



Infrastructure Development of SCB Medical College and Hospital, Cuttack

Location	: Cuttack, Odisha
Site Area	: 11820 m ²
Built up Area	: 46154 m ²
Air-conditioned Area	: 9499 m ²
Non Air-conditioned Area	: 40525 m ²
Energy consumption reduction	: 56.7% reduction in energy consumption compared to GRIHA benchmark
Energy Performance Index (EPI)	: 59.08 kWh/m ² /year
Renewable Energy	: Rated capacity of solar PV installed is 15 kWp
GRIHA provisional rating	: 3 Stars
Year of Completion	: 2017

The following strategies were adopted to reduce the building impact on the natural environment:

🌀 Sustainable Site Planning:

- Out of the 17 existing trees, 4 trees were cut and 42 trees were newly planted within the college campus, all of which are native species to the region.
- Excavated fertile top soil was preserved and reused for landscaping on site and excess soil was donated to AHRCC, Cuttack.

🌀 Water Management:

- Reduction of 28.9% from the GRIHA base case has been demonstrated in building water use by installing water efficient flush and flow fixtures.
- Construction water consumption was reduced by use of curing compounds and ponding technique for curing of slabs during construction.

🌀 Energy Optimization:

- Automatic timer based control panel has been provided for the exterior lighting control.
- 54.68% of the habitable spaces are day lit and meet the daylight factors as prescribed by the National Building Code of India.
- Glasses installed in the buildings have low Solar Heat Gain Coefficient values of 0.23 and 0.47, which in combination with shading devices have reduced the heat gain into buildings. The corresponding Visual Light Transmission values of the glasses are 20% and 43%, which help bring in diffused daylight into the living spaces.

🌀 Renewable Energy Technology installed on site:

- Solar photovoltaic system of capacity 15 kWp is installed on site for offsetting the energy demand on grid.

🌀 Sustainable Building Materials:

- In structural and non-structural application, for both concrete and masonry work, a minimum of 30% of cement is replaced with fly-ash.
- All the paints and adhesives used in the project have low VOC content.
- Insulation, refrigerant and fire-fighting system used in the building have no components with ozone depletion potential.

Integrated Design Team:

Client	: Sidhartha Das (Dean and Principal, SCB Medical College, Cuttack)
Principal Architect	: S. Krishnamoorthy (L&T Construction)
Landscape Architect	: S. Krishnamoorthy (L&T Construction)
Structural Consultant	: Justin S. (L&T Construction)
Electrical Consultant	: Ramesh Ramasubramanian (L&T Construction)
Green Building Design and Certification	: Aravindaraj (SGS India Limited)