

CDM Case Study – Bagasse Based Cogeneration at Rana Sugars, India

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The Project

□ Bagasse based cogeneration – 12 MW

- Purpose - to utilize surplus bagasse available in the region for effective generation of electricity for supply to state grid
- Crushing capacity – 5000 TPD
- Co-generation Plant- 55 Ton Boiler at 65 kg/cm² pressure and 12 MW extraction cum condensing type turbine
- generates electricity and sells it to the state electricity board through Power Purchase Agreement (PPA) contract.



Contribution to Sustainable Development

□ Social Well Being

- overall development of the region
- employment opportunities
- opportunities in the area for skilled and unskilled labour.

□ Economical Well Being

- creating business opportunity for local stakeholders
- reduce the demand-supply gap in the power deficit state grid
- reduce transmission losses due to generation of decentralised power

Contribution to Sustainable Development

□ Environmental Well Being

- Fossil fuel offset by utilising waste bagasse
- Offsetting power generation by conventional fossil fuels

□ Technological Well Being

- Introduction of modern & energy efficient technology
- Demonstration project with large replication potential in the country

CDM Aspects

- ❑ CDM sectoral scope
 - Energy industries (renewable - / non-renewable sources)
- ❑ Scale of project
 - Small Scale
- ❑ Source of emission reductions
 - Fossil fuel offsetting through bagasse based electricity generation
- ❑ Baseline scenario
 - Using electricity generated by the regional grid utilising fossil fuel resources
- ❑ Approved baseline methodology
 - Type I: Renewable Energy Projects
 - Category-D: Grid Connected Renewable electricity generation
- ❑ Estimated annual CERs
 - 24,539 tCO₂e

Additionality – Barrier Analysis

□ Prevailing practice barrier

- common practice in the Indian power sector have been investments in the fossil fuel based power plants
- biomass based power plants supplying power to grid are still uncommon in the state of Punjab
- entrepreneurs are not willing to change the current operating practices in the region

□ Institutional barriers

- Financially unhealthy state electricity board, issues with payment for power exported to grid
- Erratic frequency of power requirement by state electricity board

Additionality – Barrier Analysis

□ Other Barriers

- power generated using biomass will get lower priority over fossil fuel based generation as its generation cost is higher than the generation cost from conventional fuels like coal and lignite
- required to compromise on the selling price of electricity, which will adversely affect the economics of the project
- Increased fuel (biomass) prices during off season

THANK YOU