US\$804,826.37	US\$0.00	US\$330,000.00	10%	-US\$392,418.49
3	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$1,343,242.70
4	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$1,221,129.73
5	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$1,110,117.94
6	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$1,009,198.12
7	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$917,452.84
8	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$834,048.04
9	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$758,225.49
10	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$689,295.9
11	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$626,632.63
12	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$569,666.03
13	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$517,878.2
14	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$470,798.3
15	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$427,998.52
16	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$389,089.50
17	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$353,717.79
10	1156262 246 00	11001 212 000 66	1194512 570 50	11947 117 956 01	11560 00	1166330 000 00	100/	1194201 561 60

19	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$292,328.75
20	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$265,753.41
21	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	10%	-US\$241,594.01
	The total NPV of 21 years							

			Net Present Val	ue calculations at 15%	discount rate			
		The annual operation fees of	the proposed project		Total investment of the	The annual	Discount	
Year	Fixed costs (A)	Electricity consumption (B)	Catalyzer cost (C)	A+B+C	technologic facility	economic benefits	rate	NPV(i)
1	US\$262,246.80	US\$0.00	US\$542,579.58	US\$804,826.37	US\$10,880,000.00	US\$330,000.00	15%	-US\$9,873,762.06
2	US\$262,246.80	US\$0.00	US\$542,579.58	US\$804,826.37	US\$0.00	US\$330,000.00	15%	-US\$359,036.96
3	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$1,175,544.36
4	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$1,022,212.49
5	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$888,880.43
6	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$772,939.50
7	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$672,121.31
8	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$584,453.31
9	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$508,220.27
10	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$441,930.67
11	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$384,287.54
12	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$334,163.08
13	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$290,576.59
14	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$252,675.29
15	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$219,717.65
16	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$191,058.82
17	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$166,138.11
18	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$144,467.92
19	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$125,624.28
20	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$109,238.50
21	US\$262,246.80	US\$1,313,029.66	US\$542,579.58	US\$2,117,856.04	US\$0.00	US\$330,000.00	15%	-US\$94,990.00
			The total NPV	of 21 years				-US\$18,612,039.14