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T.R.R.GOVERNMENT DEGREE COLLEGE :: KANDUKUR
PRAKASAM DISRICT - ANDHRA PRADESH PIN: 523 105
[Affiliated to Acharaya Nagarjuna University]
[Established in 1966]



ENERGY POLICY DOCUMENT

PREAMBLE:

Our TRR Government Degree college envisions the Clean and Green Eco-friendly campus with utilization of clean and low carbon emission energy for our daily needs. Our environment friendly practices and education combined to yield the sustainable development with in and beyond the campus. We inculcate the scientific temper and environment consciousness among the staff and students in particular and in the society in general through our students and their activities. We solemnly resolve ourselves to strive for the better and clean energy with very less CO₂ emissions through adopting renewable sources of energy like solar energy

VISION:

Our long term vision is to make the campus fully rely on non-conventional and renewable resources of energy like solar energy. Environment protection through renewable energy resources and Energy conservation and is our driving force to achieve our vision.

MISSION:

To visualize and make our vision a reality we follow the three following missions

1. Mission Energy Conservation: Reducing the energy wastage by switching of the fans, lights and other electrical appliances when not in use.
2. Mission Renewable energy: Under this mission we plan to switch over to the alternative energy resources like solar energy which is an abundant renewable resource in our area.
3. Mission Technology: By adopting latest technology we wish to reduce the energy wastage
4. Mission Greenery: Planting more trees to compensate the CO₂ released due to the burning of fossil fuels which are used in generating the energy in thermal power plants

OBJECTIVES:

1. To inculcate the sense of responsibility in student staff towards energy conservation.
2. To disseminate the knowledge of energy conservation in and out of the campus
3. To Switch over to clean renewable energy for our basic energy needs.
4. To promote the Installation and utilization of Solar energy in the college
5. To imbibe the combination of Education and Environmentalism in young minds.
6. To strive for the increase in greenery through plantation programs which compensate the Carbon-dioxide released due to the burning of fossil fuel.
7. To conduct the quality audit of energy and environment

Approaches to achieve the Green Policy:

All the stake holders of the college should feel the sense of responsibility and put their unprecedented efforts in making the energy policy a reality. Strict adhering to the missions proposed will lead to the success of our Energy policy

Mission Energy Conservation can be achieved through bringing awareness among the stakeholders. All the stakeholders should restrict themselves for minimum utilization of energy to protect the Environmental damage. Energy wastage should be reduced drastically.

Mission Renewable energy is possible by switching over to the solar energy partly for our daily Needs. Solar panels were installed on the roof top of the college to tap the solar power. Excess Generated is connected to the grid.

Mission Technology: By adopting the latest technology we wish to reduce the energy wastage in In our college. Water flow alarm, which senses the water flow and stop the power supply. Programmed water supply with specific time interval will save a lot of energy in Hydroponics.

Mission Greenery: It is achieved through taking up several plantation programs which lead to the increase in Tree cover of the college. These trees will act as the Carbon sinks for the CO₂ released in the near by areas, thus protecting the world from global warming. Public transport Carpooling, bicycles are the other means of reducing carbon-dioxide, followed in our college.

By adopting and implementing the above missions we will strengthen of energy policy.


PRINCIPAL
T.R.R. Govt. Degree College
KANDUKUR - 523105
Prakasam Dist.



**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR**

CRITERION VII, 7.1.2

ALTERNATE SOURCES OF ENERGY



Renewable energy on grid system is purchased from the Windstream technologies India Private limited, Hyderabad with a cost of sixteen lakhs four thousand seven hundred and sixty two rupees on 21st September 2017.



**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR
CRITERION VII, 7.1.3**



TECHNICAL DETAILS OF THE SOLAR POWER:

- ❖ Company name : M/s: Wind Stream Technologies Pvt.Ltd., Hyderabad
- ❖ All the solar panels are in the premises only. Solar Grid Tied Power Plant is installed on the college roof top with a Capacity of 20 kilo watts.
- ❖ Number of solar photo voltaic modules - (315 Wp) A total of 64 modules.
- ❖ Date of Installation: 28-09-2017
- ❖ Date of completion of work: 08-01-2018
- ❖ Cost of project: Rs. 16,85,000



WINDSTREAM ENERGY TECHNOLOGIES INDIA PVT. LTD.
312 Kubera Towers Narayanaguda, Hyderabad Telangana State 500 029,

GSTIN: 36AACW4607K1Z6

TAX INVOICE

| | |
|---------------------------|---|
| Original for Buyer | |
| Duplicate for Transporter | |
| Triplicate | ✓ |
| Extra Copy | |

| | | | |
|---|--|------------------------------|--|
| Buyer / Billing Address | | Invoice No: 039/17-18 | |
| Name: T.R.R. Government Degree College. | | GST NO: Nil | |
| Address: The Principal, TRR Govt Degree college, near Kovur Road, Kandukur, Andhra Pradesh-523105 | | Date Of Issue: 21/09/2017 | |
| Contact Person: Mrs. Vijayasree | | State: Andhra Pradesh | |
| Contact Ph No: 9494990629 | | State Code: Nil | |
| | | Place Of Supply: Hyderabad | |
| | | State: Telangana | |

| | | | |
|---|--|---|--|
| Consignee / Shipping Address: | | State Code: TS | |
| Name: T.R.R. Government Degree College | | GST NO: Nil | |
| Address: The Principal, TRR Govt Degree college, near Kovur Road, Kandukur, Andhra Pradesh-523105 | | Mode of Transport: By Road | |
| Contact Person: Mrs. Vijayasree | | Vehicle No: AP 27 Y 2399 | |
| Contact Ph No: 9494990629 | | State Code: Nil | |
| | | Transporter Name: Y N EXPRESS LOGISTICS | |

| S No | Description of Product | HSN Code | UoM | Qty | Rate | Amount | Disc | Taxable Amount | CGST | | SGST | | IGST | | Total Amount |
|------|---|----------|-------|-----|---------|---------|---------|----------------|------|--------|------|--------|------|--------|--------------|
| | | | | | | | | | Rate | Amount | Rate | Amount | Rate | Amount | |
| 1 | RENEWABLE ENERGY DEVICES AND PARTS: Renewable Energy 20 KW On Grid System | 84128030 | Nos's | 1 | 1604762 | 1604762 | 0% | 1604762 | 0% | 0 | 0% | 0 | 5% | 80238 | 1685000 |
| | freight | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| | insurance | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | miscellaneous | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total | | | | 0 | 0 | 1604762 | 0 | 0 | 0 | 0 | 0 | 0 | 80238 | 1685000 |

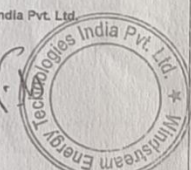
| | | |
|---|----------------------|---------|
| Total Amount in Words: Rupees Sixteen Lakhs Eighty Five Thousand only | Total Taxable Amount | 1604762 |
| | Total IGST | 80238 |
| | Invoice Total | 1685000 |

Bank Details:
Name: WindStream Energy Technologies India Pvt Ltd
A/c no: 007605004209
Bank: ICICI Bank details
Branch: Jubilee hills, Hyderabad
IFSC Code: ICIC0000076

- Terms and Conditions / Notice to the Customer**
- 1) No claim recognized unless reported in writing to company with 7 days from date of receipt of goods or before the installation.
 - 2) Dispute's if any will be subjected to seller court jurisdiction only
 - 3) The price offered is inclusive of all taxes.
 - 4) The price is inclusive of standard Roof-Top Panel Mounting, if Structure Customized structure will be charged extra as per site requirements.
 - 5) Payment Terms: 80% Payment along with PO and 20% payment after Installation & Commissioning.
 - 6) Delivery: 45 days (working days) from the date of receipt of PO and after giving the advance.

Certified that the particulars given above are true and correct
for WindStream Energy Technologies India Pvt. Ltd.

[Signature]
Authorized Signatory



Address:
Regd Office: 312 Kubera Towers Narayanaguda, Hyderabad Telangana State 500 029,
Corporate Office: G2, SSH Pride, Plot No. 273, Road No. 78, Jubilee Hills, Hyderabad-500096, Phone No: 040 23548779
Factory: 26/A, Hardware Park, Kanchari Iparath, Raviryal Village, Maheswaram Mandal, R R Dist., Telangana State- 500 005
www.windstream-inc.com



**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR**

CRITERION VII, 7.1.3



SOUTHERN POWER DISTRIBUTION COMPANY OF AP LIMITED

DEMAND NOTICE

From,

The Divisional Engineer, Opn Kandukur,,
APSPDCL, 22-1-47 (B),,
Kovuru Road,,
Kandukur Town,
Prakasam.

To,

T R R Govt College,
0,
NA,
KANDUKUR,
ONGOLE.

Lr.No.DE/O/KANDUKURU/APSPDCL/Demand Notice/F.No. /D.No.2562/Dt. 07-11-2017

Sub:- Eleyc_APSPDCL _ Estimate sanctioned for Releasing of 1 No 20 KW Solar roof top net metering with contracted loadof 17.24 KW totalling of 37.24 KW for the SC.No: 4511101001920 underCat-VII to Demand notice _ Issued Reg.

Ref:- 1. Application Reg. no, 45111CN01412017SEP26, T R R Govt College
2. Estimate Sanction no. (WBS.No : D-2017-03-06-11-01-009) SDR/Dc.No/15/17-18

With reference to the estimate sanctioned 2nd cited for Releasing of 1 No 20 KW Solar roof top net metering with contracted loadof 17.24 KW totalling of 37.24 KW for the SC.No: 4511101001920 underCat-VII to the T.R.R.Governement college at Kovurur Road in KandukurTown. Hence it is requested to pay the following amounts within 15 days of receipt of this notice in form of DDs and hand over to ADE/O/T/kandukur for taking further action (DDs are to be drawn on Any National bank payable at Kandukur.)

| Particulars | Amount in Rs. | DD in favour of | Payable at |
|-------------------------------|---------------|--|------------|
| Estimate charges for DC works | 6660.00 | DIVISIONAL ELECTRICAL ENGINEER, OPERATION, APSPDCL, KANDUKUR | Kandukur |
| TOTAL | 6,660.00 | | |

Copy to :
The Asst. Divisional Engineer, Opn, Kandukur
The Asst. Engineer, Kandukur Town

Signature with seal
Divisional Electrical Engineer
Operation::A.P.S.P.D.C.L.
KANDUKUR

LIST OF APPLICATIONS (1 Nos)

| Sl.No | Application Reg.Id | Applicant Name | Connected Load |
|-------|----------------------|--------------------|----------------|
| 1 | 45111CN01412017SEP26 | T R R Govt College | 17.24 |



**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR**

CRITERION VII - 7.1.2



ENERGY CONSERVATION IN THE COLLEGE



Based on the necessity we purchased the water sensor for one water tank located on the roof top, which is frequently in use which has more chances of over flowing. With this we could able to minimize the water waste caused due to the over flowing of water.





**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR**

CRITERION VII - 7.1.2



DIGITAL SOCKET TIMERS ARE USED TO CONSERVE THE POWER IN THE BOTANY LAB



Two digital socket timer are used for NFT model and Dutch Bucket Model of Hydroponics in Botany lab to conserve the electric power. Digital socket timers are used to control the flow of water periodically for hydroponics experiments. Circulation of nutrient solution is very important aspect of Hydroponic experiments. As the college working hours is 10.00 am to 5.00 pm, the question of circulating the nutrient solution through submersive motor pumps from 5.00 pm to 10.00 am arises. If we continuously switch on the motors, continuous circulation of nutritive solution may occurs, but at the cost of energy. So to solve this, the college has adopted the technology of digital socket timer, where the time of water circulation to the plants of hydroponic units is controlled in programmed manner. Nearly sixteen pre programmed programs can be used through these digital socket timers.



**TRR GOVERNMENT DEGREE
COLLEGE, KANDUKUR**

CRITERION VII - 7.1.2



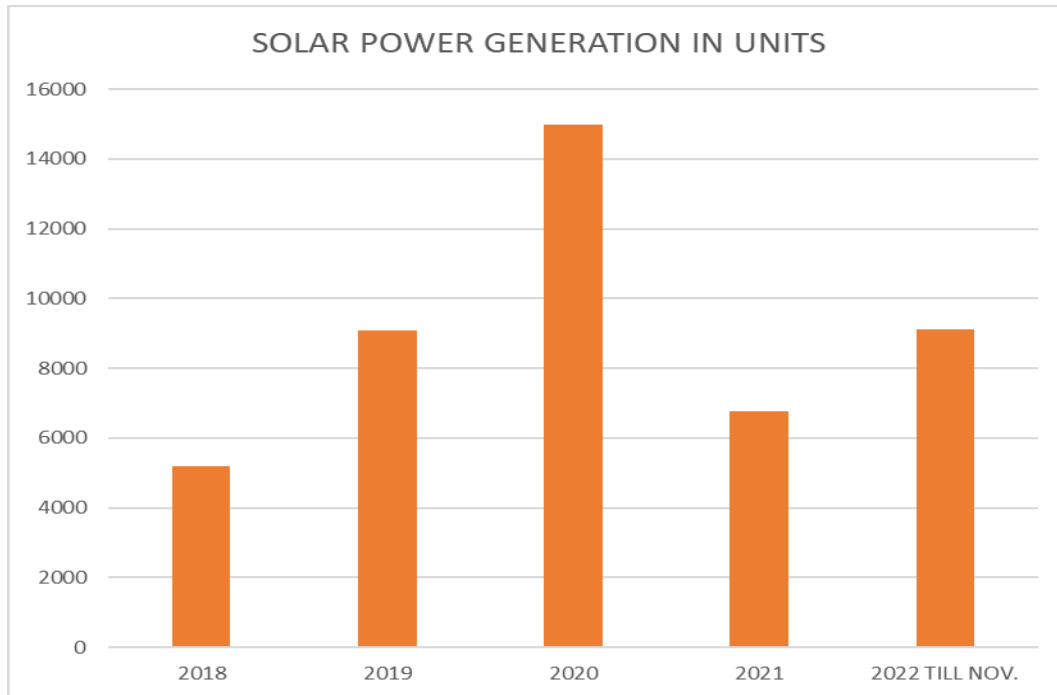
LED 'S IN OUR SEMINAR HALL

Right from the 2018 the number of LED tube lights has been increasing. Till today the ratio of LED to Total Bulbs is 59% (out of total 210 tube lights LED's constitute 124, i.e., 59% of total lights. In very near future we will reach the target of 100% LED paving a path for more efficient electric energy consumption.

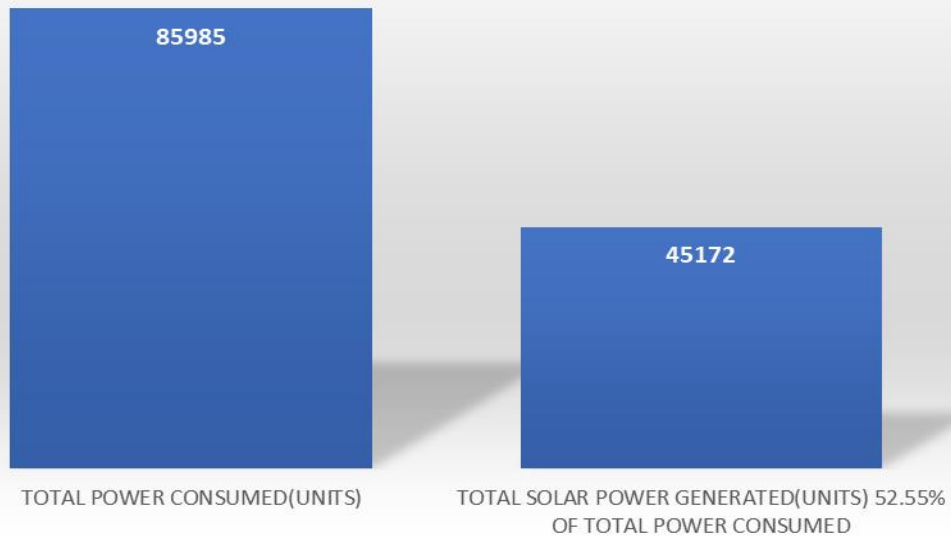


Our college lecturer Dr. Ch. Shankar Rao is using his bicycle to come to the college since two years. His practice of environment protection and energy conservation will definitely motivate other lecturers and students to follow this Eco- friendly practice.

ANALYSIS OF SOLAR POWER GENERATION IN THE COLLEGE:



GRAPH SHOWING TOTAL POWER CONSUMED AND
TOTAL SOLAR POWER GENERATED.



- ❖ For the period 2019 to 2022, the total power consumed by the college is 85985 units where as the solar energy generated through solar panels of roof top is 45172 units. So for this four years 2019-2022 the share of solar power generated to the total power consumed is 52.53%
- ❖ Right from the installation period, maximum solar power is generated in the year 2020
- ❖ Right from the installation period, maximum solar power is generated in the year 2018
- ❖ The year in which maximum power is transferred to the grid is

DETAILS OF SOLAR POWER GENERATION FROM 2018-2022,

CONSUMPTION OF POWER AND SOLAR ENERGY GENERATION PARTICULARS FOR 2018

| | | |
|---------|---|-------------------------|
| USCNO | : | 4511101001920 |
| ADDRESS | : | KANDUKURU |
| SECTION | : | KDK TOWN |
| NAME | : | TRR GOVT DEGREE COLLEGE |

| MONTH | TYPE | OPRDG-IMP | CLRDG-IMP | IMP UNITS | OPRDG-EXP | CLRDG-EXP | EXP UNITS | NET UNITS |
|--------|------|-----------|----------------|--------------|-----------|-----------|-------------|-------------|
| Feb-18 | KVH | 18151 | 19667 | 0 | | | | |
| Mar-18 | KVH | 19667 | 1294 | 1569 | 0 | 394 | 394 | 0 |
| Apr-18 | KVH | 1294 | 2388 | 1094 | 394 | 952 | 558 | 0 |
| May-18 | KVH | 2388 | 3332 | 944 | 952 | 1556 | 604 | 0 |
| Jun-18 | KVH | 3332 | 4043 | 7 | 1556 | 2358 | 802 | -795 |
| Jul-18 | KVH | 4043 | 5056 | 1013 | 2358 | 2501 | 143 | 0 |
| Aug-18 | KVH | 5056 | 6006 | 950 | 2501 | 2916 | 415 | 0 |
| Sep-18 | KVH | 6006 | 7674 | 1668 | 2916 | 3129 | 213 | 0 |
| Oct-18 | KVH | 7674 | 8978 | 1304 | 3129 | 3588 | 459 | 0 |
| Nov-18 | KVH | 8978 | 9866 | 888 | 3588 | 4133 | 545 | 0 |
| Dec-18 | KVH | 9866 | 10726 | 860 | 4133 | 5198 | 1065 | -205 |
| | | | TOTAL : | 10297 | | | 5198 | 1000 |


 ASST EXECUTIVE ENGINEER
 OPERATION SECTION
 KANDUKUR: APCPDCL

CONSUMPTION OF POWER AND SOLAR ENERGY GENERATION PARTICULARS FOR 2019

| | | |
|---------|---|-------------------------|
| USCNO | : | 4511101001920 |
| ADDRESS | : | KANDUKURU |
| SECTION | : | KDK TOWN |
| NAME | : | TRR GOVT DEGREE COLLEGE |

| MONTH | TYPE | OPRDG-IMP | CLRDG-IMP | IMP UNITS | OPRDG-EXP | CLRDG-EXP | EXP UNITS | NET UNITS |
|--------|------|-----------|----------------|--------------|-----------|-----------|-------------|-------------|
| Jan-19 | KVH | 10726 | 11686 | 960 | 5198 | 5697 | 499 | 0 |
| Feb-19 | KVH | 11686 | 12634 | 948 | 5697 | 6104 | 407 | 0 |
| Mar-19 | KVH | 12634 | 13514 | 880 | 6104 | 6658 | 554 | 0 |
| Apr-19 | KVH | 13514 | 14620 | 1106 | 6658 | 7037 | 379 | 0 |
| May-19 | KVH | 14620 | 15668 | 1048 | 7037 | 7999 | 962 | 0 |
| Jun-19 | KVH | 15668 | 17087 | 1419 | 7999 | 8145 | 146 | 0 |
| Jul-19 | KVH | 17087 | 17863 | 776 | 8145 | 9858 | 1713 | -937 |
| Jul-19 | KVH | 17863 | 19168 | 1305 | 9858 | 10744 | 886 | 0 |
| Aug-19 | KVH | 19168 | 21608 | 2440 | 10744 | 10909 | 165 | 0 |
| Sep-19 | KVH | 21608 | 23795 | 2187 | 10909 | 11240 | 331 | 0 |
| Oct-19 | KVH | 23795 | 26065 | 2270 | 11240 | 11652 | 412 | 0 |
| Nov-19 | KVH | 26065 | 27542 | 1477 | 11652 | 12957 | 1305 | 0 |
| Dec-19 | KVH | 27542 | 28726 | 1184 | 12957 | 14281 | 1324 | -140 |
| | | | TOTAL : | 18000 | | | 9083 | 1077 |


 ASST EXECUTIVE ENGINEER
 OPERATION SECTION
 KANDUKUR: APCPDCL

CONSUMPTION OF POWER AND SOLAR ENERGY GENERATION PARTICULARS FOR 2020

| | | |
|---------|---|-------------------------|
| USCNO | : | 4511101001920 |
| ADDRESS | : | KANDUKURU |
| SECTION | : | KDK TOWN |
| NAME | : | TRR GOVT DEGREE COLLEGE |

| MONTH | TYPE | OPRDG-IMP | CLRDG-IMP | IMP UNITS | OPRDG-EXP | CLRDG-EXP | EXP UNITS | NET UNITS |
|--------|------|-----------|----------------|--------------|-----------|-----------|--------------|-------------|
| Jan-20 | KVH | 28726 | 29763 | 1037 | 14281 | 15559 | 1278 | -241 |
| Feb-20 | KVH | 29763 | 30488 | 725 | 15559 | 16843 | 1284 | -559 |
| Mar-20 | KVH | 30488 | 31483 | 995 | 16843 | 18331 | 1488 | -493 |
| Apr-20 | KVH | 31483 | 32435 | 952 | 18331 | 20434 | 2103 | -1151 |
| May-20 | KVH | 32435 | 33927 | 1492 | 20434 | 21143 | 709 | 0 |
| Jun-20 | KVH | 33927 | 35409 | 1482 | 21143 | 21972 | 829 | 0 |
| Jul-20 | KVH | 35409 | 37162 | 1753 | 21972 | 22651 | 679 | 0 |
| Aug-20 | KVH | 37162 | 38277 | 1115 | 22651 | 24351 | 1700 | -585 |
| Sep-20 | KVH | 38277 | 38945 | 668 | 24351 | 26014 | 1663 | -995 |
| Oct-20 | KVH | 38945 | 39623 | 678 | 26014 | 27425 | 1411 | -733 |
| Nov-20 | KVH | 39623 | 40644 | 1021 | 27425 | 28187 | 762 | 0 |
| Dec-20 | KVH | 40644 | 41608 | 964 | 28187 | 29273 | 1086 | -122 |
| | | | TOTAL : | 12882 | | | 14992 | 4879 |


 ASST EXECUTIVE ENGINEER
 OPERATION SECTION
 KANDUKUR: APCPDCL

CONSUMPTION OF POWER AND SOLAR ENERGY GENERATION PARTICULARS FOR 2021

| | | |
|---------|---|-------------------------|
| USCNO | : | 4511101001920 |
| ADDRESS | : | KANDUKURU |
| SECTION | : | KDK TOWN |
| NAME | : | TRR GOVT DEGREE COLLEGE |

| MONTH | TYPE | OPRDG-IMP | CLRDG-IMP | IMP UNITS | OPRDG-EXP | CLRDG-EXP | EXP UNITS | NET UNITS |
|--------|------|-----------|----------------|--------------|-----------|-----------|-------------|-------------|
| Jan-21 | KVH | 41608 | 42435 | 827 | 29273 | 30755 | 1482 | -655 |
| Feb-21 | KVH | 42435 | 43369 | 934 | 30755 | 32301 | 1546 | -612 |
| Mar-21 | KVH | 43369 | 44455 | 1086 | 32301 | 33396 | 1095 | -9 |
| Apr-21 | KVH | 44455 | 47512 | 3057 | 33396 | 33396 | 0 | 0 |
| May-21 | KVH | 47512 | 50705 | 3193 | 33396 | 33396 | 0 | 0 |
| Jun-21 | KVH | 50705 | 53385 | 2680 | 33396 | 33396 | 0 | 0 |
| Jul-21 | KVH | 53385 | 55576 | 2191 | 33396 | 33758 | 362 | 0 |
| Aug-21 | KVH | 55576 | 58188 | 2612 | 33758 | 34047 | 289 | 0 |
| Sep-21 | KVH | 58188 | 60463 | 2275 | 34047 | 34859 | 812 | 0 |
| Oct-21 | KVH | 60463 | 62687 | 2224 | 34859 | 35515 | 656 | 0 |
| Nov-21 | KVH | 62687 | 65512 | 2825 | 35515 | 35515 | 0 | 0 |
| Dec-21 | KVH | 65512 | 67306 | 1794 | 35515 | 36049 | 534 | 0 |
| | | | TOTAL : | 25698 | | | 6776 | 1276 |


ASST EXECUTIVE ENGINEER
OPERATION SECTION
KANDUKUR: APCPDCL

CONSUMPTION OF POWER AND SOLAR ENERGY GENERATION PARTICULARS FOR 2022

| | | | | | | | |
|---------|---|-------------------------|--|--|--|--|--|
| USCNO | : | 4511101001920 | | | | | |
| ADDRESS | : | KANDUKURU | | | | | |
| SECTION | : | KDK TOWN | | | | | |
| NAME | : | TRR GOVT DEGREE COLLEGE | | | | | |

| MONTH | TYPE | OPRDG-IMP | CLRDG-IMP | IMP UNITS | OPRDG-EXP | CLRDG-EXP | EXP UNITS | NET UNITS |
|--------|------|---------------|-----------|--------------|-----------|-----------|-------------|------------|
| Jan-22 | KVH | 67306 | 69015 | 1709 | 36049 | 37469 | 1420 | 0 |
| Feb-22 | KVH | 69015 | 70008 | 993 | 37469 | 38644 | 1175 | -182 |
| Mar-22 | KVH | 70008 | 71091 | 1083 | 38644 | 40047 | 1403 | -320 |
| Apr-22 | KVH | 71091 | 73056 | 1965 | 40047 | 41063 | 1016 | 0 |
| May-22 | KVH | 73056 | 74964 | 1908 | 41063 | 42095 | 1032 | 0 |
| Jun-22 | KVH | 74964 | 76510 | 1546 | 42095 | 42766 | 671 | 0 |
| Jul-22 | KVH | 76510 | 78444 | 1934 | 42766 | 42789 | 23 | 0 |
| Aug-22 | KVH | 78444 | 81238 | 2794 | 42789 | 42789 | 0 | 0 |
| Sep-22 | KVH | 81238 | 83783 | 2545 | 42789 | 43141 | 352 | 0 |
| Oct-22 | KVH | 83783 | 85252 | 1469 | 43141 | 44059 | 918 | 0 |
| Nov-22 | KVH | 85252 | 86414 | 1162 | 44059 | 45172 | 1113 | 0 |
| | | TOTAL: | | 19108 | | | 9123 | 502 |


 ASST EXECUTIVE ENGINEER
 OPERATION SECTION
 KANDUKUR: APCPDCL