

# SUSTAINABLE DEVELOPMENT GOALS



**7.2.4 Have an energy efficiency plan in place to reduce overall energy consumption?**

**Yes, UBT has a robust energy efficiency plan in place to reduce overall energy consumption, reflecting sustainability as a core objective in its strategic vision. UBT recognizes that responsible energy management is essential not only for cost savings but also for minimizing environmental impact and contributing to a more sustainable future. This commitment is demonstrated through a series of comprehensive measures aimed at optimizing energy use across its campus( See evidence No. 1 UBT sustainability strategy ).**

**A key element of UBT’s energy efficiency plan is the integration of Building Management Systems (BMS) in newly constructed buildings. These systems are designed to continuously monitor and manage energy consumption through advanced light and heat sensors. By automatically adjusting lighting and HVAC settings based on occupancy and environmental conditions, the BMS reduces energy waste, making these buildings highly energy-efficient.**

**UBT has also initiated the installation of solar panels as part of a renewable energy strategy to decrease reliance on non-renewable resources. Phase one of this solar project has been successfully completed, marking a significant step toward reducing overall energy consumption and lowering carbon emissions. As UBT continues to expand the use of solar energy, it expects to achieve even greater energy savings and environmental benefits (See evidence No. 2 UBT Solar panel project.**

**To further enhance its energy strategy, UBT joined a research project focused on developing a digital twin of the campus, enabling comprehensive energy audits and providing real-time monitoring and assessment of energy usage patterns. This digital twinning technology will allow UBT to track energy flows more accurately, uncover areas with the potential for improvement, and make data-driven decisions for energy conservation ( See Evidence No. 3 Digital twin project.**

**For the older campus buildings, where BMS has not yet been integrated, UBT is taking active measures to increase energy efficiency. This includes installing sensors to monitor and control lighting and HVAC systems in high-use areas (See evidence NO 4 Occupancy sensors). By integrating these sensors as part of an ongoing retrofit initiative, UBT can extend energy-saving practices to its entire campus. Additionally, energy usage in these older buildings is closely monitored through data from utility bills and metered records, allowing UBT to identify trends and implement targeted energy-saving interventions based on consumption data.**

**Beyond these technical measures, UBT has implemented additional energy-saving practices, such as reducing heating and cooling during non-peak hours and encouraging responsible energy usage among students and staff. To further promote sustainability in transportation, UBT will soon launch a carpooling app for students and staff to reduce energy consumption associated with commuting.**

**Finally, UBT's commitment to advancing renewable energy is reflected in its award-winning research on solar cells, which has earned recognition for its innovative contributions to solar technology (See evidence NO. 5 Winning research project on clean energy). This research aligns with UBT's ongoing efforts to develop and adopt renewable energy solutions, reinforcing its role as a leader in sustainable practices.**

**Together, these initiatives form a comprehensive energy efficiency plan that reflects UBT's commitment to sustainability. Through continuous monitoring, renewable energy projects, strategic upgrades, and community engagement, UBT aims to progressively reduce its energy consumption, ensuring that sustainability remains an integral part of its operations and long-term vision.**

Cover العلاف		
Research Proposal Title عنوان المقترح البحثي	English	Implementing Digital Twin Technology to Enhance Energy Efficiency in Educational Campuses: Case study UBT building
	Arabic	تطبيق تكنولوجيا التوأم الرقمي لتحسين استهلاك الطاقة في المباني التعليمية : دراسة حالة جامعة العمل والتكنولوجيا
Sponsor Information الراعي	Proposed Sponsor	NA
	Type of Fund	<input type="radio"/> External <input checked="" type="radio"/> Internal
Research Field البحث	Proposed Budget	94750 (SAR)
	Research Flagship	Sustainable development
	Research sub-topic	Smart cities
Duration of the research مدة البحث	Specific Field	Digital twin
		12Months

### UBT Wins Makkah Excellence Award

in the Environment Category for Groundbreaking Solar Cell Research, Advancing Renewable Energy Innovations

www.ubt.edu.sa 920000490 @ubt.edu

التعليم من أجل العمل وريادة الأعمال  
Education for Job Opportunities and Entrepreneurship

## UBT Dahaban Campos PV Carport Phase A

Prepared for: UBT  
Presented by: AUS

Date: 1<sup>st</sup> May 2023

AUS Layout for the 4 Zones UBT

### Layout for the 4 Zones

**Total Project Capacity: 881kWp**

Date: 1<sup>st</sup> May 2023

AUS Zone 1 UBT

Zone 1																														
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