

## HEAT PUMPS - REPLACED WITH SOLAR WATER HEATERS



HEAT PUMPS are the latest in the field of Hot Water Generation which works on the principle of reverse of Refrigeration. It absorbs the coolness of water and lets out thereby making the water hot. 2 x 90 KW Heat Pumps caters the Hot Water needs of the Hostels (Boys and Girls). A 20 KL Calorifier Tank Stores the generated Hot Water and supplies through the Ring Main System to the Hostels. Since Hot Water being used in the early hours of a day, it necessitates energizing of Heating Coil, in the case of Solar Water Heater which amounts to large consumption of Electrical Energy. Heat Pumps actually consumes quarter of Energy compared to the Back Up Heater of a Solar Water Heater.


### **SOLAR ENERGY PANELS - BILLS**

Our Management has give approval for establishing a Roof-top Solar Power Generation System. Following this we have obtained Techno-commercial Offer from 3 Agencies who are pioneers in this field, ever since Solar Power Projects started to flourish in leaps and bounds in the recent past.

We are in the process of engaging a Consultant before finalizing the Techno-commercial aspects of this project. This will be set for Generation from June 2020.

- |                      |            |
|----------------------|------------|
| 1. TATA              | 1003.2 KW  |
| 2. ICRA (Thermax)    | 718.7 KW   |
| 3. Micro Enterprises | 720 KWp KW |

On 1003.2 KW Capacity feasibility grounds, we will be able to generate **1489700 units per annum**

  
**PRINCIPAL**  
**CHETTINAD DENTAL COLLEGE &**  
**RESEARCH INSTITUTE**  
**RAJIV GANDHI SALAI**  
**KELAMBAKKAM - 603 103.**



## Raghavan & Muralidharan

Chartered Accountants  
New No.397, Old No.280  
SRM Towers, First Floor  
MKN Road, Alandur  
Chennai-600016.  
Off: (044) 2232 2066 / 2232 2069 / 4272 9357  
Email: anet@accountants.net.in

The Superintending Engineer  
TANGEDCO  
Udumalpet EDC  
Udumalpet

### AUDITORS CERTIFICATE

This is to certify that Eight Nos 230 KW Wind Electric Generator ENERCON Make having wind farm service Nos 204, 205 & 206, Udumalpet Electricity Distribution Circle belong to Rajah Muthiah Chettiar Charitable & Educational Trust, Rani Seethai Hall Building, 5th Floor, 603, Anna Salai, Chennai – 600 006.

Certified further that the energy generated from the above said WEG is 100 % ownership of Rajah Muthiah Chettiar Charitable & Educational Trust and the energy generated is utilised through their Industrial HT SC No 513, Chengalputtu Electricity Distribution Circle, Chengalputtu.

For Raghavan & Muralidharan  
Chartered Accountants

K B Muralidharan  
Partner

Membership No. : 205490

Place: Chennai  
Date: 10.05.2017

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The Chief Engineer  
NCS  
TANGEDCO  
Chennai – 600 002

### AUDITOR'S CERTIFICATE

As per the information and explanation given to us and the records produced to us, we certify that one No. of 1250 KW Suzlon make Wind Energy Generator having Wind Farm HT Service No. 807, Location No. S107 at Sankaneri Site, Irrukandurai Village, Radhapuram Taluk in Tirunelveli District, Tamil Nadu is in the name of M/s. Rajah Muthiah Chettiar Charitable and Educational Trust, No. 43, Old Mahabalipuram Road, Padur Village, Post, Pin – 603 103 and the energy generated from the above said WEG is 100% Ownership of the Hospital Consumption under M/s. Rajah Muthiah Chettiar Charitable and Educational Trust and the energy generated is utilized through HTSC No. 513 of Chengleput Electricity Distribution Circle.

For Raghavan & Muralidharan  
Chartered Accountants  
Firm No.007110S

K B Muralidharan  
Partner  
Membership No.205490

Place : Chennai  
Date : 06/08/2018

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# ENERGY SOURCES: RECEIPTS



## Raghavan & Muralidharan

Chartered Accountants  
New No.397, Old No.280  
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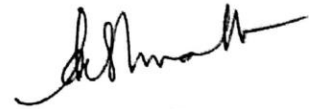
The Superintending Engineer  
TANGEDCO  
Tirupur EDC  
Tirupur

### AUDITORS CERTIFICATE

This is to certify that Nine Nos 225 KW Wind Electric Generator NEPC Make having wind farm service No 66 & 69, Tirupur Electricity Distribution Circle belong to Rajah Muthiah Chettiar Charitable & Educational Trust, Rani Seethai Hall Building, 5th Floor. 603, Anna Salai, Chennai – 600 006.

Certified further that the energy generated from the above said WEG is 100 % ownership of Rajah Muthiah Chettiar Charitable & Educational Trust and the energy generated is utilised through their Industrial HT SC No 513, Chengalputtu Electricity Distribution Circle, Chengalputtu.


For Raghavan & Muralidharan  
Chartered Accountants



K B Muralidharan  
Partner

Membership No. : 205490

Place: Chennai  
Date: 10.05.2017



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**RAJIV GANDHI SALAI**  
**KELAMBAKKAM - 603 103.**



# ENERGY SOURCES: RECEIPTS

**Suzlon Global Services Limited**

**SUZLON**  
POWERING A GREENER TOMORROW

104, Delta Wing, 177, Anna Salai, - 600002  
GSTIN: 33AAICS1406R1Z4

Invoice no : 1942004454

Invoice date : 04-Oct-2019

Suzlon Global Services Limited  
104, Delta Wing,  
177, Anna Salai,  
- 600002  
PAN no:  
State: Tamil Nadu  
State code: 33  
GSTIN no: 33AAICS1406R1Z4

Rajah Muthiah Chettiar Charitable  
& Educational Trust  
6th Floor, Rani Seethai Hall Building  
Anna Salai  
Chennai  
Chennai  
Chennai - 600006  
PAN no: AAATR3208F  
State: Tamil Nadu  
State code: 33  
GSTIN/UIN no: 33AAATR3208F1ZZ

Rajah Muthiah Chettiar Charitable  
Site : Sankneri Site  
Village : Irukandurai Village  
Taluka : Radhapuram Taluk  
Tirunelveli - 627111  
PAN no: AAATR3208F  
State: Tamil Nadu  
State code: 33  
GSTIN/UIN no: 33AAATR3208F1ZZ

Customer's PO /  
Agreement date: 01.04.2017

Place of supply: Tamil Nadu

Location no.s: S107

Amount in INR

		9987	1	EA	706,384.44	176,596.11	9.00	15,893.65	9.00	15,893.65
1	Comprehensive repairs and maintenance charges of your wind operated electricity generator located at above location number for the period from 01-Oct-2019 to 31-Dec-2019									
<b>Total</b>			1			176,596.11		15,893.65		15,893.65
Amount in words: Rupees two lakh eight thousand three hundred eighty three and paise forty one only						Total amount:		2,08,383.41		

Whether reverse charge applicable: No

Terms and conditions:

- Delay in payment beyond due dates shall attract interest as per contractual terms.
- All disputes are subject to TAMIL NADU jurisdiction.

Payment Due Date: 01-Oct-2019

Pay by RTGS/NEFT. Transfer as details given below:

Name: Suzlon Global Services Limited  
Bank name: State Bank Of India  
Bank branch: (04791) Overseas, Mumbai-400005  
Account number: 33683165234  
IFSC code: SBIN0004791




For Suzlon Global Services Limited  
Signature valid  
Digitally signed by SANJESH KUMAR MISHRA  
Date: 2019.10.05 17:04:25 IST  
Authorised signatory

Declaration: Certified that the particulars given above are true and correct.

Corporate Identity number: U27109GJ2004PLC044170

Corporate office: One Earth, Hadapsar, Pune - 411 028, India Ph.: +91-20-40122000. Fax: +91-20-40122100 /40122200.


Registered office: "Suzlon", 5, Shrimall Society, Near Shri Krishna Complex Navrangpura, Ahmedabad, 380 002

  
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### **7.1.3**

#### **Wheeling to the Grid :-**

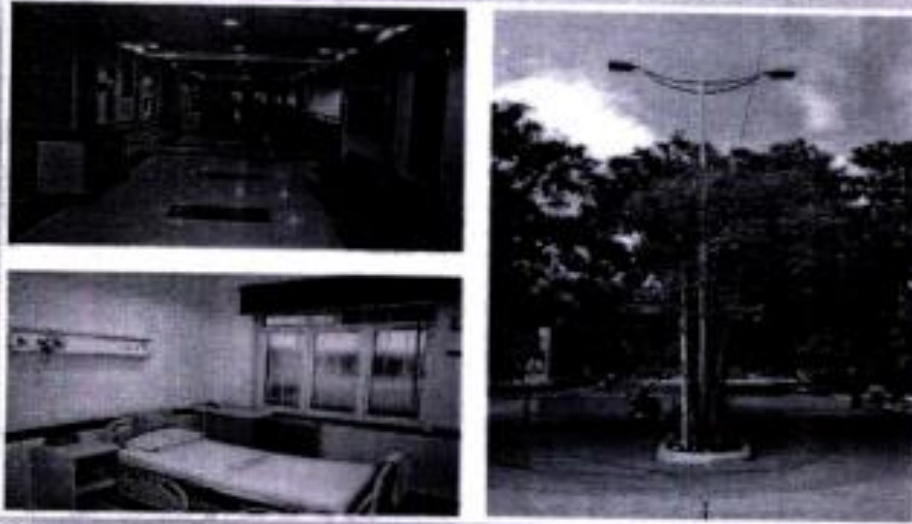
A total of 18 Windmills – corresponding to 5.115 MW of Wind Energy is the only source of non-conventional energy source. These windmills are located at Vadavalli, Udumalpet and Tirunelveli belts. Generation from these windmills offsets our TNEB Consumption for 6 months in a calendar year.



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## SENSOR BASED ENERGY CONSUMPTION - BILLS DOOR SENSORS

### PERCENTAGE OF ENERGY EFFICIENT APPLIANCES



LEDs of 100 W have been replaced with 400 W Metal Halide Lamps for the Street Lights of the This accounts to reduction in Energy Consumption by 1/4. Similarly Newly Built Halls are installed with LEDs and the areas Conventional Lights fixed in areas where light illumination lasts for longer period of time are replaced with LEDs. In this way Conventional Lights are phased out in phased manner and as a policy replacement of lightings are being done with LEDs.


*energy*  
SAVING

#### STAR RATED APPLIANCES :

Details of Split and Ductable Split Air Conditioners of our Institution (All are 3 Star Rated)

Location	Nos	TR
Room	65	300
College	108	518
Medical	89	186.1
TOTAL	263	537.9

Besides these, 80 Nos. of Refrigerators are available in our campus.

  
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## LEVEL CONTROLLERS, SENSORS AND AUTOMATED HANDWASH



**LEVEL CONTROLLERS AT OHT  
and  
STORM WATER  
COLLECTION PIT**

**DIFFERENTIAL PRESSURE SWITCH AT STP**



**LEVEL CONTROLLERS IN OHTs :** Cooling Tower Make-up Water that is pumped from the Softening Plant near STP and from the WTP to the OHT on the terrace of the College Bock are controlled through Level Controller and Pressure Controlled Switches respectively. Float Type switch control is used in OHT to switch OFF the pump once the water level reaches optimum.



**VARIABLE FREQUENCY DRIVES** VFDs incorporate sensors that record the room temperature and slows down the Blower Motor of the AHUs once the room temperature attains the set point temperature. In this way VFDs act as Energy-efficient devices that contribute to 20 - 30% of Energy Saving. Other equipments in which VFDs are fixed are the Chiller Units and

Secondary Pumps of Chilled Water Pumping Systems.



## RENEWABLE ENERGY SOURCES

Details of Windmills at Vadavalli - 9 Nos. 225 KW			Details of Windmills at Poolavadi- 8 Nos. 230 KW			Details of Windmills at Tirunelveli 1 No. 1250 KW		
S. No.	Location	HTSC No.	Sl. No.	Loc No.	HTSC No.	Sl. No.	Loc No.	HTSC No.
1	LOC 1	69	1	CQPPL-01	804	1	RMCCET 01	807
2	LOC 2		2	CQPPL-02				
3	LOC 3		3	CQPPL-03				
4	LOC 4		4	CQPPL-04				
5	LOC 5		5	CQPPL-05	205			
6	LOC 6		6	CQPPL-06				
7	LOC 7		7	CQPPL-07	206			
8	LOC 8		8	CQPPL-08				
9	LOC 9	66						

We already have the technology we need to cure our addiction to oil, stabilize the climate and maintain our standard of living, all at the same time. By transitioning to sustainable technologies, such as solar and wind power, we can achieve energy independence and stabilize human-induced climate change. Non-conventional sources are available at low cost, are pollution-free and inexhaustible. Wind as a source of energy is plentiful, inexhaustible and pollution free. Wind power is a low-carbon energy source—when a wind turbine generates electricity it produces zero carbon emissions. The development of clean wind energy avoids significant carbon dioxide (CO<sub>2</sub>) pollution. Wind power has some of the lowest environmental impacts of any source of electricity generation. Unlike conventional sources, wind power significantly reduces carbon emissions, saves billions of gallons of water a year, and cuts pollution that creates smog and triggers asthma attacks. Wind farms also leave the overwhelming majority of land they're built on undisturbed.

Our Hospital is keen in adapting herself to Renewable Energy Utilization. As of now we have a 5.115 MW of Wind Energy Generators set up exclusively for our Hospital's use. Nearly 50 - 60% of our Annual Energy Consumption comes through Wind Energy.