

University : Karunya Institute of Technology and Sciences  
 Country : India  
 Web Address : [www.karunya.edu](http://www.karunya.edu)

## [2] Energy and Climate Change (EC)

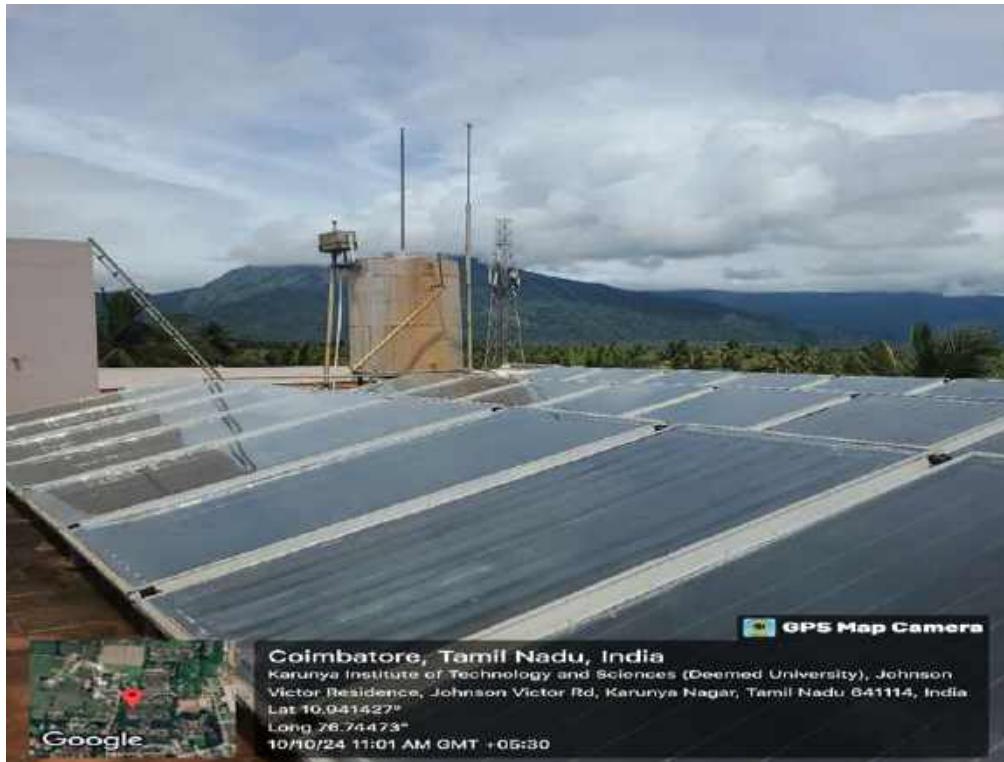
### [2.1] Energy Efficient Appliances Usage

Sl.No	Energy Efficient Appliances	
1	Conversion of conventional Tubelights & Street lights to LED Tubelights & LED Street lights	97%
2	Star Rated Air conditioners	65%
3	Energy Efficient Computers	55%
3	Passenger & Goods Lifts	65%
4	Motors & Pumps controlled through wireless water level controller & Capacitors for Energy savings	95%
	<b>Average in Total</b>	<b>75.4 %</b>

### SOLAR STREET LIGHTING IN KITS



## SOLAR WATER HEATER IN KITS



Total lights Installed in KITS are 7 lights

Street Light Installed Place	Panel Used	No. of Lights
Guest House	Crystalline Type	4 Nos
Opposite to S&H Auditorium	Crystalline Type	2 Nos
Mechanical Building Yard	Crystalline Type	1 Nos

Specifications for Solar Street Lights

### Electrical Parameters

Panel Type	: Crystalline Type
Cell Type	: High efficiency Solar Cells
Nominal Capacity	: 1*120 W
Peak Power Voltage	: 16.2 Volts
Peak Current	: 8.3 Amps
Tolerance	: $\pm 5\%$

### Mechanical Parameters

Front cover glass	: Toughened Glass
Encapsulate	: Ethylene Vinyl Acetate (EVA)
Mounting frames	: Anodized aluminium channel
Rear panel	: Polyvinyl Fluoride (PVF)
Junction box	: ABS moulded box



Weight : 5.4 Kgs

Battery

Electrical Parameters

Normal capacity : 100 Ampere Hours

Rated current Discharge : C/10

Normal voltage : 12V

Self-discharge : About 0.5% per week

Expected life : About 1500 cycles

General parameters

Types : low maintenance lead acid

Construction : 12V block

Container material : polypropylene

Solar light controller:

Charge Controller Type And Rating : Series Pulsed Two Step 15A max.

Cable Assembly:

Module to Light Controller : 4.0 m<sup>2</sup> cable with ring terminal

Luminary to Lighting Controller : 1.5 m<sup>2</sup> dual sheathed cable

Battery to Lightning : 4.0 m<sup>2</sup> with ring and fork terminal

<b>Details of Solar Water Heating System in KITS Campus</b>				
<b>Sl.No</b>	<b>Description of Work</b>	<b>Location</b>	<b>Capacity in Litres per Day</b>	<b>Total installed capacity in LPD</b>
1	Solar Water Heating system	Hostel Campus	87600	87,600
			<b>Total capacity</b>	<b>87,600</b>
			Total Kilo Calories	35,04,000
			Total Units Saved per Day	4,793
			Total units saved per Month	1,43,803
			Total units saved per Annum	15,81,833
			<b>Power saving Cost per Annum (Rs)</b>	<b>1,00,44,640.00</b>
Solar Water heating system of total capacity of 87,600 LPD is installed in our campus and Electricity power savings per Annum is Rs. 1 Crore				

## LED Tube Light fittings

### LED LIGHTS IN KITS



Sl. No	Description	Existing Light Fittings	Replaced LED Tube Light fittings
1	Power Consumption	40 Watts	18 Watts
2	No of Light Fittings	15066 Nos	15066 Nos
3	Units consumed per day	4,821 Units	2,169 Units
4	LUX (Intensity of Light)	95 Lx	150 Lx
5	Units consumed per year	15,66,825 Units	7,04,925 units
6	EB Charges/year	Rs. 1,48,84,837/-	Rs. 66,96,787/-
7	Maintenance Charges/Year	Rs. 45,000/-	Replacement warranty upto 3 Years
	Electricity Charges Savings/Annum		Rs.81,88,050/-

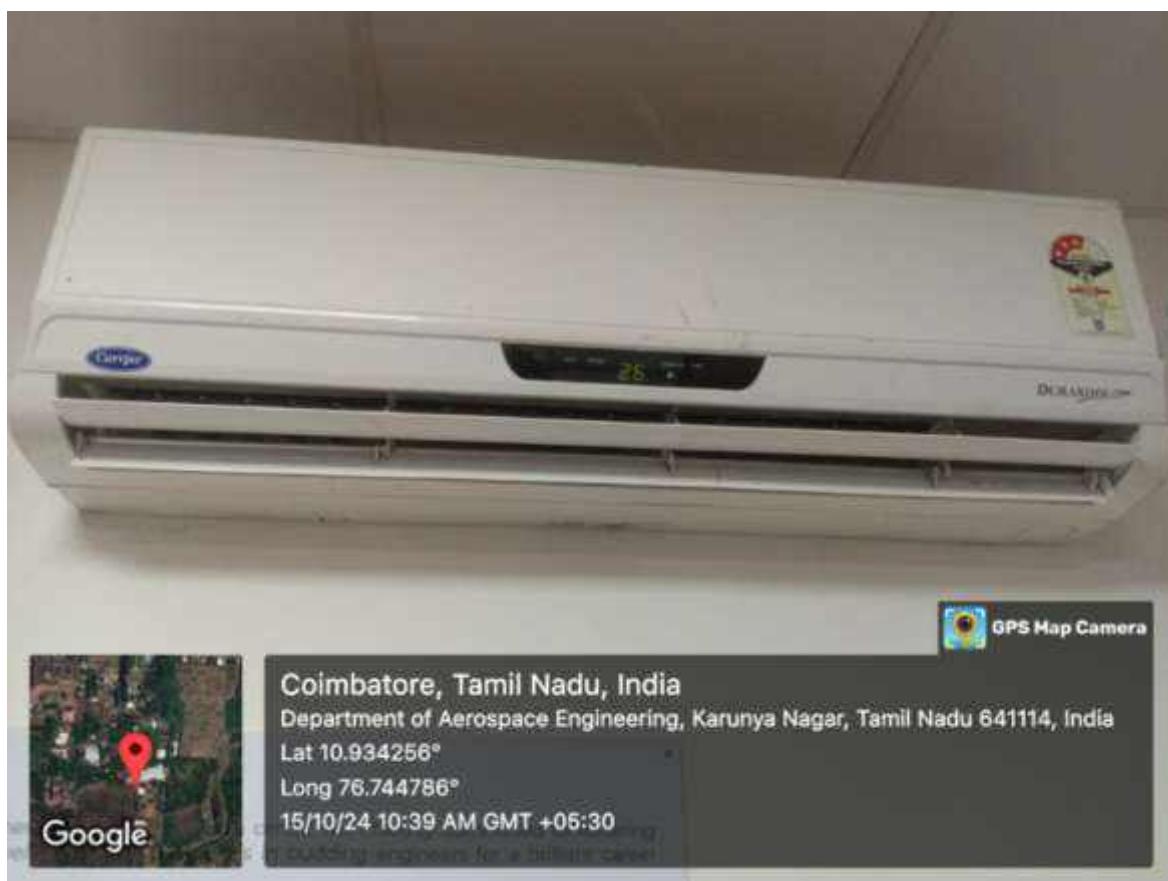
Sl.No	Month	Electricity consumption in kWh
1	Apr'2024	746085
2	May'2024	480703
3	Jun'2024	256510
4	Jul'2024	439643
5	Aug'2024	578334
6	Sep'2024	591350
7	Oct'2024	590424
8	Nov'2024	557192
9	Dec'2024	419402
10	Jan'2025	421066
11	Feb'2025	507400
12	Mar'2025	619150
<b>Total</b>		<b>62,07,259</b>

### MOTORS & PUMPS CONTROLLED THROUGH WIRELESS WATER LEVEL CONTROLLER & CAPACITORS FOR ENERGY SAVINGS

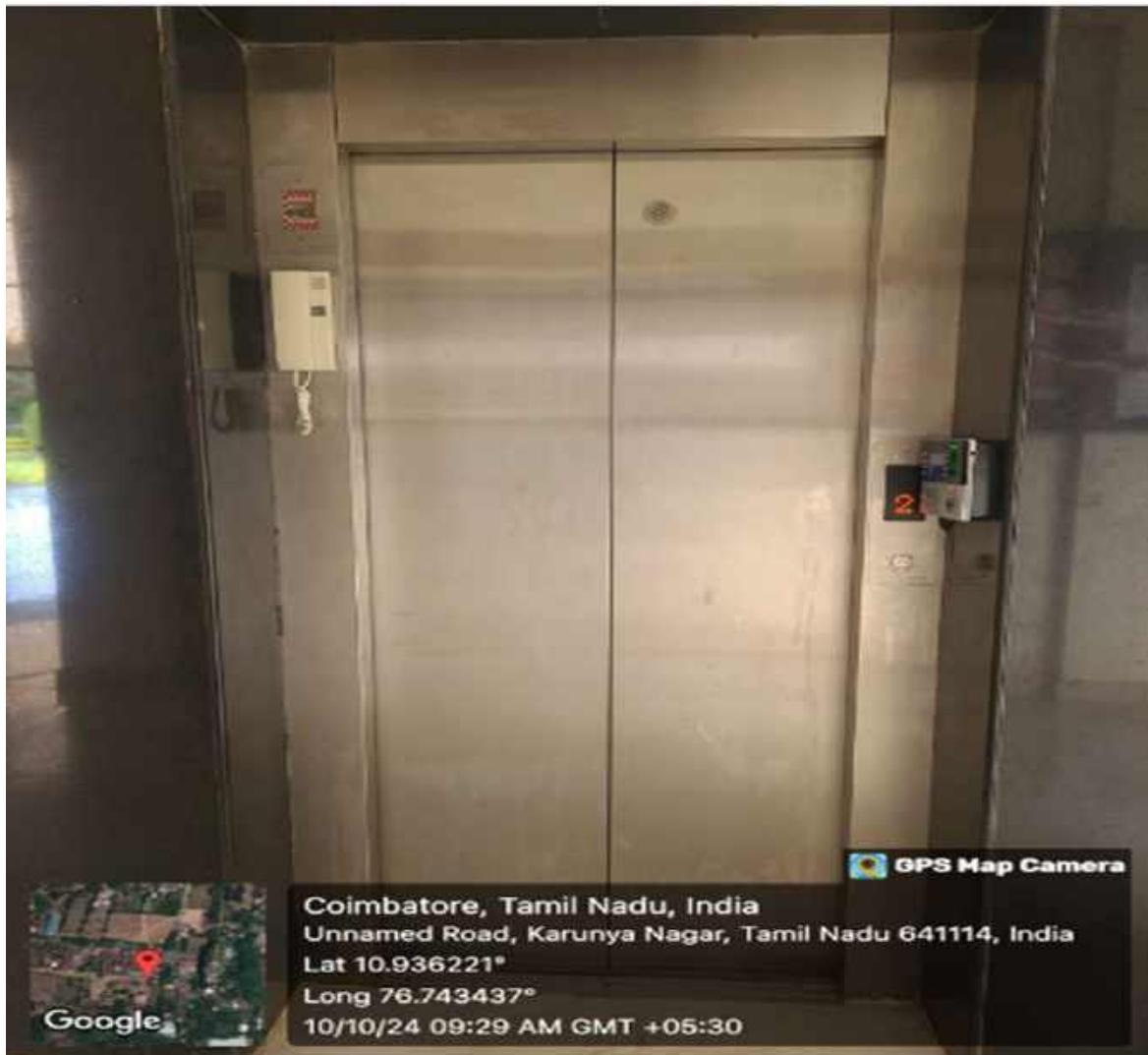




## STAR RATED AIR CONDITIONERS



## PASSENGER & GOODS LIFTS



### Green Computing

Server Virtualization - Server Consolidation

67 Virtual Servers

6 Physical machines

Desktop Virtualization - Virtual Desktop Infrastructure

67 Virtual Servers

4 Physical Servers

Green Computing - Energy efficient computers