

Setting	
Country	India
Location (Town or region)	HTC, SIPCOT Industrial Estate, Gummidipoondi about 45 km from Chennai District: Thiruvallur. P.O. Gummidipoondi
Project start date	17th July, 2003
Project end date	2023
Technology keywords	Energy management, industrial technologies, power generation and use, waste to energy
Host sector	Hi - Tech Carbon (HTC) - Process Industry

Technical summary of the project	
Objective of the project	The projects aims to generate electric power from low calorific value waste gas coming from Carbon Black manufacturing process which is exported to grid, after meeting captive requirements.
Project description	
<p>Hi-Tech Carbon (HTC) is a unit of Aditya Birla Nuvo Ltd., a flagship company in the fold of Aditya Birla Group of companies. HTC manufactures Carbon Black from highly aromatic petroleum oils, which are thermally cracked at high temperature in specially designed reactors. HTC has three lines of carbon black production namely line 1, 2 and 3. Carbon Black product is produced from petroleum fraction called Carbon Black Feed Stock (CBFS). CBFS stored in tank is pumped to the reactor where thermal cracking takes place. The thermal cracking process leads to formation of two products. One is the solid product, fine in size which comes out as smoke and the other one is waste gas. Waste gas from the reactor that goes to boiler through main bag filter at 280-300°C is of significant volumes. Smoke enters through the bottom of filter bags and Carbon Black particles are deposited inside the bags. Low calorific value waste gas separated from accompanying carbon black particles in bag filter section are collected in the waste gas header.</p> <p>In the project activity, low calorific value waste gas coming out of new carbon black lines (line 2 & 3 of capacities 55,000 & 60,000 Tonnes/year respectively) is utilized in 52 and 70 TPH (B 2 & B 3) boilers respectively, specially designed to generate high pressure steam. This high pressure steam in turn drives the turbo-generators (TGs) of capacity 8 MW and 17.2 MW (TG 3 & 4 respectively) to generate power. The project activity displaces electricity from grid connected fossil fuel based power plants connected to southern regional grid. Thereby, the project activity reduces approximately 87,305 tCO₂e/year.</p>	

Environmental and social benefits	
(Estimate of) Greenhouse Gases abated (in metric tons of CO ₂ -equivalent)	Annual: Up to and including 2012: 261,915 87,305 per annum tCO ₂ -equivalent Up to a period of 10 years: 873,050 tCO ₂ -equivalent Up to a period of 15 years: NA
Number of reduction units (EAU, CER, ERU, AAU)	
Socio-economic aspects	
What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project?	
The project would have below mentioned benefits:	
<ol style="list-style-type: none"> 1. <i>Social Benefits</i> <ul style="list-style-type: none"> • The project activity creates direct and indirect employment opportunities for local people during construction and operation of the project activity. 	

II. Economic Benefits:

- The project activity has enhanced business opportunities for consultants, suppliers, manufacturers, contractors, transporters, hotels and taxi operators etc during implementation phase.
- The project activity would reduce the fossil fuel requirement by displacing electricity consumption from the fossil fuel based power plant connected to the grid.

III. Environmental Benefits:

- The project activity generates power from waste heat. The project activity saves power from fossil fuels and thereby avoids the GHG emissions. Further, by recovering waste heat, the project activity avoids the thermal pollution in the vicinity of plant location.

IV. Technological Benefits:

- The project activity recovers low heat value from waste gases to generate steam, which further drives high efficiency multi-stage impulse type steam turbine to generate power. The project activity adopts an advanced and environmentally safe technology for long term benefits like multistage impulse steam turbine etc. There is a progressive technological improvement in turbine technology by reducing specific steam consumption.

Methodology used (if applicable: approved baseline methodology or study done - refer to this; and monitoring organisation)	The approved consolidated methodology "Consolidated baseline methodology for GHG emission reductions for waste gas or waste heat or waste pressure based energy system" is applicable for the project activity. Reference: UNFCCC Approved consolidated baseline methodology ACM0012 / Version 01, Sectoral Scope: 01 & 04.
Economic data	
Capital costs	706 million USD (in addition book depreciation for building of 3.34% and book depreciation for plant and machinery of 5.28% needs to be accounted)
Financing scheme	No public funding from Parties included in Annex - I of the Convention is involved in the project activity
Financing organisation (if third party)	Not involved

Project developer	
Name of the project developer	Hi - Tech Carbon
E-mail and/or web address	vraghunathan@adityabirla.com www.birlacarbon.com/companies/hi_tech_carbon.htm
Contact person	Mr. Raghunathan.V
Host organisation	
Name of Host organisation	Hi - Tech Carbon
E-mail and/or web address	vraghunathan@adityabirla.com www.birlacarbon.com/companies/hi_tech_carbon.htm
Contact person	Mr. Raghunathan.V
Technology provider	
Name of Technology provider	Thermax, Triveni, TDPS
E-mail and/or web address	www.thermaxindia.com
Contact person	Not provided in PDD