

BRIEF

Name of Project: "Almoiz Bagasse Cogeneration Project." Version 01,
D.I Khan, Pakistan

Objectives:

- The main objective of this project activity is to operate 27 MW bagasse cogeneration facility (bagasse is a biomass residue from sugar cane) which generates electricity and enhance the generation of renewable energy in Pakistan and contributes towards national sustainable development.
- To help in achieving the objectives of combating climate change under UNFCCC by reducing significant amount of greenhouse gas (carbon dioxide) emissions.

Date of Submission: March, 15th 2008

Submitted by: Carbon Services Ltd (Pvt) Entity.

Project Sponsors: Almoiz Industries Ltd, Lahore, Pakistan

Project Development Consultants: Carbon Services Ltd (Pvt) Entity.
Econergy International Corporation UK Ltd.

Detail of Total Project Cost:

| Description | Amount |
|--|--------------------|
| Cost of Boiler | 199,000,000 |
| Cost of Turbine | 96,000,000 |
| Piping and Installation | 90,000,000 |
| Civil work | 85,000,000 |
| Total in PKR | 470,000,000 |
| Total amount in US \$ (million) | 7.5 |

Estimated Emission Reduction:

| <u>Source</u> | <u>Tons of CO₂eq/ yr</u> |
|------------------------------------|--|
| Almoiz Industries Lahore, Pakistan | 31,553 |
| Total annual reduction: | 31,553 |

Operational Lifetime: 21 years.

Starting/Commissioning Date: 01/10/2008

Crediting/Validity Period:

- Kyoto first commitment period: 2008 -12
- Estimated validity period (Including Post Kyoto period): 2008-29

Economic Viability of the Project:

The project's additionality is not based on the financial analysis but rather on the barrier analysis. (i.e. Technological barrier).

Technological Barriers:

- There is a lack of electricity transmission facilities in Pakistan.
- Electrification of this huge plant was a technological barrier, due to complexity of the project. Unusually long time was taken by the suppliers due to pressure and volume of work and initial design made on European specifications, standards and up dated technology.
- Since Almoiz industry is based upon "state of the art technology" therefore the expertise of foreign consultants / experts is required for the successful commissioning of all those equipments which are new at Pakistan sugar business and they will also be training the people at Almoiz industry D. I. Khan.
- Lack of expertise in the local market in finalizing the specifications in "minimum" amount of time.
- Unavailability of experienced draftsmen also proved to be a technological barrier in this project.
- Skilled and/or properly trained labor to operate and maintain the technology is not available in the relevant geographical area, which leads to an unacceptably high risk of equipment disrepair, malfunctioning or other underperformance.

Benefits of Project:

| Activity | Revenue (US\$) million/annum |
|--|------------------------------|
| Sale of Carbon Credits (@ US\$ 10/tonnes of CO _{2eq}): | 0.31 |
| Sale of 14 MW electricity to the WAPDA@ Rs.4.88/KWH | 4.88 |
| Total Estimated Annual Revenue: | 5.19 |

Other Qualitative Benefits:

- The project will generate jobs for local community during its construction phase, which includes the construction of roads, electric infrastructure, installation of the sugar mill itself and the related buildings and infrastructure.

- On site training will be provided through the job specific training programs for the new staff of the Sugar industry.
- A lot of emphasis has been given on the improvement of life standards of employees by providing them with the neat and clean housing colony to facilitate them and their families.
- Free of cost schooling will be provided to the children of employees and a scholarship program is also initiated for the deserving children. Free of cost school uniform and books will be provided to the children of employees.
- Free of cost medical care and hospitalization will also provided to the employees.
- Almoiz will also campaigning to promote sugar beet in the area thus providing the local farmers an opportunity to increase their seasonal income.
- This project will also responsible for the improvement of local infrastructure including roads and electrical grid which ultimately uplift the living standard of local community.
- It is planting various kinds of flora in the vicinity and around the sugar industry for beautification and pleasant environment.