

Greening the Network: applying the 5 Capitals in expenditure planning

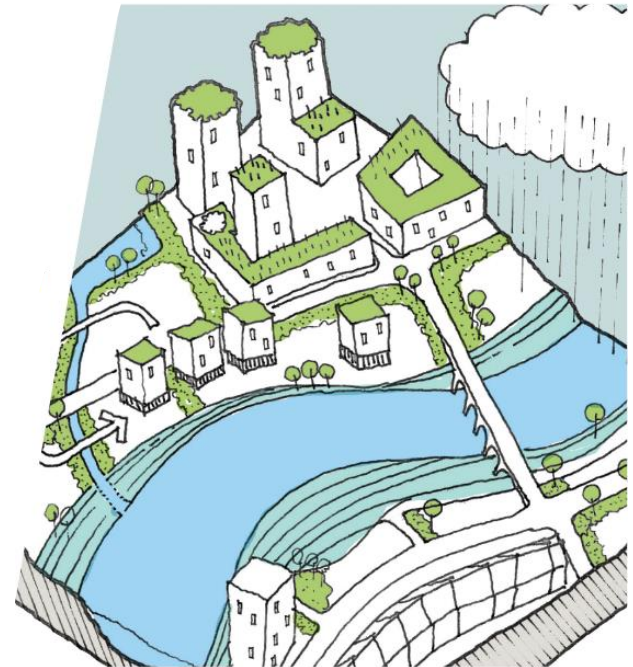
Heather Sheffield, Yorkshire Water

Adrian Rees, AECOM



Outline – greening the network

- A look into the future
- Where have we come from?
- What is the state of play in the water sector?
- How is YW leading on this?
- What might the implications be?



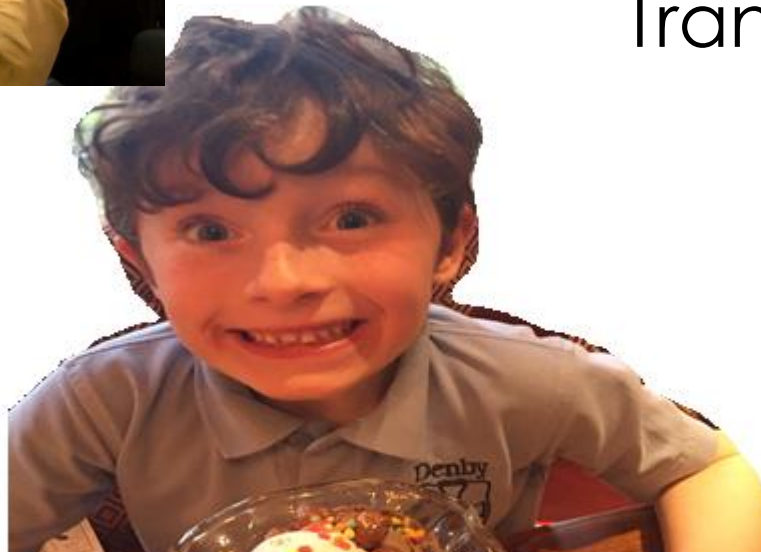
Communications Energy

2015



Transport

Weather



2017

Communications



Energy



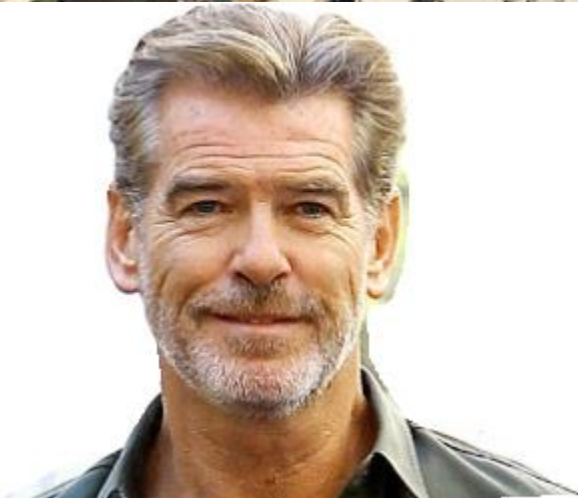
Weather



Transport



2065





Putting water back in the urban landscape



Value

Accept

Interact

Greening the network – where have we come from?

- “How can you not put a price on something as invaluable as the environment when most people act as if it is free? Pricing the environment forces people to recognize that the environment has value.”

[Professor Tim Haab, 2007]

- “Arguing that the natural world is priceless is deeply mistaken. How much is a skylark worth? Well it clearly isn't zero, but nor is it infinite... being more precise than this about their value is tricky (to put it mildly)”

[Sir John Lawton, foreword to Defra PES guidance, 2013]

- “We demand rigidly defined areas of doubt and uncertainty” [Douglas Adams]

Greening the network – where have we come from?

– So why value water?

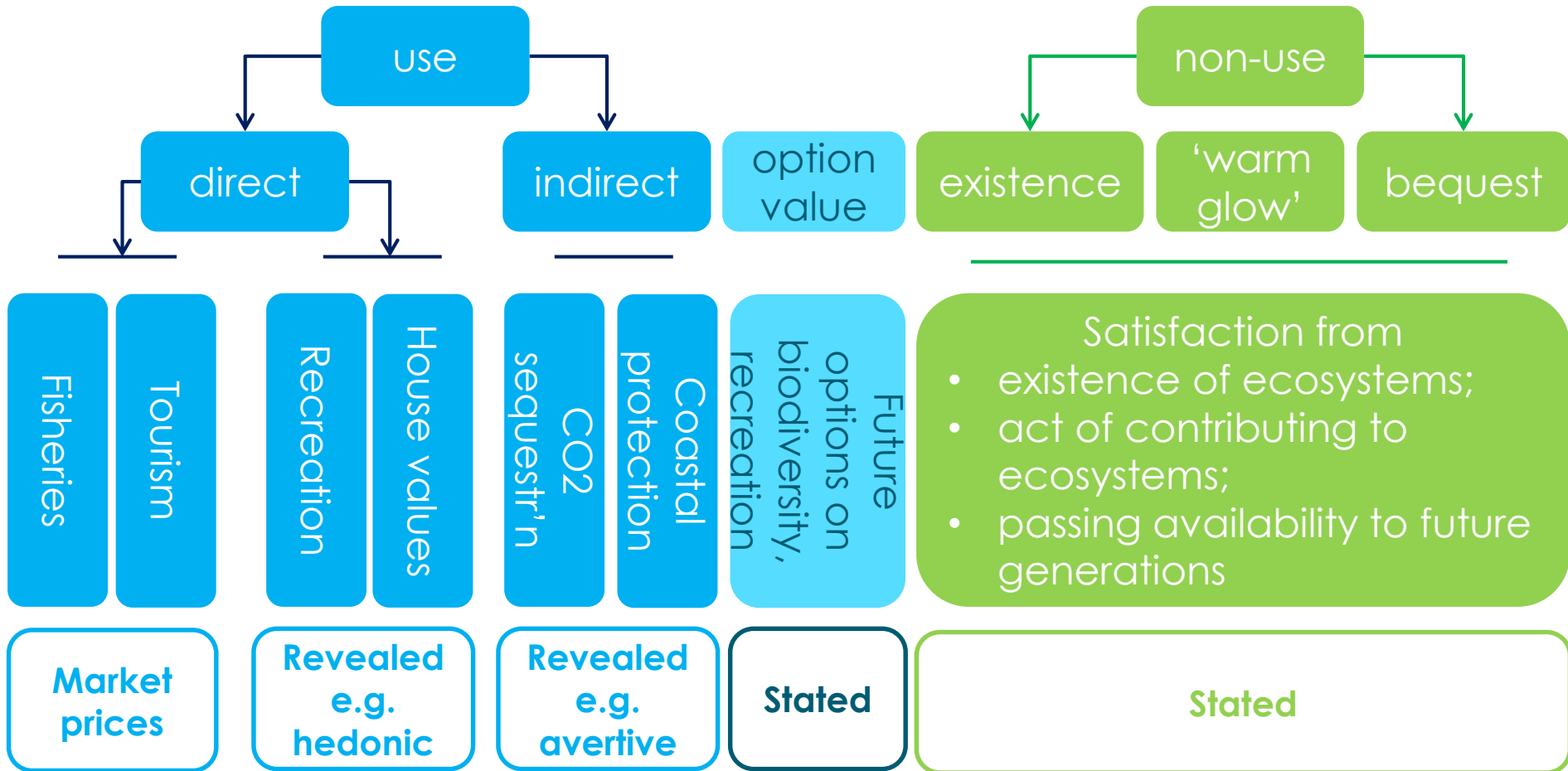
- Assigning values to things tilts our decisions and behaviours
 - what order should we deal with things?
 - when should we do them?
 - what's worth doing (and what isn't)?
- If we don't explicitly value something - we implicitly assign value(s) **anyway**

What matters more?



Greening the network – where have we come from?

– Forms of value and how they're valued



Greening the network – where have we come from?

– Past & current valuation techniques in the sector

- Qualitative engagement with customers;
- some multi-criteria weightings in CEA

PR'99

- Widespread adoption of SP;
- varying quality of application to expenditure planning CBA

PR'09

- Post-PR'14 criticism by Ofwat of “disproportionate reliance” on SP;
- direction to combine with RP and other forms of value e.g.
 - games-based elicitation
 - Natural Capital

PR'19



- 1st application of Stated Preference (SP) in expenditure planning CBA (by YW);
- still mainly qualitative

PR'04

- Customer valuation now a requirement;
- also used to set Outcomes Incentive rates (scale of penalties / rewards)
- some attempts at Ecosystem Services

PR'14

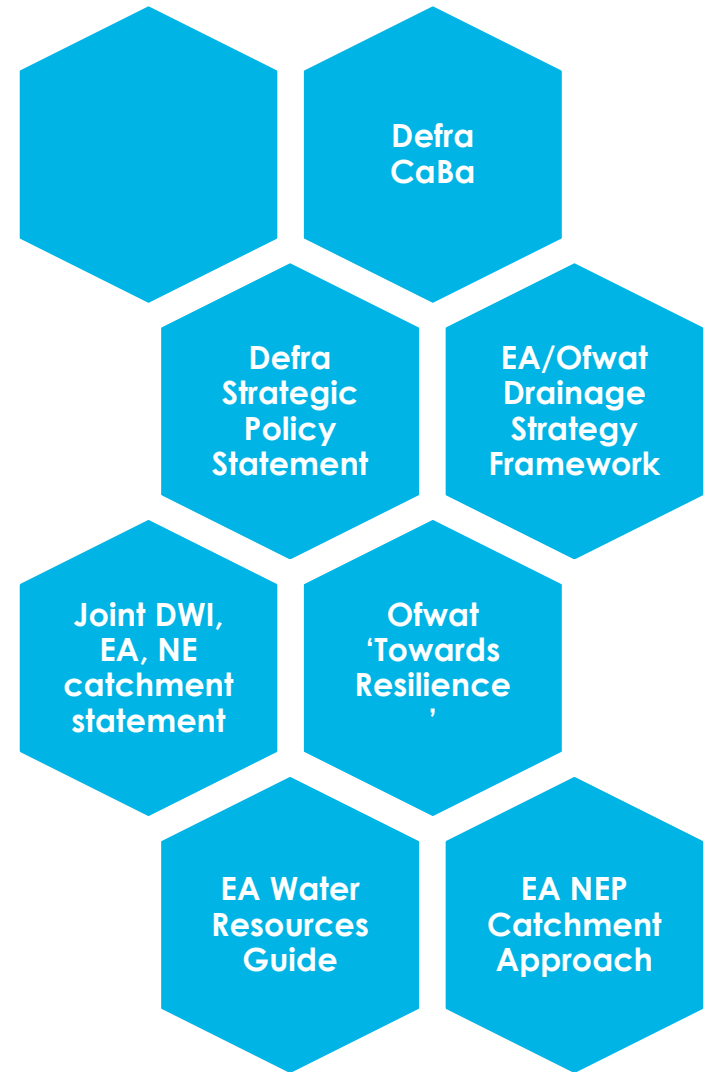
- 5 Capitals
- Virtual reality based?
- Market derived (competition)?

PR'nn



Greening the network – state of play in water sector

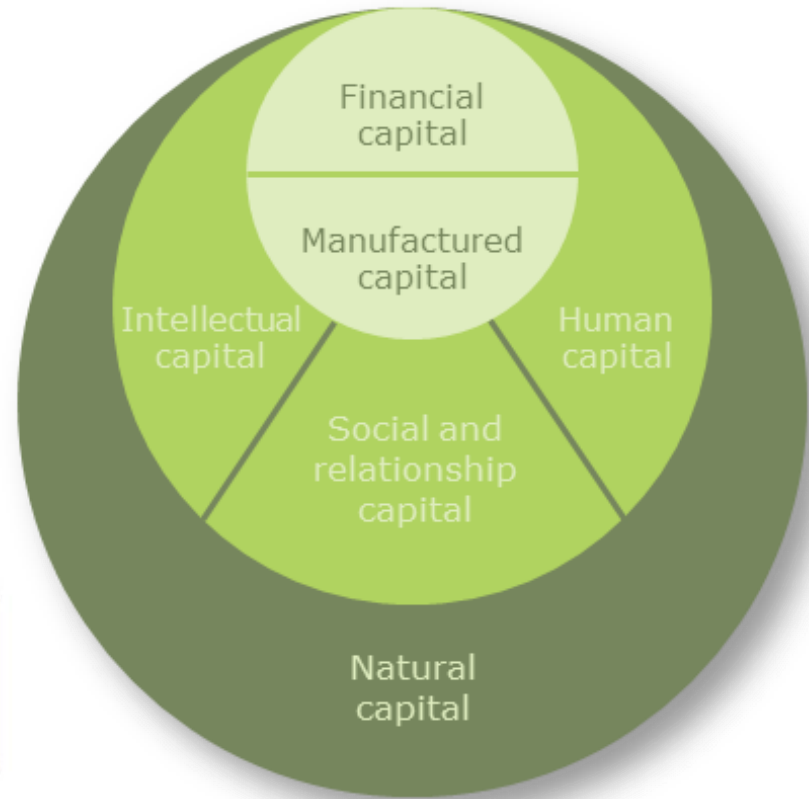
- Ecosystems and communities seen as key in delivering resilience (one of Ofwat's 4 themes at PR19)
 - “new approaches are required to... enable innovation and better ways of using scarce resources, which include customers' money, investment capital and natural capital”
 - “clear opportunity... to be innovative in... evaluating alternatives to traditional engineering approaches”



Greening the network – YW's application of 5 Capitals

– How is YW leading on this?

- A4S / Natural Capital Coalition / Infrastructure Carbon Review
- Decision Making Framework



What are our options? We need to compare built & financial capitals with natural, social & human capitals



Linking asset performance with economic values to inform expenditure decisions – a Five Capitals view: defining risks

Asset failure

Service effects

Values

environmental, social & business costs

Natural

Social

Human

Financial

Sewer surcharge (or collapse)

property flooding

external flooding

pollution incident

traffic disruption

Linking asset performance with economic values to inform expenditure decisions – a Five Capitals view: assigning benefits

Intervention options

Service effects

Values

environmental, social & business benefits



- property flooding →
- external flooding →
- pollution incident →
- traffic disruption →

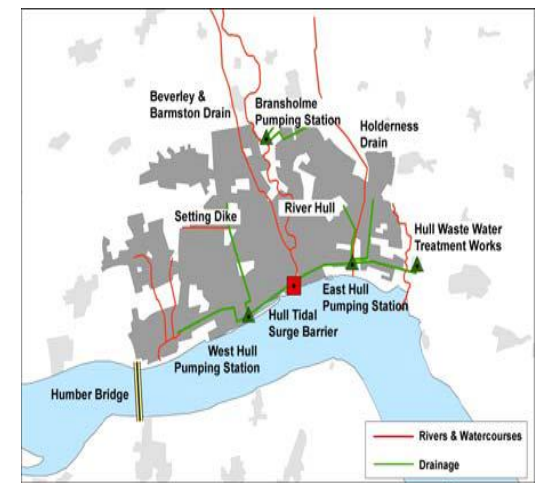
- recreation →
- amenity →
- wellbeing →
- carbon →

	Natural	Social	Human	Financial
property flooding		✓	✓	✓
external flooding		✓	✓	✓
pollution incident	✓	✓		✓
traffic disruption		✓		✓
recreation				
amenity				
wellbeing				
carbon				



Hull – a place shaped by water

- Low lying – city below sea level
- Drainage system
 - Summer floods 2007; Coastal surge 2013



We had to go live at my nanna's.



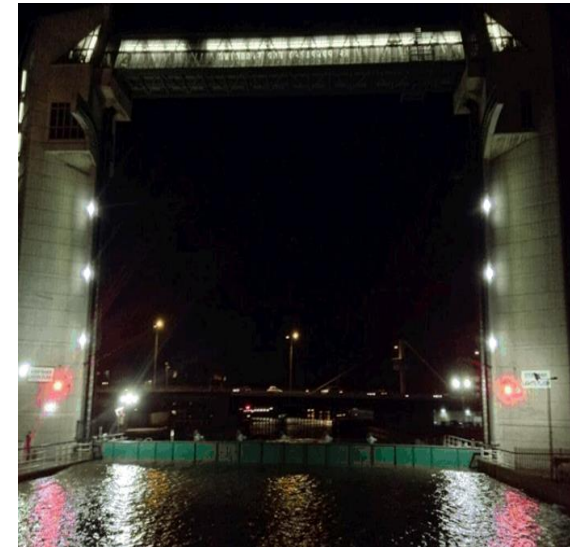
We lived in a caravan.



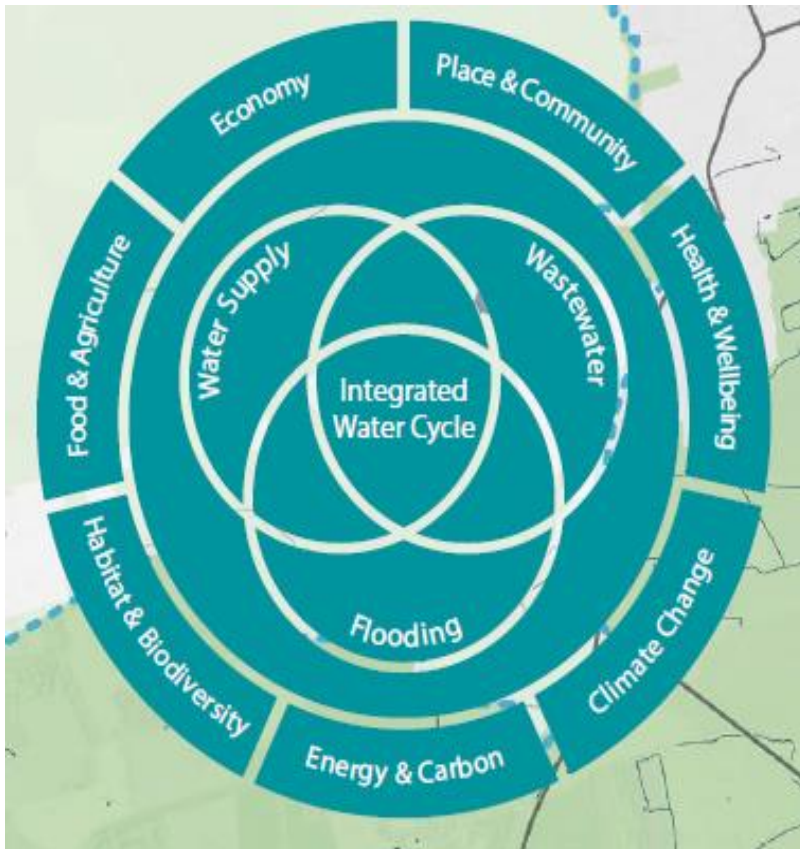
My Houses



Drawings by children affected by the 2007 Hull floods



Hull - A water plan



- A new way of thinking – thinking more broadly about our service offering and its place in the water cycle and society
- Opens up opportunities for new conversations, with a new group of stakeholders
- A new approach to engaging with our customers (as citizens and as a key part of solutions)

Greening the network – potential implications

- What might the implications be?
 - Co-creation & co-delivery – #tappedin to SC/NC
 - Skillsets & capabilities
 - Regulatory & competitive effects
 - Effectiveness
 - Certainty / confidence
 - Ownership & operation
 - Where does the network end?
 - What is an asset?



Thank You

Month Day, Year