

Towards sustainability in Water Distribution Networks

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A b s t r a c t

Today, it is crucial to fully understand the actions that water distribution network managers must take toward sustainability. Sustainable management in any activity related to the urban water cycle will be related to the responsible and efficient use and control of the network to meet current needs without compromising the ability of future generations to meet theirs. To this end, various actions are proposed to take the network from the line to the circle. This entails shifting from linear management (where collection takes place at a specific point and wastewater is discharged at another) to management based on the circular economy, which allows the system to reuse water and (recoverable) energy through integrated resource management. This will entail optimization, sectorization, monitoring, and, above all, a path toward digitalization of the water distribution network (which, with the digital twin as the culmination of these actions, will allow managers to lead the water network toward maximum sustainability).