

## Signing of Japanese ODA Loan Agreements with the Government of India

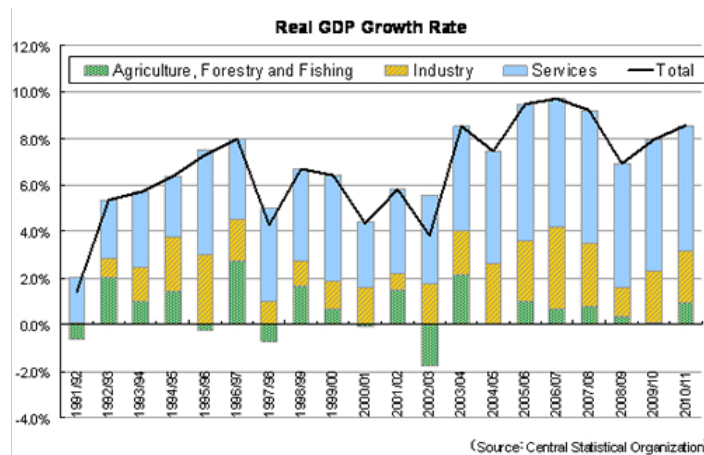
—Improving the investment climate in quickly growing India and supporting the promotion of new and renewable energy and energy conservation projects leveraging Japanese experience—

1. Today, the Japan International Cooperation Agency (JICA) signed Japanese ODA loan agreements with the Government of India to provide six loans of up to a total of 132.646 billion yen.

2. India has been drawing attention as one of the rapidly growing BRIC countries (Brazil, Russia, India and China). It has been implementing economic reforms since 1991, and has achieved GDP growth rates of 7 to 9 percent per year from 2003 to 2009. In the fiscal year 2010, the growth rate reached 8.5 percent



Signing Ceremony



3. The Government of India has set "faster and inclusive growth" as a goal, aiming to increase the size of the overall economic pie (faster growth) while ensuring that everyone will be able to enjoy benefits of the inclusive growth. To accomplish these goals, major impediments must be resolved for improving infrastructures, such as power, transportation, and communications. The 11th Five Year Plan (the government's current development plan being implemented from fiscal 2007 to 2011) calls for 40 trillion yen (USD 500 billion) in infrastructure investment, while the 12th Five Year Plan (for fiscal 2012 to 2016) calls for more than 80 trillion yen (USD 1 trillion) investment, through domestic and foreign funding and procurement, reliable implementation, resolving critical issues for development.

4. The governments of Japan and India signed a Comprehensive Economic Partnership Agreement (CEPA) on February 16, 2011. It is hoped that the EPA will result in the liberalization of trade between the two countries, as well as promoting investment and creating institutions in key fields in India, which is the third largest economy in Asia.

5. The features of the Japanese ODA loans are outlined below.

### 1) Improving the investment climate by increasing power supply

Along with the rapid economic growth in recent years, India has become the fifth largest consumer of the energy in the world, and the short supply of electric power has been unable to keep the pace with the expanding power demand. In Madhya Pradesh, one of the states of the Delhi-Mumbai Industrial Corridor (DMIC) where development is being advanced in a joint initiative by the Japanese and Indian governments, two new thermal power stations are scheduled to begin operating by the year 2013. The improvements to the transmission network are urgently needed to ensure evacuation of the increased power production capacity. The Madhya Pradesh Transmission System Modernisation Project will advance stability of the power system in the western part of India for meeting high demand of the for power in Madhya Pradesh, and will also support improvements to the investment climate in central region of India. Under the Bangalore Metro Rail Project (II), the support will be provided to alleviate traffic congestion and air pollution in Bangalore,

### 2) Leveraging Japanese experience to support the introduction of new and renewable energy as well as energy-saving projects

Having meager petroleum resources and being behind in the utilization of natural gas, India has an unbalanced energy supply structure that includes a large dependency on electricity generated from the coal, which accounts for 53 percent of its power (as of 2009). In 2010, the Indian government formulated its Jawaharalal Nehru National Solar Mission and the National Mission on Enhanced Energy Efficiency as part of efforts to diversify its energy sources and improve efficiency of the energy use. Under the New and Renewable Energy Development Project, mid-to long-term financing will be provided to introduce projects for new and renewable energy, including solar power generation, wind power generation, and cogeneration. Japan boasts of a high level of technology and experience in the field of solar energy and through this JICA technical cooperation project, assistance is planned to strengthen the capacity of Indian Renewable Energy Development Agency, which is executing agency of the projects, to evaluate loan applications. Also, under the Micro, Small and Medium Enterprises Energy Saving Project (phase 2), mid-to long-term financing will be provided to introduce green energy and promote energy conservation. Using Japan's experience with financing systems for energy conservation measures, the project will also support improvement in the capacities of the Small Industries Development Bank of India, the executing agency, and of financial intermediaries.

### 3) Supporting growth with benefits for all

Under the Rajasthan Forestry and Biodiversity Project (Phase 2), forests and biodiversity will be conserved while the livelihoods of residents are improved through resident participation activities focused on afforestation, as well as water and soil conservation. In Andhra Pradesh, a prominent agricultural state in India, one-third of the electric power is consumed by the agricultural sector, but the low-voltage distribution network causes a high distribution loss rate. Under the Andhra Pradesh Rural High Voltage Distribution System Project, support will be provided to develop the regional economy and improve living conditions in farming villages through a stable power supply for agriculture.

6. Japan and India have built a friendly relationship, including the conclusion of a CEPA, and it is said that the Indian people have very positive feelings towards Japan. JICA will continue to actively support development issues in India by using its three modes of assistance - concessional loan (Japanese ODA loan), technical cooperation, and grant aid.

### Related Link

> [Project Map \(PDF/234KB\)](#)

## Reference

### 1. Terms and Amounts of Loan

Project title	Amount (million yen)	Annual interest rate (%)		Repayment/deferment period (years)	Procurement
		Project	Consulting services		
(1) Andhra Pradesh Rural High Voltage Distribution System Project	18,590	0.65*	0.01	40/10	General untied
(2) Madhya Pradesh Transmission System Modernisation Project	18,475	0.50*	-	20/6	
(3) Micro, Small and Medium Enterprises Energy Saving Project (phase 2)	30,000	0.40*	-	15/5	
(4) New and Renewable Energy Development Project	30,000	0.55*	-	30/10	
(5) Bangalore Metro Rail Project (II)	19,832	1.40	0.01	30/10	
(6) Rajasthan Forestry and Biodiversity Project (phase 2)	15,749	0.65*	0.01	40/10	
Total	132,646				

\* In order to actively assist with efforts on environmental issues in developing countries, concessional loan terms apply to global environmental projects (energy conservation, forest conservation, and alternative energy).

### 2. Project Summaries

#### (1) Andhra Pradesh Rural High Voltage Distribution System Project

##### Background and Necessity

In connection with rapid economic growth in recent years, India has become the fifth largest consumer of energy in the world, and the capacity to supply electric power cannot keep up with the expanding demand. Frequent power outages due to the high loss rate of power distribution (the national average was 25.5 percent in fiscal 2010) are a significant problem in terms of supply. In its 11th Five Year Plan running from April 2007 to March 2012, the government of India included new power development and improving power distribution infrastructure, and is promoting its "Restructured Accelerated Power Development and Reforms Programme" on a national level to provide a high-voltage distribution network, particularly in agricultural areas.

Such industries as Information Technology, biotechnology, and pharmaceuticals have been clustering in Andhra Pradesh State in recent years, particularly in the capital city of Hyderabad, and demand for power in the urban area has grown rapidly. Located on the broad Deccan Plateau, Andhra Pradesh is also home to thriving agriculture as southern India's grain belt, and the conversion to electric irrigation pumps throughout the region has led to a marked increase in power demand in agricultural areas. Currently, about one-third of the total power supplied is for agricultural use, with some 2.7 million irrigation pumps operating in the state. The electricity is subject to theft because the irrigation pumps are supplied by bare power wire. Also, the large fluctuations in voltage can cause failures in irrigation pumps, which hinders agricultural work, and the burden of cost to repair pumps is also a problem.

Given these circumstances, promoting the efficient supply of electric power for agriculture is a pressing issue for a stable power supply in Andhra Pradesh State overall, as well as for the stabilization of agricultural production.

##### Objectives and Summary

Under the Andhra Pradesh Rural High Voltage Distribution System Project, a high-voltage power distribution network will be created in the agricultural area of Andhra Pradesh State in southern India to lower the distribution loss of electric power for agriculture and achieve a stable supply of power for the state. These improvements will assist with economic development in the region and improve living conditions in agricultural areas.

The loan funds will be allocated for replacing the low-voltage power lines with high-voltage lines, and also for consulting services.

##### Executing Agency

Central Power Distribution Company of Andhra Pradesh Limited  
Address: 6-1-50, APCPDCL, Corporate Office, Mint Compound, Hyderabad, Andhra Pradesh 500063, India  
Phone: +91 (40) 2343-1081, fax: +91 (40) 2343-1080

Northern Power Distribution Company of Andhra Pradesh Limited  
Address: 1-1-501 To 1-1-504 Chetanya Puri Opp. NIT Petrol Pump Hanamkonda Warangal, Andhra Pradesh 506004, India  
Phone: +91 (870) 246-1507, fax: +91 (870) 246-1519

Southern Power Distribution Company of Andhra Pradesh Limited  
Address: 19-13-65/A, Srinivasapuram, Tirupati, Andhra Pradesh-517503, India  
Phone: +91 (877) 223-7309, fax: +91 (877) 228-4111

##### Planned Implementation Schedule

- (i) Completion of project: January 2016 – when the facilities are put into service
- (ii) Issuing of letters of invitation for consulting services (including execution monitoring assistance): June 2011
- (iii) Tender announcement of initial procurement package for international competitive bidding on project construction: There will be no procurement in this project through international competitive bidding, but procurement for subsequent project implementation through local competitive bidding is expected.

#### (2) Madhya Pradesh Transmission System Modernisation Project

##### Background and Necessity

In connection with rapid economic growth in recent years, India has become the fifth largest consumer of energy in the world, and the capacity to supply electric power cannot keep up with the expanding demand. Frequent power outages due to the high loss rate of power distribution (the national average was 25.5 percent in fiscal 2010) are significant problems in terms of supply. In its 11th Five Year Plan running from April 2007 to March 2012, the government of India included new power development and improving power distribution infrastructure.

Madhya Pradesh State is one of the states that form the Delhi-Mumbai Industrial Corridor (DMIC), an initiative being promoted by the Japanese and Indian governments. Developments are planned, including a special economic zone near the Indore airport, a distribution base for goods near Dewas, and the Pithampur industrial area, which are expected to bring continued strong economic development and to increase the demand for power for urban areas going forward. To meet this rapid increase in power demand, two new thermal power stations are planned to be constructed and put into operation by 2013, which makes strengthening the transmission network a pressing issue given the upcoming increase in power generation capacity.

### Objectives and Summary

Under the Madhya Pradesh Transmission System Modernisation Project, transmission lines and sub stations will be constructed throughout Madhya Pradesh State in western India to stabilize the power system, reduce the power transmission loss rate, and achieve a stable supply of power, which will contribute to economic development in Madhya Pradesh and western India.

The loan funds will be allocated to constructing and reinforcing power transmission lines and transformer stations.

### Executing Agency

Madhya Pradesh Power Transmission Company Limited  
Address: Block No. 2, Shakti Bhawan, Rampur, Jabalpur 482 008 Madhya Pradesh, India  
Phone: +91 (761) 266-1234, fax: +91 (761) 266-4141

### Planned Implementation Schedule

- (i) Completion of project: May 2014 – when the facilities are put into service
- (ii) Issuing of letters of invitation for consulting services (including construction monitoring): Not applicable
- (iii) Tender announcement for initial procurement package for international competitive bidding on project construction:  
Procurement package title: Construction of Transmission Lines and New Substations  
Release date: October 2011

## (3) Micro, Small and Medium Enterprises Energy Saving Project (Phase 2)

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### Background and Necessity

Energy consumption continues to rise in India along with rapid economic growth, and promoting the efficient use of energy is an urgent task in order to provide a stable supply of energy while simultaneously conserving the environment. The micro, small and medium enterprise (MSME) sector occupies a vital position in India's economy, producing approximately 40 percent of all India's exports and 50 percent of all mining and manufacturing products, and owning approximately 90 percent of workshops and factories. The energy consumption of the sector is estimated to be about 30 percent to 40 percent of the total energy consumption by workshops and factories. The equipment of small to medium enterprises is aging, however, so the sector's energy efficiency is lower than that of large companies.

In 2010, the government of India formulated the National Mission for Enhanced Energy Efficiency, which supplemented the existing Energy Conservation Act and the Integrated Energy Policy. While promoting the efficient use of energy, the government also enacted the Micro, Small and Medium Enterprises Development Act to give funding priority to MSMEs. However, because MSMEs have only limited knowledge in procuring funding for capital investment for energy conservation and have a low awareness of the importance of saving energy, measures to conserve energy continue to be inadequate.

### Objectives and Summary

Under the Micro, Small and Medium Enterprises Energy Saving Project, mid- to long-term funding required for energy conservation measures will be provided to MSMEs, and efforts will be made to raise awareness of the need for energy conservation to promote energy saving measures by MSMEs. Using Japan's experience with its own financing system for energy conservation measures (including support for purchases of efficient "Top Runner" machines), the Small Industries Development Bank of India, the executing agency, as well as other intermediary financial institutions will be strengthened with respect to their capacities to evaluate loan applications, and a list of energy efficient devices will be created and maintained.

The loan funds will be allocated to financing for MSMEs through the Small Industries Development Bank of India.

### Executing Agency

Small Industries Development Bank of India  
Address: SIDBI Tower, 15, Ashok Marg, Lucknow, Uttar Pradesh 226001, India  
Phone: +91 (522) 228-8546, fax: +91 (522) 228-8494

### Planned Implementation Schedule

- (i) Completion of project: March 2014 – with completion of the loan process
- (ii) Issuing of letters of invitation for consulting services (including construction monitoring): Not applicable
- (iii) Tender announcement for initial procurement package for international competitive bidding on project construction: Although there will be no tenders for construction, procurement activity is expected to result as successive projects develop from sub-loan provided by intermediary financial institutions.

## (4) New and Renewable Energy Development Project

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### Background and Necessity

As energy consumption continues to increase in India with the rapid economic growth, India has an unbalanced energy supply structure in which coal-generated electric power accounts for 53 percent of power. Moreover, the dependency on imported energy resources continues to increase, making diversification of the unbalanced energy sources an issue.

In 2010, the government of India formulated two national plans: the Jawaharlal Nehru National Solar Mission, which aims to spread the generation of solar light and of solar thermal power, and the National Mission for Enhanced Energy Efficiency, the objective of which is to conserve energy and improve energy production efficiency. Through these plans, the government is working to spread such new and renewable energies as wind and solar power, cogeneration, and biomass energy. However, new and renewable energies remain a mere 9 percent of the total energy production capacity in India. Because this field is still emerging with significant business risks, it is difficult to find private sector funding for investment and development, making public funding from domestic and international sources indispensable.

### Objectives and Summary

Under the New and Renewable Energy Development Project, the mid- and long-term financing required for new and renewable energy development projects will be supplied to electricity generation companies to ensure a stable power supply and to diversify the sources of electrical power. Japan boasts a high level of technology and experience in the field of solar energy, and it plans to assist in strengthening the capacity of the Indian Renewable Energy Development Agency, the executing agency of the project, to evaluate loan applications through this JICA technical cooperation project.

The loan funds will be allocated to financing for electricity generation companies through the Indian Renewable Energy Development Agency.

#### **Executing Agency**

Indian Renewable Energy Development Agency Limited  
Address: August Kranti Bhawan, 3rd Floor, Bhikaiji Cama Place, New Delhi 110066, India  
Phone: +91 (11) 2671-7400, fax: +91 (11) 2671-7416

#### **Planned Implementation Schedule**

- (i) Completion of project: March 2016 – with completion of the loan process
- (ii) Issuing of letters of invitation for consulting services (including construction monitoring): Not applicable
- (iii) Tender announcement for initial procurement package for international competitive bidding on project construction: Although there will be no tenders for construction, procurement activity is expected to result as successive projects develop from sub-loan provided by intermediary financial institutions.

### **(5) Bangalore Metro Rail Project (II)**

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#### **Background and Necessity**

Urbanization has rapidly progressed in India in the recent years. While the number of registered automobiles and two-wheeler vehicles has shown phenomenal increase, public transportation infrastructure has not progressed correspondingly. In particular, traffic congestion due to the increased road transportation demand has become a serious issue in such large cities like Delhi and Bangalore. This is resulting in not only the economic losses but ill health effects from polluted air, noise and other automobile pollution. A public transportation system therefore must be built to alleviate the traffic congestion and improve the urban environment. In response to this issue, the government of India has recommended in its 11th Five Year Plan (April 2007 to March 2012) that high-speed rail transportation systems be built in cities with populations of 4 million or more, from the perspective of safety, energy efficiency, and the social environment.

The metropolitan area of Bangalore, Karnataka State, has the third largest population in India, and it is expected to grow from 5.7 million in 2001 to 8.1 million by 2011. The number of registered automobiles is rapidly increasing, and the average driving speed on main thoroughfares in the city is 13 kilometers per hour, an indication of the serious nature of traffic congestion. Because the road network cannot be easily expanded due to scarce land, it is difficult to improve capacity of buses, the existing form of public transportation. The creation of a mass rapid transit system to alleviate traffic congestion and mitigation automobile pollution is a major component of the urban transportation policy of the government of Karnataka State and its measures against urban environmental problems.

#### **Objectives and Summary**

Under the Bangalore Metro Rail Project (II), a mass rapid transit system having approximately 40 kilometers total length will be constructed in Bangalore, the capital city of Karnataka State in southern India. This transportation system is expected to not only meet with the increased transportation demand, but also achieve the objectives to develop the regional economy and improve the urban environment by alleviating traffic congestion and decreasing traffic pollution.

The loan funds will be allocated to underground public works, electrical and communications-related construction, and consulting services.

#### **Executing Agency**

Bangalore Metro Rail Corporation Limited  
Address: 3rd Floor, BMTC Complex, K.H. Road Shanthinagar, Bangalore, Karnataka 560027, India  
Phone: +91 (802) 296-9292, fax: +91 (802) 296-9204

#### **Planned Implementation Schedule**

- (i) Completion of project: June 2013 – when the facilities are put into service
- (ii) Consulting services (including construction monitoring): Contracted
- (iii) Tender announcement of initial procurement package for international competitive bidding on project construction:  
Procurement package title: Civil Works Package  
Release date: Already contracted

### **(6) Rajasthan Forestry and Biodiversity Project (Phase 2)**

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#### **Background and Necessity**

Rajasthan State, located in northwestern India, has a harsh climate with little rainfall, making it exceedingly difficult to raise plants, and the Thar Desert occupies about two-thirds of the land area. Even today, many of the residents struggle to eke out a living, and a large number rely on the forests for fuel wood, livestock feed and the like for their day-to-day subsistence and as a source of income, and must turn to deforestation to live. In Rajasthan State, in particular, the number of cows, camels and other livestock is about the same as the number of people, and excessive grazing is a major factor in forest destruction and soil degradation, and desertification as a result. Also, the habitat for wild animals has deteriorated and shrunk due to the expanding living area of people, and as a result, the problem of injuries caused by contact between people and wild animals is becoming more serious.

In Rajasthan State, reforestation projects spanning many years have been implemented using assistance such as that from Japan, and while this has improved the conditions of forests, coverage is still only 7 percent in the state, well below the national target of 33 percent. As a large portion of the forests do not adequately function as they should, expanding forest land area and improving forest quality are vital issues.

#### **Objectives and Summary**

Under the Rajasthan Forestry and Biodiversity Project (Phase 2), forest management will be strengthened in Rajasthan State in northwest India through resident participation in afforestation and water and soil conservation activities. Also, fences and other structures will be constructed to prevent livestock from entering wildlife protection areas and surrounding areas, strengthening forest management and biodiversity conservation, as well as improving the lives of residents. Also, regional development and livelihood improvement activities will be carried out to improve the socioeconomic conditions of local residents, and the basis for activity in the forest department will be strengthened and improved as necessary to support those activities. The afforestation activities and wildlife protection area management are expected to stop the increase of greenhouse gases.

The loan funds will be allocated to afforestation activities, biodiversity conservation activities, regional development and livelihood improvement activities, building and strengthening the activity base of the forestry department, and to consulting services.

#### **Executing Agency**

Rajasthan Forest Department, Government of Rajasthan  
Address: Van Bhawan, Vaniki Path, Jaipur 302005, Rajasthan, India  
Phone: +91 (141) 222-7391, fax: +91 (141) 222-7832

**Planned Implementation Schedule**

(i) Completion of project: March 2019 – with completion of all activities

(ii) Issuing of letters of invitation for consulting services (including construction monitoring): September 2011

(iii) Tender announcement for initial procurement package for international competitive bidding on project construction: There will be no procurement in this project through international competitive bidding, but procurement for subsequent project implementation through local competitive bidding is expected.

# Project Map

Rajasthan Forestry and Biodiversity Project (Phase2)



Madhya Pradesh Transmission System Modernization Project



Bangalore Metro Rail Project (II)



Micro, Small and Medium Enterprises Energy Saving Project (Phase 2)  
(nationwide)



Andhra Pradesh Rural High Voltage Distribution System Project



New and Renewable Energy Development Project  
(nationwide)

