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ALTERNATE SOURCE OF ENERGY AND ENERGY CONSERVATION MEASURES

Kanpur institute of Technology and Pharmacy, has facilities for alternate sources of energy and energy conservation measures –

1. Solar Energy
2. Use of power efficient equipments as well as use of LEDs

1. Solar Energy –

a. Solar Power Plant –

- Rooftop Solar panels are installed with the maximum capacity since the inception of the institute.
- The power is generated by the solar panels are the primary power source for the institute.
- Solar street lights are installed within the campus to reduce the power consumption.

2. Use of power efficient equipments as well as use of LEDs

- Since the introduction of LED bulbs and lights in the market, college has replaced all the normal bulbs/ lights with LED bulbs.
- All other electrical equipments are regularly being replaced with the new power efficient equipments.



KANPUR INSTITUTE OF TECHNOLOGY AND PHARMACY

A-1, UPSIDC Industrial Area, Rooma, Kanpur-208001 (U.P.) India

Ph: 7705011891 E-Mail-ID: info.kitp@kit.ac.in, director.kitp@kit.ac.in

Date: 22/08/2022

Institute Energy Efficiency Policy

The institute will follow the below mentioned policy to maximize energy efficiency with in next three years of period-

1. Replacement of fluorescent & sodium lights by LED lights (70% replaced).
2. Replacement of normal air conditioner by star rated and smart inverter air conditioner (50% replaced).
3. Maintain power factor close to unity through power factor improvement plant (plant already installed).
4. Use of smart water pumps controller and sensors to avoid overrunning of motors. (In process).
5. Increasing and maintaining green campus with enormous tree plantation, and gardens to reduce environmental temperature of campus. (70% of the land area is maintained with gardens and tree plantation).

(Dr. Prashant Kumar Katiyar)

Director
Kanpur Institute of Technology & Pharmacy
A-1, UPSIDC Industrial Area, Rooma
Kanpur-208001

Solar Panel



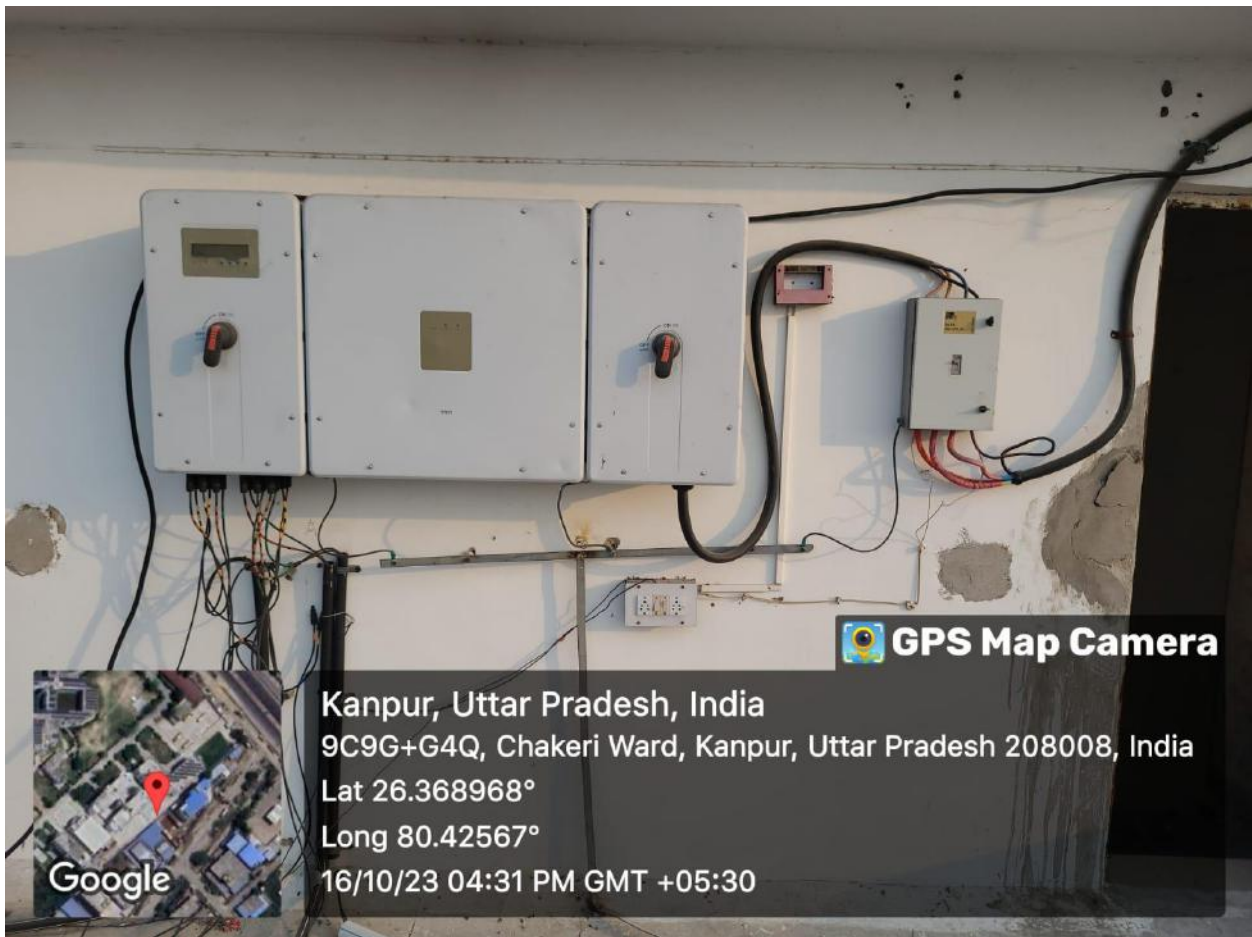



 **GPS Map Camera**

Kanpur, Uttar Pradesh, India
9C9G+G4Q, Chakeri Ward, Kanpur, Uttar Pradesh 208008, India
Lat 26.369052°
Long 80.425644°
16/10/23 04:31 PM GMT +05:30



Google

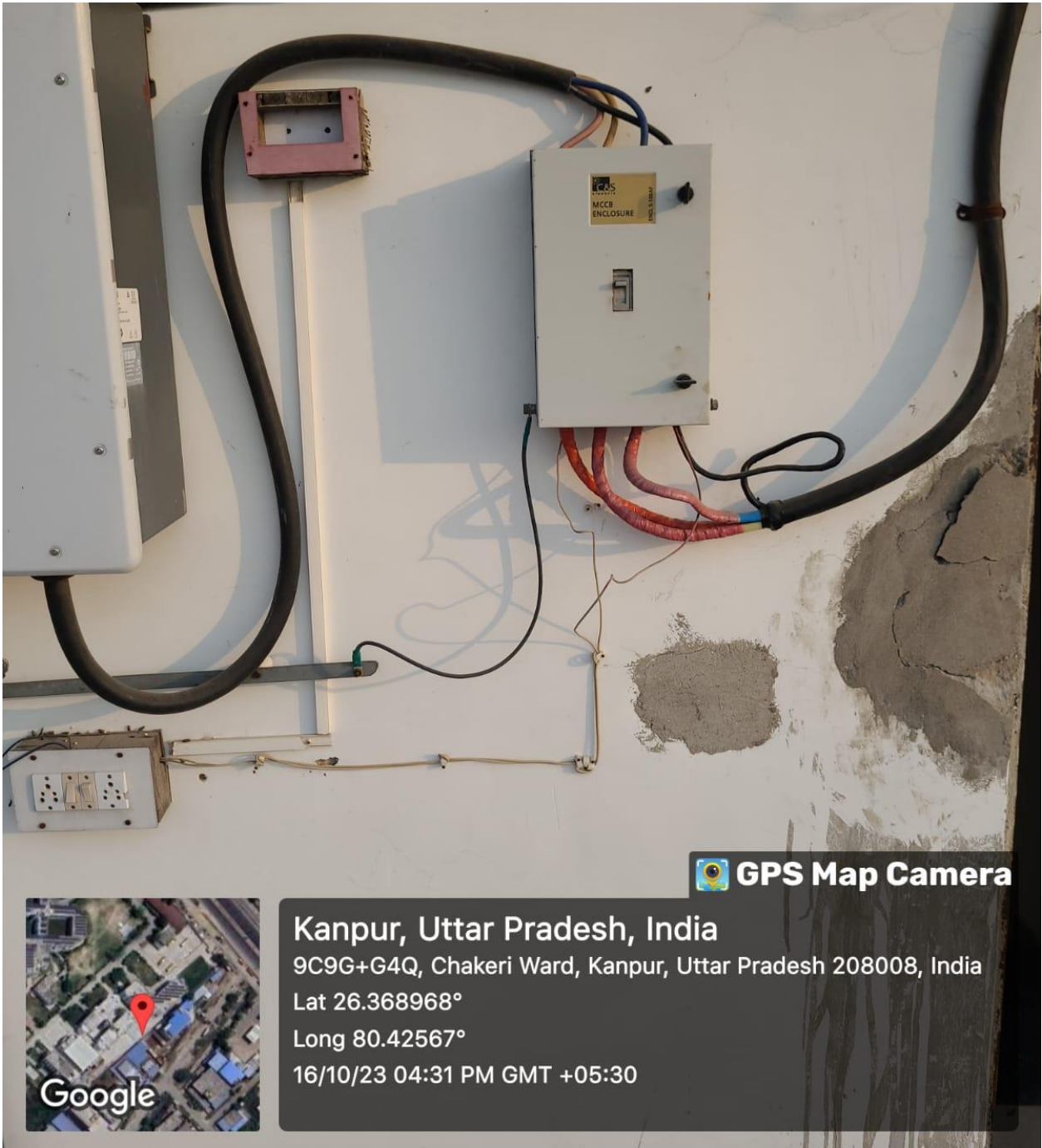


 **GPS Map Camera**

Kanpur, Uttar Pradesh, India
9C9G+G4Q, Chakeri Ward, Kanpur, Uttar Pradesh 208008, India
Lat 26.368968°
Long 80.42567°
16/10/23 04:31 PM GMT +05:30



Google



Solar Panel Purchase Order



Indus Technical Education Society
B.Tech. | MBA | MCA | M.Tech. | B.Pharma

PURCHASE ORDER

Date: 9th September, 2017

Recube Energy Private Limited
371, Ganesh colony, Chandausi
Sambhal, Uttar Pradesh-244412

Kind Attn: Mr. Siddharth Sobti, Director

Subject: **Order for Supply of 450 kW Solar Power Plant to be set-up at Kanpur Institute of Technology, Kanpur, U.P.**

Dear Sir,

We are pleased to place an order for the supply of material for 450 kW solar power plant at Kanpur Institute of Technology, Kanpur, U.P.

Our order for the supply of material and equipment for the 450 kW plant for installation at Kanpur Institute of Technology, Kanpur, UP is enclosed as per the following Annexure:

- | | | |
|--------------|---|--------------------------------------|
| Annexure I | - | Price Schedule |
| Annexure II | - | Terms and Conditions |
| Annexure III | - | Generation and Performance Guarantee |
| Annexure IV | - | Scope of Supply of Equipments |

Thanking You,
Yours faithfully,

For, Indus Technical Education Society

(Anil Kumar Agarwal)
Secretary-ITES

ANNEXURE - I

The breakup of the price for the supply of material and equipment for the 450kW Solar Power Plant is as under:

Sr. No.	Description	Amount (INR)
1	Supply of Solar PV modules 450kW capacity	2,28,96,000
2	Supply of Solar Inverters 450kW capacity	
3	Supply of Module Mounting Structures	
4	Supply of Electrical items for electrical works as per Annexure – IV comprising mainly of Earthing, Protections and Cables	
	Total (INR Two Crore Twenty Eight Lakh Ninety Six Thousand Only)	2,28,96,000

For Indus Technical Education Society

Anil Aggarwal
Secretary

ANNEXURE – II

Terms and conditions

1. Scope of Supply

The scope of supply consists of the following:

- (i) 450kW capacity solar PV modules
- (ii) 450kW capacity string inverters
- (iii) Module mounting structures for supporting the PV modules.
- (iv) Supply of all supply items related to Solar rooftop plant mainly earthing, protections and Cable as per Annexure-IV
- (v) Transportation and Insurance up to delivery at our site.
- (vi) Drawings for the foundation and civil work, electrical connections, instructions for assembly erection, installation and commissioning of solar plant.
- (vii) O&M Manuals

2. Delivery:

The delivery of the equipment and materials shall be such that the project is commissioned by 31st October 2017. For any delay beyond the delivery date, a penalty of INR 16,320 will be levied per day.

3. Insurance:

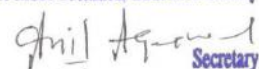
You will be responsible for the insurance of the solar plant equipment during the transportation up to our site. After the commissioning of the plant, insurance policy shall be taken directly by us.

4. Terms of payment:

The terms of payment are as under:

S.No.	Payment Milestones	Amount (INR)
1	Advance against PO	51,001
2	Against PI for dispatch of Solar PV Panels	1,26,00,000
3	Against PI for dispatch of Solar Inverters	27,60,000
4	Against PI for dispatch of Module Mounting Structure	19,20,000
5	Against delivery of Cables	6,00,000
6	Against delivery of Earthing Material	7,17,000
7	Against complete installation & SCADA commissioning	18,00,000
8	Against commissioning & Subsidy Approval	34,01,999

For Indus Technical Education Society


Secretary

The Payments shall be released by us within 4 days on receipt of Payment Demand Note from Recube Energy based on above agreed payment terms.

5. Taxes and duties:

The prices mentioned in Annexure – I include GST as applicable. Currently, GST for solar power plants is 5%, which has been considered. In case there is statutory rate variation or introduction of new taxes, duties and levies or any difference in the interpretation by the competent authorities, effect of the same will be in supplier's scope.

6. Guarantee for annual generation and performance of project:

As per Annexure – III

7. Operation and Maintenance:

You will undertake O&M for our solar plant for a period of 5 years from the date of commissioning with the following terms and conditions:

- a) Operation, Maintenance & Security with Spares and Consumables for the entire period of the contract
- b) The O&M cost for the first 3 years from the date of commissioning will be free of cost.
- c) The comprehensive O&M charges from 4th year of operation will be as per mutual discussions between **Kanpur Institute of Technology** and Recube Energy.
- d) The O&M charges will be paid at the begin of operational year. The year shall be counted from the date of commissioning.
- e) Under the O & M services, Service provider will provide routine and breakdown maintenance of the solar plant. The service person will visit monthly to inspect all mechanical and electrical parts. Any breakdown in the plant shall be addressed within 48 hours.

For Indus Technical Education Society

Anil Agrewal
Secretary

ANNEXURE - III

Guarantee for Annual Generation and Performance of Project:

The minimum guaranteed billed exported units of electricity generated shall be 6,48,000 kWh per year with an annual de-escalation of 1% every year for the solar plant to be measured at inverter monitoring level at 100% grid availability for twenty five years period from date of commissioning.

The generation estimated is guaranteed for 3 years against a revolving bank guarantee provided by Recube Energy of amount Rs. 2,75,400.

The guarantee period would start from 14 days after the date of commissioning of the solar plant as you require initially 14 days to get the machines stabilized.

This shall continue every year with an annual degradation of 1% each year.

Year	Generation (KWh/Year)
1	648000
2	641520
3	635105
4	628754
5	622466
6	616242
7	610079
8	603978
9	597939
10	591959
11	586040
12	580179
13	574377
14	568634
15	562947
16	557318
17	551745
18	546227
19	540765
20	535357
21	530004
22	524704
23	519457
24	514262
25	509119

For Indus Technical Education Society


Secretary

ANNEXURE - IV

Scope of supply of equipments and services

Supply of electrical items as mentioned in Sr. No. 4 shall include:

Sr.No	Material	Specifications	Make
1	Solar Module	Multi-crystalline	Waaree/Navitas
2	Solar Inverter	50kW X 9	ABB
Electrical & Accessories			
3	DCDB & ACDB	Ratings to be decided at time of designing	ABB
4	DC Application Cables	6 sq mm Copper Solar cable, Black & Red	Polycab
5	Inverter(50kW) to ACDB	25 sq mm Copper AC Cable, 4 core	Polycab
6	ACDB to LT Panel	Armoured Al AC Cable, 4 core	Polycab
7	Earthing Strip	25 X 3 GI Strip	True Power Earthings
8	Earthing Cable	16 sqmm copper, 1core	True Power Earthings
9	Earthing Kit	Copper Bonded Low Maintenance Earthing Electrode(Chemical Based) 3 mtrs	True Power Earthings
10	MC 4 Solar Cable connector	(+) ve connecter	Elmex
		(-) ve connecter	Elmex
11	Cable lugs, Tape, cable tie & conduit pipe with Accessary		Dowells
12	Lightning Arrestors	ESE Lighting Arrestor, 107Mtr range	True Power Earthings
13	DG Power Relay	to prevent export of solar power to DG set	ABB
Civil & Mechanical Work			
15	Mechanical Structure	Hot dip GI 80 microns Coating industrial rails mounting frames	Strolar
16	Structure Accessories	Al End Clamps, Al Middle Clamps, SS Nuts Bolts	Strolar
17	GI Cable Tray with cover	50 X 40 X 2.5 mm with mesh	Standard
18	PVC conduit	32mm	BEC
19	Conduiting Pipes	Steel Corrogated condutes black	BEC

For Indus Technical Education Society

[Signature]
Secretary

20	Civil Foundation Painting	M25 Grade RCC Blocks	Standard
21	Structure Grouting	M12X120 Chemical hole fastner	Fischer
Installation & Commissioning, Transportation & Freight			
22	Installation Commissioning	Manpower, labor + Civil Foundations	Recube Energy
23	Engineering & Supervision	String Designing, Remote Monitoring, electrical design and execution planning	Recube Energy
24	Remote Monitoring Access	Online Data access software	ABB/Pinetech
25	Transportation & Freight	Till Site, Loading & Unloading	

For Indus Technical Education Society

Anil Agarwal
Secretary

Solar Panel Work Order



Indus Technical Education Society

B.Tech. | MBA | MCA | M.Tech. | B.Pharma

WORK ORDER

Date: 9th September, 2017

Recube Energy Private Limited
S.No 47, Second Floor Gaffar Market,
Karol Bagh, New Delhi-110005

Kind Attn: Mr. Siddharth Sobti, Director

Subject : **Order for services required for the Erection and Installation of 450 kW Solar Power project at Kanpur Institute of Technology, Kanpur, U.P.**

Dear Sir,

Please find attached our Work Order for the services required for Erection and Installation of 450kW Solar Power Project at Kanpur Institute of Technology, Kanpur, U.P.

Annexure V - Quotation
Annexure VI - Terms and Conditions
Annexure VII - Scope of Work

Thanking You,
Yours faithfully,

For, Indus Technical Education Society

(Anil Kumar Agarwal)
Secretary-ITES

ANNEXURE - V

The price breakup for the services required for the erection and installation of 450kW Solar Power Plant at Kanpur Institute of Technology, Kanpur is as under:

S. No.	Brief Scope	Price (INR)
1	Design and Engineering	9,54,000
2	Labor charges for site development	
3	Labor charges for electrical works	
4	Labor charges for erection, testing and commissioning of rooftop solar plant	
5	Insurance, loading and unloading, transportation, etc.	
	Total (Rupees Nine Lakh Fifty Four Thousand only)	9,54,000

Remarks

- a. The above prices include GST at the prevailing rates, i.e. 18%.

For Indus Technical Education Society

Shil Ag Secretary

ANNEXURE – VI

Terms and Conditions

1. Payment Terms

As per Annexure II of Purchase Order

2. Installation Period

You shall complete the installation and commissioning of the complete system by 31st October 2017.

3. Duties and Taxes

The prices mentioned in Annexure – V include GST@18% as applicable.

4. Jurisdiction

Any dispute arising out of this contract shall be subject to the exclusive jurisdiction of the court in the state of UP.

5. Insurance

You will take suitable insurance policy for storage and erection during the erection period of our solar plant. This insurance shall cease once the solar plant is commissioned. The fire and allied perils, earthquake and Third Party risk policy will be taken care by us as soon as solar plant is commissioned at the site.

6. Government Fee

All refundable and non-refundable Government/Official fee as applicable shall be borne by us as per actuals.

For Indus Technical Education Society

Anil Arora
Secretary

ANNEXURE - VII

Scope of Work

Your Scope of Work and Services shall be as under:

You will do the Complete Installation, Erection and Commissioning of the solar plant and all electrical installations for solar plant and undertake civil work as per our requirement and shall supply electrical items required for synchronization with existing electrical system.

You shall also include the following under your scope of Work:

- Remote Monitoring System
- Relay Protection for avoiding reverse current in DG
- Maintenance of solar power plant for 3 years from date of commissioning

For Indus Technical Education Society

Anil Agrewat
Secretary

Solar Panel Bill


RECUBE ENERGY PVT. LTD.		Seller Details				Invoice No.							
Name: Indus Technical Education Society Address: A-3, UPSIDC INDUSTRIAL AREA, ROOMA, KANPUR State: Uttar Pradesh State Code: 09 PAN: AAAT14395L		RECUBE ENERGY PVT LTD Pl. No 371, Ganesht Colony, Site Road Chandausi, Sambhal-UP(244412) GSTIN :- 09AAHCR3971R1Z7				UP119		16/02/2018					
						PD No.		Terms					
						As per PO							
Bill To						Ship To							
Name: Indus Technical Education Society Address: A-3, UPSIDC INDUSTRIAL AREA, ROOMA, KANPUR State: Uttar Pradesh State Code: 09 PAN: AAAT14395L						Name: Indus Technical Education Society Address: A-3, UPSIDC INDUSTRIAL AREA, ROOMA, KANPUR State: Uttar Pradesh State Code: 09 PAN: AAAT14395L							
S. No.	Description	HSN Code	Qty	UOM	Rate	Total	Rate	Amount	Rate	Amount	Rate	Amount	Net Amount
1	Supply of Solar Power Generating System	8541	450	kw	48,457.14	21,805,713	2.50%	545,142.83	2.50%	545,142.83			22,895,999
Invoice Value (in Words)												Total	22,895,999
Two Crore Twenty Eight Lakhs Ninety Five Thousand Nine Hundred Ninety Nine Only												Transportation	
Amount of Tax Subject to Reverse Charge												Other Charges	
Remarks												Invoice Total	22,895,999
For Recube Energy Private Limited												Director	
If you have any questions about this invoice, please contact: Siddharth Sobti; +91-9990329658; siddharth@recube.in												Thank you for your Business !	

Handwritten notes:
 450
 CENTRA
 DATE: 07/11/18
 PAGE: 1
 SR. NO: 6, 52, 07/18

Handwritten notes:
 Plant fitted.
 M/h
 (Rae Sandy)
 20/2/18

Handwritten notes:
 RECEIVED ON 18, 29, 35
 SL NO 20/2/18, 14, 21
 DATE 20/2/18
 Sandeep Saini

Handwritten notes:
 Res. Sir,
 May kindly approve
 Jondelay Rs. 22,89,599.00 and
 also advice Jondelay penalty of 10%
 20/2/18

Handwritten notes:
 B 2289599/-


Tax Invoice

	Seller Details RECUBE ENERGY PVT LTD H. No. 371, Ganesh Colony, Sita Road Chandausi, Sambhal-UP(244412) GSTIN :- 09AAHCR3971R1ZF		Invoice No UP120	Date 16/02/2018									
			WO No.	Terms As per WO									
Bill To Name: Indus Technical Education Society Address: A-1, UPSIDC INDUSTRIAL AREA, ROOMA, KANPUR State: Uttar Pradesh State Code: 09 PAN: AAAT14395L		Ship To Name: Indus Technical Education Society Address: A-1, UPSIDC INDUSTRIAL AREA, ROOMA, KANPUR State: Uttar Pradesh State Code: 09 PAN: AAAT14395L											
S. No	Description	HSN Code	Qty	UOM	Rate	Total	CGST Rate	CGST Amount	SGST Rate	SGST Amount	IGST Rate	IGST Amount	Net Amount
1	Installation of Solar Power Generating System	8541	450	kw	1,796.61	808,474.50	9.00%	72,762.71	9.00%	72,762.71			954,000
Invoice Value (in Words): Nine Lakh Fifty Four Thousand Only												Total	954,000
												Transportation	-
												Other Charges	-
												Invoice Total	954,000
Amount of Tax Subject to Reverse Charge													
Remarks:													
For Recube Energy Private Limited Director													
If you have any questions about this invoice, please contact: Siddharth Sobti; +91-9999229553; siddharth@recube.in Thank you for your Business!													

502400
 CENTRAL STORE K.T.T.
 DATE: 29/02/18
 PAGE NO: 24
 SR. NO: 1
 SIGNATURE INDUS

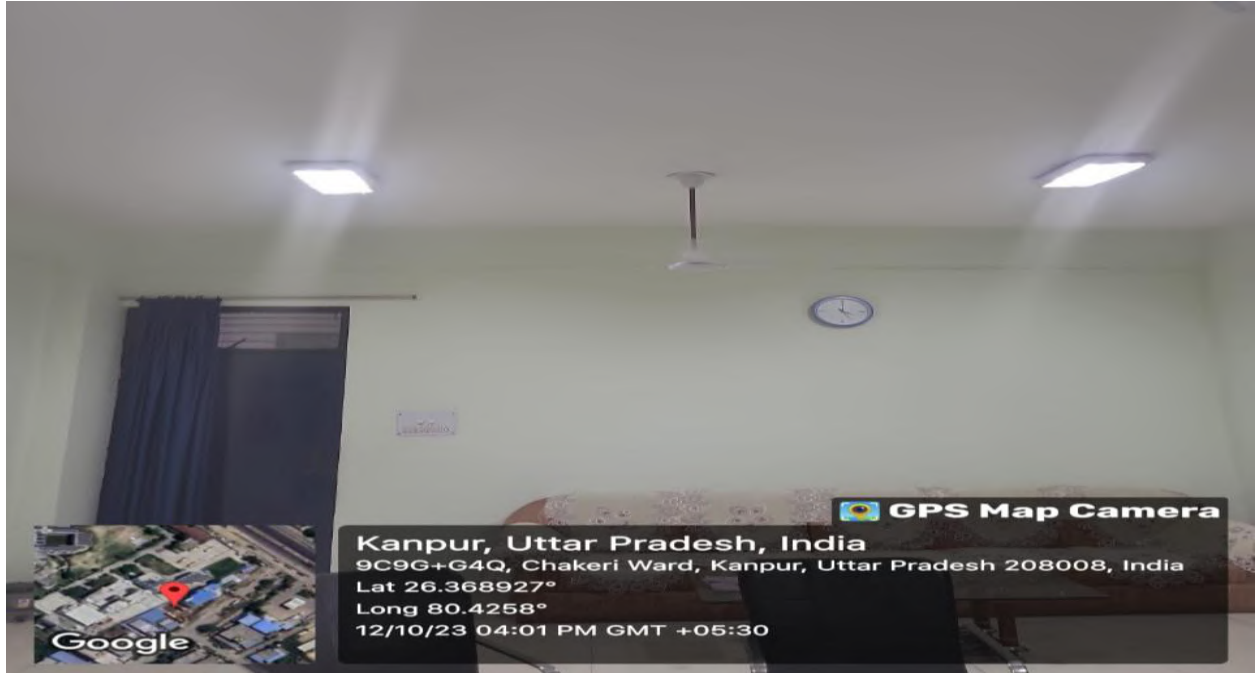
SECURITY STAMP
 S.L. No. 22035, 22616
 DATE: 29/02/18, 29/3/18
 Sandeep

R.K. Bandy
 30/3/18

Res. Sir,
 May kindly approve
 Total of Rs. 9,54,000 = 00
 30/3/18

B954000/-

Energy Conservation Measure
Use of Led Light











Kanpur Nagar, Uttar Pradesh, India

Kanpur Institute of Technology (KIT),
Chakeri Ward, Kanpur, Uttar Pradesh
208008, India

Lat: 26.36 Long: 80.42

2022/02/05 02:53 PM

15°C





Kanpur Nagar, Uttar Pradesh, India

Kanpur Institute of Technology (KIT),
Chakeri Ward, Kanpur, Uttar Pradesh
208008, India

Lat: 26.37 Long: 80.42

2022/02/05 02:53 PM

15°C



Use of Star Rated AC and Fans



