KALASALINGAM
ACADEMY OF RESEARCH AND EDUCATION
(DEEMED TO BE UNIVERSITY)
Under sec. 3 of UGC Act 1956. Accredited by NAAC with "A++" Grade

THE - Impact Rankings 2026

SDG 7.2.2 Upgrade buildings to higher energy efficiency

The institution has developed extensive policies and regulations to ensure all renovations or new builds are following energy efficiency standards within these buildings, as well as energy-saving and carbon-reduction practices to be followed by all users of the buildings, facilities, and equipment on campus. Further details are mentioned below.

- 80 % of our University's lightning system is energy efficient; LED Lights are used in most of the university's buildings with motion sensor.
- The institution has the **Automatic fire alarms sensor**, **Emergency lights system** where both are turned on automatically if a fire occurred or the electricity went down.
- The Institution follows **NBC 2016 (National Building Code of India - 2016)** design guidelines for the construction of new buildings and the improvement of existing ones

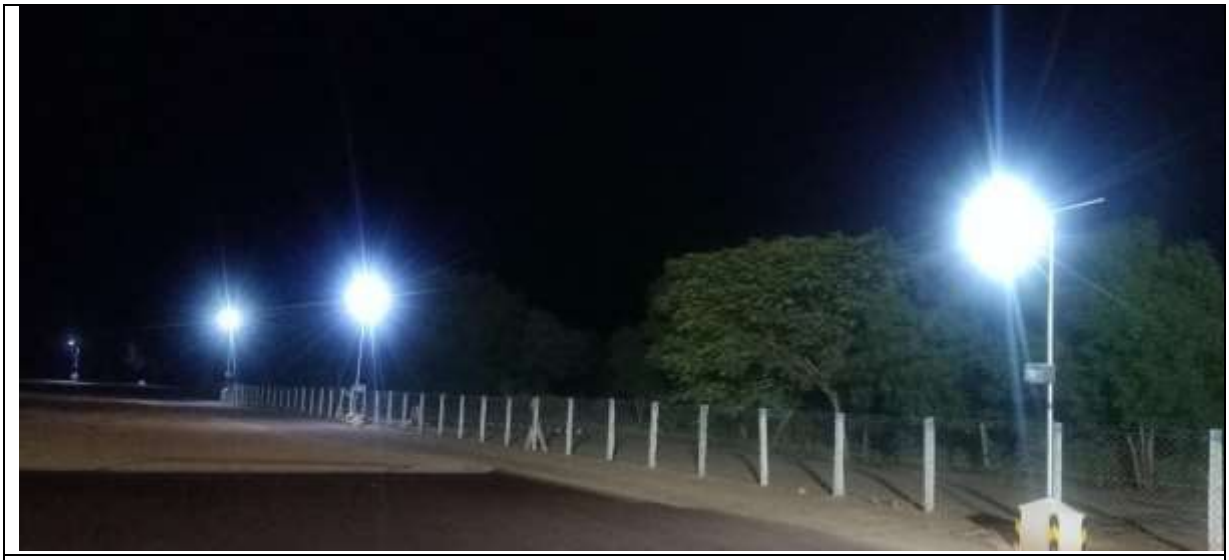
Implementing energy-efficient appliances is a strategic move that included to promote sustainability, reduce energy costs, and minimize environmental impact. KARE (Kalasalingam Academy of Research and Education) is **committed to reducing its carbon footprint** and promoting energy conservation by implementing energy-efficient appliances across the campus. The usage of energy efficient appliances reduces the energy consumption up to 35%. The lower the consumption, and thus increased energy efficiency, significantly reduces operating costs and contributes substantially to climate and environmental protection.

1. **Upgrading to Energy-Efficient BLDC Fans:** The university has replaced its old ceiling fans, which consumes 75 watts of power, with new BLDC (Brushless Direct Current) fans that only consume 25 watts. This change helps reduce energy use significantly.
2. **Replacing CFL bulbs with LED Lighting:** The institution has replaced LED lights throughout the campus, including academic buildings, hostels, and outdoor spaces. LED lights are known for being energy-efficient and providing effective illumination while being environmentally friendly.

	
2x2 Drop Ceiling LED Light Fixtures	LED Lights

3. **Sensor based Energy Conservation using Solar Lights:**

   Institute has taken efforts to save energy by installing sensor-based equipment from the kitchen to common areas in the campus. To highlight some of the major initiatives, around 152 automatic day-light sensors are installed in the street lights.



Solar street lighting arrangement in KARE

4. **Upgradation of energy efficient appliances:** Solar water heater with a temperature sensor facilitates ON & OFF switching of the pump and circulation of water. Sensor-based automatic light switching is interfaced with the movement of persons. Movement sensed automatic door opening-closing system is installed in the administrative building to conserve energy. Some of the hand wash pipes are upgraded to sensor-based. Apart from the commercially available equipment, faculty members of the institute have taken special efforts to develop sensor-based passive air coolers and air-conditioners.

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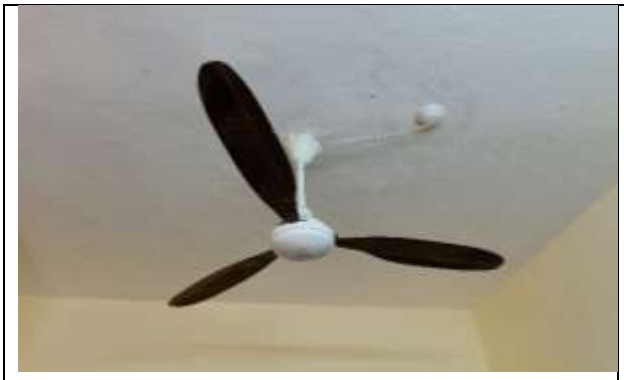
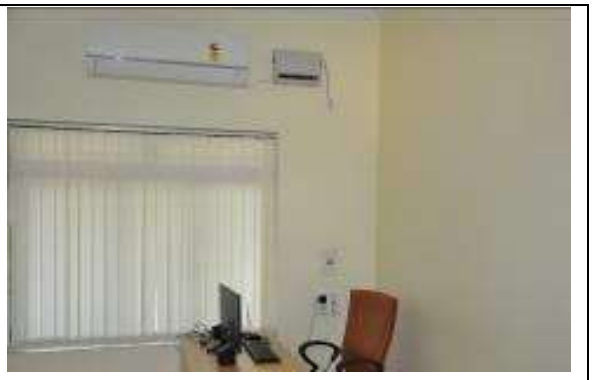
<tr><td>  </td><td>  </td></tr>
<tr><td>Energy efficient BDLC fan</td><td>Star rated Energy Efficient Air Conditioner</td></tr>
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<tr><td colspan="2">Solar Water Pumps</td></tr>
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5. **Maximizing Daylight using Square/Recangle shape construction:** Most of the campus buildings are designed in a square shape, with an open space or courtyard at the center. This architectural design allows natural sunlight to penetrate the building, the need for artificial lighting is significantly reduced, promoting energy efficiency. Additionally, the open courtyard enhances ventilation, creating a cooler and more comfortable indoor environment. This design not only supports sustainability goals but also contributes to the well-being of the building's occupants by providing ample natural light.

Open areas in the middle of the buildings to get more sunlight

6. **Sustainable Building Materials:** All buildings on campus are constructed using environmentally friendly materials like Fly ash, marble dust, granite dust, Ground Granulated

Blast-furnace Slag (GGBS) and paper burnt ash. This approach makes use of local resources, such as soil and laterite from excavations, and helps keep indoor temperatures comfortable due to the natural cooling properties of laterite bricks.

Usage of Recycled materials for Construction

7. Usage of the renewable energy sources through solar energy panels in the campus

To tap the alternate energy sources, KARE has installed 1124.22kWp rooftop solar power panels on top of nine blocks. About 45% of the energy consumption is met by the solar energy leading to the reduction in carbon foot print. The institution has also installed 152 solar street lights throughout the campus which amounts to a saving of about 9.56 kWh per annum. Further, solar water heaters are installed in the hostels and solar pumps are installed in the agriculture farms to tap solar energy.

Energy conservation though Photovoltaic Solar Plant

8. Effective implementation of Rainwater harvesting system

Considering the location of the institution, KARE has installed various rain water collection systems to sustainably manage the water requirements in the campus. The rain water collected is either used for recharging the ground water through water harvesting pits and trenches or stored in tanks and used.

The rainwater is harvested from the roof top of the academic buildings and hostels. The water is collected through pipes and the collected water is either used for recharging the ground water or taken through canals to the percolation ponds situated at three locations inside the campus.

Rainwater harvesting system (sample only)