

# Development and Research Trend in Electricity Generation of Solar Power Plant

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## ABSTRACT

Solar power produces no emissions during generation itself, and life-cycle assessments clearly demonstrate that it has a smaller carbon footprint from "cradle-to-grave" than fossil fuels. Solar power generation, however, is completely emission-free. Solar panels generate electricity and this does not generate any greenhouse gas emissions. Electricity produced by the property's own solar power plant replaces electricity purchased from the electricity grid and therefore reduces emissions. Solar Energy is produced by the Sunlight is a non-vanishing renewable source of energy which is free from eco-friendly. Every hour enough sunlight energy reaches the earth to meet the world's energy demand for a whole year. In today's generation we needed Electricity every hour. This Solar Energy is generated by as per applications like industrial, commercial, and residential. It cans easily energy drawn from direct sunlight.

**Keywords:** solar energy, Renewable energy, Solar power plant.

## 1. INTRODUCTION

Nowadays, due to the decreasing amount of renewable energy resources, the last ten years become more important for per watt cost of solar energy device. It is definitely set to become economical in the coming years and growing as better technology in terms of both cost and applications. Everyday earth receives sunlight above (1366W approx.) This is an unlimited source of energy which is available at no cost. The major benefit of solar energy over other conventional power generators is that the sunlight can be directly converted into solar energy with the use of smallest photovoltaic (PV) solar cells. There have been a large amount of research activities to combine the Sun's energy process by developing solar cells/panels/module with high converting form. If India is able to implement large-scale solar energy, it will be a big step for the world in testing the practicality of renewable energy. India is uniquely important for the future of renewable energy as it is a large-developing country, which means it faces two of the largest obstacles, lack of money and abundance of need. the most advantages of solar energy is that it is free reachable to common people and available in large quantities of supply compared to that of the price of various fossil fuels and oils in the past ten years. Moreover, solar energy requires considerably lower manpower expenses over conventional energy production technology.

## LOKPANCHAYAT RURAL TECHNICAL TRAINING INSTITUTE

In the year 1993, Maharashtra faced a severe drought which prompted the Government of Maharashtra to launch the “Ideal Village Development Programme” with water conservation as the core activity. The same year also commemorated the golden jubilee year of the Quit India Movement. This formed the background for a group of young social activists to establish LokPanchayat that would focus on social reawakening among rural communities. In the year 1993, LokPanchayat was established. Work began with as a voluntary initiative for watershed development in one village by the young social activities. Lokpanchayat has gradually launched a set of key initiatives focusing on revival and promotion of sustainable farming practices, bio-diversity conservation, women’s empowerment, enterprise development and liberal school education in rural schools. Lokpanchayat is a non-profit organization registered under the Societies Registration Act 1860 on the date 11/01/1993 having registration number MAH/2470/Ahmednagar.

### Objectives

- Preventing degradation of natural resources and conservation of bio-diversity
  - Facilitating revival and extension of sustainable farming practices
  - Promoting off-farm and non-farm livelihood options
  - Building farmers organizations enabling better access to markets
  - Mainstreaming gender in all the facets of development initiatives
  - Providing shelter, legal aid and helping to rehabilitate women facing violence and neglect at the domestic level
  - Encouraging alternative teaching approaches in the rural educational system by creating space for self-directed learning and creativity
  - Protecting child rights and prevention of child labour
  - Empowering the village community to participate in local self-governance
- The objectives are achieved through the collective action of people by promoting and building empowered people’s institutions.





**2. 20 KW Solar Power Plant**



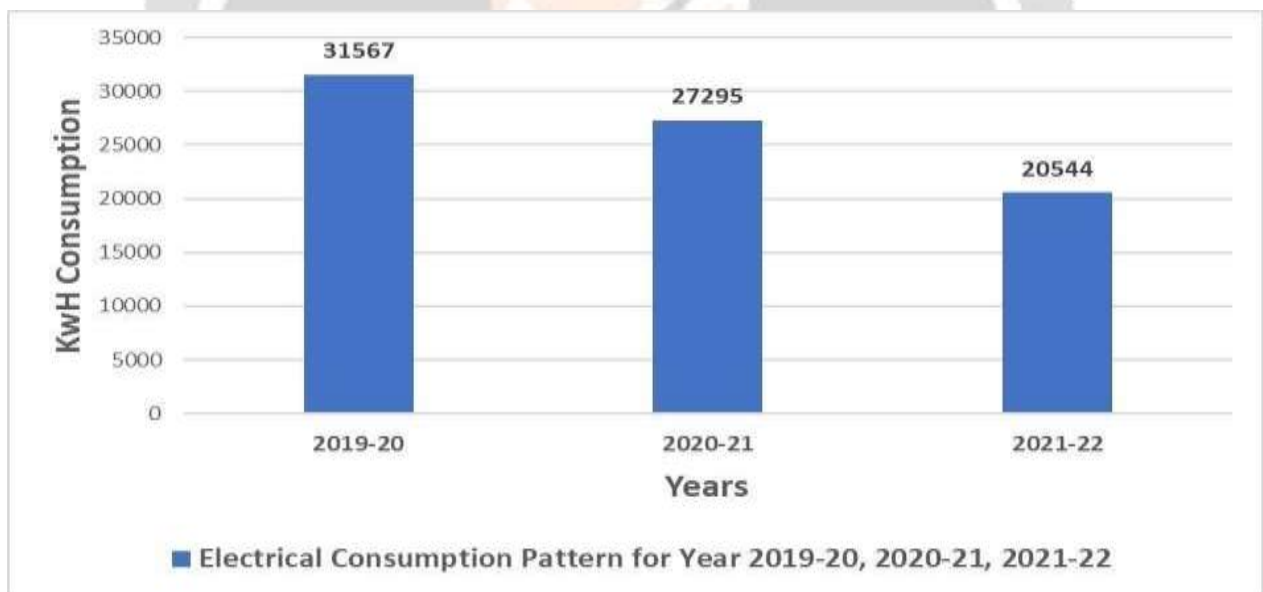
Year	Energy Conservation	Co2 Reduction
2019-20	16275.000 kwh	11,400.00 kg
2020-21	20221.014 kwh	14,154.70 kg

<b>2021-22</b>	<b>16935.736 kwh</b>	<b>11,855.01 kg</b>
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**3. Energy Consumption**

<b>Year</b>	<b>Energy Consumption</b>	<b>Co2 Reduction</b>
<b>2019-20</b>	<b>31567 kwh</b>	<b>22050 kg</b>
<b>2020-21</b>	<b>27295 kwh</b>	<b>19040 kg</b>
<b>2021-22</b>	<b>20544 kwh</b>	<b>14350 kg</b>

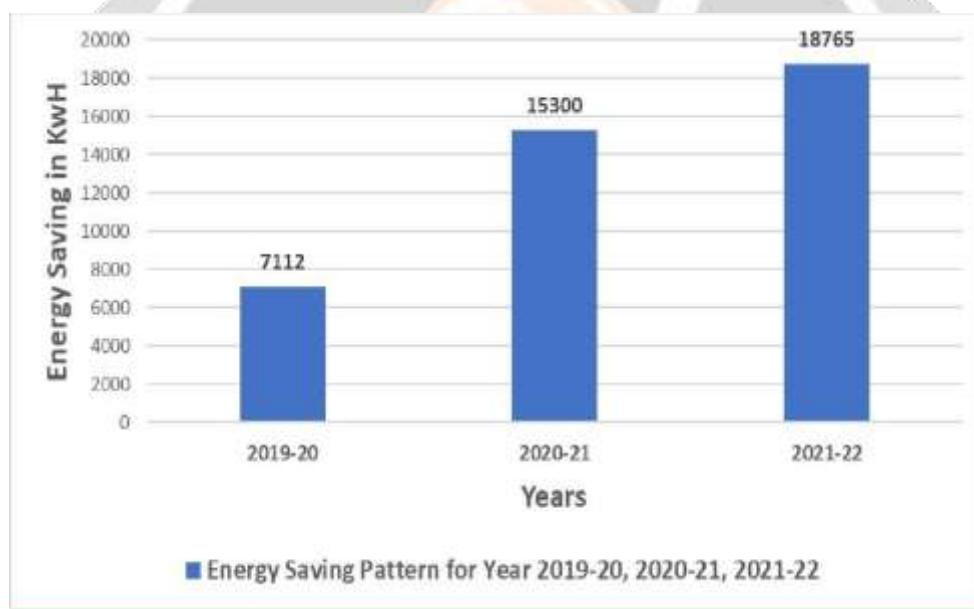
**3.1 Energy Consumption chart**



#### 4. Energy Saving

Year	Energy Saving	Co2 Reduction
2019-20	7112 kwh	4970 kg
2020-21	15300 kwh	10710 kg
2021-22	18765 kwh	13096 kg

##### 4.1 Energy Saving chart



#### 5. CONCLUSION

Most of the people are aware about non-renewable energy resources. Solar energy has become increase more popular due to their economic benefits. By on Battery Backup, Solar Energy can even provide Electricity 24x7, even on cloudy days and at night. This also used with inter-grid System with Continuously Power supply. It has more benefits compared to other forms of energy like fossils fuels and petroleum deposits. It is an alternative which is promise and consistent to meet the high energy demand. Research on solar cell and solar energy is promise has a future worldwide.

#### 6. REFERENCES

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