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Accreditation by Ministry of New and Renewable Energy of Government of India (MNRE) as authorized Channel Partner for Off grid, decentralized solar applications and Grid Connected Rooftop Solar Power Plants

## **A CASE STUDY OF 100kW SOLAR INSTALLTION AT PUSHPAGIRI INSTITUTE OF MEDICAL SCIENCES AND RESEARCH CENTRE, KERALA**



- Approved Empanelment Agency under ANERT 10,000 Home Projects in Kerala
- Second largest installer for ANERT 10,000 Home Projects in Kerala
- Radiant Solar – A company consisting of 90% Engineers
- We know it, we understand it
- Radiant Solar allows you to be free from all procedural whirlpools after placing the order
- From installation to subsidy Radiant does it all

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## Introduction

Pushpagiri Institute of Medical Sciences and Research Centre, located at Tiruvalla, Kerala State, is a well known institution, providing degree in Medical Science, attached with a Hospital. Pushpagiri Institute of medical Sciences and Research Centre.



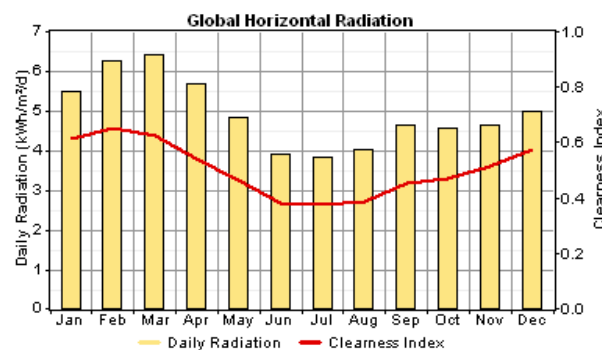
## The Challenges

Pushpagiri Institute of Medical Sciences and Research Centre was facing the following major challenges:

- Continuously increasing Electricity Bills
- Frequent Power cuts
- Increasing Diesel Consumption
- Increasing rates of Diesel
- Number of working hours lost due to power breakdown
- Damaged caused to samples of various plants to be preserved at a particular temperature and humidity in biotech laboratory

Being one of the largest and well equipped Institute of Medical Sciences and Research the current annual consumption of the Medical College was 180,024 units of electricity and the total load was 1000 kW. To decrease their annual diesel consumption and to generate zero emissions green power, they contacted **Radiant Solar** – The leading solar company in Kerala.

The average annual solar insolation for the location of the site is 4.93kWh/m<sup>2</sup>/day and the Pushpagiri installation designed to generate around 407 units of electricity per day and 1,48,638 units of electricity per year as per the average annual solar insolation.



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### Radiant's Solution

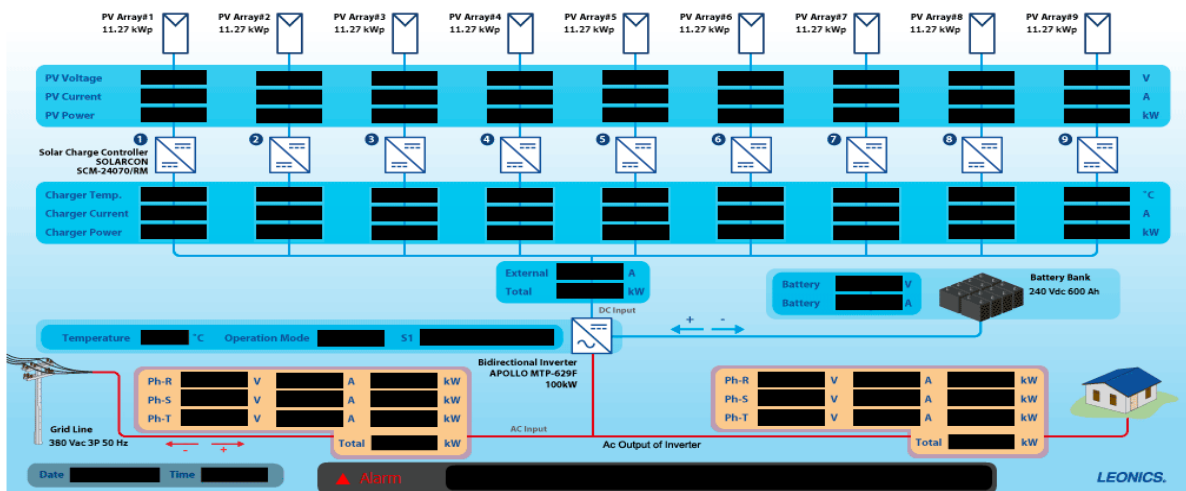
After multiple exhaustive site visits and meticulous study and research of the requirements put forward by them, Radiant's engineering team analyzed the load pattern and utilization of the load. Taking into consideration the number of factors such as the diesel consumption per year due to power cut, number of working hours lost due to power breakdown and the damage caused to samples of various plants to be preserved at a particular temperature and humidity in biotech laboratory, Radiant Solar proposed a 100kW Grid Interactive Solar Power Plant consisting of 100kW Leonics make grid interactive inverter and 101.43kWp Polycrystalline modules along with battery backup. Pushpagiri Institute of Medical Sciences and Research Centre accepted the proposal to provide uninterrupted power supply the most critical machineries during power failure and decided to be the producer of Green Energy with our help.

### Project Details

Technical Details	
Capacity of Power Plant	100kW
Type	Grid interactive with battery backup
Inverter	Imported Leonics make 100kW Grid Interactive Inverter
Charge Controller	Imported Leonics make 240V 70A – 9 numbers
Modules	101.43kWp Polycrystalline Modules
Battery Bank	240V 600Ah Tubular VRLA GEL
Annual Energy Generation	1,48,638 /annum

### Remote Monitoring

The most important aspect of this project is that the energy generation can be monitored remotely through the provided channel. The advantage of providing this monitoring unit is that it helps us to fine tune the system for the optimum output.



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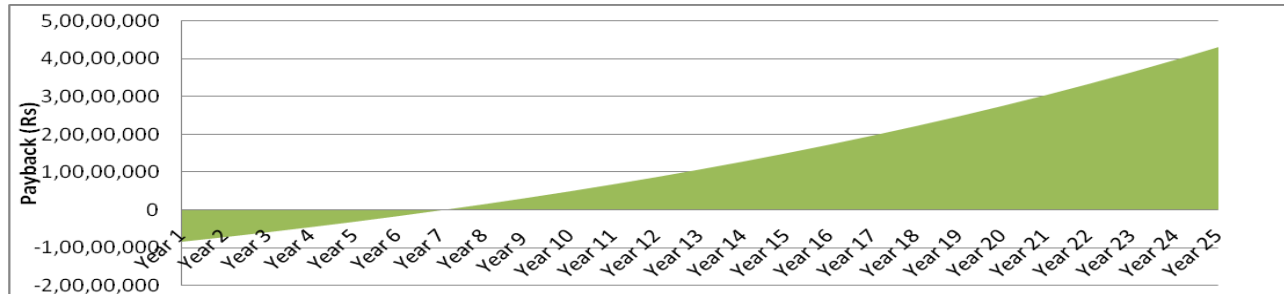


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## Return On Investment

The Return on Investment for this power plant was one of the attractive and persuasive features. Based on an average of 407 Units of power generated per day for a 100kW system, and factoring in various other parameters the system has a rapid return on investment of 7 years.



## Subsidy

- Under the Jawaharlal Nehru National Solar Mission (JNNSM), the Ministry of New and Renewable Energy (MNRE) Pushpagiri Institute was eligible for Rs. 72/Wp.
- Radiant has done all the documentation and approached MNRE for subsidy

## Service & Maintenance

- Radiant Solar warranted the solar power system to be free from manufacturing defects for Five year from the date of commissioning as per MNRE guide lines.
- Any Service Call is handled within 24 hours

The installation was done keeping in mind all the MNRE guidelines to achieve the best installation as per our policy. This 100kW Solar Installation grabbed the attention of whole Kerala and got appreciation from ANERT and MNRE for its quality standards.

This project was designed to generate 407 units per day but beyond our expectations it is generating 450 to 550 units daily and running smoothly and satisfactorily

**Call us now for more information +91-8414-392602/603/604**

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R.R dist, Hyderabad – 501510. A.P

**To know more about Radiant Solar, visit us at [www.radiantsolar.us](http://www.radiantsolar.us)**

**Catch us live at: <http://www.youtube.com/watch?v=JW3K8JbdCII&feature=youtube>**

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