

Net-Zero and Energy

Net-zero water treatment plants

- Electrification · Renewables · Carbon accounting

Process emissions

- Methane & N₂O · Real-time monitoring · Low-carbon sludge

Energy recovery from wastewater

- Anaerobic digestion · Hydrogen · Biogas · Heat recovery

Digital and innovation

Digital water & Ai

- Predictive maintenance · Digital twins · AI use and data centre cooling impact

Smart plants

- Sensors · Cybersecurity · Big data · Autonomous operations

Novel & emerging tech

- Membrane distillation · Ozonation · Process intensification

Water quality and environment

Emerging contaminants

- PFAS · Microplastics · Pharmaceuticals · Advanced oxidation

Water reuse & circular economy

- Potable reuse · Nutrient recovery · Regulations

Nature based solutions

- Constructed wetlands · Algae · River restoration · Catchment

Policy, safety, and people

Climate resilience

- Drought · Flood · Water security · Extreme weather adaptations

Policy & regulation

- AMP cycles · Carbon incentives · Public health · Chlorination · water softening

Process safety

- Hazard ID · Human factors · Safety culture

Skills & future engineers

- Digital skills · Early careers · Diversity