

ECO SECURITIES



EcoSecurities Group plc

**Eligible Activities and Opportunities in Pakistan's
Sugar and Allied Industries**

10 April 2008



EcoSecurities

EcoSecurities is a leading company in the CER,s business, we source, develop and trade carbon credits throughout the world having an honor to be the pioneer of the emission reduction business.

- Our portfolio consists of 437 projects with the potential to generate over 171 million carbon credits.
- We are working in 36 countries using 18 technologies.
- 101 projects are registered or submitted for registration.
- 120 projects are validated or submitted for validation.
- 351 projects have secure financing
- 305 projects worldwide are under construction or in operations.



Our global presence

Buenos Aires
Bankok
Beijing
Bern
Casablanca
Chengdu
Claremont
Delhi
Dubai
Dublin
Jakarta
Johannesburg
Karachi
Kiev
Kuala Lumpur



■ Countries where EcoSecurities has projects
● EcoSecurities' current office locations or representatives

Lima
Madrid
Manila
Manama
Mexico City
New York
Oxford
Portland
Rio de Janeiro
Rome
San Jose
Santiago
Singapore
The Hague
Tokyo



Sectors in which we are working

- Land Fills.
- Small scale hydro power.
- Agricultural and Animal waste Biodigestor.
- Bio mass and waste management.
- Industrial efficiency.

More Examples

- Renewable energy project
- Fuel switch project
- Energy efficiency project
- Waste treatment



Current Projects based on 18 Technologies and 36 Countries



Landfills



Small scale hydropower



Agricultural biodigestors



Animals waste biodigestors



Biomass and waste mgt



Industrial efficiency



What's going on in world's sugar sector

A large number of Sugar/ Distillery companies are earning big streams of revenue by CDM.

These companies:

- Improve efficiency of existing systems.
- Export electricity to grid.
- Replace fossil fuels.
- Treated High COD-effluent.
- Expanded their projects.



Carbon Credit Opportunities in Pakistan's Sugar / Distillery sector:

- Switching from fossil fuels to renewable fuels.
- Displacing grid electricity with renewable energy.
- Methane Avoidance.



Switching from fossil fuels to renewable fuels

Fossil Fuels are the main source of increasing Carbon dioxide in atmosphere.

If you are using fossil fuels replace it with any renewable fuel that is bagasse, rice husk, municipal solid waste.

Bagasse is the most useful source in sugar mills to be used as an alternative fuel if you are using fossil fuels.

Change the technology you are using with the new technology and new installations.

Improve efficiency of your machines and export green electricity to grid.



Cerradinho Bagasse cogeneration project in Brazil:

This project activity consists of increasing efficiency in the bagasse cogeneration facility of a Brazilian sugar mill. 34,742 is the current potential. With the implementation of this project, the mill has been able to sell electricity (52,000 MWh annually) to the national grid, avoiding that fossil-fuelled thermal plants dispatch the same amount of energy to that grid. By that, the initiative avoids CO₂ emissions, also contributing to the regional and national sustainable development. By investing to increase steam efficiency in the sugar and alcohol production and increase the efficiency at burning the bagasse (more efficient boilers), they generate surplus steam and use it exclusively for electricity production (through turbo-generators).



Displacing grid electricity with renewable energy

- Cogeneration is being done at almost all the sugar mills in Pakistan, to be eligible for carbon credits you must be burning renewable fuel to produce power and start exporting electricity to grid either by installing a new efficient project or exporting surplus power to grid.
- Sugar industries sector in Pakistan have already started working on it and have done agreements with government to export electricity.



Bagasse based cogeneration project at Titawi Sugar Mills, India.

The project activity is installation of one number of 90 Tons per Hour (TPH) nominal capacity high pressure boilers with steam outlet pressure of 86 kg/cm² and one number of backpressure turbo generator of 20.0 MW capacity. Total steam and part of electricity generated by project activity would be used to run the facility and surplus electricity (approx 11 mwh) would be exported to the grid. 21,704 is the CER,s potential and the emission reductions from the project activity comes from the avoidance of carbon dioxide emissions from power plants supplying electricity to the Northern regional grid which is dominated by fossil fuel based power plants. The project activity substitutes, and hence decreases the future need, for primarily fossil fuel based power generation by the grid, thereby reducing carbon dioxide (CO₂) emissions from the electricity sector.



Methane Avoidance

Methane is 21 times more hazardous to atmosphere as compared to Carbon dioxide.

Wastes and effluents produce Methane (Bio Gas), this gas can be used as an energy source or can be flared, projects taking care of bio gas and using them to produce electricity or heat are eligible for carbon credits.

Normally distilleries adopt open lagoons treatment system for meeting the pollution control standards of the Spent-Wash before its discharge. But in open lagoon system methane is generated which escape into atmosphere and there is no control or capturing involved. Treatment of this Spent-Wash in a closed digester and capturing the Methane generated in a controlled manner can be done. The Methane captured is combusted in a boiler for steam generation and further to generate power through a turbo-generator.



Avoidance of Wastewater and On-site Energy Use Emissions and Renewable Energy Generation in IFB Agro Distillery unit, India

The purpose of the project is to avoid methane emissions from wastewater treatment disposal practices and replace fossil fuel with renewable resources for generation of energy (steam and power). 70,760 cer,s is the project potential. This CDM project involves implementation of new wastewater treatment scheme, which includes anaerobic treatment of distillery effluent (spent wash) in the digester system, and recovery of methane in an efficient manner for the generation of renewable energy. Further, the semi treated effluent after anaerobic treatment will be treated aerobically. Rice-husk (renewable biomass) would be use as a supplementary fuel with biogas. Use of supplementary fuel will enable the distillery to continuously generate energy even at time of non-availability of methane enriched biogas and avoid using fossil fuel (furnace oil). The project avoids methane emissions from open lagoons and storage systems and fossil fuel emissions for generation of equivalent energy.



What we look for

- Is current waste stream held in a lagoon? If so, what is the holding time. Best carbon credit potential is there if holding time is at least 30 days.
- What is the COD of the spent wash or other sugar rich waste stream? (Most of the distilleries have effluent streams in excess of 100,000 mg/L!)
- Does the facility have any system in place for monitoring COD of waste streams.



What can be done?

- Can any of the procedures and investments we've discussed be applied at your plant? .
- Are there other projects you can think of?
- Be creative in finding ways of reducing GHG emissions, improving efficiency, introducing new technology.
- If something is new and will result in emission reductions, we can evaluate it for carbon credit potential.
- Please Remember eligibility criteria: new investment, consider hurdles to implementation, available technology.



If you have a project,

- MOVE QUICKLY: 2012 IS NOT FAR OFF!!
- Let EcoSecurities screen your project for carbon credit potential. If we calculate that your project qualifies and will generate sufficient carbon credits, we will take on the project.
- Sign an Emission Reduction Purchase Agreement (ERPA) with us, in which we agree to develop and buy your carbon credits.
- Develop your project as we develop your carbon credits!

EcoSecurities has a large and experienced team dedicated to create carbon credits from greenhouse gas emission reduction projects. We Assess your commercial viability, Develop all the CDM components, and buy the carbon credits through an ERPA.

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Thank You