

## Project Brief

**Name of Project:** “Waste heat recovery and utilization for power generation”  
at Lucky Cement Factory Limited, Pezu Plant (*Version 01*).

### Objectives:

- The main objective of the project activity is installation of waste heat recovery plant (Heat Recovery Steam Generators (HRSGs) & steam turbine) to generate electricity by displacing the fossil fuel based electricity generation and partially displace the grid electricity imports and contributes towards sustainable development.
- To help in achieving the objectives of combating climate change under UNFCCC by reducing significant amount of greenhouse gas (carbon dioxide) emissions and contributes to the regional and national sustainable development.

**Date of Submission:** 17<sup>th</sup> August, 2009

**Submitted by:** Carbon Services (Pvt) Limited.

**Project Sponsors:** Lucky Cement Company Limited.

**Project Development Consultants:** First Climate (Switzerland) AG

### **Detail of Total Project Cost:**

<b>Cost Equipment/Service</b>	<b>Price</b>
Cost of Power Plant (Million US \$)	12.3
Transportation from China (Million US \$)	0.6
Transportation from Karachi Port to Pezu (Million US \$)	0.15
Duties and Taxes (Million US \$)	0.37
Civil Works (Million US \$)	1.2
Local Fabrication (Million US \$)	1.0
<b>Total Project Investment (Million US \$)</b>	<b>15.62</b>
<b>Total Project Investment (Million PKR)</b>	<b>947.45</b>

**Estimated Emission Reduction:**

<u>Source</u>	<u>Tons of CO<sub>2</sub>eq/ yr</u>
Lucky Cement Company Limited.	338, 20
<b>Total Annual Reduction:</b>	<b>338, 20</b>

**Operational Lifetime:** 20 years.

**Starting/Commissioning Date:**

**Crediting/Validity Period:**

- Kyoto first commitment period: 2008-12
- Estimated validity period (Including Post Kyoto period): 2008-28

**Economic Viability of the Project:**

Internal Rate of Return (IRR):

Without CDM benefits: 7.95%

With CDM benefits: 11.80%

**Benefits from the Project:**

<b>Activity</b>	<b>Revenue (US\$ Million/Year)</b>
Sale of Carbon Credits (@ 14.16 US \$/tones of CO <sub>2</sub> eq):	0.478
<b>Total estimated annual revenue:</b>	<b>0.478</b>

**Other Qualitative Benefits:**

- The project will result in significant reduction in the emission of greenhouse gases.
- Local environment will be improved by reduction in temperature of the vented hot air.
- The project will generate jobs to the local community during construction phase.
- Local fossil fuel resources will be conserved by avoiding fossil fuel based electricity from the existing captive power plant.

- There will be less health impact for the population through less emission of greenhouse gases and particles due to the project activity.
- The project is a cost effective way of generating electricity since no additional fuel is used.
- The project will introduce modern technology in the country.
- The project activity will improve technical knowledge of local population through technology transfer of the system by the supplier
- The project activity will set up an example of national sustainable development to be followed by other industries.