

Workshop On “the Innovative Solution of Solar Pipe Light Pilot Project”

Venue: Pan Pacific Sonargaon Hotel, Balcony

Date: December 30, 2015 from 11am -1pm

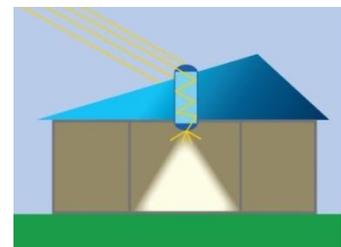
Background:

Development needs energy. The reliable and efficient provision of modern energy services is a key to reducing poverty as well as boosting economic development. Presently Bangladesh is generating almost sufficient power to the present need, but still a certain percent of population have no access to electricity. Though it's one of the least energy consuming countries in the world but day by day its energy demand is increasing exponentially with the steady GDP growth of more than 6% over last decades. However, Bangladesh has managed to graduate herself to a lower middle income country. The Government of Bangladesh also has a vision to ensure energy security and electricity for all by 2021 and to achieve the status of middle income country by 2021.

As per the projected growth, Bangladesh needs to promote a more efficient use of existing energy resources, both on the supply and demand sides. In this situation, Government of Bangladesh is more interested to promote Renewable Energy sources and Energy Efficient Technologies in addition to the conventional energy. Moreover energy efficiency improvement has become a great concern to reduce the misuse of electricity in innovative ways especially in commercial sectors both for energy conservation and economical gains. It has been observed that, in most of the commercial places, a huge amount of electricity has been misused for daytime lighting. However presently the share of electricity consumption in lighting sector is more than 15% of the total power generated, whereas electricity consumption by industries in lighting is around 30% (Source: BUET). Under such circumstances, alternate energy is a viable measure for industries to reduce fuel consumption and production cost and thereby to remain competitive and increase profitability.

Efficient Natural Lighting through ‘Solar Pipe Light’:

Our traditional mindset promotes to meet energy crisis only by increasing energy production, but not by adapting alternatives. It means more consumption of fossil fuels, more carbon emission and leading the future to an uncertainty as well as creating energy crisis. In this situation, energy efficiency improvement and alternate energy could be instrumental to reduce the misuse of electricity to address energy crisis through a proper plan of demand side management. Nurturing innovations and ideas can play a vital role in this regard. Solar Pipe Light, can be one of such innovative and cost effective ways. Solar Pipe Light is one of the simplest and innovative idea of channeling the day light through a reflective hollow pipe into the industries to ensure proper illumination without any electricity.





The Solar Pipe Light Pilot Project:

The Sustainable Energy for Development (SED) programme, implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, is a joint undertaking between Power Division, Ministry of Power, Energy and Mineral Resources (MPEMR), Government of Bangladesh, and the German Federal Ministry for Economic Cooperation and Development (BMZ). SREDA is SED's Government counterpart.

GIZ's SED Programme, in collaboration with SREDA, is working to promote the use of renewable energy, as well as efficient use of energy. This is done by improving the framework conditions towards building markets for sustainable energy solutions through building capacities of relevant stakeholders, promoting the application of energy efficient (EE) technologies and technologies for the generation of renewable energy (RE).

GIZ's SED programme initiated a pilot project with 'CHANGE' (a registered youth organization working in the field of renewable energy, water & sanitation and social business development in collaboration with various national and international youth organizations) to conduct a study "R&D of the Industrial Solar Pipe Light" to develop a simple, customized innovative solution of using natural daylight in industries. CHANGE has successfully developed a solution with locally available raw materials. A yearlong project finally piloted prototypes in two settings, one in a small cottage factory and another one is in ice cream factory. The study reveals that the pilot is helping the host industry to use free natural lighting during daytime for 10-12 hours covering around 750-800 sqft. factory area illuminating equivalent light of CFL bulb and at the same time saving monthly energy expenditure with zero carbon emission.

Solar pipe light has a huge prospect in factories of Bangladesh to avoid electricity usage for day lighting which may add value to the industrial growth in Bangladesh through efficient energy use.

Findings from the Study:

Before Implementation	After Implementation
Factory illuminated with two 65W and four 35W CFL bulbs	Enjoying almost equivalent 500 W bulb illumination
Consumed total 2.7 units of electricity daily in daytime	Consuming zero units
Workers were used to work in insufficient lighting condition, 20 lux on an average	Workers working with sufficient lighting condition, 100 lux at working table height

Purpose of this event is to share the findings of the Pilot Project to the distinguished stakeholders with intention to expedite the technology in the sector on commercial basis promoting energy conservation and efficiency through alternate energy use.