ICFAI Foundation for Higher Education
(Deemed-to-be University under Section 3 of the UGC Act, 1956)
Category I Autonomous Institution • Accredited by NAAC with A++ Grade

SDG-7 Report

7 Affordable and Clean Energy

Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for all



Campus Address: Dontanapally, Shankarapalli Road,
Hyderabad - 501203, Telangana, India

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Executive overview

AFFORDABLE AND CLEAN ENERGY | SUSTAINABLE DEVELOPMENT GOAL 7

The ICFAI Foundation for Higher Education (IFHE), Hyderabad, advances SDG 7 through campus energy management, clean-energy investment, efficient buildings, applied research, community engagement and entrepreneurship.

2026 institutional snapshot

Renewable electricity generation	460,350 kWh/year from solar PV
Solar PV investment	₹16 million
Energy-use disclosure	8,250,640 units
University floor space	180,507 m^2
Energy policy	Established 2021; reviewed 2023; scheduled for renewal/review in 2026
Efficiency priorities	LED lighting, BLDC fans, efficient exhaust fans, VRV cooling, daylighting, metering and maintenance
Clean campus mobility	Battery-operated/electric buggy, electric scooters, bicycles
Research annex	55 SDG 7-tagged SCOPUS-indexed research papers

01 Institutional commitment and governance

IFHE is a deemed-to-be university at Dontanapally, Shankarpalli Road, Hyderabad, Telangana. The institution connects sustainability with teaching, research, operations and engagement beyond campus. Its energy conservation and efficiency framework guides infrastructure decisions, procurement, equipment replacement, monitoring and energy-conscious conduct among students and employees.

The energy efficiency policy was established in 2021, reviewed in 2023 and is due for review in 2026. The policy framework refers to India's Energy Conservation Act and Energy Conservation Building Code (ECBC), and emphasizes efficient design, daylight and ventilation, building systems, energy monitoring and periodic review.



Figure 1. IFHE Green Campus sign, communicating the university's sustainability commitment.

02 Energy performance, measurement and review

IFHE has a system of sub-meter readings, monthly consumption reports, technical inspections and regular energy reviews. The Director, Administration reviews consumption patterns and outliers, with corrective measures directed toward lighting, fans, air-conditioning, equipment schedules and preventive maintenance.



Figure 2. IFHE electrical substation, representing the campus electricity-distribution infrastructure.

03 Efficient buildings and infrastructure upgrades

New construction and renovation projects are designed in alignment with ECBC principles. The principal measures are LED lighting, brushless DC (BLDC) fans, efficient exhaust fans, Variable Refrigerant Volume (VRV) air-conditioning, natural daylight and ventilation. Existing buildings are addressed through phased retrofits and routine replacement of less-efficient equipment. These interventions aim to reduce demand without compromising the usability of classrooms, offices and shared spaces.

Occupancy sensors, lighting timers, efficient cooling controls and appliance optimization are place. Those practices are retained.



Figure 3. Energy-efficient lighting in an IFHE campus facility.

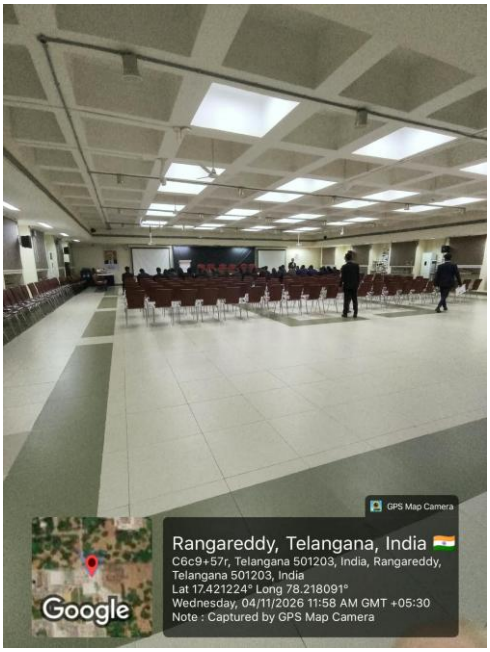


Figure 4. Lighting installation illustrating energy-conscious campus infrastructure.

04 Solar generation, biogas and decarbonization

The university has a biogas facility that converts organic-waste-to-energy. Energy-source metering, operating logs, maintenance records and the green audit are regular practices of the university.

Carbon management extends to lower electricity demand, responsible appliance operation and alternatives to fossil-fuel-dependent mobility. The policy stance favoring low-carbon procurement and divestment from coal and oil.



Figure 5. Battery-operated electric campus buggy; GPS-tagged photograph dated 11-11-2025.

05 Energy literacy and community engagement

Community-facing programmes that promote practical energy conservation, efficient lighting and appliances, responsible electricity consumption, renewable energy and waste-to-energy approaches are the best practices of the university. Faculty and student engagement is intended to translate awareness into choices that reduce energy wastage.

A transition to 100% renewable energy through discussions, campaigns, pledges and collaboration with external stakeholders is a propeller.



Figure 6. Sustainability-related campus engagement and awareness event; GPS-tagged image dated 04-11-2026. Specific pledge outcomes require event documentation.

06 Industry engagement and policy-relevant knowledge

Research dissemination, industry-facing dialogue, case development and knowledge exchange on efficient operations and renewable technology are submitted. An International Conference on Emerging Technologies, Analytics, and Operations, held on 07–08 March 2025 under the theme "Advanced Technologies for Sustainable Future: Innovation and Strategies" demonstrates the universities engagement with wider audience. Such forums create opportunities for industry and academic participants to exchange approaches to sustainable innovation.

The university contributes to evidence-based clean-energy policymaking through faculty research, external stakeholder engagement and innovation activities.

07 Innovation, incubation and the low-carbon economy

The ICFAI Incubator, established on 18-11-2021, provides an institutional platform for entrepreneurial development, mentoring and business support. Low-carbon and resource-efficient ventures including Wattron Technologies (EV battery immersion cooling), Becoba Energy Systems (lithium-ion battery reuse), Lumenor AI Tech (digital workflows for solar EPC operations), and Econsh Alternatives (agricultural-waste-based material substitutes) are some examples.

Greenpixel Celluloids LLP and Mama's Creation Pvt. Ltd. are supported enterprises which contribute to SDG 7 from wider sustainability or health-oriented entrepreneurship.

08 Research and scholarly contribution

SDG 7 bibliography contains 55 numbered SCOPUS-listed publications across 2024 and 2025 (20 records for 2024 and 35 for 2025). The collection spans clean-energy systems, solar technologies, electric mobility, energy-efficient electronics, sustainability finance, green consumer behavior and the energy–emissions relationship. The listing is an institutional SDG-tagging dataset from SCOPUS.

Publications with direct relevance to SDG 7

1. Kundu, A.; Rohit, K.; Girish, G. P.; Kundu, S. G. (2024). Leveraging AI on Images Captured Through Drones for Solar Panel Fault Identification. *Lecture Notes in Networks and Systems*. DOI: 10.1007/978-3-031-50887-5_8.

2. Hanumanthakari, S. et al. (2024). Deep Learning for Energy Demand Forecasting in Electric Vehicle Charging Stations. *ICMCSI 2024*. DOI: 10.1109/ICMCSI61536.2024.00140.

3. Jayanthi, S. et al. (2024). Design and Implementation of IoT-Based Advanced Energy Management System for Smart Factory. *Cyber Physical Energy Systems*. DOI: 10.1002/9781394173006.ch16.

4. Dash, A. K.; Panda, S. P.; Sahu, P. K.; Jóźwik, B. (2024). Do green innovation and governance limit CO2 emissions: evidence from twelve polluting countries with panel data decision tree model. *Discover Sustainability*. DOI: 10.1007/s43621-024-00418-9.

5. Kumar, M.; Patel, B. S.; Samuel, C. (2024). Future of energy transition relies on prosumer-based smart grid-integrated renewable distributed generation system. *Advanced Geospatial Practices in Natural Environment Resource Management*. DOI: 10.4018/979-8-3693-1396-1.ch008.

6. Kumari, S.; Nair, J. (2025). Lynn Good's green dilemma: leading Duke Energy's transition. *CASE Journal*. DOI: 10.1108/TCJ-05-2024-0136.

7. Lahri, V.; Singh, N. K.; Virmani, N. (2025). Prioritising criteria for sustainable battery supplier selection in the EV sector using fuzzy-ordinal priority approach. *International Journal of Industrial Engineering and Operations Management*. DOI: 10.1108/IJIEOM-07-2025-0144.

8. Sharma, A.; Kumar, K.; Dwesar, R. (2025). "Keenly aware of environmental issues, yet wavering in conviction": Understanding the factors influencing the consumers' willingness to pay for green energy. *Sustainable Futures*. DOI: 10.1016/j.sftr.2024.100427.

9. Kumar, S.; Jha, R. K.; Goswami, A. (2025). Enhanced Energy Harvesting and Human–Machine Interaction Sensing via the Tribo-Photovoltaic Effect in a Metal/n-Type GaAs Triboelectric Nanogenerator. *Langmuir*. DOI: 10.1021/acs.langmuir.5c03069.

10. Jha, R. K. (2025). Enhancement In Solar Cell Efficiency By Using Al2o3/Tio2 As A Passivation Layer In Perc Type Solar Cell Simulation Using Tcad. *Suranaree Journal of Science and Technology*. DOI: 10.55766/sujst8990.

11. Jain, A. et al. (2025). Chef-Based Optimization Algorithm (CBOA)-Based Global Peak Power Tracking Scheme for PV System. *IEEE Access*. DOI: 10.1109/ACCESS.2025.3606338.

12. Jóźwik, B.; Panda, S. P.; Dash, A. K.; Sahu, P. K.; Szwed, R. (2025). Revisiting the Nexus Between Energy Consumption, Economic Growth, and CO2 Emissions in India and China: Insights from the Long Short-Term Memory (LSTM) Model. *Energies*. DOI: 10.3390/en18154167.

13. Annabathuni, H. P. C.; Kasichainula, A. K. (2025). Assessing the Efficacy of Passive Design Strategies Across Diverse Architectural Forms for Enhanced Energy Efficiency. *Lecture Notes in Mechanical Engineering*. DOI: 10.1007/978-981-96-5487-1_6.

09 SDG target alignment and next-stage assurance

7.2 Renewable energy	Solar PV generation, clean-energy investment, biogas initiative
7.3 Energy efficiency	ECBC-aligned design approach, LED/BLDC/VRV retrofits, audits and equipment monitoring
7.A Clean-energy research	Solar diagnostics, smart grids, EV charging, energy harvesting and policy-relevant scholarship

7.B Infrastructure and technology	Building upgrades, campus mobility, clean-energy technology and start-up support
Community contribution	Energy-awareness programmes, renewable-energy dialogue and outreach

Conclusion

IFHE's SDG 7 programme integrates demand reduction, renewable energy, institutional governance, knowledge creation and outward-facing engagement. IFHE shows a continuing commitment to efficient buildings, regular energy review, solar electricity, low-emission mobility and clean-technology entrepreneurship. The university's 2024–2025 publication portfolio reinforces this work with research spanning solar performance, smart energy systems, electrification and sustainability economics.