

Seminar on **"Sustainable Architecture: Integrated Approach to Energy-Efficient Building Design"**

A seminar on **"Sustainable Architecture: Integrated Approach to Energy-Efficient Building Design"** was organized on 23rd July 2013 by the Indo-Swiss Building Energy Efficiency Project (BEEP) under the aegis of "the Year of Swiss Architecture, Design and Engineering in India". BEEP is a five-year bilateral cooperation project between the Ministry of Power (MoP), Government of India and the Federal Department of Foreign Affairs (FDFA) of the Swiss Confederation. The project contributes towards design of energy efficient commercial buildings and low energy residential and public buildings.

The aim of the seminar was to share experiences from applying the concept of integrated design and discuss its importance for designing energy-efficient buildings. About 120 delegates from the building design and construction community including architects, HVAC engineers, policy makers and students of architecture participated in the Seminar.

The Ambassador of Switzerland to India and Bhutan, Dr. Linus Von Castelmur, in his inaugural address, reiterated the continued interest and commitment of the Swiss government to develop collaborations in the area of sustainable design and architecture so that the building sector in India grows on a more sustainable path. He hoped that by the end of the five year BEEP project the practice of developing the building design through an integrated and participatory process will be widely applied in the building community in India.



The Director General of the Bureau of Energy Efficiency, Dr. Ajay Mathur, in his inaugural address, stated the importance of designing buildings that are low energy but thermally comfortable. With increased affluence of the Indian population, their energy use will grow exponentially. He hoped that BEEP would not only build the capacities of the building professionals but would also help inculcate the practice of integrated design and develop supply chains of materials and technologies for energy efficient buildings.

Examples of the integrated design process were presented by Ashok Lall, Willi Frei, Tanmay Tathagat, Deependra Prashad, Pierre Holmuller, Pierre Jaboyedoff as well as examples from the Integrated Design Charrettes conducted by BEEP. An expert panel discussed the "Opportunities & Barriers in Mainstreaming Integrated Design Charrettes for Designing Energy-Efficient/ Green Buildings". The panelists included architects, HVAC consultants, representatives from the Indian rating systems and government agencies.

BEEP is promoting the integrated design process by means of charrettes which is an interactive workshop that brings together the key members of the building project design team (architect, builder, engineers, user, project cost accountant, etc.) to develop the energy concept of the building. BEEP has conducted Integrated Design Charrettes for 6 large commercial buildings in 2012 – 13.

Some of the main conclusions of the seminar:

- The charrette as a means of carrying out the integrated design process found wide acceptance among the participants and panelists
- The case studies highlighted the significance of the initiating an integrated design process at project inception itself. This allows for integration of a wide range of passive and active means of saving energy with minimal cost escalation.
- The use of simulation tools was illustrated which equips the project proponents and designers with quantitative data to validate or modify conclusions arrived by intuition.
- An estimated saving potential of 25 – 40% is possible by an integrated design process for energy efficient buildings.