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Students' study set to help varsity save energy costs

SwatiShindeGole
@timesgroup.com

Pune: An energy audit conducted by the engineering students of the Vishwakarma University revealed that the main building on their campus could save 755 units of energy by merely making some changes in the lighting pattern.

The study also revealed that the university could save Rs11,874 on electricity bills annually if the proposed changes and recommendations were implemented. The students used the Integrated Energy Solutions (IES) for the survey.

Professor at the university Maya Kurulekar said saving energy and building eco-friendly structures is essential as energy resources are diminishing rapidly. "Energy audits help boost energy-efficient buildings as they lower electricity bills, enhance comfort levels, help conduct performance failure analysis, reduce environmental impacts and also add value to the building," she said.

The innovative technology (IES) enables performance assessment of buildings to uncover energy efficiency improvements in the buildings as well as facilities remotely.

The methodology and the tool can be also used during the planning stage of a building. "We first studied the practical application and validation of the IES. It uses multi-physics princi-

RESULTS OF THE AUDIT



Annual consumption of the academic building
10,446 Units
Cost ₹1,61,180

■ Proposed Consumption
9,691 Units

■ Cost
₹1,49,306

■ Energy Saving
755 Units (7.22%)

(Results calculated annually)

Cost Saving
₹11,874
(7.3%)

TECHNOLOGY USED

■ The students used Integrated Energy Solutions (IES)

■ IES helps to assess the performance of buildings and its facilities remotely and suggests improvements to make them energy efficient

■ IES gauges the energy use through the availability of natural light as against the use of powered light

■ The results help make decisions about prioritizing measures to improve the energy efficiency of a building and reduce costs

■ The methodology and the tool can be used during the planning stage of a building or after a structure is constructed

ples, wherein the entire building is analyzed based on fundamental energy and work transfer principles using laws of thermodynamics, heat transfer and mass transfer," Kurulekar said.

The energy use and application is gauged through the availability of natural light as against the use of powered light. "The results have enabled us to take decisions for prioritizing conservation measures and improving the energy efficiency of our campus. We will be studying the results over the next few months before implementing the changes

to ensure maximum savings and reduction in costs," Kurulekar said.

The students of the engineering department had presented a paper on energy analysis of the academic building along with two other types of commercial and industrial buildings using the IES technology at a conference in Phuket.

The students and faculty members of the engineering department involved include Atharav Joshi, Akash Mundada, Yash Suryavanshi, Mrunmai Rana-de, Nilesh Jadhav, Siddarth Jabade, Kailash Patil and Yogesh Deshpande.

PCB yet to
remove illeg
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Sandip.Dighe@timesgro

Pune: Learning from the
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