



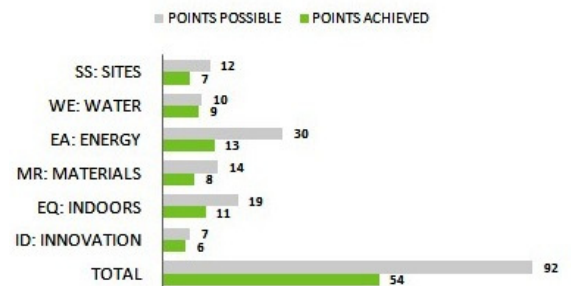
CASE STUDY: SCOPE INTERNATIONAL PVT. LTD., CHENNAI



KEY PARAMETERS

Occupancy Type	Office
Built up area	361000 Sq Ft
Completed	November 2010
Location	Chennai, Tamilnadu
Green consultant	En3 Sustainability Solutions
Rating System	LEED O&M v2 (Existing Building)
Rating Achieved	GOLD

LEED SCORES



The Scope International Pvt. Ltd. building located at Haddows Road, Chennai is one of the first buildings in India to receive LEED Gold certification for LEED for Existing Buildings v2 - Operations and Maintenance. The project is an existing campus of 3,61,000 square feet spread across four buildings. A complete study was conducted to understand the project's energy, water and environmental performance. En3 has done innovative work to help the office get greener and achieve its LEED GOLD certification from the US Green Building Council under Existing Buildings Category.



SITE SUSTAINABILITY FEATURES

- The project is in an ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure.
- An environmentally sensitive, low-impact building exterior and hardscape management plan was in effect for the project building and associated grounds during the performance period.
- An integrated Pest management, Erosion Control and Landscape Management plan has been implemented at site.
- The project has achieved a 47% reduction in conventional commuting trips through car-pooling and alternative commute transportation
- 16% of storm-water is mitigated for both an average weather year and for the two-year, 24-hour design storm
- 50% of the car parks are covered which will create more open spaces on the ground and also reduce the local heat island effect.
- All non-emergency built-in light fixtures with a direct line of sight to any openings in the building envelope are automatically controlled to turn off during after-hours period.

WATER EFFICIENCY

- The project has permanently installed water meters that measure the total potable water use for the entire building, associated grounds and for irrigation and indoor plumbing fixtures and fittings sub-systems.
- Water saving measures such as fitting of aerators in the faucets, collection of condensate water, reuse of STP treated water for irrigation and cooling tower make up were employed to save water.
- The project has achieved approximately 30% reduction in potable water use through the use of efficient indoor plumbing fixtures from the LEED-EBOM Baseline.
- Efficient Landscaping is done resulting in 100% reduction in potable water usage.
- Other measures include rainwater harvesting, and sub metering of all water loads



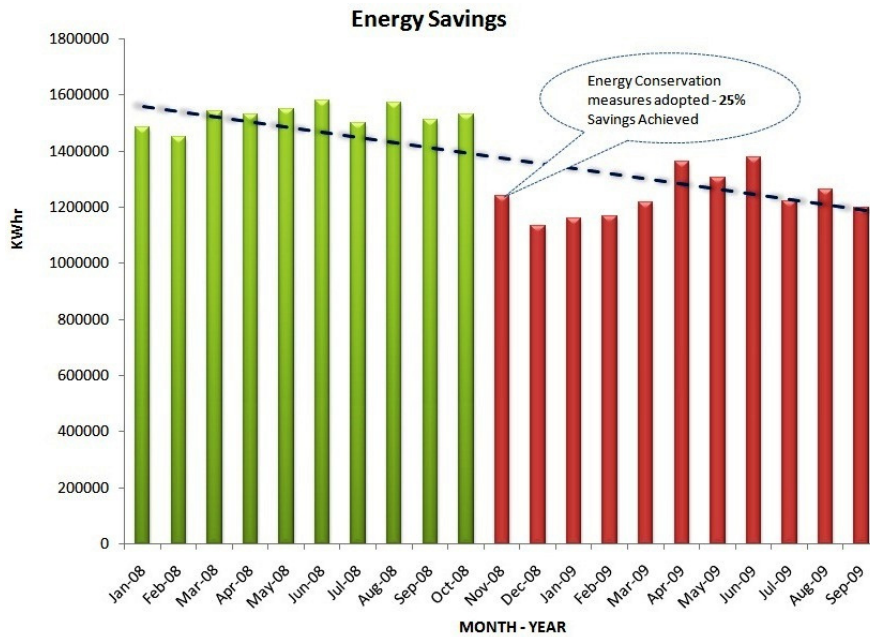
ENERGISING THE BUILDING

- In line with international standards, the project building contains no CFC-based refrigerants in base building systems. The refrigerants used in the air conditioning system are environmentally friendly and have very low ozone depleting and global warming potential.
- The building earned an ENERGY STAR score of 73 meaning its energy efficiency rates in the top 27 percent of all similar buildings nationwide.
- Based on this, many measures were taken to improve the energy performance such as
 - Retrofitting VFD drives for pumps and AHUs
 - Replacing inefficient light fixtures in common and external areas with energy efficient T5 and LEDs
 - Adding sensors to turn off lights when not in use etc.

After various energy conservation measures an overall energy savings of more than 25% was achieved.



- The project team has implemented a retro-commissioning plan for the major building energy-using systems and has conducted the investigation and analysis phase
- The project has purchased off-site renewable wind power amounting to 55% of building energy use.
- System-level metering is in place for at least 80% of the total expected annual energy consumption of the building, and that at least two of the three largest energy-use categories or building systems are metered to an extent representing at least 80% of total annual energy consumption for that category or system.
- The project has tracked, recorded, and reported greenhouse gas emissions independently through a technically sound reporting protocol. The total stated annual greenhouse gas emissions generated are 6530.18 tons of CO2 equivalent per year.



RESOURCE MANAGEMENT

- The project has implemented an Environmentally Preferable Purchasing policy. 55% of purchases of ongoing consumables (weighted value) purchased during the performance meet at least one sustainability criterion.
- 100% of total purchases of furniture (by cost) during the performance period were sustainable purchases.
- 100% of the purchases (weighted value) made during the performance period for facility alterations meet the requirements for sustainable purchases.
- The project team has performed an audit of the entire ongoing waste stream of the building and grounds during the performance period. The project has identified opportunities for improved waste diversion practices.
- 83% of the ongoing consumables waste generated during the performance period has been diverted.
- The project team has reused or recycled 100% of the durable goods waste stream (by volume) during the performance period.
- 91% of the facility alterations and additions waste generated during the performance period has been reused or recycled.



INDOOR ENVIRONMENTAL QUALITY

- The project has in place a high-performance cleaning program that addresses staffing, training of maintenance personnel, the use of chemical concentrates, the use of sustainable cleaning materials, the use of sustainable hard floor and carpet care products, and the use of sustainable cleaning equipment.
- The project team has developed an IAQ management plan for implementation during facility alterations and additions, and that the plan meets or exceeds the recommend design approaches of the SMACNA IAQ Guidelines for Occupied Buildings Under Construction, 1995
- The project team conducted an occupant survey offered to all regular occupants of the project building, with a 94% response rate.
- The project maintained a sustainable purchasing program for cleaning materials and products, disposable janitorial paper products, and trash bags, and that 80% of the purchases during the performance period satisfied sustainability criteria. Low emitting adhesives, paints and carpets have been used to enhance the indoor environment and provide superior workplace for all employees.
- The project team has performed a custodial effectiveness assessment conducted in accordance with APPA Leadership in Educational Facilities "Custodial Staffing Guidelines" to determine the appearance level of the facility during the performance period. The project team scored a facility overall appearance level of 1.84
- 93% of the cleaning products and materials purchased comply with the sustainability criteria.
- 91% of janitorial equipment in use within the project building and associated grounds during the performance period meets the sustainability criteria.
- The project building utilizes entryway systems to reduce the amount of dirt, dust, pollen and other particles entering the building.
- Project team has provided an indoor integrated pest management (IPM) plan that was in place and fully implemented over the performance period.

NOVELTIES

The project team has diverted at least 95% of the durable goods waste stream during the performance period.

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.