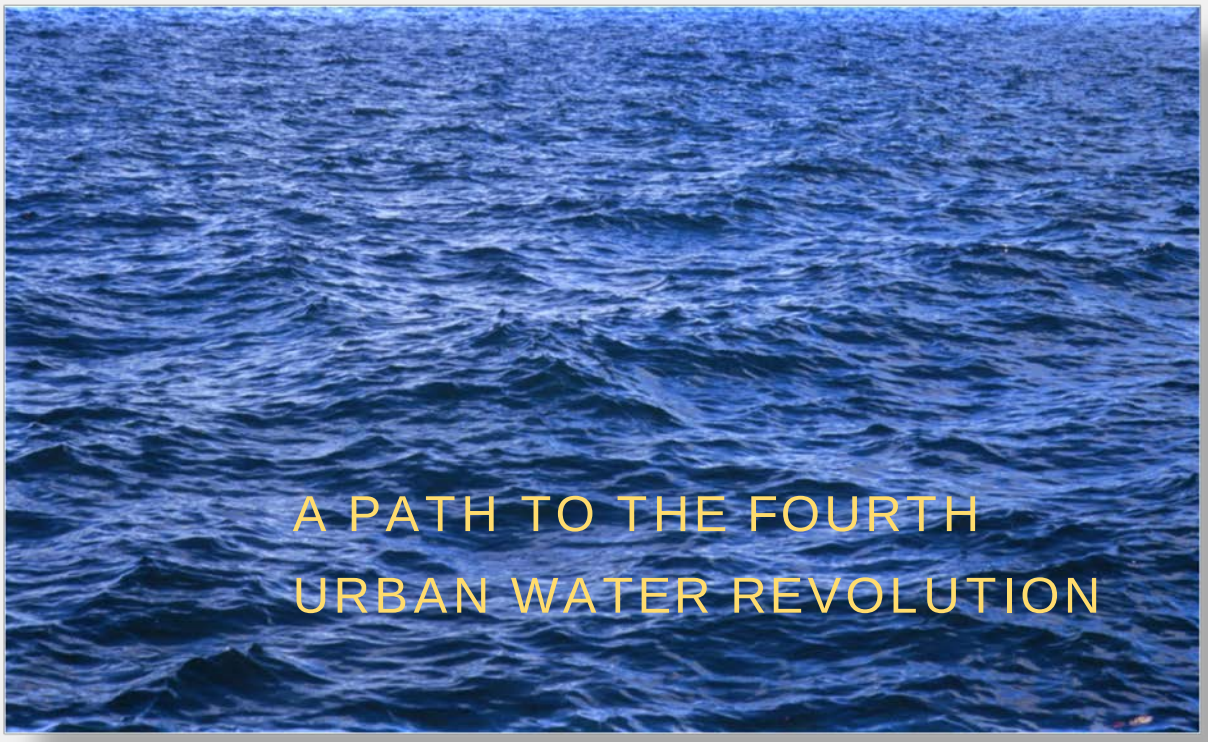

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Over the past 2,500 years, urban water systems have undergone three revolutions that have given us imported water, drinking water treatment and municipal wastewater treatment. Population growth, competing demands on water resources and concerns about decreases in the availability of imported water are now creating conditions conducive to a fourth revolution. The fourth revolution has the potential to solve some of our most difficult problems, but it will not happen until researchers, water professionals and regulators develop and adopt better technologies and management approaches.

By considering recent events in California, Texas and other regions facing the prospect of an inadequate future water supply, we can gain insight into the path through which water reuse, urban stormwater harvesting and other technologies are being used to insulate cities from the effects of drought. Research on approaches for enhancing the performance of natural treatment systems and efforts to better understand the fate of trace organic contaminants in engineered treatment systems is integral to the success of these technologies. In regions where other drivers of change, such as urban drainage and non-point source pollution are the main concerns, creation of a similar innovation ecosystem involving researchers, water professionals and regulators is need to hasten the transition to more resilient and effective urban water systems.