

“Energy Efficient Solar / Green Buildings” scheme to push India’s New & Upcoming Solar Market of Green Buildings

ENERGETICA INDIA

The article highlights the encouragement being provided by MNRE to support growth of green buildings and energy efficient technologies.

Energy efficient solar buildings are constructed based on the techniques of solar passive design with a view to provide comfortable living and working conditions, both in winter and in summer. These buildings can be integrated with renewable energy and energy conservation devices and systems and can save over 30 to 40 % of conventional energy that is used for lighting, air conditioning (HVAC). Such buildings have been tried out in a few States as a result of the initiatives taken by the Ministry of New and Renewable Energy.

Finding the concept of solar buildings useful, the state governments of Himachal Pradesh, Punjab, Haryana and Nagaland have already made it mandatory to construct all new buildings in government & public sectors on this concept.

Necessary G.O.s have been issued and the development authorities have been asked to approve building plans for construction only if the designs incorporating solar passive features are certified by approved architects or the experts.

A number of experts/architects are presently involved in the country in practicing energy efficient solar buildings. Bureau of Energy Efficiency (BEE) have introduced Energy Conservation Building Code (ECBC) which includes energy efficient design features. National Building Codes have also been developed by the Bureau of Indian Standards (BIS) which incorporates some of the concepts of energy efficient solar buildings. Sufficient literature/ publications are also available for design of such buildings. The BIS has prepared a

chapter on Sustainability as a part of National Building Code to promote Green Building construction in the Country.

Efforts are now being made to construct Green Buildings all over the country which not only take care of energy conservation but also look into water and waste management, environmental impact, minimum destruction of natural resources and various other aspects in an integrated way.

Building Rating Systems have been quite effective in raising awareness and popularizing energy efficient and green building design. Most of the internationally devised rating systems have been tailored to suit the building sector of the country where they were developed. At present LEED India (Leadership in Energy and Environmental Design) Rating System by Indian Green Building Council (IGBC), Green Rating for Integrated Habitat Assessment-GRIHA by TERI/ADaRSH, ECHO Housing by IIEC etc. are being promoted in the country by respective agencies.

The Ministry aims to promote the green building principles & concept with emphasis on the renewable energy application in the green buildings among the stakeholders through a combination of promotional incentives and support majors in the country.

The main objective of the “Energy Efficient Solar / Green Buildings” scheme is to promote the widespread construction of energy efficient solar/ green buildings in the country through a combination of financial and promotional incentives, and other support measures so as to save a substantial amount of electricity and other fossil fuels apart from having peak load shavings in cities and towns.

The objective is to be achieved by pro-



viding promotional incentives for the construction of green buildings for creating awareness by organizing workshops, seminars and trainings for engineers, planners, builders, architects, consultants, housing financing organizations and potential users and besides, for development of technical literature, compilation and publishing of documents related to solar/ green buildings and installation of renewable energy projects/systems in the green buildings.

Budgetary Allocation

The total budget of Rs. 10.00 crores has been allocated for implementation of the scheme during the year 2013-14 and rest of the 12th Plan period. This also includes meeting the pending liabilities.

Implementation Arrangement

The scheme is to be implemented through State Nodal Agencies/ Municipal Corporations/ Govt. Bodies / reputed NGOs, technical institutions, professionals, consultants etc.

Monitoring Mechanism

The implementing agencies will set up arrangements to closely monitor the implementation of their projects covered under the scheme. The agencies will furnish progress reports and other information to MNRE on a regular basis. In addition, regional offices of MNRE will be involved in monitoring the implementation and performance of the projects/systems. The progress of the scheme will also be monitored by the Ministry independently, including third party inspection and reporting.

Expenditure

An expenditure of Rs.10.00 crores is estimated to be incurred under the activity on "Energy efficient solar/ green buildings" during 2013-14 and rest of the 12th Plan period commensurate with the budgetary allocation.

Financial Provisions

The scheme provides for the financial incentives to carry out the following promotional

activities to promote the construction of Green Buildings in the country.

A financial support of up to Rs. 2.00 lakh for 1-2 days and Rs. 3.0 lakhs for three days activity could be provided for organizing training programmes, workshops, conferences, seminars, publications, awareness campaigns, and orientation programmes etc. to the implementing agencies. However, for International Conferences/exhibitions/workshops the financial supports upto Rs. 5.0 lakh may be considered based on merit. The trainings should also cover the onsite training on specific techniques and technologies related to green buildings.

Awards to Urban Local Bodies (ULBs)

The onetime cash award of Rs. 10 lakh along with a shield will be given to best 3 ULBs per year selected through competition for adopting and promoting the energy efficient solar/green buildings to be rated under the rating system in vogue i.e., GRIHA, LEED India etc. or for follow-

ing ECBC building Code subject to the following :

- They have issued a notification for promotion of green buildings with some incentives i.e., rebate on property tax, discount in premium amount of building permission charges etc.
- They have amended the bye-laws for making the solar water heaters, and SPV rooftops plants to the extent possible, necessary for the new building projects
- Any other substantial rules/regulations which encourage the adoption of Green buildings in the city



Awards to the Green Building having maximum RE installations.

The cash award of Rs. 15 lakh 10 lakh and 5 lakh along with a shield will be given to best 3 buildings per year that have the maximum installation of renewable energy systems and the net Zero energy based buildings in the country.

A Committee consisting of experts in the green building field, renowned institution will be formed for taking decisions on the awards.

Incentive to Architects/ Design Consultants

Cash awards to best 3 architects /design consultants of Rs. 5 lakh, 3 lakh and 2 lakh along-with certificates of appreciation will be given per year subject to that the building has acquired the highest ratings available in the any Green Building Rating System in vogue or ECBC compliant for the building designed by them. The awards to given those Architect/Design Consultant whose buildings have been completed.

The distribution of awards may be organized through some reputed and expert technical Institutions. The appropriate service charges to the identified institutions will be provided on merit.

Other activities

- Funds will be provided for other activities to promote energy efficient solar/green buildings in the country. These activities may include: development of web based tools, short films on best practices, literature on green buildings, FAQs on MNRE website, course contents as part of curriculum, training modules,

e-learning modules, organizing specific groups to initiate changes in National Building Code, support to architectural magazines to bring out special features on green buildings, evaluation studies, R&D activities, lecture series orientation programmes, and related activities. The funds for any other activities including the events and activities to be organized by MNRE as felt necessary may also be considered on merit.

- Preparation of guidelines on promotion of green buildings with emphasis on renewable energy application, bye-laws to support green building construction by State Government/UTs/State Nodal Agency/Municipal Corporations/ULBs.
- Retrofittings of renewable energy and energy efficiency systems in green buildings will also be promoted in the existing buildings to the extent possible. The Ministry may constitute a working group / committee at National level to bring out guidelines in this regard.
- The monitoring and assessment of the performance will be made through some expert institutions for those buildings for which the registration-cum-rating fees has been provided by Ministry to GRIHA Secretariat in the past.
- To carry out/conduct some case studies for green buildings rated under GRIHA, LEED India and other prevalent rating systems and assessment of their performance. The findings of the studies will be published in the form of reports and will be disseminated among the appropriate intuitions and individuals. The financial support for publication through reputed publishers to make them avail-

able at low cost to the users may be considered on merit

- Popular literatures/books on green buildings and retrofittings with renewable energy and energy efficiency interventions will be prepared and published

Incentives for Renewable Energy Projects installations

The proposals on RE systems including SPV installations, SWH, waste to energy projects, biogas generation projects etc. or any other innovative RE related projects in the Energy Efficient Solar/Green buildings may be considered under the Scheme as per available incentives under various MNRE's schemes

Submission of proposals & Release of funds

The proposals could be generated by SNAs/ Municipal Corporations/ Govt.bodies/ Reputed NGOs, Professionals, Educational Institutions, Urban Local Bodies, Consultants, Institutions promoting the green building rating systems etc. and submitted to MNRE.

To avail the incentive for RE installations in green buildings, the concerned organizations will submit the proposal to the Ministry in accordance with the various schemes of the Ministry.

To avail the incentive about the awards, the Municipal corporations/ Municipalities/ Urban Local Bodies will submit an application to the Ministry along with the details of notifications / orders announcing rebate in property tax for energy efficient solar buildings, mandatory provisions of renewable energy applications, details of promotional activities planned etc.

Release of Funds

The funds will be released commensurate with the progress. Release will be made in two parts, (i) the 1st installment of 40% at the time of sanction and (ii) rest on progressive achievements/ completion of the activities with detailed reports and utilization certificates/SOE received in the Ministry.

To NGOs/private bodies, the funds will be released on reimbursement basis or based on the of the bond/bank guarantee submitted to the Ministry as per Rules.