



الجامعة الأورومتوسطية بفاس  
EUROMED UNIVERSITY OF FES  
UNIVERSITÉ EUROMED DE FÈS

# **SDG13 report**

## **CLIMATE ACTION**

### **2025**



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# SDG 13 Report: Actions to Combat Climate Change

## Greenhouse gas (GHG) emissions in Morocco

At the time of COP 27, what greenhouse gas emissions from energy in Morocco? <https://www.researchgate.net/publication/355809620>

In 2018, and according to official data, Morocco contributed 1/500th of global greenhouse gas emissions, and ranked 47th in the ranking of total emissions of 160 countries.

After increasing by +0.4% compared to the previous year, greenhouse gas emissions from energy consumed in Morocco would have reached 63,953 Gigajoules (Gg) in 2020 (million tonnes of CO<sub>2</sub> equivalent)

In 2020, greenhouse gas emissions break down as follows:

- 34,650 Gg (+2.8% in 2020) due to oil, or 54.2% of the total
- 27,510 Gg (+0.5% in 2020) due to coal, or 43.0% of the total
- 1,793 Gg (-29.2% in 2020) of natural gas, or 2.8% of the total,

Emissions from the 6,988 GWh of renewable electricity from wind, solar, and hydroelectric power are zero. As a result, greenhouse gas emissions from energy consumed in Morocco amount to 1.78 tonnes of CO<sub>2</sub> equivalent per capita per year in 2020.

Climate change is a brake on development, particularly for emerging countries like Morocco. It leads to increased poverty and slows economic growth, hence the need to help address it.

**The process of combating global warming is a voluntary national commitment to reduce its GHG emissions by 2030 by 45.5% (of which 18% is unconditional and without international cooperation: <https://www.ecoactu.ma/emissions-de-ges-maroc/> and requiring a total investment of \$50 billion.**

The European Union and Morocco have strengthened their cooperation on environmental protection, biodiversity preservation, and the fight against climate change with the launch of the EU-Morocco Green Partnership. This is the first EU Green Partnership with a partner country aimed at advancing the external dimension of the European Green Deal through action on the ground. The work will focus on key thematic areas such as climate and energy, the environment, including marine and maritime issues, and the green economy.

[https://www.lepoint.fr/afrique/climat-l-ue-et-le-maroc-signe-un-partenariat-vert-19-10-2022-2494505\\_3826.php](https://www.lepoint.fr/afrique/climat-l-ue-et-le-maroc-signe-un-partenariat-vert-19-10-2022-2494505_3826.php)

## Climate change in the Fez Meknes region

“Adaptation to Climate Change in Maghreb Agriculture” Project (ACCAGRIMAG)

### MAIN LESSONS

- A rise in temperatures predicted by all climate projection models.
- A downward trend in precipitation surrounded by more uncertainty.
- A crop growth period that will tend to shrink, shortening the production period by one to three months.
- Olive and almond crops will be little affected by 2050.
- Spring crops, such as chickpeas, will be hit hard by the effects of climate change.
- A significant reduction in the use of land for wheat cultivation, although conditions are more favourable in the North and in mountain areas.

In the Fez-Meknes region, yields remain unchanged across the region in a moderate climate change scenario (RCP4.5), with geographically disparate effects: lowland areas are heavily affected and possible production gains in mountain areas. Conversely, in a more pessimistic scenario (RCP8.5), yields fall sharply throughout the region with more frequent dry periods and more irregular yields increasing the risk for producers. The large-scale implementation of climate change adaptation measures is becoming necessary: agroforestry, direct seeding, agricultural insurance, the use of certified seeds, plant protection, supplemental irrigation and soil fertility management.

## What is the university doing to help combat the harmful effects of climate change?

### Eco campus



The UEMF project was designed using the Negawatt approach: The buildings at UEMF are new and less than 7 years old. UEMF reaffirms its firm commitment to ensuring that all renovations, restorations, or new constructions meet the highest standards of energy efficiency and sustainable development:

The Eco-Campus meets the highest international standards in terms of sustainable development.

The buildings are constructed according to the HQE “High Environmental Quality” approach, limiting any harmful environmental impact through precise choices: low-energy local materials, materials ensuring good thermal and sound insulation, open architecture ensuring maximum natural light and brightness,

clean and renewable energy sources: installation of photovoltaic panels on large areas of the buildings’ roofs for the production of electrical energy with real-time measurement of the recovered energy, installation of thermal solar panels for the production of hot water, ongoing installation of pipes and basins for rainwater recovery, recirculation of gray water (in progress), construction / rehabilitation of positive energy buildings, installation of sorting bins for waste throughout the Eco-campus, creation of sports, leisure and relaxation areas, use of a circular economy (minimizing waste by optimizing the value generated by resources), installation on the UEMF Eco-campus of charging stations for electric cars. These stations are the only ones in the Fez-Meknes region and the only ones on a university campus in Morocco. Billboards have been placed in several places in the city of Fez inviting motorists to come and recharge the batteries of their electric cars for free on the UEMF Eco campus, total accessibility and in all University buildings for people with reduced mobility (PRM),

installation on all floors, in front of all doors, in the stairways and in the elevators of braille signs for the blind and visually impaired, installation on all floors and in all buildings of sanitary facilities (toilets) for PRM.

The UEMF eco campus was certified by COP 22 and obtained the French-speaking label for responsible innovation for its “sustainable UEMF” project, as well as receiving the “Responsible Campus of the Year” label in 2022.




<https://snrtnews.com/fr/article/euromed-de-f%C3%A8s-dispose-d%E2%80%99un-label-par-la-cop22>

<https://ueuromed.org/actualites/annonces-diverses/luemf-obtient-le-label-de-innovation-responsable-lors-de-sa-premiere>

<https://www.ueuromed.org/actualites/annonces-diverses/luemf-laureate-du-prix-campus-responsable-de-lannee>


### Inclusion of renewable energies





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الجامعة الأوروبية بفس  
EUROMED UNIVERSITY OF FES  
UNIVERSITÉ EUROMED DE FÈS

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## Awareness and information conferences

Conference-Debate: Climate Change: Challenges for the Fez-Meknes Region » November 10, 2021 (An event co-organized by UEMF and the World Bank and the participation of the think tanks Policy Center for the New South and the Research Institute for European, Mediterranean, and African Studies (RIEMAS))

As indicated in the report on the New Development Model (NMD) (<https://www.csmd.ma/rapport-en>), territories represent a key level for anchoring development in a sustainable and inclusive trajectory. Even though the challenges of climate change are global, it is clear that local actors will have a leading role to play in defining and implementing the solutions most suited to the challenges but also to the opportunities of each territory. This event aims to gather from key actors in the Fez-Meknes Region their perspectives on the challenges posed by climate change but also their recommendations for actions to be implemented locally to anchor the region in a resilient and sustainable development trajectory.



The Fez-Meknes region has a powerful tool for this purpose: the Regional Information System for the Environment and Sustainable Development. <https://siredd.environnement.gov.ma/fes-meknes/ChangementClimat/?idICible=0>

As the upcoming 27th edition of the Conference of the Parties (COP27) scheduled to take place in Sharm El Sheikh, Egypt, from November 6 to 18, Mr. Mourinho Félix, Vice-President of the European Investment Bank (EIB), has booked a visit to UEMF to discuss with students and lecturers the challenges and opportunities of the climate transition as well as the role of the EIB, as a Climate Bank, in promoting sustainable models in Morocco and around the world.



<https://ueuromed.org/actualites/visites/visite-du-vice-president-de-la-bei-mmourinho-felix-luemf-pour-un-echange-avec>

## Training

### Master: DESIGN AND ENGINEERING OF GREEN BUILDINGS (CIBV)

Modules taught:

- Transfer phenomena;
- Fluid mechanics;
- General and applied thermodynamics;
- Materials for energy efficiency in buildings;
- Standards and climate;
- Ventilation and lighting of the building;
- Air conditioning, heating and energy integration;
- Renewable energy for buildings;
- Eco-design of a building;
- Energy analysis and economic evaluation of the building;
- Green and smart buildings;
- Sustainable development and waste management;
- Preliminary design of an efficient building;

### Specialized Master's: Environmental Engineering and Water Management

The program aims to train managers with a cross-disciplinary vision of environmental issues and water management in particular. The development of clean technologies (processes, methods, or tools) to solve environmental problems attributable to human activities is emphasized, with a focus on the Euro-Mediterranean region.

To do this, the student acquires in this sector advanced knowledge in the field of the environment (scientific and technical methods, knowledge of ecosystems, techniques for analyzing and treating pollutants, water management and treatment, remote sensing and GIS tools, national and international policy, green economy, climate and climate change, etc.) and energy efficiency.



## Climate Continuing Education Project

Title of the Training Module*
<b>Background on the UNFCCC process and IPCC reports</b>
<b>State of knowledge on climate change, Conference of the Parties (COP) and Sustainable Development Goals (SDGs)</b>
<b>Implementation of National Greenhouse Gas Inventory Systems: Case of Morocco's SNI-GES</b>
<b>The Role of NEXUS Water/Energy/Food Security</b>
<b>Integrating climate change adaptation into urban environments</b>
<b>Climate Change and Adaptation in the Rural World</b>
<b>Mainstreaming Climate Change into National Development Planning and Budgeting: NDC and PNA</b>
<b>Project financing tools to combat climate change: Example of the Green Climate Fund</b>
<b>The MRV system</b>
<b>Climate diplomacy</b>

## Research and Development: Renewable Energies

### Innovation structures

#### Agro Energy TIC Valley

It is a joint platform for testing, research and training in the fields of bioenergy and energy storage, created jointly by the EuroMed University of Fez and the Institute for Research in Solar Energy and New Energies (IRESEN).

Energies Renouvelables	Stockage de l'Energie	Efficiency Energétique, Digitalisation et IA
Solaire et Applicatifs	Stockage Thermique/Thermochimique	Agro-Industrie '4.0'
Biomasse: Biogaz & Combustion	Stockage Electrochimique & Applications	Agriculture Efficace et Intelligente – 'Smart Farming'
Hybridation et Systèmes de Gestion Intelligente de l'Energie (EMS) (TIC, AI, IoT, D2D, V2G, etc.)		

#### Renewable Energy, Storage and Energy Efficiency Platform

The Renewable Energy, Storage, and Energy Efficiency Platform encompasses several facilities for the design, manufacturing, and characterization of devices that meet sustainable energy development criteria. In addition to this intramural infrastructure, the university also has open-air laboratories, including a house equipped with several types of sensors for energy efficiency research.

## Research topics

### Renewable Energies and Energy Efficiency

- Technological and operational development of solar thermal, photovoltaic, wind and hydroelectric production technologies. This work will cover both possible technical developments in current energy production and storage technologies and the development of new materials aimed at increasing energy efficiency in the production, storage and distribution of renewable energies.
- Management and control of the various study phases (installation, operation, maintenance of electrical installations and equipment);
- Improvement of processes and devices related to energy engineering;
- Integration of renewable energies into industrial processes;
- Mastery of the different methods of calculating energy and thermal systems;
- Development of identification and prognosis methods for wind generators (Project to be developed with the EDF Energies Nouvelles group);
- Systems for cleaning, aligning and maintaining solar parks to maintain high transformation efficiency (Project to be developed with the EDF Energies Nouvelles group).
- New classes of nano-composite and bio-composite polymers (Project to be developed with the PSA group for the design of materials with minimal ecological impact and mechanical characteristics suitable for the construction of automobile shells);



## Cooperation projects

### AgriTech

The French Development Agency (AFD) and the Euromed University of Fez (UEMF) signed a financing agreement for the design and implementation of aAgriTech hub in the Fez-Meknes region. This is a unique project in Morocco that involves the structuring of a regional innovation and entrepreneurship hub in the agriculture and agro-industry sector. To this end, the AFD is providing the UEMF with a grant of 16.3 million dirhams (1.5 million euros) for the design and implementation of this project within its Eco-campus. In the Fez-Meknes region, this pilot project aims to support the upgrading of the agro-industrial sector. Several capacity-building actions, through support for entrepreneurs, the promotion of research and development and the adaptation of the local agricultural sector to international standards and the fight against the effects of climate change, will be financed by this technical assistance. The ambition is to see the emergence of an agro-industrial cluster driven by entrepreneurship and the digitalization of economies.

### Eumed Climate Hub (in cooperation with the UfM)

#### Euro-Mediterranean Climate Change Capacity Building Hub Project

Functions and justification.

The Euro-Mediterranean region – challenged by an urgent need to reduce emissions and adapt to climate change – possesses relevant and considerable know-how, but it is nevertheless fragmented and differentiated between communities, difficult to understand outside of universities or specialized institutions, poorly shared, not pooled as a common set of resources, and rarely accessible to professionals called upon to materialize progress on mitigation and adaptation in their ordinary working lives: across the region, actors in fields such as agriculture, fisheries, urban management, construction, infrastructure, water, energy, transport, finance, trade, manufacturing, etc. have unequal access to training, information and the exchange of essential good practices.

The Euro-Mediterranean Capacity Building Centre on Climate Change – “EuMed Climate Hub” – is therefore designed as a physical location and an online web resource to connect regional knowledge and best practices and provide pragmatic training to field actors at all levels, with the aim of accelerating sustainability through widespread capacity building.

On site and online it will host:

- EUMED CLIMATE SEMINARS - pragmatic training on adaptation, resilience and mitigation through adaptation, for central and local administrations, the private sector and NGOs
- EUMED ENERGY FOR CLIMATE SEMINARS - pragmatic training on SDG-oriented energy efficiency, the transition to renewable energy and systems integration;
- THE EUMED TECHNOLOGY CLEARING HOUSE - a virtual and on-site meeting space to share, compare and integrate diverse know-how and promote reciprocal technology transfer, based on the awareness that technology also includes all the fruits of a thousand-year-old experience held in the South in the management of arid zones, urban and rural landscapes, infrastructure, construction, energy efficiency solutions, etc.
- THE EUMED CLIMATE SCIENCE AND POLICY PLATFORM - responding to the pragmatic needs for data-, information- and science-based solutions emerging from central and local institutions, based on the contribution of existing scientific networks, including MEDECC
- THE EUMED CLIMATE PORTAL - a web portal assisting in the coordination and communication of the above-mentioned activities, but also serving as a separate engine

for capacity building and access to climate finance, particularly for local governments and stakeholders

#### UEMF and Tantan municipality partnership on climate

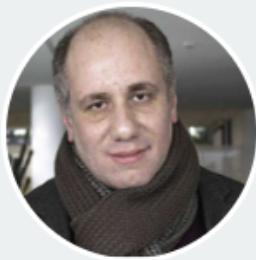
<https://www.ueuromed.org/actualites/accords-et-partenariats/signature-de-laccord-cadre-emadu-uemf-tantan>

#### UfM Partnership

<https://ueuromed.org/actualites/annonces-diverses/de-nouvelles-opportunites-de-partenariat-entre-luemf-et-lunion-pour-la>

#### UEMF Activities

A scientific research published in the media under the title: "Businesses and climate change: a structural relationship for a clear reduction in carbon emissions", carried out by Professor Othmane BENMOUSSA. Media 24. Edition of July 26, 2022



**Othmane Benmoussa**

*Enseignant-chercheur en systems thinking et Directeur de l'Euromed Institute of Technology*

#### **Tribune**

### **Entreprises et changement climatique : une relation structurelle pour une réduction franche des émissions de carbone**

Most greenhouse gases come from electricity production, transportation, and industrial and agricultural operations—three "levers" that we can use to reduce carbon emissions in particular.

– Regarding electricity, the cost of renewable energy has fallen much faster than expected. With some energies such as wind and centralized solar, we are beginning to reach the threshold where it is now cheaper to build new facilities than to operate existing fossil fuel infrastructure. However, we must continue to invest in cheaper, more efficient energy storage solutions and update our energy grids while finding ways to circumvent some of the entrenched lobbies that are slowing the transition to renewable energy.

– Transportation, on the other hand, represents a more difficult technological challenge. While there has been some momentum in the transition to greener passenger vehicles, other transportation vectors such as freight trucking, maritime shipping, and air travel are not as easily electrified. These modes of transport require incredibly dense and portable energy sources. This will require continued development of new technologies such as "green

hydrogen,” i.e., hydrogen produced by electrolysis from renewable energy sources, while highlighting a limiting factor: water resources, which are becoming increasingly scarce in several countries, regions, subcontinents, and continents.

– The last lever that can be pulled concerns industry and agriculture. The industries that produce the most greenhouse gases are those that consume a lot of energy and heat, primarily those that use iron, steel, and cement. For agriculture, the production of fertilizers, methane (from livestock), and deforestation are major emissions concerns.

<https://medias24.com/chronique/entreprises-et-changement-climatique-une-relation-structelle-pour-une-reduction-franche-des-emissions-de-carbone/>

#### Participation in the Learning Planet Festival with the Green My Eco-campus project



<https://festival.learning-planet.org/fr/event/green-my-eco-campus/>



## Pr. Hafsa El Bekri represents UEMF at COP 27 in Sharm el-Sheikh, November 17, 2022



Prof. Hafsa El Bekri traveled to Sharm el-Sheikh for COP 27 to represent the Euromed University of Fez at this global event, which brought together approximately 200 countries, delegations, media, NGOs, businesses, observers, and researchers. The objective of this African COP is to put new actions to combat global warming and its impacts on the negotiation agenda.

Pr. Hafsa El Bekri also released a pre-cop column entitled "From Marrakech to Sharm El-Sheikh: Africa at the center of the climate agenda" published by challenge magazine in which she raises, among other things, the role of the RIEMAS (Research Institute for European, Mediterranean and African Studies) Think Tank of the UEMF in the study of the new narrative of climate action in Africa and for Africa.

As a reminder, the first African COP was held in Marrakech in 2016, following which the UEMF eco-campus received the COP 22 Label for its ecological assets and compliance with environmental standards and sustainable development (lower energy consumption, integration of renewable energy technologies, maximum natural light, recycling, green spaces, etc.).

<https://ueuromed.org/actualites/annonces-diverses/pr-hafsa-el-bekri-represente-luemf-dans-la-cop-27-charm-el-cheikh>

## Roundtable: Water, Agriculture and Food Security, Building a Nexus Approach to Africa's Climate Change Narrative February 2, 2023



The Research Institute for European, Mediterranean, and African Studies (RIEMAS), a Think-Tank at the Euromed University of Fez, organized its first roundtable of the 1.5 Hours for Climate - Africa Moonshot Initiative, which focused on the theme "Water, Agriculture and Food Security: Building a Nexus Approach to the Climate Change Narrative in Africa".

1.5 hours for Climate - Africa Climate Moonshot Initiative, is a project led by RIEMAS, 4C Maroc, Euro-Mediterranean Economists Association - EMEA, Mercure Cab Fatima B. NDOYE and Positive Agenda Advisory. These monthly thematic meetings aim to bring together high-level guests and regional experts around major issues related to climate action in order to contribute to the creation of a dynamic conducive to advocacy in favor of a climate agenda anchored in African realities ahead of COP28.

This round table was moderated by Professor Hafsa El Bekri, lecturer at the Euromed Business School and Co-Director of RIEMAS.

<https://ueuromed.org/actualites/ateliers-workshops/table-ronde-eau-agriculture-et-securite-alimentaire-construire-une>

<https://www.youtube.com/watch?v=MCPCJ-UocqA&t=2s>

**Webinar: "Climate emergency in the Mediterranean: what action is the University taking?" March 8, 2023**



**LIVE** Webinaire du 8 mars 2023  
17h (Nouakchott) / 18h (Alger, Paris, Rabat, Tunis) / 19h (Tripoli)

**Urgence climatique en Méditerranée : quelle action de l'Université ?  
Agir en faveur du climat dans son organisation**

**Philippe DROBINSKI**  
Climatologue, directeur du  
Laboratoire de Météorologie  
Dynamique et du Centre  
Energy4Climate

**Co-organisé avec**  
**AUF**  
AGENCE UNIVERSITAIRE  
DE LA FRANCOPHONIE

**Mustapha BENNOUNA**  
Conseiller du président de  
l'Université Euromed de Fès

**Alumni for the Planet**

**INSCRIPTION GRATUITE**

With a view to presenting the important role of universities in raising awareness among university communities and the actions they can take to promote sustainable development, Alumni for the Planet and AUF - North Africa are co-organizing a free webinar on the theme: **"Urgence climatique en Méditerranée : quelle action de l'Université ? Agir en faveur du climat dans son organisation"**

Indeed, in order to encourage higher education graduates to commit to the climate and the environment in their university, this webinar aims to:

- Present the challenges of climate change;



- Provide access to specialized resources and networks to learn about and take action in support of your university;
- Show that it is possible to deploy climate awareness actions

Speakers:

- Dr. Philippe Drobinski, Climatologist, Director of the Dynamic Meteorology Laboratory and the Energy4Climate Interdisciplinary Center
- Prof. Mustapha Bennouna, Advisor to the President of the Euromed University of Fez, will share his testimony. He will present the actions he has taken within his university to address climate and environmental issues.

<https://ueuromed.org/actualites/ateliers-workshops/webinaire-urgence-climatique-en-mediterranee-quelle-action-de>

### UEMF students head to Tel Aviv for Jamweek in Shenkar to address climate change issues February 27, 2023



The impact of global warming is already irreversible, and environmental issues are now a strategic issue at all levels. With the current rate of population growth and the intensification of industrial activities, among other things, major challenges must be addressed. In response to these concerns, Shenkar College of Engineering, Design and Art in Tel Aviv organizes the annual "JAMWEEK," a creative hackathon that aims to bring together students and experts to propose solutions that can reduce CO2 emissions and limit global warming.

This year, the 11th edition of JAMWEEK, which took place from February 27 to March 2, 2023, was very special because it saw the participation of around ten students from the Euromed University of Fez, who traveled to Tel Aviv to meet students from Israel, Germany and New York to work hand in hand and conduct a collective brainstorming session. With a focus on specific regions such as the Mediterranean Sea, the Red Sea and the desert, the goal is to

find ideas that promote awareness of environmental problems and propose measures to mitigate them.

Various academic backgrounds from UEMF were represented: Artificial Intelligence, International Business, Management, and even Humanities and Social Sciences. Participants were invited to propose, in teams, solutions applicable to several areas: water pollution, biodiversity preservation, and the protection of flora and fauna.

<https://ueuromed.org/actualites/ateliers-workshops/les-etudiants-de-luemf-partent-pour-tel-aviv-au-jamweek-shenkar-pour>

### UEMF participates in the third edition of the Mediterranean Climate Forum June 22, 2023



The third edition of the Conference of the Parties of the Mediterranean Rim Countries on Climate Change (MedCOP Climate) took place from June 22 to 23 in Tangier, Morocco.

This contribution calls for accelerating the pace of the fight against climate change on the one hand, and on the other hand for intensifying actions to preserve ecosystems in the territories.

At this international conference, Professor Hafsa El Bekri, a lecturer and researcher at UEMF and Co-Director of the Think Tank Research Institute for European, Mediterranean and African Studies (RIEMAS), moderated the Side Event "Assessment of environmental considerations in regional budgets" by addressing several issues related to the implementation and promotion of climate governance at the local level. Professor El Bekri also spoke on the Panel "Local Stocktake and Way Forward."



This event was attended by ministers, public organizations, donors, businesses, territories and NGOs to address the various challenges faced by the Mediterranean under climate pressure.

<https://ueuromed.org/actualites/annonces-diverses/luemf-participe-la-troisieme-edition-du-forum-mediterraneen-pour-le>

### Webinar: "The Participation of African Women in Climate Action"



**GENRE ET CHANGEMENT CLIMATIQUE**  
*Rôle et engagement des femmes africaines dans l'action climatique*

 <b>Mme. Rajae CHAFIL</b> <i>Directrice Générale, 4C Maroc</i>	 <b>Mme. Hafsa EL BEKRI</b> <i>Modératrice Enseignante chercheuse, UEMF Chercheuse associée, RIEMAS</i>	 <b>Mme. Fatou NDOYE</b> <i>Coordinatrice Pôle SADA Systèmes Alimentaires Alternatifs Durables /Genre, Enda Graf Sahel</i>
 <b>Mme. Loubna KARROUM</b> <i>Directrice Générale, KARDEV</i>	 <b>Mme. Loubna BOUTALEB</b> <i>Directrice Générale, Rabat Région Mobilité</i>	 <b>Mme Marie TAMOIFO NKOM</b> <i>Présidente Fondatrice, AJVI-AJVC Coordonnatrice régionale, REJEFAC et Coopérative Gic Accent sur Elle PDG, Greeningmedia WebTV</i>

[https://www.facebook.com/UniversiteEuromed/videos/943901773283893/?extid=NS-UNK-UNK-UNK-AN\\_GKOT-GK1C&ref=sharing&mibextid=2Rb1fB](https://www.facebook.com/UniversiteEuromed/videos/943901773283893/?extid=NS-UNK-UNK-UNK-AN_GKOT-GK1C&ref=sharing&mibextid=2Rb1fB)

<https://ueuromed.org/riemas/evenements/les-round-tables-du-riemas/15-hours-climate-genre-et-changement-climatique>



## 1.5 HOURS FOR CLIMATE: PLASTIC WASTE MANAGEMENT

**JOURNEE INTERNATIONALE DE L'ENVIRONNEMENT**  
*Gestion des déchets plastiques: Partage d'expériences africaines*



**Mme. Hafsa EL BEKRI**  
Modératrice  
Enseignante chercheuse,  
UEMF  
Chercheuse associée,  
RIEMAS

**M. Mehdi AISSI**  
Chargé du  
Programme Marin,  
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**Mme. Edith KOUASSI**  
Directrice Associée,  
ECOPLAST INNOV

**M. Ayoub MAKHLOUFI**  
Consultant / Formateur  
AFC agency

Logos: Positive Agenda, RIEMAS THINK TANK, UEMF, L.C. MAROC, EM AE, MERCURE

<https://ueuromed.org/riemas/evenements/les-round-tables-du-riemas/15-hours-climate-gestion-des-dechets-plastiques>

## Professor Azzouzi's speech on climate change



As part of the preparations for the "COP28" events, which will be held from November 30 to December 12, 2023 in the United Arab Emirates, Professor Azzouzi, President of the Chair of the Alliance of Civilizations and member of the Board of Directors of the Euromed University of Fez, was invited by Emirati television in Abu Dhabi to discuss the evolution of global climate change.

During this meeting, Professor Azzouzi stressed the seriousness of the situation facing our planet due to global warming resulting from gas emissions and environmental pollution which threatens the future of the Earth on land and at sea.

He also stressed the need for positive action and to activate proposals and recommendations that would help reduce this phenomenon and take the necessary measures, at the national and international levels, to reduce the negative effects resulting from climate change, similar to what countries such as the United States are doing. This is what the Emirates and the Kingdom of Morocco are doing, which are making tireless efforts to develop the fields of renewable energy and green technologies.

In his speech, Professor Azzouzi stressed the importance of the participation of all stakeholders, particularly industrialized countries that directly contribute to the exacerbation of this environmental crisis, and propose realistic solutions that would help reduce carbon dioxide emission levels.

<https://www.youtube.com/watch?v=PUyhHTclfiY>

### CLUB WE GREEN IN ACTION: "ENHANCING IFRANE NATIONAL PARK: LET'S OPEN OUR EYES!"



Saturday, October 28, 2023; the "We Green" club of students from the Euromed University of Fez (UEMF) organized an awareness day for its members through visits to several environmental centers as well as a clean-up action in the Ifrane National Park.

As part of these social activities, the "We Green" club kicked off this day aimed at raising public awareness of environmental issues with the main objective of: Encouraging reflection on environmental issues, creating ecological habits through a cleaning action and awareness of biodiversity issues through a visit to the Ifrane National Park, its fish farming station in Ras El Mae and its cedar house. The day was marked in particular by a cleaning action in the forest of the Zerouka I lake in Ifrane with the ambition of reducing the negative impact of waste and residues that affect the environment.

Note that Zerrouka I is a small, shallow, drainable artificial fish pond. It is located on the Zerrouka (or Zrouka) wadi, the main tributary of the Tizguite wadi. The dike is about 300m from the spring, so its waters flow directly into it. The reservoir is limited by a concrete wall, at least on the west bank. The spring waters are also used to supply the city of Ifrane with drinking water.

At the level of this body of water which is an integral part of the Ramsar Site of Oued Tizguit; the vegetation is not very varied (around fifteen species with a wide geographical distribution) and very limited in space, the edges of the lake being concreted and mowing is frequent there.

It is a fairly sheltered trout lake, somewhat interesting for birds. It is home to few wintering birds (less than 400 birds), the population being composed mainly of divers: coots and crested coots, little grebes, pochards, tufted ducks and ferruginous wagtails, with occasional shovelers and/or mallards. Among the breeders, the common coot (20-25 pairs), the crested coot (about 10 pairs) and the little grebe (5-8 pairs) are the most regular.

Finally, it should be noted that the Euromed University of Fez is a public utility, non-profit institution with an eco-campus that meets international standards and provides a pleasant and stimulating environment for its students from more than 40 nationalities.

UEMF graduates are equipped with training in soft skills, study skills, life skills and professional skills and this profile; based on several pillars; allows students to acquire numerous skills related in particular to multilingualism, multiculturalism, innovation and entrepreneurship, the digital environment, international mobility, and sustainable development in addition to the pillar of social responsibility and eco-citizenship through which students are instilled with the values of respect for the environment, sustainable development and civic responsibility.

<https://www.oujdacity.net/national-article-157654-fr/club-we-green-en-action-sublimez-le-parc-national-difrane-ouvrons-les-yeux.html>

<https://premiumtravelnews.com/2023/10/30/club-we-green-parc-national-difrane/>

#### **Other event**

- Organization of visits on May 30 (Shenkar) and May 31 (EU) in particular, with the scheduling of a training session on climate change including modeling and simulations, in preparation for the workshop on the subject which is part of the activities on May 31, 2022.



## 2024: Euromed University of Fez at the heart of action for the SDGs

Conference on the theme: “Power to X: Opportunities and Challenges” by Mr. Andreas Meurer



The Euromed University of Fez had the pleasure of organizing, on the occasion of World Environment Day, the conference “Power-to-X: Opportunities and Challenges”, which was held on June 5, 2024 at the University’s eco-campus. This conference is part of the University’s commitment to environmental protection and the promotion of the eco-responsible approach through the adoption of civic and ecological actions on a daily basis within an ideal setting offered by the UEMF Eco-campus.

The conference was moderated by Dr. Andreas Meurer, a leading expert from the German Aerospace Center (DLR). The Power-to-X (P2X) theme covered a wide range of technologies for converting electricity into various forms of energy or chemical products. These innovations are essential for the integration of renewable energy and the reduction of carbon emissions in industrial sectors. Mr. Meurer shared his expertise on recent advances and challenges to maximize the potential of P2X technologies.

This event was aimed at a diverse audience, including professors, researchers, and students, all engaged in the field of energy and sustainable development. The conference provided a unique opportunity to exchange ideas, discuss future prospects, and build partnerships to promote sustainable energy technologies.

<https://ueuromed.org/actualites/journee-specifique/conference-sur-le-theme-power-x-opportunities-and-challenges-par-m>

## Visit of Swedish Ambassador HE Jörgen Karlsson to the Euromed University of Fez



Euromed University of Fez hosted HE Jörgen Karlsson, Swedish Ambassador to Morocco, to discuss potential future collaborations with the University's President, Prof. Mostapha Bousmina. The meeting focused on topics of mutual interest and explored opportunities for cooperation in areas such as climate change research, immigration, intergenerational dialogue, as well as innovation and entrepreneurship.

Sweden, with its strong diplomatic relations, seeks to strengthen contacts and cooperation with the countries of the MENA region, as evidenced by a dialogue initiative launched in 1997. The Euromed University of Fez shares values of dialogue and multiculturalism with the Swedish Dialogue Institute for the Middle East and North Africa. In 2023, the Institute conducted a participatory process on intergenerational dialogue, aligned with the University's commitment to promoting intercultural dialogue in its research and development projects.

<https://ueuromed.org/actualites/visites/visite-de-lambassadeur-suedois-se-jorgen-karlsson-luniversite-euromed-de-fes>



## Wahid BENKHADDA wins the Best Oral Communication Award at the ISMESH 2024 International Symposium



We are proud to announce that Mr. Wahid BENKHADDA, a fourth-year doctoral student, won the prestigious award for best oral presentation at the ISMESH 2024 International Symposium. This distinction was awarded to him for his outstanding presentation during the event, which was held on May 7 and 8 at the Ecole Supérieure de Technologie in Fez.

Mr. BENKHADDA's participation in this symposium was part of his thesis project in the field of materials and environmental chemistry, in which he raised the issue of olive margins; a widespread problem at the regional, national level but also throughout the Mediterranean basin region.

We extend our sincere congratulations to Mr. Wahid BENKHADDA for this well-deserved recognition, which underlines the commitment of UEMF and its community to academic excellence and innovative research.

<https://ueuromed.org/actualites/cedoc/wahid-benkhadde-remporte-le-prix-de-la-meilleure-communication-orale-au-symposium>

## UEMF students make the voices of young Africans and Euro-Mediterraneans heard before the Parliamentary Assembly of the Union for the Mediterranean



On February 14, 2024, students from the Euromed University of Fez organized a summit under the theme "Euro-Mediterranean and Transatlantic Openness" with more than 200 participants from 30 countries. This summit addressed topics such as energy ethics, sustainable development, transportation, climate change, and African challenges.

The summit culminated in the Call for Investment in the Future, read out on February 16 at the 8th Summit of Speakers of Parliaments of the Union for the Mediterranean. This call underscores the need to strengthen cooperation between Europe and Africa through concrete projects, allocate pledged funds for climate resilience, and support initiatives such as the Nigeria-Morocco gas pipeline.

The students also welcomed Morocco's initiatives for economic integration, infrastructure, and education in Africa, while calling for a "Marshall Plan" for education and research in Africa as an investment in the future to combat poverty, terrorism, and illegal immigration.

<https://ueuromed.org/actualites/annonces-diverses/les-etudiants-de-luemf-font-entendre-la-voix-des-jeunes-africains-et>

## Conference by Mr. Ghazi Gherairi : What alliances for what world in 2024?



As part of its conference cycle, the Euromed University of Fes organized a meeting led by Mr. Ghazi GHERAIRI on February 7, under the theme "What alliances for what world in 2024?" Mr. GHERAIRI, a doctor of public law and former Tunisian Ambassador to UNESCO, led a collective reflection on the alliances of civilizations and the need for a new, more just and united world order, taking into account the diversity of contemporary societies.

During this conference, Mr. Gherairi addressed crucial issues related to international relations, including the climate crisis, humanitarian crises, and the emergence of new technologies. He emphasized the importance of constructive dialogue and international cooperation to address these challenges and build a peaceful world.

The event also provided an opportunity for students of the Master's program in "Conflict Management and the Alliance of Civilizations" to engage directly with the speaker on the topics discussed. This meeting is part of the activities of the Alliance of Civilizations Chair, created during the United Nations Alliance of Civilizations World Forum in November 2022, with the aim of stimulating reflection and intellectual exchange among UEMF students.

<https://ueuromed.org/actualites/cycle-de-conferences/conference-de-m-ghazi-gherairi-queelles-alliances-pour-quel-monde-en>

## International Conference: “Techniques and Environment”



On January 25, 2024, the ICESCO-Euromed Chair in “Arts, Societies and Civilizations” organized an international conference in collaboration with CETCOPRA of the University of Paris 1 Panthéon-Sorbonne on the theme of “Technology and Environment”. The event brought together Moroccan and international figures, including Dr. Mohamed Zinelabidine of ICESCO, as well as a panel of researchers from the University of Paris 1.

The conference explored multidimensional approaches to responding to social and humanitarian crises, focusing on the interactions between technology, society, ethics, and the environment. Two discussion sessions were organized: one on the use of technology in emergency situations, and the other on the social issues related to technology.

This meeting provided a platform for enriching debates between speakers, teacher-researchers and students from the Euromed University of Fez.

<https://ueuromed.org/actualites/annonces-diverses/colloque-international-techniques-et-environnement>



## UEMF at the World Power-to-X Summit: Green Hydrogen and Innovation



Professors Tijani Bounahmidi and Othmane Benmoussa represented the Euromed University of Fez (UEMF) at the World Power-to-X Summit in Marrakech. The UEMF-HACE Side Event, held on October 9, brought together experts, decision-makers, and industry leaders to discuss green hydrogen technologies, highlighting innovations and value chain optimization in this booming sector.

Participants, including members of the HVM (Hydrogen Green Marine) Consortium, discussed global trends in green hydrogen and its benefits, sharing their expertise on sustainable solutions for carbon-free energy production. The presence of UEMF professors allowed them to showcase their expertise in sustainable development and establish promising partnerships during the B2B meetings. These collaborations aim to develop technological solutions to make green hydrogen accessible and efficient.

<https://ueuromed.org/actualites/congres-et-colloques/luemf-au-world-power-x-summit-hydrogene-vert-et-innovation>



## 2025: Euromed University of Fez intensifies its commitment to the SDGs

### COP29: Reinventing global economic models



"The planet is facing an unprecedented climate emergency, and COP29, held in Baku, Azerbaijan, from November 11 to 22, 2024, represented a crucial step towards a sustainable future. In a context where the impacts of climate change are becoming increasingly intense, this conference offered a unique platform to engage in a global dialogue and drive decisive action. At the heart of the debates were two essential levers: international trade and corporate social responsibility (CSR). These two pillars play a fundamental role in the ecological transition by catalyzing innovation, redefining economic models, and strengthening global partnerships. This forum explores the strategic challenges of COP29 and highlights the opportunities for both businesses and nations to collaborate for sustainable development."

<https://ueuromed.org/actualites/articles/cop29-reinventer-les-modeles-economiques-mondiaux>

## UEMF at the heart of discussions on renewable energies at EnerGaïa



The Euromed University of Fez participated, as part of the Moroccan delegation led by the Green H2 Cluster, in the renewable energy forum EnerGaïa from December 10 to 12, 2024.

Several contacts have been made, in particular with the Vice-Presidency for the Economy of the Occitanie Region for partnerships in terms of training with universities and institutes in the Region, incubation and cultural and sporting activities with the ambition of initiating lines of research in these fields alongside the creation of courses in sports and team management.

Green hydrogen and the entire inherent value chain were also at the center of discussions with France Hydrogène, as were the theme of water and the underlying technologies, in addition to the Agritech or precision agriculture sector.

The participation of the Euromed University of Fez in the Technocampus Hydrogène Occitanie, which aims to be the largest center in France for research, testing, technological innovation and teaching in the field of green mobility, was also discussed.

<https://ueuromed.org/actualites/recherche-developpement/luemf-au-coeur-des-echanges-sur-les-energies-renouvelables>

## International conference: The Architectural and Landscape Identity Confronting Natural Risks in the Euro-Mediterranean Region



The Euromed School of Architecture, Design and Urban Planning (EMADU) of the Euromed University of Fez organized an international symposium on December 12, 2024, on architectural and landscape identity in the face of natural risks in the Euro-Mediterranean region. The event brought together experts and decision-makers to discuss the challenges related to increased natural risks such as earthquakes, floods, fires and landslides in a context of climate change and rapid urbanization. The discussions highlighted the vulnerability of heritage buildings such as those affected by the Al Haouz earthquake in 2023. Participants addressed several areas including the adaptation of construction practices to risks, the use of local materials and traditional techniques, the role of infrastructure and sustainable urban planning in risk management. The symposium highlighted the importance of reconciling population safety and the preservation of architectural heritage in Euro-Mediterranean territories.

<https://ueuromed.org/actualites/congres-et-colloques/colloque-international-architectural-and-landscape-identity>

## 2nd edition of the Students' Innov'UP 2024 Hackathon: Innovating in the face of water stress



The 2024 Students' Innov'Up Innovation Hackathon, organized by the European Union in Morocco, the EIB, and the Euromed University of Fez, took place on December 16 and 17 under the theme "Transforming Water Stress into a Driver of Resilience." Following a three-week pre-hackathon phase, 11 finalist teams presented their innovative projects to address water-related challenges.

Three teams were awarded prizes:

- Hydrovision (1st prize) for the "Aqua" applicationNoah",
- Pure Aqua White (2nd prize) for a wastewater reuse system,
- Créatech (3rd prize) for a solar device for producing drinking water.

The "coup de cœur" prize was awarded to Raha for HydroPoly, an educational game on water management.

<https://ueuromed.org/actualites/recherche-developpement/2eme-edition-du-hackathon-students-innovup-2024-innover-face-au>



## Moroccan Parliament: Professor Mostapha Bousmina presents Morocco's strategy for energy transition and sustainable development



The Moroccan Parliament, in collaboration with the Fondation des Rencontres du Futur, the Chamber of Deputies and the Senate of the Republic of Chile, hosted the "Congress of the Future" on December 17 and 18, 2024 at the Parliament headquarters in Rabat.

This event brought together several Moroccan and Chilean ministers and parliamentarians. It provided an opportunity to discuss future issues. On this occasion, the President of the Euromed University of Fez, Professor Mostapha Bousmina, presented Morocco's strategy for energy transition and sustainable development, highlighting the country's commitment to these crucial areas.

He also presented the Moroccan renewable energy plan, the production of green hydrogen and its applications, including ammonia production, seawater desalination, battery and electric vehicle production, as well as the Nigeria-Morocco gas pipeline project. The focus was on the achievements, challenges, and areas of concern, while emphasizing technological and research-innovation challenges in these different areas.

<https://www.ueuromed.org/actualites/personnalites/parlement-marocain-pr-mostapha-bousmina-presente-la-strategie-du-maroc-en>



## UNESCO-Euromed Chair in Mediterranean Interculturalities: Security and Sustainable Development



The Euromed University of Fez organized a conference led by Professor Abderrahman Tenkoul on the links between security and sustainable development in the Mediterranean. Part of the work of the UNESCO-Euromed Chair in Mediterranean Interculturalities, the conference highlighted the growing threats linked to climate change, socioeconomic challenges (unemployment, migration, co-development), and geopolitical issues in the region. Professor Tenkoul called for a collective response based on sovereignty, innovation, the reappropriation of Mediterranean lifestyles, and a transition to "controlled security." The event provided a framework for reflection, mobilizing students and researchers around a sustainable, united, and resilient vision.

<https://ueuromed.org/actualites/cycle-de-conferences/chaire-unesco-euromed-interculturalites-mediterraneennes-securite>

## Round table: Changing African territories

### 1- CULTURAL EVENTS

#### 2. CONFERENCES

June 12

Round Table : "Transformations of Territories and Infrastructures in Africa: Technology, Culture, and Human Capital as Levers of Resilience" by Pr Iman Meriem Benkirane, Pr MPr Mariame Bouchaqour, Mme Rim El Harrouni, Mr Ouassim Bensouda

As part of African Week, a round table was held on the theme: "Transformations of Territories and Infrastructures in Africa: Technology, Culture, and Human Capital as Levers of Resilience."

The session brought together experts, researchers, and students to discuss how Africa's territories and infrastructures have been evolving in response to social, environmental, and technological challenges.

The session brought together experts, researchers, and students to discuss how Africa's territories and infrastructures have been evolving in response to social, environmental, and technological challenges.



The discussions highlighted the crucial role of **technological innovation, cultural identity, and investment in human capital** as key drivers of sustainable development and resilience across the continent. This exchange provided valuable insights into the ways African communities are shaping a more resilient and inclusive future.

On June 12, 2025, as part of the African Week organized at UEMF, a round table was held on the theme:

"Transformations of territories and infrastructures in Africa: technology, culture and human capital as levers of resilience".

Led by Prof. Iman Meriem Benkirane, Prof. Mariame Bouchaqour, Ms. Rim El Harrouni and Mr. Ouassim Bensouda, this session brought together students, researchers and experts to discuss the profound changes in African territories in the face of technological, social and environmental challenges.

The discussions highlighted the strategic role of innovation, cultural identity and human capital in building more resilient, sustainable and inclusive African territories.

[Club Activities Report: Vice-Presidency in charge of Cultural Affairs and University Life](#)

## UfM Med Youth Lab 2024: 70 young people come together to co-create the Euro-Mediterranean future



In February 2025, the Euromed University of Fez welcomed 70 young people from 21 nationalities as part of the UfM Med Youth Lab 2024, a major Euro-Mediterranean hackathon. Co-organized with the Union for the Mediterranean (UfM), GIZ, the Anna Lindh Foundation, and IEMed, this event allowed participants to co-create concrete solutions around three major themes: green skills, youth mobility, and civic engagement. A true laboratory of ideas for sustainable development and regional cooperation.

[Activity report of the Department of Social, Economic and Entrepreneurship Partnerships.](#)

**THE Impact Ranking 2025: 1st at the regional level in the category SDG 13: Measures Relating to the Fight Against Climate Change**

			Over
201–300	<u>Ibn Tofaïl University</u> Morocco	54.1–61.2	70.3–76.1
401–600	Abdelmalek Essaâdi University Morocco	39.4–48.3	60.9–65.5
601–800	Mohammed V University of Rabat Morocco	29.7–39.3	60.9–65.5
601–800	Université Chouaïb Doukkali Morocco	29.7–39.3	1.7–49.7
801–1000	Euromed University of Fez Morocco	15.4–29.6	65.6–70.2



## Dialogue with Nature: Umberto Pasti at UEMF, between heritage and sustainable landscape

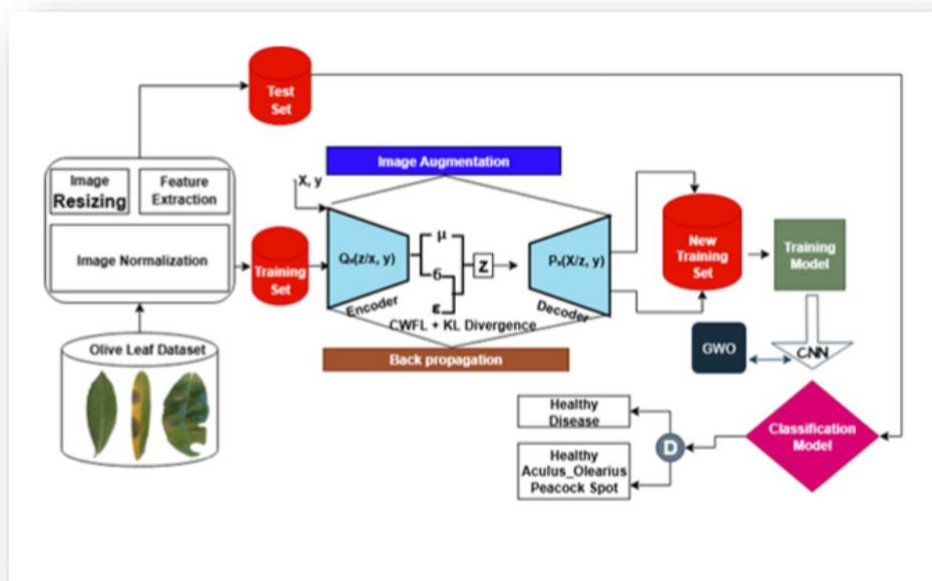


The visit by Mr. Umberto Pasti, Italian writer, botanist and landscaper, was a true invitation to reconnect with the profound intelligence of nature and to reflect on our connection with it..Pr. Imane Benkirane, Vice-President in charge of cultural activities and campus life, stressed the importance, more than ever, of taking the time and perspective necessary to better involve ourselves in the preservation of our heritage, whether tangible or intangible.

For Oumayma Fassi Fihri, a PhD student in Landscape Architecture at UEMF, Mr. Umberto Pasti's presentation was a source of inspiration. She found valuable answers to a key question: how can we integrate landscapes not only into our daily lives, but also into urban development projects?

[https://www.linkedin.com/posts/universit-euro-m-diterran-enne-de-f-s\\_idd-2025-umberto-pasti-interroge-les-in%C3%A9galit%C3%A9s-activity-7322931662743334912-847e?utm\\_source=share&utm\\_medium=member\\_desktop&rcm=ACoAADTGRfcBC1u9wYbkACypuAdXhOuzPcQwP94](https://www.linkedin.com/posts/universit-euro-m-diterran-enne-de-f-s_idd-2025-umberto-pasti-interroge-les-in%C3%A9galit%C3%A9s-activity-7322931662743334912-847e?utm_source=share&utm_medium=member_desktop&rcm=ACoAADTGRfcBC1u9wYbkACypuAdXhOuzPcQwP94)

Doctoral thesis defense in “Artificial Intelligence” by Mr. Kaloma Usman MAJIKUMNA



Thesis defense – Kaloma Usman MAJIKUMNA

Title: Managing plant survival and disease risks under water stress using artificial intelligence: the case of olive trees in Morocco

This thesis studies the impact of water stress and diseases on olive trees in Morocco, by combining artificial intelligence, remote sensing and field experiments. An innovative deep learning model has been able to detect diseases with 99.2% of predecision, while tests of irrigation have identified the varieties and most resilient indicators. The results provide concrete recommendations for sustainable and climate-adapted agriculture.

<https://ueuromed.org/actualites/cedoc/doctoral-thesis-defense-artificial-intelligence-mr-kaloma-usman-majikumna>