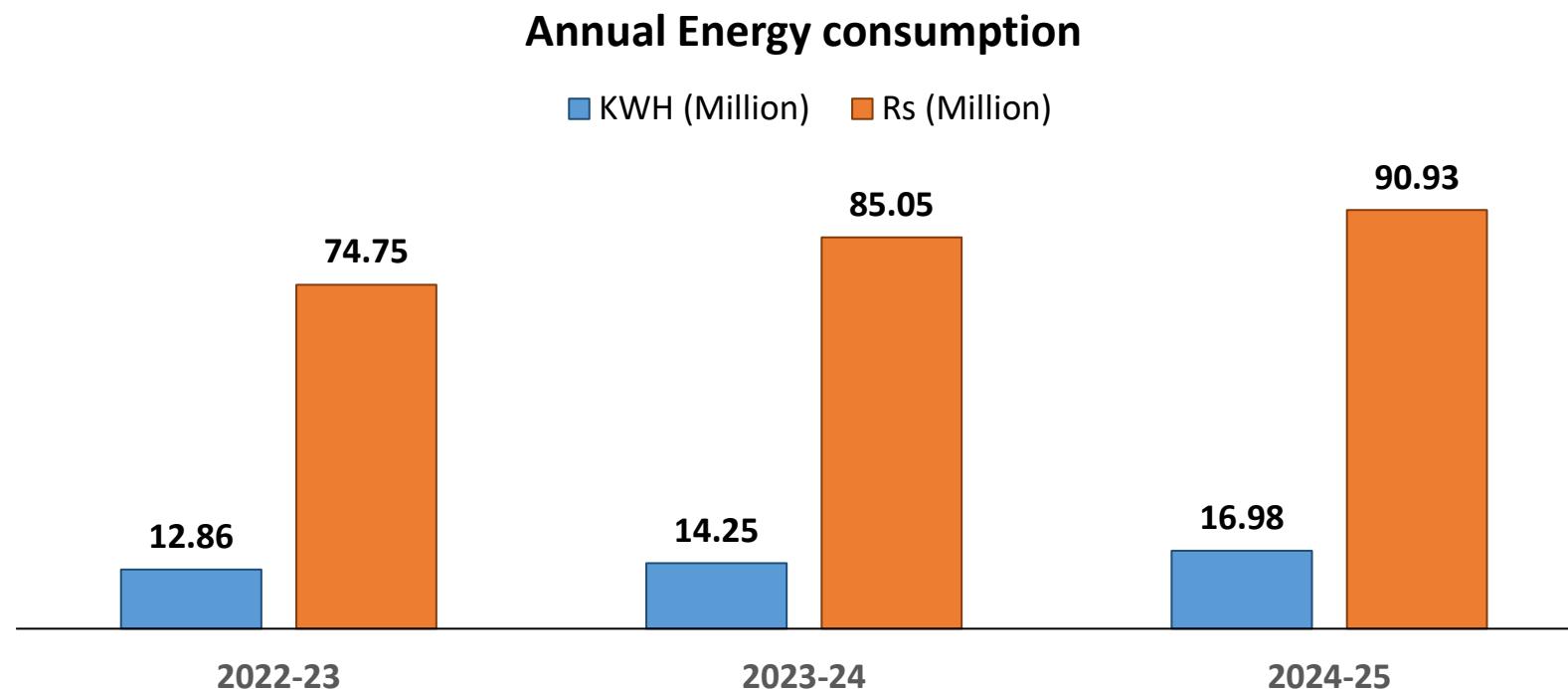


# Energy Conservation Practices at SRHU



# Energy Consumption

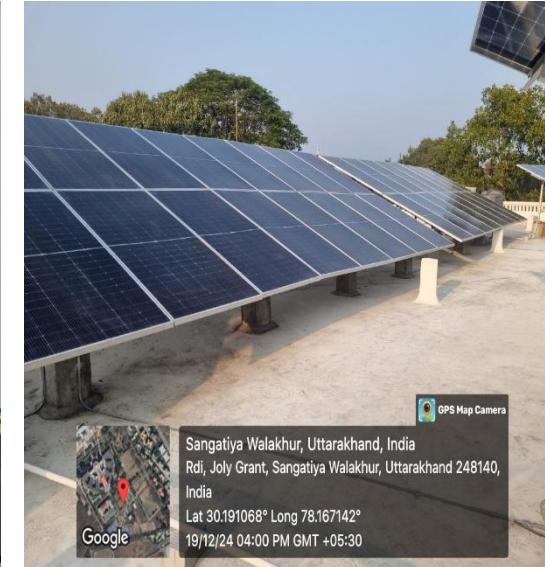
Year (April - March)	Annual Energy consumption	
	Grid + Solar	
	KWH (Million)	Rs (Million)
2022-23	12.86	74.75
2023-24	14.25 (10.8%+)	85.05
2024-25	16.98 (19%+)	90.93



# Energy Saving Practices & Utilization of Renewable Energy

## Rooftop Solar Power Plant

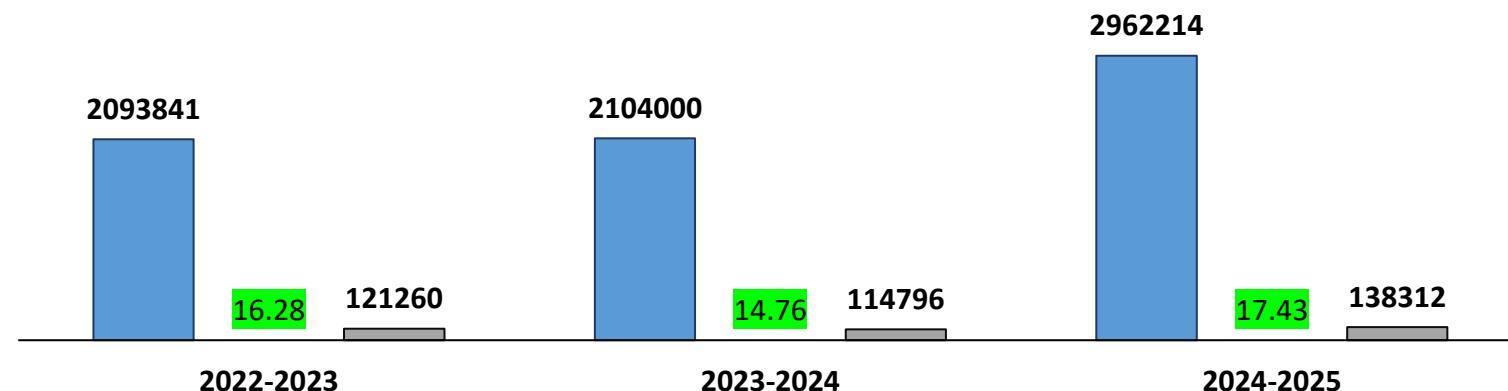
- The SRHU has installed **2.5 MW rooftop on grid solar power plant.**
- **The total power generated through solar power plant in last 3 years – 71,60,055 kwh and savings of Rs. 2.51 Cr**
  - 2022-2023 – 20,93,841 kwh & Rs. 63,23,399/-
  - 2023-2024 – 21,04,000 kwh & Rs. 78,90,000/-
  - 2024-2025 – 29,62,214 Kwh & Rs. 1,09,28,081/-



### ➤ Contribution from Renewal Energy on total power demand

- 2022-2023 – 16.28 %
- 2023-2024 – 14.76 %
- 2024-2025 – 17.43%

■ power generated (kwh) ■ Contribution from Renewal Energy (%) ■ Electrical unit exported (kwh)

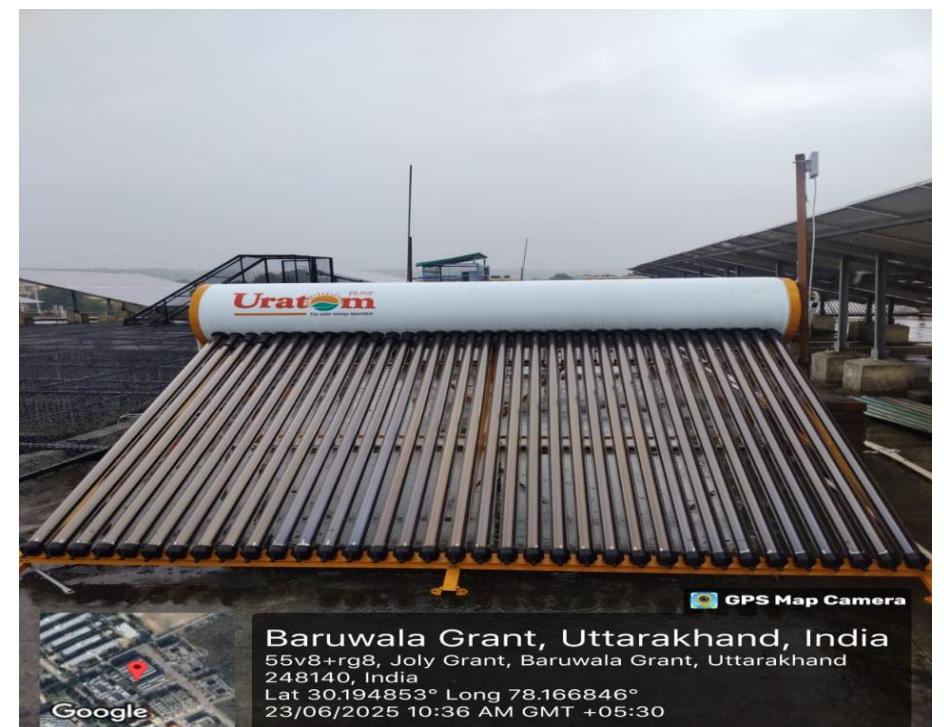
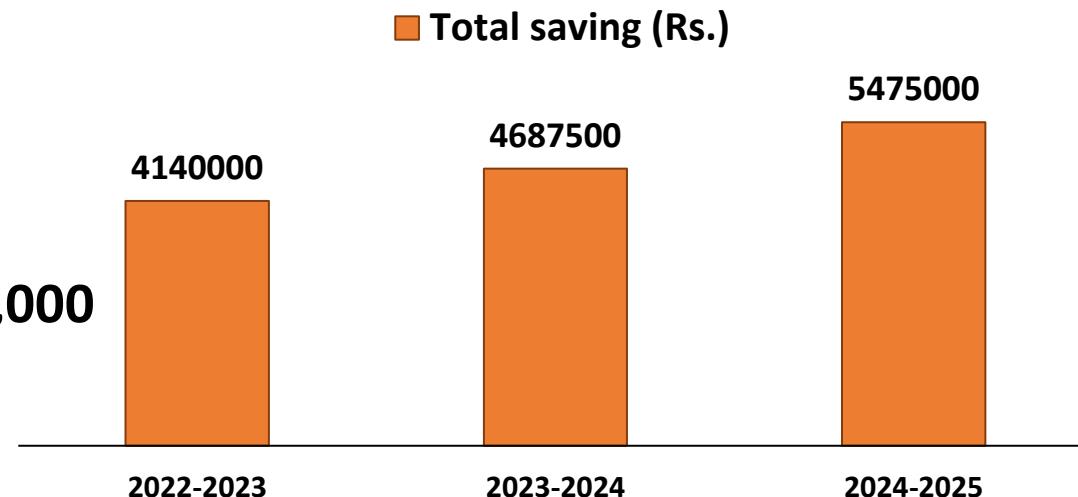


### ➤ Electrical unit exported to grid

- 2022 – 2023 – 1,21,260 kwh
- 2023 – 2024 – 1,14,796 kwh
- 2024 – 2025 – 1,38,312 Kwh

### Rooftop Solar Water Heater

- SRHU has installed capacity of **50,000 LPD** solar water heating system.
- **Annual saving on heating of water is equivalent to 7,50,000 kwh of electricity**
- The hot water is supplied to Hospital & Cancer Research Institutes wards for patient care, cleaning purpose and Hostels round the clock.
- **Total saving over last 3 years – 22,50,000 Kwh & Rs. 1,28,25,000/-**
  - 2022-23 - Rs. 41,40,000/- (tariff@5.52)
  - 2023-24 – Rs. 46,87,500/- (tariff@6.25)
  - 2024-25- Rs. 54,75,000/- (tariff@7.30)
  - **Total thermal energy saving over last 3 years 8100 GJ**
- A subsidy of Rs. 24.78 lakh over 3 years provided to SRHU by UPCL



### Bio Gas plant

- SRHU has installed of **4 cum/day capacity** bio gas plant.
- equivalent to 36 LPG commercial cylinders.
- **Annual saving of 685.44 Kg LPG** use for cooking purpose in guest house.



# Energy Saving Practices

## Use of energy efficient fans & AC

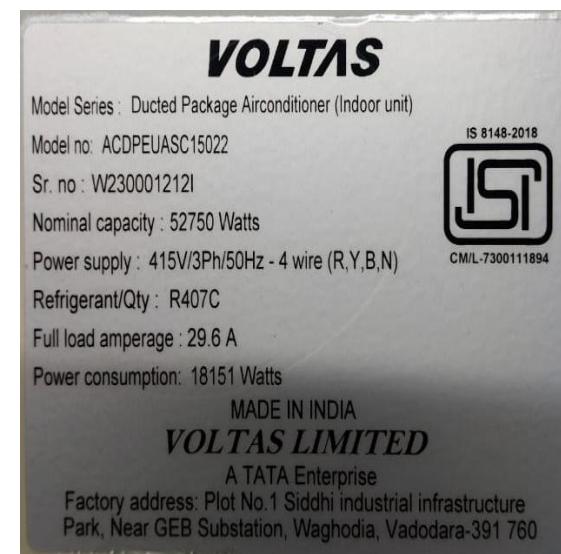
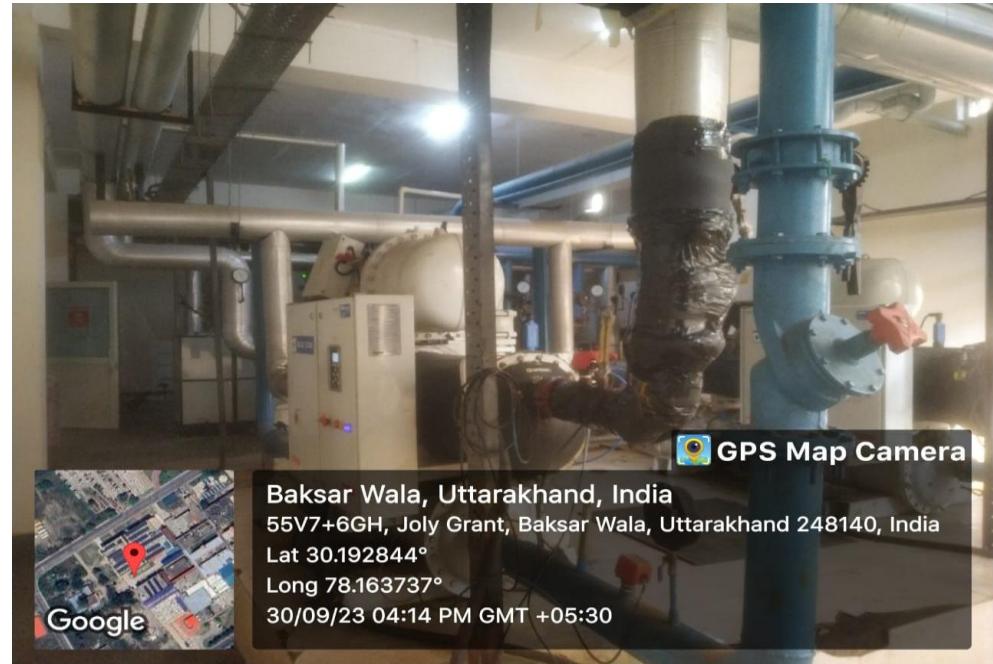
- Replacement of **1390** conventional ceiling fan of 70 watt by energy efficient 32 watt BLDC fans (energy saving of 50%)
  - 2022-23: 550 fans – 1,00,320 kwh saved
  - 2023-24: 620 fans – 1,13,088 kwh saved
  - 2024-25: 220 fans - 40,128 kwh saved
- Overall **253536 kwh** saved considering 8 months & 20 hours of operation
- BEE star levelled 800+ split Inverter Air conditioners are being used (20-45% saving)
- **Energy saving message slips** are displayed at switch board



## Cont. - Energy Saving Practices

### HVAC system

- Energy efficient **VFD driven pumps** are being used in water cooled chillers in central air conditioning.
- Total AC installed capacity is 1728 TR, out of which 520 TR is through water cooled chillers and 1090 TR is through air cooled DX system, and 118 TR through VRF.
- Temperature of the return air before releasing is recovered through moving wheel heat recovery with temp. recovery efficiency of 85%.
- Mechanical Ventilation with Heat Recovery (MVHR) system save 25%-50% on energy bills (as per BEE).
- **378 TR capacity AC package unit** replaced with BEE star rated energy efficient AC package unit with eco-friendly refrigerant R-407 with EER of 0.88 kw/TR, reducing electrical load 102.06 kw and annual energy saving is **44702 kwh/year** with 12 hrs of operational per day.



### Energy Efficient Diesel generator sets

- SRHU has 9 diesel generator sets of 500 KVA each as backup supply for electricity.
- All generator sets are as per compliance of CPCB norms.
- The DG sets have AMF synchronizing panel with autoload management system.
- The emission stack height is as per CPCB norms.
- The sound and exhaust gases are tested in every six months in NABL accredited laboratories and are within limits.
- 2.59% of total power demand is generated through DG in year 2024-25.



## Cont. - Energy Saving Practices

### Replacement with Energy Efficient Desktop Computers

- 1270 new Desktops of 120 watt Installed at University Colleges replacing old computers of 260 watt
- Saving of 177.8 Kwh units of electricity per day (53340 Kwh annually)

### Motion Sensor Lights

- 144 points are being controlled through motion sensors at Hostels toilets
- **Heat reflective glasses** are being used in air-conditioned area (293 sqm).
- **Heat reflective paint on roof** for reducing the amount of heat observed by the roof and hence increasing the efficiency of air conditioning.

