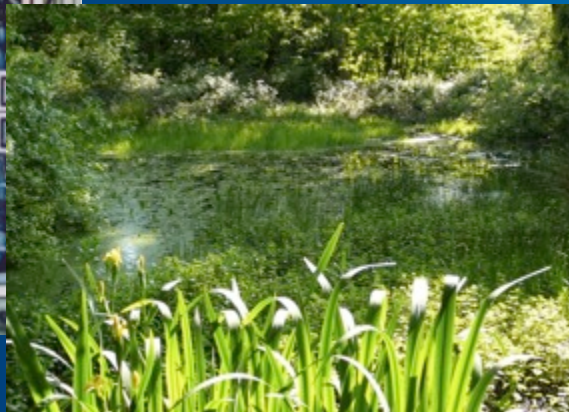
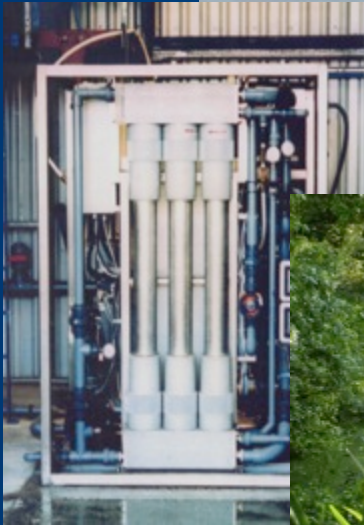


# Water Supply Chain & New Technologies

British Water  
Ian Bernard

iWATER Conference 2012  
13<sup>th</sup> November, Cambridge

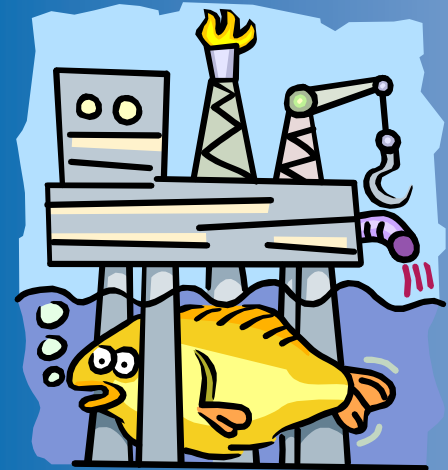
[www.cir-strategy.com/events/water](http://www.cir-strategy.com/events/water)



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# Overview of Presentation

1. Overview of the Water Industry Structure
  - a) Legislation
2. Technical Innovation
  - a) Road map & priorities
3. Value Chain
  - a) Financial help & Barriers
4. British Water Innovation Exchange
  - a) Markets & UK Strengths



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# British Water — Water Supply Chain Trade Association

## Who?

1. Not-for-profit Company limited by Guarantee
2. Funded by members and commercial activity
3. British Water established in 1993
4. Corporate rather than individual members

## Aims

1. To support our members' business
2. To represent our members interests
3. To promote best practice

## Benefits

1. Information
2. Contact and Networking
3. Representation
4. Best Practice
5. Cost Savings

## How?

1. UK Forum
2. International Forum
3. Technical Forum



1 Queen Anne's Gate  
St James' Park, London

## Membership 200+

ABB  
Grundfos Pumps  
Huber  
Kubota Membranes  
Mono Pumps  
Memcor  
Pall Europe  
Polypipe Civils

Arup  
Atkins  
AECOM  
Grontmij  
Halcrow  
Jacobs  
Mouchel  
Mott MacDonald

AMEC  
Barhale  
Biwater  
Black & Veatch  
Costain  
Clancy Docwra  
GE Water  
Veolia Water



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# UK Water Services Industry – Key Legislation

## Public Health

### 1989 The Water Act

#### 1. Privatised Water Services industry

- 10 Water Utilities
- 28 Private water- only companies

#### 3. Monopolies so needed regulation for economics, abstraction licensing, discharge consents, drinking water quality standards etc

#### WATER SERVICES REGULATORS

- Ofwat (Office of Water – Economic Regulator)
- EA (Environment Agency – Environmental regulator)
- DWI (Drinking Water Inspectorate)

#### OTHERS

- Consumer Council for Water
- DEFRA (Department of Environment, Food and Rural Affairs)
- Water Supply Chain
- Water UK
- UKWIR

### 2000 The Water Supply (Water Quality) Regulations

### 2010 The Water Supply Regulations

### 2012 Water Bill (White Paper)

- Upstream
- Water resources

\*\*\*\*\*

- Potable water treatment
- Potable water supply
- Sewerage system
- Sewage treatment

\*\*\*\*\*

- Flooding & Drainage
- Water pollution control



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# UK Water Industry - Key Legislation

## Environmental Health

**1995**

### **Environment Act**

Environment Agency (EA) created (inc. NRA)

**2000**

### **Water Framework Directive**

Establish a framework for the protection of surface waters and ground waters throughout EU

**2008**

### **Climate Change Act**

Adaptation and Mitigation to climate change

**2010**

### **Floods and Water Management Act**

Manage flood water and drainage (SuDS)

**2012**

### **Natural Environment White Paper**

- » Protecting and improving our natural environment
- » Growing a green economy
- » Reconnecting people and nature
- » International and EU leadership

**2012**

### **Water White Paper**

- » Abstraction
- » Water Efficiency
- » Affordability
- » Competition



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# Water Industry Websites

## Policy

1. DEFRA - Department for Environment, Food and Rural Affairs  
[www.defra.gov.uk](http://www.defra.gov.uk)

## Regulators

1. EA – Environment Agency  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)  
Water pollution control, Licensing, Regulations
2. OFWAT – Office of Water Services  
[www.ofwat.gov.uk](http://www.ofwat.gov.uk)  
Price controls, quality of customer service
3. DWI - Drinking Water Inspectorate  
[www.dwi.gov.uk](http://www.dwi.gov.uk)  
Quality of potable water, standards

## Water Utilities

1. Thames Water, Anglian Water etc
2. Water UK  
[www.water.org.uk](http://www.water.org.uk)

## Supply Chain

1. British Water  
[www.britishwater.co.uk](http://www.britishwater.co.uk)



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# Innovation

Talking about innovation for a number of years

## Companies must Innovate

- In a world of change and competition **innovation is essential**.
- **All businesses need to innovate**, though it may take any number of forms, from the steady refinement of established products to the leap in the dark when an untried idea is launched.
- Whether introducing new technology, getting people to work in new ways or creating new products, **you must innovate to survive**.

## Definition

- **Invention** refers directly to the **creation of the idea or method** itself.
- **Innovation** refers to the **use of a novel** idea or method,

## Industry Collaborates with the Supply Chain

- Innovation
- Sustainable
- Collaborative





2007

2015

2050

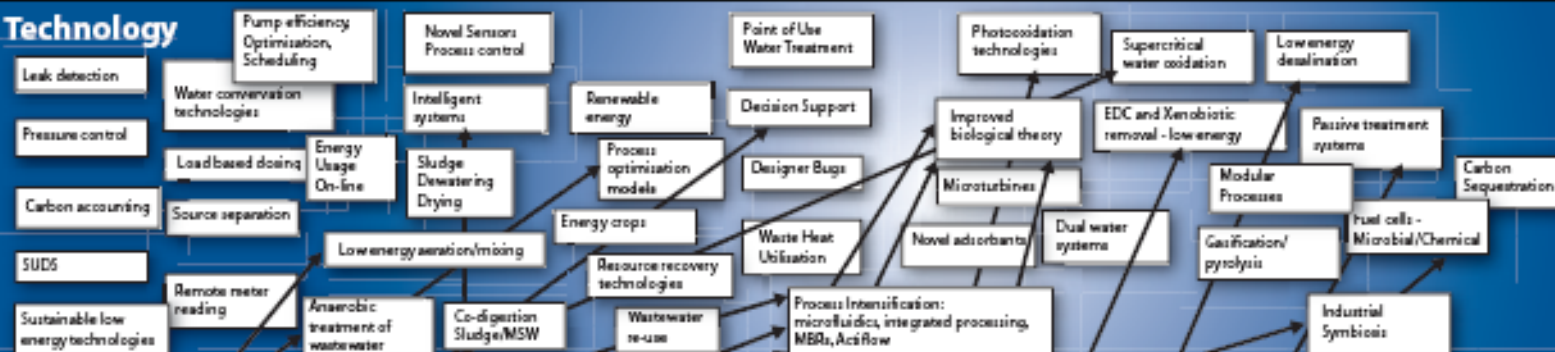
## Market Drivers



## Target

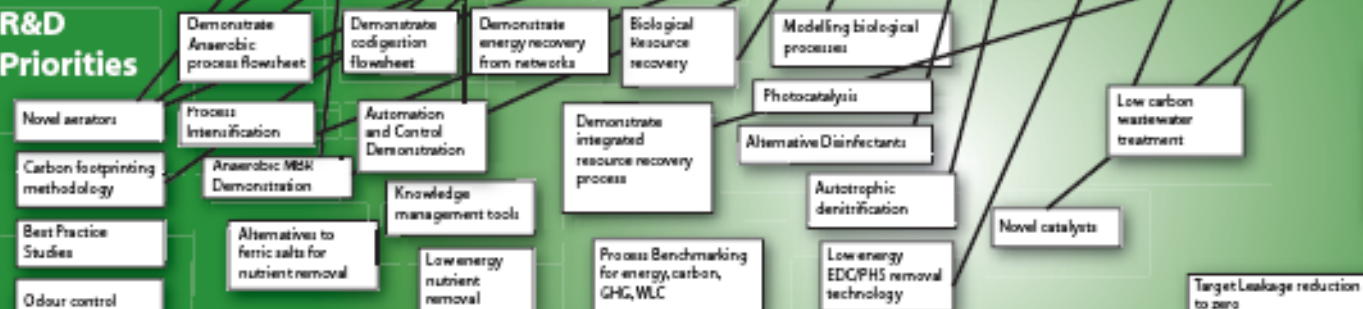
To enable a paradigm shift in water industry systems, by considering water and waste treatment holistically across all sectors as community resource recovery processes which are flexible and responsive to rapidly changing global challenges, thereby contributing to the UK's carbon reduction target of 60% by 2050, whilst minimising the impact on the environment, and not compromising public health and quality standards.

## Technology



**Key Point**  
Many technologies which are in common use in other parts of the world are often not applied in the UK because of lack of financial incentives or perceived regulatory barriers

## R&D Priorities



• A National Evaluation and test facility is needed to convince end-users that supply chain offerings will be efficient and compliant



# Innovation priorities water services sector

## 1. Water Sector Innovation Leadership Group (Defra)

1. Reducing leakage
2. Adapting infrastructure to a changing climate
3. Environmental pollution prevention
4. Sustainable drainage
5. Increasing efficiencies in treatment processes and waste management
6. Comprehensive underground asset mapping
7. Smart metering
8. Sustainable abstraction



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# Innovation priorities for the water sector

## 2. UK Water and Innovation Research Framework (UKWRIP) Professor Sir John Beddington (Gov. Office for Science)

1. Valuing water
2. Infrastructure resilience
3. Hazard risk management
4. Integrated water resource management
5. Safe water and sanitation for all
6. Research, innovation and economic growth



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# British Water Innovation Exchanges – Brokerage

## Process

- End user identifies needs
- 30 to 40 SME presentations
- Discussion and Feedback
- Networking

## Aims

- Decision Makers
- Networking
- Communication
- Knowledge Exchange
- Collaboration for Demonstration

## BWISE Database

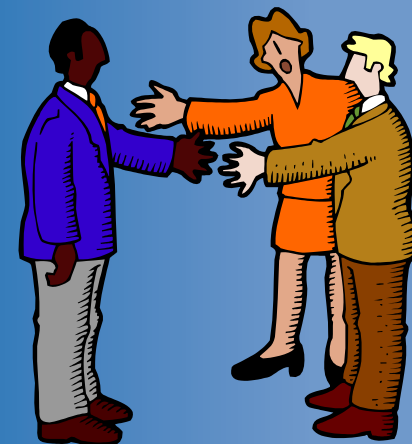
- Database of Emerging technologies
- *BWISE - 100 new technologies*

## Completed

- Yorkshire Water
- Southern Water
- South West Water
- Scottish Water
- WWEM Conference

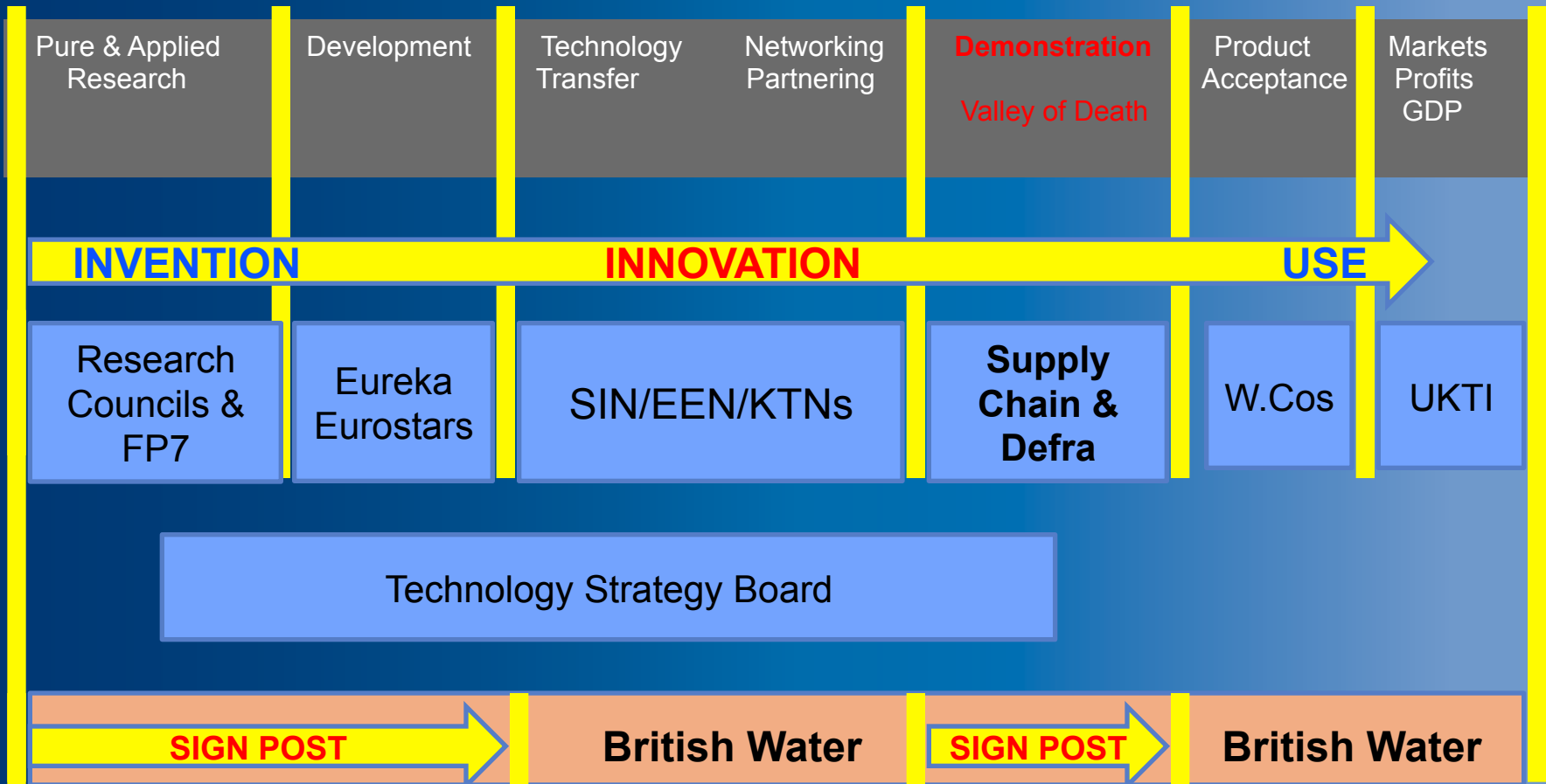
## Planned

- Welsh Water
- Thames Water
- First Tier Contractors
- First Tier Contractors2



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# Value Chain – Innovation and markets



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# UK Water Markets

## For Supply Chain

UK Water Market Capex  
about £10 billion per year

Internationally  
£500 billion per year



*Courtesy of TSB - Unvalidated*



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# UK Water Sector Strengths

UK-based engineering consultancies, contractors and manufacturers provide a full range of services and products, including:

## Water Supply and Sanitation

- Water treatment
- Wastewater treatment
- Desalination
- Water asset management
- Micro and community-scale solutions
- Water resources management.
- Build, Develop, Fund and Operate contracts.

## Sustainable Surface Water Management

- Flood-modelling
- Catchment management
- Flood defences
- Provision of flood warning systems
- Provision of wetland systems



The 60 Mld, water treatment facilities at Yanjiao Bulk Water  
(Courtesy of Biwater Ltd.)



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Monster Soup

# Thank you for listening

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- **[www.britishwater.co.uk](http://www.britishwater.co.uk)**



Houses of Parliament Westminster

'The Great Stink' 1858