

Solving the Blue Infrastructure Crisis

Water as an infrastructure asset is emblematic of the larger, global infrastructure crisis we are experiencing, particularly in older urban areas where resources are strained. As a result of decades of under-investment in this area, new ways of approaching financing and collaboration among public and private partners are needed. On UN World Water Day together with the NY Blue Tech network and AECOM, Danish Cleantech Hub convened water infrastructure experts from the US and Europe for a trans-Atlantic half-day conference to share findings and best practices.

When addressing innovative funding models, critics assert that public-private partnerships enrich investors at taxpayers' expense, are more expensive and less accountable, lead to public bailouts and do little to help rural areas. Proponents, on the other hand, say private financing is the only way to make up for the vicious circle of under-investment in infrastructure, which causes delays and cost overruns.

As context for the overall US infrastructure crisis, The American Society of Civil Engineers grades the nation's infrastructure a "D+," estimating that the United States needs to invest \$3.6 trillion by 2020. Yet, the US spends just 1.6 percent of its GDP on for example transportation infrastructure, compared to between 5-9 percent by most other developed nations in Europe and Asia.

Most water infrastructure facilities in the US were built in the early-to mid-20th century, and are nearing the end of their useful life. As a water supply example, 62,700 of the country's 90,000 dams, or 69.3 percent, were constructed before 1970.

The panelists included key corporate water industry players such as AECOM, Arcadis, Poseidon Water, as well as NYC's Economic Development Corporation and Dutch non-profit Water Alliance.

In his opening keynote, Chris Ward, Executive Vice President, Metro NYC Chief Executive at AECOM emphasized that "intrusion in nature comes with a price". This hints at the fact that many of our current water-related infrastructure problems are caused by man's interference in natural cycles, and that it is impossible to restore nature to what it was. Instead, we should aim at "reintegrate, or mimic, nature in our water-based infrastructure design" to make it future-proof. One example could be to

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adapt urban planning to pre-existing watersheds, which otherwise can flood urban development if ill-designed.

With that, Mr. Ward also touched upon the theme of World Water Day 2018 – *nature-based solutions* as key for boosting resilience in our management of water resources.



Left to right: Guillermo Espiga, Poseidon Water, Louise Yeung, EDC, Edgar Westerhof, Arcadis

The animated discussion in the panels delved into different innovative partnership approaches to financing, designing, building and operating water infrastructure. While the specialists agreed that there is not one silver bullet model for public-private financing of infrastructure, there was strong sentiment that the public sector needs a reality check in terms of assessing the actual risks cities are facing. In a US context, it was also stressed that local government partnerships with the private sector won't be enough, hinting at lacking federal funding, as President Trump's "\$1.5 trillion infrastructure investment plan over the next decade" has yet to materialize.

Climate change is seen as a risk factor increases the urgency for acting now in order to future-proof critical water infrastructure assets – especially for coastal cities. Focusing on coastal flooding, the panelists argued for city government's need to recognize that preventive adaptation measure most often are cheaper than recovery costs. Arcadis emphasized Boston as a timely example, having been flooded three times in the past year alone. On that note, the panelists agreed that we generally have to start valuing water as one of the most critical assets that it is.

That natural disasters have a way of releasing financing and policy consensus was another key take-away provided by the panelists. When explaining why New York City rates as one of the frontrunner cities in the US when it comes to storm water resilience and wastewater management, there is no doubt that Hurricane Sandy in

2012 caused a bold, accelerated commitment to resilience that wouldn't otherwise have happened. Rather than waiting for the next disaster, though, the panel agreed that many more public-private financing partnerships are needed to counter the actual critical infrastructure failure risks we are facing.