Check list No. 09

Justification for locating the project in forest area to be submitted by user agency and countersigned by DCF

A. Preamble & Generation of Electricity through Wind Power:

In the past 2 decades there have been substantial developments in the generation of electricity through unconventional methods like by harnessing wind energy and also through the sun light.

The conventional methods (Hydel, Thermal, Gas based Power Plants) of generation of electricity are using the scarce, costly & fast depleting natural resources i.e. fossil fuels where in not only its utilization is creating pollution but also in transportation to its end use through rail or road the pollutions gets added to the environment. Apart from usage of the fossil fuels which creates pollution which is very harmful to the environment, there is no remedy for the same and therefore since few years there is an emphasis on generation of electricity through the natural / renewable resources as fuel. Also the land required is less and there is no need for the displacement of the people and hence there is no cause for rehabilitation. Considering all these aspects there is an emphasis on using the renewable source of energy.

Within the various sources of renewable energy, wind power is considered to be most viable. There are several benefits of the wind power like it is easily available, its utilization does not create pollution and installation of wind Energy turbines requires less land and maintenance is also very easy.

Wind energy installed capacity of India has reached total installation of 35 GW till 2018-19. India ranks fifth in the world in terms of wind energy installed capacity after China, USA, Germany and Spain. Driving forces propelling the wind energy sector in India are huge potential, technological advancement, supportive legislative framework of various SERCs, incentives available for investment, private sector investment in wind energy sector and also rising prices of fossil fuels. The short gestation period for installing wind turbines and the increasing reliability and performance of wind energy machines has made wind power a favored choice for capacity addition in India. Major states with wind installations are Tamilnadu, Maharashtra, Gujarat, Karnataka, Rajasthan, Andhra Pradesh and Telangana.

B. Potential of Wind Energy in India

Under the direction of MNRE, NIWE has assessed India's wind power potential at 100m hub height with scientific rigor and based on authentic latest available data-sets of wind as well as land geologically spread across India.

At the height of 100m, the total potential of WIND Energy across India is 302 GW (302000 MW).
This Information has become the basis for the Policy makers, Private players, Government Agencies and other stakeholders of the industry to move towards achieving the ambitious goal of 60,000 MW of wind power by 2022 as envisaged by the government of India.

The India power sector as a whole is facing considerable deficit between demand and supply of energy. Given the above deficit scenario, the demand for power generated by wind energy project would continue to register robust growth.

C. Selection of Locations On Forest land:

The locations selected are part of the forest land. These locations are selected as,

- The elevation with respect to the ground level is high and therefore there is no hindrance in the movement of wind. This facilitates in more utilization of the Wind Energy Turbines.
- Also the land selected is rocky in nature which does not have much vegetation and are bereft of trees.
- Also the wind farms developed in the surrounding areas other than forest are giving very good results.
- Selected site is part of overall wind potential of the Kachchh area and has quite adequate wind potential.
- Selected Project is site specific and cannot be shifted to other places and potential of this site do not have any alternative. A detailed computer assisted analysis of site and C-WET report have suggested the area as most suitable for wind power generation.
- The Project site is located in Kutch district in Gujarat State in India. The wind farm is located 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.
- The project site is The Hills having an altitude of 40 - 300 meters above MSL. The area comprises of minimal and sparse vegetation.

B. Project Capacity :

The proposed wind farm will be of **648 MW** where totally **144** Wind Energy Turbines will be erected. From each turbine it is expected that **157.7 lacs** units of electricity generation is expected per annum and therefore totally through **144** turbines annually it is expected that **22708.8 lacs** units of electricity will be produced.

C. Electricity Generation & Distribution :

The generation of electricity will benefit a lot to the society as there is always a gap in demand and supply due to which affects several industries, load shedding for the domestic users and its effect is also felt farmers when there is little rainfall and due to non-availability of power farmers are unable to draw the water from their reservoirs.

The electricity generated would be supplied to the Central/state electricity authorities. Necessary electrical sub-stations and electrical lines have been planned which are presently also being used for transferring the electricity generated through the Wind Energy Turbines.

Conclusion:

From the above it can be seen that site has selected has been good potential for the wind and high energy content, using WEC's. It will be possible to exploit this potential to the maximum. The power produced shall be evacuated in Central/State Government Grid located in the vicinity of the project. It is pertinent to mention that the area surrounding of proposed forest diversion land, has been well developed as the large wind projects have been already commissioned in the same villages on private and Revenue land. Thus the approach roads and CTU Substations are already constructed.

We shall therefore utilize forest land and infrastructure already created shall be utilized to its optimum. Hence, looking at the revenue generation expected from this project and increasing electricity rates will make it this project fully viable and justifiable economically, financially and socially.

For Bhudha Renewable Energy Pvt. Ltd.,

(Authorized Signatory)

Date: 7/02/2022
Place: Ahmedabad