

Water Academy on Nature-Based Solutions in Urban Water Management in Greece

Marathon Dam, Greece ([map](#))

22nd July 2022

PRESS RELEASE

On the 22nd of July 2022, the **Water Academy workshop with the title: “Nature-Based Solutions in Urban Water Management in Greece”** took place at the **Marathon Dam in Greece** as part of the [Cross-KIC project Finding innovative solutions for water scarcity in Southern Europe](#) co-organized by [the Sustainable Development Unit \(SDU\) at ATHENA RC](#) and [EIT Climate-KIC](#) in partnership with [EYDAP SA](#) (Athens Water Supply and Sewerage Company). It is one of the three [Water Academy workshops](#) taking place this 2022. The first one, the water reuse workshop on use of reclaimed water in agriculture in Malaga, Spain, took place on the 6th of July; and the third Water Academy workshop on Water Efficiency in Manufacturing Industries will be held on the 14th of October at TU Delft, Netherlands.



Figure 1 - Marathon Dam

Water is essential for human health, socioeconomic development, and the provision of long-term environmental services. Natural processes (e.g. precipitation, infiltration, evapotranspiration, condensation, etc.) sustain a large cycle in nature, which is disrupted by urbanization and man-made water systems. As a result, water has been forced into the linear model of "take-make-consume-dispose," which is economically unsustainable and results in a gradual degradation of water quality as it passes through the system. The move to circular water systems needs a rethinking of water infrastructure, the application of cutting-edge

technology, and the integration of nature-based ecosystems into grey infrastructure (i.e. hybrid infrastructure). Nature-based solutions (NBS) can be thought of as a catch-all term for addressing the above-mentioned challenges more sustainably, compared to conventional hard engineering. NBS are systemic initiatives that bring more and more diversified natural characteristics and processes into the environment. They solve a single problem (i.e. societal challenge) or a set of problems (i.e. multiple challenges), while also providing environmental, social, and economic advantages, such as biodiversity, climate change mitigation and adaptation, resilience, human well-being, and so on.

The workshop held at the Marathon Dam on July 22nd, 2022 intended to increase the competencies and skills of the audience to advance the understanding and integration of NBS in urban water management. It was a multi-disciplinary event with high-profile speakers who provided practical insights on the most relevant topics for NBS, such as the role of the Water-Energy-Food Nexus, socio-economic aspects, best practices, protection and restoration of environment services in a water catchment, adequate technologies for water reclamation, risk management and practical recommendations for water resources managers. The workshop also included virtual guidance to the Marathon Dam and a visit to the [Museum of Water](#), which includes tools and machinery used in the construction of the Dam. The dam is famous for being the first recorded occurrence of seismic activity related to reservoir inundation, as well as its importance in Greece's industrialization.



Figure 2 - Dissemination material from EYDAP and Cross-KIC project



Figure 3 - Water Academy on NBS participants, speakers and hosts

First, [Mrs Lydia Papadaki](#) (Co-Manager EIT Climate-KIC Hub Greece); [Mr Anastasios Tosios](#) (Deputy CEO & Executive Member of the Board of Directors at EYDAP SA); and [Mr Costas Ripis](#) (Deputy Director of Training and Research at EYDAP SA) welcomed the participants introducing the goals of the Water Academy, the challenge of Water Scarcity and the alignment of the Academy with the objectives of EYDAP SA.

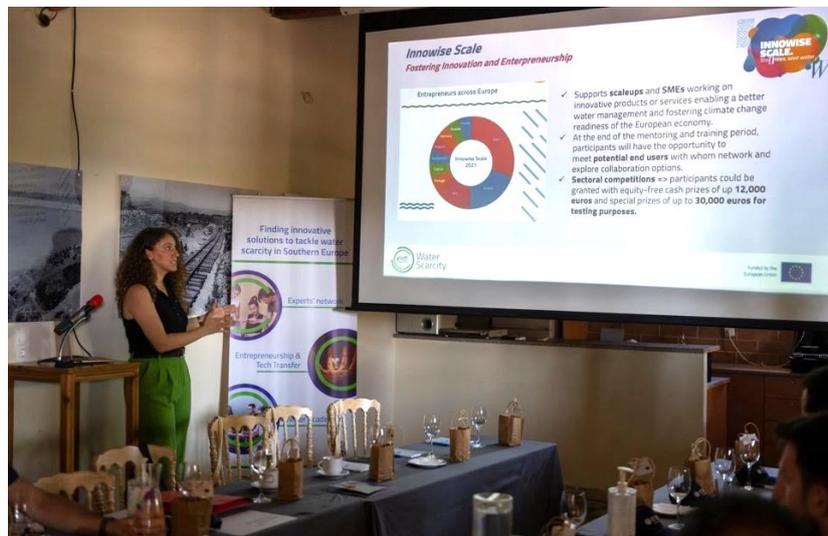


Figure 4 - Mrs Lydia Papadaki (Co-Manager EIT Climate-KIC Hub Greece)



Figure 5 From the left to the right: Mr Anastasios Tosios (Deputy CEO & Executive Member of the Board of Directors at EYDAP SA) and Mr Costas Ripis (Deputy Director of Training and Research at EYDAP SA)

[Prof. Chrysi Laspidou](#) (Civil Engineering Department, University of Thessaly; Vice-President of Research and Technology-Water Europe, Brussels) gave a speech focusing on the “Hybrid grey-green infrastructures in Water Management”. She aimed to provide an overview of

hybrid grey-green water infrastructure, to inspire, inform, and give recommendations to bridge the knowledge gap on green water infrastructure. The advantages and sustainable design of the solutions were discussed and the new paradigm that would mainstream Nature-Based Solutions in community planning were presented.



Figure 6 - Prof. Chrysi Laspidou (Civil Engineering Department, University of Thessaly; Vice-President of Research and Technology-Water Europe, Brussels)

[Prof. Phoebe Koundouri](#) (Athens University of Economics and Business, Sustainable Development Unit and EIT Climate-KIC Greece Hub, ATHENA RC; Department of Technology, Management and Economics, Denmark Technical University) analyzed the importance of water innovation and management in fighting world crises. She discussed the International, European and National Framework targeting the water scarcity and the better use of water and discussed several [EU-funded projects](#) and methodologies providing feasible solutions to this cross-boundary challenge.



Figure 7 - Prof. Phoebe Koundouri (Athens University of Economics and Business, Sustainable Development Unit and EIT Climate-KIC Greece Hub, ATHENA Information Technologies RC; Department of Technology, Management and Economics, Denmark Technical University)

[Dr Stella Apostolaki](#) (Assistant Professor of Environmental Science, Executive Director of the Centre of Excellence in Sustainability, the American College of Greece (ACG)) presented nature-based solutions for storm water management and water reuse. She discussed the effects of imperviousness on runoff and infiltration and the benefits of adopting NBS, while she provided practical examples of NBS that can be easily adopted, such as rain gardens, permeable pavements, wetlands, water recycling etc.



Figure 8 - Dr Stella Apostolaki (Assistant Professor of Environmental Science, Executive Director of the Centre of Excellence in Sustainability, the American College of Greece (ACG))

[Prof. Panagiotis Demestichas](#) (University of Piraeus, Technology Development Specialist Wings ICT Solutions) shared his experience on the contribution of IoT, 5G and AI to the digital transformation of the water sector. Digital transformation can address key challenges, such as the minimization of water losses (and the respective maximization of the proper use), the enhancement of the water quality, and the mitigation of impacts from climate change (e.g.,

floods and other impacts), and others. He also discussed the role of ICT technologies in the building of a proactive management system for the water sector.



Figure 9 - Prof. Panagiotis Demestichas (University of Piraeus, Technology Development Specialist Wings ICT Solutions)



Figure 10 - Mrs. Sonia Tzimopoulou (Deputy Director of Communication & Corporate Relations at EYDAP SA)

Finally, Mrs Sonia Tzimopoulou (Deputy Director of Communication & Corporate Relations at EYDAP SA) presented virtually the Marathon Dam and its history. The Marathon reservoir has as the main function to supply municipal water. It was built between 1926 and 1929, and until 1959, it supplied water to Athens alone. It is 285 meters long and 54 meters high with 520 m³/s of spillway capacity.

Finally, the participants had the opportunity to learn more about the construction of the Marathon Dam and visit the museum with the tools used to build it. The Water Academy was attended by 20 people, experts, and non-experts in the field, interested to learn more about the



Figure 11 - The tools used in the construction of the Marathon Dam

topic and seeking to transfer knowledge in their institutions.



Figure 12 - Water Academy on NBS participants, speakers, and hosts - Visit the Museum of Water

Appendix

AGENDA

	<i>Transfer from the centre of Athens to Marathon Dam</i>
8.30 – 9.30	<i>Meeting point: EYDAP, Ilision 9, 15771, Ilisia, Athens, corner on Papadiamantopoulou & Michalakopoulou street (Greece) – Google Maps</i>
9.30 – 10.00	<i>Arrivals and Registrations</i>
	Welcome remarks
	Mrs Lydia Papadaki, Co-Manager EIT Climate-KIC Hub Greece
	Mrs Eva Enyedi, Project Manager - Water Scarcity in Southern Europe, EIT Climate-KIC
10.00 – 10.30	Mr Anastasios Tosios, Deputy CEO & Executive Member of the Board of Directors at EYDAP SA (Athens Water Supply and Sewerage Company)
	Mr Costas Ripis, Deputy Director of Training and Research at EYDAP SA
10.30 – 11.00	Keynote speech “Hybrid grey-green infrastructures in Water Management” Prof. Chrysi Laspidou, Civil Engineering Department, University of Thessaly; Vice-President of Research and Technology-Water Europe, Brussels
11.00 – 11.30	Keynote speech “World Crises: The Importance of Water Innovation and Management” Prof. Phoebe Koundouri, Athens University of Economics and Business, Sustainable Development Unit and EIT Climate-KIC, ATHENA Information Technologies RC; Department of Technology, Management and Economics, Denmark Technical University
11.30 – 11.50	<i>Coffee break</i>
11.50 – 12.20	Speech “Nature based solutions for stormwater management and water reuse” Dr. Stella Apostolaki, Assistant Professor of Environmental Science, Executive Director of the Centre of Excellence in Sustainability, the American College of Greece (ACG).
12.20 – 12.40	Success story + Q&A Prof. Mr Panagiotis Demestichas, University of Piraeus, Technology Development Specialist Wings ICT Solutions
12.40 – 14.00	Field visit
14.00 – 15.00	<i>Lunch</i>
15.00 – 16.00	Discussion on the NBS: Barriers and Enablers
16.00 – 17.00	<i>Transfer from the centre of Athens to Marathon Dam</i>