



**VISWAJYOTHI**  
**COLLEGE OF ENGINEERING & TECHNOLOGY**  
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha  
Ernakulam Dist., Kerala - 686 670  
Tel: 0485 2262211 / 44  
Email: vjcet@vjcet.org  
www.vjcet.org



## **7.1 Institutional Values and Social Responsibilities**

### **7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures**

# **Permission Document for Connecting to the Grid from the Government/ Electricity Authority**



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## Solar Power Plant Connectivity Certificate from Kerala State Electricity Board

Connected Date: 12/03/2020

അക്രഡിറ്റേഷൻ 14

### സോളാർ പ്ലാന്റ് കണക്കു നിലപാൾ

സെക്ഷൻ : Electrical Section, Manjallur  
കൺസ്യൂമർ നമ്പർ : 1355710001283 (13 അക്കം)  
പേര് : Manojose, Viswajyothi College of Science & Tech  
ബ്ലോക്ക് നമ്പർ : 575200015  
സോളാർ കപ്പാസിറ്റി : 200 kwp കിലോവാട്ട്  
കണക്ക് ചെയ്ത തീയതി : 12.03.2020  
സോളാർ മീറ്റർ ഇൻഷ്യൽ റീഡിംഗ് : 40  
നെറ്റ് മീറ്റർ ഇൻഷ്യൽ റീഡിംഗ് : 20120, 59385, 101780

തീയതി : അസിസ്റ്റന്റ് എഞ്ചിനീയർ പേര് Nileesh B.

ഒപ്പ് Nileesh B.  
Assistant Engineer  
Electrical Section  
Manjallur

പകർപ്പ് :

ഡെപ്യൂട്ടി ചീഫ് എഞ്ചിനീയർ Electrical Circle, Perumbavoor,  
എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ Electrical Division, Muvattupuzha.



## Solar Power Plant Connectivity Certificate from Kerala State Electricity Board

Connected Date: 24/10/2017

അനുബന്ധം-14

### സോളാർ പ്ലാന്റ് കണക്കു രിപ്പോർട്ട്

സെക്ഷൻ : Manjallor  
കൺസ്യൂമർ നമ്പർ : 13559100001283 (13 അക്കം)  
പേര് : Manager, Viswajyothi College of Technology  
സ്റ്റീൻ നമ്പർ : 575200003  
സോളാർ കപ്പാസിറ്റി : 50 കിലോവാട്ട്  
കണക്ട് ചെയ്ത ദിവസം : 24-10-2017  
സോളാർ മീറ്റർ ഇൻഷുൽ റീഡിംഗ് : 5 (MF = 20)  
നെറ്റ് മീറ്റർ ഇൻഷുൽ റീഡിംഗ് : 375 (MF = 4)

തീയതി : 25-10-17 അസിസ്റ്റന്റ് എഞ്ചിനീയർ പേര്



ഒപ്പ്

[Signature]  
Assistant Engineer  
Electrical Section  
Manjallor

പകർപ്പ് :

ഡെപ്യൂട്ടി ചീഫ് എഞ്ചിനീയർ

എക്സിക്യൂട്ടീവ് എഞ്ചിനീയർ





കേരളം KERALA

AT 774782

### Agreement between Agency and Beneficiary

THIS AGREEMENT made the 9<sup>th</sup> day of September, 2015 between Fr. Francis Alappatt, Aged S/o of Viswajyothi College of Engineering and technology, Vazhakulam P O, Muvattupuzha, Ernakulam, Kerala -686 670, of the one part, and Peter Thettayil of Sungrace Energy Solutions Pvt.Ltd. of the other part:

WHEREAS Fr. Francis Alappatt, Manager is a registered beneficiary having registration no.GSRP/2014/A1/055 for the installation of Grid connected Solar Rooftop power plant under "Solar Connect" Distributed generation through grid connected solar rooftop Power plants of ANERT (hereinafter "the Programme").

WHEREAS M/s. Sungrace Energy Solutions Pvt.Ltd. is an empanelled agency for the implementation of the programme with empanelment no. EA/SC/01 of ANERT.

Whereas the Agency has accepted the work order from the beneficiary for the installation of solar power plant for the sum of Rs. 37, 66,500 (Hereinafter "the Contract Price")

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

The agency shall install solar power plant at the site of beneficiary as per the details in the Feasibility Report prepared after site visit and the terms contained in the work order issued by the beneficiary.

The system installed should comply with technical requirements

1. The connectivity should be as per (Technical Standards for connectivity of the Distributed generation resources) Regulation, 2013.
2. KSERC (Grid Interactive Distributed Solar Energy Systems) Regulations, 2014.

*Fr. Francis Alappatt*

No: 14093 / Rs. 100/-  
9.9.15

Sungrace Energy Solutions  
Pvt.Ltd. Hyderabad

ANGAMMA VENDOR  
M.J. BABY, L.NO. 15/78-79



# VISWAJYOTHI

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കേരളം KERALA

AT 774783

- CEA Regulation 2010 has to be followed in Safety and Electricity Supply.
- Metering should be as per CEA regulation 2006.
- Technical compliance of the system of the components should comply the technical compliance required by Ministry of New and Renewable Energy, Govt. of India (MNRE) and Agency for Non Conventional Energy and Rural Technology (ANERT).
- The installation & commissioning of the system will be done in compliance with installation practices and guidelines issued by Electrical Inspectorate. The installation will done under the supervision of Electrical supervisor/ contractor with 'B' Class license (Minimum)

The installation should be completed and the commissioning report by the Agency/Beneficiary to be submitted to ANERT district office within 60 days of placing work order and signing this agreement.

The rate quoted by the Agency shall be inclusive of all taxes and duties, and shall cover the pre-installation survey report, transportation, handling charges, supply, and installation and commissioning. An additional Super structure work is required for satisfactory installation of solar power plant.

*Minimum*

No: 14094 / Rs. 100/-  
9.9.15

Sungrace Energy Solutions

ANGAMA VENDOR  
M.J. BABY, L.NO. 15/78-79

27 SEP 2015





The whole system should be warranted for 5 years and the Solar module provided should have a performance warranty of 90% of the rated output at the end of 10 Years and 80% at the end of 25 years.

Agencies shall conduct periodic service visits at least once in six months during the warranty period of 5 years.

Any complaint or service call from the beneficiary shall be attended by the agency within 48 hours and problems cleared within 4 days.

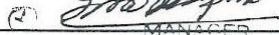
The release of payment by the beneficiary to Agency shall be as per the mutually agreed terms as given below.

Mutually agreed terms of Payment of Beneficiary share to the Agency

- 50% on Order finalization
- 40 % on Delivery of Material
- 10 % after Installation testing and commissioning

In case any difference or dispute arises in connection with the contract, all legal proceedings relating to the matter shall be instituted in the Court within whose jurisdiction the power plant is (presently/ proposed to be) located.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed on the day, month and year indicated above.

Signed by  (for Beneficiary)


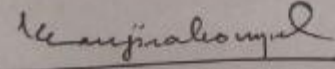

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY  
VAZHAKULAM P.O., MUVAATTUPUZHA  
ERNAKULAM DIST., KERALA - 686 670

Witness 1. Aneesh Kurian dis A.P. EEE Dept. VJCET Vazhakulam.  
2. Sunny Jacob Sunny A.O. VJCET Vazhakulam

Signed by  (for the Agency)

Witness 1. Aneesh  
2.



 <p><b>DIOCESAN TECHNICAL EDUCATION TRUST</b> Kothamangalam</p> <p>Reg. No. 121/IV/1999 (Bishop's House, Kothamangalam)</p> <p>Kothamangalam Ernakulam Dist., Kerala, India - 686 691 Ph: 0485 - 2862236, 2262255 Fax : 0485 2861625</p>	
<p><b>Author</b> Rev. Dr. George Madathikandathil Bishop's House Kothamangalam - 686 691 Tel: 0485 - 2862236</p> <p><b>President</b> Msgr. Dr. Cherian Kanjirakompil Bishop's House Kothamangalam - 686 691 Tel: 0485 - 2862237</p> <p><b>Secretary</b> Rev. Fr. Paul Nedumpurath St. Magi Church Muvattupuzha P.O., - 686 661 Tel: 9495023390</p> <p><b>Joint Secretary</b> Rev. K. T. Mathew Kochumuttam Kochumuttam House, Kottayam P.O., Anicadu Muvattupuzha - 686 670 Tel: 9495992375</p> <p><b>Receiver</b> Rev. Lukachan Oliikal Oliikal House, Kottayam P.O., Muvattupuzha - 686 670 Tel: 9496004446</p>	<p>Date ..... 18-06-2019</p> <p>No. F-23:VJC/Adm/2019</p> <p>To</p> <p><b>The Manager,</b> South Indian Bank Ltd., Vazhakulam Branch.</p> <p>Sir,</p> <p>Sub: - Term Loan for SOLAR POWER PLANT.</p> <p>The expense for setting up of 200 KVA Solar Power Plant at Viswajyothi College of Engineering and Technology which exceeds the Loan Amount of Rs 1.0 Cr will be borne by the Diocesan Technical Education Trust</p> <p>Thanking you</p> <p>Yours sincerely,</p> <p> Msgr. Dr. Cherian Kanjirakompil President (D.T.E.T) &amp; Manager (V.J.C.E.T)</p> <p></p>





भारतीय गैर न्यायिक

पचास  
रुपये

रु.50

भारत

FIFTY  
RUPEES

Rs.50

INDIA

INDIA NON-JUDICIAL

കേരളം കേരल KERALA

BT 653455

**Work Contract Agreement**

THIS AGREEMENT made on the 22<sup>nd</sup> day of April 2019, between The Manager, Viswajyothi College of Engineering and Technology, Vazhakulam P O, Muvattupuzha, Ernakulam-686670 (hereinafter "Beneficiary"), of the one part, and M/s Soura Natural Energy Solution India Pvt LTD, SNDP Building, Chirangara, Koratty PO, Thrissur 680308 (hereinafter "the Agency"), of the other part.

WHEREAS M/s. Soura Natural Energy Solution India Pvt Ltd. is an empanelled agency of ANERT for the implementation of Grid Connected Solar Power Plant Programme with empanelment no. SC/2016-17/11.

Whereas the Agency has accepted the work order from the beneficiary for the installation of solar power plant for the sum of Rs.1,22,22,769/- (hereinafter "the Contract Price"). The effective cost to Beneficiary is, Contract Price – (Subsidy from MNRE/ANERT+ Project discount).

For Saura Natural Energy Solutions India Pvt Ltd

MANAGER  
VISWAJYOTHI COLLEGE OF ENGG. & TECHNOLOGY  
VAZHAKULAM, MUVAATTUPUZZHA  
KERALA - 686 670

13611 Rs. 00 Date: 16-11-19

VJCET

Vazhakulam

Page 1 of 9



Viswajyothi College of Engineering and Technology  
Vazhakulam, Muvattupuzha.

Ref: VJCET/ SPTC/MOM/01

Dt. 24.09.2019

Sub: Minutes of the meeting of Solar Plant Technical committee (SPTC)

A meeting of Solar Plant Technical Committee (SPTC) was held on Tuesday, 24.09.2019 at 2.00 PM in room number C 120 of VJCET. Following members of SPTC were present in the meeting

Sl. No Officials attended

1. Dr K K Rajan, Prof. Dept of EEE., Convener
2. Shri Aneesh Kurian, Asst. Professor, Dept of EEE, Member
3. Shri Babu T Chacko, Asst. Professor, Dept of EEE, Member

The request received from M/s Soura Natural Energy Solutions India Pvt. Ltd was discussed in detail in the meeting. Committee reviewed the progress of the work and the current status. As per the request received (enclosed) from M/s Soura, firm is requesting to pay an amount of Rs. 6,21,000/- which was the balance of 1<sup>st</sup> instalment which has to be paid to them on completion of the supply of materials as per the agreement. Most of the materials supply and their erection work also is completed. The trial run of the plant is now planned on 28.09.2019. As the firm has supplied almost all the items and the plant is getting ready for trial run. SPTC recommends to release of Rs. 6,21,000/- which is the balance amount of 1<sup>st</sup> instalment.

Shri Babu T Chacko, Asst. Professor, Dept of EEE, Member

Shri Aneesh Kurian, Asst. Professor, Dept of EEE, Member

Dr K K Rajan, Prof. Dept of EEE., Convener

To

1) Director, VJCET

2) Principal, VJCET





**VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY**  
(Approved by AICTE, Affiliated to Mahatma Gandhi University, Kottayam)  
Vazhakulam P. O., Muvattupuzha, Ernakulam Dist., Kerala, India - 686 670  
Ph: 0485 - 2262211, 2262244, 2262255, 2262977. Fax: 0485 - 2262211  
Website - www.vjcet.ac.in E-mail: vjcet@vjcet.org, vjckim@gmail.com

ISO 9001  
BUREAU VERITAS  
Certification

Date \_\_\_\_\_

Ref: VJCET/SOLAR/WO/2019/01 Dtd. 22.04.2019

**WORK ORDER**

To  
M/s Soura Natural Energy Solutions India Pvt Ltd  
SNDP Building,  
Chirangara,  
Koratty PO,  
Thrissur-680308

Sub: Work order for installation and commissioning of 200 kWp solar power plant at VJCET reg.

Ref: Your offer SNES/QONGWS0047/2017-R1 dtd. 12.04.2019

Your offer referred above for supply, installation, commissioning, operation and maintenance of 200 kWp solar power plant at D block of Viswajyothi College of Engineering and Technology Vazhakulam, Muvattupuzha has been accepted by the competent authority, strictly subject to the terms and conditions mentioned in the work contract agreement between Viswajyothi College of Engineering and Technology and M/s Soura Natural Energy solutions Pvt Ltd signed on 22.04.2019. The supplier shall communicate the acceptance of the work order and commence the work immediately.

The effective value of the work order is Rs. 85 lakhs inclusive of all taxes

**Payment terms:** As per the agreement dated 22.04.2019

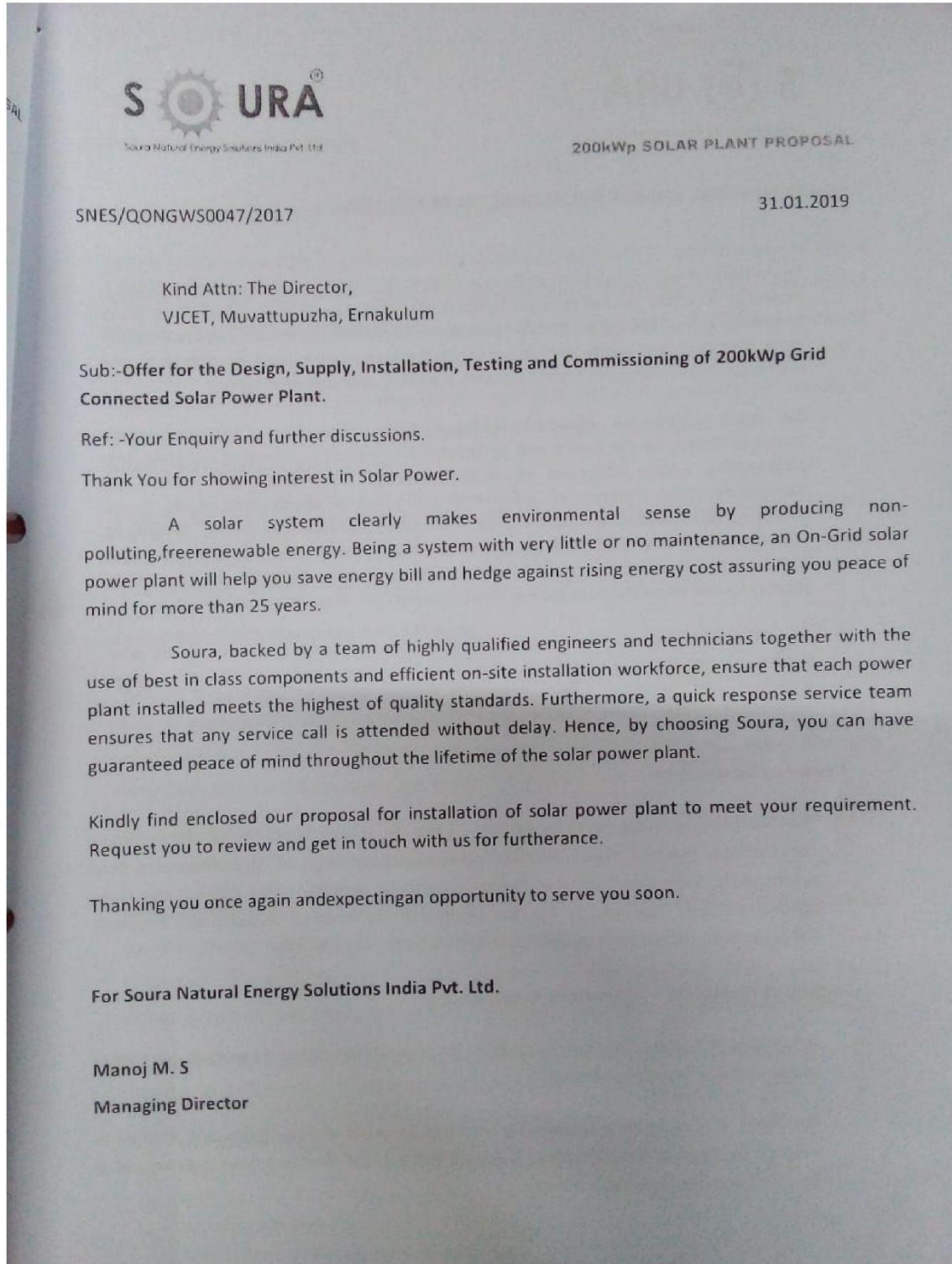
**Delivery period:**  
Supply: Within 15 days from purchase order and advance  
Installation: Within 30 days from the date of supply  
Submission of commissioning report to ANERT: Within 90 days from placement of PO

Yours Sincerely  
*Kanjirakompil*  
Rev. Fr. Dr. Cherian Kanjirakompil,  
MANAGER VJCET  
VISWAJYOTHI COLLEGE OF ENGG. & TECHNOLOGY  
VAZHAKULAM, MUVAATTUPUZZHA  
KERALA - 686 670

Encl. Copy of the agreement dtd 22.04.2019  
cc

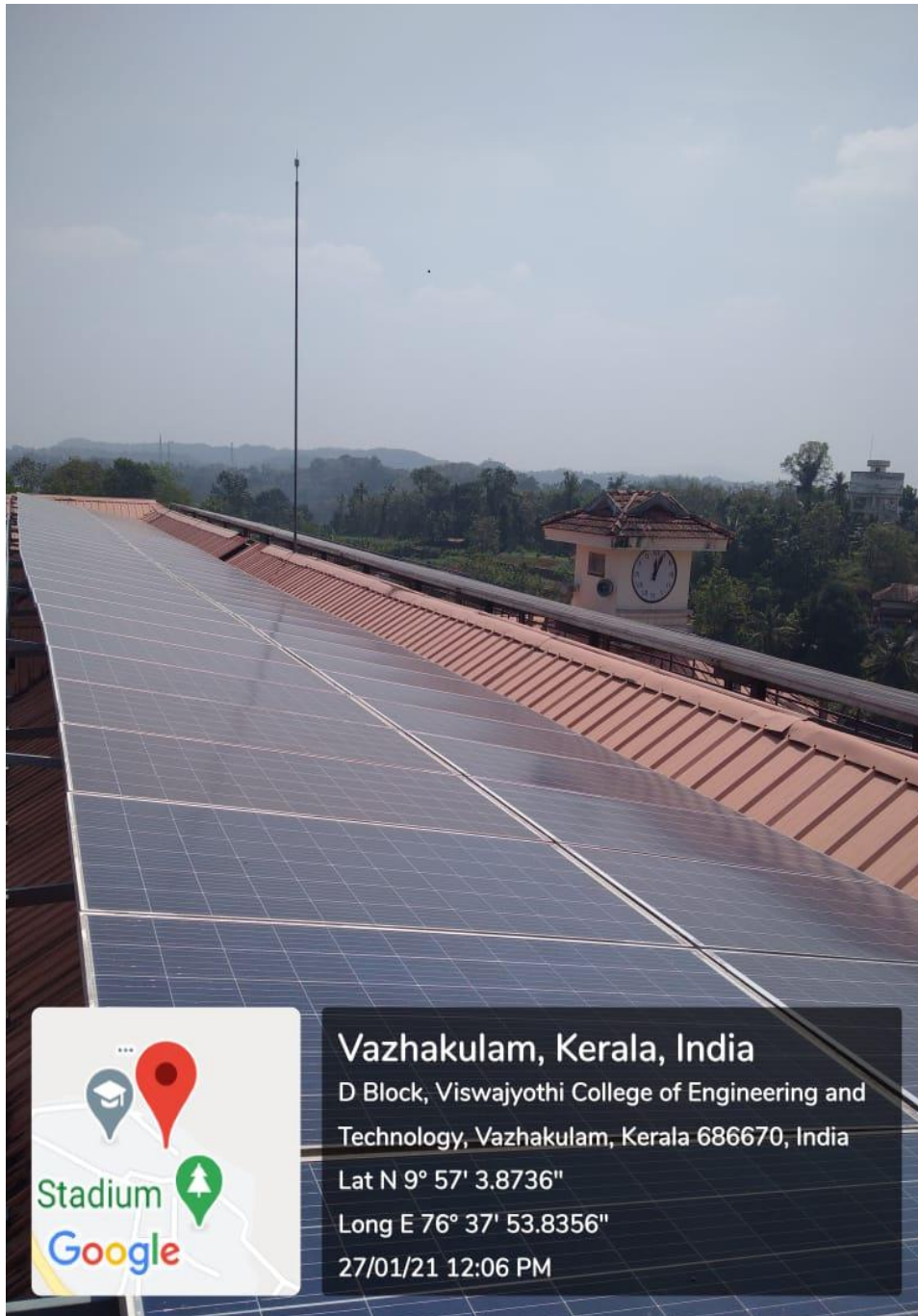
1. Director, VJCET  
2. Convener Solar Plant technical committee VJCET







## SOLAR ENERGY



**200kWp Solar Power Plant**





**50kWp Solar Power Plant**



**30kWp Solar Power Plant**

There are THREE grid connected solar power plants at VJCET

- 1 50 kW power plant at the rooftop of C block:Commissioned in 2017
- 2 200 kW Power plant at the rooftop of D block:Commissioned in October 2019
- 3 30 kW plant at the rooftop of St Thomas block, Gents hostel commissioned in November 2020

**Total Installed Capacity = 280kWp**

**Per day average generation = 1000kWh**





### Solar Plant Details

Stage	Capacity	Module Make	Inverter Make	Vendor	Year
Phase 1	50 kWp	Sungrace- India 250 kWp	KACO - Germany 1 No 49.9 kW	M/s Alternate Energy Solution - Angamaly/Sungrace Energy Solution , Hyderabad.	2017
Phase 2	200 kWp	APS - 350kWp	ABB 100 kW 2 Nos.	M/s Soura Natural Energy Solution India Pvt Ltd.  Koratty, APS Ahmedabad	2019
Phase 3	30 kWp	M/s HHV 320Wp	FRONIUS Austria 15 kW 2 Nos.	M/s KC Kopar - Angamaly	2020



## BIOGAS PLANT

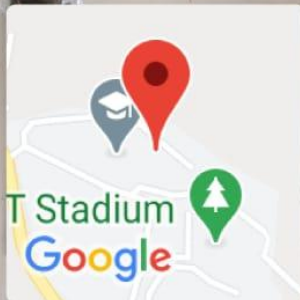


Biogas plant capacity =  $15\text{m}^3$



## WHEELING TO GRID

Number of inverters = 5



**Vazhakulam, Kerala, India**

C Block, Viswajyothi College of Engineering and Technology,  
Vazhakulam, Kerala 686670, India

Lat N 9° 57' 4.4784"

Long E 76° 37' 52.5108"

27/01/21 12:01 PM

**Wheeling to grid**

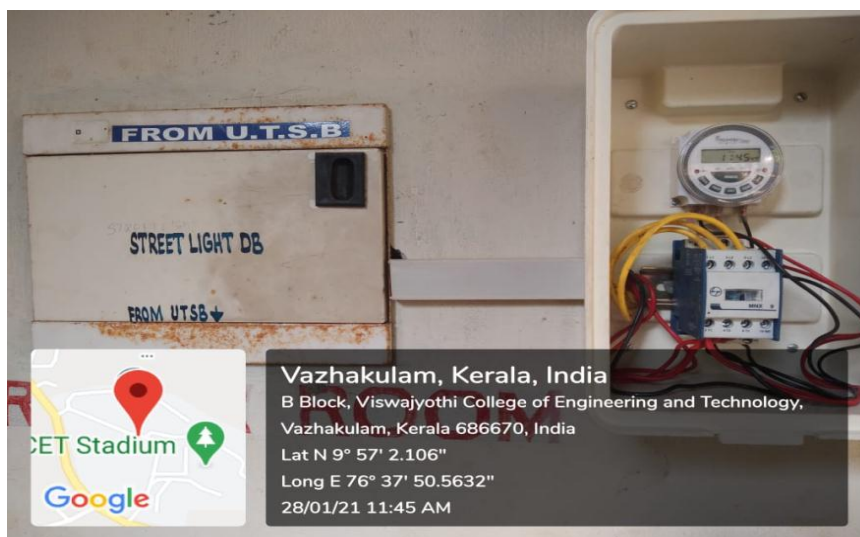




## SENSOR-BASED ENERGY CONSERVATION



**Sensor Based Light**



**Real Time Timer Switch for Light**



**Sensor Based Water level controller**



## USE OF LED BULBS/ POWER EFFICIENT EQUIPMENT







Star Rated Air Conditioner