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## PUBLIC-PRIVATE PARTNERSHIPS BRIEFS

# India: Rajasthan Public Street Lighting



### Overview

Jaipur Municipal Corporation (JMC) operates and maintains over 100,000 public street lights within the city. However, the public lights system was facing problems owing to old, energy-intensive technology and a lack of capacity to operate such a large network. This resulted in low lighting levels in several parts of the city and about one in three lamps not functioning at all. This was causing serious problems for city traffic and had become a security issue for residents. In spite of the low quality services, JMC was spending a significant amount each year on electricity bills for the public lights system. JMC was keen to procure an energy efficient system, but lacked the necessary knowledge and management capabilities. Under the umbrella of a Knowledge Partnership between the Government of Rajasthan and IFC, JMC engaged IFC as the transaction advisor to structure a PPP for financing, upgrading, operating and maintaining the public lights system in Jaipur.

As a result, a consortium led by a large Indian energy services company and manufacturer of LED lights won the bid for a 10-year energy performance contract. The agreement was signed in December 2014. The winning proposal included a commitment to invest approximately US \$12 million for retrofitting at least 70,000 street-lamps with energy efficient LED lamps. Once completed, the project is expected to benefit 1.65 million people with improved street lighting and a reduction of GHG emissions by 36,750 metric tons/year. It will also result in \$1 million per year in fiscal savings accrued to the Government due to reduced energy consumption.

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This series showcases how the World Bank Group supports the development and implementation of public-private partnerships. This support comes in the form of public sector loans, private sector finance, sector and transaction advice, guarantees, and output-based aid.

## Background

Jaipur, the capital city of Rajasthan (a low income state in India), is a popular tourist destination owing to its vibrant history and culture. The city enjoys a large network of streets, historical buildings, community spaces, and markets. Provision and maintenance of civic infrastructure, including public lights, is the responsibility of JMC. JMC has high demand for social services and infrastructure, which has frequently taken priority over public lighting. Due to a limited municipal budget, street lighting maintenance has consisted of replacing burned-out lamps using existing technology to avoid introducing the costs associated with new technologies. However, over the past few years the quality of services began deteriorating owing to a lack of staff and technology to maintain a large network of over 100,000 lights. There were growing concerns about safety and security within the city and the public grievance system was also incapable of handling the large number of citizen complaints. JMC tried to contract out maintenance of public lights to over 20 small private sector contractors. However, these were largely “material plus labor” contracts and the monitoring of these contractors was a challenge. As a result, the desired results were not achieved due to the technological deadlock.

At the same time, JMC was incurring significant electricity costs from the public lights network. There was evidence that electricity consumption could be reduced by about 50% with newer technology, but JMC and the small contractors lacked the technical expertise to overhaul the system. It became imperative for JMC to procure the latest technology, properly operate and maintain the network, provide a dedicated public grievance system, and reduce energy consumption. JMC decided to launch a large PPP program with the objective of engaging an Energy Services Company (ESCO) for the provision of services in the entire city.

## Project Description

IFC proposed a transaction structure based on a 10 year Energy Performance Contract (EPC). The project involves retrofitting the public street-lamps with energy efficient lamps and their operation and maintenance. It also allowed inclusion of additional lights, if required, going forward. In addition to the lamps, the ESCO will install a fully computerized centralized control and monitoring system as well as create a round the clock public grievance system dedicated to public lights within the JMC office. The procurement was technology neutral to enable a wide range of interested ESCOs to propose the most energy efficient system that they could provide.

For these investments and services, JMC agreed to pay a share of the energy savings achieved by the ESCO. The state government of Rajasthan guaranteed payments to the ESCO by being party to the EPC. The agreement was structured to balance risks, make the project sustainable and viable, protect the rights of all parties involved, and provide measurable investment and performance objectives.

After a transparent and competitive bidding process, a consortium led by SMC Infrastructures Private Ltd., a large Indian infrastructure company comprising Samudra Electronic System Private Limited, a leading LED lights manufacturer and Winwalk System Inc., an ESCO, was selected and awarded the project. The winning bid committed to achieve over 77% in energy savings of which over 30% would be shared with JMC. The tripartite Energy Performance Contract was signed between the project SPV (Efficient Illumination Private Limited), the Jaipur Municipal Corporation, and the state Government of Rajasthan in January 2015.

## World Bank Group Role

IFC had entered into a “Knowledge Partnership” with the Government of Rajasthan which aimed at increasing private sector investment in the state, including through PPPs. IFC’s PPP transaction advisory team was contracted to assist JMC in formulating the PPP transaction structure, preparing the tender documents, marketing the project, and conducting the bid for selecting an ESCO through a competitive and transparent process. The winning bidder would be responsible for financing, retrofitting, operating and maintaining public lights. IFC conducted detailed technical, financial, environmental, regulatory and legal due diligence and provided JMC recommendations on financing mechanisms, risk allocation, and the design of the tender process.

## Outcomes

- Fiscal savings of \$1 million per year.
- At least \$12 million in private investments.
- Improved streetlight services to over 1,650,000 people daily.
- Reduced Green House Gas emissions by 36,750 metric tons per year.
- Enhanced safety and security of Jaipur city.
- Replication potential throughout the country.



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