



CASE STUDY: CISCO BGL16



KEY PARAMETERS

Occupancy Type	Office Space
Built up area	355,017 Sq ft
Completed	July 2012
Location	Bangalore
Green consultant	En3 Sustainability Solutions
Rating System	LEED USGBC ID+C
Rating Achieved	PLATINUM

LEED SCORES



The CISCO B16 Office space in Bangalore has been awarded Platinum certification under USGBC’s LEED ID+C rating system. This is one of the highest rated Platinum LEED ID+C projects in the world and also in India having been awarded a total of 96 points by the U.S. Green Building Council. The building has many unique distinctions to its credit including achieving exemplary performance in water savings and HVAC energy savings, being the 1st commercial interior project in India to achieve the controllability of systems – thermal comfort credit by providing more than 51.32% of the occupants with individual controls to adjust their air conditioning to suit individual needs, 100% of the total building’s energy consumption being offsetting by green power investments amounting to over 70,00,000 Kwh of green power per annum.



SITE SUSTAINABILITY FEATURES

- The project is in ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure, protects green-field site and preserve habitat and natural resources.
- Provision of Bicycle and Shower facility for their staff reduces pollution and land development impacts from automobile use.
- 53% of the base building on-site parking is located underground or under cover.
- Carpooling spaces within the premises in an effort to promote and ride sharing to reduce transportation pollution as well as strain on the local infrastructure.
- The project provides alternative-fuel fueling stations for 3.92% of the total parking capacity

WATER EFFICIENCY

- Low flow dual-flush toilets, sensor based urinals and other low flow fixtures installed have resulted in potable water reduction of water use of **51.3%**.
- The base building landscaping and irrigation systems have been designed to reduce potable water consumption for irrigation by 100% from a calculated baseline case.
- 100% of wastewater on-site to tertiary standard which is then reused on-site

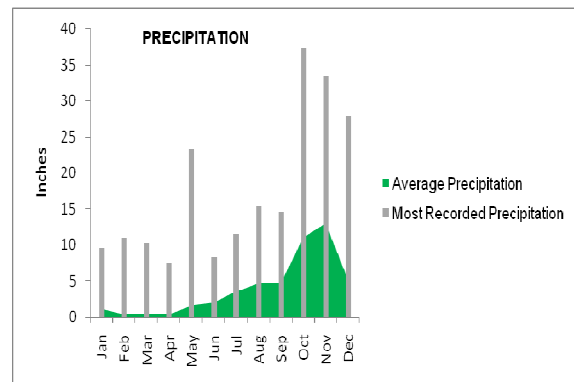
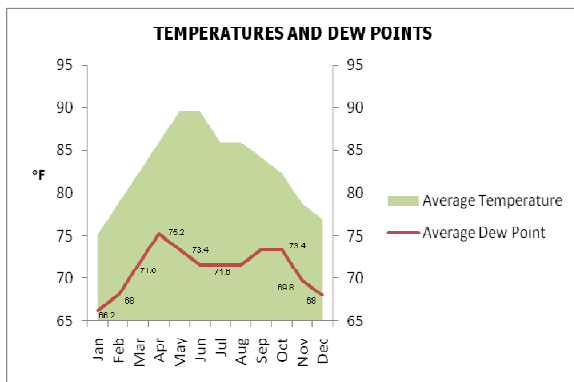
ENERGISING THE BUILDING



- Provision of high performance glazing, energy efficient HVAC design and lighting has contributed to energy savings of about **50.7%** over conventional building and HVAC systems.
- Selection of CFC free and HCFC free refrigerants avoids global warming and ozone depletion.
- Light fixtures and efficient lighting design contribute to **38.92%** of reduction in connected lighting power density over the base case of ASHRAE standards.
- Daylight responsive controls have been installed in 100% of all regularly occupied spaces within 15 feet of windows or under skylights.
- ENERGY STAR-rated equipment and appliances equal to **84.2%**, by rated power, have been installed on the project.

- Metering equipments have been installed for monitoring the energy use in the building such as EB and DG energy monitoring, individual meters for common area lighting, lifts, chillers, pumps, office area lighting, power and AHUs independently for each tenant, measuring chilled water consumption for each tenant using BTU meters for the ongoing accountability and optimization of building energy and water consumption performance over time.

- The project has a two-year purchase agreement to procure 50% (7,000,000 kWh per year) of the electricity for this project from renewable energy sources that meets the Green-e definition for renewable power





RESOURCE MANAGEMENT

- The project has diverted 80.89% of the on-site generated construction waste from landfill.
- Rapidly Renewable materials account for 7.7% of the project's material cost.
- 20.97% of the total building materials, by value, have been manufactured using recycled materials.
- 25.73% of the total building materials value includes building materials and products that have been manufactured within 500 miles of the project site and that 15.67% of the total building materials value includes building materials and products that have been extracted within 500 miles of the project site.
- Use of materials with recycled content and materials manufactured locally/regionally as much as possible to reduce virgin material exploitation

INDOOR ENVIRONMENTAL QUALITY



- Better air quality and additional fresh air by 30% have been provided for enhanced indoor environment
- The project conducted a flush-out prior to occupancy by supplying while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%
- Low emitting adhesives, paints, carpets and composite wood products have been used to enhance the indoor environment and provide superior workplace for all employees.
- Lighting controls are provided to enable 97.37% of occupants to make adjustments to suit individual task needs and preferences
- All system seating and furniture used in the project reduce indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants
- Ventilation and temperature controls are provided to enable 51.32% of the tenant occupants with the ability to make adjustments to suit individual needs and preferences.

NOVELTIES

The building has many unique distinctions to its credit including achieving exemplary performance in water savings and HVAC energy savings, being the 1st commercial interior project in India to achieve the controllability of systems – thermal comfort credit by providing more than 51.32% of the occupants with individual controls to adjust their air conditioning to suit individual needs, 100% of the total building's energy consumption being offsetting by green power investments amounting to over 70,00,000 Kwh of green power per annum.

The project is really an excellent example of true sustainable development from design stage until execution and shall definitely become a benchmark for future projects to emulate.

En3 would be glad to answer any queries or questions you have on any green or sustainability related topics. Feel free to contact us at info@en3online.com and for more information visit us at www.en3online.com.