Sustainable Development Goal_07 (Affordable and Clean Energy) Report

Al-Balqa Applied University

2025

Foreword

Al-Balqa Applied University (BAU) is a prominent public university in the Hashemite Kingdom of Jordan, with a student body of over 60,000 and multiple satellite campuses across the country. BAU's vision is to excel as a globally competitive applied university, renowned for creativity, innovation, applied scientific research, and leadership. The university is dedicated to fostering Jordan's knowledge economy and society, delivering high-quality education that equips students to thrive in a rapidly changing world.

Spanning an estimated **11,100,000 m^2**, BAU's campuses are home to a wide array of educational, research, medical, sports, and cultural facilities. Additionally, the campuses feature extensive green spaces and recreational areas, creating a vibrant, supportive environment for student development and engagement.

BAU's main campus is located in the ancient city of As-Salt, in Al-Balqa' Governorate, home to a number of important cultural and historical sites, and a UNESCO world heritage site. Built by Macedonians, As-Salt occupied an important trading position by Roman, Byzantine, and Mamelukes. Along with its historical value, As-Salt city is located 20 minutes from the lowest point on earth, the Dead Sea and is very close to the holy baptism site of Jesus Christ on the East bank of the Jordan River. A sunny day at As-Salt rewards visitors with a breathtaking view of the holy lands.

Alongside BAU's main campus, the university's satellite campuses are hubs for quality education and research and offer students the opportunity to explore Jordan's rich cultural heritage. For example, Aqaba University College located in Jordan's only port, offers maritime transport technology programs as well as easy access to the golden triangle of Petra, Wadi Rum and Aqaba. And Shoubak University College, which is located close to the

stunning Dana Biosphere Reserve. and Huson University College in the north, which closest to Jerash which is the second to Petra on the list of favorite destinations in Jordan

Al-Balqa Governorate is a province of intellectual heritage and folklore, and it is popular for recreational and religious tourism; traveler may visit many ruins and sacred shrines for Prophet Shu'ayb (Maqam Nabi Shu'ayb), Prophet Joshua Ben-nun, Prophet Gad Ben Jacob, Prophet Ayub, Prophet Hazir, and Prophet Gilad (May Peace Be Upon Them), as well as the shrines of two of Prophet Mohammad (Peace Be Upon Him) Companions: Abu Obeida Al-Jarah and Dirar Ibn Azwar.

Such an integral role along with other cities of the Kingdom was deeply rooted during the establishment of the Emirate of Jordan in 1921 moving towards developing the country. Salt City was prominent with its scientific and educational legacy, which was marked by the founding of Salt School, inaugurated by His Majesty King Abdullah the First – may God rest his soul – (Prince at that time) in 1923, to be the first school in the kingdom having its graduates as great officials and leaders of the nation.

Upon firmly acknowledging the educational and scientific long history of Salt City along with its leading role in the field of education by the Hashemite leadership, Late King Hussein Bin Talal – May God rest his soul – honored Balqa' governorate by the issuance of the royal decree to establish Al Balqa Applied University in Salt city on the 22nd of August 1996. This has enhanced the city's role, commemorated the pioneers of its early graduates, and scientifically empowered its legacy which we hope to continually flourish.

Our Strategic Response

BAU operates through a network of campuses across Jordan, covering diverse climatic regions—from the highlands in the mid-west to the arid governorates in the south and far east. This geographical diversity has driven BAU to undertake extensive initiatives in climate variability and adaptation, establishing itself as a leader in climate resilience.

BAU is at the forefront of research and innovation in areas such as water conservation, drought management, capacity building, and technology transfer. Its initiatives span solar energy, wastewater treatment and reuse, and smart agriculture. The university has also introduced specialized academic programs in fields like smart agriculture, water treatment, smart buildings, and electric and hybrid vehicles, alongside conducting numerous climate

change awareness activities.

On another hand (BAU) adopts the United Nations Sustainable Development Goals (UN SDGs), and Paris Agreement goals which are adopted by all nations as a universal call to protect the planet and ensure that all people enjoy peace and prosperity by 2030 through ethical management of resources, openness to societies and contributing to their development and solving their problems, and creating a conscious generation of its students who adopt the dimensions of sustainable development in their lives, directing scientific research to contribute to achieving sustainable development, and strengthening national and international partnerships, also (BAU) became a member of United Nations Academic Impact (UNAI), and United Nation - Sustainable Development Solution Network (UNSDSN).

INTRODUCTION:

BAU has adopted a sustainability-driven approach rooted in continuous improvement, with a mission to fully integrate the United Nations Sustainable Development Goals (SDGs) into its core strategies, policies, and daily operations. This commitment has inspired transformative initiatives, projects, and programs across all faculties and campuses. Through responsible resource management, innovative teaching, impactful research, and strong national and international partnerships, BAU continues to redefine its institutional identity as a leader in sustainability.

To strengthen its contribution to the SDGs, BAU established a **dedicated Sustainability Office** and implemented best practices that have earned international recognition. Remarkably, the university ranked **first nationally and 2nd in the Arab region**, and **53rd globally** in the **2023 UI GreenMetric World University Rankings**.

These accomplishments align with the **17 Sustainable Development Goals**, which serve as a guiding framework for meaningful action toward people and the planet. By embracing these goals, BAU continuously assesses its progress and sets clear priorities for future advancement.

BAU remains steadfast in empowering students as agents of change, community leaders, and responsible global citizens. Faculty and students actively engage in sustainability-oriented education through diverse courses, academic programs, and research projects that advance SDG principles in teaching, learning, and innovation.

In alignment with its Strategic Plan 2021-2025, BAU continues to pioneer innovative approaches through training programs, applied research, and community engagement initiatives—all designed to contribute effectively to the realization of the UN 2030 Agenda for Sustainable Development.

Access to affordable, reliable, and sustainable energy is fundamental for economic growth, social development, and environmental protection. Energy powers essential services such as healthcare, education, agriculture, transportation, and communications, and are key drivers of modern life. Despite significant progress, around 645 million people worldwide still lack electricity, and 1.8 billion continue to rely on polluting fuels for cooking, contributing to harmful household air pollution and climate change. Transitioning to renewable energy sources, improving energy efficiency, and expanding clean energy infrastructure are crucial to achieving universal access by 2030. Ensuring sustainable energy not only supports development but also mitigates environmental impacts, promotes gender equality, and enhances quality of life globally.

Al-Balqa Applied University (BAU) is firmly committed to advancing Sustainable Development Goal 7 (Affordable and Clean Energy) by promoting reliable, sustainable, and modern energy solutions across all its campuses. Recognizing that access to clean energy is fundamental to both environmental protection and socio-economic progress, BAU integrates energy efficiency and renewable energy into its core strategies, infrastructure, and academic programs.

Through innovative research, large-scale solar initiatives, and energy-smart infrastructure, the university has positioned itself as a national leader in clean energy transformation within Jordan's higher education sector. Currently, over 90 percent of BAU's total energy consumption is sourced from renewable energy, primarily solar power, reflecting its steady progress toward complete energy independence.

Beyond infrastructure, BAU's commitment extends to education and capacity building, offering training, workshops, and research opportunities focused on renewable energy technologies and energy management. These initiatives not only reduce the university's

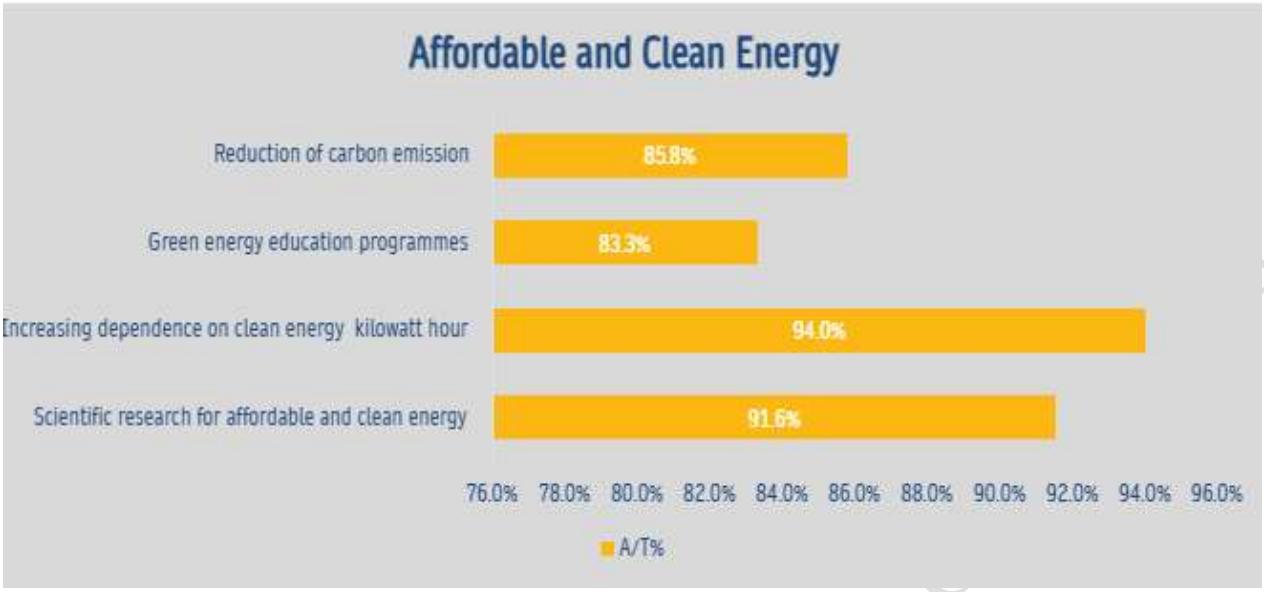
carbon footprint but also empower students, researchers, and the community to contribute to Jordan's transition toward a low-carbon future.

In alignment with the Jordanian National Energy Strategy and the Sustainable Development Goals, BAU continues to innovate in renewable energy generation, energy-efficient design, and smart building practices — paving the way for a more sustainable and resilient energy future**.**

To ensure accessible, reliable, and sustainable energy within the university and across Jordan, BAU has set clear objectives:

- **Advancing Research**: Supporting and fostering scientific research in competitive low-carbon energy solutions.
- **Expanding Clean Energy Use**: Increasing reliance on renewable and clean energy sources.
- **Promoting Education**: Developing and expanding educational programs centered on green energy.
- **Reducing Carbon Emissions**: Leading initiatives that significantly curtail carbon footprints and promote sustainability.

These initiatives reflect **BAU's** unwavering commitment to eco-friendly practices and its role as a pioneer in renewable energy. By championing sustainable energy solutions, the university is shaping a cleaner, greener future for its campuses and the broader Jordanian community.



Strategic Achievement for SDG7 /2025

INCREASING DEPENDENCE ON CLEAN ENERGY

Al-Balqa Applied University (BAU) is actively advancing its sustainability agenda through a comprehensive policy centered on energy-efficient building renovations. This approach underscores the university's dedication to transitioning toward environmentally sustainable Green Buildings.

Recent construction projects at BAU exemplify this commitment, incorporating innovative design features that enhance energy efficiency and environmental harmony. Key elements include the integration of centralized glass domes and the strategic use of double-glass windows, which maximize natural illumination and reduce reliance on artificial lighting. Additionally, these architectural enhancements promote natural ventilation, further minimizing energy consumption and creating healthier indoor environments.

Through these initiatives, BAU is setting a benchmark in sustainable campus development, aligning its infrastructure with global standards for eco-friendly and energy-efficient buildings.

Solar tracking systems

Metal cladding systems

General View

BAU is at the forefront of energy conservation and efficiency, adopting advanced Smart Building technologies and implementing a comprehensive range of energy-saving strategies. These initiatives reflect the university's commitment to sustainable development and environmental stewardship.

Key measures include the installation of an innovative solar tracking system to maximize solar energy capture, the use of metal cladding systems and energy-efficient stone in construction for better thermal insulation, and the replacement of traditional light bulbs with energy-saving LED lamps. BAU has also integrated cutting-edge transparent solar panels, which simultaneously generate power and allow natural light to pass through, and utilizes solar water heaters to meet diverse hot water needs.

Additionally, the university employs high-efficiency air-conditioning units equipped with inverter technology and eco-friendly refrigerants, significantly reducing energy consumption while maintaining comfort. These forward-thinking strategies position BAU as a leader in sustainable campus management, driving progress toward a greener future..

[New Electric Vehicles]

Al-Balqa Applied University launches landmark solar energy project for electricity generation

[BAU Launches Landmark Solar Energy Project for Electricity Generation]

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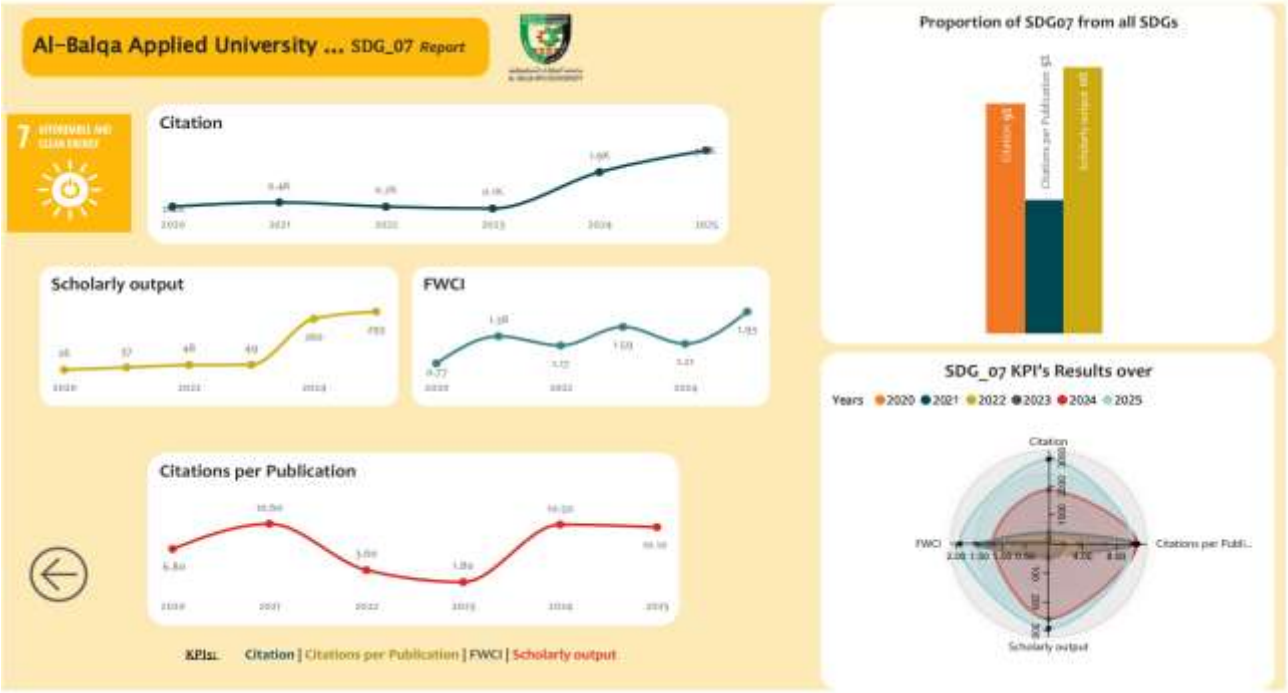

Publications at Al-Balqa Applied University within SDG7: Affordable and Clean Energy 2021 to 2025

Published by:

Development and Quality Assurance Center (DQAC_2025)