

AQUACYCLE Final Conference

“Towards Sustainable Treatment and Reuse of Wastewater in the Mediterranean Region”

23rd – 24th June 2023

Chamber of Commerce, Industry & Agriculture

Tripoli, Lebanon

The conference is Organized by the Lebanese University and Under the Patronage and Presence of the Minister of Environment, Dr. Nasser Yassin



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Project funded by the
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AQUACYCLE

**TOWARDS SUSTAINABLE TREATMENT AND REUSE
OF WASTEWATER IN THE MEDITERRANEAN REGION**

**FINAL CONFERENCE
TRANSFORMING THE
MEDITERRANEAN THROUGH
ECO-INNOVATIVE WATER
RECYCLING AND REUSE**

23 - 24 JUNE 2023

**CHAMBER OF COMMERCE, INDUSTRY
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**THE CONFERENCE IS ORGANIZED BY THE LEBANESE UNIVERSITY AND UNDER THE PATRONAGE AND PRESENCE OF THE
MINISTER OF ENVIRONMENT DR. NASSER YASSIN**



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AQUACYCLE IS FUNDED BY THE EUROPEAN UNION UNDER THE ENI CBC MEDITERRANEAN SEA BASIN PROGRAMME

AQUACYCLE

Final Conference

22 – 24 June 2023, Tripoli, Lebanon

June 22, 2023: Pre-Conference Field Excursion Program

08.30-9.00	Welcoming and Reception at the AZM center in Tripoli
9h00-9h.30	Presentation of the AZM center & the AQUACYCLE final conference Program
10.00 - 11:30	Start the excursion to Akkar (45 Km from Tripoli)
11.30 - 12.30	Visiting Wastewater stations in Koubayat near Akkar atika (functioning) and in Akkar Atika (Not functioning, under construction)
12.30 - 13.30	Visiting the MARAMEDITERRA Living Lab (under construction)
13.30 - 15.00	Lunch in Nabh Chouh restaurant in Akkar Atika (Chouh Trees)
15.00 - 16.00	Exploring the possibility of implanting of APOC system in Akkar Atika
16.00 - 17.30	Return to Tripoli
17.30 - 18.30	Preparation for the AQUACYCLE final Conference in Tripoli



Pr. Adnan Naja, Laboratoire de Physique et Modélisation (LPM) - EDST - Lebanese University

Visiting the EDST Laboratories:

Pr. Hiba Mawlawi Director of the Laboratory of Applied Biotechnology for Biomolecules, (LBA3B),
AZM Center for Research in Biotechnology and its Application

Pr. Monzer HAMZE, Head of the health and environment microbiology laboratory





Visiting Wastewater stations in Koubayat near Akkar Atika (Not functioning)





Meeting with the Mayor of Municipality of Qoubayat and Eng. Youssef Antoun
Discussion with the Mayor of Koubayat on the possibility to convert the actually station to another station according the APOC principe)



Lunch in Nabh Chouh restaurant in Akkar Atika (Chouh Trees)



Preparation for the AQUACYCLE final Conference in Tripoli (Discussion about Med APOC charte)



Some photo during the visit of Akkar Atika



June 23, 2023: Opening session – Welcome addresses

Opening session – Welcome addresses

- Prof. Ahmad ElMoll, AQUACYCLE Project Team Leader, Lebanese University
- Dr. Konstantinos Plakas, AQUACYCLE Project Manager, CERTH, Greece
- Dr. Esmat Al-Karadsheh, Eastern Mediterranean Office, ENI CBC Med Programme
- Mr. Tawfik Dabboussi, President of Chamber of Commerce in Tripoli and north Lebanon
- Prof. Bassam Badran, President of the Lebanese University
- Prof. Nasser Yassine, Lebanon's Minister of Environment



WELCOME ADDRESS FROM THE TEAM LEADER OF THE PROJECT

Dr. ElMoll Ahmad, Lebanese University

Wastewater reuse within the circular economy: an innovative solution with a future



Ladies and gentlemen,

Dear Colleagues, Hello everyone,

It is a great honor to welcome you to the Final conference of the Aquacycle project.

A combination of water stress, fast-growing populations and the climate emergency means many countries struggle to provide their people with sufficient clean water. For these reusing wastewaters seems to be the most effective fortification against scarcity.

These global challenges cannot be addressed by a single institution or a single country. International synergy on scientific research, cooperation to provide solutions in collaboration with European partners to achieve water security in the Mediterranean region. For this, this project aspires to change the current paradigm of considering wastewater as a hazardous effluent to that of a year-round abundant resource that has multiple uses.

Indeed, recycled wastewater (using eco-innovative technology) is the only resource that increases in step with economic growth. It is a virtuous solution that protects nature by limiting the risks of pollution discharges into the environment. It is a circular economy model that strengthens countries' water self-sufficiency by giving them access to a reliable resource located within their territory.

Thank you for all the National (all stakeholders in Lebanon) and international colleagues (from Greece, Malta Spain, and Tunisia and who have worked with us on this project for 48 months and all the successes.

We thank you for your support at all levels and wish to continue together towards a better future.



WELCOME ADDRESS FROM AQUACYCLE PROJECT MANAGER

Dr. Konstantinos Plakas, CETH, Greece



Farmers across the Mediterranean including those in Lebanon, face a growing challenge of limited access to freshwater. AQUACYCLE project offer an eco-innovative solution- a three-stage wastewater treatment system.

This system goes beyond conventional methods generating biogas and fertilizer through anaerobic digestion creating biodiversity-rich constructed wetlands for climate change mitigation and ensuring disinfected effluent in compliance with EU regulations. Validated at a pilot is under construction in Deddeh, Koura, Lebanon. Notably, the use of nature-based solutions and solar energy reduces operation costs



WELCOME ADDRESS FROM EASTERN MEDITERRANEAN OFFICE

Dr. Esmat Al-Karadsheh, ENI CBC Med Programme



I would like to highlight the crucial role of the European union in supporting sustainable development projects. With an impressive portfolio of more than 100 projects funded by ENI CBC Med programme and 54 initiatives across Lebanon proving the Eu's commitment is evident.

Driven by a vision for change these projects encompass diverse areas, including the revival of Lebanon's salt industry, once revered as **white gold**. The Eu's unwavering support paves the way for a brighter more sustainable future, leaving an indelible mark on Lebanon's development landscape



WELCOME ADDRESS FROM PRESIDENT OF CHAMBER OF COMMERCE IN TRIPOLI AND NORTH LEBANON

Mr. Tawfik Dabboussi, CCIAT, Lebanon



There are many sources of wealth that characterize Tripoli, and indeed Lebanon a land blessed with abundant riches, making it one of the most prosperous nations in the eastern Mediterranean.

I would like to emphasize the presence of hydroelectric station in northern Lebanon, an enduring legacy that dates back to the 1920s. These serve as a powerful testament to our visionary thinking, unwavering aspirations, and pivotal focus on the environment as the cornerstone of our progress.



WELCOME ADDRESS FROM THE PRESIDENT OF THE LEBANESE UNIVERSITY

Prof. Bassam Badran, Lebanese University, Lebanon



Towards Sustainable Treatment and Reuse of Wastewater in the Mediterranean Region, Aquacycle project in a transboundary project throughout Greece, Spain, Malta, Lebanon, and Tunisia. In Lebanon, Aquacycle is a showcase to the transition to the circular economy by transforming wastewater into valuable substances, primary biogas and fertilizer. The most important is the reach out of the project as it teams up on the same table municipal authorities, water utilities, Ministries responsible for planning, environment, water, agriculture and energy, national research centers, universities, agricultural services and civil society.

Beside the demonstration unit, Aquacycle project ensures investment plans for wastewater reuse potential, knowledge transfer of new wastewater treatment technology, human resource capacity building through trainings for the use of eco-innovative system of wastewater treatment, and finally and important Mediterranean networking for treatment and reuse of wastewater gathering public and private entities, educational and societal organizations.

We, in Lebanon, participate with Tunisia and Spain in the implementation of a demonstration unit for municipal wastewater treatment and reuse with a capacity of 5 cubic meter per day. This is an important deliverable of the project and the Lebanese University is committed in achieving this challenge to ensure that treated municipal water could be well exploited throughout our region. The demonstration unit is set to bring an eco-innovative wastewater treatment technology that will consist of anaerobic digestion, constructed wetlands and solar treatment for the cost-effective treatment of urban wastewater with minimal costs of operation and maximum environmental benefits.

At the end, I would like to thank all colleagues who invested very hard for the Aquacycle implementation in Lebanon and for the work they did to have this successful event. I wish a good stay for our guests and partners and thank you all for your valuable presence.



WELCOME ADDRESS FROM THE MINISTER OF ENVIRONMENT

Dr. Nasser Yassine, Lebanon



I would like to underscore the pressing issue of environment pollution as a chronic ailment plaguing Lebanon. Mismanagement and the lack of pollution control have disrupted ecosystems, our rivers, beaches and groundwater, creating an alarming environment predicament. Escaping this vicious cycle is imperative, as the consequences of inaction will be far worse.

We face a challenging situation demanding collaboration between the public and private sectors, along with a shared commitment to upholding environmental laws and regulations.

I want to stress the utmost importance of revitalizing the Tripoli sewage plant (one of the twelve stations that Prime Minister Mikati is supporting for reactivation) and our collective efforts to bring about necessary changes to our laws since mitigating environmental costs is crucial to safeguarding public health

