

**Vasavi College of Engineering (Autonomous), Ibrahimbagh, Hyderabad-31**  
**Department of Electrical & Electronics Engineering**

**Alternative Energy Resources:** 200 kWp roof top Solar Power Plant

<b>Year</b>	<b>Energy requirement of the college (kWh)</b>	<b>Energy requirement met by Solar (kWh )</b>	<b>%Energy requirement met by Solar</b>
2014-15	444993	223548	50.24
2015-16	575268	294701	51.23
2016-17	526954	272237	51.66
2017-18	599202	273959	45.72
2018-19	652093	280724	43.04

  
**HOD EEE**

# INVOICE

(Original)

<b>Aditya Green Energy Pvt. Ltd. 13-15</b> 21/22, Shahu Complex Near Telephone Bhawan Latur E-Mail : adityagreenenergy@rediffmail.com	Invoice No. <b>SPP/14-15/2</b>	Dated <b>22-Jun-2014</b>
	Delivery Note	Mode/Terms of Payment
	Supplier's Ref.	Other Reference(s)
Consignee <b>Vasavi College of Engineering,</b> 9-5-81 Ibrahim Bagh, Hyderabad 500031	Buyer's Order No. PO NO. VCE/PO/Solar PV System/2014	Dated <b>16-Jan-2014</b>
	Despatch Document No.	Dated
	Despatched through	Destination
Buyer (if other than consignee) <b>Vasavi College of Engineering</b> 9-5-81 Ibrahim Bagh, Hyderabad 500031	Terms of Delivery	

Sl No.	Description of Goods	Quantity	Rate	per	Disc. %	Amount
1	<b>Solar Power Pack</b> Design Manufacture Supply Erection Testing & Commissioning of 200 KWP Grid Connected Roof Top Solar PV System	200.00 kW	77,820.00	kW		1,55,64,000.00
	Less : <b>SECI Subsidy</b>					(-)35,64,000.00
<b>Total</b>		<b>200.00 kW</b>				<b>₹ 1,20,00,000.00</b>

E. & O.E

Amount Chargeable (in words)  
 Indian Rupees One Crore Twenty Lakh Only

Company's VAT TIN : 27640840489V  
 Company's CST No. : 27640840489C

**Declaration**  
 We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.



for Aditya Green Energy Pvt. Ltd. 13-15

Authorised Signatory

## Green Campus Initiative

### 200KWp Roof Top Grid Tied Solar Power Plant

As part of Green Campus Initiative Vasavi College of Engineering has initially commissioned 200kWp rooftop grid tied fixed tilt solar power plant in the campus with the support of Electrical and Electronics Engineering department in the year 2014. The Vasavi college of Engineering has five buildings namely Viswesrayya block, Ramanujam block, C.V. Raman block, Sarvepalli Radha Krishnan block and Jagdish Chandra Bose block. The rooftop solar PV plant was erected on J.C.Bose block and Viswesrayya block. A 41.53 Sq.mt area is available on J.C.Bose block on which 125 Kwp SPV Installed and a 25 Sq.mt area is available on Viswesrayya block on which 75 Kwp SPV installed.

Diesel generator sets of 625 kVA, 500 kVA and 125 kVA capacities are providing backup power. Load can be met by either 625 kVA DG set or 500 kVA DG set. A diesel generator of 125 kVA capacity is used to meet the load during holidays and for street lighting. Prior to the installation of 200kWp SPV, diesel generators are run to meet the load during the scheduled and unscheduled outages of the state electricity supply. The operation of these generators is not free from pollution.

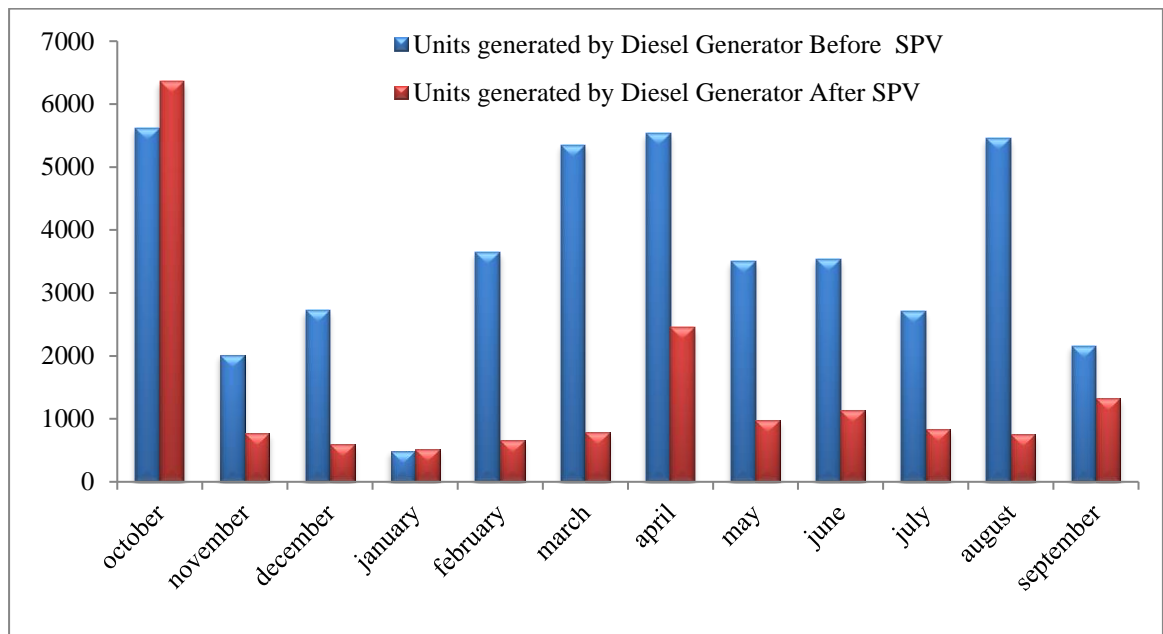


Fig.1. Diesel units generated before and after SPV installation

After the installation of solar PV Power generation, the diesel generators were operated only when there is a failure on grid to meet the load that is in excess to the solar power generation. This reduced operation time and number of units produced by the diesel generators. Thus the total diesel consumption has decreased considerably.

Installation of 200KWP solar PV Power generation also resulted in a substantial saving of the energy charges per month. Also the power generated during holidays, Sundays and excess power during working days is fed into the National Grid.

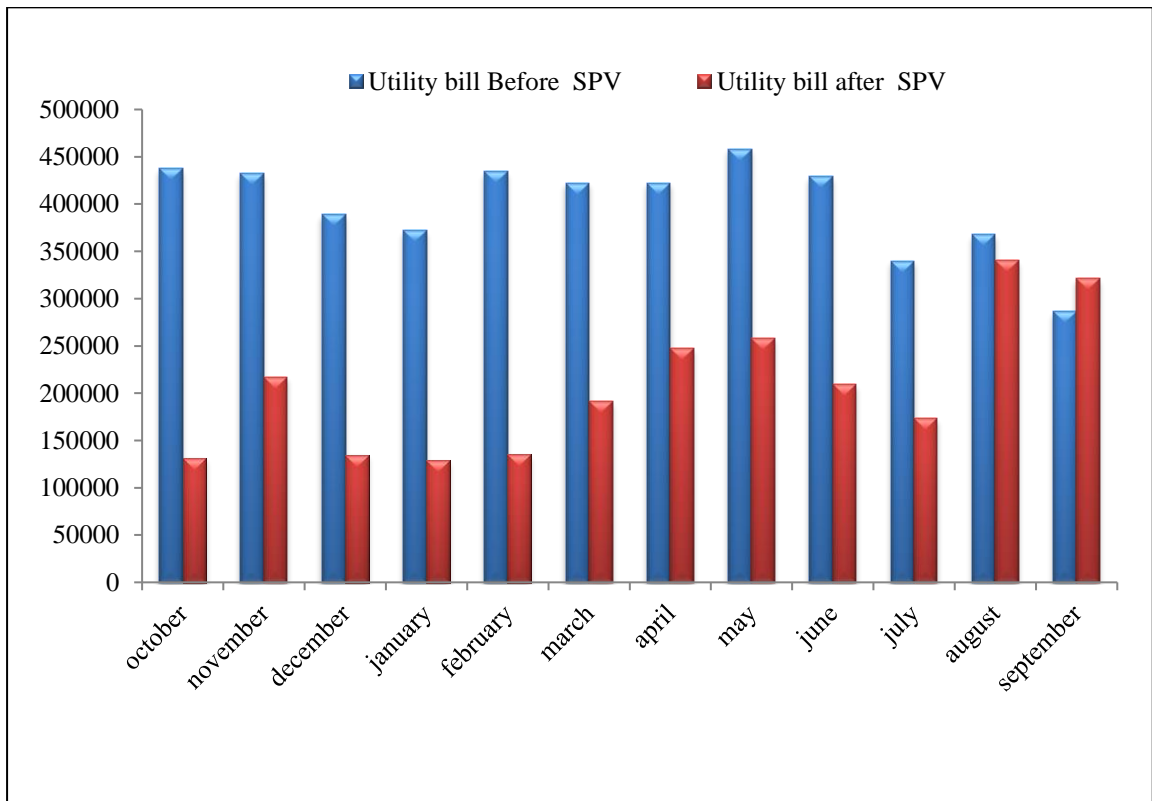


Fig.2. Utility bill (in INR) before and after SPV installation

The following table shows the Energy requirement met by the 200KWp Solar plant year wise from the installation.

Year	Energy requirement of the college (kWh)	Energy requirement met by Solar (kWh )	%Energy requirement met by Solar
2014-15	444993	223548	50.24
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With the experience gained from the 200kWp plant, another 160 kWp grid tied fixed tilt Solar Power plant is proposed for installation on Ramanujam block, Pendekanti Institute of Management (PIM) block and Sarvepalli Radha Krishnan block to cater energy needs of the institute from time to time.

The 200kWp solar power plant generates approximately 269033 units of electrical energy annually that is equivalent to reduction in 300 Tons of CO2 emission approximately. A true green initiative by Electrical and Electronics Engineering department and by the college.

Reference: “Design, erection, testing and commissioning of 200Kwp rooftop grid tied solar photovoltaic system at Vasavi College of engineering”. Dr.M.Chakravarthy, K.V.Ramanamurthy,B.Neelima Devi. Conference: 2015 IEEE IAS Joint Industrial and Commercial Power Systems / Petroleum and Chemical Industry Conference (ICSPCIC), DOI: [10.1109/CICPS.2015.7974067](https://doi.org/10.1109/CICPS.2015.7974067)