MARRAKECH

جامعة القاضي عياض

UNIVERSITÉ CADI AYYAD

Annual Report

Report on Sustainable Development Actions and Activities

Sustainable Development Goal No. 7

Affordable and Clean Energy



2024 / 2025

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1. Affordable and Clean Energy – SDG 7

As part of its sustainable development strategy, Cadi Ayyad University (UCA) is committed to promoting responsible and efficient energy management across its institutions. This approach aims to control energy consumption, improve the energy performance of buildings and equipment, reduce emissions associated with energy use, and progressively promote the use of renewable energy sources.

To achieve these objectives, the University relies on several key measures, including monitoring electricity and fuel consumption, conducting energy audits, progressively upgrading infrastructure, developing solar energy installations, and promoting training, awareness-raising, and research in the field of the energy transition. These actions are part of a continuous improvement process and contribute to the achievement of Sustainable Development Goal 7 (SDG 7), which aims to ensure access for all to affordable, reliable, sustainable, and modern energy.

1.1 Energy Supply and Consumption

Through its various institutions and university facilities, Cadi Ayyad University obtains its energy primarily from the public electricity grid and fuels used by service vehicles and university buses. Monitoring the different energy sources enables the University to better understand its energy needs and track changes in consumption over time.

a. Electricity Supply and Consumption

Electricity is supplied to UCA institutions through the public distribution grid, via the Regional Multiservice Company of Marrakech-Safi (SRM). Electricity is used to meet the energy needs of university buildings, including teaching, administrative, and scientific activities, lighting, and the operation of equipment and technical systems.

In 2025, UCA's total electricity consumption amounted to 3,987,094 kWh, equivalent to 14,353.54 GJ.

Monitoring electricity consumption is an essential tool for assessing the energy needs of the University's institutions, identifying opportunities to improve energy efficiency, and guiding initiatives aimed at achieving sustainable energy consumption management.

Référence : Justificatif à intégrer : fichier Excel consolidant les consommations d'électricité des établissements pour l'année 2025.

b. Fuel Supply and Consumption

Cadi Ayyad University also uses diesel fuel to operate and ensure the mobility of its service vehicles and university buses. Fuel is purchased from local service stations according to the needs arising from the University's travel requirements and activities.

For 2025, the annual fuel consumption of university vehicles and buses amounted to XX litres, equivalent to XX GJ. Monitoring fuel consumption volumes enables UCA to assess the energy requirements associated with its transport operations and gain a better understanding of the energy consumed through its travel activities.

Référence : (Justificatif : factures ou bons de carburant / relevés de consommation)

1.2 Institutional Energy Efficiency Policy

Cadi Ayyad University (UCA) is committed to continuously improving the energy performance of its institutions, with the aim of controlling energy consumption, optimising the use of equipment, and promoting more sustainable energy practices.

In this context, an institutional energy efficiency policy was developed in 2024. It is currently undergoing a review and updating process to reflect the University's evolving needs, infrastructure, and sustainable development objectives.

This policy focuses on several key areas of intervention, including improving the efficiency of lighting systems, progressively adopting renewable energy solutions, and assessing the energy performance of buildings through energy audits and energy assessments. These actions aim to identify opportunities for improvement, optimise energy consumption, and guide the implementation of energy efficiency measures across UCA institutions.

The University's institutional approach is also supported by awareness-raising and training activities designed to encourage students and university staff to adopt good energy consumption practices.

Furthermore, the University can contribute to promoting good energy management practices among local stakeholders through knowledge sharing, scientific expertise, and cooperation initiatives with public institutions and socio-economic stakeholders.



Référence : https://sustainable.uca.ma/wp-content/uploads/2026/04/Politique_Gestion-Energetique_Durable_UCA-V3.pdf

1.3 Improving the Energy Efficiency of Buildings and Equipment

Cadi Ayyad University is committed to continuously improving its energy performance through measures aimed at reducing electricity consumption and optimising the use of equipment, while maintaining the quality of university services.

a. Modernisation of Lighting Systems and Adoption of LED Technology

UCA has initiated the gradual replacement of traditional lamps with LED lighting fixtures. These devices help reduce electricity consumption for lighting and generally have a longer service life than conventional lighting technologies.

Photo 1 : LED lamps installed in university institutions





b. Installation of Occupancy and Motion Sensors

Occupancy and motion sensors have been installed in certain university buildings to adjust lighting operation according to room occupancy. This measure helps reduce unnecessary lighting in temporarily unoccupied spaces. The deployment of these devices is intended to be gradually extended to other university buildings as part of UCA's commitment to improving energy efficiency.

Photo 2 : Occupancy and motion sensors installed in university buildings





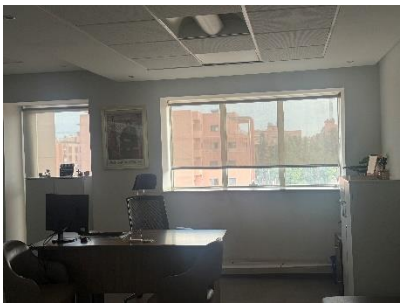


c. Improving the Thermal Comfort of Indoor Spaces

Roller blinds have been installed on the windows of offices and classrooms. They help regulate direct solar heat gains and improve the thermal comfort of indoor spaces. Depending on operating conditions and building characteristics, they may also help reduce cooling requirements. Their installation will be gradually extended to other university buildings as part of the University's efforts to improve thermal comfort and enhance energy efficiency.

Photo 3 : Roller blinds installed on the windows of offices and classrooms





d. Good Practices and Awareness-Raising on Energy Conservation

As part of its sustainable development approach, Cadi Ayyad University promotes awareness of energy-saving practices among the university community. This initiative is supported in particular by the development and dissemination of awareness-raising posters aimed at students, academic staff, and administrative personnel.

These communication materials aim to encourage the adoption of simple everyday practices, such as switching off lights and electrical equipment when not in use, reducing unnecessary energy consumption, and using energy resources responsibly across university institutions.

Figure 1 : Awareness-raising poster on good energy management practices



e. Mobilising Student Clubs and Associations in Support of the Energy Transition

Student clubs and associations are an important means of mobilising the university community around energy issues and sustainable development. Through their activities, they can contribute to promoting energy-saving practices, encouraging the use of renewable energy, and raising students' awareness of the challenges associated with the energy transition.

Awareness campaigns, workshops, thematic events, and field activities provide opportunities to encourage student engagement and the adoption of environmentally responsible behaviours. These initiatives help strengthen a culture of energy conservation and transform university campuses into spaces for learning, experimentation, and mobilisation in support of a more sustainable energy future.

Référence : https://sustainable.uca.ma/clubs/

1.4 Energy-Related Events, Conferences, and Scientific Meetings

Cadi Ayyad University organises and participates in events, conferences, symposia, workshops, and scientific meetings dedicated to energy-related issues, renewable energy, and the energy transition. These events foster the exchange of knowledge and experience.

Among the events to be highlighted is the SmaCuMed International Conference on Water-Energy-Food-Ecosystem Nexus in the Mediterranean, dedicated to the integrated approach to the interactions between water, energy, food, and ecosystems in the Mediterranean context. This approach highlights the links between the sustainable management of natural resources and the challenges of the energy transition.

The University may also highlight the WISEI2025 Workshop: Advancing Intelligent Energy Systems for Sustainability and Environmental Impact, which focuses on advancing intelligent energy systems to promote sustainability and reduce environmental impacts. This type of scientific meeting encourages exchanges on technological innovations, energy efficiency, and solutions that can support the transition towards more sustainable energy systems.

Through these scientific events, the University contributes to knowledge dissemination, the sharing of research findings, and the strengthening of collaboration between academic and socio-economic stakeholders. These events also help raise awareness of energy-related challenges and promote solutions aligned with SDG 7.

Référence : https://sustainable.uca.ma/events/

a. Participation in the "Marrakech, Sustainable City" Programme

Cadi Ayyad University participated in the project entitled "Strengthening the Sustainable Development of the City of Marrakech through Innovative Planning and Financing," known as the "Marrakech,

Sustainable City" programme. This participation forms part of a territorial cooperation initiative aimed at promoting sustainable development and strengthening the integration of environmental considerations into urban planning.

In the context of SDG 7, this initiative can be highlighted in relation to the links between the energy transition, sustainable urban planning, and improvements in the environmental performance of the local area. It illustrates the importance of cooperation between the academic community and local stakeholders in developing solutions tailored to sustainable development challenges.

To provide a more detailed account of UCA's contribution to this programme, it is necessary to document the activities in which the University actually participated, including studies conducted, scientific contributions, awareness-raising initiatives, and work related to energy efficiency and renewable energy.



Référence : rapports et pv de la réunions

b. Cooperation with Public Authorities to Support Morocco's Low-Carbon Transition

As part of its commitment to the energy transition and sustainable development, Cadi Ayyad University was also invited by the Economic, Social and Environmental Council (CESE) to participate in a workshop presenting the findings of its opinion entitled **"The Impact of the European Union's Carbon Border Adjustment Mechanism on Morocco."** Held on 24 September 2025 at the CESE headquarters in Rabat, the workshop aimed to present the main findings and recommendations regarding the implications of this mechanism for the Moroccan economy.

This topic is of particular relevance to higher education institutions, especially in terms of research, training and supporting economic stakeholders in addressing the growing requirements for decarbonisation, energy efficiency and carbon footprint reduction. This invitation reflects the University's engagement with national challenges related to the low-carbon transition and its potential contribution to collective discussions on Morocco's climate and energy policies.

Figure 2 : Invitation from the Economic, Social and Environmental Council (CESE) to Cadi Ayyad University to participate in the workshop presenting its opinion on the impact of the European Union's Carbon Border Adjustment Mechanism on Morocco.



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09 SEP. 2025

A l'attention de
Monsieur Belaid Bougadir
Président de l'Université Cadi Ayyad de Marrakech

Objet : Invitation à l'atelier de restitution de l'avis du CESE « ***l'impact du mécanisme d'ajustement carbone aux frontières de l'UE sur le Maroc*** »

Monsieur le Président,

J'ai l'honneur de vous inviter à prendre part ou désigner un représentant à l'atelier de restitution consacrée à la présentation des principales conclusions et recommandations de l'avis du Conseil Economique, Social et Environnemental (CESE) : « ***l'impact du mécanisme d'ajustement carbone aux frontières de l'UE sur le Maroc*** ».

Cet évènement se tiendra **le mercredi 24 septembre 2025 à 10h au siège du CESE à Rabat.**

Je vous prie d'agréer, ***Monsieur le Président***, l'expression de ma parfaite considération.

Conseil Economique, Social et Environnemental
Le Président
Abdelkader AMARA

PS : Pour plus d'information, vous pouvez contacter Mme Sihame Chraïm 06 08 88 52 07

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www.cese.ma contact@cese.ma

The invitations presented below are selected examples illustrating the requests addressed to the University in recognition of its contribution to national discussions and initiatives related to the energy transition, decarbonisation and sustainable development. Further invitations and requests also reflect this ongoing dynamic of institutional cooperation.

1.5 Energy Audits and Energy Performance Assessment

Cadi Ayyad University has undertaken initiatives to assess the energy performance of selected university buildings through energy audits and energy assessments. During the 2025–2026 period, four buildings underwent energy audits and assessments.

These assessments make it possible to analyse energy consumption, identify the main energy-consuming systems, and determine opportunities to improve the performance of buildings and equipment. They also help identify measures to reduce greenhouse gas emissions, particularly carbon dioxide (CO_2), associated with energy consumption.

The results provide a basis for prioritising technical recommendations, defining appropriate improvement measures, and directing investments towards the most suitable solutions. Implementing these recommendations, together with regular monitoring of energy consumption and estimates of associated CO_2 emissions, will make it possible to assess progress and measure emission reductions where the necessary data are available.

This approach is part of a continuous improvement process and contributes to strengthening the University's control over energy consumption, while supporting its efforts to reduce greenhouse gas emissions and its overall carbon footprint.

Référence : Rapports des audits énergétiques-2025-2026,

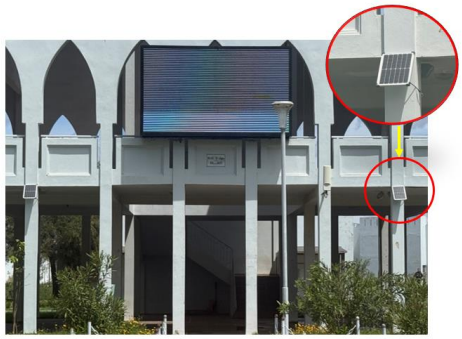
1.6 Deployment of Renewable Energy and Low-Carbon Energy Sources

Cadi Ayyad University is gradually expanding the use of renewable energy, particularly through the integration of solar photovoltaic and solar thermal solutions across its institutions.

a. Solar Photovoltaic Installations

Some photovoltaic installations are already operational within the University. They are used in particular for outdoor lighting and to power certain low-consumption equipment.

Photo 4 : Installations Powered by Photovoltaic Panels





b. Solar Thermal Installations

UCA also has solar thermal panels used to produce domestic hot water in the library. This installation harnesses solar energy to meet a specific building requirement.

c. Solar Energy Development Projects across University Institutions

Cadi Ayyad University is gradually expanding the use of solar energy across its institutions as part of its efforts to improve energy performance and promote renewable energy. This approach includes the deployment of photovoltaic systems in the parking areas of certain campuses, making productive use of parking spaces while supporting electricity generation from a renewable energy source.

At this stage, several photovoltaic installations have already been completed at certain university institutions. In parallel, other projects are under assessment, while some installations are currently being implemented or tested. This phased approach enables the University to explore opportunities for solar

energy development while taking into account the technical characteristics of each site, the energy needs of individual institutions, and implementation requirements.

The ongoing projects aim to gradually increase the share of renewable energy in campus energy supply and contribute to more sustainable use of energy resources. Once the installations are commissioned, performance monitoring will make it possible to assess installed photovoltaic capacity, the amount of electricity generated, and the contribution of these systems to meeting the energy needs of the institutions concerned.

To accurately report on progress, it is important to distinguish between installations that are already operational, projects undergoing installation or testing, and those that are still under assessment. This distinction will ensure transparent monitoring of achievements and enable the gradual measurement of results in renewable energy development across Cadi Ayyad University.

Photo 5 : Installation of Photovoltaic Panels in the Parking Area of the National School of Business and Management (ENCG) Marrakech – Cadi Ayyad University (UCA)



1.7 Pilot Projects and Experimental Platforms for Renewable Energy

The University develops educational and experimental activities in the field of renewable energy to promote learning, applied research, and proficiency in sustainable energy technologies.

One initiative to be documented is a prototype solar-powered vehicle equipped with photovoltaic panels, developed for educational and experimental purposes. This type of project illustrates the potential applications of solar energy in mobility while fostering scientific and technical skills.

Parking structures incorporating solar panels, where these have actually been installed and documented, may also serve as platforms for experimentation and demonstration of renewable energy generation.

Furthermore, experimental platforms dedicated to solar photovoltaic and thermal technologies can contribute to student training, research activities, and the assessment of energy system performance.

Photo 6 : Pilot Photovoltaic Projects at the Faculty of Science and Technology of Marrakech (FST) – Cadi Ayyad University








1.8 Training and Skills Development in Energy Efficiency and Renewable Energy

Cadi Ayyad University plays an important role in developing skills and expertise in energy efficiency, renewable energy, and sustainable development. Energy, climate, and ecological transition challenges

are integrated into several academic programmes, helping prepare students to address contemporary energy and environmental challenges.

For several years, the University has been training graduates specializing in energy efficiency and renewable energy through professional and specialized programmes. This educational offering contributes to developing expertise that can be applied at both regional and national levels, particularly in supporting businesses and local authorities in optimizing energy consumption, improving energy performance, and adopting sustainable solutions.

This momentum is also reflected in undergraduate and master's degree programmes in energy efficiency and renewable energy. In addition, doctoral programmes enable PhD candidates to deepen their knowledge and conduct research on renewable energy, energy efficiency, green technologies, and innovative solutions for the energy transition. This research contributes to scientific knowledge and the development of specialized skills in the energy and environmental fields.

Through this range of programmes, from undergraduate studies to doctoral education, Cadi Ayyad University helps prepare future professionals, researchers, and experts capable of supporting the energy transition and promoting more sustainable energy production and consumption patterns.

Reference : https://sustainable.uca.ma/education/#1733917737600-9fdd39bd-d6e7

1.9 Scientific Research and Innovation for the Energy Transition

Cadi Ayyad University conducts research on renewable energy, energy efficiency, the energy transition, and related environmental challenges. This work contributes to the advancement of scientific knowledge and the exploration of solutions tailored to the region's energy needs, while fostering innovation and the development of sustainable technologies.

Référence : https://sustainable.uca.ma/research/

The National Centre for Water and Energy Studies and Research (CNEREE) is an important research structure to highlight in this context. Through its scientific activities in the fields of water and energy, it contributes to the development of knowledge and technical expertise related to the sustainable management of resources and the energy transition. Topics relating to renewable energy, particularly solar energy, as well as energy efficiency and sustainable energy technologies, are relevant areas for illustrating the contribution of university research to SDG 7, subject to the availability of documented projects and results.

Référence : https://cneree.uca.ma/realisations/#



Research activities conducted within the University, particularly those carried out by specialized research centres and laboratories, can also promote knowledge transfer, technological innovation, and collaboration with socio-economic stakeholders involved in the energy transition. Furthermore, these activities provide a framework for training and scientific development for doctoral candidates and early-career researchers working on energy and environmental issues.

Through its research and innovation activities, Cadi Ayyad University thus contributes to strengthening the scientific knowledge and technical capacities needed to promote clean energy, improve energy efficiency, and support the transition towards more sustainable energy systems.