

WEBINAR

DRYING PIPES: NAVIGATING THE IMPACT OF WATER SCARCITY AND DROUGHTS ON WATER SUPPLY

On 7 October, the newest edition of the KnowNow Webinar series was held under the title “Drying Pipes: Navigating the Impact of Water Scarcity and Droughts on Water Supply”. After yet another summer of scorching heat waves and disastrous droughts in wide parts of Europe, this topic is literally burning: Water utilities everywhere in the Danube region feel ever growing pressure on their systems.

Utility Drought Risk Assessment

Supporting those feelings with facts, Moderator Raimund Mair, Senior Water Resources Management Specialist at the World Bank, introduced an international online audience to Ms. Olivia Becher, Researcher at the University of Oxford. Ms. Becher has carried out an assessment under the Danube Water Program to quantify present and future drought risks and to assess measures which can be taken to adapt and ensure continuous water supply.

Ms. Becher walked the audience through data on the last two decades that were marked by an ever-increasing threat of droughts, undermining utility services across the Danube region. Considering the ongoing climate change, it is of crucial importance of utilities to prioritize and scale up their responses to water stress and droughts, starting, but certainly not ending with leakage reduction as the lowest hanging fruit.

Combining globally available data sets and fresh, anonymized data collected from regional utilities, Ms. Becher’s team assessed the present-day water supply availability and created three climate change scenarios ranging from optimistic to pessimistic. Under these scenarios, the group evaluated the potential for leakage reduction to adapt to reduced water supply availability and calculated the associated investment needs.

The team found that for many utilities, the projected changes in water stress may exceed the current leakage rates, and that, while leakage reduction remains an important strategy to adapt to reduced water supply availability, additional measures may become necessary:

“Particularly where leakage is less than the current EU-wide average of 25%, leakage reduction alone will not be sufficient to adapt”,

noted Ms. Becher, pointing to other adaptation options that may include extending water storage capacities, and desalination.

Keep the water running

Real-world relevance is the cornerstone of the KnowNow webinar format, and accordingly, Mr. Maier presented two panelists who reported on the practical aspects of keeping the water running:

Dr. Efthymios Lytras, Deputy Director of Corporate Strategy and Innovation at EYDAP, the Athens Water and Sewerage Company took the stage with a presentation on EYDAP’s search for alternative water supply sources for Athens. EYDAP is the largest water supply and sewerage company in Greece, serving 40% of the Greek population, and takes pride in a No. 1 position in water quality among 180 countries worldwide, according to Yale’s Environmental Performance Index.

The company has to extend its supply network farther and farther to ensure water supply, running 495 kilometers of aqueduct today, and looking at connecting to remote Lake Kremasta. After two exceptionally arid winters, EYDAP is scraping the barrel, and, as Mr. Lytras remarks,

“if the next winter is arid again, we will be in crisis mode.”

The company has worked out a range of countermeasures, staggered by time and costs. Short term measures include the activation of reserved boreholes and reservoirs according to EYDAP’s emergency plan, which will add 75 million m³ capacity, a third of the current water deficit of 225 million m³. A five-year investment plan to the tune of 400 million Euros to eliminate water losses and roll out smart metering is also in the pipeline.

EYDAP also works to curb water consumption through communication with their end users, running classic advertising, direct mail, digital and social media campaigns to engage with end users and municipalities.

Looking farther into the future, the company explores alternative solutions like water reuse for irrigation and industrial use and indirect potable water reuse, which, Mr. Lytras notes, is already under consideration as a potential strategy in many other EU countries. Closing his presentation with an overview of project times and costs, he notes that alternative sourcing is not always an obvious first choice: For instance, urban rainwater exploitation requires long-term planning and implementation with dubious results in dry climates like in Athens, and while desalination is an option, it comes with high and variable operation expenditures, while, e.g., connecting the EYDAP network with the lake of Kremasta will quintuple the available reserves at next to zero operating costs.

Drought and concern in Romania

Ever more frequent and severe droughts are also a pressing concern for the second panelist, Mr. Daniel Craia, General Manager Assistant at Aquatim S.A., the utility company serving Timisoara and some communities in the Timis region. In recent years, a steady increase in water consumption, especially during summer, and ever longer drought periods have put enormous pressure on Aquatim's network, even to the point where the company found itself forced to deliver drinking water to remote communities by truck.

The company finds itself in an uphill fight to educate consumers about responsible water use, running campaigns in schools and communities to stop overuse for irrigation in gardens and for filling swimming pools. Aquatim has also taken to reducing water pressure during nights to reduce water losses through leaks.

Looking forward

During the ensuing extensive Q&A session, Mr. Craia added an interesting detail: To access European Union funding, Aquatim had to pledge to strict NRW reduction targets. To get a grip on the situation, the company started installing smart meters and divided its city network into six sectors, separately monitored for loss rates. The incoming data and accompanying field work revealed that the biggest part of the NRW problem was water theft by circumventing metered pipes. Currently, Aquatim is rolling smart metering out in rural areas.

Dr. Efthymios Lytras can empathize with the Romanian situation: His company is working to curb an NRW rate of 25%, of which 15% is leakages and 10% is uncounted water. EYDAP has set out a budget of 170 million Euros aside to bring smart metering and new pipes to a 15.000 kilometer pipe network – a telling example for the staggering amounts the water sector needs to spend to keep up with climate change. The costs are eye-watering, but there are no alternatives in the face of ever more frequent and severe droughts.

Further information, including the presentations and recording of the webinar, can be found on our [website!](#)