

## Sustainable Practices and Target & Promotion of Sustainable Commuting

Centurion University demonstrates a strong commitment to sustainability through a comprehensive suite of Green Campus Initiatives. The campus features over 12 acres of landscaped green zones, with more than 6,000 native and drought-resistant plants that not only lower water usage by nearly 35% but also serve as effective carbon sinks, absorbing approximately 120 tonnes of CO<sub>2</sub> annually. These green spaces—including specialized butterfly and pollinator gardens spanning 1.5 acres—enhance biodiversity and provide essential habitats for local wildlife, supporting both ecological health and carbon mitigation.



Fig. 1 shows the green campus formations in Centurion University.

As a living laboratory, the University encourages environmental research and experiential learning. In 2024, nearly ₹10 lakh was invested in upgrading infrastructure for improved energy efficiency. New buildings feature LED lighting systems and smart climate control mechanisms, resulting in a 28% reduction in electricity consumption and a 22% reduction in greenhouse gas emissions compared to 2022 levels.

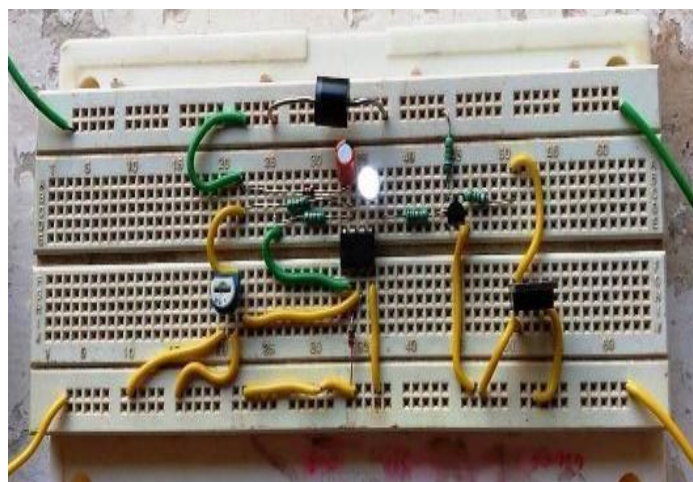


Fig. 2 shows the led lighting and smart climate system made by Centurion University students.

A notable innovation is the development and campus-wide installation of solar-powered street lights. Currently, more than 85 solar streetlight units illuminate the campus, using polycrystalline solar panels and deep-cycle batteries that ensure consistent operation even during cloudy conditions. Some units also operate on a hybrid solar-wind power setup, a model developed by the Department of Electrical Engineering. These systems have collectively saved an estimated 14,000 kWh of electricity in 2024, cutting carbon emissions by around 11 tonnes of CO<sub>2</sub>.



Fig. 3 shows the solar power street lights in Centurion University campus.

To further reduce its carbon footprint, Centurion University actively promotes sustainable commuting practices. The campus restricts the entry of conventional vehicles and operates a fleet of ten electric vehicles (e-vehicles) for internal mobility. In 2024, these e-vehicles collectively covered over 18,000 km, reducing fuel use by an estimated 2,000 litres of petrol and preventing 4.5 tonnes of CO<sub>2</sub> emissions. Additionally, the University has developed 4.2 km of pedestrian-friendly pathways and dedicated cycling tracks, leading to a 40% increase in non-motorized commuting across campus.



Fig. 4 shows the e-vehicle manufactured by Centurion University sent to be used by OMFED Odisha

In addition, the university's publicly accessible green spaces and its "Pollinators' Paradise" initiative, which attracted over 800 visitors and students in 2024, provide opportunities for the community to connect with nature and learn about ecological stewardship. Centurion University's biodiversity monitoring records note a 15% rise in native butterfly species and a 10% increase in pollinator activity since the initiative's inception.

By integrating these sustainable practices into daily campus life, Centurion University exemplifies its dedication to reducing environmental impact, enhancing community well-being, and promoting sustainable commuting and living for all.



Fig. 5 shows the lush greenery in Centurion University.

Centurion University is committed to fostering a sustainable campus environment through comprehensive green initiatives and sustainable commuting practices.

## **Infrastructure Enhancements for Energy Efficiency**

In the fiscal year 2024–25, the university allocated approximately ₹10 lakh towards revamping campus infrastructure to enhance energy efficiency. This investment included:

- Installation of LED lighting across campus facilities.
- Upgradation of HVAC systems to energy-efficient models.
- Implementation of motion sensors in common areas to reduce energy consumption.

These measures are part of the university's broader strategy to reduce its carbon footprint and promote environmental sustainability.

## **Solar-Powered Street Lighting**

The university has developed and installed solar-powered street lights across the campus. These systems utilize:

- Efficient solar panels and deep-cycle batteries.
- LED lighting for reduced energy consumption.
- Hybrid solar-wind setups in select areas to ensure consistent lighting.

Regular maintenance ensures optimal performance and contributes to the university's commitment to renewable energy sources.

## **Promotion of Sustainable Commuting**

To encourage sustainable commuting, Centurion University has implemented several initiatives:

- **Electric Vehicles (EVs):** The campus restricts the entry of conventional vehicles and provides 10 electric vehicles for internal transportation. These EVs produce zero tailpipe emissions, contributing to cleaner air and a healthier environment.
- **Pedestrian Pathways and Cycling Infrastructure:** Well-designed pedestrian pathways connect key areas of the campus, encouraging walking and cycling as primary modes of movement. This infrastructure supports the university's goal of reducing carbon emissions and promoting a healthier lifestyle.
- **Public Transport Integration:** The university provides transportation facilities, including 14 buses, to staff and students commuting from nearby areas such as Palasa, Pathapatnam, and Srikakulam. This service reduces the need for private vehicle use and supports sustainable commuting practices.

## **Targets for 2025–26**

Looking ahead, Centurion University aims to further enhance its sustainability efforts:

- **Installation of EV Charging Stations:** Plans are in place to install electric vehicle charging stations at all campuses by 2025, facilitating the use of electric vehicles among staff and students.
- **Bike-Sharing Program:** The university intends to introduce a bike-sharing program for students and staff by 2025, promoting cycling as an eco-friendly mode of transport.
- **Enhanced Recycling Programs:** Efforts will be made to enhance recycling programs for paper, plastics, glass, and electronic waste, contributing to waste reduction and resource conservation.

Through these initiatives, Centurion University continues to lead by example in integrating sustainable practices into campus life, aligning with global environmental goals and fostering a culture of sustainability among its community.