SECTION A. General description of small-scale project activity

A.1 Title of the small-scale project activity:

Title: Rice Husk Based Cogeneration project in Haryana, India by Goel International Pvt. Ltd
Version: 1.6
Date: 25/12/2012

A.2. Description of the small-scale project activity:

The purpose of the proposed project activity is to utilize the locally available biomass (rice husk) for simultaneous generation of thermal and electrical energy in a cogeneration unit. The project activity is developed by Goel International Pvt. Ltd (hereafter refereed as Goel International) which is one of the leading producers and exporter of rice in India. The generated power and steam from the project activity is used for their in house requirement.

The project activity involving installation of a cogeneration unit consisting of a 25 TPH boiler and a 3 MW steam turbine in existing facility to generate both steam and power. In the absence of the project activity, equal amount of power and steam would have been produced using the fossil fuel based cogeneration plant. The project activity therefore reduces greenhouse gas emissions by avoiding fossil fuel combustion in steam and power generation, which would otherwise been generated in the absence of the project activity. The annual GHG emission reduction from this project activity is 12,960 tCO_2e.

In the pre-project scenario, the PP was meeting the inhouse electricity requirement form grid import and DG set, whereas steam was being produced from the 8 TPH biomass based boiler. The historical average power import from the grid was 1868 MWh/annum[1], whereas average power generated from the DG set was 1299 MWh/annum[2]. The milling capacity of the rice mill in the pre-project scenario was 6 TPH. However, there was a capacity addition of 10 TPH in the milling capacity of Rice mill. Therefore, milling capacity of the rice mill in the project scenario is 16 TPH (6 TPH existing + 10 TPH addition). Due to the capacity expansion, there was an increase in demand of electricity and steam in the project activity. In the project activity, electricity demand will be met by 3 MW turbine, whereas steam requirement of the process (18TPH) would be met by 25 TPH boiler.

In the project activity, rice husk is used as fuel in the biomass based cogeneration plant for simultaneous production of steam and electricity generation. Even though Goel International has cheaper and reliable options such as fossil fuel based cogeneration plant to produce steam and power, Goel International decided to take up the project activity only after considering carbon credit benefits extended for such green energy projects under Kyoto Protocol.

Project's contribution to sustainable development

Ministry of Environment and Forests, Govt. of India has stipulated the social well being, economic well being, environmental well being and technological well being as the four indicators for sustainable

[1] As per the historical power import data for last 3 years

[2] As per the historical power generation data from DG set in last 3 years

development in the interim approval guidelines host country approval eligibility criteria for Clean Development Mechanism (CDM) projects[3].

Social well being:
"The CDM project activity should lead to alleviation of poverty by generating additional employment, removal of social disparities and contribution to provision of basic amenities to people leading to improvement in quality of life of people"

- The project activity will also help to bridge the gap of electricity demand and supply at local as well as national level which will helps in improving the quality of people.
- The project activity will provide employment to local people during its construction, maintenance and operation.

Economic well being:
"The CDM project activity should bring in additional investment consistent with the needs of the people"

- The project activity would help in alleviation of poverty in the area as it creates employment opportunities to the local people both temporary and permanent during the construction of the project as well as in operation.
- The project activity will reduce the import of electricity from the local grid and hence the available power can be directed towards the other industrial facilities. This will encourage setting up more industries in the area leading to the economic development of the area.

Environmental well being:
"This should include a discussion of impact of the project activity on resource sustainability and resource degradation, if any, due to proposed activity; bio-diversity friendliness; impact on human health; reduction of levels of pollution in general;"

- In this project activity, the electrical and thermal energy is generated using the rice husk based cogeneration plant which replaces carbon emission intensive fossil fuels. As rice husk is a CO_2 neutral fuel, combustion of biomass in this project activity does not result in net increase of CO_2 which is the major constituent in GHG emissions. Besides, the CO_2 emission reduction, the project activity also reduces SO_x, NO_x, etc.

Technological well being:
"The CDM project activity should lead to transfer of environmentally safe and sound technologies with a priority to the renewables sector or energy efficiency projects that are comparable to best practices in order to assist in upgradation of technological base"

- The project proponent has chosen an advanced and environmental friendly technology for steam and power generation. This will promote investors to invest in more such environmental friendly project.

All the above are the contribution of the project activity for the sustainable development.

[3] http://www.cdmindia.gov.in/approval_process.php