

# Emerging governance concepts and the needs for a system-based approach

James Airton, United Utilities



# MORE THAN JUST WATER

This is what it takes to serve  
7 million customers every day

 **57,000** hectares of catchment land

 **72,000** km of sewers

 **7 million** customers

 **96** water treatment works

 **184** reservoirs

 **575** wastewater treatment works

 **1,400** km of aqueducts

 **42,000** km of water mains

 ...And around **5,000** skilled employees

# Traditional investment in catchments



**Leads To** →

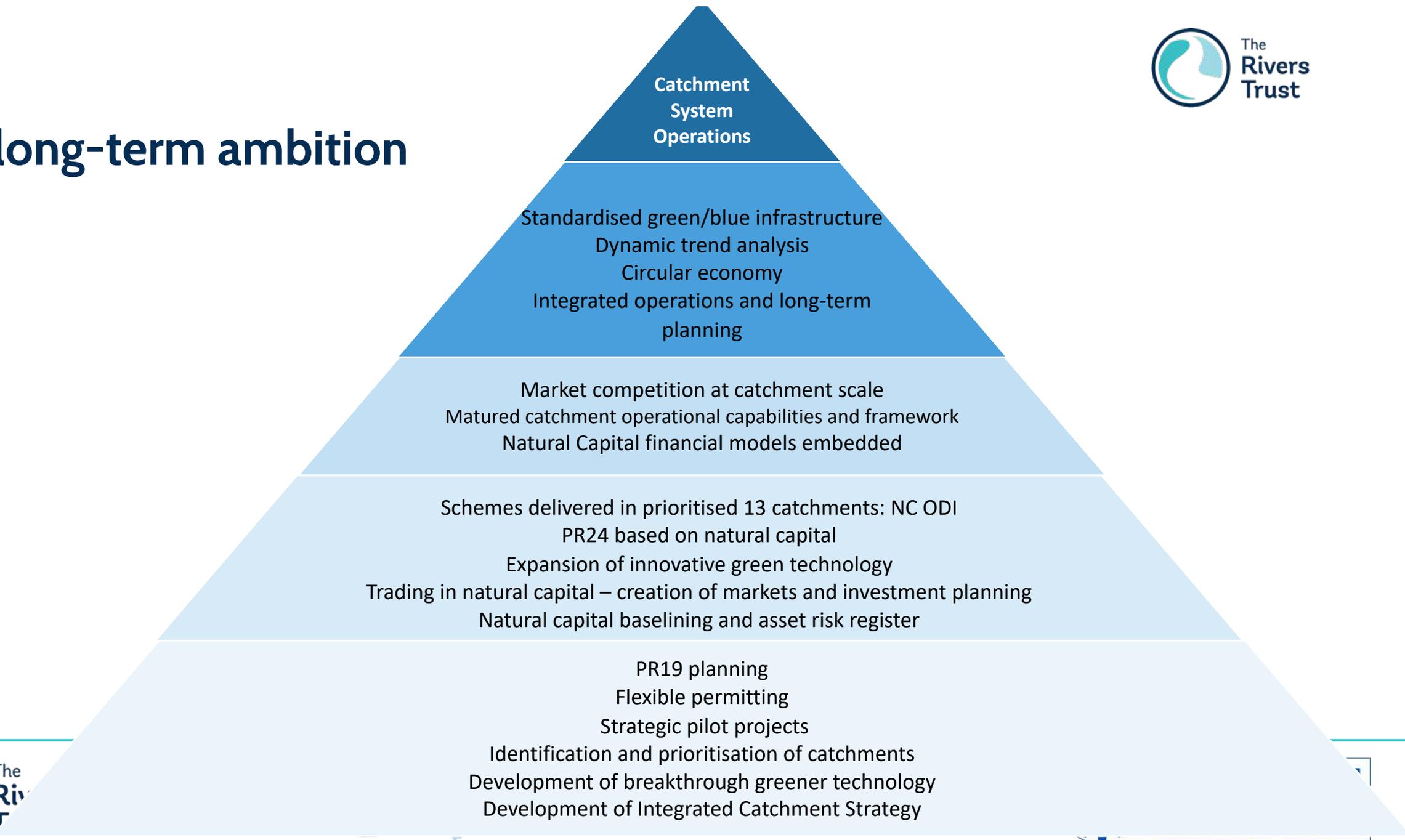
- Hard engineers solutions
- High confidence in delivery
- Asset focused investment
- Narrow focus of delivery
- Few multiple benefits
- Limited natural capital improvements

- To consider what is best for the environment and communities, integrating risks and driving multiple natural capital benefits that deliver improvements to:
  - Water quality
  - Flooding
  - Future development and population growth
  - Resilience
  - Socio-economic impact
- To develop better ways of working through co-governance, collaboration and partnerships, sharing investment and risk
- To drive affordable solutions for water bill payers
- To reduce uncertainties around catchment management
- To promote natural capital and environmental stewardships

## Why a systems thinking approach?

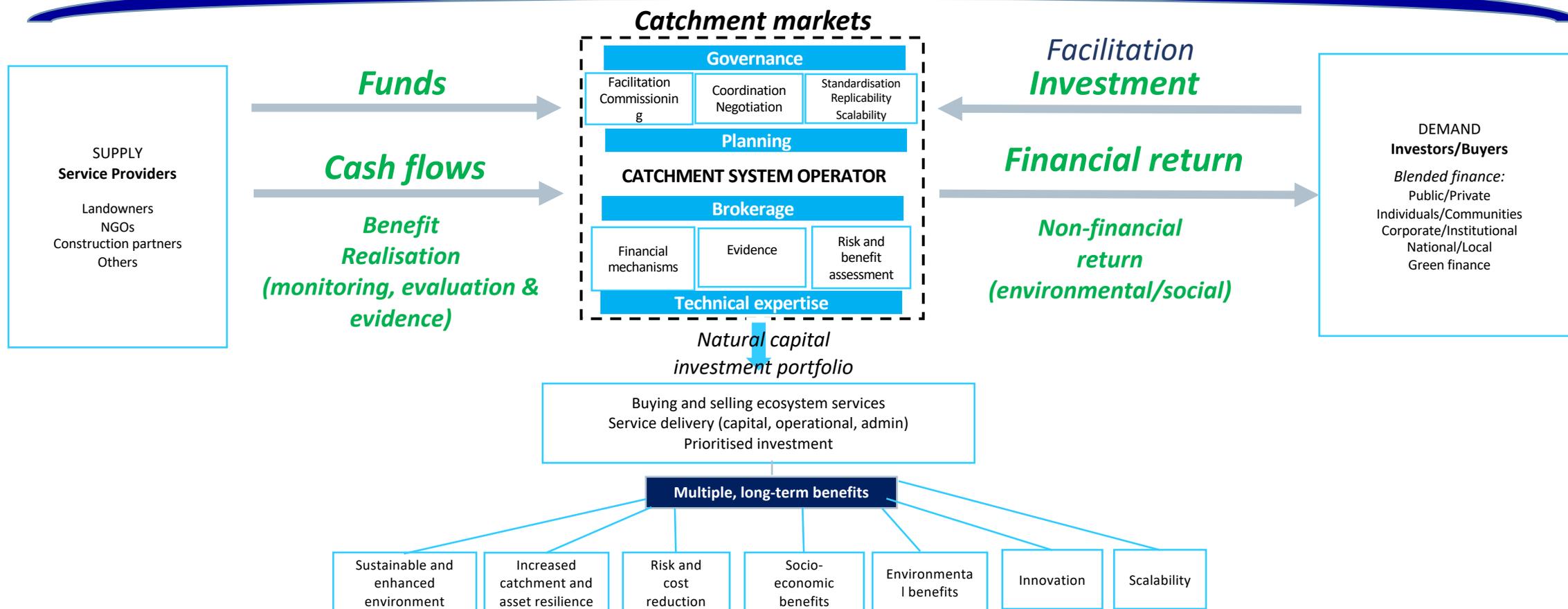


# Our long-term ambition



# Catchment system operation in a market concept

Regulatory and Strategic steer



Evidence gathering and risk assessment

# Eden catchment: applying a systems thinking approach

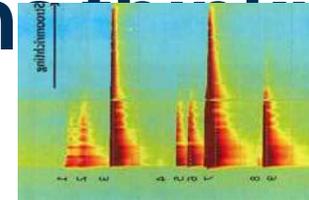
Enhanced modelling:

- Natural Capital
- SAGIS
- JFlow
- Scenario PLANNING
- Farmscoper



Innovation

- Greener low tech P treatment
- Fibre optic sewer technology
- Natural capital pilot



## Challenging status quo

- CBA and technical review of water quality targets (reducing uncertainty)
- Flexible permitting approach
- New operating agreement

## Multiple benefits

- Savings to UU customers: >£13m efficiencies
- Initial £300k investment leveraged £120k of match funding through our partnership
- Prioritised interventions that deliver multiple benefits to: water quality, land management and flooding
- Combining catchment interventions with assets at the WwTW to deliver beyond UU's fair share reduction of phosphorus (10% extra)
- Natural capital benefits: £1.7m

## Intensive monitoring

- Sampling (230 spot samples)
- Real-time monitoring
- BASELINING:
- Catchment characterisation

River Petteril

## Collaborative working

- Prioritisation of needs
- Co-development of vision
- Co-delivery
- Match funding
- Community engagement
- Catchment system operation proof of concept



Validation with stakeholders

Collaboration  
+  
Integrated approach  
=  
Sustainable outcomes

# Achieved so far?

Additional phosphorus reduction beyond targets



## Integrated catchment management

- Assessment of the catchment's natural capital value
- Engagement at catchment scale
- Decision making with multiple stakeholders
- Development of a catchment market concept
- Long-term vision of catchment system operator



## Value for customers

- Best service to customers
- At the lowest sustainable cost (>£13m efficiencies)
- In a responsible manner
- Leveraged funding

## Environmental improvements

- Achieve our regulatory objectives
- Working with farmers and stakeholders to improve water quality beyond our assets
- Integrating additional natural capital benefits
- Working with regulator to review CBA and develop flexible approaches to permitting

## Collaborative Working



# Next Steps – Making the Trade

- Created a joint value chain between UU and Nestlé
- Established joint drivers and what we would like to achieve

## Step 3

- Add other organisations to this value chain
- Create additional value chains delivering broader natural capital

## Step 2

- Developing a joint investment pot
- Working with supply aggregators and advisors to raise awareness of the potential to sell services
- Developing the mechanics of the trades



# Creating markets across the North West

## Eden rural pilot

Developing a catchment market in a rural landscape by co-investing at catchment scale to deliver water quality and land management benefits

## Wyre NFM pilot

Modelling NFM interventions for multiple benefits and developing a market to drive investment for catchment and property resilience

## Bolton urban pilot

Identifying co-investment to improve natural capital across an urban catchment, including: water quality, flooding and development

## IGNITION

Developing investment structures to deliver a step change in the development of green infrastructure

## Cheshire Catchment Pilot

Developing joined up operations across multiple stakeholders, sharing risk, investment and delivery



