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Energy-efficient Street Lighting, Bhubaneswar, Odisha, India

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On this page: A case study on Energy-efficient Street Lighting, Bhubaneswar, Odisha, India. Find more at the [Municipal Public-Private Partnership Framework - Project Summaries](#) section for brief summaries of around 100 projects from around the world, examples of successes and challenges, as well as innovative ideas on solutions, or visit the [Guidelines on Innovative Revenues for Infrastructure](#) section.

Project Summary:

Background

The street lighting infrastructure in Bhubaneswar, the capital of the Indian State of Odisha, was outdated, inefficient, and in poor condition. Small streets and residential areas had poor, if any, lighting. Resource inefficiencies also made the lighting system expensive to maintain, straining the budget of the city.

The Bhubaneswar Municipal Corporation (BMC) asked for IFC's assistance to design and structure a PPP and manage the tendering process to choose a qualified private sector partner to upgrade and maintain the street lighting system.

Project Structure

Through a competitive bidding process, the resulting project was awarded to Shah Investments, Financials, Developments, and Consultants Private Limited, an Indian Energy Service Company (ESCO). The contract was signed on 5 October 2013 and entailed a 10-year concession period.

Under the project agreement, ESCO is responsible for financing and installing energy-efficient street lighting, as well as operating and maintaining the city's street lighting system by way of a remotecontrol center covering 20,000 streetlights. The municipality is responsible for setting the performance standards and specifications, as well as monitoring and verifying the performance of ESCO.

With the installation of the energy-efficient lighting system, the municipality is expected to realize annual savings of around USD 100,000 as a result of decreased energy consumption, optimized operation and maintenance costs, and emissions savings. ESCO is entitled to a fixed, monthly fee from the municipality, defined as 90 percent of the energy savings plus a flat operation and maintenance fee for each light pole.

Lessons Learned

A modern control center to run the street lights of Bhubaneswar and a toll-free customer service line for receiving complaints became officially operational in 2015.¹

The project is innovative as it uses the savings derived from the decreased energy consumption to pay the monthly fee due to the ESCO.

Footnote 1: Source(s), accessed on February 17, 2019: https://ppp.worldbank.org/public-privatepartnership/sites/ppp.worldbank.org/files/documents/PPP_Stories_India_Bhubaneswar_Street_Lighting_EN_2013.pdf

<https://www.pidg.org/resource-library/other-documents/pppodisha-govt-new-final.pdf>

<https://slideplayer.com/slide/4895501/>

<http://www.bhubaneswarbuzz.com/updates/infrastructure/bhubaneswar-streetlighting-goes-smartnow-can-be-controlledvia-control-roomcomputer>

Related Content

- [Selected World Bank Tools](#)

Additional Resources

- [Climate-Smart PPPs](#)
- [Finance Structures for PPP](#)

Partner Resources

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The [Guidelines on Innovative Revenues for Infrastructure \(IRI\)](#) is intended to be a living document and will be reviewed at regular intervals. They have not been prepared with any specific transaction in mind and are meant to serve only as general guidance. It is therefore critical that the Guidelines be reviewed and adapted for specific transactions.

To find more, visit the [Innovative Revenues for Infrastructure](#) section and the [Content Outline](#), or [Download the Full Report](#). For [feedback](#) on the content of this section of the website or suggestions for links or materials that could be included, please contact the Public-Private Partnership Resource Center at ppp@worldbank.org.

