THE CHALLENGE:

CONTAMINANTS OF EMERGING CONCERN (CECs) ARE IDENTIFIED CONTAMINANTS WHICH HAVE RAISED CONCERN ABOUT THEIR ECOLOGICAL OR HUMAN HEALTH IMPACTS.

Population growth, along with associated increases in sanitary and personal care products, advances in medicines and therapies, and a greater demand for food are all contributing to a growing number of chemicals in the environment.

growing population

>9bn

by 2050

(UN World Population Prospects 2019)

increase in the number of chemical substances registered in CAS*

+110,000,000

since 1990

(Chemical Abstracts Service)

global market for cosmetic products

+51%

from 2017-2023

(Global Cosmetics Products Market - Growth, Trends and Forecasts (2018 - 2023))

global food production

+70%

from 2005-2050

(HELF 2050)

global health spending

+€13 trillion

by 2050

(DOI 10.1016/S0140-6736 (19)30841-4)

This output has been created by the Water JPI Knowledge Hub on Contaminants of Emerging Concern to highlight key concerns facing our water resources today.

PRIORITY ACTION 1:
MONITORING TOOLS NEED TO BE EXPANDED TO ASSIST WITH THE DETECTION OF NEW COMPOUNDS.

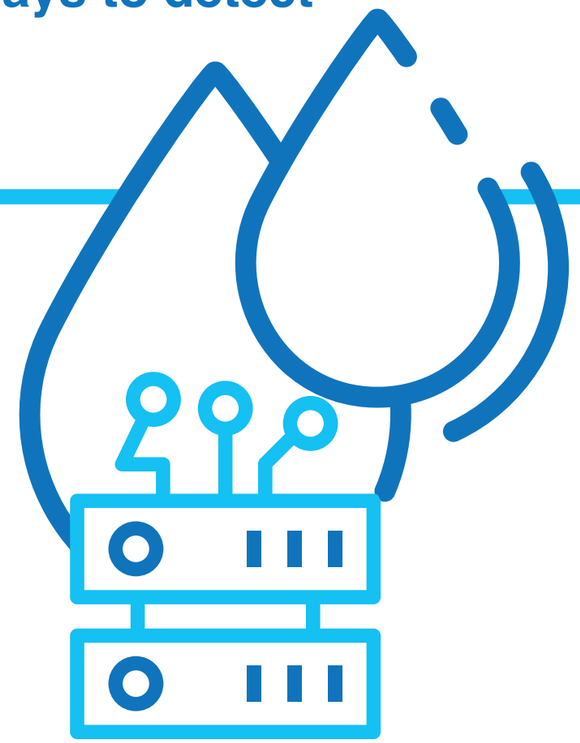
The occurence of chemicals as mixtures in the environment requires the implementation of new approaches complementing current single substance approaches.

- Single substance approaches
- Small subset of chemicals

+

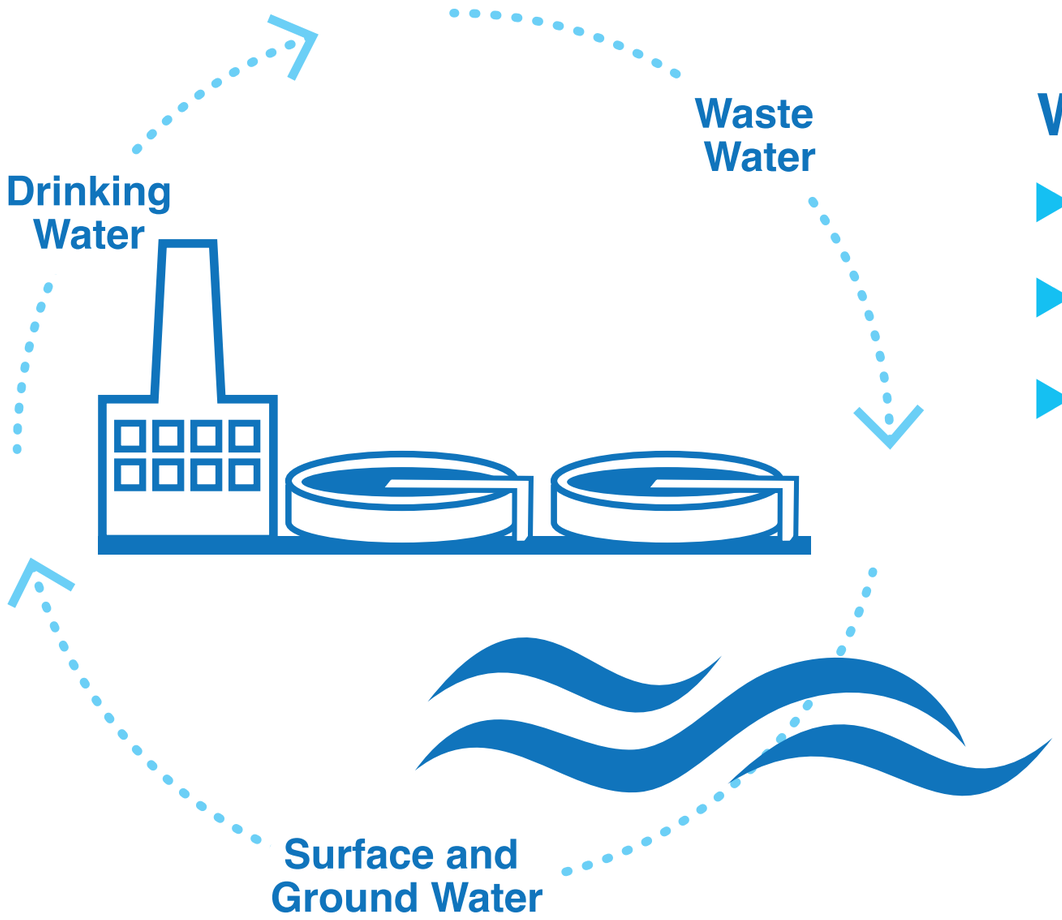
Innovation in Science

- Non-target screening to detect unknowns
- Effect based bioassays to detect cumulative effects



PRIORITY ACTION 2:
WASTEWATER TREATMENT PLANTS (WWTP) DON'T ALWAYS REMOVE CECs TO THE DESIRED DEGREE WHICH CAN RESULT IN THE CONTAMINATION OF WATER RESOURCES.

Improving wastewater treatment, together with controlling the source of the contaminants, will be essential to close the water cycle and maintain the quality of water. This can be done by implementing new treatment technologies that have demonstrated the further removal of CECs.



WATER FIT FOR USE

- Advanced WWTP technology
- Novel treatment methods
- Optimised design and operational conditions

The Water JPI has received funding from the European Union's Horizon 2020 Programme for Research, Technological Development and Demonstration under Grant Agreement n°689271 (WaterWorks2015).
This output reflects only the views of the Water Joint Programming Initiative, and the European Commission cannot be held responsible for any use that may be made of the information contained herein.