India: Green Energy Corridor and Grid Strengthening Project

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<thead>
<tr>
<th>Project Name</th>
<th>Green Energy Corridor and Grid Strengthening Project</th>
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<tr>
<td>Project Number</td>
<td>44426-018</td>
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<tr>
<td>Borrower/Company</td>
<td>POWER GRID CORPORATION OF INDIA LIMITED</td>
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<tr>
<td>Country</td>
<td>India</td>
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<tr>
<td>Approval Number</td>
<td>7467/3375</td>
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<tr>
<td>Type of ADB Assistance / Amount</td>
<td>Ordinary capital resources</td>
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Strategic Agendas
- Environmentally sustainable growth
- Inclusive economic growth

Drivers of Change
- Partnerships
- Private sector development

Sector / Subsector
- Energy - Electricity transmission and distribution

Gender Equity and Mainstreaming
- No gender elements

Responsible ADB Department
- Private Sector Operations Division

Responsible ADB Division
- Portfolio Management Division, PSOD

Responsible ADB Officer
- Patil, Avesh

Description
The project will fund electric transmission system investments in India, including (i) a portion of the Government of India's "Green Energy Corridor" initiative to facilitate the transfer of power from the renewable energy (RE) rich areas to other parts of the country, consisting of 765 kilovolt (kV) and 400 kV high voltage transmission lines and an associated 765/400kV substation and associated equipment, and (ii) four high voltage direct current (HVDC) terminals (two at 800 kV and two at 320 kV) as part of increased inter-regional connectivity between India's western and southern regional power grids.

India's Ministry of New and Renewable Energy and the Forum of Regulators commissioned Power Grid Corporation of India Ltd. (Powergrid) to conduct a Green Energy Corridor study to identify requisite nationwide transmission investments required to accommodate the anticipated additional renewable energy generation capacity targeted during India's 12th Five Year Plan (2013-2017) and beyond. Powergrid is the public sector corporation that is mainly responsible for construction, expansion, operations and maintenance of India's inter-state and inter-regional power transmission network. In order to facilitate transfer of renewable energy from the renewable energy rich states to other states, as well as absorption and smoothing out of the intermittency from such power sources, Powergrid has identified requisite investments in a phased approach to commence during the 12th Five Year Plan.

Powergrid also conducted the studies for the proposed HVDC transmission link to further increase inter-regional transmission capacity between the western and the southern regional grids.

Objectives and Scope
The project consists of electric transmission system investments in India to facilitate the transfer of renewable energy, as well as increasing inter-regional connectivity. The total project cost is about $2.6 billion, for which ADB would provide a project loan of up to $500 million. Investments will include transmission lines and substations.

Status of Development Objectives
- Project is under implementation

Status of Operation/Construction
- The project is on track with both physical and financial progress in line with estimates.

Linkage to Country/Regional Strategy
This project is a subset of India's 'green energy corridor' initiative to ensure that transmission system development is commensurate with renewable energy capacity development over time. The project will also incorporate increasing inter-regional transmission capacity between the southern and western regional systems via an 800 kV HVDC link. The proposed project will thus improve interstate power flows and system reliability.

Safeguard Categories

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<tr>
<td>Environment</td>
<td>B</td>
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<tr>
<td>Involuntary Resettlement</td>
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<tr>
<td>Indigenous Peoples</td>
<td>C</td>
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Summary of Environmental and Social Aspects

Environmental Aspects
- Effective measures to avoid, minimize, mitigate, and compensate for the adverse environmental impacts are incorporated in the initial environmental examination, which includes the environmental management plan. Environmental impacts of transmission lines are mostly localized to the right-of-way and can be minimized by careful route selection. An appropriate environmental management plan has been developed where unanticipated potential impacts have been identified during implementation, the new potential impacts will be assessed, and the environmental management plan will be reviewed and updated for implementation.

Involuntary Resettlement
- For the transmission towers and lines, impacts are temporary and will occur during construction in terms of loss of crops and trees which will be compensated. Effective measures to avoid, minimize, mitigate, and compensate for the adverse impacts are incorporated in the relevant documents.

Indigenous Peoples
- Not expected
Stakeholder Communication, Participation, and Consultation

Project was cleared by Government of India for Asian Development Bank to undertake due diligence after inter-ministry consultations in 2014.

Powergrid has conducted public consultations in applicable project areas and consulted with other stakeholders.

<table>
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<th>Timetable for assistance design, processing and implementation</th>
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<td>Due Diligence</td>
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Project Page
https://www.adb.org/projects/44426-018/main

Request for Information
http://www.adb.org/forms/request-information-form?subject=44426-018

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