Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule

Survey No. 499, Plot No. 02, Behind Gurudwara, Mumbai - Agra Road, Dist. Dhule, Maharashtra, 424001 Phone No.: (02562) 297801, 297601

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7.1.2: The Institution has facilities and initiatives for

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Alternate sources of energy and energy conservation measures							
1.1	Solar Energy	2 - 6					
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1.3	Sensor Based Energy Conservation	10 - 12					
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1.1 Solar Energy

- The institute harnesses the generated solar power to power its facilities adopting sustainable technologies helps students understand how their actions can impact the environment.
- Solar panels are placed on the rooftop of SVKM's Institute of Technology to ensure that the
 institution utilizes solar power for its operations and thereby conserve conventional electricity.
- The institute monitors its solar power generation with the help of an application software. This
 application not only provides information on the electricity output of individual solar panels but
 also identifies panels that are non-functional.
- Graph below shows the institute's solar power generation.

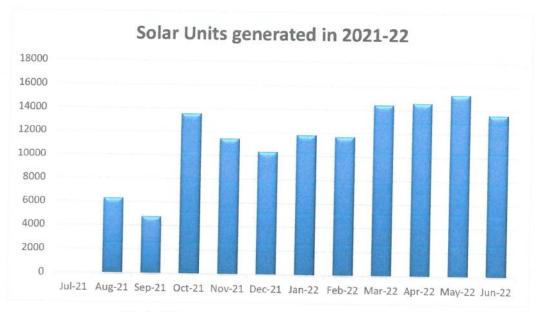


Photo. Solar power generation trend in 2021-22



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Photo. Solar power generation trend in 2022-23



Photo. A view of photovoltaic panels set-up on Institute's Rooftop



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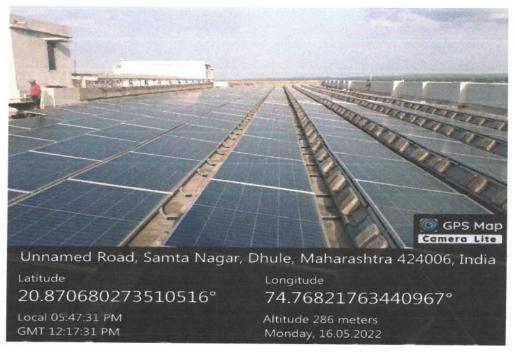


Photo. A view of photovoltaic panels set-up on Institute's Rooftop

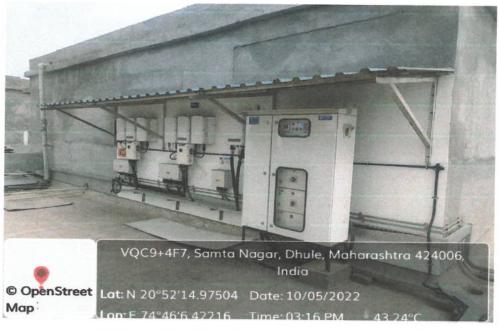


Photo. A view of inverters set-up on Institute's Rooftop





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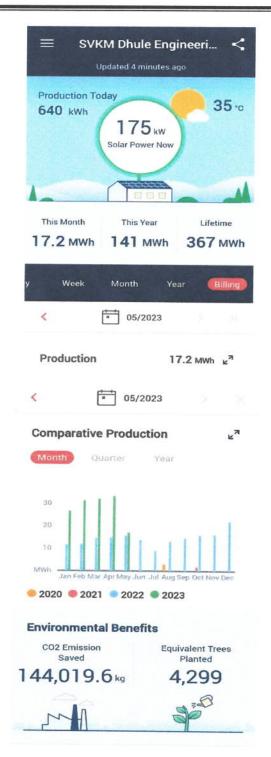




Photo: Screenshots taken from Solar App



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Photo. A view of photovoltaic panels set-up on Institute's Rooftop



Photo. A view of photovoltaic panels set-up on Institute's Rooftop





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1.2 Wheeling to the grid

 The agreement between SVKM's Institute of Technology and MSEDCL with Consumer number: 091029007190 includes a provision for wheeling to the grid. The institute's TOD Solar Generation Meter No. is 055-X1694115.

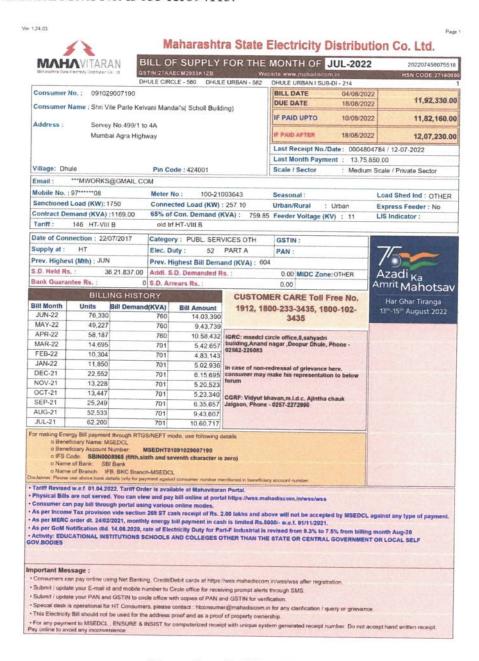


Photo. Sample Electricity Bill





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Page 2

Reading Date Current 31/07/2022 Previous 30/06/2022 Difference Multiplying Factor			STATE OF THE PARTY NAMED IN	1		DNSUMPT	COLUMN TO SERVICE STATE OF THE	Manager and Assessment					
Previous 30/06/2022 Difference	_			KV	AH	RKVAH (LAG)		RKVAH (LEAD)		KW (MD)	KVA (MD)		
Difference		30389.890 27000.090				5687.100			75.440	27.686	28.6		
	-						064.220	ę	64.000				
Multiplying Factor	-		9.800				622.880		11.440				
0 1			0.000		20.000			20.000	20.000	20.0			
Consumption	-		796.000			12457.600		2	28.800	553.720	573.3		
L.T. Metering	+	0.000							0.000	0.000	0.0		
Adjustment-Solar	_	-8466.000					0.000		0.000	0.000	0.0		
Assessed Consumption			0.000 61039.000			0.000		0.000	0.000	0.0			
Total Consumption		59330	0.000	6			458.000	2	29.000	554.000	573.0		
Secretary and the second				-	BILL	ING DET	Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Own				Amount in R		
Billed Demand (KVA)	760	1	@ Rs			154.00		d Charges			3,45,040.		
Assessed P.F.	7.77		Avg. P.F.		0.972		Wheeling Charge @ 0.55 Rs/U 33,5						
Billed P.F.	0.972		L.F.		8		Energy Charges 5,46,						
Consumption Type	Units		R	Rate Char			TOD Ta	Tariff EC			- 8,377.		
Industrial	61	1,039		8.96	5,	46,909.44	FAC @ 175.00 Ps./U			1,06,818.			
Residential		0		5.70		0.00							
Commercial		0		10.95		0.00	Electric	ity Duty			1,63,833.8		
E.D. on (Rs.)	Rate %		Ar		mount Rs.		Bulk Consumption Rebate			0.			
0.00		0.00		0.00		00	Tax on Sale @ 19.04 Ps./U			s./U	U 11,296.4		
10,23,961.34	16.00	00			1,63,833.81		Incremental Consumption Rebate \$5			ebate \$\$	- 6,762.0		
0.00	21.00				0.0	00	Charge	s For Exces	s Demand	d	0.0		
	Rate	Uni	its	Demand	i Chi	arges Rs.	Tax Collection at Source				0.0		
00:00 Hrs-06:00 Hrs & 22:00 Hrs-24:00 Hrs	-1.50	1	9,776	113.	00 -:	-29664.00 Debit Bill Adjustment			0.0				
06:00Hrs-09:00Hrs & 12:00Hrs-18:00Hrs	0.00	1	9,829	556.	00	0.00							
09:00 Hrs-12:00 Hrs	0.80		7,641 57		3.00 6112.8			URRENT BIL	02/08/20	00	11,92,329.5		
18:00 Hrs-22:00 Hrs	1.10	13	3,794	168.	00	15173.40	-	Interest	02/08/20	22	1.0		
					-		Interest	Arrears			0.0		
							Total Bi	I Amount (I	(habanaS	De .	1,92,330.0		
Amount In Words	LEVEN LA					THREE			11.5.				
		HUNDRED THIRTY ONLY					Delay Payment Charges Rs. Amount Payable After 18/08/2022				14,904.1		
\$ Incremental Consump							(Amount Ro	unded to Neare	st Rs. 10/-)		12,07,23		

Photo. Sample Electricity Bill indicating Net metering capacity and Solar installation month





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> Page 3 Consumer No. : 091029007190

	Expo	rt / Generation	n Meter R	eadings			
Mates Town	Current Reading Previous Reading Difference		MF	Consumption	SLOTWISE UNITS		
Meter Type				Adjustment	Slot 1 Slot 2	Slot 3 Slot 4	
Meter Serial Number				Total Consumption			
TOD EXPORT METER	31/07/22	14499.59		9152.00			
TOD EXPORT METER	30/06/22	14041.98	20.00	0.00	0.00	3029.0	
600-21003643		457.61		9152	6123.00	0.0	
TOD SOLAR GENERATION METER	31/07/22	112280.20		7098.00			
	30/06/22	105182.40	1.00	0.00	7.00	2490.0	
055-X1694114		7097.80		7098	4530.00	72.00	
TOO COLAR OF WEATHER WATER	31/07/22	46123.80		8965.00			
TOD SOLAR GENERATION METER	30/06/22	43135.60	3.00	0.00	2.00	3123.0	
055-X1694115		2988.20		8965	5746.00	94.00	
	04/07/00	1000 00					
TOD SOLAR GENERATION METER	31/07/22	1236.00		0.00			
055 V4004440	30/06/22	1236.00	2.00	0.00	0.00	0.00	
055-X1694116		0.00		0	0.00	0.00	
TOD SOLAR GENERATION METER	31/07/22	59708.80		6591.00			
TOD SOLAR GENERATION METER	30/06/22	56413.20	2.00	0.00	2.00	2096.00	
055-X1694117		3295.60		6591	4404.00	89.00	
	31/07/22	100210.60		27646.00			
TOD SOLAR GENERATION METER	30/06/22	94681.40	5.00		0.00	0050.00	
055-X1694118	30/00/22	5529.20	5.00	0.00	8.00	9652.00	
035-V 1034 L10		5529.20		27646	17691.00	295.00	

Photo. Sample Electricity Bill indicating institute's TOD Solar meter





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1.3 Sensor Based Energy Conservation

- Sensor-based energy conservation systems involve intelligent management of electrical devices by converting manual systems into smart systems through an integration of embedded systems.
- When used correctly, this technology can lead to significant energy savings.
- Sensors has been used in overhead water tanks to automate the water pump so as to avoid water spillage and thereby reducing water wastage.
- Use of centralized air-conditioning plant for cooling purpose in the institute's classroom, laboratories, faculty-areas, waiting-lounge, canteen, administrative section. Remote controlled fans are also being used.



Photo. Air conditioner in board room



Photo. Air conditioner in server room

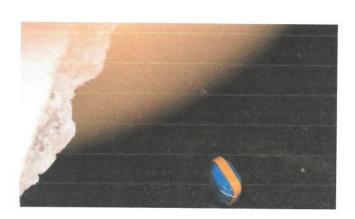




Photo. Sensor placed in overhead water tank





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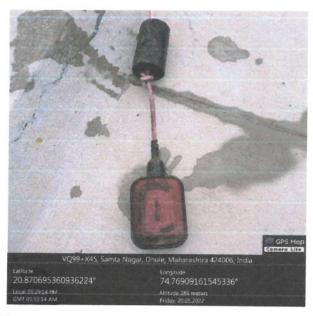


Photo. Sensors used in overhead water tank



Photo. Centralized Air conditioning plant





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Photo. Remote controlled Air Conditioning unit connected from centralized cooling plant



Photo. Remote controlled fans

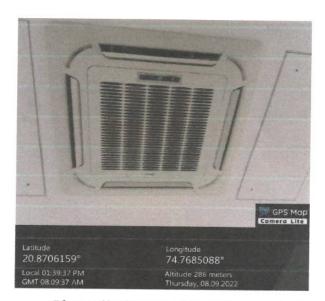




Photo. Air Conditioning unit connected from centralized cooling plant and AC remote





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1.4 Use of LED Bulbs/Energy Efficient Equipment

- Being an educational organization, SVKM's Institute of Technology has extensive requirement of lighting system in order to successfully carry out the teaching-learning process.
- LED lighting has been placed in every classroom, laboratory, faculty-area, seminar hall, and administrative-area to reduce energy waste. The LED lamps are in operation from 10 AM to 5 PM i.e. during college working hours.
- Students turn off the lights and fans in their individual classrooms and laboratories when the
 instructional period is over. Additionally, the non-teaching staff checks that all lights and fans
 are turned off in the labs and classrooms.
- There are no incandescent bulbs installed in the institute. The streetlamps are also of LED type.
- Saving in the energy by using all in one PC's in place of conventional monitors with CPU.
- Saving in the energy by using BEE star rated ACs, refrigerators and energy efficient fans in the institute.
- All the laboratories, classrooms and faculty areas have large and wide windows for day light saving of energy.

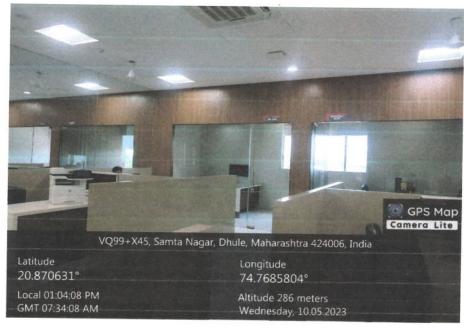


Photo. LED lighting in faculty area





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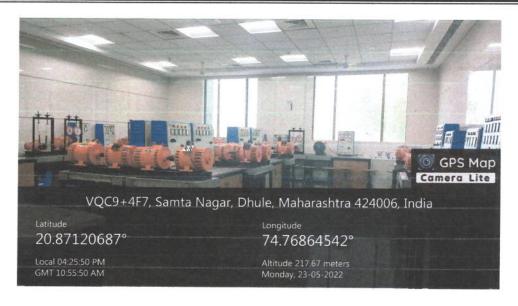


Photo. LED lighting in lab





Photo. Star rated refrigerators





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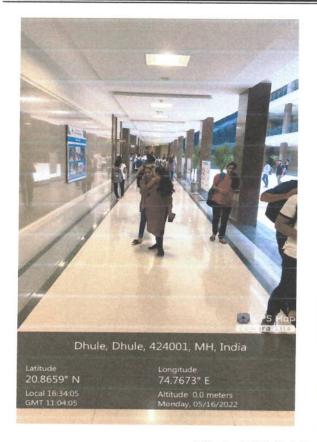




Photo. LED lighting in corridor



Photo. LED lighting in library





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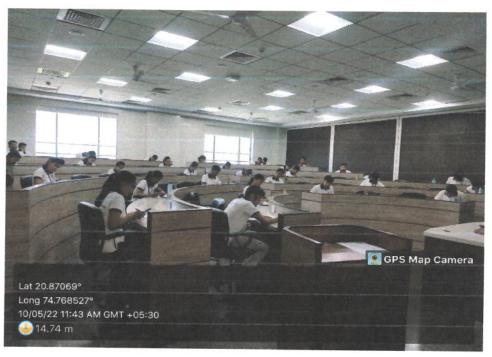


Photo. LED lighting in classroom



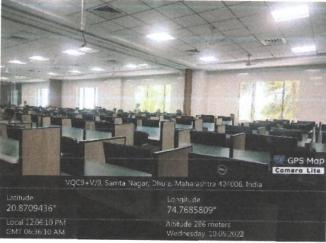


Photo. LED lighting and all in one PCs used in laboratories





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Photo. LED lighting in canteen





Photo. Use of Natural daylight in faculty area





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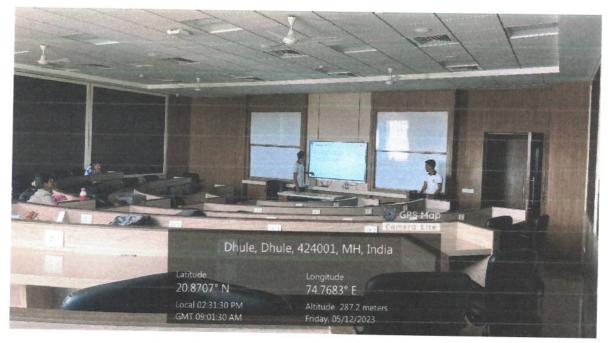


Photo. Use of natural daylight in Classrooms





Photo. BEE star rated ACs





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1.5 Signboards on Energy Conservation





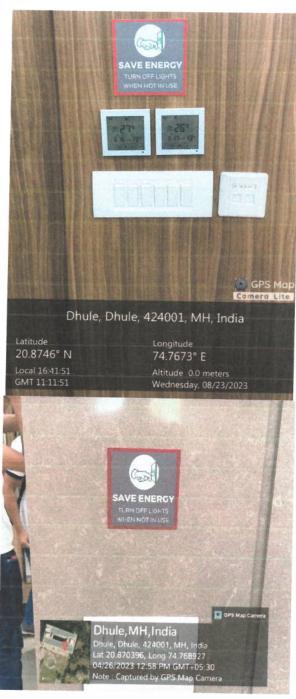


Photo. Signboard on energy conservation





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SVKM/IOT/Admin/20-21/ 181

Date:-06/08/2020

Circular

All the staff members and students of the SVKM's Institute of Technology, Dhule are hereby informed to follow the below mentioned measures to be adopted for minimizing the consumption and optimal usage of the electricity for energy conservation.

- Use SLEEP mode for idle computers during office hours and TURN OFF all computers and devices like printers and scanners before leaving the office, lab, classroom, or facility.
- · Unplug all appliances before closing the office, lab, classroom, or facility.
- Use minimal lighting and fans when possible and switch them off when not needed.
- When using air conditioners, set the temperature to 25 degrees Celsius and keep doors mostly closed.

Hence all departments of the institute are strongly advised to diligently follow the above measures to reduce electricity consumption and assist the institute in its energy conservation efforts.



Principal
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SVKM's Institute of Technology, Dhule