

Contribution of project activity towards sustainable development:

The Indian economy is highly dependent on coal as a fuel to generate energy and for production processes. Thermal power plants are the major consumers of coal in India. As the population's demand for electricity is growing, the production of electricity is increasing, which results in an immense stress on the environment. Changing coal consumption patterns will require a multi-pronged strategy focused on demand, reducing energy wastes and the optimum use of Renewable Energy (RE) sources.

The Designated National Authority for the CDM in India, which is the Ministry of Environment & Forests, has stipulated the following indicators for sustainable development in the interim approval guidelines for Indian CDM projects. Each of the indicators has been studied in the context of the project activity to ensure that the project contributes to sustainable development.

Social well – being:

- The proposed project activity leads to alleviation of poverty by establishing direct and indirect benefits through employment generation and improved economic activities by strengthening of local grid of the state electricity utility. This includes improvement of electricity quality, frequency and availability as the electricity is fed into a deficit grid.
- The construction work, i.e., place during the civil works, will generate employment for the local population. There will also be various kinds of mechanical work on the site, generating employment opportunities on a regular and permanent basis. The transportation of various project components to the final site will also create work opportunities and an improvement in the population's income.

Economic well – being:

- With the proposed project activity employment opportunities will eventually increase in the local area, uplifting thereby the economic conditions of the local population. The project creates indirect employment opportunities for about 50-100 unskilled workers for a period of two years (during construction), which otherwise would not happen in the absence of the project. In addition, the project creates direct permanent employment for about 35 persons for operation of the project.
- The project activity also leads to the diversification of the national energy supply, which is dominated by conventional fuel based generating units.

Environmental well – being:

- The hydroelectric project has no negative environmental impacts because it relies on existing irrigation releases and it does not involve any tree cutting or any submersion etc. Furthermore, adequate provisions are made for the plantation and building of greeneries, making the area more environment-friendly.
- The project utilizes hydro energy for generating electricity which otherwise would have been generated through alternate fuels based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions. Being a renewable resource, using hydel energy to generate electricity contributes to resource conservation. Thus the project causes no negative impact on the surrounding environment contributing to environmental well-being.
- As hydel power projects produce no end products in the form of solid waste (ash etc.), they address the problem of solid waste disposal encountered by most other sources of power.
- Being a renewable resource, using hydel energy to generate electricity contributes to resource conservation.

Technological well – being:

- The project activity utilizes an efficient Horizontal Francis turbine unit with a capacity of 1.5MW. The energy produced is fed into the nearest Shahuwadi sub-station, thus increasing energy availability and improving the quality of power supply in the service area of the substation.

The project aims to contribute to the social and economic development of the host country and to reduce the dependence on fossil fuels that currently dominate the energy composition of the national grid.