

MARIAN COLLEGE KUTTIKKANAM

(AUTONOMOUS)

Solar Energy

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Submitted to

THE NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)

FOURTH CYCLE OF ASSESSMENT

7.1.2.1 Solar Energy

Solar energy panels were set up in the Marian Campus during 2018-19. The total power requirement of the College per day is computed as 199 KW, of which the Solar Photovoltaic (SPV) System provides nearly 80 KW energy. This amounts to approximately 40% of the total energy requirement. The campus is utilising the potential of solar power as a renewable energy option. The Grid Tie Solar Photovoltaic (SPV) System of 150 KW on roof tops of the institute have been effectively executed under different phases. During the year 2019, the solar energy system of the campus was connected to the distribution system of Kerala State Electricity Board and obtained substantial reduction in electricity consumption.



Solar Panels atop hostels





Solar Panels on roof tops



Solar panels installed on top of Paul Iby Hostel



These solar systems were set up on the recommendations of the Energy Audit in 2018. The electricity produced inside the campus was connected to the distribution system of KSEB during 2019. This installation provides a reasonable quantum 4 KW energy per day. Based on the recommendation of the Audit, the College had set up the first phase of Rooftop Solar System (30 KW), connecting the outputs to the distribution system of KSEB. The total power requirement of the College per day is computed as 199 KW of which the SPV system provides nearly 80 KW energy which amounts to approximately 40% of the total energy requirement. This energy is predominantly utilised for the working of water filters and purification, heaters and lighting requirements, , especially LED bulbs. The commissioning of the extended solar power system is anticipated to contribute towards increased energy needs of the campus. Substantial reduction in energy consumption and associated monetary benefits. Positive environmental results such as reduced carbon footprint are expected in the long term installation of SPV.

The **KSEB** Electricity bill for the month of **January 2019** was Rs. **2**, **26**,**564** and it was reduced to Rs. **79**,**692** after the installation of solar power project in the campus.

The proofs are attached below:



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Electricity bill of 5th January 2019



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Electricity bill of 5^{th} July 2021 showing substantial reduction in energy consumption

