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PROJECT GREEN LIGHT: NAGPUR

Project Highlights

- Largest environmental friendly LED (Light Emitting Diode) lights project ever undertaken by a city with an aim to replace 1,36,000 streetlights by 2020
- More than 1,20,300 specially designed programmed LED lights have been installed

Background

Nagpur is located at the geographical center of India at 21°8'47.88" N and 79°5'19.90" E. It is an important urban area in Vidarbha region and is known as the winter capital of Maharashtra State. The city has been divided into 10 administrative zones and has population of 24, 05,665 as per census 2011. Nagpur city has around 1,36,000 street lights installed in all 10 zones, thus, presenting immense potential of switching to energy efficient lighting system. Under Smart City Proposal all the street lights are proposed to be replaced with energy efficient & programmed LEDs under 'Project Green Light' which is also a convergence project.



Nagpur,
Maharashtra

2015-2018

(Not to scale)

Project Objectives

- I. Retrofitting the existing conventional street lighting system with LED lights to ensure energy savings
- II. The project aims to save more than 40% of electricity annually
- III. Produce environmental benefits in terms of reducing the carbon footprints

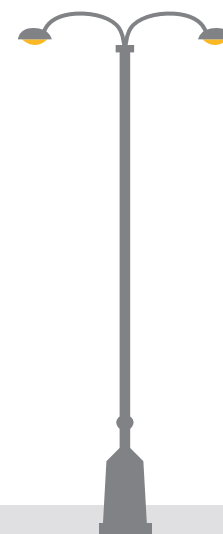
Key Stakeholders

Nagpur Municipal Corporation (NMC), Maharashtra State Electricity Distribution Company Limited, Residents of the Nagpur City

Approach of LED Street Lighting Initiative

The project has been initiated under the Smart Cities Mission and bidding has been undertaken in order to undertake the project. A Tender was floated to replace 1, 36,000 conventional lights (sodium lights) with specially designed energy efficient programmed LED lights.

- The work order has been issued to a private firm to procure to replace 1, 36,000 LED lights on PPP basis
- Till now 1, 20,300 programmed LED lights have been installed



Financial Structure of the initiative

The project was based on PPP arrangement with multiple stakeholders.

Achievements



Benefits and Co-Benefits

- Energy Savings: Energy bills arising from the street lights have been reduced by 40%
- Improved facilities for citizens
- Better Light Quality: The lighting optics as designed resulted in optimum lux levels with uniform spread across the roads and hence leading to improved visibility

Success Factors

- Technical innovations for effective implementation of the LED street lighting project
- PPP type of arrangement for the implementation of the project

Limitations

The project faced following challenges:

- Higher cost of LED in comparison to conventional street lights
- Retrofitting on existing infrastructure

Future Prospects

The project Green Light has built-in savings that will provide energy and maintenance savings for future years and has high replication potential.

Source: Case received from the city

For more Information

<https://timesofindia.indiatimes.com/city/nagpur/nmc-reduces-power-bill-by-52-after-led-street-lights-project/articleshow/69832664.cms>

<https://timesofindia.indiatimes.com/city/nagpur/30k-street-lights-converted-to-led-96k-more-to-go-by-dec/articleshow/63965032.cms>

<https://numerical.co.in/numerons/collection/58304c4d86bd0f881f9fecac>

