

The institute has dedicated Electrical Work Committee which takes care of future power requirement, safety, planning, expansion, audit, maintenance, billing, conservation, green power initiatives etc. of electrical power. The regular measures (and activities) undertaken for Energy Audit and conservation, in the COEP campus, are as follows:

- Safety measures and diagram are displayed at appropriate locations.
- High Voltage labs and area are well equipped with the appropriate protection measures.
- Well designed Grounding and lightning systems are in place and functional.
- The cable and transformer sizing is as per energy efficiency norms.
- A microgrid with 3 kW wind turbine is placed on the campus to generate green power and also used for research and demonstration purpose.
- A 35 kW solar PV system is installed on the campus to generate green power and also used for research and demonstration purpose.
- SCADA system is developed and deployed for the energy audit purpose.
- A Center of Excellence in Smart Renewable Energy System is established to take R&D and industry collaboration activities forward.
- Hostels are equipped with solar water heating system and electrical water heaters are replaced.
- The old fluorescent tube lights are replaced with energy efficient LED lamps.
- The old sodium vapor street lights are replaced with energy efficient LED street lamps.
- The old fans are replaced with energy efficient fans.
- The inefficient Air conditioners and other equipment are replaced by energy efficient one.
- State of the art substation is commissioned to meet the power requirement of the campus.
- Fire extinguishers are placed at appropriate locations.
- The load is well balanced at substation level. Power factor and other power quality issues are monitored and kept under control.

Students are allotted to complete the projects to reduce energy consumption of Institute. Survey is carried out to get the required data of energy consumption across the institute and the billing pattern is also studied. Energy audit of each department in college is carried out by noting down infrastructure details (class rooms, laboratories, faculty rooms, meeting room, conference hall, laboratories, research center etc.). The electrical machines, instruments and equipment are surveyed (like lights, fans, AC, projector, any special equipment etc.) The data is collected in Excel Sheets with all details. Collected data is then used to calculate estimated number of units consumed and payable amount.

Bills of last 2 years will be collected and studied. Average consumption and payable amount is calculated. It is then compared with data from excel sheet and reading of consummation of units obtained from substation are also considered. IoT based model prototype development is under progress which will give the efficiency and number of units saved.