India: IND: MUNDRA ULTRA MEGA POWER PROJECT

**Project Name**
IND: MUNDRA ULTRA MEGA POWER PROJECT

**Project Number**
41946-014

**Borrower/Company**
COASTAL GUJARAT POWER LIMITED
Coastal Gujarat Power Limited 1
Coastal Gujarat Power Limited 2
EXPORT-IMPORT BANK OF KOREA

**Country**
India

**Location**

**Approval Number**
7276/2419

**Type of ADB Assistance / Amount**

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<tr>
<th>Type of ADB Assistance</th>
<th>Amount</th>
<th>Status</th>
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<tbody>
<tr>
<td>Ordinary capital resources</td>
<td>USD 250.00 million</td>
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<tr>
<td>Ordinary capital resources</td>
<td>USD 200.00 million</td>
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**Strategic Agendas**
Inclusive economic growth

**Drivers of Change**

**Sector / Subsector**
Energy - Conventional energy generation

**Gender Equity and Mainstreaming**

**Responsible ADB Department**
Private Sector Operations Department

**Responsible ADB Division**
Portfolio Management Division, PSOD

**Responsible ADB Officer**
Singh, Samarendra

**Project Sponsor(s)**
THE TATA POWER COMPANY LIMITED

**Description**
The Project is to construct, operate, and maintain a 4,000 MW coal-fired power plant (5 units of 800 MW each) on a build-own-operate basis, incorporating supercritical technology.

**Objectives and Scope**
The Project was planned as the first to be implemented among the ultra mega power projects (UMPPs). The Government of India has envisaged ‘Power for All’ by 2012. In order to meet the capacity addition targets required to achieve the said objective, the Ministry of Power launched an initiative for facilitating the development of coal based UMPPs in India. Development of large-sized power projects can result in cheaper power through economies of scale. Based on supercritical technology, the Project is also expected to be more environment friendly than conventional subcritical generating units. They will contribute significantly in reducing future power shortages in the country.

**Status of Development Objectives**
The Mundra Ultra Mega Power Plant (UMPP) supported the Government plan to achieve ‘Power for All’ by adding significant installed capacity. It currently caters to 2-3% of India’s total power needs, as it supplies power to the states of Gujarat, Maharashtra, Punjab, Haryana, and Rajasthan. Based on supercritical boiler technology, the Mundra UMPP supports India’s economic growth and energy development in an environmentally sustainable manner. It is the most thermal efficient, fully operational power plant in India. Higher thermal efficiency results into lower fuel consumption, with a corresponding decrease in emissions. It is estimated that the plant uses about 13% less coal in a year, as compared to conventional subcritical plants. The Mundra UMPP’s greenhouse gas emissions per kWh of energy generated is 750 grams of CO2, as compared to India’s national average of 1,259 grams of CO2 per kWh for coal-based power plants. This helps avoid 28 million tons of carbon dioxide emission over the plant’s first 10 years of operations alone, on an assumption that the Project will continue to use certain grade of coal (Melawan).

**Status of Operation/Construction**
The 4,000 MW Mundra Ultra Mega Power Project is India’s first fully commissioned UMPP. It was fully commissioned on 21 March 2013, when the commercial operations date (COD) of Unit 5 (the last unit) was achieved.

**Material Changes**
None.

**Linkage to Country/Regional Strategy**
Assist the Government's plan to achieve ‘Power for All’ by adding to installed capacity. Development of large-sized power projects can result in more economical power for end-users through economies of scale. Develop and provide additional source of power to address constant power shortage particularly in the northern and western regions of India. The power generated by the Project will be supplied to the states of Gujarat, Maharashtra, Punjab, Haryana, and Rajasthan. Assist improving the country's environmental standards by promoting supercritical technology with higher thermal efficiencies and less CO2 emissions. The Government requires all UMPPs to be developed using supercritical technology which is still relatively new to the country. The Project will be one of the first private sector generators in India to apply supercritical technology. Promote private sector participation in the Indian power sector.

**Safeguard Categories**

<table>
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<th>Grade</th>
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<tbody>
<tr>
<td>Environment</td>
<td>A</td>
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<tr>
<td>Involuntary Resettlement</td>
<td>B</td>
</tr>
<tr>
<td>Indigenous Peoples</td>
<td>C</td>
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**Summary of Environmental and Social Aspects**
Environmental Aspects

The key issues identified during the assessment of environmental impacts of the Project are: (i) air emissions; (ii) ambient air quality; (iii) coastal fumigation; (iv) seawater abstraction; (v) discharge of spent cooling water; (vi) ash disposal and (vii) biological and marine ecological impacts. The Project received environmental clearance from the Ministry of Environment and Forests (MOEF) on 2 March 2007 and corrigendum on 5 April 2007 based on the rapid environmental impact assessment. Subsequent to the receipt of the environmental clearance from MOEF, a comprehensive EIA was prepared and submitted to the MOEF as per the requirement of the environmental clearance. The environment clearance was supplemented with addendums by MOEF to address changes made in the Project. CGPL has established a Corporate Safety, Health and Environment (SHE) Group responsible for the implementation of environmental monitoring and evaluation program during both construction and operation of the power plant.

Involuntary Resettlement

About 180 hectares of private land was acquired under the Land Acquisition Act, 1894 (amended September 1985). Compensation levels have been agreed through negotiated settlements and at rates several times higher than prevailing market rates. The project site is uninhabited. However, as there are some economic activities in the existing site (e.g. grazing) the project established gaushalas for those affected by the acquisition of grazing land and is implementing livelihood programs for several villages including assistance to fishing communities. Through its corporate social responsibility (CSR) program, CGPL is committed to ensuring that affected households and the local community substantively benefit from opportunities offered by the Project. Details of CGPL's CSR program are available at http://www.tatapower.com/cgpl-mundra/csr.aspx

Indigenous Peoples

The Project is not expected to have adverse impacts on indigenous peoples.

Stakeholder Communication, Participation, and Consultation

To ascertain the views of the community and interested stakeholders, a public hearing on the Project was held on 19 September 2006 in compliance with Schedule-I of the Environmental Impact Assessment Notification No: 60 (E), 27 January 1994. The public hearing was attended by Coastal Gujarat Power Limited (CGPL), local officials and people from the villages surrounding the project area. The meeting discussed the Project, its potential environmental and social impacts, land acquisition, mitigation measures, and monitoring programs. All other concerns raised at the meeting were clarified and recorded in minutes. Further public consultations were conducted in villages as part of the preparation of the comprehensive EIA, land acquisition process and the Social Impact Assessment that forms the basis for the livelihood restoration program.

CGPL dedicated resources and continued engaging various stakeholders in a consultative process during construction and operation of the power plant. Peoples' response to community initiatives implemented by CGPL are documented in this publication: http://www.tatapower.com/cgpl-mundra/pdf/dialogue-stakeholders.pdf

Timetable for assistance design, processing and implementation

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<tr>
<th>Event</th>
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<tr>
<td>Concept Clearance</td>
<td>03 Sep 2007</td>
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<tr>
<td>Due Diligence</td>
<td>01 Nov 2007</td>
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<tr>
<td>Credit Committee Meeting</td>
<td>18 Feb 2008 to 18 Feb 2008</td>
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<tr>
<td>Approval</td>
<td>17 Apr 2008</td>
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<tr>
<td>PDS Creation Date</td>
<td>25 Oct 2007</td>
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<td>Last PDS Update</td>
<td>09 Apr 2019</td>
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Project Page

https://www.adb.org/projects/41946-014/main

Request for Information

http://www.adb.org/forms/request-information-form?subject=41946-014

Date Generated

08 October 2019

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