

SMART PROCUREMENT: GOING GREEN IN INDIA

Geographic Spread: India



Key Messages: Indian railways undertook an initiative to switch to cleaner and energy efficient technology. The process of procurement was done in a free and fair manner keeping in mind the economic, social and the environmental aspects of procurement.

Need

India faces a chronic energy deficit, with the electricity supply being constantly lower than the demand. The deficit remained 0.6 % during 2018-19. India continues to strain its current pool of resources of coal, lignite, gas and oil to produce thermal energy to meet the ever increasing demand of electricity. The demand for electricity in India will increase with the growing population and growth of economy. This situation calls for efficient use of electricity of energy to ensure maximization of benefits for the people. Behavioral changes amongst the stakeholders and the switch to more efficient technology remains the key methods to follow a path of efficiency. The ministry of Railways is one of the central ministries in India which administers the Indian railways, the national railroad carrier. The Indian Railways Vision 2020 document states its intention to conserve energy by achieving 15% energy efficiency and to use a low-carbon, energy-efficient approach.

Response

Indian railways undertook an initiative to switch to energy-efficient technology. The employees of railways reside in railways colonies, most of the households used inefficient technology for lighting this increased the peak electricity demand in the evening. To address the challenge of peak lightning loads in Railways' Residential Colonies, CFLs were introduced replacing the less efficient ICLs.

Objectives

To reduce the peak lighting loads in Indian railways in residential quarters and through involvement of stakeholders in the project implementation phase, demonstrate the benefits of adopting greener products. The secondary objective was to demonstrate the use of Clean Development Mechanism (CDM) under the Kyoto Protocol to finance an energy efficient project in an emerging economy.

Stakeholders involved

- **Indian Railways Employees:** Employees residing in the Indian railways' housing colonies and the employees involved in implementation of the project
- **Philips India staff:** The supplier of the lamps
- **CQC Malaysia Limited:** Implementing partner, conducted training for supervisory staff involved in distribution of the CFLs
- **Local NGOs**

The Process

The project was conceived and administered at the ministry level and was implemented by divisional units across country. A widely advertised tender was launched which included the condition of high quality CFLs. The contract stated that the cost of CFLs could be recovered through sale of CERs by registering under UNFCCC as a clean development mechanism project.

The Project Implementation Deed dated 30 October 2009 was signed between CQC Malaysia Limited and Indian Railways. CQC was responsible for supplying CFLs and to undertake the process to acquire Clean Development Mechanism status from the development of the project design document, obtaining host country approval, validation and registration of the project and project monitoring, to verification and certification with the UNFCCC. The Ministry of Railways, as the project beneficiary, was responsible for the distribution of CFLs in Indian Railways' housing colonies on a replacement basis, recordkeeping, storage of the CFLs and disposal at the end of their life as well as the safekeeping of released ICLs until verification.

CQC conducted training for supervisory staff involved in the distribution of the CFLs. The consumers residing in households were adequately briefed on the project. They were informed that to reap maximum benefits CFLs should be installed in rooms where the average duration of lightning was more than 3.5 hours per day. The distribution of 1.41 million CFLs across India was completed in December 2009. The project was registered with the UNFCCC as a Clean Development Mechanism project in November 2010 after obtaining host country approval from the Ministry of Forest and Environment and validation by the UNFCCC's appointed Designated Operational Entity (DOE).

Innovative Features

Life cycle costing was used to demonstrate the potential benefits of using CFLs over ICLs for lightning needs even though the upfront cost of purchasing CFL is much higher. The beneficiary of the project were involved in the implementation process of the project, this was an important step to create awareness amongst the stakeholders and bring about a long term sustained change. The project demonstrated the use of the Clean Development Mechanism (CDM) under the Kyoto Protocol to finance energy-efficient projects. The recovery of the price of supplying the CFLs was done through the sale of certified emission reductions (CERs).

Environmental Benefits

- Replacement of ICLs with CFLs has reduced the electricity consumption by approximately 75Kwh per CFL per annum and thereby, approximately 90,000 tonnes of CO₂ emissions (CER equivalent) have been reduced per year in the process. Ecofriendly products and Zero-waste practices ensure ecology around the area is not degraded.
- The use of CFLs will reduce the production of glass and as well as use of energy in the production process of ICL bulbs

Social Benefits

- Around 4 Lakhs families have benefitted from the initiative, as they received CFL bulbs which will reduce the energy bills, providing them with sustained savings over the years.
- Prospect of additional employment to be generated in the recycling industries of ICL and CFLs.

Economic Benefits

- The project resulted in direct energy savings of 1, 12,500 MWh per annum and generated 4, 86,130 units of CERs equivalent including a 3% share to Indian Railways.

Overcoming Barriers

- Sustainable public procurement (SPP) is a demand side policy intervention to reduce the consumption of resources, therefore it requires a change in the consumers' attitude. This change involves spreading awareness about the benefits of adopting green products and services, therefore involving stakeholders is a key step for success.
- Money was leveraged through sale of certified emission reductions (CER) generated during the project.