Checklist No. 5

COST BENEFIT ANALYSIS

Project: Diversion of 494.3387 Hectares of Forest land in Villages: Laxmipur (Netra), Lifri, Nagviri & Ghadani in Nakhatrana Taluka and Matanamadh, Murachban, Samajiyaro, Ekaliyo, Junagiya, Ramaniya, Chakarai, Baranda, Lakhmirani, Bhujpur, Nareda, Ratipal, Mudhan & Ukher Villages of Lakhpath Taluka in Kutch district for setting up 648 MW of Wind Power Project under Forest Conservation Act, 1980.

Table B- Estimation of cost of forest diversion (As per MoEF&CC Guideline dated 1st Aug 2017 related to Cost Benefit Analysis)

Sr No	Parameters	Remarks (For Wind Power Project)
1	Ecosystem Services losses due to proposed forest diversion	NPV of the forest land being diverted i.e494.3389 ha x INR.2.19 lac= **INR 1082.60Lac**
2	Loss of animal husbandry productivity including loss of fodder.	There will be no loss of Productivity of livestock due to construction of Wind Power Projects. 10% of NPV Applicable i.e**INR108.260Lac**
3	Cost of human resettlement.	**Nil,** There is no displacement of people due to the project hence there would be no cost of human resettlement.
4	Loss of public facilities & administration infra-structure (Roads, Building, School, Dispensary, Electric lines, Railways etc.) on forest land or which would require forest land if these facilities were diverted due to project.	**Nil,** Since these facilities are not available inside the forest area for proposed diversion. This project will improve the infrastructures i.e Road/ Transmission Line and hence not affecting any public facilities and administrative infrastructure.
5	Possession value of forest land diverted (Taken at 30% of NPV)	30% of Net Present Value (NPV) as per MOEFCC Guideline is**INR 324.78Lac**
6	Cost of suffering of Oustees	**Nil,**Since there will be no displacement of peoples due to this project.
7	Habitat Fragmentation Cost (Taken at 50% of NPV Value)	50% of NPV Applicable as per MOEFCCguidelineis **INR541.3Lac**
8	Compensatory Afforestation and Soil & Moisture Conservation Cost @ 5 lakh/Ha for FY2021-22	Comp. AfforestationCost **INR2471.6945 Lac** Soil & Moisture Conservation cost included in Comp. Affn. Cost.
Total Loss (Against the proposed Forest Land diversion for Wind Power Project)		**INR4528.6345 lac or INR 4428.0 lac**

Table C- Estimation of Benefit of Forest Diversion in Cost Benefit Analysis (as per MoEF&CC Guideline dated 1st Aug 2017 related to cost benefit analysis)

SN	Parameters	Remarks (For Wind Power Project)
1	Increase in Productivity attribute to the specific project	Project Cost is INR **388800 Lac**.
2	Benefit to economy due to the specific project	By infusion of **INR.388800 Lac,** various sectors of economy like manufacturing, industry, banking, manpower, engineering etc. will get benefited. This project will definitely improve the Socio Economic development of the Gujarat State.
3	No of population benefited due to specific project	Considering average consumption of 500 Unit per family of 4 persons, total requirement is 6000 Units per year per family. The total generation of 22708 Lakh Units of electricity can feed power to 378480 families or 1513920 persons.
4.	Economic benefit due to direct and indirect employment due to the project	Socio economic condition of the persons to be employed will be increased. **(i) During Project Construction Stage:** The project will provide Permanent employment to 100 and Temporary Employment to 1000 Person respectively for a period of 12 Months. The Economic Benefit is estimated at **INR7000 Lac**. (For Permanent Employment, Average Benefit of INR 20 Lac/Year Per Person and for Temporary Employment , INR 5 Lac/Year Per Person is considered for calculations) **(ii) During Operation & Maintenance for 30 Year:** The project will provide Permanent employment to 50 Person for operation and maintenance along with a team of 300 Person for repair/machine services in case of shutdown respectively for a period of 4 Months in each years for 30 Years. The Economic Benefit is estimated at **INR45000 Lac**.
5.	Economic benefits due to Compensatory Afforestation Cost @ 5 lakh/Ha for FY2021-22	INR 5.00 lac x 494.3389 ha = IN**R 2471.694Lac**
Total (Benefit from Project in proposed Forest Land diversion for Wind Power Project)		**INR 443271.694 lac or INR 443271 lac**

COST BENEFIT RATIO (CB Ratio) OF THE PROJECT: Project Benefit /Total Environment & Forest Loss

Benefit … … … … …INR.443271.694 lac

Loss … … … … …INR. 4428.6345 lac

Cost Benefit Ratio… … … … … 100.09 : 1

Hence, the Project has very high benefit to the country as compared to forest losses. The benefit to loss ratio is approximately 100 times.

For Bhudha Renewable Energy Private Limited.

(Authorised Signatory)

BHUDHA RENEWABLE ENERGY PVT. LTD.

Date: 9/07/2020

Place: Ahmedabad.