



## SCMS SCHOOL OF ENGINEERING & TECHNOLOGY

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### 7.1.2 \_1: The Institution has facilities for alternate sources of energy and energy conservation measures

- **Solar energy**
- **Sensor-based energy conservation**
- **Use of LED bulbs**

#### Solar energy

The main source of renewable power at SCMS School of Engineering & Technology (SSET) is 50 KWp (Kilo Watt peak) ON-GRID type solar power plant installed on roof top area of Administration block, SSET purchased from TATA power solar systems limited, Bangalore. After installing the solar power plant and obtaining sanction from KSEB (Kerala State Electricity Board) the solar power plant was tied to KSEB grid and started generation from 14 th april 2018 onwards. An average generation of 250 units is observed during summer and winter but reduces drastically during rainy season as expected. The total generation from the solar plant as on 22/04/2021 is 174.43 MWh which is equivalent to a total reduction of 124 metric ton in CO<sub>2</sub>.

The maximum contract demand with K.S.E.B is 450 KVA and campus is powered by a 11KV HT line. The monthly consumption varies between (45,000-70,000) units depending on summer months , months with vacations and monsoon months . The 50 KWp ON GRID solar power plant generates on an average around 6000 units monthly. Also, during the academic year 2000-2021 due to covid -19 pandemic situation the total energy consumption of campus reduced drastically (campus was not functioning full-fledged, hostels remained vacant etc.). But during this duration also solar power plant generation remained consistent and hence higher percentage of energy was met by solar power source.





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**Solar Power Plant installed at the Administrative Block**

| <b>Sl. No.</b> | <b>Year</b> | <b>Percentage Met by The Renewable Energy Sources</b> | <b>Remarks</b>  |
|----------------|-------------|---|---|
| 1              | 2018-2019   | Around 10% of overall requirement                     | Solar power plant generating around 6000 units monthly against total energy requirement of campus between (45,000-70,000) units monthly.  |
| 2              | 2019-2020   | Around 10% of overall requirement                     | Solar power plant generating around 6000 units monthly against total energy requirement of campus between (45,000-70,000) units monthly.  |
| 3              | 2020-2021   | Around 22 % of overall requirement                    | Energy consumption in campus reduced drastically due to covid -19 but solar power generation remained consistent hence higher percentage. |
| 4              | 2021-2022   | Around 10% of overall requirement                     | Solar power plant generating around 6000 units monthly against total energy requirement of campus between (25,000-50,000) units monthly.  |
| 5              | 2022-2023   | Around 10% of overall requirement                     | Solar power plant generating around 6000 units monthly against total energy requirement of campus between (25,000-50,000) units monthly.  |



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### Sensor-based energy conservation

The library ground floor reading section and first floor book section are provided with proximity sensor-based lights which turns on only on detection of users. This becomes easy for students and staffs to conserve unwanted usage of energy.

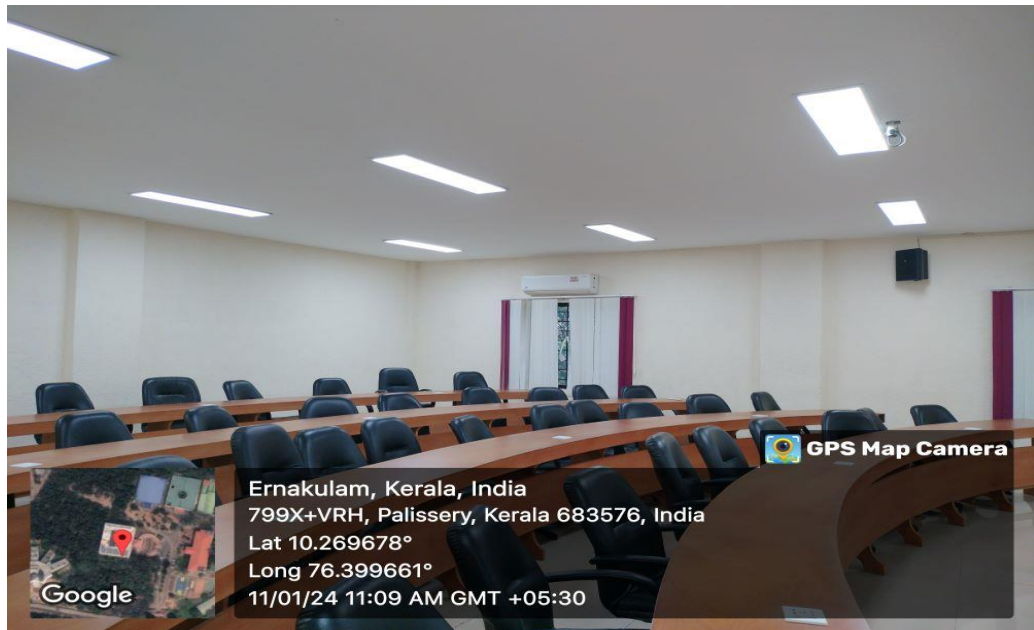


### Use of LED bulbs

From 2019 whenever bulbs are to be replaced, they are being replaced by LED bulbs. Sample purchase bills and geotagged photos are appended. All the departments, classrooms and hostels have been strictly monitored regarding the replacement using LED bulbs/ tubes. Geotagged photos and purchase bills are attached for reference.



**LED Bulbs installed at the Department Staff rooms**



**LED lights installed in Conference room at Administrative Block**