

Bright Streets

BRIGHT STREETS is an energy efficiency program targeted at implementing municipal street lighting energy efficiency measures by using advanced efficient lighting technologies.

Background

Street lighting is a major contributor to municipal energy consumption and energy costs.

Rationale

The efficiency of existing street lighting systems can be improved through the use of new energy efficient lighting systems combined with controls.

Program Objectives

- Reduce energy consumption of municipal street lighting
- Reduce peak period loads
- Increase awareness of municipal officials on available approaches to implement and finance municipal street lighting efficiency projects
- Build capacity among the staffs of municipalities for the identification, evaluation, design, implementation, and monitoring/verification of measures to improve lighting energy efficiency
- Implement a set of pilot programs to demonstrate the approaches to and benefits of energy efficiency projects

Program Design

As the primary implementing agency, MEDA will focus its efforts on the following activities:

- Develop a database on street lighting energy utilization and costs.
- Develop and maintain information on efficient lighting technologies and options.
- Design and conduct information and awareness campaigns for municipal executives and engineers on the need for, the benefits of, and the options to improve street lighting energy efficiency.
- Develop a program for training and capacity building among municipal engineers for identification, evaluation, design, implementation, and monitoring/verification of measures to improve street lighting energy efficiency.
- Develop innovative implementation and financing mechanisms for municipal energy efficiency projects promoting the involvement of ESCOs and other private sector entities (equipment suppliers).
- Implement a set of demonstration projects for municipal energy efficiency and use the results for dissemination.

We can categorize street lighting program according to the class of cities as follows-

- A) Municipal Corporations / 'A' & 'B' Class Municipal Councils
- B) Other Municipal Councils and Grampanchayat-

A) Municipal Corporations / 'A' & 'B' Class Municipal Councils:- Issues-

Generally it is observed that lumen output of the lamp is depends on the input voltage level. Especially in late night hours when traffic density is very low but due to increase in input voltage lux level on the road is quite high. Hence, if we could make an attempt to maintain the rated voltage level at input there will be energy saving in street light.

Suggestions-

Utility may thought off –

- To develop few pilot projects where street light load is quite predominant.
- To provide 75% financial assistance for carrying out energy audit of street light circuit
- To provide 40% financial assistance for procurement and maintenance of energy saver
- To appoint third party for monitoring of the effect of project

B) Other Municipal Councils and Grampanchyat-Issues:

- Generally it is observed that street light on/off switch is located in the office of the Grampanchyat hence the operator switched on the lighting circuit while leaving the office i.e at approx. 5.00 p.m in the evening and switch off the lights at 9.00 am when he returned to the office. This waste the electricity from 5 to 6.30 p.m and 6.30 am to 9.00 am 4 hours daily.
- Due to short circuit and voltage surges bulbs or tube rods are getting fused frequently
- Due to illegal tapings on the Grampanchyat wire meter gets overloaded and some time it burned along with the switch for the same.

Suggestions-

- To overcome the above issues, Utility may thought off short listing two three vendors for installation, commissioning and maintenance of Photosensitive switch which works on the principle of lux intensity with short circuit, overload protection as an essential component of the equipment
- Utility may directly replicate the demonstration project developed by MEDA in the state
- The details of demonstration project are in *Annexure-I*

Target Market Segments

- Municipal Corporations
- Class A Municipalities
- Other local government entities

End Uses Targeted - Street lighting***Key Barriers Addressed***

- Lack of knowledge and information on technologies for improving street lighting energy efficiency (EE)
- Limited availability of capital for investing in EE
- Poor credit ratings of many municipalities that make financing of EE difficult, especially with the private sector involvement
- Management priorities do not focus on EE as other service provisions (health and infrastructure) take precedence

Technologies to be Employed - Efficient street lighting technologies***Financing Approach***

2% of energy bill of street lighting which is kept aside for energy conservation measures as per the MERC order may be utilize to fund this program.

Program Benefits

- Reduce cost of energy to local bodies
- Reduction in evening peak demand
- Reduction in energy deficit