



GreenHabitat

"A newsletter on Green Buildings"

From Indian Green Building Council, CII-Sohrabji Godrej Green Business Centre



Green Building Congress 2005

India's Flagship Event on Green Buildings

"Take Green Building Technologies to the People" - President of India

Green Building Technologies should reach the rural people, said the **President of India, Dr A P J Abdul Kalam**, at the Inaugural Session of the Green Building Congress, 2005.

Sustainability of Green Construction Technology, he said, depends on its reach at the rural level. **The nation, he said, should aim at conserving atleast 10-15% on energy and 10% on water.**

Briefly dwelling on energy Independence, he said, that Energy Independence rests on two principles; the first, to use less energy and second, to cut down energy losses.

The President called upon the Indian Green Building Council to document its practical experiences with Green Buildings in India. This would enable the community in defining best practices for constructing Green Buildings.

Towards the conclusion of the event, The President gave away prizes to winners of the National level essay competition for architectural students. The competition was organized by CII along with Indian Institute of Architects.



H.E The President of India lighting the ceremonial lamp. Also seen are (from right): Mr R Seshasayee, Vice President, CII, Mr ParasuRaman R, Chairman, IGBC and Mr James E Hartzfeld, Immediate Past Chairman, USGBC

Four Indian Corporate receive Green Building Awards:



ITC team receiving the plaque



Wipro team receiving the plaque.



NEG Micon team receiving the plaque



Grundfos team receiving the plaque

Mr. James E Hartzfeld, Immediate Past President, US Green Building Council gave away Green Building awards to four corporate, in the presence of the President of India. The companies which received the awards were:

- ITC Green Centre, Gurgaon (Platinum)
- Wipro Technologies, Gurgaon (Platinum)
- Grundfos Pumps, Chennai (Gold)
- NEG Micon, Chennai (Gold)

Highlights of the event

- Inauguration of the event by **H.E Dr A P J Abdul Kalam, President of India**
- More than **800 professionals** from the construction industry attended the event
- **55 green building products and equipment** displayed at the Exhibition on Green Building products
- More than **6000 business visitors** at the exhibition
- **87 professionals** from the construction industry trained on Green Building Concepts
- **55 delegates** participated in the Green Building tours

Delhi Govt to consider incentivising Green Buildings:



Ms Sheila Dikshit, Hon'ble Chief Minister of Delhi speaking at the Green Building Congress 05

Ms Sheila Dikshit, Hon'ble Chief Minister of Delhi was the chief guest at the valedictory function on 16th Sep 2005.

Ms Dikshit, in her valedictory address said that the Delhi government would consider incentivising eco-friendly

building technologies.

In order to spread awareness on eco-friendly building



Dr Prem C Jain, Co-Chairman, Green Building Congress 2005 at the Valedictory session

technology, she said, there is a need to take on board construction engineers, builders and architects. Most importantly, the local bodies have to be involved in the

process, said Ms. Dikshit.

Director-General, CPWD inaugurates Exhibition on Green Building Products:

55 green building product and equipment manufactures participated in the Exhibition on Green Building Products.

Mr. B Majumdar, Director-General (Works), CPWD inaugurated the Exhibiton.

Some of the innovative products displayed were eco friendly carpets, high performance glass, eco-friendly paints, high efficiency water fittings, building automation systems, High efficiency pumps, Eco friendly furniture, Insulation materials, etc.



Mr. B Majumdar, Director-General (Works), CPWD (far right) inaugurating the Exhibition

The 4-day Exhibition attracted more than 6000 visitors.

Seminar on Green Homes:

An exclusive Seminar on Green Homes was organized during the Congress with the objective of creating awareness of Green Concepts in the domestic sector.

Mrs Chanda Singh, Chairperson, Green Homes in her address elaborated on the need for a paradigm shift to Green Homes.

Speaking on the challenges faced by the Sector, she suggested Awareness & Outreach programs, Minimum prescriptive measures from Urban Development Authorities and Rating system for Green Homes as possible solutions.

Designed for homemakers and career women among others, the seminar was attended by more than 150 participants.

Green Building training program:

Coinciding with the Green Building Congress, a workshop and training programme on Green buildings were organized on 14th & 17th Sep 2005, to disseminate information on green building best practices and green building rating system.

Mr Gregory E. Franta, Principal Architect & Environmental Consultant from USA was one of the speakers at the training programme. The faculty included LEED Accredited Professionals from CII-Godrej GBC. 87 professionals from the construction industry were trained during this programme.

Green Building Tour :

Green Building congress 2005 also featured tours to two of the platinum rated buildings in Gurgaon: **ITC Green Centre & Wipro Technologies**. These buildings have been recently rated 'Platinum', the highest rating awarded for green buildings by the US Green Building Council.

The objective was to give the participants a first hand feel of the nuances of Green construction. 55 delegates participated in the tour.



Participants of the Green Building Tour at the ITC Green Centre, Gurgaon

Wipro receives LEED – NC Platinum Rating



Wipro Technologies' Gurgaon Development Centre at Gurgaon

Wipro Technologies' Gurgaon Development Centre is the greenest Building in India, as on date and the second greenest Building in the world.

Located on a 1.12 Acre site, the total built-up area is 175,000 sq. ft. (including two basements). The building will house 1,305 occupants.

The building has the unique distinction of having received all the 57 points attempted and has been awarded the prestigious Platinum Rating by the US Green Building Council.

Sustainable Sites:

Employees at the Gurgaon Development Centre are encouraged to use car pooling and bus pooling systems. There are reserved parking lots for pool cars and company buses ply between the building and the closest mass transit system.

100% storm water is harvested within the site. Light pollution is of growing concern today. Wipro has addressed this by having exterior lighting with low height units.

Water conservation:

Water efficiency is an integral part of the Wipro building. Irrigation in the premises is through the use of **100 % recycled water**. High Efficiency irrigation systems are used to save water.

A Sewage treatment plant operating on Extended Aeration process treats the entire waste water discharged from the building.

Energy Efficiency:

At Wipro, energy conserved is to the tune of 51 % vis-à-vis ASHRAE 90.1 requirements.

Various energy efficient features incorporated in the building have made this possible.

- The building envelope is constructed of Flyash based Aerated Blocks

- Double glazed windows and facades
- 75mm thick expanded polystyrene insulation insulates the roof against heat penetration
- Solar thermal heating for hot water requirements
- Chiller COP of 6.1, Double Skinned AHU's , VFD's for fans, pumps

Materials & Resources :

There is an increasing concern for resource depletion worldwide. In this context, the concept of Reduce, Reuse, Recycle assumes tremendous importance. At Wipro, the 3R concept has been applied extensively.

- Resource Reuse: - More than 10% of the building materials used are salvaged from an old building
- Recycled Content: - More than 10% of the building material cost comprises of materials with high recycled content. These include Fly ash based AAC blocks, Acoustic cladding, Glass, Ceramic tile, MDF boards
- Local materials: - More than 95% of the building materials, by value, are sourced within 500 miles of the project site
- Rapidly renewable materials: - MDF boards are being used for interior partitions. These are made from materials like baggase and agricultural waste etc.
- Certified Wood: - more than 75% of virgin wood used in the building is certified by the Forest Stewardship Council

Indoor Environmental Quality :

Features at Wipro which enhance Indoor Environmental Quality are:

- Tobacco Smoke Control: Smoking is prohibited inside the building
- CO2 Monitoring:-Sensors are provided inside the Air conditioned spaces to ensure that the concentration is maintained within acceptable limits of 530 ppm differential with the outside environment
- Low Emitting material:-The Paints, Adhesives and Sealants used in the building are low in emitting VOC
- An internal courtyard provides extensive daylighting to the building occupants

A unique feature of the building is controllability of systems. To enhance occupant comfort, individual controls viz., temperature and air flow have been provided to the occupants. This is the first green building in India to have provided this facility.

Innovation & Design Process :

- Green Education:- the building has signages to explain the green features
- Green House Keeping Practices: - Eco-friendly GS-37 Certified cleaning agents are used in the building

NEG Micon – the first building in India under LEED – EB



NEG Micon building at Chennai

NEG Micon building in India is the first to receive the LEED Gold rating under the category of Existing Buildings.

The building was commissioned in January 2003 and has completed 2 years of operation before receiving the LEED-EB Gold rating.

The total built-in area is 18,000 sq.ft and the building houses 125 occupants. An interesting feature of the building is its shape which resembles the blades of a wind turbine.

Unique Green features of the building :

- The building uses vermicomposting to treat canteen wastes. The compost is used as manure on the premises
- NEG Micon has installed wind turbines of 950 KW off-site to cater to 100% energy requirements of the building. The company has entered into an agreement with the State Utility to wheel the power generated for use in the building
- The building envelope consists of a double layered cavity wall to prevent heat penetration into the building
- Eco friendly housekeeping chemicals help in preserving healthy Indoor Environmental Quality
- The Indoor Air Quality has been enhanced by continuous purging of fresh air into the building

Many other green features abound this building. To maintain a **sustainable site**, only eco friendly fertilizers are used for landscaping. NEG Micon building uses only low VOC paints, sealants and adhesives on the interiors.

The building has used low flush water closets, sensor based urinals and low flow faucets in the toilets to reduce water consumption. The grey water is treated and used for irrigation instead of being released to the municipal drainage.

Benefits of Going Green

NEG Micon building has derived tremendous benefits in going Green.

- There has been a significant improvement in the Indoor Air Quality because of implementing ASHRAE 62 ventilation requirements
- There has been a reduction in the annual electricity bill to the tune of Rs 15 lakhs
- The building will be monitored on a continuous basis and it will go for recertification every year so as to enhance its performance

Native species of trees and shrubs which consume less water have been used extensively for landscaping.

To optimise energy performance, occupied spaces have extensive day lighting in more than 90% of areas. While improving energy performance, day lighting enhances human productivity.

The company has introduced systems for purchasing low mercury content bulbs which have a lesser environmental impact on disposal. Also, 95% of waste generated in the building is sent for recycling.

If you are constructing a building, Go Green!

CII-Godrej GBC offers Green Building Advisory Services in India to achieve the green building rating awarded by USGBC, under their LEED Rating Programme.

For assistance, kindly contact:

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