



# GreenHabitat

"A newsletter on Green Buildings"

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



The Green Building movement in the country spearheaded by CII – Godrej GBC has gained tremendous impetus over the last few years. With a modest beginning of **20,000 sq.ft** of green footprint in the country in the year 2003, green buildings now cover over **25 million sq.ft.** Far more than 80 projects have been registered under the LEED rating system which are in various stages of construction.

## Recently Rated Green Buildings in India

As the green building movement in the country is gathering rapid pace, the number of projects being certified under the LEED rating system is increasing. The following projects have been awarded LEED certification in the year 2006 – 07.

- ❖ IGP Office, Gulbarga,
- ❖ L&T EDRC 1, Chennai
- ❖ Olympia Technology Park, Chennai
- ❖ ABN Amro, Chennai
- ❖ Hiranandani BG House, Mumbai
- ❖ Spectral Services Consultants Pvt. Ltd. , Noida
- ❖ HITAM, Hyderabad

## IGP Office, Gulbarga - India's first green building in the Government sector



This building is the first naturally ventilated LEED rated building in India. The office complex effectively uses the existing landscapes, recycled building materials, renewable sources of energy and water conservation techniques. The building with built-in area of 30000 sq.ft. has achieved **Gold rating** under the LEED NC programme. The passive architecture of this building incorporates an evaporative cooling technique. This building uses solar energy which is used for street lighting



and water pumping. The building has installed solar powered water pumps for pumping continuous water required for the operation of wind towers. Rat trap type of brick masonry insulates the building against heat from solar radiation. Terrace green grass, china mosaic over covered vaults also helps reduce the effects of heat radiation.

## L&T EDRC 1



EDRC has a built up area of 81000 sq.ft. This building has been awarded

**Silver rating** under the coveted LEED for Existing Buildings (LEED EB) of US Green



Building Council which makes EDRC the second building in India to be rated under the LEED EB programme. Some important green features have been incorporated to make the building LEED EB compliant - installation of building automation system, use of energy efficient light fixtures and installation of over deck insulation. Besides these, the building has put into practice use of recycled paper for stationary, use of paper cups for tea and use of recycled toilet paper.

## Olympia Tech Park, Chennai – Largest Green Building in India



This building with an area of 1.8 million sq.ft has earned the **Gold rating** under LEED for Core and shell and by doing so Olympia Tech Park in Chennai becomes the largest building in India to be certified green. **Unlike LEED for New Construction the scope of LEED Core and Shell is limited to those elements of the project under the direct control of the owner or developer.**

This building uses high performance glass coupled with shading devices and high efficiency walls to reduce heat ingress. Green roofs further reduce the heat ingress. 20% more open space than that specified in the local regulation has been ensured to reduce the impacts of development.



With an intent to provide very high standards of indoor environmental quality to the occupants, enhanced fresh air quantities has been provided for. Majority of the car parking lots are covered with a multilevel parking provision. Exterior lighting has been carefully designed confining the light within the site and with energy efficient luminaries.

## ABN Amro Central Enterprise Services Pvt. Ltd. - First green project in India rated green under LEED for Commercial Interiors (LEED CI)



ABN Amro Bank, occupying an area of 80,000 sq.ft. at Olympia Tech Park, Chennai has earned the **Gold rating** under LEED for **Commercial Interiors (LEED – CI)**. This makes ABN Amro the first project in the country to be rated under LEED for Commercial Interiors.



ABN Amro Bank uses low and ultra low flow flush and water fixtures. High efficient HVAC equipment and systems are installed in the building to achieve optimum power. Low emitting materials such as adhesives, sealants, paints and carpets have been used. Most of the materials used have a high percentage of recycled content

## Hiranandani - B G House - First Platinum rated green building in Mumbai



Hiranandani – B G House, Powai has been awarded the prestigious **Platinum rating** under LEED for New Construction (LEED-NC) v 2.1. The building with a built up area of 1,20,000 sq.ft. has been oriented so as to minimize direct heat ingress



into the office space. High efficient double walls, over-deck roof insulation and high performance glazing make the work environment all the more comfortable. Atriums/ skylight and glass partitions increase natural light into the building and provide good views. Majority of the projects finished wood products is of rapidly renewable material.

## Spectral Services Consultants Pvt. Ltd., Noida



Spectral Services Consultants Pvt. Ltd. has achieved the **Platinum rating** for its office complex at Noida. This building with a built up area of 15,000 sq.ft becomes the first green building in Uttar Pradesh and also the first Platinum rated building in the state. Dr. P.C Jain, Chairman IGBC who is also Chairman and MD Spectral Services Consultants Pvt. Ltd. has walked the talk by ensuring that his office complex project earns the highest LEED rating.



It is a naturally day lit building which allows for beautiful daylight and views. The entire corporate area uses bamboo flooring. This project has made use of old furniture which has been refurbished and reused.

## Hyderabad Institute of Technology and Management – First green building institution in India



Hyderabad Institute of Technology and Management, with a built up area of 78,000 sq.ft becomes the first green building institution in the country with the award of **Silver rating** by the USGBC. The orientation and spacing of the buildings in the complex has been so designed to minimise the heat gain inside. Fly ash brick construction with cavity walls has been used for better thermal insulation.

85 % of the areas are day lit. This has been achieved by optimising window sizes. Reused furniture has been used for



Classroom and other administrative areas. Passive Downdraft Evaporative Cooling (PDEC) system has been designed and adopted for space conditioning of the entire building.

### LEED for Core and Shell

The scope of LEED - CS is limited to those elements of the project under the direct control of the owner/developer. Some of the buildings that fall under this category would be IT Parks, rented out commercial spaces etc.

LEED for Core and Shell encourages the implementation of green design and construction practices in areas the developer can control, which allows future tenants to capitalize on green strategies implemented by the developer.

### Precertification:

Green rating for core and shell projects becomes a key marketing tool. Thus it is important that the green certification is achieved before project completion. The LEED rating system recognizes this and allows for **Precertification**. Precertification is granted to projects after USGBC has reviewed early design stage documentation.

## Precertification for RMZ Millenia Business Park, Chennai

RMZ Millenia Business Park, Chennai has been awarded with **Gold rating for precertification**, under LEED – CS v 2.0. This is the first project in India to



get the Precertification award. The green rating is awarded for the entire campus which comprises of six office buildings.

This project has incorporated green elements right from the architectural design stage. The complex is so designed that the six office buildings vary in height from seven floors upto eleven floors taking into consideration the shading effect that each building provides the other. The percentage of structural glazing used is only 23% of the total façade of the building.

## IGBC and Local Chapters

To facilitate the penetration of Green Building concepts throughout the country, Local Chapters with a mission to reach out the IGBC vision at the regional levels have been launched in **Bangalore, Chennai, Delhi, Kolkata and Mumbai**. The main objective of this is to enable faster reach to wider sections of stakeholders and to provide a platform for networking at the regional level. The agenda of these chapters are

- ❖ To engage all stakeholders in the green building movement evolve strategies
- ❖ To adopt green practices in their respective states,
- ❖ Interact with State Government and local bodies and generate awareness on green building concepts.

The number of registered members has increased to around 85 with 15 founding members.

## Mumbai chapter launch meet

Mumbai chapter was launched on 23 August 2007 with Mr. Ravi C Raheja as Chairman. Shri Jayaraj M Phatak, Municipal Commissioner, Greater Mumbai graced the occasion. The commissioner spoke about Eco housing certification of Municipal Corporation of Mumbai which would be available in the market shortly.



The Corporation proposes to have tax rebate for certified buildings, concession in developmental charges and property taxes. The Mumbai chapter will initiate the following activities.

- ❖ Involve Government in green building movement
- ❖ Involve architectural and engineering colleges
- ❖ Catalyse construction of at least 25 Green Buildings by year 2009

## Bangalore Chapter Meet

The first meeting of the Bangalore Chapter was held on 05 July 2007. The following is the action plan outlined for the IGBC – Bangalore Chapter

- ❖ Competition for designing Green Police Stations to be organised
- ❖ To bring out a pocket reference guide on green buildings which would enable the common man to

take up green building concepts

- ❖ To influence Urban by-laws in embracing green concepts.
- ❖ To work with AICTE to include green building in the curricula.



## Delhi Chapter Meet

Many suggestions were made on the role of IGBC to enhance the green building movement at the Delhi Chapter Meet on 24 May 2007. The activities planned are as follows



- ❖ To come out with a manual, highlighting the operational savings and productivity improvement in all certified green buildings in the country
- ❖ Interactive meetings with the local Govt. and Urban Development Authority
- ❖ To create more awareness amongst the school children

## Chennai Chapter Meet

The first meeting of the IGBC – Chennai Chapter for the year 2007 was held on 17 May 2007. Many suggestions were made during the discussions on the Green Building Movement and Work Plan.

The important activities outlined during this meet are:

- ❖ To facilitate introduction of new green products
- ❖ Catalyse construction of atleast 25 buildings by year 2008
- ❖ To develop more energy simulation consultants to meet the growing demand in the market



## List of Projects registered under LEED India

Sl. No.	Project	Type	Built-up area (sq.ft)
1	CE – EN Islands, Trichy	Office	1,86,000
2	Suzlon Energy Ltd. – Corporate office complex, Pune	Office	6,00,000
3	GE India Technology Centre – Phase V	Office	3,45,000
4	Savla Hospital, Mumbai	Hospital	3,00,000
5	Thermax Corporate House, Pune	Office	64,000
6	Ashok Leyland Corporate office, Chennai	Office	1,50,000
7	Patni Computer Systems Ltd., New Delhi	IT facility	3,80,791
8	Oberoi - Shikhopur	Hotel	6,00,000
9	Palais Royale, Mumbai	Residential complex	2,00,000
10	Johnson Diversey - Nalagarh Project	Office	5,000
11	Radisson, Kolkata	Hotel	1,00,000
12	Kirloskar Corporate Office, Pune	Office	1,30,000
13	Blue Ridge, Pune	SEZ and Township	60,11,280
14.	Market Service Apartments and Hotel, Bangalore	Residential & Hotel Complex	90,000
15	Resort at kabbinkad, Coorg	Resort	52,000
16	L&T HED-Admin Complex, Talegaon	Office	2,500
17	Aqua Mall , Dehradun	Office	75,000

### LEED – India

A critical step in the Green Building Movement has been the launch of LEED – India Green Building rating system, effective 01 Jan 2007. This is similar to LEED rating system with



Release of LEED – India reference guide at Green Building Congress 2006, Bangalore

encourages naturally ventilated buildings. The LEED – India reference guide details the necessary requirements for all projects registered under LEED – India. **This guide forms the basis for concepts and strategies required for LEED rated green buildings.**

#### If you are constructing a building, Go Green!

For LEED India registrations and green building advisory services kindly contact

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minor modifications so as to suit Indian conditions and priorities.

LEED - India adopts a number of Indian Codes and Standards. For example, National Building Code, MoEF guidelines and the Energy Conservation Building Code of the BEE. Another important feature of LEED – India is that it

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