

## **COST BENEFIT ANALYSIS**

**Project:** Diversion of **30.95 Ha** of Forest land for laying of 132kV D/C LILO of one circuit of Pare HEP – North Lakhimpur (AEGCL) line at Nirjuli (POWERGRID) substation in Arunachal Pradesh.

**Table B- Estimation of cost of forest diversion (as per MoEF&CC Guideline dated 1<sup>st</sup> Aug 2017 related to cost benefit analysis)**

<b>S. No.</b>	<b>Parameters</b>	<b>Remarks (For Transmission Line)</b>
1	Ecosystem Services losses due to proposed forest diversion	NPV of the forest land being diverted i.e., 1) RF = 30.950 ha x Rs. 9.39 lakhs <b>Total = Rs. 290.6205 lakhs</b>
2	Loss of animal husbandry productivity including loss of fodder.	Not applicable. Productivity of livestock will not be affected due to construction of transmission line. 10% of NPV Applicable i.e., <b>Rs. 29.0621 lakhs</b>
3	Cost of human resettlement.	Since 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 infrastructure (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.	Not applicable since these facilities are not available inside the forest area for proposed diversion. The route/corridor of the Transmission line not affecting any public facilities on diverted forest land.
5	Possession value of forest land diverted.	30% of Environmental Costs (NPV) i.e., <b>Rs. 87.1862 lakhs</b>
6	Cost of suffering of oustees	Not applicable since there will be no displacement of peoples.
7	Habitat Fragmentation Cost	50% of NPV Applicable as thumb rule i.e., <b>Rs. 145.3103 lakhs</b>
8	Compensatory Afforestation and Soil & Moisture Conservation Cost (CA arrived at around Rs 200000 /Ha for Double degraded area)	<b>Comp. Afforestation cost Rs. 123.800 Lakhs</b> <b>Soil &amp; Moisture Conservation cost included in Comp. Afforestation cost.</b>
<b>Total Loss (Against the proposed forest land diversion)</b>		<b>Rs. 675.9790 say 676 lakhs</b>

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

S. No.	Parameters	Remarks (For Transmission Line)
1	Increase in Productively attribute to the specific project.	Project cost (290304 lakhs) for 35 years
2	Benefit to economy due to the specific project	NA
3	No. of population benefited due to specific project	As the project is linked with the main line connecting to Assam and Arunachal Pradesh, people in both states will be benefited.
4.	Economic benefit due to direct and indirect employment due to the project. <b>During Project Construction Stage:</b> The project will provide employment to 15 Permanent & 400 Temporary employment for a period of 18 months. <b>(Rs 2437.5 Lakhs)</b> <b>During Operation &amp; Maintenance Phase (for 35 Years):</b> The project will provide employment to 6 Permanent & 20 Temporary employment for a period of 35 years. <b>(Rs 5600 Lakhs)</b> (For Permanent employment avg. benefit of Rs 15 Lakhs/year /person and for temporary employment 3.5 lakhs/year/person).	Rs 8037.5 lakhs
5.	Economic benefits due to Compensatory Afforestation	Rs. 2 lakhs x 30.950 ha x 2 (as per Guideline issued by MoEF&CC vide letter No.F.No.5-3/2007_FC Dt.05.02.2009) = <b>Rs. 123.800 lakhs</b>
	<b>T o t a l</b>	<b>Rs 298465 lakhs</b>

**C. Cost Benefit Ratio i.e., Project Benefit / Forest loss = 441.52:1**

Hence, the Project has very high benefit to the country as compared to forest loss. **The benefit to loss ratio is approximate 442 times.**

**For Vapi II-North Lakhimpur Transmission Limited**



Authorized Signatory