

Circular Economy Practices for Ensuring Sustainability of Our Most Vital Resource – Water

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SYNOPSIS

The real issue is that water has been pushed into a linear model in which it becomes successively more polluted as it travels through the system, rendering future use impossible. This linear practice converts this valuable resource into a worthless trickle. Failing to purify water (after use) before discharging it back into the environment is one reason. Equally troubling practice is volume of water used is seldom replaced with return flow of the same quality.

Since the linear model is economically and environmentally unsustainable, we must instead view water as part of a circular economy, where it retains full value after each use and eventually returns to the system. Since water is the single most important shared resource across all supply chains, and wastewater is the largest untapped waste category, it is the natural starting point for the circular revolution.

Under Circular Economy practices, we attempt to prevent contamination and create a system in which water circulates in closed loops, allowing repeated use. The principle that lies at the heart of any circular economy is that natural resources like water may only be used to the extent that they can be regenerated. The Circular Economy dynamic offers a framework that is both resilient and restorative for generations to come and also a mechanism for transitioning growth into a positive trend for the environment, the economy and the society.

All water, including freshwater and gray water, should flow into subsequent cascades as fit for purpose, where it may be used for another activity. Whenever possible, energy and nutrients should be extracted from used water to encourage reuse.

Singapore's branded NEWater, which is high-grade, reclaimed water is so pure that it is mainly used by plants that have more stringent quality standards than those used for drinking water. At some point, a circular water economy might even eliminate rapidly growing cleanup costs because no harmful substances would ever be added to the water supply. These shifts will require radical solutions grounded in a complete mind-set change.