

First of its kind Super ECBC Building in Uttar Pradesh.

At UPNEDA Training Centre, Lucknow, U.P.

Cost of construction: - 10 Cr.

Construction Agency: - Uttar Pradesh Rajkiya Nirman Nigam (UPRNN)

Technology Features proposed/incorporated in the building: -

- ❖ Orientation in accordance with Sun-Path and Wind direction,
- ❖ Insulated Building Wall and Roof (*Autoclaved Aerated Concrete (AAC) and Extruded Polystyrene (XPS) are used to insulate the walls and roof*)
- ❖ High Performance DGU (Double Glazed Unit) for Fenestration/Windows,
- ❖ Shading Device, Light-shelf, and Automatic shading device for Glare free daylight.
- ❖ 60% Window to Wall Ratio for optimum daylight,
- ❖ Solar tubes for natural daylight utilization.
- ❖ Wind tower and underground pipes for ventilation and cooling load reduction,
- ❖ Industrial Ventilator for ventilation.
- ❖ Sensor based Lighting Systems,
- ❖ Highly Efficient BEE star rated (5 Star Rated) Appliances- BLDC ceiling fans, LED lighting etc.
- ❖ Building Monitoring System (BMS) to monitor electrical component-wise and floor-wise current energy consumption and annual building energy consumption.
- ❖ 35 kW Solar rooftop plant.
- ❖ Insulated overhead water tank.
- ❖ Sewerage Treatment Plant (STP).
- ❖ Rainwater Harvesting (RWH).
- ❖ Technology Demonstration Models to demonstrate working, benefits, and integration of various technologies to make building energy efficient.

Energy Performance Index (EPI):

- Energy Performance Index (EPI) of super ECBC building (Proposed case)-
=40 kWh/m²/Year
- Energy Performance Index (EPI) of ECBC building (Standard case)-
=60 kWh/m²/Year

Energy Performance Index (EPI) Ratio of Super ECBC building:

EPI Ratio= EPI of Proposed case/(EPI) of Standard case < 0.78

= 0.67 which is less than 0.78 for Super ECBC complaint building.