



BANDHKAM BHAVAN Building, Satara



Location	: Satara
Site Area	: 2,380 sqm.
Built up Area	: 1,717 sqm.
Typology	: Commercial
Rating Category	: GRIHA for Existing Buildings (EB)
Version	: 1
Date of Award	: 31 May, 2019
Client	: Government of Maharashtra
Integrated Design Team	: Public Works Department (PWD), Maharashtra
Green Building Consultant	: Energetic Consulting Pvt. Ltd.

The following strategies were adopted by the project team to reduce the impact of the existing building on the environment:

Site Parameters:

- Trees were preserved on site in the ratio of 1 tree per 80 sqm.
- Strategies such as soft landscape area, vegetation, green roof, solar panels and china mosaic tiles and hard paved area with high SRI coating were implemented over 1,282 sqm. of site area to reduce the Urban Heat Island Effect.

Energy:

- Replacement of old electrical equipment and appliances with BEE star rated ones has reduced the annual energy consumption from 35,915 kWh/year to 29,485 kWh/year indicating a percentage saving of 17.9%.
- Solar photovoltaic system of 25 kWp was proposed to generate 39,334 kWh of renewable energy.

Water Efficiency:

- Building water consumption reduced from 820.8 kl/year to 556.2 kl/year.
- The total annual landscape water consumption was reduced from 1,899.12 kl/year to 746.90 kl/year indicating a percentage saving of 60.7%.

Human Health and Comfort:

- Indoor comfort conditions measured in summer months; Daylight levels= 245 - 320 lux, Artificial lighting levels= 441 - 720 lux and Indoor noise levels: 49 - 50 dB; were complaint with benchmarks of the Indian Model for Adaptive comfort, SP 41 and NBC 2005.

Total energy offset
by renewables
= **133.48%**

Total reduction in
building water demand
= **32.2%**

TOTAL CARBON OFFSET BY THE PROJECT:

By planting native saplings & preserving existing trees: 0.44 ton/year

By conservation of conventional energy: 9.93 ton/year