



# World Leading Solutions to Water Challenges

Delivering Integrated thinking to Shape  
a Better World



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Delivered during the Roundtable Discussion on the Philippines Water Sector: Gaps and Opportunities  
20 March 2019 Joy Nostalg, Ortigas Center, Pasig City

# UK Water Environment - River Aire, Leeds, West Yorkshire

UK DIT | SCPW | PWP  
<http://www.wetlands.ph/projects/ukscpw-water-rtd-2019/>





# Water Shortages – Leading to improved resilience

Sign in Search International edition

# The Guardian

## England could run short of water within 25 years

**Exclusive: Environment Agency chief calls for use to be cut by a third**



▲ The Wayoh reservoir near Bolton. The UK's population is expected to rise from 67 million to 75 million in 2050, increasing the demand for water Photograph: Christopher Furlong/Getty Images

# THE YORKSHIRE POST

## Learning lessons of the 1995 drought



Scammonden Reservoir at the height of the drought in 1995. (Photo by Robert Brook/REX\_Shutterstock)

## Thames Tideway Tunnel

“  
It may be hard to believe, but until the tunnel is built, we’re treating the river like a toilet. Raw sewage flows directly into the Thames when it rains, as this is the only way to stop homes and streets from flooding when the existing Victorian sewers overflow.  
”



# UK Water Industry Development

Pre  
1900's

1930's –  
1960's

1965 –  
1989

1989  
onwards



## Installation of Public Water Supplies

Early sewerage and  
sanitation in major urban  
centers

## Early consolidation

Water and Sewerage services  
developed by LGU  
equivalent organisations

Abstractions and licences not  
integrated

## Industry restructuring

Due to poor demand  
forecasts, shortage and  
environmental damage  
consolidation to 10 (primary)  
regional water authorities

## Privatization

Commercialization of water  
and sewerage

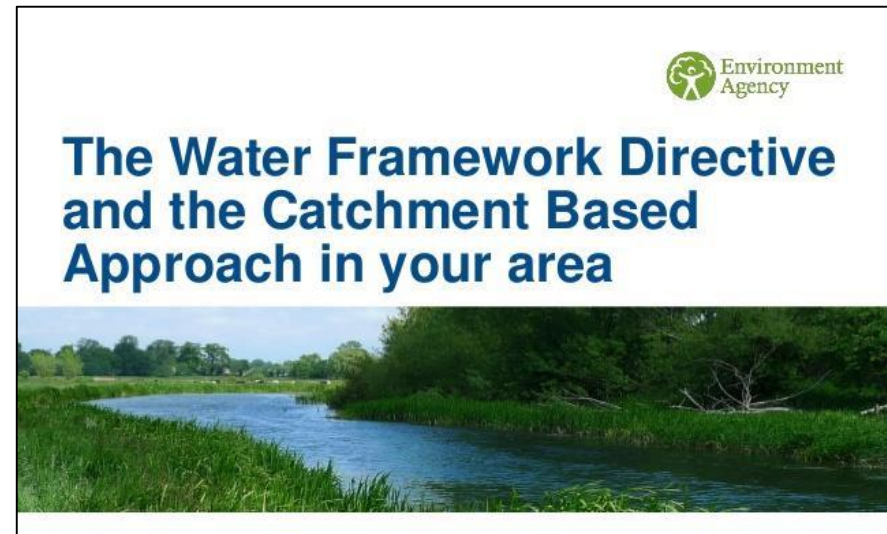
Implementation of Asset  
Management Periods  
(AMPs)

More focus on integrated  
management



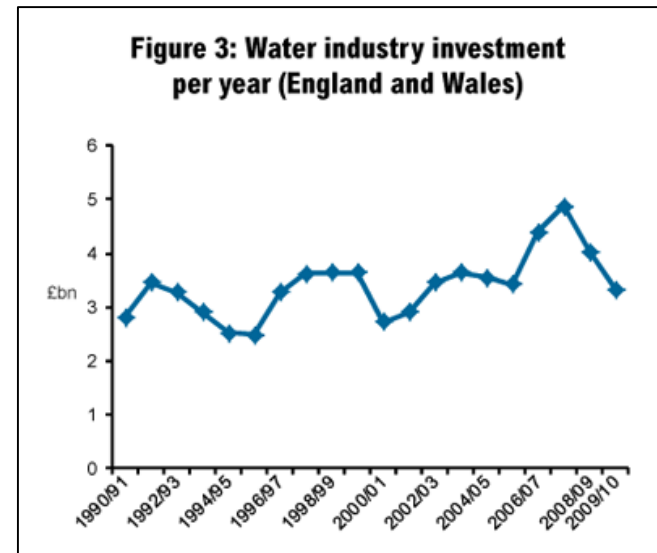
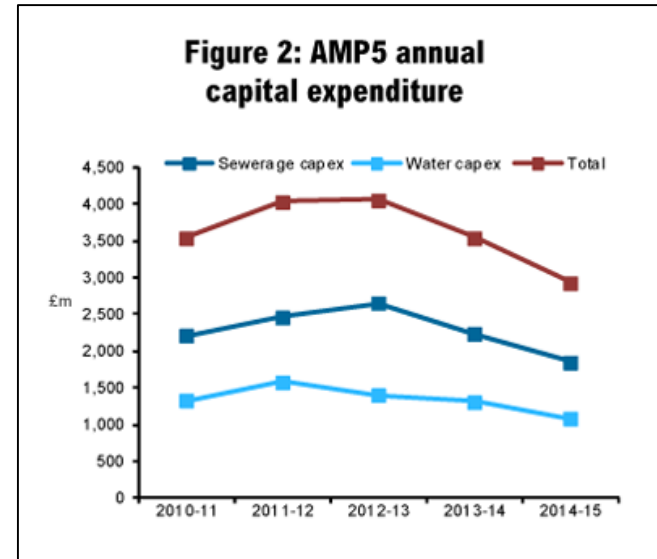
# Key legislation driving improvements in water

- 1991 EU Urban Wastewater Treatment Directive (UWWTD)
  - Defined standards for populations greater than 2000 and improved standards for larger population sources/more sensitive areas
- 2000 EU Water Framework Directive (WFD)
  - Set out an approach based on ecological quality
  - More integrated thinking in delivery
  - Heavily supported by data and assessment



# Water Delivery through AMP's

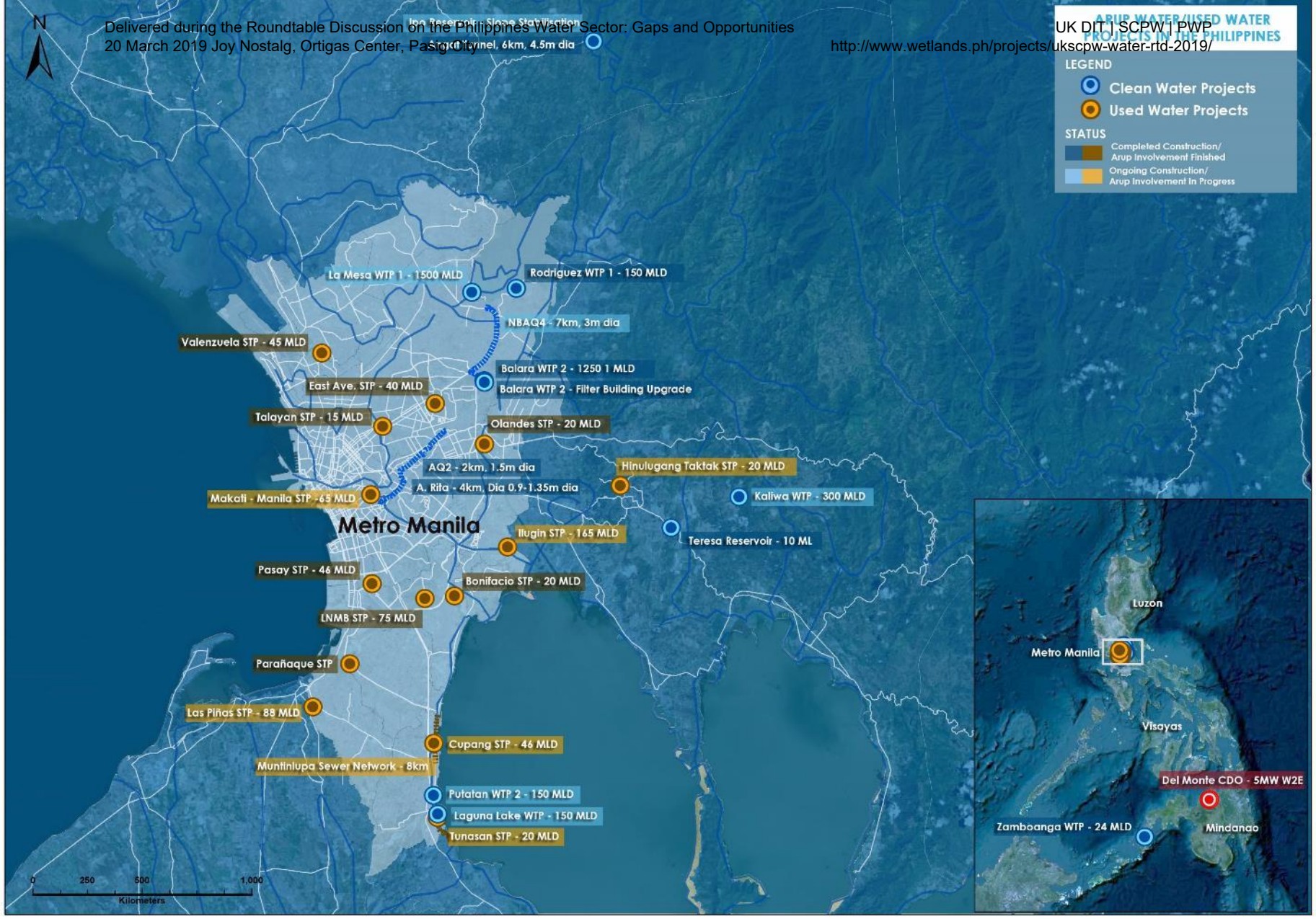
- Longer term working arrangements, innovative commercial models
- Better planned, focused and monitored investments
- Output driven but based on sound planning and monitoring
- Updated with mechanisms for feedback and change
- Put more pressure on maximizing value – but incentivizing short term planning



# Incentivising Sustainable Thinking

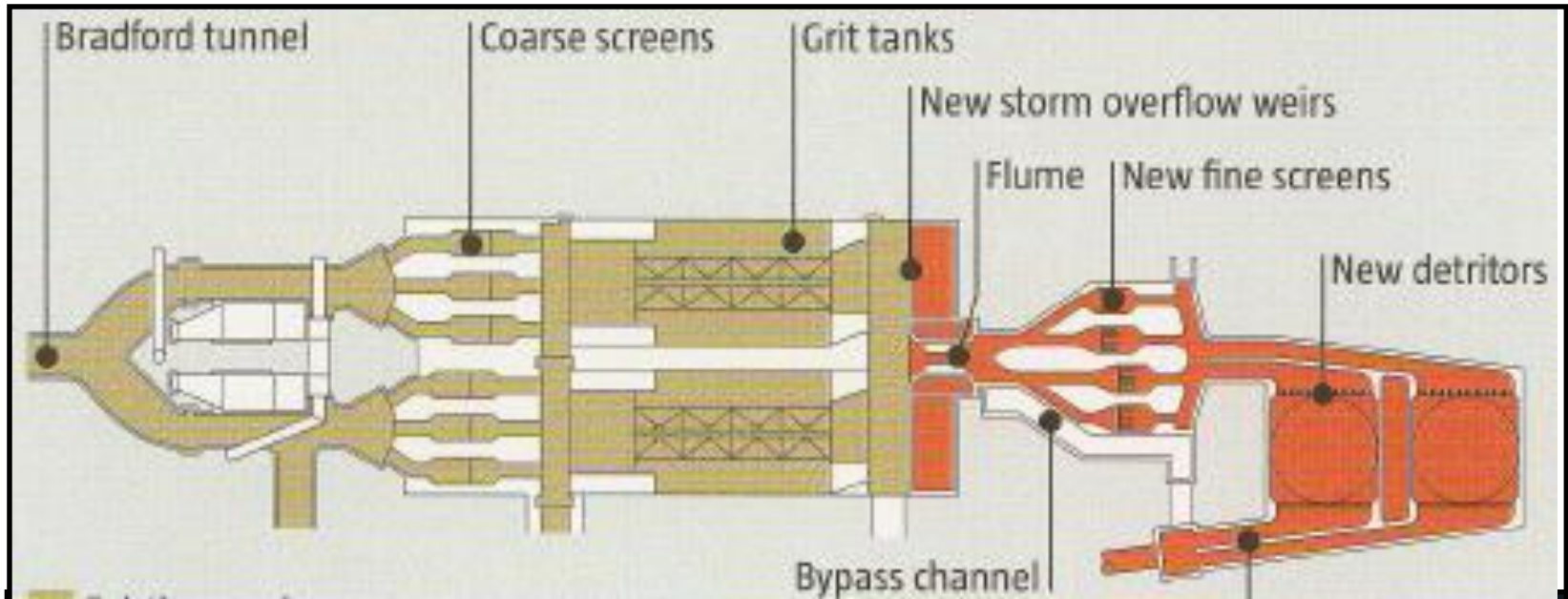




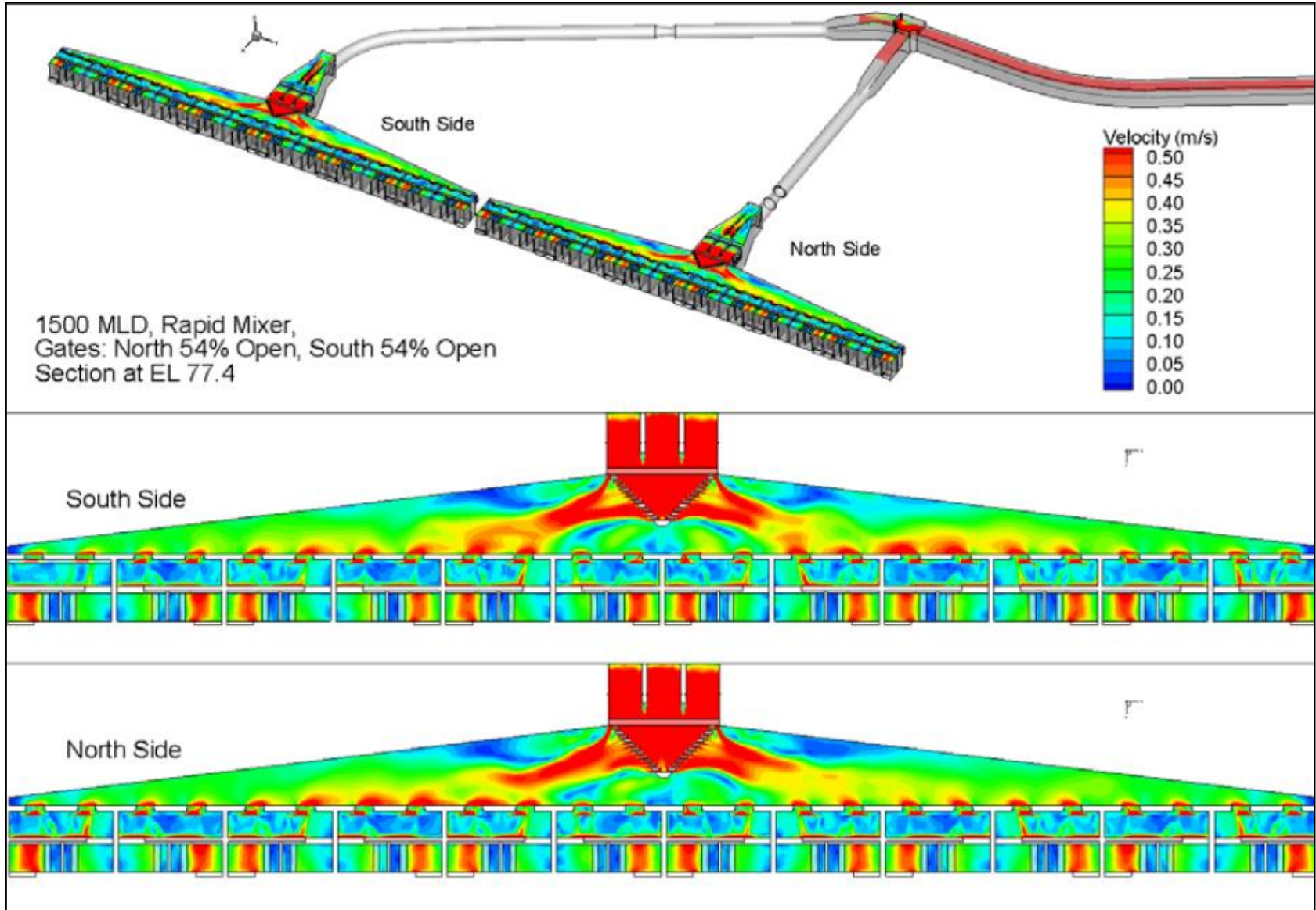




# Transferring the knowledge - UK



# Transferring the knowledge - Philippines





# NBAQ4 Water Transfer Tunnel – 7.3km, 3.5m ID



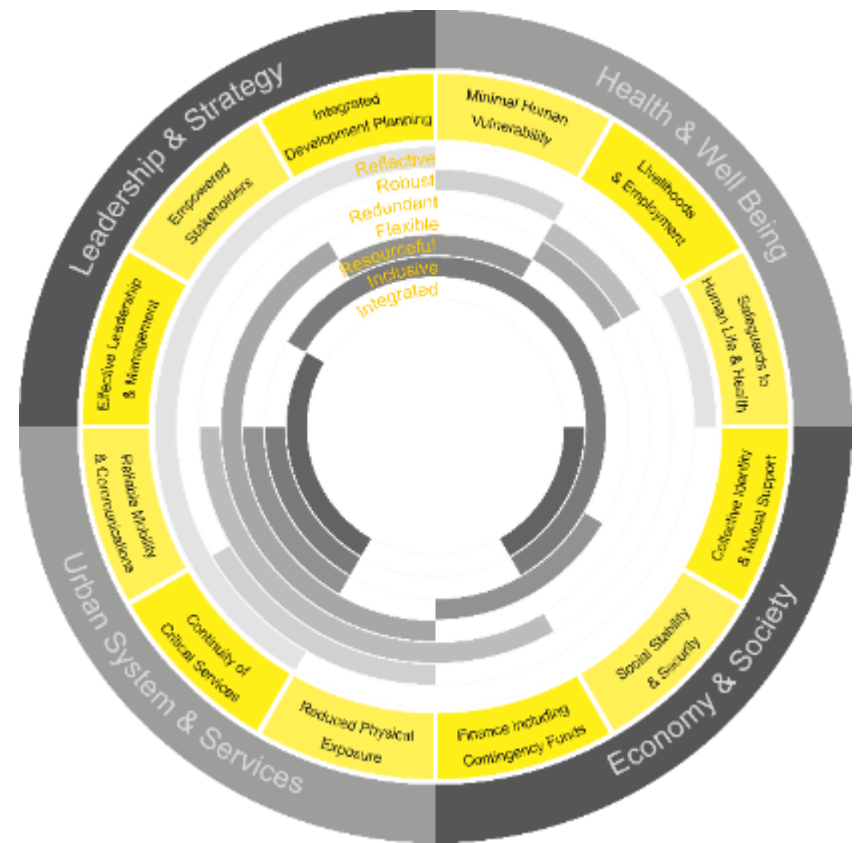
# Working across the water cycle





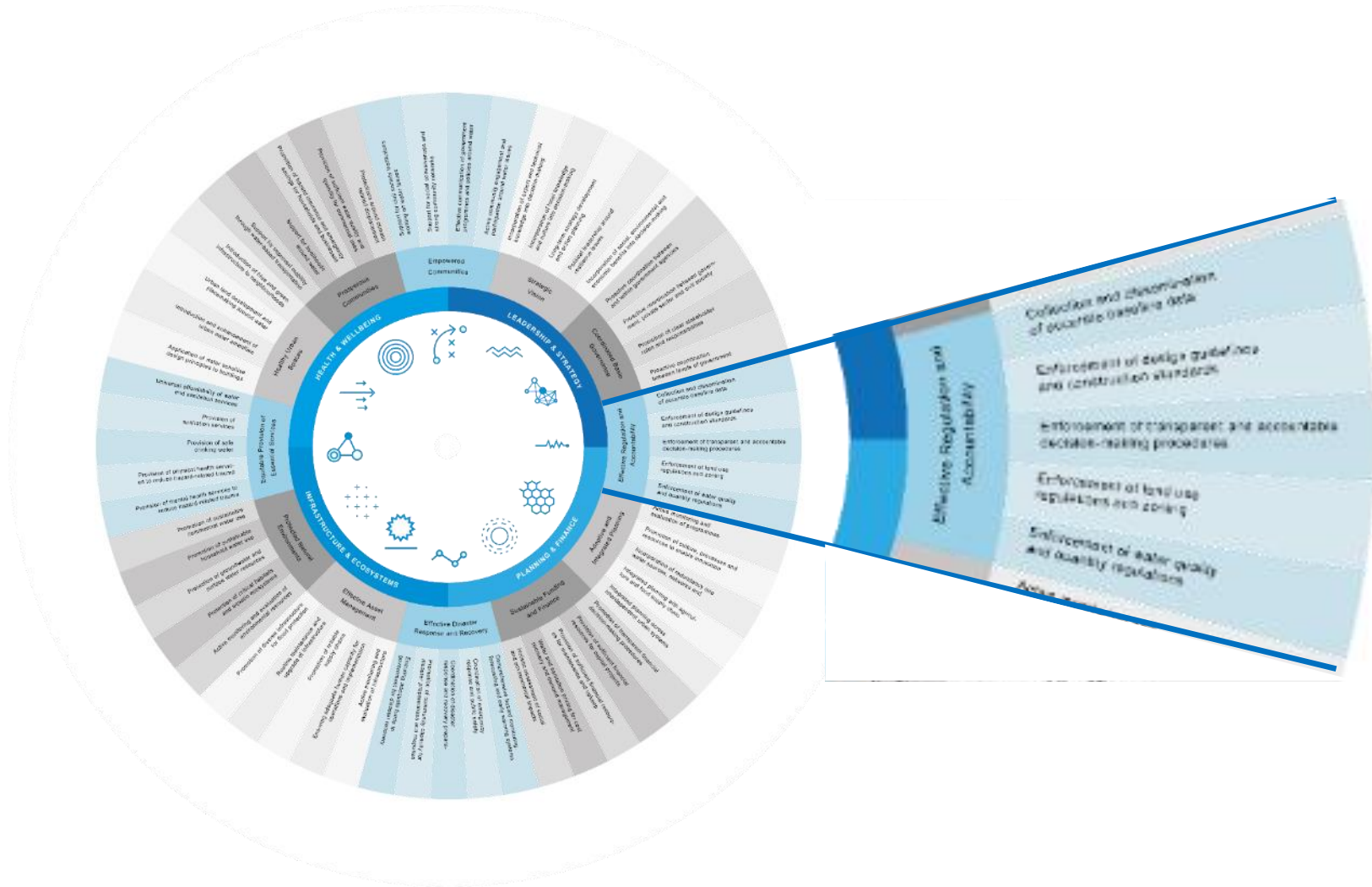
# Resilience

Urban management, techniques and systems to ensure cities can respond to shocks and stresses (foreseen or otherwise)





# City Water Resilience Framework



# A Framework for Resilience: PR19 and Beyond

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## OUR RESILIENCE FRAMEWORK



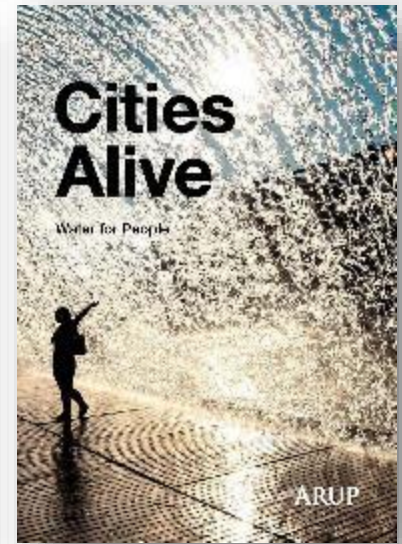
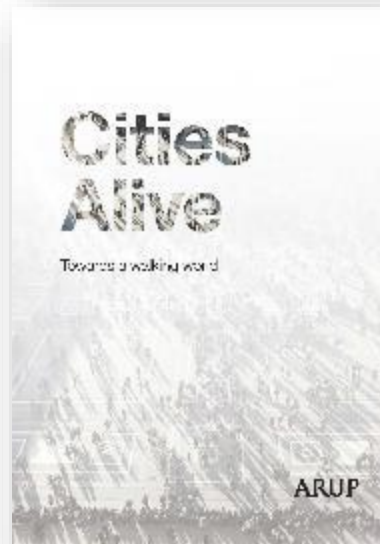
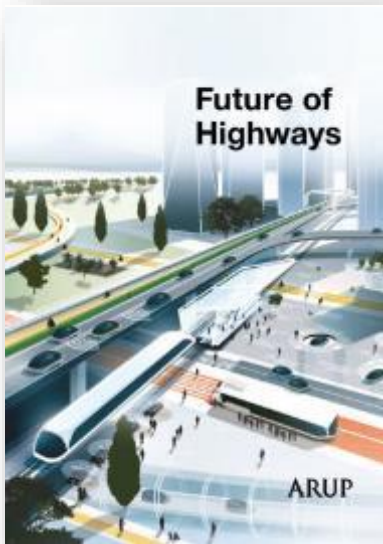
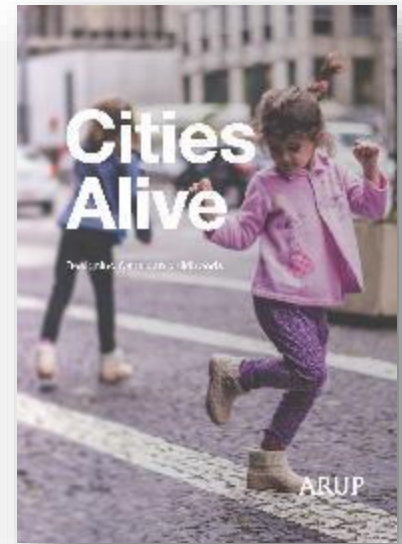
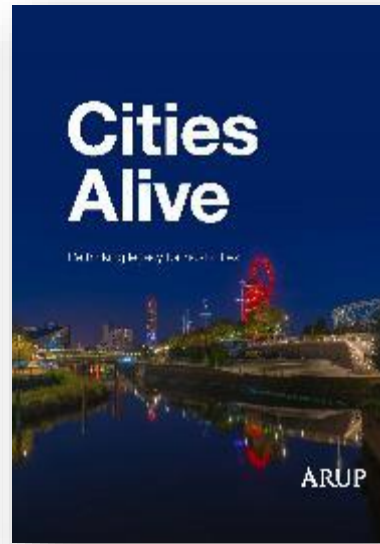
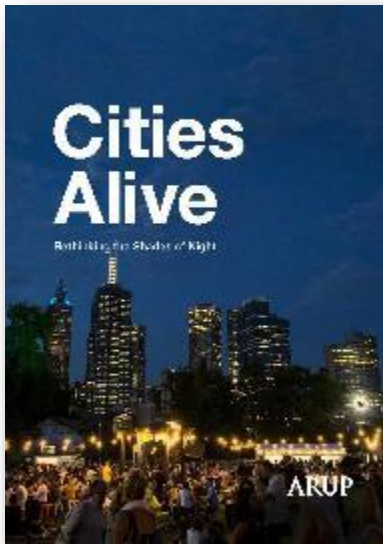
## CUSTOMERS



Test Area	Water and sewerage companies										
	Anglian Water	Dŵr Cymru	Hafren Dyfrdwy	Northumbrian Water	Severn Trent Water	South West Water	Southern Water	Thames Water	United Utilities Water	Wessex Water	Yorkshire Water
Engaging customers	A	B	C	B	B	B	C	C	B	B	B
Addressing affordability and vulnerability	B	B	D	B	B	B	B	C	A	B	C
Delivering outcomes for customers	B	C	D	C	C	B	C	C	C	C	C
Securing long-term resilience	C	C	D	C	C	B	D	D	B	C	C
Targeted controls, markets and innovation	B	C	C	C	C	C	C	C	B	B	B
Securing cost efficiency	D	D	B	C	B	B	D	D	B	C	C
Aligning risk and return	C	C	D	B	C	B	C	C	C	D	C
Accounting for past delivery	B	C	D	C	B	D	D	D	B	B	B
Securing confidence and assurance	D	A	C	C	B	C	C	C	B	C	C

Figure 4: The Anglian Water Resilience framework

# Examples of thinking to develop solutions ([link](#))





Our ambition is to shape a better world.  
That is why we strive to go further than just delivering the most high quality creative work for our clients. We also aim to leave a lasting and sustainable legacy for the future.



