



Introduction – Circular Economy in the Water and Sanitation Sector

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Circular Economy – what does it encompass

A systematic and fundamental **shift away from a linear take-make-waste extractive industrial model**

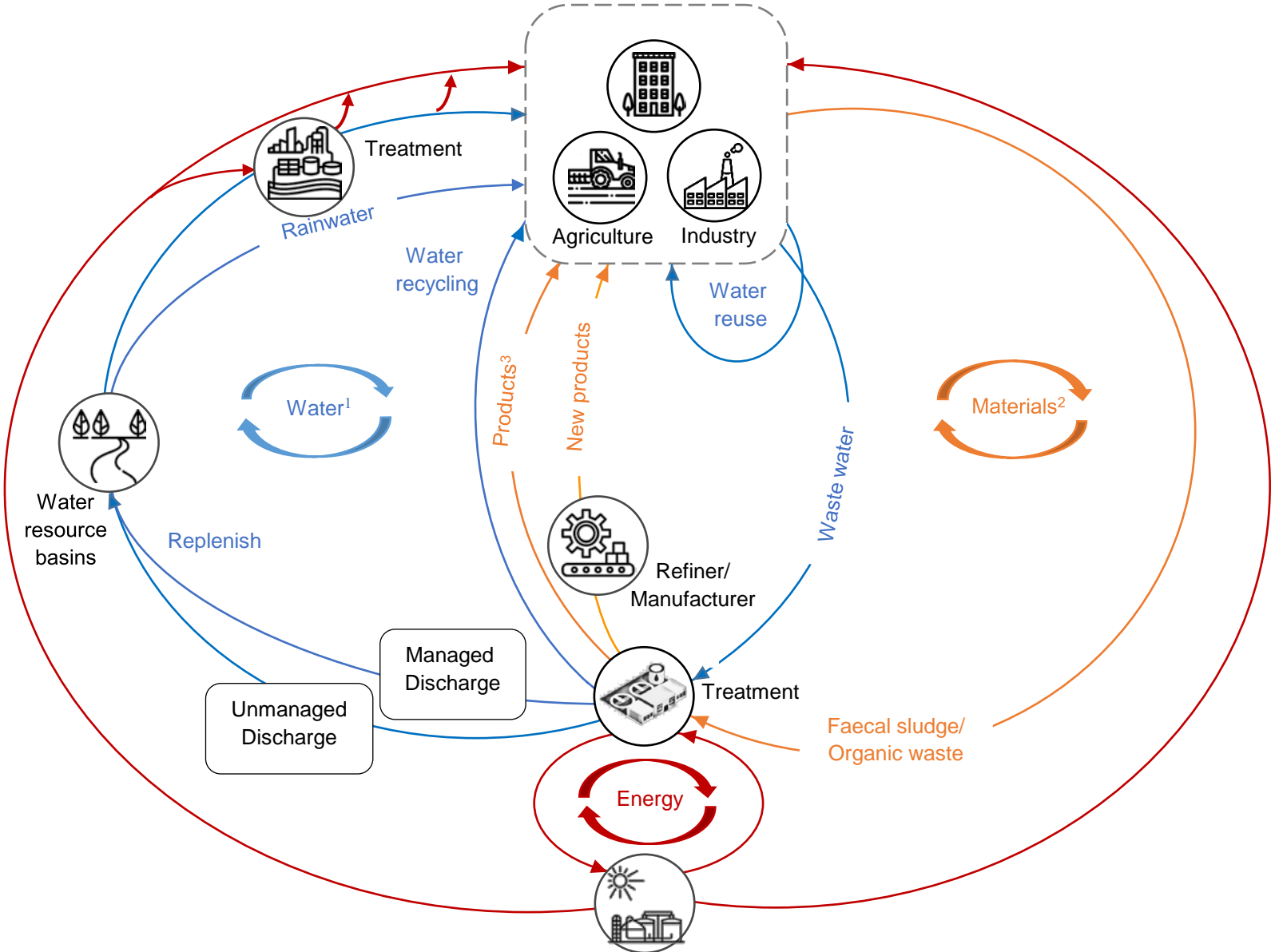
Three core principles of Circular Economy
(Ellen MacArthur Foundation):

- designing out waste and pollution,
- keeping products and materials in use, and
- regenerating natural systems.



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Interconnected resource cycles in the water and sanitation sector



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Translating CE principles for the water and sanitation sector



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Designing out waste and pollution (Avoid & Reduce):

- designing water-less technologies,
- water conservation and efficiency measures,
- reducing the use of chemicals and energy

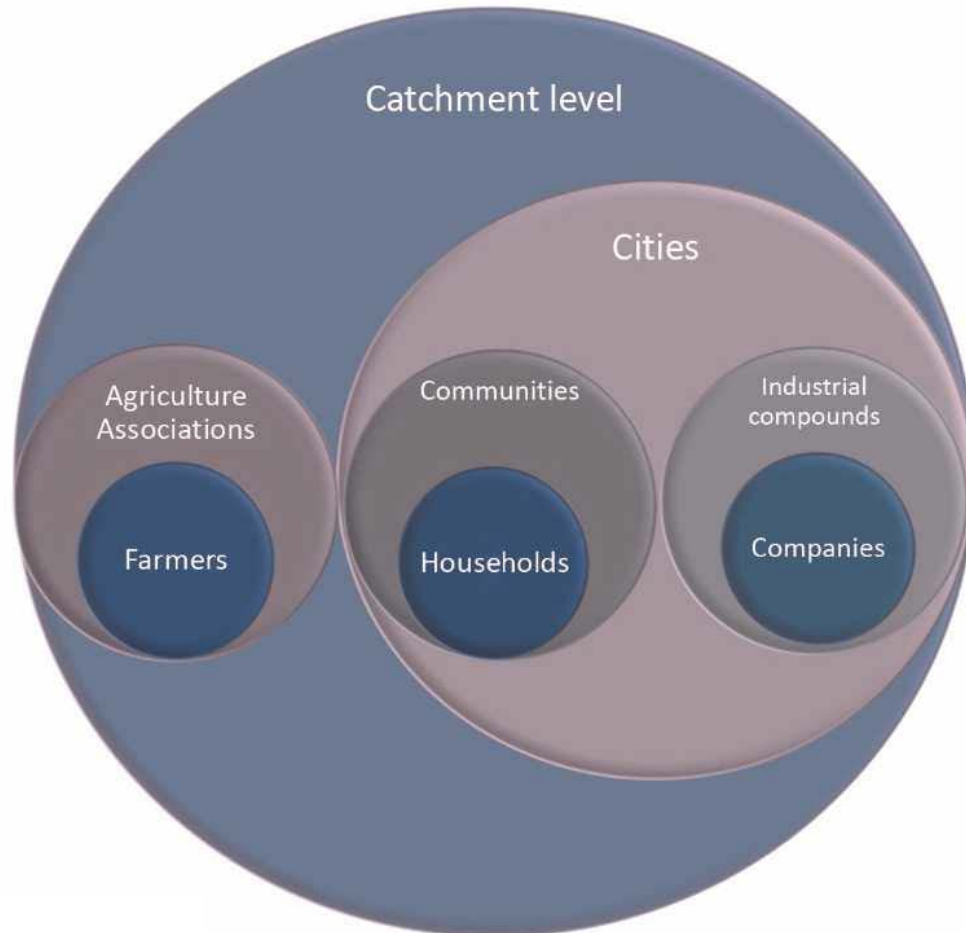
Keeping products and materials in use (Reuse & Recycle & Recover):

- Reusing water, e.g. in irrigation, industrial processes.
- Recycling human waste and faecal sludge (e.g. compost)
- Recover valuable components (e.g. nutrients, metals, energy) from wastewater and faecal sludge

Regenerating natural systems:

- Preventing pollution and other negative effects on the environment
- Recharging water bodies and ecosystems with reclaimed water, e.g. MAR
- Returning valuable nutrients to the soil to support regeneration.

Opportunities for circularity at different system levels



- The smaller the system, the closer are supply and demand side, reducing transportation and transaction
- The larger the system the more opportunities for matching resource supply and demand and closing circles

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Thank you!

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