



K. S. R. M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India – 516 005

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NAAC DVV Clarifications																																																																																																																																							
SUMMARY SHEET																																																																																																																																							
Criterion – 7	INSTITUTIONAL VALUES AND BEST PRACTICES																																																																																																																																						
Key Indicator	7.1.	Institutional Values and Social Responsibilities																																																																																																																																					
Metric No.	7.1.2.	Environmental Consciousness and Sustainability – <i>The Institution has facilities for alternate sources of energy and energy conservation measures</i>																																																																																																																																					
DVV Query	HEI is required to present electricity bills reflecting campus-wide consumption, with specific emphasis on energy utilization, both antecedent to and subsequent to a six-month period following the implementation of "Alternate Sources of Energy and Energy Conservation Measures."																																																																																																																																						
HEI's Response	<p>The HEI has established Solar Plants in 3 phases. The details of installation is as follows.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="text-align: center;">Particulars</th> <th style="text-align: center;">Capacity</th> <th style="text-align: center;">Month, Year</th> <th style="text-align: center;">Antecedent Months</th> <th style="text-align: center;">Subsequent Months</th> <th style="text-align: center;">Cumulative Avg. Savings (Rs.)</th> </tr> </thead> <tbody> <tr> <td>Establishment of 1st Solar Plant</td> <td style="text-align: center;">203.5 kWp</td> <td style="text-align: center;">July, 2015</td> <td style="text-align: center;">Feb., 2015 to July, 2015</td> <td style="text-align: center;">Aug., 2015 to Jan., 2016</td> <td style="text-align: right;">90,260/-</td> </tr> <tr> <td>Establishment of 2nd Solar Plant</td> <td style="text-align: center;">102 kWp</td> <td style="text-align: center;">Dec., 2016</td> <td style="text-align: center;">July, 2016 to Dec., 2016</td> <td style="text-align: center;">Jan., 2017 to June, 2017</td> <td style="text-align: right;">1,98,150/-</td> </tr> <tr> <td>Establishment of 3rd Solar Plant</td> <td style="text-align: center;">250 kWp</td> <td style="text-align: center;">Mar., 2023</td> <td style="text-align: center;">Oct., 2022 to Mar., 2023</td> <td style="text-align: center;">Apr., 2023 to Sept., 2023</td> <td style="text-align: right;">2,65,487/-</td> </tr> </tbody> </table> <p>The first solar power plant with a capacity of 203.5 kWp was installed in July 2015. Antecedent to the installation, the average electrical energy used from February, 2015 to July 2015 was 36,883 units, and the average amount paid to the APSPDCL (Andhra Pradesh Southern Power Distribution Company Limited) was Rs. 3,48,992/-. After the installation of the solar power plant, from August, 2015 to January, 2016 the consumption of electrical energy reduced from an average of 36,883 units to 23,961 units in a six-month period. Consequently, the amount paid to the APSPDCL also decreased from an average of Rs. 3,48,992/- to Rs. 2,49,883/-. During this six-month period, the solar power plant generated an average of 11,783 kWh through solar energy, resulting in a saving of average amount of Rs. 90,260/-. The same is substantiated and illustrated in Table 01 and the graphs. The power bills related in this period as given under View Document - Power Bills (February, 2015 - January, 2016)</p> <p style="text-align: center;">Table 01. For a period of February, 2015 to January, 2016 (12 Months)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">S.No</th> <th style="text-align: center;"></th> <th style="text-align: center;">Month & Year</th> <th style="text-align: center;">Electrical Energy Used in Units</th> <th style="text-align: center;">Amount Paid to APSPDCL in Rs.</th> <th style="text-align: center;">Solar Power Generated in kWh</th> <th style="text-align: center;">Revenue Generated by Solar Power in Rs.</th> </tr> </thead> <tbody> <tr> <td colspan="7">1st Solar Power Plant</td> </tr> <tr> <td style="text-align: center;">01</td> <td style="text-align: center;">Antecedent</td> <td style="text-align: center;">February, 2015</td> <td style="text-align: center;">36424</td> <td style="text-align: center;">331972</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">02</td> <td style="text-align: center;">to Solar</td> <td style="text-align: center;">March, 2015</td> <td style="text-align: center;">40444</td> <td style="text-align: center;">366743</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">03</td> <td style="text-align: center;">Power</td> <td style="text-align: center;">April, 2015</td> <td style="text-align: center;">44864</td> <td style="text-align: center;">352325</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">04</td> <td style="text-align: center;">Plant</td> <td style="text-align: center;">May, 2015</td> <td style="text-align: center;">45540</td> <td style="text-align: center;">420381</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">05</td> <td style="text-align: center;">Installation</td> <td style="text-align: center;">June, 2015</td> <td style="text-align: center;">30984</td> <td style="text-align: center;">306227</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">06</td> <td style="text-align: center;"></td> <td style="text-align: center;">July, 2015</td> <td style="text-align: center;">23044</td> <td style="text-align: center;">316301</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="3" style="text-align: center;">Average</td> <td style="text-align: center;">36883</td> <td style="text-align: center;">348992</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">07</td> <td style="text-align: center;">Subsequent</td> <td style="text-align: center;">August, 2015</td> <td style="text-align: center;">33876</td> <td style="text-align: center;">336006</td> <td style="text-align: center;">11182</td> <td style="text-align: center;">85654.12</td> </tr> <tr> <td style="text-align: center;">08</td> <td style="text-align: center;">to Solar</td> <td style="text-align: center;">September, 2015</td> <td style="text-align: center;">19620</td> <td style="text-align: center;">234113</td> <td style="text-align: center;">12726</td> <td style="text-align: center;">97481.16</td> </tr> <tr> <td style="text-align: center;">09</td> <td style="text-align: center;">Power</td> <td style="text-align: center;">October, 2015</td> <td style="text-align: center;">21192</td> <td style="text-align: center;">249676</td> <td style="text-align: center;">13709</td> <td style="text-align: center;">105010.9</td> </tr> <tr> <td style="text-align: center;">10</td> <td style="text-align: center;">Plant</td> <td style="text-align: center;">November, 2015</td> <td style="text-align: center;">31720</td> <td style="text-align: center;">331158</td> <td style="text-align: center;">7713</td> <td style="text-align: center;">59081.58</td> </tr> <tr> <td style="text-align: center;">11</td> <td style="text-align: center;">Installation</td> <td style="text-align: center;">December, 2015</td> <td style="text-align: center;">23680</td> <td style="text-align: center;">213903</td> <td style="text-align: center;">12256</td> <td style="text-align: center;">93880.96</td> </tr> <tr> <td style="text-align: center;">12</td> <td style="text-align: center;"></td> <td style="text-align: center;">January, 2016</td> <td style="text-align: center;">13680</td> <td style="text-align: center;">134441</td> <td style="text-align: center;">13114</td> <td style="text-align: center;">100453.20</td> </tr> </tbody> </table>						Particulars	Capacity	Month, Year	Antecedent Months	Subsequent Months	Cumulative Avg. 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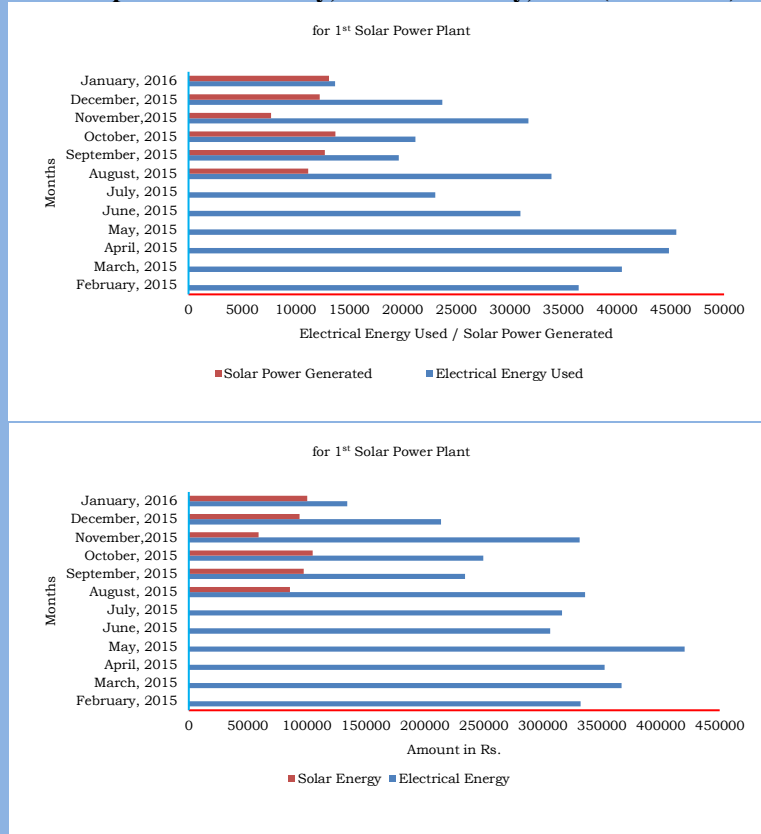
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Average	23961	249883	11783	90260
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For a period of February, 2015 to January, 2016 (12 Months)



The second solar power plant is augmented in December, 2016. Six months average unit consumption before the second solar plant installation (i.e., from July, 2016 to December, 2016) was 22880 units and an average amount paid to the APSPDCL is Rs. 2,11,502/-. After installation of the second power plant (i.e., from January, 2017 to June, 2017), the average consumption of electrical energy is reduced from 22880 units to 14253 units. Consequently, the amount paid to the APSPDCL has decreased from an average of Rs. 2,11,502/- to Rs. 1,27,631/-. The solar power plant has generated an average of 12476 kWh and amounting to Rs. 95551/- before the installation of second solar power plant. Consequently, after the installation the solar power generation increased from 12476 kWh to 25868 kWh and revenue generated is increased from Rs. 95,551/- to 1,98,150/-, resulting in a saving of Rs. 1,02,599/-. The same is substantiated and illustrated in Table 02 and the graphs. The power bills related in this period as given under [View Document - Power Bills \(July, 2016 - June, 2017\)](#)

Table 02. For a period of July, 2016 to June, 2017 (12 Months)

S.No		Month & Year	Electrical Energy Used in Units	Amount Paid to APSPDCL in Rs.	Solar Power Generated in kWh	Revenue Generated by Solar Power in Rs.
2nd Solar Power Plant						
01	Before augmenting the 2 nd Solar Power Plant	July, 2016	25520	229985	10392	79602.72
02		August, 2016	25760	234499	11398	87308.68
03		September, 2016	26560	241576	8789	67232.74
04		October, 2016	20800	195240	13591	104107.10
05		November, 2016	22000	222647	12956	99242.96
06		December, 2016	16640	145063	17730	135811.80
		Average	22880	211502	12476	95551
07	After augmentation of the 2 nd	January, 2017	11200	96311	26081	199780.50
08		February, 2017	13520	102439	27618	211553.90
09		March, 2017	18480	153839	30215	231446.90



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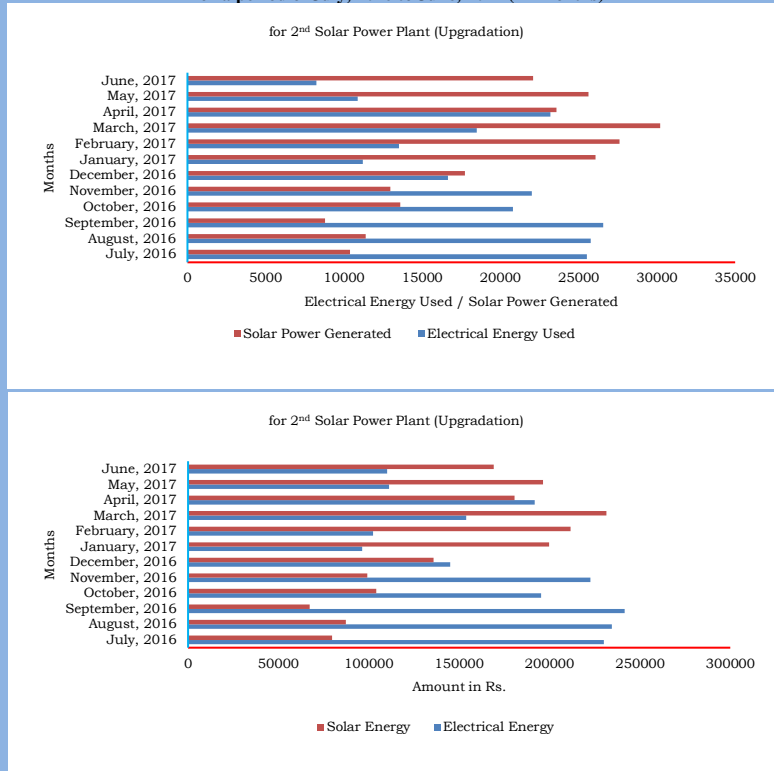
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10	Solar Power	April, 2017	23200	191866	23583	180645.80
11	Plant	May, 2017	10880	111196	25633	196348.80
12		June, 2017	8240	110134	22079	169125.10
Average			14253	127631	25868	198150

For a period of July, 2016 to June, 2017 (12 Months)



The third solar power plant is augmented in the year March, 2023. The average electrical energy used before six months (i.e., from October, 2022 to March, 2023) of installation is 46574 units and the amount paid to the APSPDCL is Rs. 3,29,483/-, the solar power generated is 22518 kWh and the amount generated is Rs. 1,72,487/-. The average electrical energy consumed during the period April, 2023 to September, 2023 is 66355 units and the power generated through solar power is 34659 kWh and the revenue generated is Rs. 2,65,487/-. The net saving is Rs. 93,000/-. The same is substantiated and illustrated in Table 03 and the graphs. The power bills related in this period as given under [View Document - Power Bills \(October, 2022 - September, 2023\)](#)

Table 03. For a period of October, 2022 to September, 2023 (12 Months)

S.No	Month & Year	Electrical Energy Used in Units	Amount Paid to APSPDCL in Rs.	Solar Power Generated in kWh	Revenue Generated by Solar Power in Rs.
3rd Solar Power Plant					
01	Before augmenting the 3 rd Solar Power Plant	October, 2022	26596	292815	157275.10
02		November, 2022	49549	399738	121035.70
03		December, 2022	47963	350360	140936.30
04		January, 2023	42387	255848	181810.10
05		February, 2023	51842	342936	177911.20
06		March, 2023	61106	335198	255951.20
		Average	46574	329483	172487
07	After augmentation of the 3 rd Solar Power Plant	April, 2023	66965	323104	293508.20
08		May, 2023	78742	506066	277322.60
09		June, 2023	73022	488650	244882.50
10		July, 2023	60837	410609	193866.90
11		August, 2023	59524	340154	269877.10
12		September, 2023	59042	283411	313462.50
		Average	66355	391999	265487



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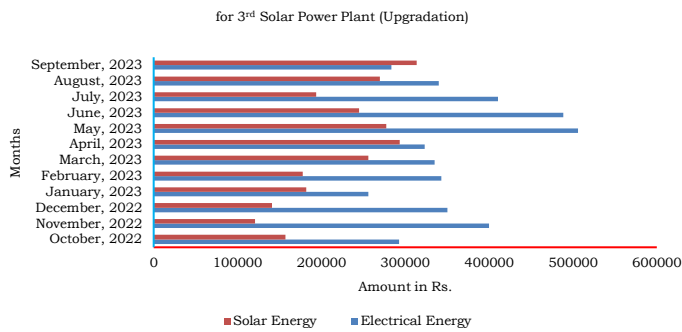
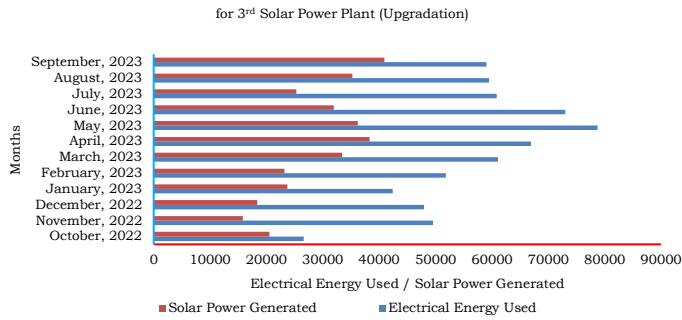
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For a period of October, 2022 to September, 2023 (12 Months)



Additional Document	Electricity Bills	View Document
	Solar Invoices	View Document