CLEAN DEVELOPMENT MECHANISM (CDM) PROJECT
INVESTMENT ANALYSIS - OPTION 2 (INVESTMENT COMPARISON ANALYSIS)
(IN THOUSANDS)

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
			2'390'670										
Baseline fuel costs													
Coal	USD		45'060'044	46'592'656	47'318'327	48'389'438	48'725'084	48'725'084	48'725'084	48'725'084	48'725'084	48'725'084	48'725'084
Light oil/diesel	USD		16'135'416	18'380'729	20'451'844	23'096'997	23'244'253	23'244'253	23'244'253	23'244'253	23'244'253	23'244'253	23'244'253
Used/waste oil	USD		4'240'658	4'954'528	5'526'439	6'095'501	6'140'283	6'140'283	6'140'283	6'140'283	6'140'283	6'140'283	6'140'283
	USD	0	**65'436'118**	**69'927'914**	**73'296'610**	**77'581'936**	**78'109'620**	**78'109'620**	**78'109'620**	**78'109'620**	**78'109'620**	**78'109'620**	**78'109'620**
CDM Fuel Costs													
Coal			42'669'374	42'168'904	39'002'885	37'001'859	32'227'761	32'227'761	32'227'761	32'227'761	32'227'761	32'227'761	32'227'761
Light Oil/Diesel			13'889'098	15'830'507	17'618'408	19'839'689	19'969'997	19'969'997	19'969'997	19'969'997	19'969'997	19'969'997	19'969'997
Used/Waste Oil			4'687'956	5'474'054	6'040'984	6'535'636	6'787'951	6'787'951	6'787'951	6'787'951	6'787'951	6'787'951	6'787'951
Crude Palm Oil			0	0	0	0	0	0	0	0	0	0	0
Biomass - PKS			872'113	1'509'797	3'183'375	5'229'562	9'801'722	10'252'601	10'703'716	11'153'272	11'543'636	11'889'945	12'246'644
Biomass - Rice Husk			683'905	1'144'460	2'824'599	3'839'391	4'778'167	4'997'962	5'217'873	5'437'023	5'627'319	5'796'139	5'970'023
Biomass - Saw Dust			295'451	760'158	797'832	815'565	972'361	1'017'090	1'061'842	1'106'439	1'145'164	1'179'519	1'214'905
		0	**63'097'898**	**66'887'880**	**69'468'083**	**73'261'702**	**74'537'959**	**75'253'362**	**75'969'139**	**76'682'443**	**77'301'829**	**77'851'312**	**78'417'280**
Gross Benefit		0	2'338'220	3'040'034	3'828'527	4'320'234	3'571'661	2'856'258	2'140'481	1'427'177	807'791	258'308	-307'660
Depreciation exp		38'750	154'583	1'203'750	1'924'583	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083
Taxable income		-38'750	2'183'637	1'836'284	1'903'944	1'858'151	1'109'578	394'174	-321'602	-1'034'906	-1'654'292	-2'203'776	-2'769'744
Tax expense		0	655'091	550'885	571'183	557'445	332'873	118'252	0	0	0	0	0
Net Benefits		0	1'683'129	2'489'149	3'257'344	3'762'789	3'238'788	2'738'005	2'140'481	1'427'177	807'791	258'308	-307'660
Project Cash Flow without CERs													
Investment costs		-465'000	-1'390'000	-12'590'000	-8'650'000	-6'450'000							2'954'500
Increment cash flows (net benefits)		-465'000	293'129	-10'100'851	-5'392'656	-2'687'211	3'238'788	2'738'005	2'140'481	1'427'177	807'791	258'308	2'646'840
IRR		-6.33%											
NPV	14.50%	($6'981.26)											
	-6.33%	$0.00											
CER Revenue			422'901	788'111	1'485'860	2'037'964	2'995'919	2'995'919	2'995'919	2'995'919	2'995'919	2'995'919	-
Cash flows with CER		-465'000	716'030	-9'312'740	-3'906'796	-649'247	6'234'707	5'733'924	5'136'400	4'423'096	3'803'710	3'254'226	2'646'840

Year	Investment (US$ K)	Incremental cash flow (US$ K)	Depreciation	Taxable income	Tax	Net benefit	Cash flow without CER	Cash flow with CER (price assumed at $5)
2006	465	-	39	(39)	-	-	(465)	(465)
2007	1'390	2'338	155	2'184	655	1'683	293	716
2008	12'590	3'040	1'204	1'836	551	2'489	(10'101)	(9'313)
2009	8'650	3'829	1'925	1'904	571	3'257	(5'393)	(3'907)
2010	6'450	4'320	2'462	1'858	557	3'763	(2'687)	(649)
2011		3'572	2'462	1'110	333	3'239	3'239	6'235
2012		2'856	2'462	394	118	2'738	2'738	5'734
2013		2'140	2'462	(322)	-	2'140	2'140	5'136
2014		1'427	2'462	(1'035)	-	1'427	1'427	4'423
2015		808	2'462	(1'654)	-	808	808	3'804
2016		258	2'462	(2'204)	-	258	258	3'254
2017	-2954.5	(308)	2'462	(2'770)	-	(308)	2'647	2'647
	IRR						-6.33%	18.79%
	NPV - WACC					14.50%	($6'981)	$1'606
	NPV - GOVT BONDS					8%	($6'945)	$5'948

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Capital Expenditures	USD	465'000	1'390'000	12'590'000	8'650'000	6'450'000							
Depreciation Exp		38'750	154'583	1'203'750	1'924'583	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083	2'462'083
Clinker Production	Mt		6'201'203	6'341'066	6'353'125	6'423'206	6'423'206	6'423'206	6'423'206	6'423'206	6'423'206	6'423'206	6'423'206
Total Heat Consumption	TJ												
CC2	TJ		7'729	8'035	8'085	8'413	8'457	8'457	8'457	8'457	8'457	8'457	8'457
NR3	TJ		4'781	5'001	5'055	5'049	5'087	5'087	5'087	5'087	5'087	5'087	5'087
NR4	TJ		8'172	8'197	8'275	8'277	8'348	8'348	8'348	8'348	8'348	8'348	8'348
Total	TJ		20'682	21'233	21'415	21'740	21'891	21'891	21'891	21'891	21'891	21'891	21'891

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Required Fuel Quantity - Baseline													
Bituminous coal													
CC2	Mt		310'042	322'301	324'323	337'486	339'242	339'242	339'242	339'242	339'242	339'242	339'242
NR3	Mt		175'495	183'580	185'561	185'361	186'722	186'722	186'722	186'722	186'722	186'722	186'722
NR4	Mt		318'837	319'818	322'862	322'957	325'704	325'704	325'704	325'704	325'704	325'704	325'704
			804'373	**825'698**	**832'745**	**845'804**	**851'669**	**851'669**	**851'669**	**851'669**	**851'669**	**851'669**	**851'669**
Light oil/diesel													
CC2			11'797	12'264	12'341	12'841	12'908	12'908	12'908	12'908	12'908	12'908	12'908
NR3			4'621	4'834	4'886	4'881	4'917	4'917	4'917	4'917	4'917	4'917	4'917
NR4			4'713	4'727	4'772	4'774	4'814	4'814	4'814	4'814	4'814	4'814	4'814
			21'131	**21'825**	**21'999**	**22'496**	**22'640**	**22'640**	**22'640**	**22'640**	**22'640**	**22'640**	**22'640**
Used / waste oils													
CC2			0	0	0	0	0	0	0	0	0	0	0
NR3			5'589	5'847	5'910	5'903	5'947	5'947	5'947	5'947	5'947	5'947	5'947
NR4			0	0	0	0	0	0	0	0	0	0	0
			5'589	**5'847**	**5'910**	**5'903**	**5'947**	**5'947**	**5'947**	**5'947**	**5'947**	**5'947**	**5'947**

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Required Fuel Quantity - AFR													
Bituminous coal	Mt												
CC2			286'066	283'125	259'446	246'073	222'799	222'799	222'799	222'799	222'799	222'799	222'799
NR3			174'189	170'477.07	155'374.82	146'920.25	129'695.17	129'695.17	129'695.17	129'695.17	129'695.17	129'695.17	129'695
NR4			301'465	293'707	271'571	253'722	210'811	210'811	210'811	210'811	210'811	210'811	210'811
			761'721	**747'309**	**686'392**	**646'715**	**563'305**	**563'305**	**563'305**	**563'305**	**563'305**	**563'305**	**563'305**
Light oil/diesel													
CC2			8'870	9'221	9'279	9'655	9'705	9'705	9'705	9'705	9'705	9'705	9'705
NR3			4'621	4'834	4'886	4'881	4'917	4'917	4'917	4'917	4'917	4'917	4'917
NR4			4'713	4'727	4'772	4'774	4'814	4'814	4'814	4'814	4'814	4'814	4'814
			18'204	**18'782**	**18'937**	**19'310**	**19'437**	**19'437**	**19'437**	**19'437**	**19'437**	**19'437**	**19'437**
Used / waste oils													
CC2			0	0	0	0	0	0	0	0	0	0	-
NR3			6'179	6'460	6'460	6'330	6'574	6'574	6'574	6'574	6'574	6'574	6'574
NR4			0	0	0	0	0	0	0	0	0	0	-
			6'179	**6'460**	**6'460**	**6'330**	**6'574**	**6'574**	**6'574**	**6'574**	**6'574**	**6'574**	**6'574**
Crude palm oil													
CC2													
NR3													
NR4													
			-	-	-	-	-	-	-	-	-	-	
Biomass - PKS	Mt												
CC2			15'004	15'348	38'418	59'551	81'903	81'903	81'903	81'903	81'903	81'903	81'903
NR3			1'000	7'838	15'672	22'869	38'122	38'122	38'122	38'122	38'122	38'122	38'122
NR4			7'848	15'696	23'544	38'582	95'557	95'557	95'557	95'557	95'557	95'557	95'557

Biomass - rice husk	**Mt**		**23'852**	**38'882**	**77'634**	**121'001**	**215'582**	**215'582**	**215'582**	**215'582**	**215'582**	**215'582**	**215'582**
CC2			15'004	30'695	46'102	66'995	81'903	81'903	81'903	81'903	81'903	81'903	81'903
NR3			-	7'851	31'394	38'175	53'457	53'457	53'457	53'457	53'457	53'457	53'457
NR4			23'582	23'582	62'886	77'288	80'986	80'986	80'986	80'986	80'986	80'986	80'986
			38'586	**62'128**	**140'382**	**182'459**	**216'347**	**216'347**	**216'347**	**216'347**	**216'347**	**216'347**	**216'347**
Biomass - saw dust	**Mt**												
CC2			22'506	38'839	38'509	37'220	37'229	37'229	37'229	37'229	37'229	37'229	37'229
NR3			0.00	7'838.45	7'835.82	7'622.89	7'636.25	7'636.25	7'636.25	7'636.25	7'636.25	7'636.25	7'636
NR4			-	7'848	7'848	7'716	14'701	14'701	14'701	14'701	14'701	14'701	14'701
			22'506	**54'525**	**54'193**	**52'559**	**59'566**	**59'566**	**59'566**	**59'566**	**59'566**	**59'566**	**59'566**

44.5181875

Fuel Price														
Bituminous coal				0.6%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
CC	USD/ton		56.13	56.46	56.77	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	
NR	USD/ton		55.95	56.41	56.85	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	
Light oil/diesel														
CC			0.64	0.70	0.78	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
NR			0.64	0.71	0.79	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Crude palm oil														
CC & NR	USD/ton		359.71	382.01	403.41	425.19	447.30	467.88	488.46	508.98	526.79	542.60	558.88	
Biomass - PKS														
CC & NR	USD/ton		36.56	39	41	43	45	48	50	52	54	55	57	
Biomass - rice husk														
CC			15.53	16	17	18	19	20	21	22	23	23	24	
NR			19.12	20	21	23	24	25	26	27	28	29	30	
Biomass - saw dust														
CC & NR			13.13	14	15	16	16	17	18	19	19	20	20	

GENERAL ASSUMPTION

Inflation - Consensus forecast (August 2007 for period of 2007 - 2011)	2007		6.4%	6.2%	5.6%	5.4%	5.2%	4.6%	4.4%	4.2%	3.5%	3.0%	3.0%
Exchange Rate - FinPlan			9'174	9'175	9'139	9'098	9'098	9'098	9'098	9'098	9'098	9'098	9'098
Density of diesel fuel oil		0.00084	Ton/Liter										
Depreciation		12											
Tax rate		30%											
WACC		14.50%											
Government Bonds (Yield in 2016)		8%											

Emission reduction	84'580	157'622	297'172	407'593	599'184	599'184	599'184	599'184	599'184	599'184	
Price (assumption)	5	5	5	5	5	5	5	5	5	5	
CER Revenue	422'901	788'111	1'485'860	2'037'964	2'995'919	2'995'919	2'995'919	2'995'919	2'995'919	2'995'919	

AFR Biomass Co-Processing Facilities Projects
Source: Presentation material of AFR SC Meeting, October 2006 - "CC & NR Plants AFR Biomass Feeding Facilities Projects "

PLANT	INSTALLATIONS	BUDGET					
		2006	2007	2008	2009	2010	
CC	Current Feed Point to SLC + Relocation of PKS Crusher		100'000				100'000
	Modification of SLC Feed System - Intermediate Bin + SC		125'000	125'000			250'000
	Burner Feed Point		550'000				550'000
	Preparation of Common AFR Storage + transport system		600'000	1'200'000			1'800'000
	Feeding of PKS in Kiln hood area to increase Hot air temp			600'000			600'000
	Upgradation of Kiln ID Fans			200'000			200'000
	Installation of Feed System for SLC-TAD			600'000			600'000
	Installation of Feed System for ILC-TAD			600'000			600'000
	CFD Study 2			80'000			80'000
	Shredder and Cutting			400'000			400'000
	Installation of Kiln Riser Duct Double/triple Flap + Transport			400'000	250'000		650'000
	Balling and compactor				700'000		700'000
	PKS Grinding - Size Reduction				1'500'000	1'000'000	2'500'000
	Modification of Calciners - Details to be studied				1'750'000	250'000	2'000'000
NR4	AFR Biomass Feeding Installation	465'000					465'000
	Current Feed Point to SLC + Modifications		15'000				15'000
	Modification of SLC Feed System - Intermediate Bin + SC			250'000			250'000
	Burner Feed Point			600'000			600'000
	Preparation of Common AFR Storage + transport system			1'200'000	1'200'000	200'000	2'600'000
	Feeding of PKS in Kiln hood area to increase Hot air temp			600'000			600'000
	Upgradation of Kiln ID Fans			200'000			200'000
	Installation of Feed System for SLC-TAD			600'000			600'000
	Installation of Feed System for ILC-TAD			600'000			600'000
	CFD Study 2			60'000			60'000
	Shredder and Cutting			500'000			500'000
	Installation of Kiln Riser Duct Double/triple Flap + Transport			500'000	150'000		650'000
	Balling and compactor				700'000		700'000
	PKS Grinding - Size Reduction				500'000	2'000'000	2'500'000
	Modification of Calciners - Details to be studied				500'000	1'500'000	2'000'000
NR3	Burner feed point			1'300'000			1'300'000
	Upgradation of Kiln ID Fans			200'000			200'000
	CFD Study 2			50'000			50'000
	Shredder and Cutting - Heavy duty			1'125'000			1'125'000
	Raw Platform/storing area			150'000			150'000
	Installation of Kiln Riser Duct Double/triple Flap + Transport			450'000	200'000		650'000
	Balling and compactor				700'000		700'000
	Modification of Calciners - Details to be studied				500'000	1'500'000	2'000'000
							0
TOTAL		465'000	1'390'000	12'590'000	8'650'000	6'450'000	29'545'000

FIXED PRICE LIST - FOR BUDGET 2007-2010

		FUELS/THERMAL ENERGY (Kiln)					
		Diesel NR	All	Pur Price	ltr	6'707.32	7'378.06	8'115.86
				Inbound F	ltr	48.54	50.72	52.90
				Total	**ltr**	**6'755.86**	**7'428.78**	**8'168.76**
		Diesel CC	All	Pur Price	ltr	6'707.32	7'378.06	8'115.86
				Inbound F	ltr	19.75	20.64	21.53
				Total	**ltr**	**6'727.08**	**7'398.70**	**8'137.39**
		Gasoline	All	Pur Price	ltr	6'598.78	7'258.66	7'984.53
				Inbound F	ltr			
				Total	**ltr**	**6'598.78**	**7'258.66**	**7'984.53**
		IDO NR	Clk & Cem	Pur Price	ltr	6'435.39	7'078.93	7'786.82
				Inbound F	ltr	95.55	99.85	104.14
				Total	**ltr**	**6'530.94**	**7'178.78**	**7'890.96**
		IDO CC	Clk & Cem	Pur Price	ltr	6'435.39	7'078.93	7'786.82
				Inbound F	ltr	23.89	24.96	26.04
				Total	**ltr**	**6'459.28**	**7'103.89**	**7'812.86**

Coal Supplier	Index 2005	Price 2006		Index 2006	Price 2007		Index 2007	Price 2008		Index 2008	Price 2009		Index 2009	Price 2010	
Kideco	48	SFr.	25.23	50	SFr.	25.55	51	SFr.	25.70	52	SFr.	25.85	53	SFr.	26.00
Adaro	49	SFr.	27.00	49	SFr.	27.00	50	SFr.	27.17	51	SFr.	27.33	52	SFr.	27.49

Coal cost at inventory point

NR	50% ADR + 50 XYZ	SFr.	8.70	SFr.	9.84	SFr.	9.92	SFr.	10.00	SFr.	10.07
CC	50% ADR + 50 Kide	SFr.	8.69	SFr.	9.86	SFr.	9.91	SFr.	9.97	SFr.	10.02

50

			Vsl/brg	FOB	Freight	Landed Cost at Plant/Pier	Other cost	At Plant Inventory Point				USD/kWh	Cost at Burner	Moist a.r.	GCV ad	NCV ad	Moist ad	Vols	HGI	Sulfur	Ash
						as received			air dried		as fired	0.05									
				USD /t	USD /t	USD /t	USD /t	USD /t	USD /t	USD/Gcal	USD/Gcal	USD/Gcal	USD/Gcal	%	kcal/kg	kcal/kg	%	%	-	%	%
NR 06	Adaro	Adaro	brg	27.00	9.81	36.81	3.83	40.64	46.33	8.25	8.30	0.00	8.30	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.23	12.83	38.06	3.83	41.89	47.05	9.03	9.11	0.00	9.11	27	5'500	5'208	18	40	49	0.15	3
CC	Adaro	Adaro	brg	27.00	12.69	39.69	2.09	41.78	47.63	8.48	8.53	0.00	8.53	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.23	13.38	38.61	2.09	40.69	45.71	8.78	8.85	0.00	8.85	27	5'500	5'208	18	40	49	0.15	3
NR 07	Adaro	Adaro	brg	27.00	13.73	40.73	4.50	45.23	51.57	9.18	9.23	0.00	9.23	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.55	17.96	43.50	4.50	48.00	53.92	10.35	10.44	0.00	10.44	27	5'500	5'208	18	40	49	0.15	3
CC	Adaro	Adaro	brg	27.00	17.77	44.77	2.24	47.01	53.59	9.54	9.60	0.00	9.60	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.55	18.73	44.27	2.24	46.51	52.25	10.03	10.12	0.00	10.12	27	5'500	5'208	18	40	49	0.15	3
NR 08	Adaro	Adaro	brg	27.17	13.73	40.90	4.73	45.62	52.01	9.26	9.31	0.00	9.31	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.70	17.96	43.65	4.73	48.38	54.34	10.43	10.52	0.00	10.52	27	5'500	5'208	18	40	49	0.15	3
CC	Adaro	Adaro	brg	27.17	17.77	44.93	2.36	47.29	53.91	9.59	9.65	0.00	9.65	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.70	18.73	44.42	2.36	46.78	52.55	10.09	10.17	0.00	10.17	27	5'500	5'208	18	40	49	0.15	3
NR 09	Adaro	Adaro	brg	27.33	13.73	41.06	4.94	46.00	52.44	9.33	9.39	0.00	9.39	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.85	17.96	43.80	4.94	48.74	54.75	10.51	10.60	0.00	10.60	27	5'500	5'208	18	40	49	0.15	3
CC	Adaro	Adaro	brg	27.33	17.77	45.09	2.46	47.56	54.21	9.65	9.71	0.00	9.71	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	25.85	18.73	44.57	2.46	47.04	52.84	10.14	10.23	0.00	10.23	27	5'500	5'208	18	40	49	0.15	3
NR 10	Adaro	Adaro	brg	27.49	13.73	41.22	5.15	46.37	52.87	9.41	9.47	0.00	9.47	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	26.00	17.96	43.95	5.15	49.10	55.16	10.59	10.68	0.00	10.68	27	5'500	5'208	18	40	49	0.15	3
CC	Adaro	Adaro	brg	27.49	17.77	45.26	2.57	47.82	54.52	9.70	9.76	0.00	9.76	25	5'900	5'619	14.5	37	53	0.1	1
	Kideco	Kideco	brg	26.00	18.73	44.72	2.57	47.29	53.12	10.20	10.29	0.00	10.29	27	5'500	5'208	18	40	49	0.15	3
Tuban project		Adaro		27.49	6.867	34.36	2.00	36.36	41.45	7.38	7.42	0.00	7.42	25	5'900	5'619	14.5	37	53	0.1	1
		Kideco		26.00	8.9775	34.98	2.00	36.98	41.54	7.98	8.04	0.00	8.04	27	5'500	5'208	18	40	49	0.15	3