

**Enclosure IV: Sheet 1 - CER Calculation Sheet**

<b>Year of offer</b>	<b>2000-2001</b>		<b>2001-2002</b>		<b>2002-2003</b>		<b>2003-2004</b>		<b>2004-2005</b>	
<b>Generation Mix</b>										
Sector	mU	%	mU	%	mU	%	mU	%	mU	%
Coal Based (Central)	2773.91600	19.47251	2529.42300	17.02814	1106.55900	7.14912				
Coal Based (State)	10024.71100	70.37209	10684.75000	71.93000	12756.18000	82.41355				
Coal Based (Private)	148.14000	1.03992	153.69000	1.03464	151.95000	0.98170				
Gas Based (Central)	124.08800	0.87108	150.39800	1.01248	173.72500	1.12238				
Gas Based (State)	6.28000	0.04408	0.62900	0.00423	0.18700	0.00121				
Hydro (Central)	723.17500	5.07659	789.56500	5.31537	780.23800	5.04087				
Hydro (State)	444.98400	3.12373	545.91800	3.67513	509.41700	3.29118				
<b>Total</b>	<b>14245.29400</b>	<b>100.00000</b>	<b>14854.37300</b>	<b>100.00000</b>	<b>15478.25600</b>	<b>100.00000</b>				
Total generation excluding hydro	13077.13500	91.79968	13518.89000	91.00950	14188.60100	91.66796				
% of generation by coal out of total gen.excl. Hydro		99.00308		98.88284		98.77428				
% of generation by gas out of total gen.excl hydro		0.99692		1.11716		1.22572				
<b>Baseline Emissions</b>										
Standard emission factor for coal ((tCO2/TJ)	96.10000		96.10000		96.10000					
Oxidation factor of coal ( IPCC standard value)	0.98000		0.98000		0.98000					
Standard emission factor for Gas(tCO2/TJ)	56.10000		56.10000		56.10000					
Oxidation factor of gas ( IPCC standard value)	0.99500		0.99500		0.99500					
Net emission factor for thermal (Coal)		93.23912		93.12589		93.02364				
Thermal efficiency of thermal (coal) power plants		31.13000		31.22000		31.33000				
Emission factor for thermal (coal) (tCO2/TJ input)		299.51534		298.28919		296.91556				
Net emission factor for thermal (Gas)		0.55647		0.62359		0.68419				
Thermal efficiency of thermal (gas) power plants		40.00000		40.00000		40.00000				
Emission factor for thermal (gas) (tCO2/TJ input)		1.39118		1.55898		1.71047				
Total net emission factor (kgCO2/kWh input)		1.08326		1.07945		1.07505				
Average Operating Margin(kg CO2/kWh input) for the three years		1.08326		1.07945		1.07926				
<b>Built Margin</b>										
% of generation by coal out of total						77.93487				
Standard emission factor for coal					96.10000					
Oxidation factor of coal ( IPCC standard value)					0.98000					
Net emission factor for thermal (Coal)						73.39750				
Thermal efficiency of thermal (coal) power plants						31.33000				
Net emission factor for thermal (coal) (tCO2/TJ input)						234.27227				
% of generation by gas out of total						5.41498				
Standard emission factor for Gas(tCO2/TJ)					56.10000					
Oxidation factor of gas ( IPCC standard value)					0.99500					
Net emission factor for thermal (Gas)						3.02262				
Thermal efficiency of thermal (gas) power plants						40.00000				
Emission factor for thermal (gas) (tCO2/TJ input)						7.55654				
Total net emission factor (kgCO2/kwh input)						0.87058				
<b>Combined Margin</b>										
<b>Emission Factor = (OM+BM)/2</b>		0.97692		0.97502		0.97492		0.97492		0.97492
Energy savings due to project activity		961601.21000		#####		3197829.20000		3576007.60000		3576007.60000



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Year of offer	2005-2006		2006-2007		2007-2008		2008-2009		2009-2010	
<b>Generation Mix</b>										
Sector	mU	%								
Coal Based (Central)										
Coal Based (State)										
Coal Based (Private)										
Gas Based (Central)										
Gas Based (State)										
Hydro (Central)										
Hydro (State)										
<b>Total</b>										
Total generation excluding hydro										
% of generation by coal out of total gen.exl. Hydro										
% of generation by gas out of total gen.exl hydro										
<b>Baseline Emissions</b>										
Standard emission factor for coal ((tCO2/TJ)										
Oxidation factor of coal ( IPCC standard value)										
Standard emission factor for Gas(tCO2/TJ)										
Oxidation factor of gas ( IPCC standard value)										
Net emission factor for thermal (Coal)										
Thermal efficiency of thermal (coal) power plants										
Emission factor for thermal (coal) (tCO2/TJ input)										
Net emission factor for thermal (Gas)										
Thermal efficiency of thermal (gas) power plants										
Emission factor for thermal (gas) (tCO2/TJ input)										
Total net emission factor (kgCO2/kWh input)										
Average Operating Margin(kg CO2/kWh input) for the three years										
<b>Built Margin</b>										
% of generation by coal out of total										
Standard emission factor for coal										
Oxidation factor of coal ( IPCC standard value)										
Net emission factor for thermal (Coal)										
Thermal efficiency of thermal (coal) power plants										
Net emission factor for thermal (coal) (tCO2/TJ input)										
% of generation by gas out of total										
Standard emission factor for Gas(tCO2/TJ)										
Oxidation factor of gas ( IPCC standard value)										
Net emission factor for thermal (Gas)										
Thermal efficiency of thermal (gas) power plants										
Emission factor for thermal (gas) (tCO2/TJ input)										
Total net emission factor (kgCO2/kwh input)										
<b>Combined Margin</b>										
<b>Emission Factor = (OM+BM)/2</b>		0.97492		0.97492		0.97492		0.97492		0.97492
Energy savings due to project activity		3576007.60000		3576007.60000		3576007.60000		3576007.60000		3576007.60000

