circle wash

The 8Rs framework guides application of circular economy principles to achieve safely managed, inclusive, climate resilient water and sanitation services.

The R strategies reflect theory-based principles of circular economy, climate resilience and inclusion.

A circular economy water and sanitation opportunity aligns with one (or more) of the three central Rs: reduce, reuse, restore. The other five Rs relate to critical dimensions of purpose, process and inclusion.

Use the 8Rs framework as a thinking tool and guide for planning.

UTS Institute for Sustainable Futures

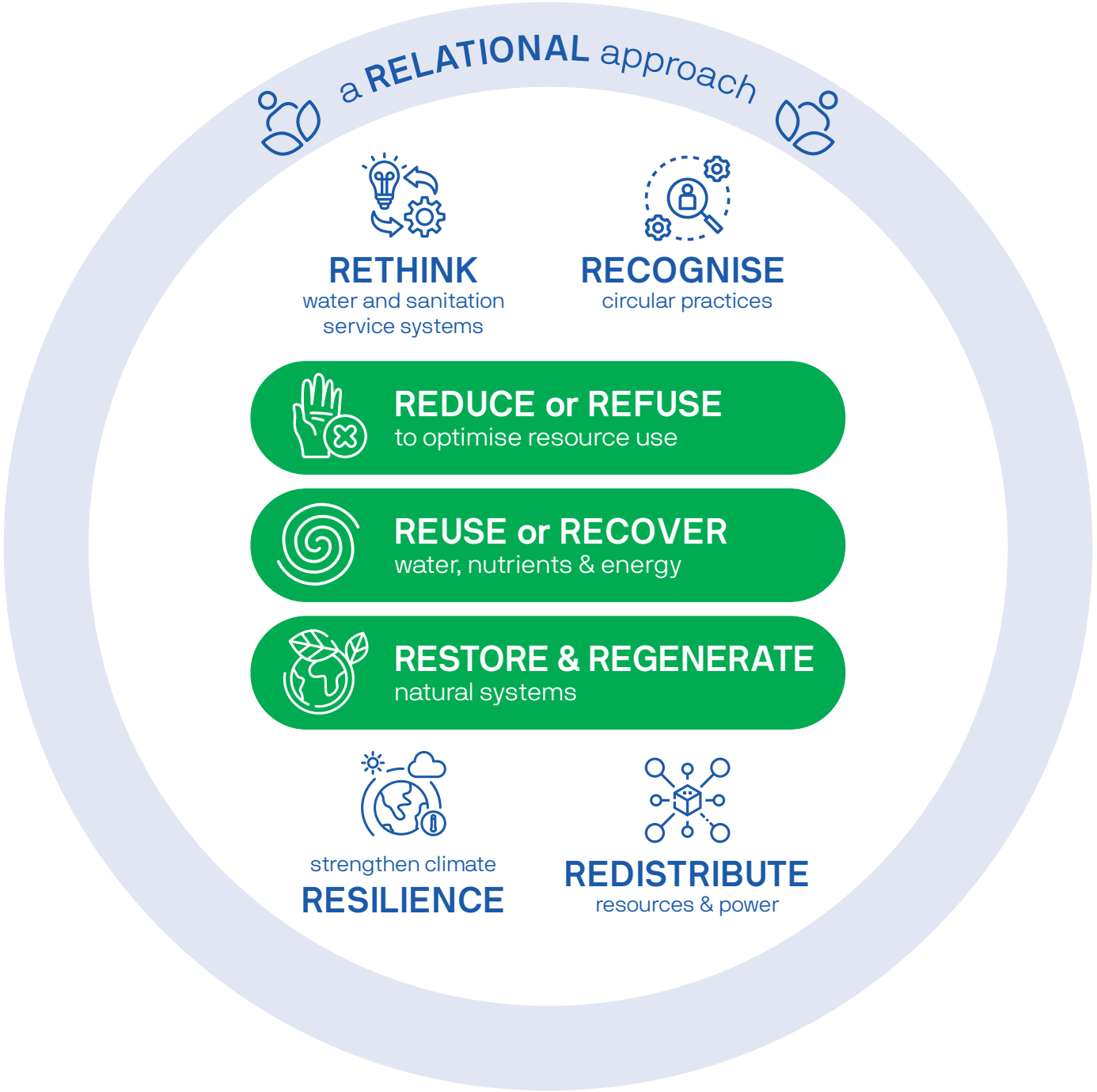
IWEM

unicef

IWMI International Water Management Institute

Water For Women

Australian Aid



8Rs for Circular Economy Water and Sanitation

	R strategy	Meaning	Examples
	**RETHINK** service systems	How could water and sanitation systems be different? What ideas come to mind if we think about changing typical approaches?	Changing thinking from 'wastewater' to 'resource-water'. Sanitation as a public service with shared government and household responsibilities.
	**RECOGNISE** circular practices	What is already circular? This could include traditional practices and coping strategies. How can we value existing circular practices and ensure they are safe?	Saving and reusing water in a household, e.g. bathing water for garden. Use of dried faecal sludge as soil conditioner. Use of human urine as fertilizer.
	**REDUCE OR REFUSE** to optimise resource use	How can we optimise use of resources in water and sanitation systems? Are there alternatives to water and energy use (refuse)? How can we improve efficiency (reduce)?	Reducing water losses. Designing low-energy wastewater treatment systems. Waterless toilets. Reusable menstrual health products.
	**REUSE & RECOVER** water, nutrients & energy	How can we close loops in water and sanitation systems? Are there opportunities to reuse water (treated or for lower quality purposes)? Can nutrients be recovered from waste?	Household storage and reuse of water for different uses. Faecal sludge reuse to improve soil condition, nutrient capture and use to benefit food production, wastewater reuse at various scales, use of sludge in biogas systems. Natural reuse systems e.g. irrigation system recharges groundwater where it is naturally treated before reuse.
	**RESTORE & REGENERATE** natural systems	How can water and sanitation systems connect to natural systems? How can they contribute to the regeneration of nature?	Nature based solutions e.g. source water protection, aquifer recharge, wetland restoration or construction for wastewater treatment.
	strengthen climate **RESILIENCE**	What climate change impacts do we need to consider when planning circular water and sanitation systems? How can circular options strengthen resilience? Resilience includes social, institutional, technical and natural dimensions.	Capturing, treating and reusing water supports resilience during times of drought.
	**REDISTRIBUTE** resources and power	How can we ensure everyone has equal access to water and sanitation services? How can we include diverse voices when planning circular approaches?	Sustainable cost recovery approaches that balance what user pays with public investment to ensure affordability. Representation from diverse social groups when planning and implementing circular opportunities.
	a **RELATIONAL** approach	A relational approach emphasises collaboration and trust building. It focuses on connections between people and the world around them. Taking a relational approach means focusing on the *process* of moving towards circularity and on interdependence between people and nature.	Bringing diverse perspectives together for conversations about circular economy water and sanitation systems. Creating space for connections to emerge and to shape actions.

Stay tuned to read more about the 8Rs framework in a forthcoming journal article: ***The 8Rs framework for circular water and sanitation systems: leveraging circular economy thinking for safe, resilient and inclusive services***. Author team: Naomi Carrard (UTS-ISF), Avni Kumar (UTS-ISF), Dinh Van Dao (IWEM), Jeremy Kohlitz (UTS-ISF), Monique Retamal (UTS-ISF), Avinandan Taron (IWMI), Ngaouea Neemia (UNICEF) and Juliet Willetts (UTS-ISF).