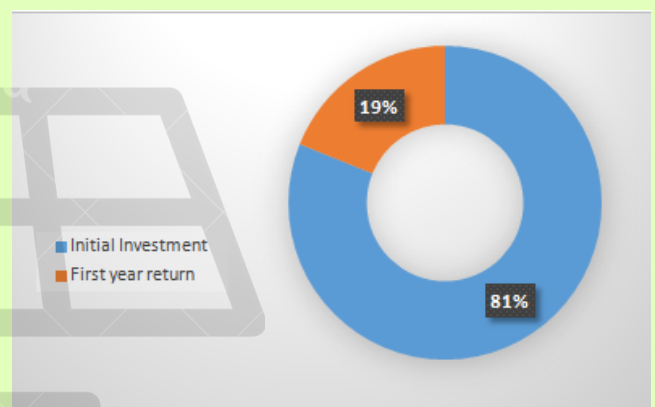
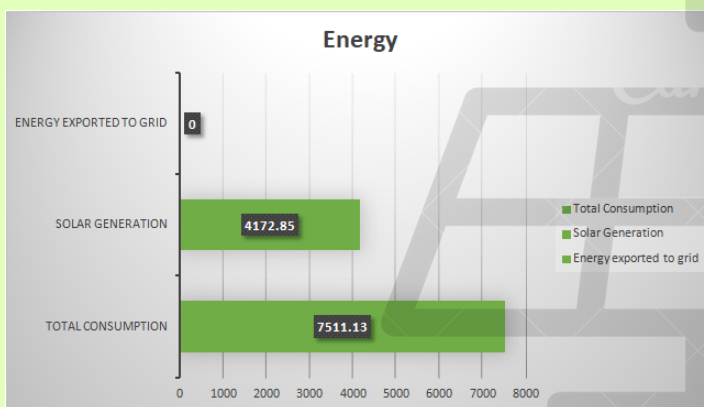


SBI SOLAR UNIT-CASE STUDY



In the month of January, 2021 Shaktisteller Energy Solutions installed a 30 kW solar plant in State Bank of India, HET branch, Piplani, Bhopal which was phenomenal in saving 60 % of the energy. The unit consumption of electricity from September to December without the usage of Solar Plant ranges from 9000 kWh to about 15000 kWh. The electricity bill for the previous two months before installing solar plant was 1.5 lac on an average.

After the installation of 30kW solar plant, 6210 kWh units were used from the state electricity board and the rest 4050 kWh was supplied from the solar plant. The electricity bill reduced to ₹73,611 for the month. The cost of installation will be repayed in 5 years and an appreciable income for the rest 20 years is guaranteed.



The panel deterioration rate is 1% and an extra 0.2% accounts for potential-induced performance degradation (PID) in photovoltaic modules caused by stray currents and other factors. Taking in consideration 1.2% degradation, if a 30kW panel is installed, after a year it would degrade to 29.64 kW and after five years it will degrade to 28.242 kW. The energy value also depreciates from 54,000 kWh to 51,545 kWh. It is safe to assume a 0.2% degradation due to PID for the life of the panels and a 1% degradation every year for the first twenty years limiting the system to 80% of the total capacity.

While the plant can generate 50,074 kWh of Electricity annually, the bank's annual consumption is of 90,133 kWh. Hence, the system allows the bank to save approximately Rs. 3.5 lac per annum. The 30 kilowatt solar rooftop installed provides 4500 units of monthly energy and saves 6.6 tonnes of coal equivalent in a year. It equals to about 12,500 kg of CO₂ emissions saved every year. The installation of a solar plant and the benefits of green energy are evident in this study and are seen to be cost effective as well as energy-saving.

