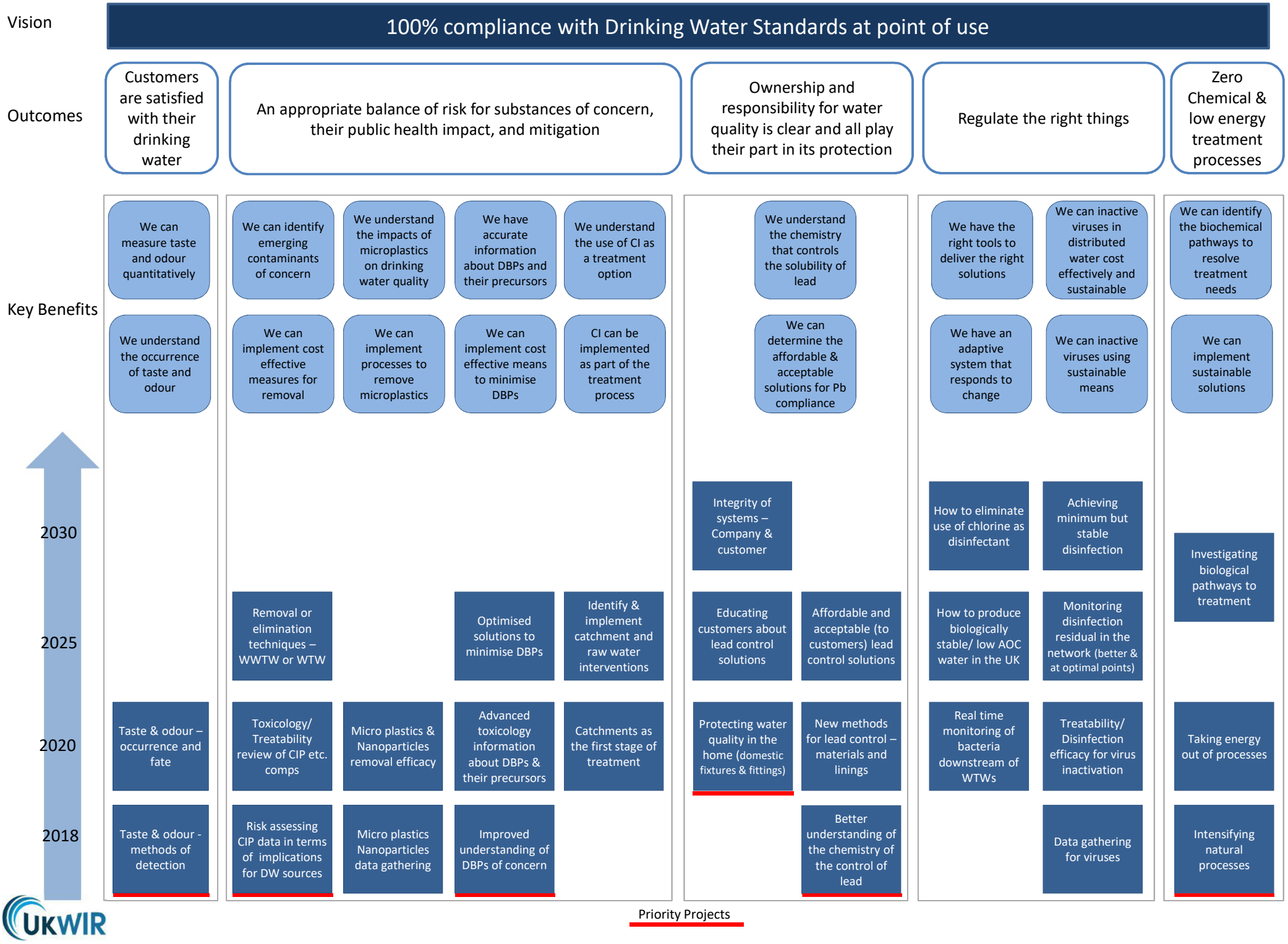
UKWIR
UK Water Industry Research

COLLABORATIVE, IMPARTIAL RESEARCH

UKWIR - Big Question No. 4

Route Map to Achieve the Vision


Vision
100% compliance with Drinking Water Standards at point of use
Outcomes
Customers are satisfied with their drinking water
An appropriate balance of risk for substances of concern, their public health impact, and mitigation
Ownership and responsibility for water quality is clear and all play their part in its protection
Regulate the right things
Zero Chemical & low energy treatment processes
Key Benefits
We can measure taste and odour quantitatively
We understand the occurrence of taste and odour
We can identify emerging contaminants of concern
We understand the impacts of microplastics on drinking water quality
We have accurate information about DBPs and their precursors
We understand the use of CI as a treatment option
We can implement cost effective measures for removal
We can implement processes to remove microplastics
We can implement cost effective means to minimise DBPs
CI can be implemented as part of the treatment process
We understand the chemistry that controls the solubility of lead
We can determine the affordable & acceptable solutions for Pb compliance
We have the right tools to deliver the right solutions
We can inactive viruses in distributed water cost effectively and sustainable
We have an adaptive system that responds to change
We can inactive viruses using sustainable means
We can identify the biochemical pathways to resolve treatment needs
We can implement sustainable solutions
2030
2025
2020
2018
Taste & odour – occurrence and fate
Taste & odour - methods of detection
Toxicology/ Treatability review of CIP etc. comps
Micro plastics & Nanoparticles removal efficacy
Advanced toxicology information about DBPs & their precursors
Catchments as the first stage of treatment
Removal or elimination techniques – WWTW or WTW
Optimised solutions to minimise DBPs
Identify & implement catchment and raw water interventions
Risk assessing CIP data in terms of implications for DW sources
Micro plastics Nanoparticles data gathering
Improved understanding of DBPs of concern
Integrity of systems – Company & customer
Protecting water quality in the home (domestic fixtures & fittings)
Educating customers about lead control solutions
Affordable and acceptable (to customers) lead control solutions
New methods for lead control – materials and linings
Better understanding of the chemistry of the control of lead
How to eliminate use of chlorine as disinfectant
Real time monitoring of bacteria downstream of WTWs
How to produce biologically stable/ low AOC water in the UK
Achieving minimum but stable disinfection
Treatability/ Disinfection efficacy for virus inactivation
Monitoring disinfection residual in the network (better & at optimal points)
Data gathering for viruses
Investigating biological pathways to treatment
Taking energy out of processes
Intensifying natural processes
Priority Projects
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Supporting Information

- Acronyms
  - CIP – Chemical Investigation Programme
  - WTW – Water Treatment Works
  - WWTW – Waste Water Treatment Works
  - DBP – Disinfection By-products
  - CI – Catchment interventions
  - Pb – Lead

- This is a dynamic route map and will be modified as projects are completed and better information is known
- Many projects help deliver several outcomes, the linkages are not displayed on this route map

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