



Ricardo
Energy & Environment



"Catch 65"

The Future Operation of Catchments

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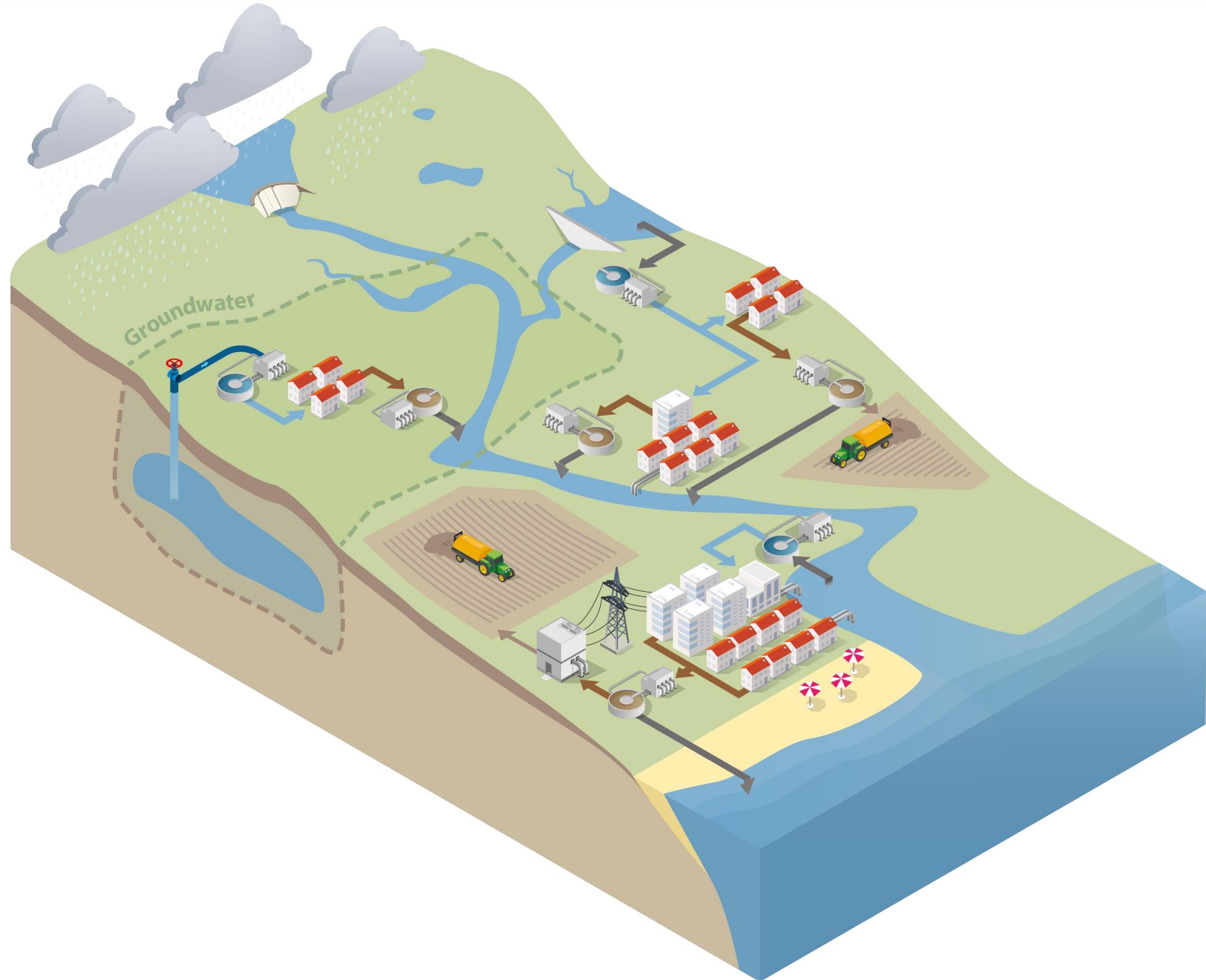
What challenges will we face in
Catchment Management to 2065?

Where do we need innovation?

What does the future operation of
catchments look like?

The world is changing fast.

What is Catchment Management?



We perhaps did more 50 years ago...



VR.8428.

What is happening now?



CASE STUDY

ENTRADE

DEVELOPING MARKETS TO DELIVER ENVIRONMENTAL IMPROVEMENTS

115 tonnes of nitrogen saved through EnTrade



EnTrade creates online auctions to deliver environmental improvements, such as reducing the... Further auctions were run in 2017 and 2018 comprising...



If you live in a Severn Trent priority catchment

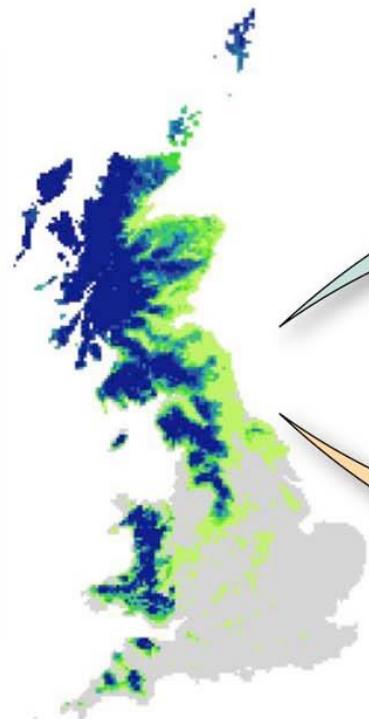
FARM TO TAP



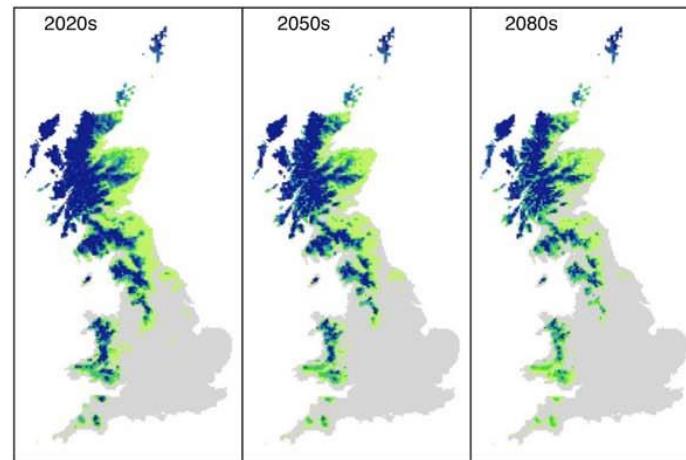
What challenges will we face in
Catchment Management to 2065?

Climate Change and Land Use Change

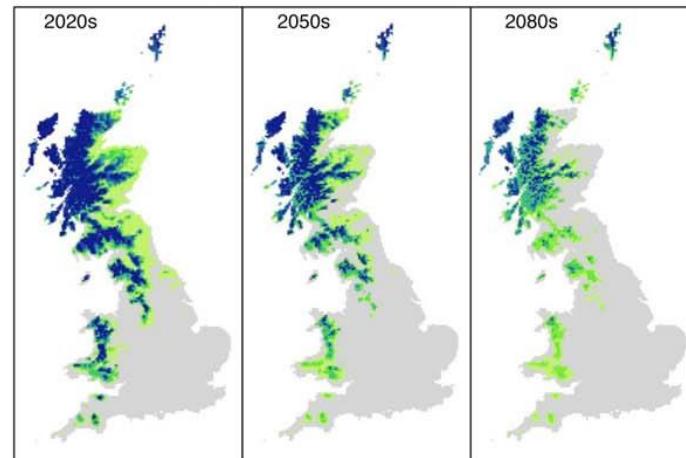
Climate envelope for current peat distribution



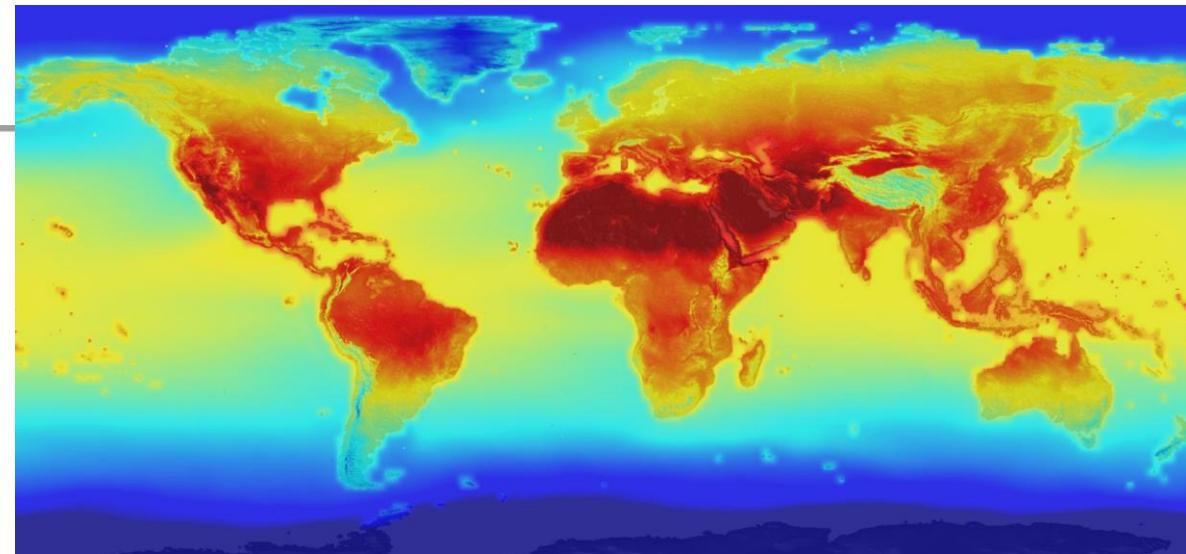
Low emissions scenario



High emissions scenario



The number of models in each grid cell that project a climate suitable for blanket peat

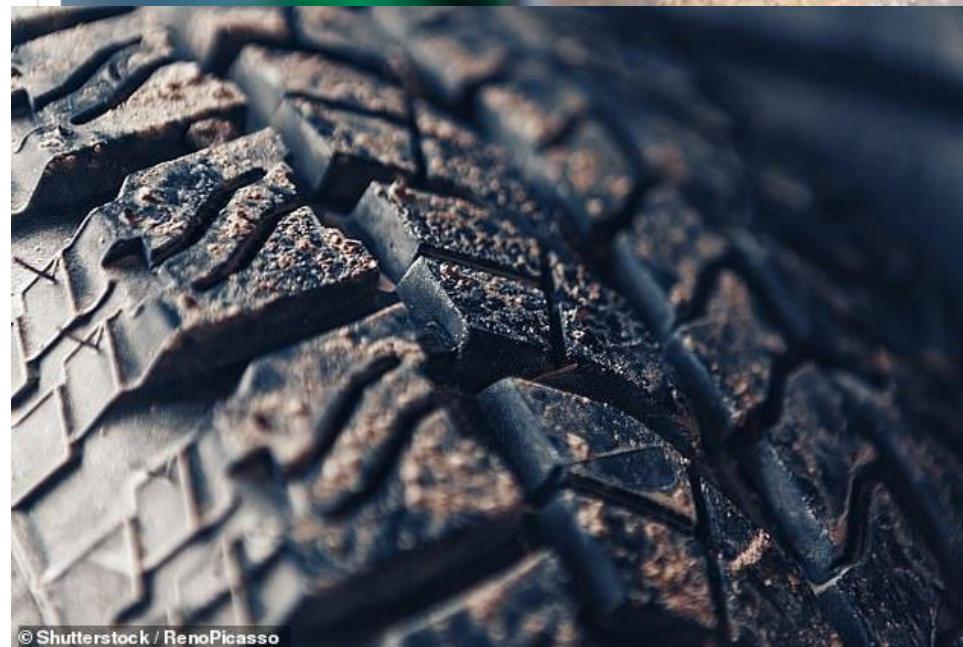


Industrial Pollution and Microplastics

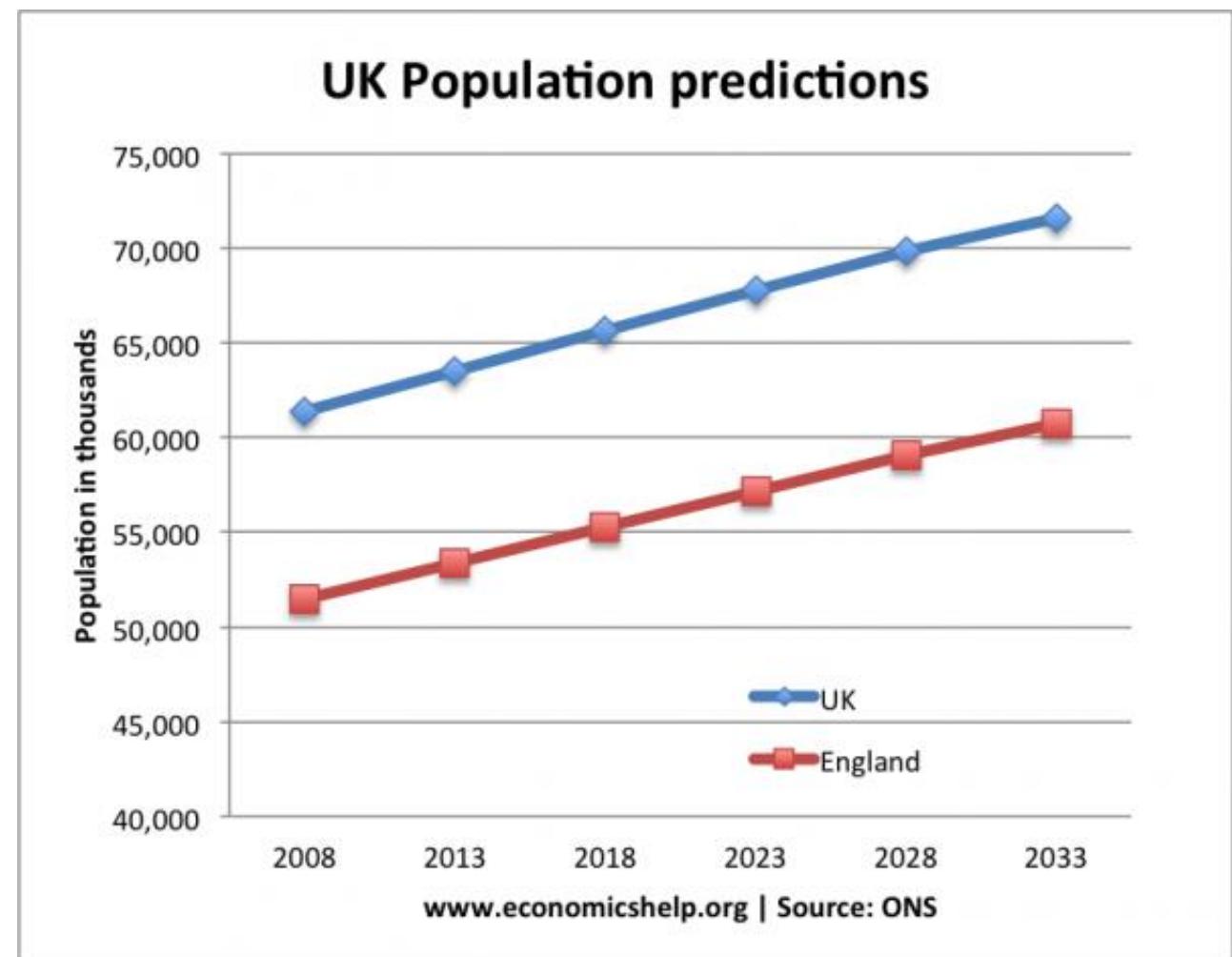


Microplastic pollution revealed 'absolutely everywhere' by new research

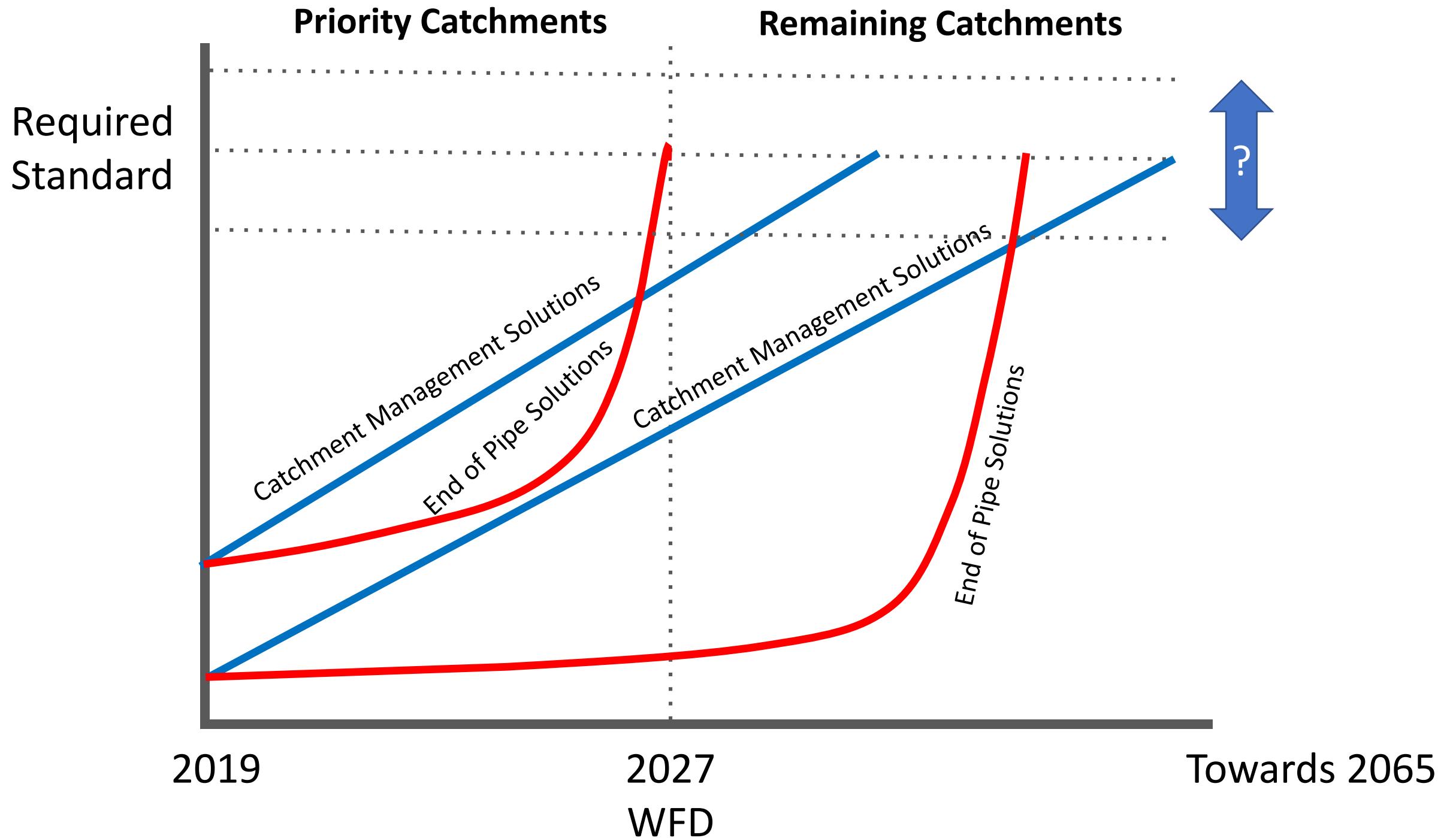
Contamination found across UK lakes and rivers, in US groundwater, along the Yantze river and Spanish coast, and harbouring dangerous bacteria in Singapore



Political, regulatory and demographic change



How do we SPEED UP and SCALE UP in the face of these challenges?



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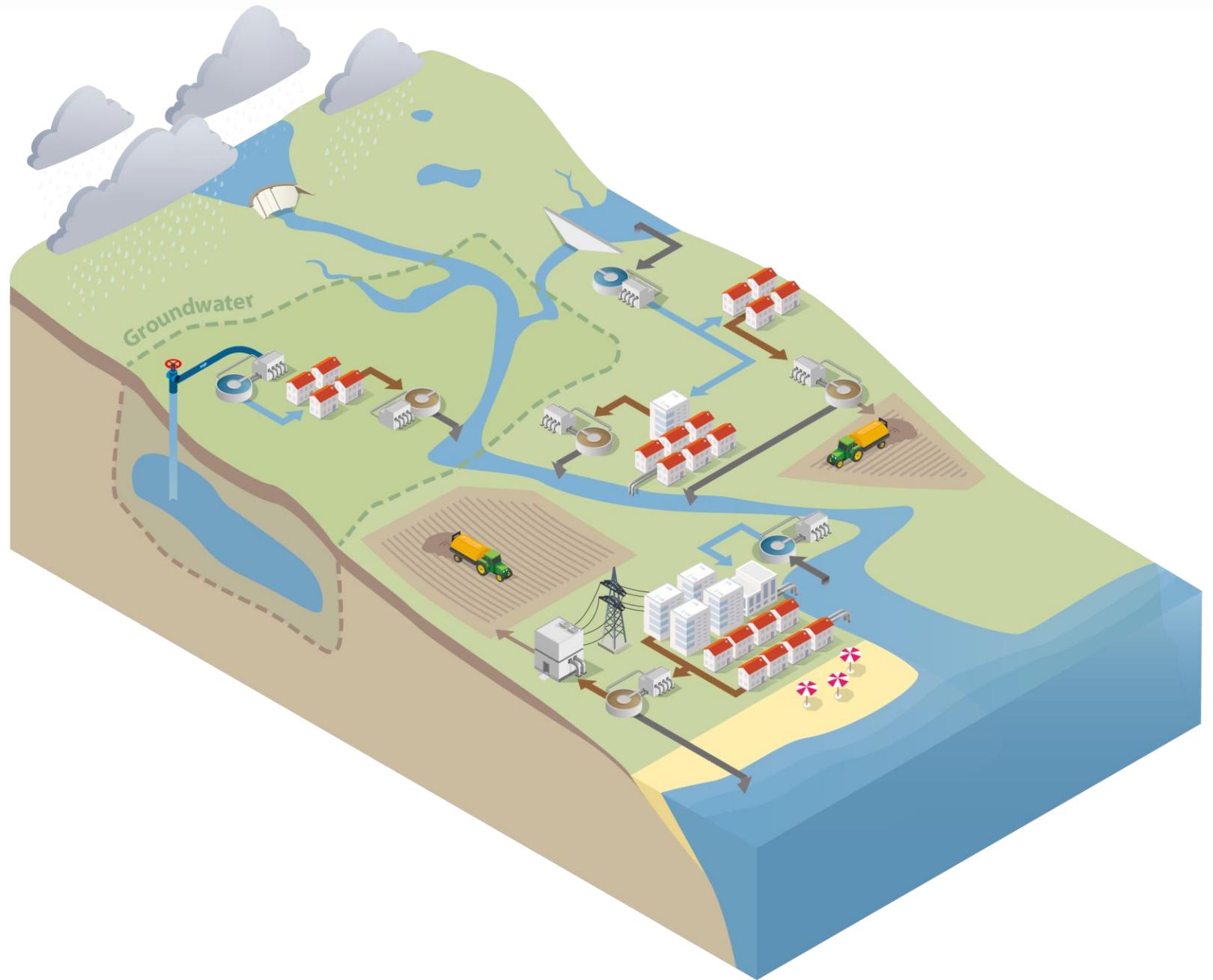


Key themes and barriers...
Where do we need innovation?

The Future Operation of Catchments...

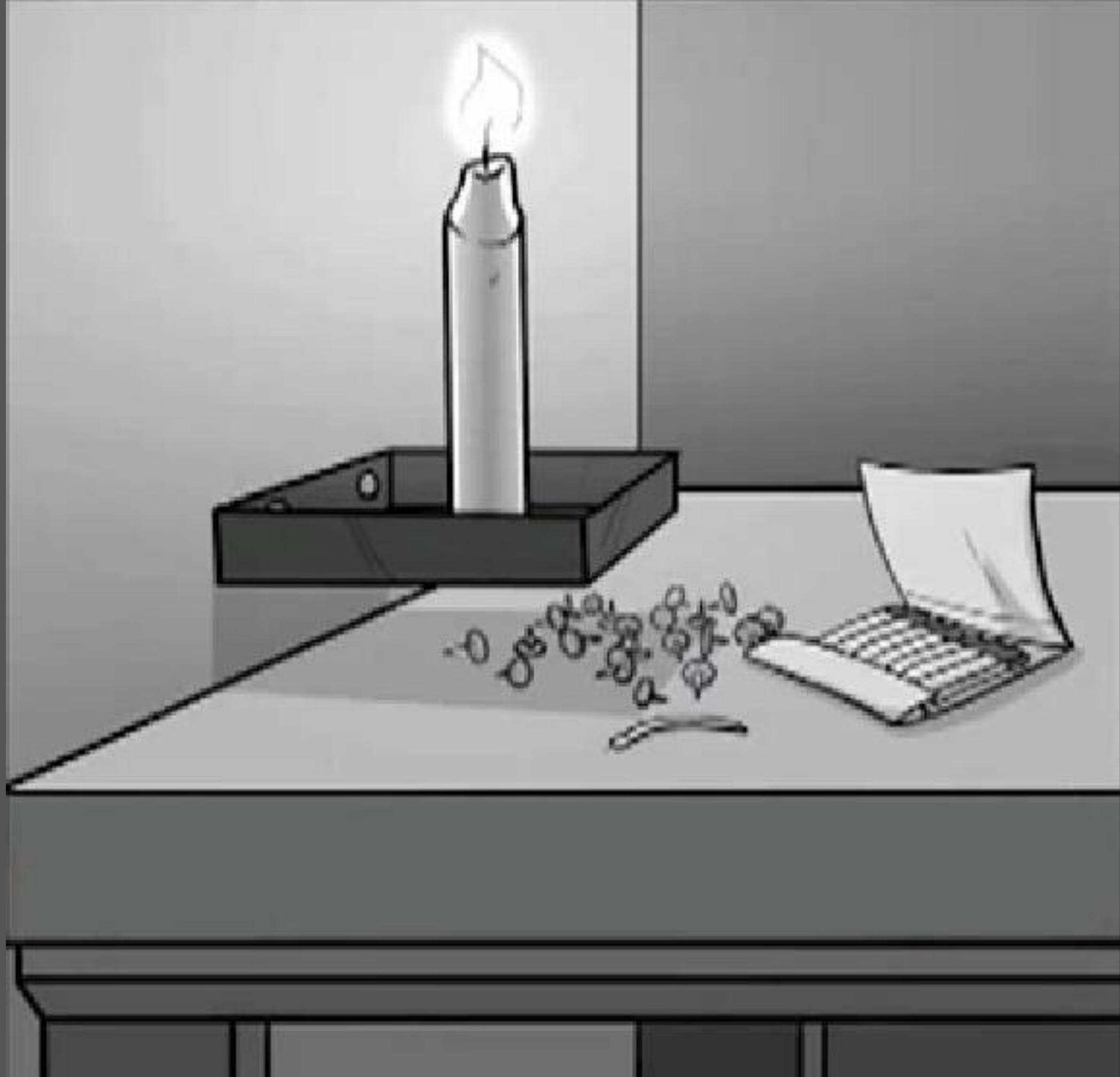
Innovation

- People
- Process
- Systems
- Monitoring
- Technology
- Regulatory
- Commercial
- Research agenda



What does the future operation
of catchments look like?





What if...

Google

did catchment

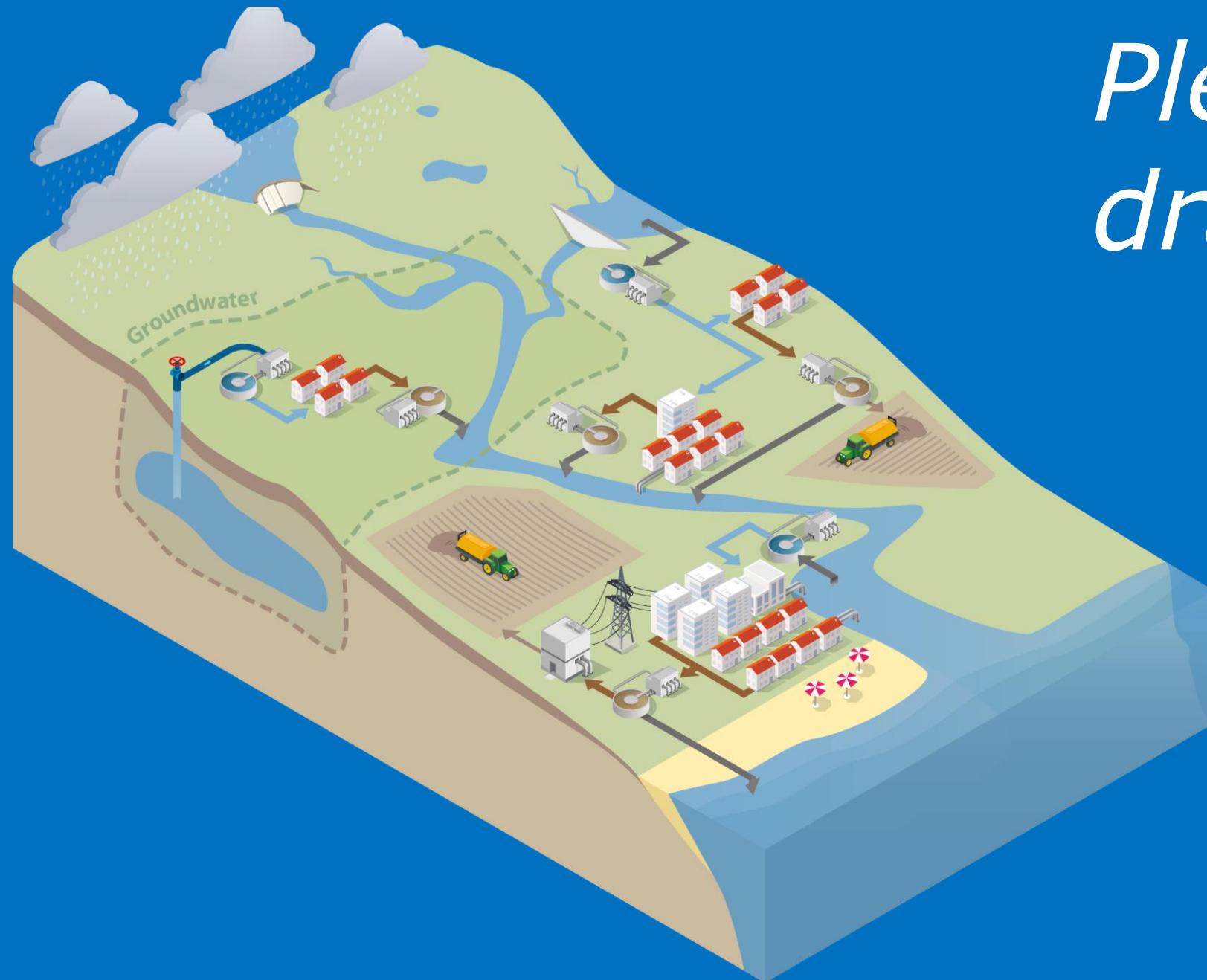
management...

The Future Operation of Catchments

What are the key innovations, initiatives, mechanisms necessary for Catch65?

For each are they:

- short term – in AMP7 (2020 to 2025)
- medium term – 2025 to 2040
- long term – 2040 to 2065



*Please
draw it!*