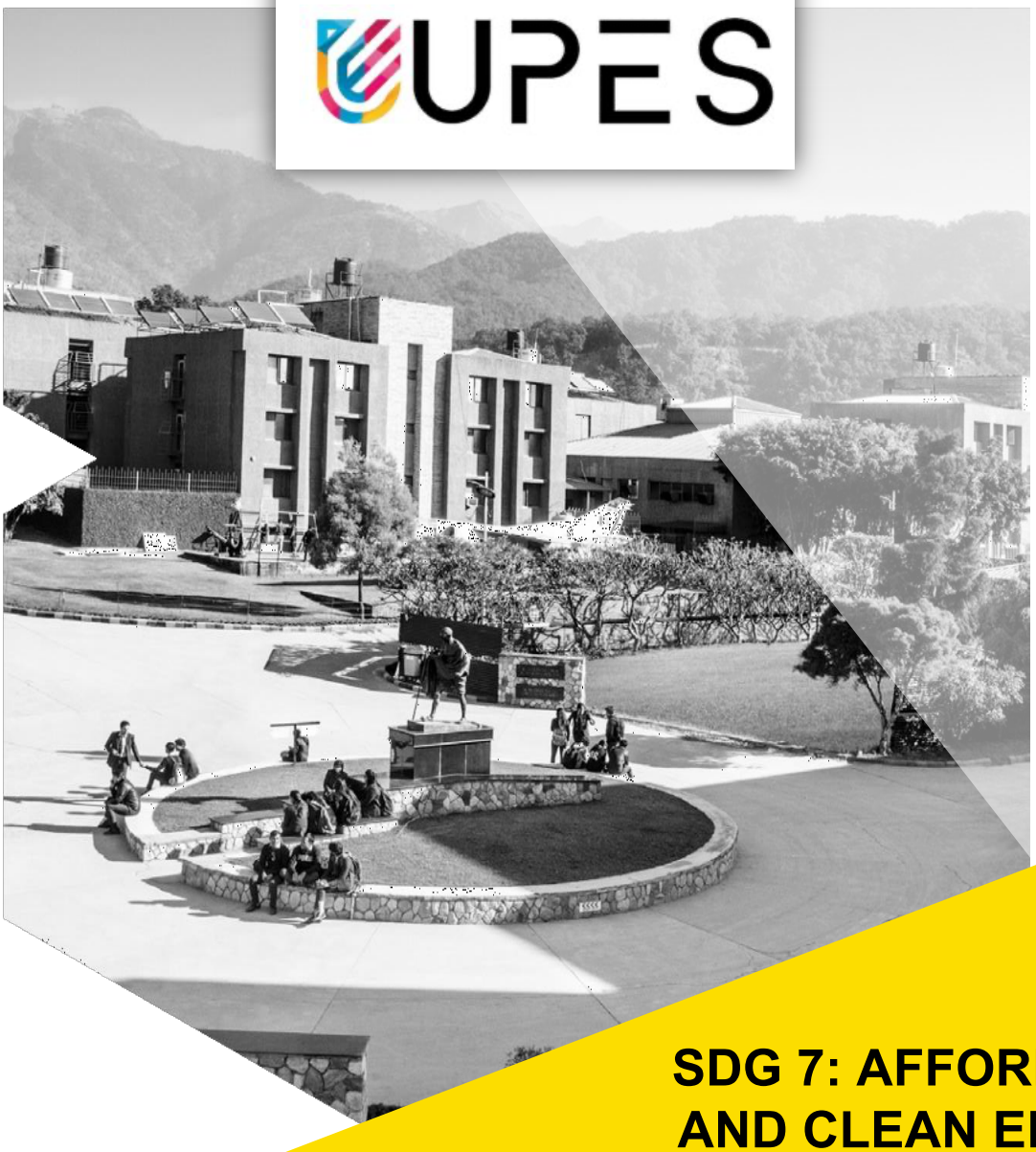
SUSTAINABLE DEVELOPMENT GOALS

UPES



SDG 7: AFFORDABLE AND CLEAN ENERGY

2025

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Climate Action Plans and Sustainability Strategy

UPES has developed formal strategies to manage carbon emissions and embed sustainability across the university. In recent years, the university formulated a **Climate Action Plan** that outlines a multi-pronged approach to climate change mitigation upes.ac.in. This plan emphasizes integrating climate considerations into research, education, and campus operations. For example, UPES has expanded coursework and research programs in climate science, renewable energy, and sustainability to educate future leaders upes.ac.in. The plan also calls for incorporating sustainability into decision-making and campus planning at all levels, ensuring that **climate action is a core priority** for the institution upes.ac.in upes.ac.in. UPES openly aligns its efforts with the UN Sustainable Development Goals (SDGs) – notably SDG 13 (Climate Action) – and has a dedicated framework to track progress on climate initiatives upes.ac.in upes.ac.in. The university's leadership underscores a *"moral obligation to prioritize climate action"* as an energy-focused institution, aiming to lead by example in reducing greenhouse gas emissions and building climate resilience on campus upes.ac.in. In 2024, UPES also launched the **RISE Center** (Research on Impact, Sustainability, and ESG) in collaboration with industry partners, to drive sustainability research and education. The RISE Center's mission includes advancing innovative solutions for climate change and carbon neutrality, and it reinforces UPES's commitment to embedding sustainability and ESG principles in its strategy forpressrelease.com forpressrelease.com.

Renewable Energy and Energy Efficiency Initiatives

A key pillar of UPES's carbon management is investment in renewable energy and energy-efficient infrastructure. The university has installed an on-campus **solar power plant of 100 kW capacity**, which in recent years has supplied roughly 8% of the university's total electricity demand upes.ac.in. This solar installation not only reduces reliance on grid power but also serves as a training and research facility for students upes.ac.in. Additionally, UPES operates extensive **solar water heating systems** (≈61,500 liters capacity) to meet hot water needs in hostels and labs upes.ac.in. Thanks to these solar thermal systems, over 95% of the campus's water heating energy is supplied by the sun, dramatically cutting fuel/electricity use for heating grihaindia.org. Alongside renewables, UPES has implemented aggressive energy efficiency upgrades. The university enacted a policy to **retrofit all conventional lighting with LED** and high-efficiency fixtures upes.ac.in. As of the last five years, all older lights across campus are being replaced with LED technology to save power upes.ac.in. UPES also maintains a *unity power factor* at its power substations to eliminate reactive power losses, ensuring "zero energy loss" in electrical distribution upes.ac.in. These measures have contributed to significant energy savings. Notably, the design of UPES's newer buildings incorporates green building principles – for instance, the Bidholi campus earned a 4-Star GRIHA (Green Rating for Integrated Habitat Assessment) rating, achieving ~43% reduction in energy consumption compared to baseline and integrating 100 kW of solar PV and solar hot water systems into the infrastructure grihaindia.org grihaindia.org. Through such **renewable energy projects, efficient building design, and conservation policies**, UPES is actively cutting its carbon emissions from energy use. University officials note that expanding on-site renewable generation (and even aiming for 100% clean energy in the long run) is part of the strategy to align with India's clean energy goals upes.ac.in upes.ac.in.

Green Campus and Transportation Initiatives

UPES has rolled out several on-campus sustainability initiatives that indirectly support carbon reduction by curbing resource use and promoting low-carbon choices. Green infrastructure projects include rainwater harvesting systems and an **integrated wastewater treatment plant** that uses microalgae to treat sewage upes.ac.in upes.ac.in. This pilot plant not only recycles water but also produces biofuel and biogas as byproducts, exemplifying a circular approach to campus resource management upes.ac.in. Tree plantation and campus greening drives are regularly organized to improve carbon sequestration and campus air quality upes.ac.in. UPES has also encouraged waste reduction and recycling programs as part of its sustainability initiatives upes.ac.in. In the realm of transportation, the university is **promoting electric mobility and cycling** to lower transportation-related emissions. Mechanical engineering students at UPES designed and built **"U-BAHN," an electric vehicle for on-campus use**, essentially a battery-powered cart that can serve as a shuttle on campus upes.ac.in. The prototype uses an 85 Ah battery with a brushless motor and IoT tracking, and demonstrates a cost-effective, zero-emission alternative to gasoline campus vehicles upes.ac.in. Likewise, UPES researchers developed a **solar-powered "Solar Tree"** installation that can charge devices, and they prototyped an electric-assist bicycle to encourage eco-friendly short-distance travel upes.ac.in. The e-bike can reach 30–35 km/h and travel 70–80 km per charge, offering a green commuting option for students upes.ac.in. Through such projects, the university community is exploring practical solutions for sustainable transport, and these innovations can be scaled up (for example, using electric carts for campus mobility or creating bike-sharing programs). Moreover, by raising awareness (via student projects, campus events, and competitions on sustainability), UPES fosters a culture of environmental responsibility – *e.g.* hosting a "Sustainability Fair 2022" to showcase green projects and solutions upes.ac.in. All these initiatives complement the university's carbon management efforts by reducing fossil fuel use, enhancing efficiency, and building a greener campus infrastructure.

Carbon Footprint Assessment and Net-Zero Targets

To effectively manage and reduce emissions, UPES has begun formally assessing its carbon footprint and setting clear targets. The university is establishing a **baseline greenhouse gas (GHG) inventory** for campus operations as a first step toward tracking progress upes.ac.in. Through the RISE Center's sustainability projects, UPES is launching a *"Green Dashboard"* that will monitor key impact metrics – such as energy use, carbon emissions, waste, etc. – in real time upes.ac.in. This data-driven approach will enable the campus to identify major emission sources and measure the results of carbon-cutting initiatives. Importantly, UPES has publicly **committed to a carbon neutrality goal**: the university aims to become a *"Net Zero Campus"* by the year **2030** upes.ac.in. This means by 2030, UPES intends to reduce or offset its campus carbon dioxide emissions to zero, effectively achieving carbon neutrality. The *long-term sustainability plan* under RISE explicitly lists *"Developing a Net Zero Campus, carbon neutral by 2030"* as a flagship goal upes.ac.in. Achieving this will likely involve a combination of measures – expanding renewable energy to cover all campus needs, improving efficiency further, transitioning to electric vehicles, reducing waste-related emissions, and possibly purchasing offsets for any remaining emissions. While working toward that target, UPES is also aligning with interim objectives; for instance, the university's strategy includes setting shorter-term **carbon reduction targets** and integrating climate measures into all policies and operations upes.ac.in upes.ac.in. By enhancing education and awareness on climate issues (SDG 13.3) and incorporating climate risk planning (disaster preparedness under SDG 13.3.3), UPES is building a framework to sustain long-term emissions reductions upes.ac.in. The commitment to net-zero by 2030 is a bold step that signals UPES's alignment with global climate goals and India's climate commitments. It provides a clear timeframe for action and is

driving the university's investments in green technology and process improvements in the 2020–2030 decade.

Progress Monitoring and Certifications

UPES demonstrates its carbon management progress through transparency and external validation. The university has indicated plans to publish **sustainability reports** as part of its SDG 12 (Responsible Consumption) obligations upes.ac.in. These reports would detail the university's environmental performance, including carbon emissions and energy usage, and allow the public to track improvements over time (however, specific recent reports were not found publicly, suggesting this may be a work in progress). On the operational side, UPES maintains an **ISO 14001-certified environmental management system**, which it first achieved in 2015 and continues to uphold dailypioneer.com. This ISO 14001 certification by DNV-GL confirms that UPES has a structured framework to identify and manage environmental impacts, including monitoring of greenhouse gas emissions and compliance with environmental regulations dailypioneer.com. The certification and periodic audits help ensure the university's sustainability initiatives are implemented effectively and continually improved. In terms of green infrastructure recognition, as noted, the campus earned a **GRIHA 4-Star green building rating** for its energy-efficient campus design (with features like optimized lighting, insulation, and on-site renewable energy) grihaindia.org grihaindia.org. This third-party rating (awarded by India's green building council) attests to significant reductions in energy and water usage on campus and validates UPES's early investments in sustainable campus development. Furthermore, UPES actively shares updates on its sustainability journey through news and events. University administrators have reported milestones such as the percentage of energy now met by renewables, the launch of new solar projects, and student-led innovations, underlining a narrative of steady progress upes.ac.in upes.ac.in. By combining **policy commitments, on-ground initiatives, and verified performance metrics**, UPES is building credibility in its carbon management efforts. The ultimate measure will be achieving the 2030 carbon-neutral goal, but intermediate signs – like reduced electricity consumption, increased renewable energy fraction, lower waste emissions, and external recognitions – indicate that UPES has a proactive framework in place. The focus since 2020 has clearly been on scaling up these efforts, reflecting the university's role as a leader in energy and environment studies and its resolve to align campus operations with the ideals of sustainability and climate responsibility.