"Smart Street Lighting (LED)"Sector and Smart Street Lighting Monitoring System"

1. Name of the Project:

"Smart Street Lighting (LED)"Sector and Smart Street Lighting Monitoring System"

2. Vision:

To achieve better illumination, usage of energy efficient technology and to shoulder the targets of National Mission for enhanced energy efficiency.

3. Background:

Surat city's growth is phenomenal over last couple decades. In the decade of 1991 to 2001 City population increased to 24,33,835 from 14,99,560. It means decadal population growth is more than 62%. Present population of city has reached at 5 million. Due to increased population and consequent increase in industrial & business growth service volume like water supply, sewage disposal, street lighting etc. is also increased considerably.

Consequently, electricity bill is increased by 245% to Rs. 39.54 crores in 2000-01 from Rs. 11.46 crores in 1996-97. Services of water supply, sewage disposal & street lighting accounting for more than 92% of total bill of SMC.

4. Need for Solar Power Plant:

Electrical energy is the prime factor for providing the basic services of water supply, drainage and street lighting. Provide these services at optimum cost is the big challenge for SMC, as the sources of income are limited and rate of electricity are increasing every year.

Electricity bill increased to almost 3½ times during the period from 1996-97 to 2000-01 and continual increment in the electricity bill, SMC realized that the Energy Efficiency is the key factor to meet this challenge.

Realising all this factors a cell was established in Oct-2001 to monitor and manage energy known by "Energy efficiency cell". After the analysis and report submitted by the cell it was suggested that coventional light fittings to be replaced by LED light fittings known as Smart light. Apart from this Smart monitoring system was also to be implemented in order to precisely monitor the working of Smart street light. This was to ensure optimum Lux level which would ensure saving of electrical energy. Surat City Corporation had in total 1,20,725 Conventional street light out of which around 90,000 lights were to be replaced by LED on EESCO model where EESL, A govt. of India representative company would replace these 90,000 coventional light fittings

with LED without burdening the City Corporation even for a penny. And the saving incured by the replacement would be shared by the City Corporation as well as EESL.

5. Sector: Energy Efficiency

6. Cost and financing:

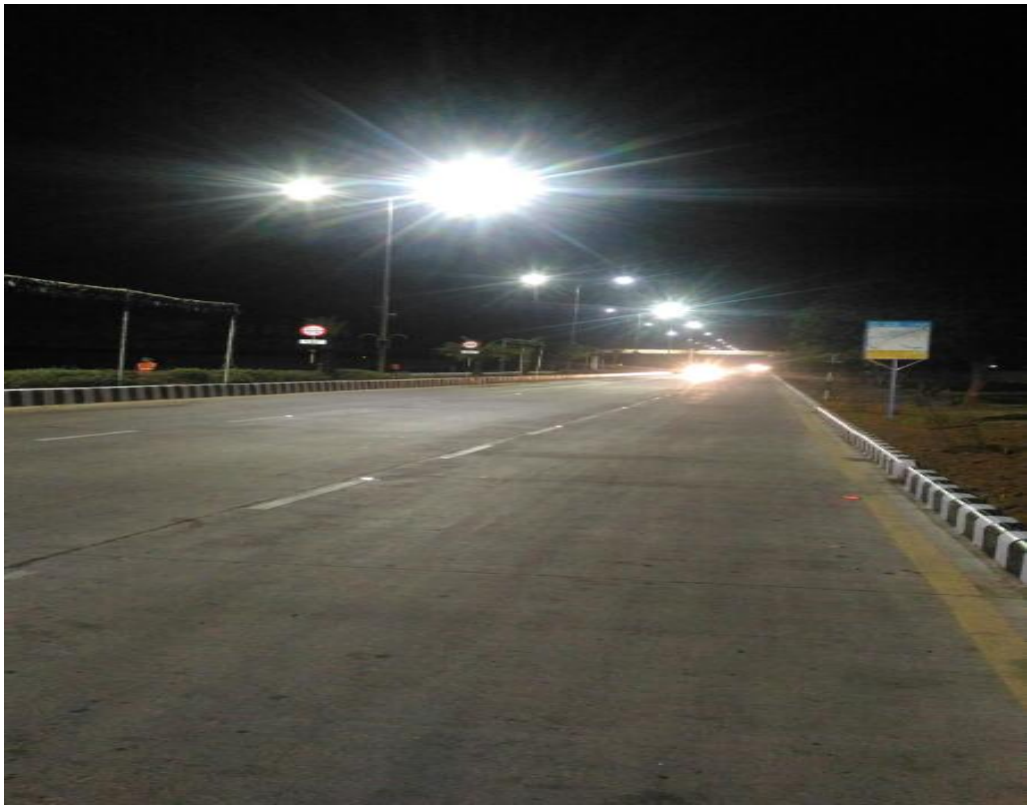
- SCP Cost – Rs. 32.00 Cr
- DPR Cost –
- Tender Estimated Cost -
- Tender Sanctioned Cost -
- (Note: As per GOG's scheme, SMC should not have to bare any cost for replacement of LED)
- Convergence Scheme/PPP/SMC – PPP (ESCO basis with EESL, GOI)

7. Current status of the project implementation: - Work Completed

8. Impact/ Envisaged Impact of the project:

This project gives an indirect benefit to the Citizens of Surat as there would be reduced operating cost in street lights by usage of LED lights. These lights have been tested for optimum LUX level with minimum energy consumption. This will reduce the overall energy demand received at Grid, resulting in economical benefit to City Corporation of Surat which inturn would reduce the burden on Tax payers of the city. With this particular System of LED light fittings and monitoring Surat would save 1.5Cr units / annum, resulting in saving of around Rs. 9Cr / annum in electricity. Apart from this the life of LED light would be long as compared to conventional light. Monitoring system would ensure usage of Street light in needed hours. This would reduce manual error in monitoring the Street light. Usage of LED light in place of Conventional lights would ensure Low ultra violet and infrared radiation hence it wuld stand an ecofreindly move of the city.Improved levels of citizen satisfaction by quick complain redresal system. Monitoring through Smac Centre would result in Centralized control of Street light. Ease in gathering information related to consumption and redution in light bill.

9. Site Photographs (High Resolution Image, before & after implementation)




EESL
KAKATIYA
Nature Switch - CCMS 5kW - 1Ø
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SWITCH OFF SUPPLY BEFORE OPENING THE COVER
DANGER