

'One Water' paradigm shift gaining momentum in water industry - report

The International Water Association (IWA) will formally launch the third edition of the *Global Trend Report in Water Science, Research and Management* report on 13 September in Copenhagen at the World Water Congress & Exhibition.



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The report presents challenges and opportunities related to three main themes:

- Innovative technologies;
- Water and health;
- Resource recovery and circular economy

The report finds that the circular economy and innovative technologies are among the main trends in water science, research and management.

The study finds that a major 'One Water' paradigm shift is gaining momentum in the water industry, and most widely in society, embracing the concept of the circular economy, surrounding how we think about waste. This includes how wastewater is managed and reused for multiple applications.

"Processes such as anaerobic digestion are no longer seen as a 'waste treatment' technology, but as a fundamental enabler of the envisaged circular economy through resource recovery, including energy, safe water and nutrients like phosphorus, from valuable byproducts coming from industries, municipalities and agro-industrial settings," says Hong Li, IWA regional director for Asia & Oceania.



Desalination may be key to averting global water shortage, but it will take time

Kiran Tota-Maharaj 2 Sep 2022



Promising technologies

Anaerobic digestion, bioethanol, acetic acid, lactate and hydrogen production, membranes and tri-generation are some of the most promising technologies allowing the recovery of byproducts and simultaneous production of heat, cooling and power with technical, economic and environmental benefits. However, there are numerous other technologies currently being researched and implemented too. Additionally, the report suggests that agricultural water reuse for irrigation of food crops is increasingly used and provides additional benefits such as a decreased need for fertilisers due to elevated nutrient content in recycled water.

Moreover, water reuse can also contribute to the alleviation of the current global energy crisis. Biogas from wastewater treatment is an energy source and can be upgraded to biogenic methane for vehicle fuel or as a natural gas substitute in gas-grid systems.



South African engineers are trying to solve the global water crisis

Neil Thomas Stacey 11 Jul 2022



New solutions to old problems

Additionally, the report confirms that new technologies both related to hardware and software are providing a significant input to research, allowing new solutions to old problems, such as the mitigation of flooding, the maintenance of water systems, the location of leakage, contaminant intrusions and more. This trend will continue to change the water sector, giving managers a more complete vision of their systems and allowing for immediate actions.

Download the full publication [here](#).

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