

Supplementary Appendix Climate Change Adaptation Report

Part 1: Climate Change Adaptation

BASIC PROJECT INFORMATION			
<i>Project Title:</i> Rajasthan Renewable Energy Transmission Investment Program (RRETIP) Project 1		<i>Sector:</i> Energy	
<i>Location: (If possible GIS maps with location)</i>		Estimated ADB Financing: \$62 million (ADB OCR), \$88 million (ADB CTF)	
<i>Brief Description: (Max 200 words)</i>		<i>Implementation Period:</i>	
The RRETIP will construct 400 kV, 220 kV, 132 kV sub-stations and about 600 km. of transmission lines in Western Rajasthan in the first Project to evacuate renewable energy from private solar and wind projects to the state and national grid.			
Climate Change Classification: ADB PCS: <i>Adaptation</i>			
SUMMARY of CLIMATE RISK SCREENING			
<i>(Screening will be done using GIS and Remote Sensing techniques built through three sets of databases: Geological, Climate and Knowledge base. Other climate change assessment reports or databases can be used provided they are from reputable sources and appropriate scope.)</i>			
A. <u>Projected changes under A2 scenario</u>			
<i>Temperature (°C)</i> By 2030, annual mean temp within the project area is projected to increase on average by 1.8°C	<i>Precipitation (mm)</i> By 2030, annual precip in the project area is projected to increase by 25-30mm.	<i>Sea Level Rise (masl):</i>	<i>Others:</i>
B. <u>Climate Risks</u>			
1. Flood	Y	Locations of substations appear to be vulnerable to flood risks.	
2. Cyclone	Y	Strong winds can cause damage to overhead transmission lines.	
C. <u>Recommendations</u>			
Activities: 1. All planned substations must be designed and constructed free from flood risks. 2. Overhead transmission lines should be constructed to withstand strong winds.			
Risk Classification: (Low, Medium and High Risk) Low			
DUE DILIGENCE			
<i>(Enumerate the type of analytical or fact finding activities conducted during project preparation)</i>			
Activities: 1. Risk screening was conducted to identify climate related risks to project infrastructure/components. 2. Consultation with technical experts and EA officials were held, factoring-in the results of the screening, and other possible climate change impacts to project design.			
PROJECT DESIGN CHANGE OR ADAPTATION RESPONSE			
<i>(Describe key action items and budgetary allocations, and other response measures relevant to the project)</i>			
1. Transmission line detailed designs to include a safety factor permitting operations in a higher wind zone. 2. Sub-station on elevated locations, suitable drainage features to be factored in the detailed design.			