Managing uncertainty in water availability

The case of abstraction reform

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Water Services
The problem: Wide range of uncertainty around future water availability

The answer:
- Modelling future scenarios
- Adaptive institutions
The tool: ABM modelling to do scenario analysis

A combined Hydrological and Economic Behaviour Model

Three policies under a range of climate and socio-economic scenarios

Catchment Topology and Climate

Hydrology

Regulatory system – rules & interventions

Real world decision making

Supply and demand Trading and prices Investment decisions

Costs, benefits, risks

Risk Solutions Lead Consortium
The Results under different scenarios
Principles for Adaptive institutions

▪ Create a range of enabling tools e.g.
  ▪ Trading rules
  ▪ Share accounting framework
  ▪ Flexible flow control mechanisms

▪ Adaptive institutional arrangements – catchment rules

▪ Focus on places with immediate needs and opportunities
  ▪ Trial and learn

▪ Link in with emerging trend towards catchment management
Summary Approach

- Understand range of uncertainty
- Develop range of tools to mitigate risks
- Create adaptive institutions
- Focus learning where immediate issues
- Adapt and expand overtime