SUSTAINABLE VALUE ADDED CASE STUDY

OVERALL SAVINGS

Client Name	:	Larsen & Toubro
Project Name	:	L & T - Special Steel and Heavy Forging Pvt. Ltd
Building Area	:	34,400 ft^2
Project Location	:	Hazira, Surat
Case Study	:	Overall Savings

PROJECT DESCRIPTION

This is an administration office building of a manufacturing complex located in Surat. It consists of three stories.

CHALLENGE

The challenge was to get all 19 points (i.e., to get minimum of 48% cost savings when compared to ASHRAE baseline design) under Energy & Atmosphere - Optimize Energy Performance credit for LEED India Platinum rating.

SOLUTIONS

Early in the design process, Conserve facilitated a charrette to discuss desired green and high-performance features to get 19 points under EA Cr 1.

Conserve explored possible number of Energy Conservation Measures (ECMs) in all areas using energy simulation and the most optimum of them were proposed.

The following Energy Conservation Measures were suggested and implemented by client ;

1. Efficient Building Envelopes (Fly Ash Brick & EPS Insulated Roof)
2. High Performance Glazing (KT 440 DGU low-e coated)
3. Efficient Lighting Design for interior and exterior areas
4. Occupancy Sensors in required spaces
5. Daylight Sensors wherever feasible
6. CO2 Sensors
7. Vapor Absorption Chiller (VAM) running on waste heat from the nearby forging plant
8. Solar Photovoltaic Panels (40 kWp) to achieve the maximum points

SAVINGS

*Conserve's energy analysis evaluated alternatives, leading to a package of systems proposed that are expected to reduce energy costs by **52.62%** when compared to an ASHRAE 90.1-2007 code-compliant baseline building.*

Based on the above ECMs, the cost savings come to around ₹ ***29 Lakhs per Annum***. The payback period of the proposed building designs would be **3 years**.

LEED Rating	LEED® Platinum
Certification	LEED India 2011 NC
Energy Cost	₹ 2.8 Million/Annum
Consultant	Conserve Consultants Private Limited