AMALA COLLEGE OF NURSING
AQAR (2022-2023)

CRITERION 7 – INSTITUTIONAL VALUES AND BEST PRACTICES

Key Indicator 7.1– Institutional Values and Social Responsibilities

Metric No. 7.1.3 The Institution has facilities for alternate sources of energy and energy conservation devices

SUBMITTED TO

National Assessment and Accreditation Council

INSTALLATION RECEPTS

Amala COLLEGE OF NURSING

(An undertaking of Amala Cancer Hospital Society)

Amala Nagar, Thrissur – 680 555, Kerala

First Nursing College accredited by NAAC with A grade in the first cycle (RAF)

Affiliated to Kerala University of Health Sciences and recognized by Kerala Nurses and Midwives Council & Indian Nursing Council (Certificate No. 18-16/2893-INC)

INSTALLATION RECEIPT OF SOLAR PLANT

sunsenz GREEN LIFE

Corp. Off: Bldg No. 2/159, Smart Tower, Mutlom Aluva 683 106, Ernakulam, Kerala, India
Tel: +91 484 2625383, Mob: 09946788881 - 86
www.sunsenz.com E-mail: contact@sunsenz.in

Moopens Energy Solutions Pvt. Ltd

GSTIN:32AAICM1406F1Z1

TAX INVOICE

Invoice No.	SSE GS/19-167		RCM Applicable :	NO	Original for Recipient
Invoice Date	25.03.2019		Date of Supply :		25.03.2019
State & State Code :	KERALA	32	Place of Supply :		THRISSUR
Details of Recipient			Details of Shipment		
Name	AMALA CANCER HOSPITAL SOCIETY		Name	AMALA CANCER HOSPITAL SOCIETY	
Address	AMALA CANCER HOSPITAL COMPLEX,AMALA NAGAR, THRISSUR		Address	AMALA CANCER HOSPITAL COMPLEX,AMALA NAGAR, THRISSUR	
GSTIN	32AAATA4065B1ZH		GSTIN	32AAATA4065B1ZH	
State & State Code :	KERALA	32	State & State Code:	KERALA	32

Sr.	Name of Product / Service	HSN	Quantity	MoU	Rate	Taxable Value	5% Amount	Total Amount
1	SUNSENZ Solar Power Generating System_350KWP	8541	350	KWp	53,502.12	1,87,25,740.95	9,36,287.05	1,96,62,028.00
	Total :					1,87,25,741	9,36,287.05	1,96,62,028.00

PAYMENT APPROVED
Invoice Amount: Rs. 1,96,62,028
Advance
Balance
Payment Terms: as per P.O.
Signature
Date

(Check payment as per this Bill)

Bank Details :	*Total Invoice Amount in Words :*	Total Amount Excluding Tax	Rs. 1,87,25,740.95
Bank Name : SBI Account Number : 00000032784064907 Branch : ASHOKAPURAM IFSC Code : SBIN0008596 Pan No : CM1406F	#Rupees One Crore Ninety Six lakh Sixty Two Thousand Twenty Seven and Ninety Nine Paise Only.	Add : CGST 2.50%	Rs. 4,68,143.52
		Add : SGST 2.50%	Rs. 4,68,143.52
		Add : IGST 5.00%	Rs. 0.00
Terms and Conditions :		Total Tax Amount : GST	Rs. 9,36,287.05
		Total Amount After Tax	Rs. 1,96,62,028

Certified that the particulars given above are true and correct

For, Moopens Energy Solutions Pvt Ltd

Authorised Signatory & Seal

AMALA COLLEGE OF NURSING, AMALA NAGAR, THRISSUR — Date: 13/7/21

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

Received all materials

Moopens

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PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

Amala COLLEGE OF NURSING

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Affiliated to Kerala University of Health Sciences and recognized by Kerala Nurses and Midwives Council & Indian Nursing Council
(Certificate No. 18-16/2893-INC)

INSTALLATION RECEIPT OF SOLAR PLANT

MOOPENS ENERGY SERVICES LLP

Building No.65/1098, St. Sebastian road. Kaloor,
Kochi .Pin - 68201[illegible] India.LLP ID : AAK-2307
Ph.04842347255, 9946788833,9288888844
E-mail : moopensenergyservices@gmail.com

WIP 1316

GSTIN:32ABGFM5237J1Z

TAX INVOICE

Invoice No. :	SES /19-046		RCM Applicable :	NO	Original for Recipient
Invoice Date :	17-01-2020		Date of Supply :	17-01-2020	
State & State Code :	KERALA	32	Place of Supply :	THRISSUR	
Details of Recipient			Details of Supply		
Name :	AMALA CANCER HOSPITAL SOCIETY		Name :	AMALA CANCER HOSPITAL SOCIETY	
Address :	AMALA CANCER HOSPITAL COMPLEX,AMALA NAGAR, THRISSUR		Address :	AMALA CANCER HOSPITAL COMPLEX,AMALA NAGAR, THRISSUR	
GSTIN :	32AAATA4065B1ZH		GSTIN :	32AAATA4065B1ZH	
State & State Code :	KERALA	32	State & State Code:	KERALA	32

Sr. No	Name of Product / Service	SAC	Quantity	MoU	Rate	Taxable Value	GST 18% Amount	Total Amount
1	SUNSENZ Solar System installation & Commissioning_350 kWp	9954	44	kWp	₹ 2,815.91	₹ 9,85,569.49	₹ 1,77,402.51	₹ 11,62,972.0
Total :						₹ 9,85,569.49	₹ 1,77,402.51	₹ 11,62,972.0

Bank Details :

Bank Name : KOTAK MAHINDRA
Account Number : 8512026969
Branch : ALUVA
IFS Code : KKBK0009290

Total Invoice Amount in Words:-

#Rupees Eleven lakh Sixty Two Thousand Nine Hundred Seventy One and Ninety Nine Paise Only.

Total Amount Excluding Tax		9,85,56
Add : CGST	9%	88,70
Add : SGST	9%	88,70
Tax Amount : GST		1,77,40
Add : CESS	0%	
Total Amount After Tax		11,62,97

Terms and Conditions :

Certified that the particulars given above are true and correct
PAN:ABGFM5237J

WIP 1315

For, Moopens Energy Services LLP

Authorised Signatory & Seal

17-01-2020 [illegible]

PAID

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

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PRINCIPAL
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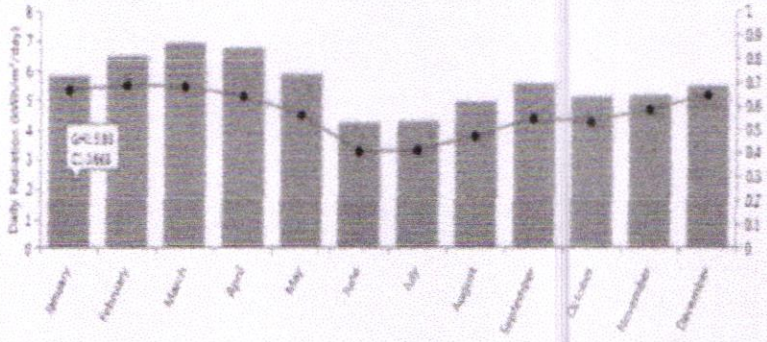
AMALA NAGAR P.O., THRISSUR-680 555

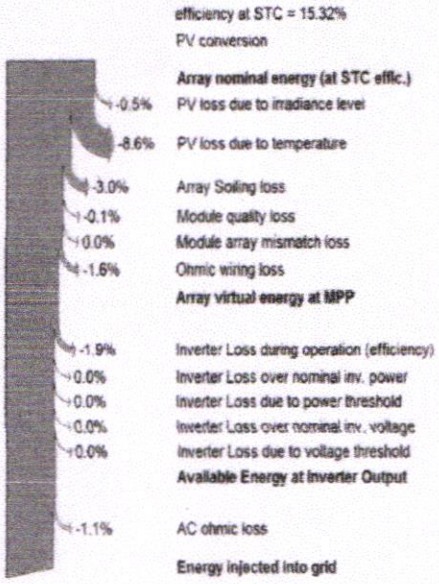
4. DESCRIPTION OF THE PROPOSED ONGRID SOLAR POWER PLANT

1	**Project Site**	**Amala Institute of Medical Sciences**
2	Project Place	**Po, Amalanagar**
3	District Name	**Thrissur**
4	Type of system	**350 kWp Grid-Interactive System**
5	Type of PV Modules Considered	**POLY PERC Crystalline**
6	Solar PV Module Make	**REC**
7	Proposed PV Capacity	**350 kWp**
8	Projected Module Area Required	26250 Sq Feet (Approx)
9	Capacity of each Module proposed	330 Wp/335 Wp/340 Wp/345 Wp/350 Wp/355 Wp
10	Inverter Makes	**SOLAREDGE**
11	Inverter Capacity	SOLAREDGE-SE-82.8K x 3 = 248.4 kVA SOLAREDGE-SE-27.6K x 1 = 27.6 kVA SOLAREDGE-SE-17K x 1 = 17 kVA Totalling = 293 kVA
12	Projected Energy Production per year	**498225 Units(kWh)/per year**
13	**Solar Project Cost (Including Raised Structure (with Sheet))**	**Rs.20,125,000/-** **(Rupees Two Crore One Lakh Twenty Five Thousand Only) (Applicable Taxes Extra)**

5. RENEWABLE RESOURCE AVAILABILITY



NASA Surface meteorology and Solar Energy database
Global horizontal radiation: monthly averaged values over 22 year period (July 1983 - June 2005)
CellNumber: 101255
CellDimensions: 1 degree x 1 degree
CellMidpointLatitude: 11.5
CellMidpointLongitude: 75.5



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PRINCIPAL
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6. AIM OF THE DOCUMENT

The aim of this document is to propose Solar PV Grid-Interactive supply to AC power to your grid (i.e.415V 50Hz 3 phase) load. The document is aimed to propose for engineering, manufacture, supply, and installation, testing and commissioning of 310 kWp Solar PV systems at **Amala Institute of Medical Sciences, Po, Amalanagar.**

7. DESIGN OVERVIEW

The system capacity sizing methodology we adopt is as follows: The lowest of the following is usually taken as the limiting factor for the Solar PV Capacity:

1. Shade Free Area & Structural Data for laying the PV Modules
2. Electrical Data

The system capacity that we recommend might entail net export of power to the Electricity Distribution Grid, and Grid Connectivity permission might be needed from the respective Electricity Distribution Licensee etc. This solar power system will feed energy during sunshine hours from Solar PV Modules (DC Power) to your existing AC bus, through solar inverter, which converts the DC power to AC power. The incoming energy from grid will be net of the total energy you consume minus the solar energy generated.

8. SATELLITE IMAGERY OF YOUR SITE

The Latitude of the location is 10.561958 N. And the Longitude is 76.166906 E.

9. SOLAR IRRADIATION & WEATHER DATA OF YOUR SITE

9.1. DIRECT NORMAL IRRADIANCE (DNI) OF YOUR SITE

Direct Normal Irradiance (DNI) is the amount of solar radiation received per unit area by a surface that is always held perpendicular (or normal) to the rays that come in a straight line from the direction of the sun at its current position in the sky. Typically, you can maximize the amount of irradiance annually received by a surface by keeping it normal to incoming radiation.

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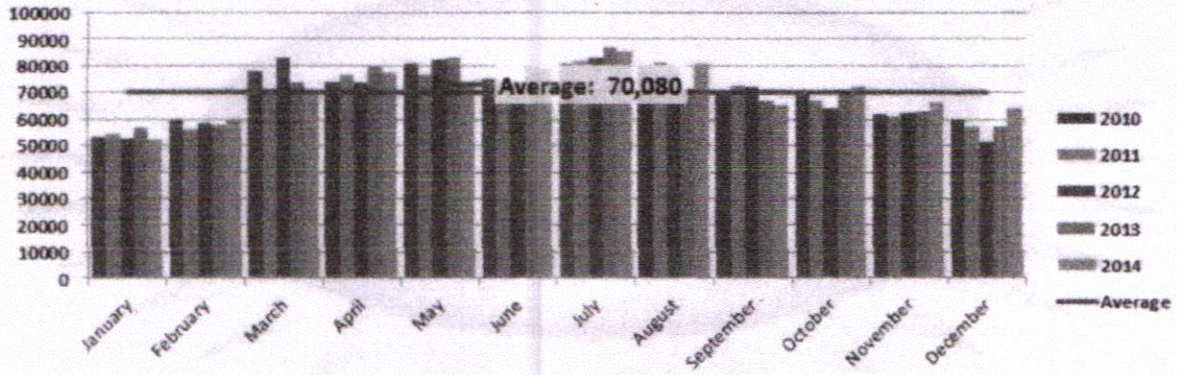
Diffuse Horizontal Irradiance (Watt/sq.m)
Latitude: 10.561958 Longitude: 76.166906

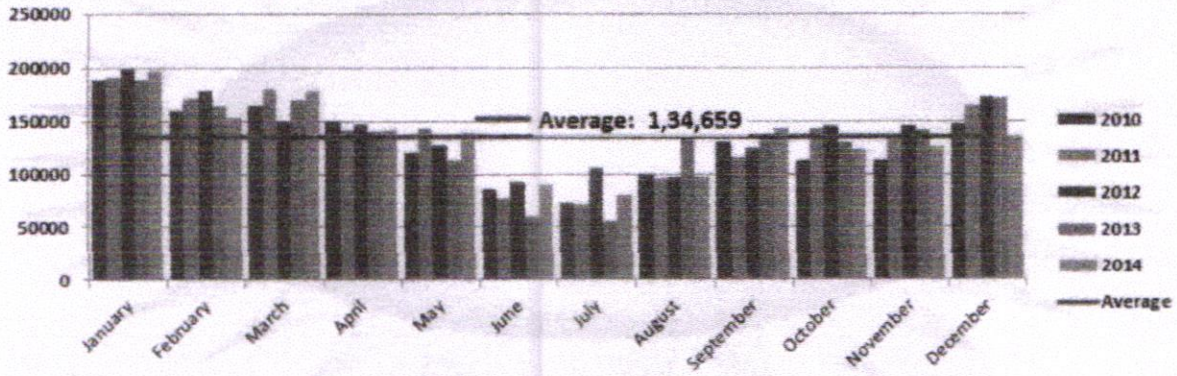


Year: 2010-2014 Source: US Satellite Remote Sensing Data

9.2. Diffuse Horizontal Irradiance (DHI) of your site

Diffuse Horizontal Irradiance (DHI) is the amount of radiation received per unit area by a surface (not subject to any shade or shadow) that does not arrive on a direct path from the sun, but has been scattered by molecules and particles in the atmosphere and comes equally from all directions.

Direct Normal Irradiance (Watt/sq.m)
Latitude: 10.561958 Longitude: 76.166906



Year: 2010-2014 Source: US Satellite Remote Sensing Data

9.3. Global Horizontal Irradiance (GHI) of your site

Global Horizontal Irradiance (GHI) is the total amount of shortwave radiation received from above by a surface horizontal to the ground. This value is of particular interest to photovoltaic installations and includes both Direct Normal Irradiance (DNI) and Diffuse Horizontal Irradiance (DHI).

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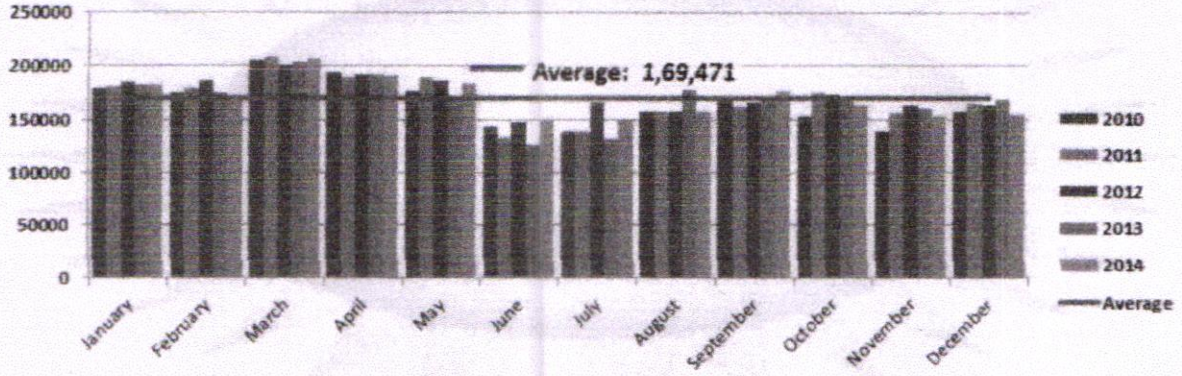
Global Horizontal Radiation (Watt/sq.m)
Latitude: 10.561958 Longitude: 76.166906

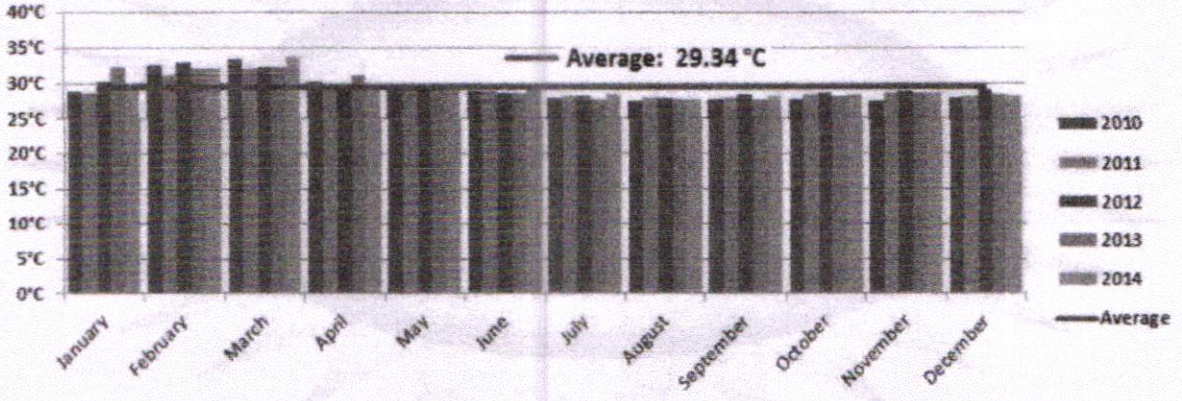


Year: 2010-2014 Source: US Satellite Remote Sensing Data

9.4. TEMPERATURE OF YOUR SITE

The efficiency of a solar panel DECREASES with increase in temperature. The impact of temperature on solar panel efficiency is known as the temperature coefficient. If you look at the data sheet provided by your solar panel manufacturer they will refer to a term normally described as the temperature coefficient, Tcoeff of Pmax. This value, which is normally given in the form of negative percentage, reveals the impact of temperature on the panel.

Temperature (°Celsius)
Latitude: 10.561958 Longitude: 76.166906



Year: 2010-2014 Source: US Satellite Remote Sensing Data

Solar panels are power tested (STC) at 25°C, so the temperature coefficient percentage illustrates the change in efficiency as it goes up or down by a degree celcius. For example if the temperature coefficient of a particular type of panel is -0.5%, then for every 1°C rise, the panels maximum power will reduce by 0.5%. So on a hot day, when panel temperatures may reach 55°C, a panel with a temperature coefficient of -0.5% would result in a maximum power output reduction of 15%.

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PRINCIPAL
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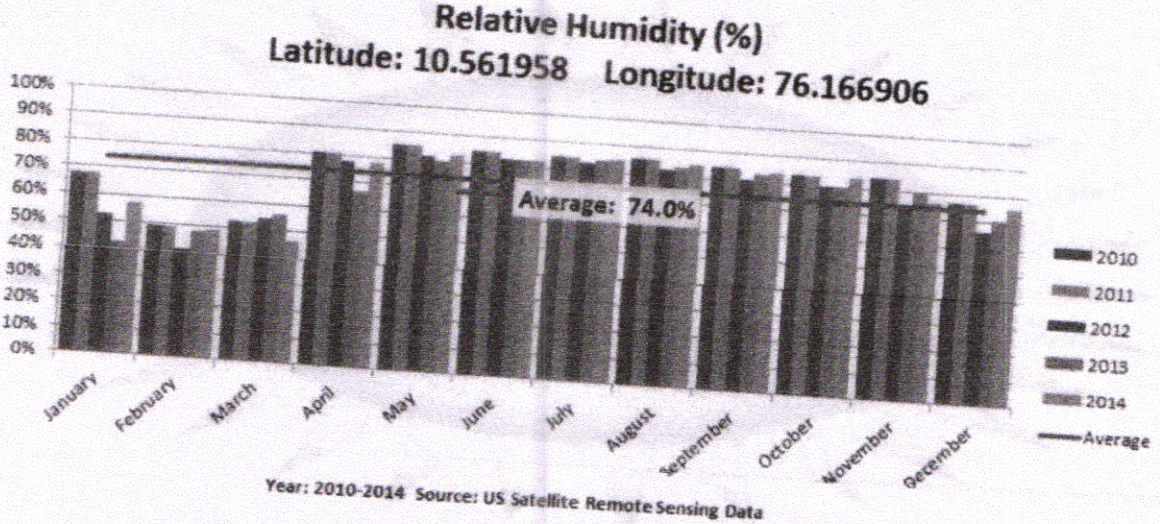
9.5. RELATIVE HUMIDITY OF YOUR SITE

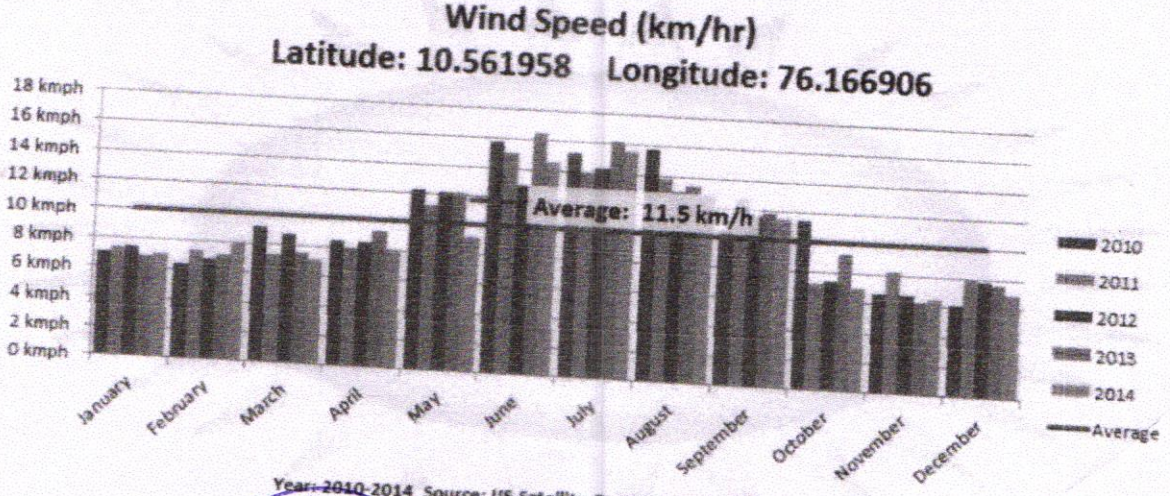
Relative humidity affects efficiency of photovoltaic as it affects the current, voltage and power. Result shows that when relative humidity is decreased, the voltage, current and efficiency increased. Also, it is found that Monocrystalline panel has the highest efficiency when relative humidity is decreased with respect to other technologies.



Year: 2010-2014 Source: US Satellite Remote Sensing Data

9.6. WIND SPEED OF YOUR SITE

As discussed above, the increase in temperature causes the power output of the solar module to decrease. When there is wind flow, convection (which is a form of heat transfer) takes place between the flowing air and the module (which is usually at higher temperatures). And hence it is advised to allow the air flow below the solar panels in order to maintain the temperature of solar panels and keep them cool. Thus, an optimal wind flow increases the power output from the solar modules.



Year: 2010-2014 Source: US Satellite Remote Sensing Data

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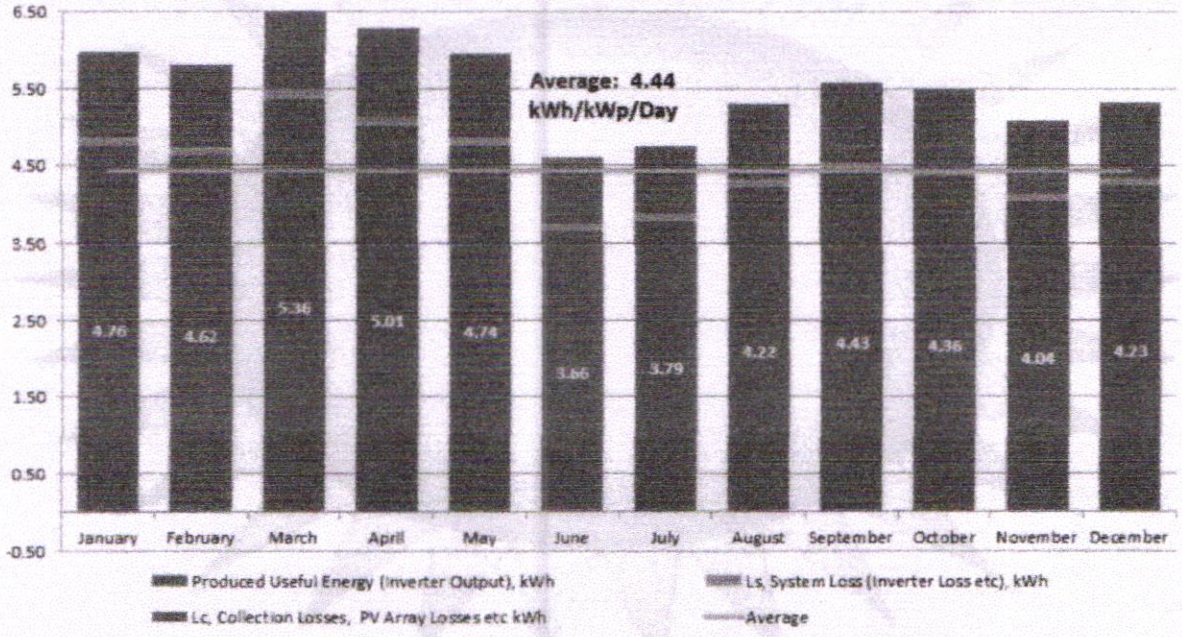
10. ADVANCED SIMULATION: PROJECTED ENERGY GENERATION FROM YOUR SITE

Solar is a capital intensive investment. Hence, predicting solar energy yield is very important to make a prudent decision on any solar power plant investment. It is a very complex exercise to predict solar energy generation, because solar energy generation is affected by a wide variety of environmental aspects. The primary aspect affecting the energy yield is Solar Irradiance. The total solar irradiance falling on a solar panel is denoted by the term Global Horizontal Irradiance (GHI). Increasing temperature plays a negative effect on the Solar Energy yield. This is denoted by Temperature coefficient in the datasheet. Wind generally helps reduce temperature on the Solar Panels, thereby having a positive effect on solar energy generation.

Projected Solar Generation (kWh/kWp/Day)
Latitude: 10.561958 Longitude: 76.166906



©Sunsenz Simulation : Projection based on US Satellite Remote Sensing Data

With the assumption that High Efficiency PV Modules and Solar Inverters, including excellent quality Balance of Systems (BoS) from renowned leading global manufacturers are used, and based on the historical weather and irradiance data specific to your site determined from your geographic coordinates (as given above), the expected month-wise yield of a solar photovoltaic power plant (kWh/kWp/day) is given in the above chart. This is a projection based on your historical weather and solar irradiance data, and the actual output might vary depending on actual conditions.

The following graph shows the annual average yield you can expect from a Solar Power Plant in your project site, based on the conditions and assumptions mentioned above:

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PRINCIPAL
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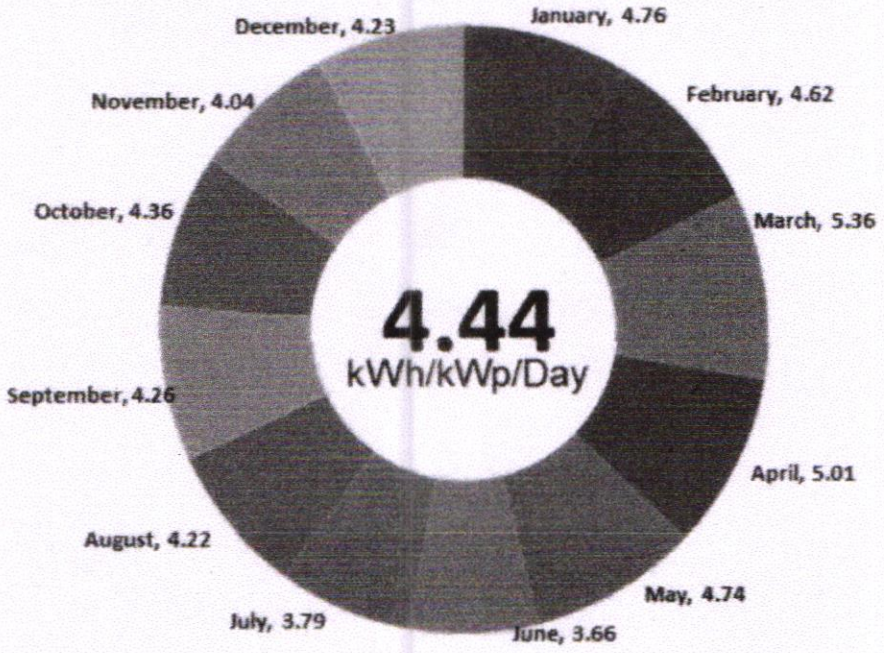

11. SYSTEM CONFIGURATION

11.1. PV MODULES (SOLAR PANELS)

A photovoltaic module is a packaged interconnected assembly of photovoltaic cells, which converts sunlight into energy. For this project solar module of 330 Wp/335 Wp/340 Wp/345 Wp/350 Wp/355 Wp, which meet all international standards, is considered. 350 Wp module technical specification is provided:

PARAMETERS	SPECIFICATIONS
PV Module Rating	350
PV module Make & country	REC
PV Module type	Multi crystalline
No. of PV cells per Module	144
Module dimensions	2005mm x 1001mm x 30mm
Max power voltage (Vmp)	38.9V
Peak Power current (Imp)	9.00A
Open circuit voltage (Voc)	46.7V
Short circuit current (Isc)	9.40A
Weight of each module	22 kgs
Certificates / Standards	IEC 61215, IEC 61730 & UL 1703. IEC 62804, IEC 61701,IEC 62716, ISO 11925-2, UNI 8457/9174, ISO 9001:2015, ISO 14001
Operating Temperature	-

*Exact Model (Wp Rating) of the Solar Panels could vary (without affecting the total Wp of the Project) depending on the Product Availability and Final System Specifications.

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11.2. POWER CONDITIONING UNIT (SOLAR INVERTER)

The PCU consists of in-built charge controller and bi-directional inverter to supply continuous power to the load with support to the load coming either from the solar array, Grid Power in order of preference. Appropriate numbers of SOLAREDGE On-Grid Inverters are considered for this project.

PARAMETERS	SPECIFICATIONS
INVERTER MAKE	SOLAR EDGE
INVERTER RATING	82.8K
Input (DC)	
Max. DC power	111750 W
Max.input Voltage	1000 V
Nominal DC Input Voltage	750
Max. current (A)	120
Number of Units	2
Output (AC)	
Max. apparent AC power	82800VA
AC Output Voltage	380/220 ; 400/230
AC Output Voltage Line to Line Range / Line to Neutral Range	304 - 437 / 176 - 253 ; 320 - 460 /184 - 264.5
AC Frequency	50/60 ± 5
Grids Supported Three Phase	3 / N / PE (WYE with Neutral)
Efficiency	
Maximum Inverter Efficiency	98.3/98%
General Data	
Dimensions (W / H / D)	Primary Unit: 940 x 315 x 260; Secondary Unit: 540 x 315 x 260
Weight	Primary Unit: 48; Secondary Unit: 45
Operating temperature range	--40 to +60
Cooling concept	Fan (user replaceable)
Safety	
safety	IEC-62109, AS3100
Functional safety	Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds

*Exact make and Model of the Solar Inverters could vary depending on the Product Availability and Final System Specifications.

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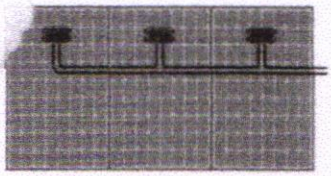
Solaredge Solar Inverters

solaredge architects of energy

SolarEdge is a global leader, with 5 GW of shipments globally, in smart energy technology. Established in 2006, SolarEdge developed the DC optimized inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge intelligent inverter solution maximizes power generation while lowering the cost of energy produced by the PV system, for improved RoI.



Traditional Inverter

- Weak panels reduce the performance of all panels in the string or are bypassed
- Power losses due to panel mismatch

SolarEdge System

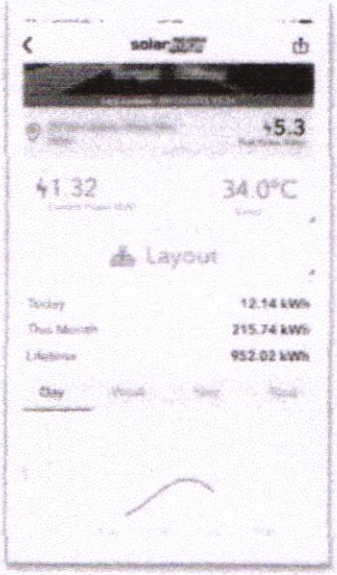
- Maximum power produced and tracked from each panel individually
- 2%-10% more energy from the PV system

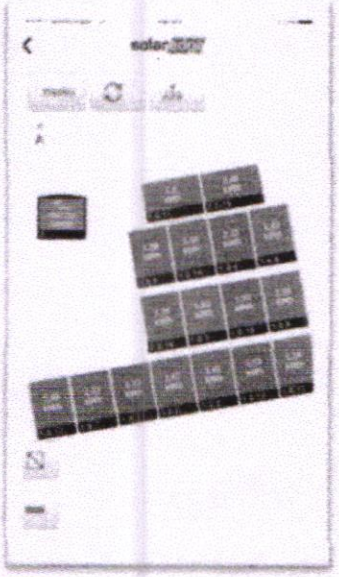
Benefits of Power Optimizers

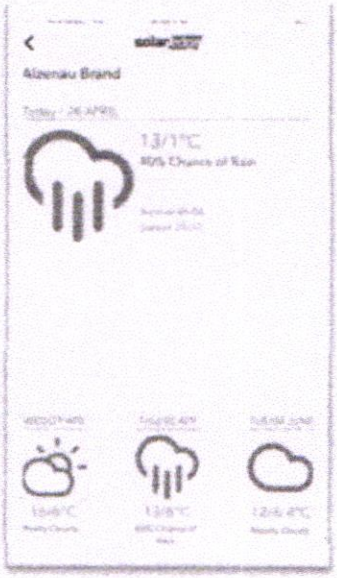
1. Higher energy harvest
2. Safety
3. Module-level monitoring
4. Design flexibility
5. Greater module compatibility and no power clipping
6. Higher energy yield through wider mppt range
7. Higher reliability
8. Higher efficiency
9. Superior communication (dc power line)
10. Compliance with advanced grid codes
11. Lower system cost, faster roi
12. System scalability

Module-Level PV Monitoring

The web-based SolarEdge monitoring portal provides enhanced PV performance monitoring and yield assurance through immediate fault detection and alerts at module level, string level and system level.







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11.3. MODULE MOUNTING STRUCTURE

The module mounting structure is designed for holding suitable number of modules in series. The Module mounting structure is designed in such a way that it will occupy minimum space without sacrificing the output from solar modules.

Structure Technical Specification	
Parameters	**Specifications**
Type	Fixed Roof Mounted Type
Location	Roof / Ground mounting
Material	GP Tubes / Aluminium
Overall dimension	As per design
Coating	Epoxy Painting
Fasteners	Stainless Steel for nut & bolt, Hot Dip Galvanized /Anti Corrosive for self-drilling screws & other screws

11.4. COPPER CABLES

Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire power plant to the minimum. They are suitable for outdoor and for 1000VDC application.

Cable Technical Specification	
Parameters	Specifications
Type	PVC /XLPE
Make	LAPP, Germany(for 4 sq mm DC Cables)/Polycab/E-FAB/Uniflex/Equivalent
Material	Copper
Working voltage	Up to 1100 V
Test voltage	650V/1.1kV
Temperature	-15 Deg C to +70 Deg C

11.5. JUNCTION BOXES

In the Junction boxes, individual module strings are bundled and safely routed to the inverter. Junction boxes will have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables. These junction boxes are weather proof outdoor suitable and are IP 65 rated, making it ideal for long-term use in PV systems.

11.6. EARTHING & LIGHTNING PROTECTION

Earthing: The array structure of the PV yard will be grounded properly using adequate number of earthing kits. All metal casing / shielding of the plant shall be thoroughly grounded to ensure safety of the power plant. Lightning protection will be provided as per applicable standards and as is mandatory.

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12. BILL OF MATERIALS / SCOPE OF SUPPLY

Sl No.	Description & Specifications	Quantity	Unit of Measurement
1	Solar photo voltaic module 330 Wp/335 Wp/340 Wp/345 Wp/350 Wp/355 Wp	Totalling 350 kWp	No.
2	Solar PCU - SOLAREDGE-SE-82.8K, SOLAREDGE-SE-27.6K, SOLAREDGE-SE-17K / Equivalent	Totalling 280 kVA	No.
3	Module mounting structure	Set	No.
4	Cable & Wires & Earthing & Lightning Protection	Set	Set
5	DC Array Junction Boxes (DC String Combiner Boxes)	No.	No.
6	Solar AC DB	1	No.
7	Installation Accessories	1	No.

NOTE: The above mentioned qty. may vary depending on the actual site condition.

13. PROJECT COST

In estimating the cost, the maximum care is taken for quality and reliability while keeping in mind that the price should be competitive. The cost estimated in this section is the complete cost of supply, installation and commissioning, transportation; based on the present market price of various components;

A. Cost Estimate of 350 kWp Grid Tie Solar PV Power Plant

Sl. No	Description of Items	Rates For site (Rs.)
1	Supply of appropriate nos of 330 Wp/335 Wp/340 Wp/345 Wp/350 Wp/355 Wp poly/mono crystalline modules (Totalling 350 kWp) with module mounting structure (If Applicable). Supply of [redacted] of 400 VAC, SOLAREDGE-SE-82.8K, SOLAREDGE-SE-27.6K, SOLAREDGE-SE-17K / Equivalent On-Grid Inverters totalling 280 kVA AC capacity. Supply of Junction boxes, Distribution boxes, Cables, and other Hardwares etc. All product Supply by Moopens Energy Solutions Pvt Ltd.	20602968.75 **Product Supply Cost: Rs. 19,621,875/-** 5% ~~1854075.105~~
2	Design and Fixing of Solar PV Modules, Integration and Installation of various equipments & components and Installation & commissioning of the 350 kWp ongrid plant. Optional: All Services provided by Moopens Energy Services LLP, and are optional for customers.	5936875.50 **Installation, Commissioning & Service Rs. 503,125/-** 18%
3	**SOLAR PROJECT COST (Including Raised Structure (with Sheet)) :**	**SOLAR PROJECT COST : Rs.20,125,000/-** 2,11,96,456 **(Rupees Two Crore One Lakh Twenty Five Thousand Only) (Applicable Taxes Extra)** ~~21,81,656~~

- Taxes: GST will be Extra : GST 5% for the product Supply component, GST 18% for the service Component. Any changes in taxes, basic customs duties/import duties (for imported items) or tax structure etc from time to time would be payable at actual.
- Basic customs duty, antidumping duty and Safeguard duty are included in the basic costing.
- Validity of the Offer: 3 Weeks
- Payment Terms: 50% advance payment against Purchase Order, 20% advance payment against delivery of solar panels (For Imported Solar Panels, Materials Delivery Payment will be due 10 days before materials arrive in the port against perfoma invoice), 10 % advance payment against delivery of inverters , 10% against complete installation and commissioning, 10 % payment shall be done

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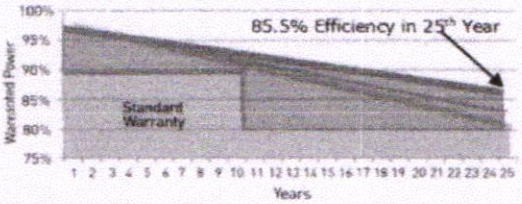
one month after ready to charge to grid (successful test run). There could be delays in getting various necessary statutory approvals and licences, and under no circumstances will any of the payments be linked to any such approvals or licences, and our complete scope of Supply & Work ends when the system is delivered, installed and ready for testing.

14. WARRANTIES

Solar Panels

REC: 20 years + 5 years extra (for Moopens Customers only) product manufacturing warranty. At least 97.5% output guaranteed during the first year of performance. Maximum 0.5% degradation in power output per year till 25 years. 85.5% Output warrantied in 25th Year. All under Standard Test Conditions.



Solar PCU (Inverters): SolarEdge: 12 Years Product Manufacturing Warranty
All other brands: 5 Years Product Manufacturing Warranty.

Complete System: 5 Year limited warranty for the complete system. **Moopens Energy Solutions** will extend all manufacturer warranties for a period of five years from the date of system commission If any equipment fails due to manufacturing defect during this five year period, **Moopens Energy Solutions** will replace or repair at no cost to the Customer. For details, please refer to detailed Terms and Conditions in the next page.

- All product supply payments must be made to Moopens Energy Solutions Pvt. Ltd. and our account details are : State bank of India, Aluva Branch, A/c No: 32784064907, IFSC: SBIN0008596. GST Number: 32AAICM1406F1Z
- Supply, Delivery & Installation: 20 - 24 Weeks from the date of receipt of your firm & technically clear Purchase Order & advance, and subject to adherence of payment terms mentioned above.
- Limited Liability: Our liability is limited to the scope of manufacture and keeps it ready for dispatch, Installation & Commissioning.
- A raised Solar Structure with sheets is considered in the basic costing. Any additional scope of work, if agreed, is quoted extra as additional structure cost. Any Civil work is in the scope of the Customer.
- Approvals: Inspectorate Approval is excluded in the Scope and Pricing. However, we offer to support the client in obtaining all necessary approvals, permissions, & Licenses. Any statutory/license fee for approvals, permissions, & licenses from KSEB or inspectorate will be in the scope of the customer. Customer agrees to support Moopens Energy Solutions Pvt Ltd with all necessary documentations (Such as copies of Land Title Deeds etc) for availing Concessional Customs Duty Certificate (CCDC).
- Annual Maintenance Contract: After the warranty expires, Annual maintenance contract expenses would be charged extra.

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Solar Project - Amala Hospital - REC Solar Panels(350 kWp) + Solar Edge inverter				
Section	**Sq. Ft.**	**No. Of Solar Panels**	**Solar Capacity (kWp)**	**Total Project Cost including Structure**
Devamatha Hostel	7475 + 650 (Structure only)	329	115	Rs. 6,612,500
Chavara Hostel	6500	286	100	Rs. 5,750,000
Nursing College	8775	385	135	Rs. 7,762,500
Total	**23400**	**1000**	**350**	**Rs. 20,125,000**

* GST will be Extra : GST 5% for the product Supply component, GST 18% for the service Component.
* Basic customs duty, anti dumping duty and Safeguard duty are included in the basic costing.
* 350 Wp REC panel considered for calculations and drawings.
* Any Statutory Fees/registration fees for KSEB & Inspectorate approval etc is extra, and has to be borne by the customer.

Payment Terms: 50% advance payment against Purchase Order, 20% advance payment against delivery of solar panels (For Imported Solar Panels, Materials Delivery Payment will be due 10 days before materials arrive in the port against perfoma invoice), 10 % advance payment against delivery of inverters , 10% against complete installation and commissioning, 10 % payment shall be done one month after ready to charge to grid (successful test run). There could be delays in getting various necessary statutory approvals and licences, and under no circumstances will any of the payments be linked to any such approvals or licences, and our complete scope of Supply & Work ends when the system is delivered, installed and ready for testing.

Warranty Terms:

REC: 20 years + 5 years extra (for Moopens Customers only) product manufacturing warranty. At least 97.5% output guaranteed during the first year of performance. Maximum 0.5% degradation in power output per year till 25 years. 85.5% Output warrantied in 25th Year. All under Standard Test Conditions.

Solar PCU (Inverters): SolarEdge: 12 Years Product Manufacturing Warranty

CAMC : Sixth year onwards CAMC Rs. 70,000/- per year till the end of 15th year. Then 25% increase in CAMC (Rs. 87,500 per year) till the end of 25th year.

Response Time for complaints : 24 hours . Normal situation rectification time : 3days (other than inverter). Replacement : 7 days from complaint identification. If not following the terms then 10 % of lost solar production cost per day will be deducted from the next year CAMC amount.

Additional Support : Automatic sprinkler system for 590 kWp solar power plant.

Muttom, Aluva
22-01-19

For Moopens Energy Solutions Pvt. Ltd.

Mohammed Fayaz Salam
CEO & Director

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MAINTENANCE REPORT OF THE SOLAR PLANT IN THE COLLEGE USING MOBILE APP

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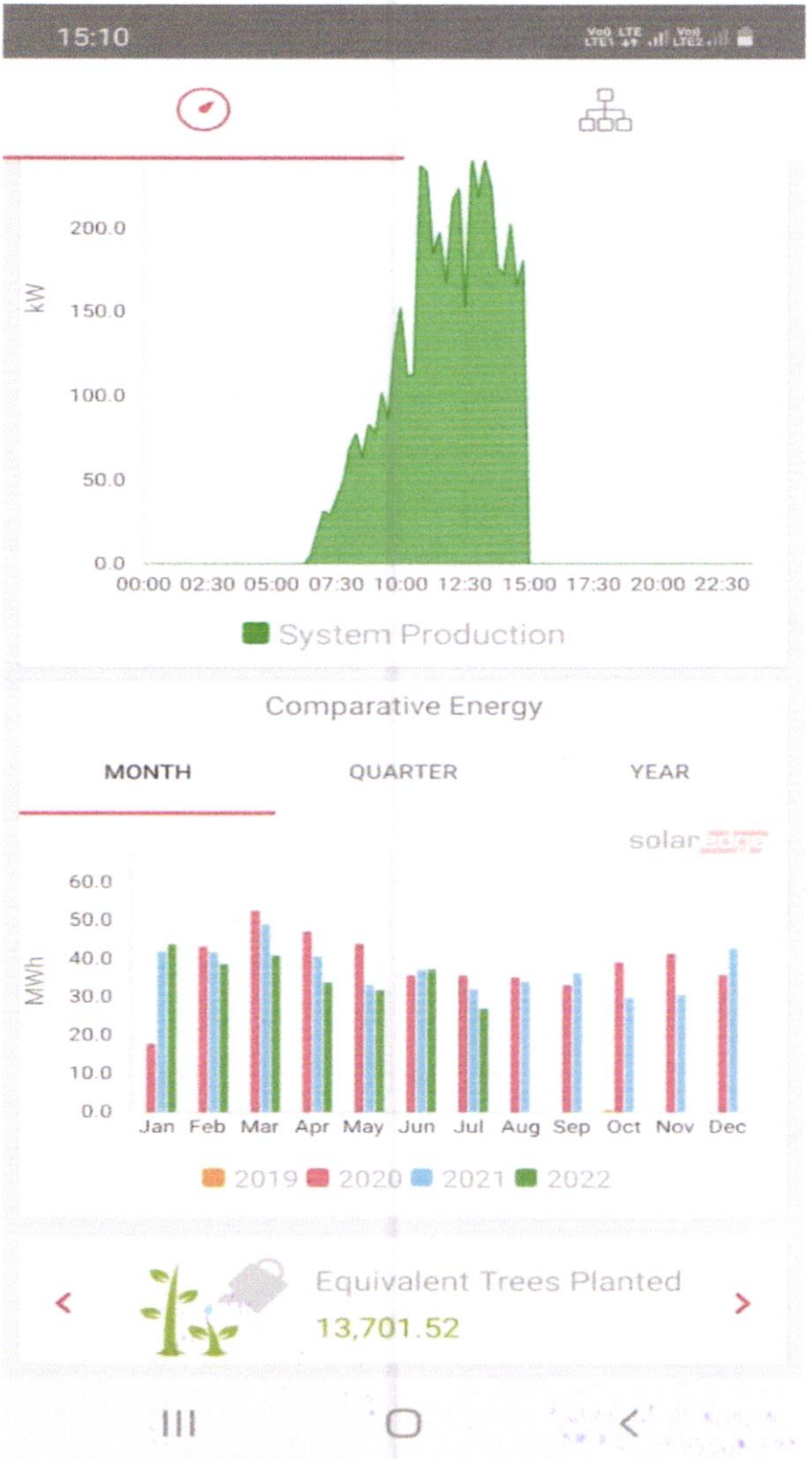

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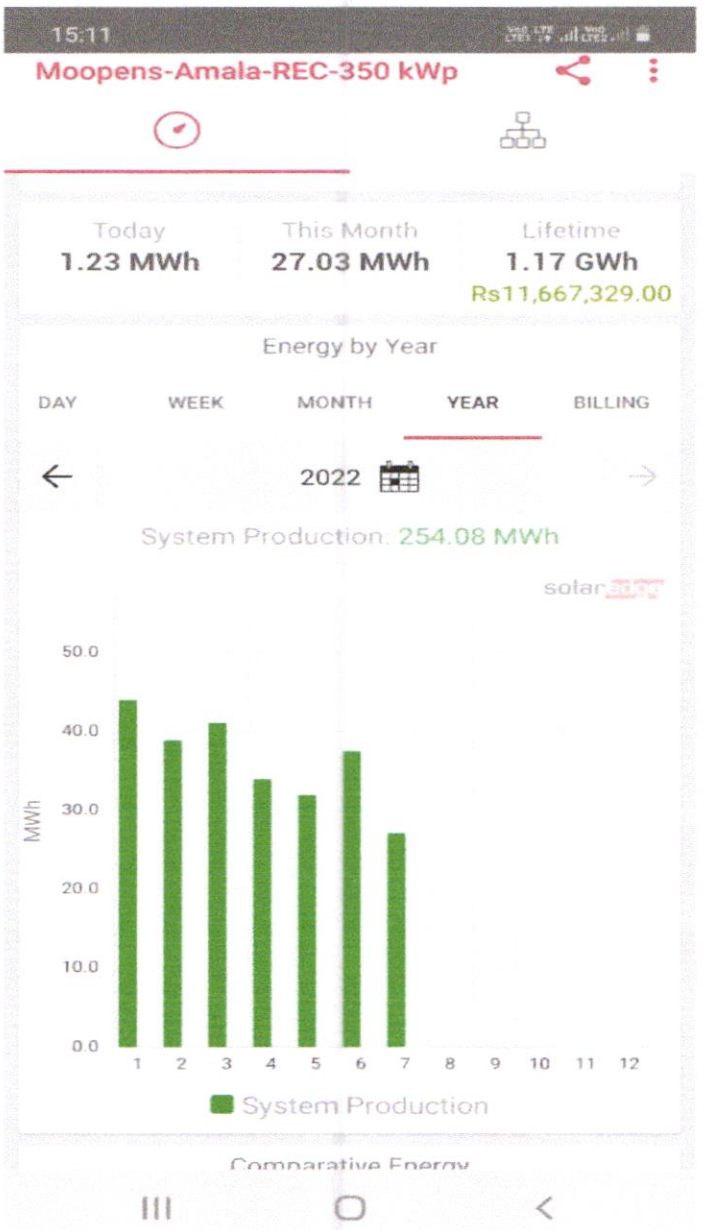

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