

# Mediterranean Science, Policy, Research & Innovation Gateway

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## Welcome to the 14th MED-SPRING E-Newsletter!

Dear readers, welcome to the fourteenth issue of the MED-SPRING E-Newsletter, which has the purpose of informing about our activities and involving researchers, stakeholders, policy makers and governmental officers in a renewed strategy for the Euro-Mediterranean partnership, with a particular focus on the Euro-Mediterranean Science and Technology Cooperation.

KEEP AN EYE ON: **AGORA MED-SPRING**

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## Our recent activities

- **MED-SPRING 1st Euro-MedHackathon: Eco-Efficiency in the Agro-Food Chain**

The “1st Euro-Med Hackathon: Eco-Efficiency in the Agro-Food Chain” took place in Amman (Jordan) from 14th to 15th December 2016. The 2-day event was organized by MedSpring and STRD-II projects and was hosted by HCST, in collaboration with STRD-II programme, MH-ESR, and CIHEAM-IAMB.

The private sector was represented by four Italian companies, Barilla, Seeds&Chips, Torino Wireless and SPRING invited to shortlist the 30 ideas participating in the Hackathon. They also offered their sponsorship for the awards to the final three winners. More than

40 participants including young innovators, researchers, and entrepreneurs, from 10 Euro-Mediterranean Countries gathered at the event venue, and worked in a collaborative and participative way towards its success.



## Also in the pipeline!

- **21 projects selected for funding in the ERA-NET Cofund with Water JPI**

The WaterWorks 2015 Call, which is a joint ERA-NET Cofund between FACCE-JPI and Water JPI, has shortlisted and recommended for funding 21 top research projects for a total Grant amount of over 17 million euros, with the projects' total costs being over 21 million euros. The 21 projects are covering a wide range of disciplines from social and economic sciences to nature sciences, and addressing a range of societal challenges related to Water and Agriculture.



- **11th General Assembly of the Mediterranean Network of Basin Organisations (MENBO)**

The 11th General Assembly of the Mediterranean Network of Basin Organisations (MENBO) took place 22-24 March 2017 in Malta, at the invitation of the Maltese authorities, and coinciding with the Maltese Presidency of the Council of the European Union. The Assembly was organised around three thematic blocks on: Water and adaptation to climate change, Water and agriculture in the Mediterranean and Non-conventional water resources: reuse and desalination. Prior to the celebration of the Assembly a MENBO Liaison Bureau Meeting took place on 22nd March in the afternoon.



- **MEP Water Group Public session on Water Reuse: an effective tool to address water scarcity**

In collaboration with the EU Maltese presidency, the MEP Water Group convened a successful public session on "Water Reuse - an effective tool to address water scarcity" on the 7th of March at the European Parliament. The session was chaired by Esther de Lange, President of the MEP Water Group and hosted five high-level panellists, who presented their own perspectives on why water-reuse is a valuable solution to address water scarcity, adaptation to climate change and implement circular economy.



- **Morocco chase for energy security - from net importer to green energy leader**

Morocco is hosting the second UNFCCC climate talks in the country's history. With the Paris agreement already into force before the Marrakech conference, the Moroccan government has the opportunity to lead a COP focused on means and strategies to actually implement the agreement, rather than on the ratification process. Morocco is a strategic actor of the MENA and South-Mediterranean region, despite its status of lower middle-income economy with a per-capita GDP among the lowest in North Africa.



## Meet our Partners! The Cyprus Institute

The Cyprus Institute (HO) is a non-profit research and educational institution with a strong scientific and technological orientation. It is an issue-oriented institution, emphasizing international collaborations, cross-disciplinary research and post-graduate education. CyI is being developed by establishing research centres that address challenging problems that are important at both the regional and international levels. Its research centres are developed in partnership with leading institutions in the respective thematic areas. Currently CyI has three research centres: the Energy Environment and Water Research Centre (EEWRC), the Science and Technology in Archaeology Research Centre (STARC), and the Computation-based Science and Technology Research Centre (CaSToRC). There are three facilities that work horizontally across the activities of the research centres: the High Performance Computing centre

which specialises in meeting demanding computational, data storage and management needs of researchers (see also discussion below for the HPCF), the Analytical Laboratory, and the Research and Innovation Management and Support Office (RIMS).



The EEWRC works in close collaboration with the Massachusetts Institute of Technology (MIT), the Max Planck Institute for Chemistry in Mainz, Germany, the Cyprus Research Promotion Foundation (RPF), and many national institutions and organizations in Cyprus and the region on societally relevant issues related to Energy and Renewables, Environment and Climate, and Water and Natural Resources. Over the past few years, EEWRC has streamlined its focus on energy systems with an emphasis on Concentrated Solar Power and Desalinated Water through its own research, but also through its collaboration in a number of important international projects.

The EEWRC has pronounced activities also in resource management simulation, regional stability and regional resilience and is looking to expand its activities in energy strategy and economics, and impact appraisal studies that will bring it closer to the policy makers. Also, the Center has also a PhD program in Energy, Environmental and Atmospheric Sciences. EEWRC is involved in various European and national funded projects related to water and natural resource management, environmental observations, hydrologic and climate change modelling, impact assessments and adaptation. EEWRC cooperates with various government organizations and local enterprises on water, climate and environmental research. The EEWRC has field and laboratory equipment for hydrologic and soil physical monitoring, including flow and water level meters, four meteorological stations, soil moisture monitoring networks at two agricultural sites and an intensively equipped forest water dynamics monitoring site with sap flow sensors.

Read more: <https://www.cyi.ac.cy/> .

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## Focus on Water, Energy and Food Nexus in Morocco

PROF. LAILA MANDI, DIRECTOR OF THE NATIONAL CENTER FOR STUDIES AND RESEARCH ON WATER AND ENERGY, UNIVERSITY OF CADI AYYAD, MARRAKECH, MOROCCO

The interaction between water and food has always been perceptible or even evident in Morocco, but the awareness of the strong link with energy remains rather recent. Energy is used to pump, process, transport and distribute drinking water, as well as to collect and treat wastewater. However, it is much less apparent how much energy depends on water availability. It is estimated that irrigated agriculture currently uses more than 80% of Morocco's water resources. Irrigation is an important factor in the development, modernization and increase of agricultural productivity. However, this sector in Morocco faces two major challenges: growing water shortages exacerbated by recurrent drought and low rainfall inputs, in addition to increasing competition from other uses including domestic, industrial and tourism.

Parallel to this scarcity, there is an over-exploitation of groundwater resources in most watersheds due to irrigation practices, dominated by surface irrigation, which contributes to low productivity and low water use efficiency. This practice is an emblematic example that illustrates the need to improve efficiency in the use of the resource. Thus Morocco, notably through the implementation of water resource mobilization infrastructure, irrigation schemes and organization of users, is a country with great experience in water management.

Water scarcity makes access to the resource directly dependent on energy for pumping, transfer, treatment and desalination. This water-energy nexus is particularly critical in a country like Morocco, which uses groundwater and pressurized irrigation techniques, accelerating mechanization of agricultural infrastructure, which produces hydropower, which launches desalination projects and water transfer projects and which produces some energy in agro-industrial processes. Despite this strong interdependence, historically, these two sectors, Water and Energy, were regulated and managed independently. In Morocco, we find that the energy in agriculture has not generated a parallel interest to that enjoyed by the water sector especially after the launch of the Green Morocco Plan (GMP) in 2008 and its entry into force in 2009. A 10-year water-saving program was thus developed focusing on the use of drip irrigation techniques on an area of 550,000 hectares at a rate of 55,000 hectares per year with the objective of

saving 1.4 billion m<sup>3</sup> of water.

As a result, energy consumption, in the absence of energy efficiency measures, grew by 17% between 2007 and 2010, an increase of 6% per year after only two years of GMP start-up; To maximize the performance of its agriculture sector by reducing energy bills, several programs have been developed. Currently, solar photovoltaic and solar thermal are the two most used technologies in Morocco. The national solar pumping program in irrigation water projects, with an estimated operational funding of 40 million Euros, stands as lever to capitalize on the energy in the Moroccan agriculture sector.

Agriculture in Morocco and therefore its energy and water component are growing, providing significant optimization and enhancement opportunities, scientific research and development of agricultural production systems that are sustainable and integrated.

In this context, it becomes imperative to consider the nexus Water, Energy and Food in an integrated and systemic approach to meet the objectives of sustainable development.

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