- priority of water quality / public health >> energy or Carbon footprint
- deep knowledge
    - manifests application in unexpected or new systems;
    - interconnectedness of knowledge
    - search for P accumulating / sulphate reducing micro-organisms
- shortage skilled people
    - need failsafe systems (need deep knowledge)
    - not simple to design
- many benefits of source separation of urine
- water scarcity leads to increased concentrations of complex pollutants
    - need deeper knowledge to understand, identify and quantify
    - advanced removal / treatment processes
- direct use of seawater / saline water for sanitation prior to desalination for potable water

- membrane use starting to be mainstreamed for
  - not end of pipe
  - sewage
  - toilet to tap
  - seawater desalination
  - mine water
- membrane use is emerging for
  - industrial effluents
  - potable water
- Nanotechnology
  - watching brief – keep researchers interested in water issues (and vice versa)
  - can not predict where new applications will arise
- Irrigation – increased electricity price
  - leads to increased water demand management
  - demand for accessible crop efficiency tools
- irrigation water quality issues cascade from sewage treatment
  - need to coordinate the entire water value chain (potable water – sewage treatment - irrigation