

Opportunities for Innovation in the Water Industry

iWater Conference – 2012

www.cir-strategy.com/events/water

13th November 2012

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Head of Innovation

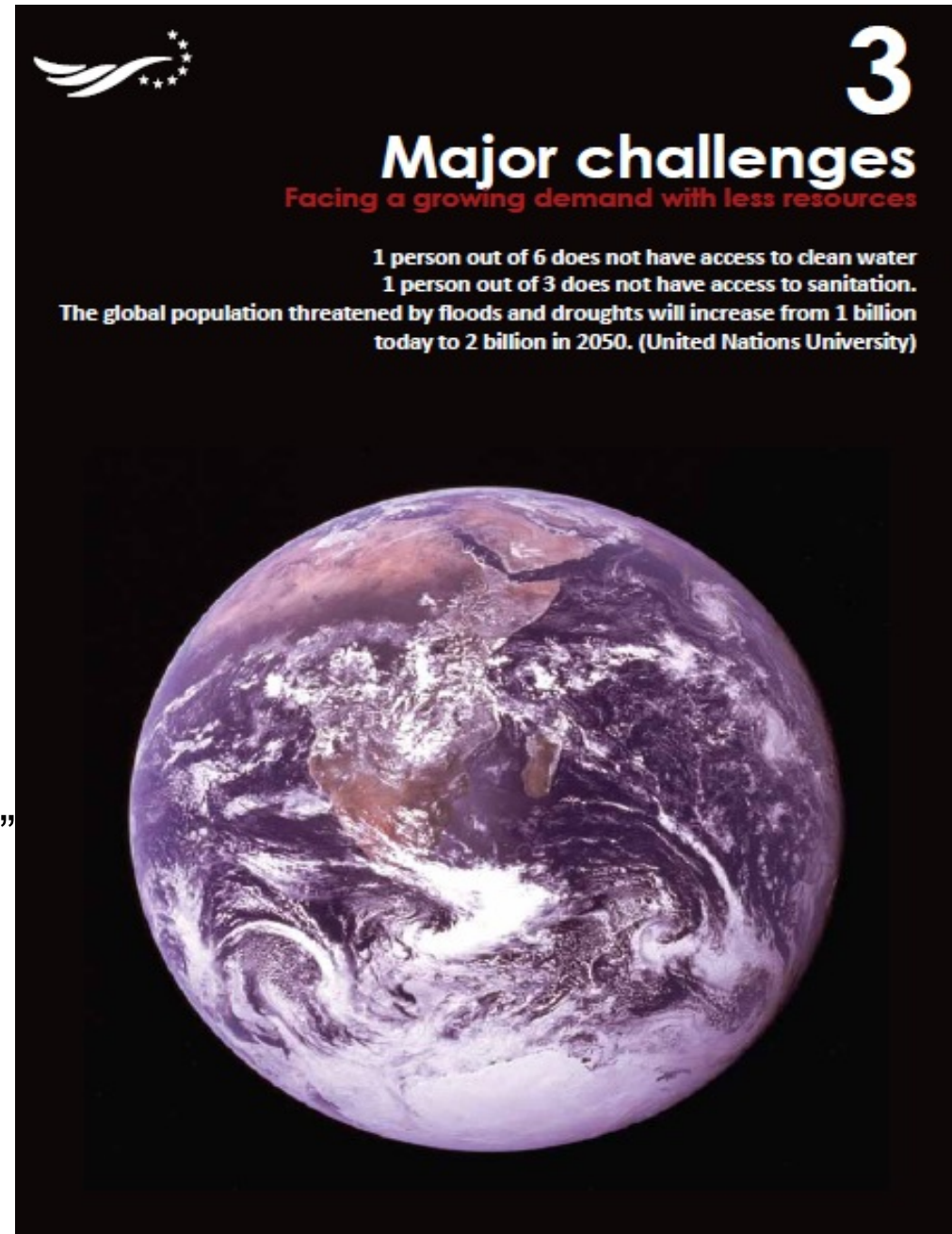


LOVE EVERY DROP. PUT WATER AT THE HEART
OF A WHOLE NEW WAY OF LIVING.

A European Prospective

- Many possibilities for innovation and green growth in the water sector
- **Huge market:** 250 to 350 Billion € ⁽¹⁾
(drinking and waste water)
- **Considerable assets:** > 3.5 Million Km water distribution pipes
> 2.5 Million Km waste water sewers
- **Large social impact:** > 600,000 direct jobs in Europe

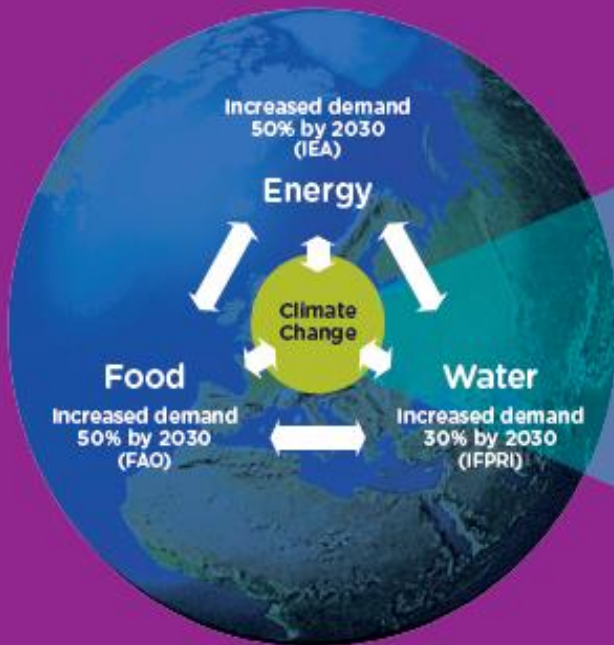
- Coping with increasing water stress (quantity & quality)
- Reducing impact of extreme events (droughts and floods)
- Managing aging or lacking infrastructure
- Facilitating technology transfer
- Establishing an “Enabling Framework”
- The Millennium Development Goals for Sustainable Water Supply and Sanitation Services in Developing Countries





Why are we taking action?

The global picture



The local context

...our region is on the front line.



We need a step change

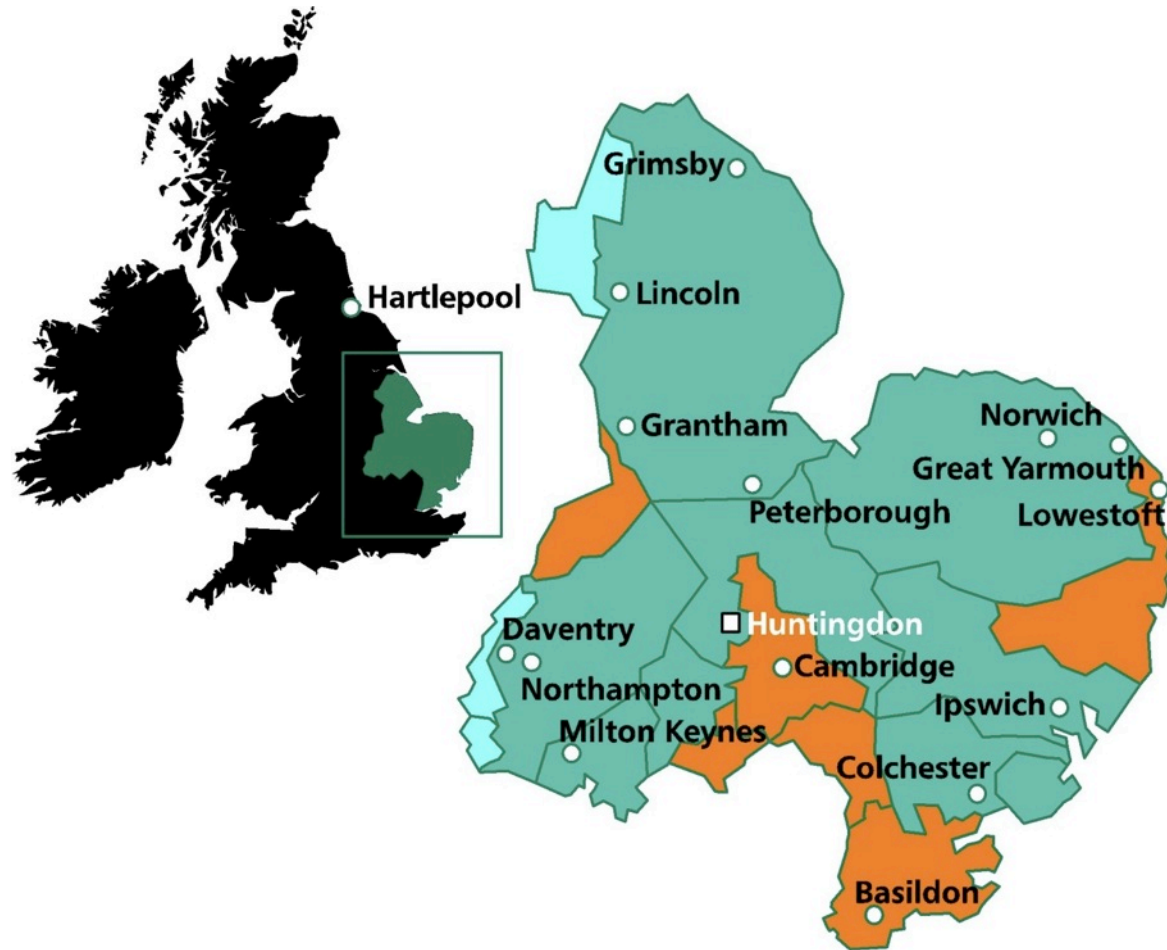
...from regulation to aspiration, and that's where Love Every Drop comes in.



Climate Change

Background to Anglian Water

- 27,500 km² - largest WASC
- 3,500 employees
- flat terrain - slow running rivers
- agricultural pollution
- fast growing region
- mainly rural
- driest region in UK
- Long coastline
- Over 1000 Sewage Treatment Works



THIS IS HOW WE MAKE IT A REALITY

We have set ourselves 10 goals, backed up by over 100 commitments and measures to help us get it right.

We've included just some of our commitments in the following pages. There's more information on our website: www.anglianwater.co.uk/loveeverydrop

No incidents

Leading employer in our region

No accidents

No pollutions

Get it right first time, every time. Zero waste

Frontier performer in our industry

100% of our customers very satisfied with our service

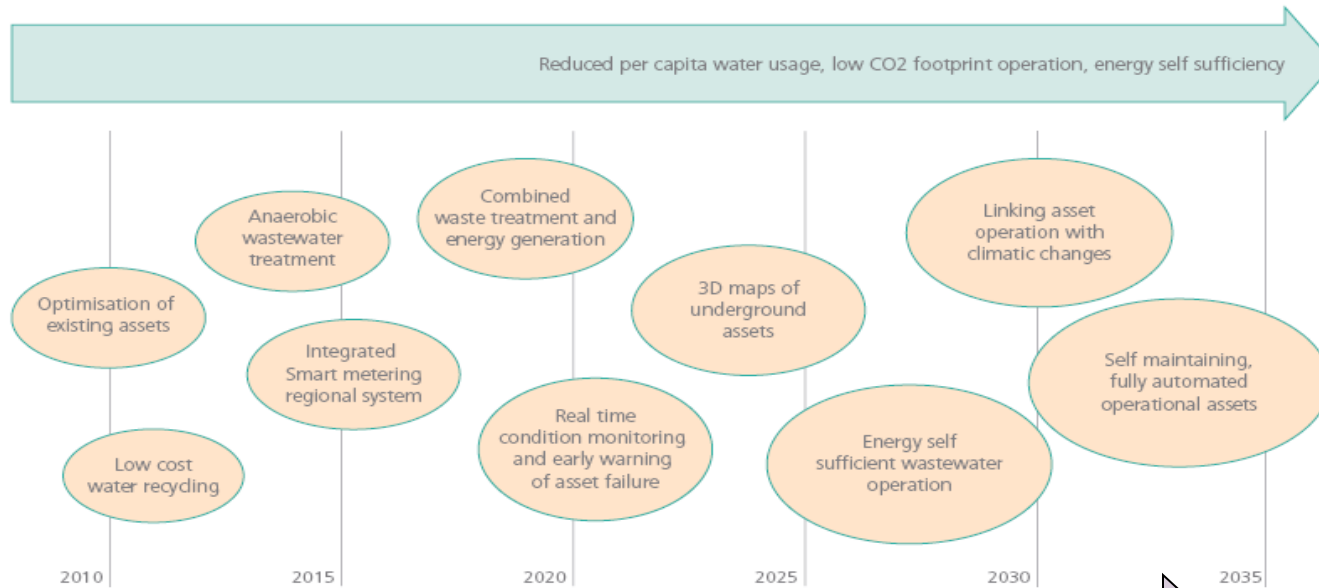
Halve our embodied carbon in new assets we build by 2015 from a 2010 baseline

Reduce our operational carbon emissions by 10% in real terms by 2015 from 2010 baseline

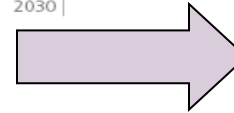
Effective management of the impact of growth and climate change in our region

love every drop
anglianwater

Innovation – A Long Term View



Business Processes



Customer Service



Products



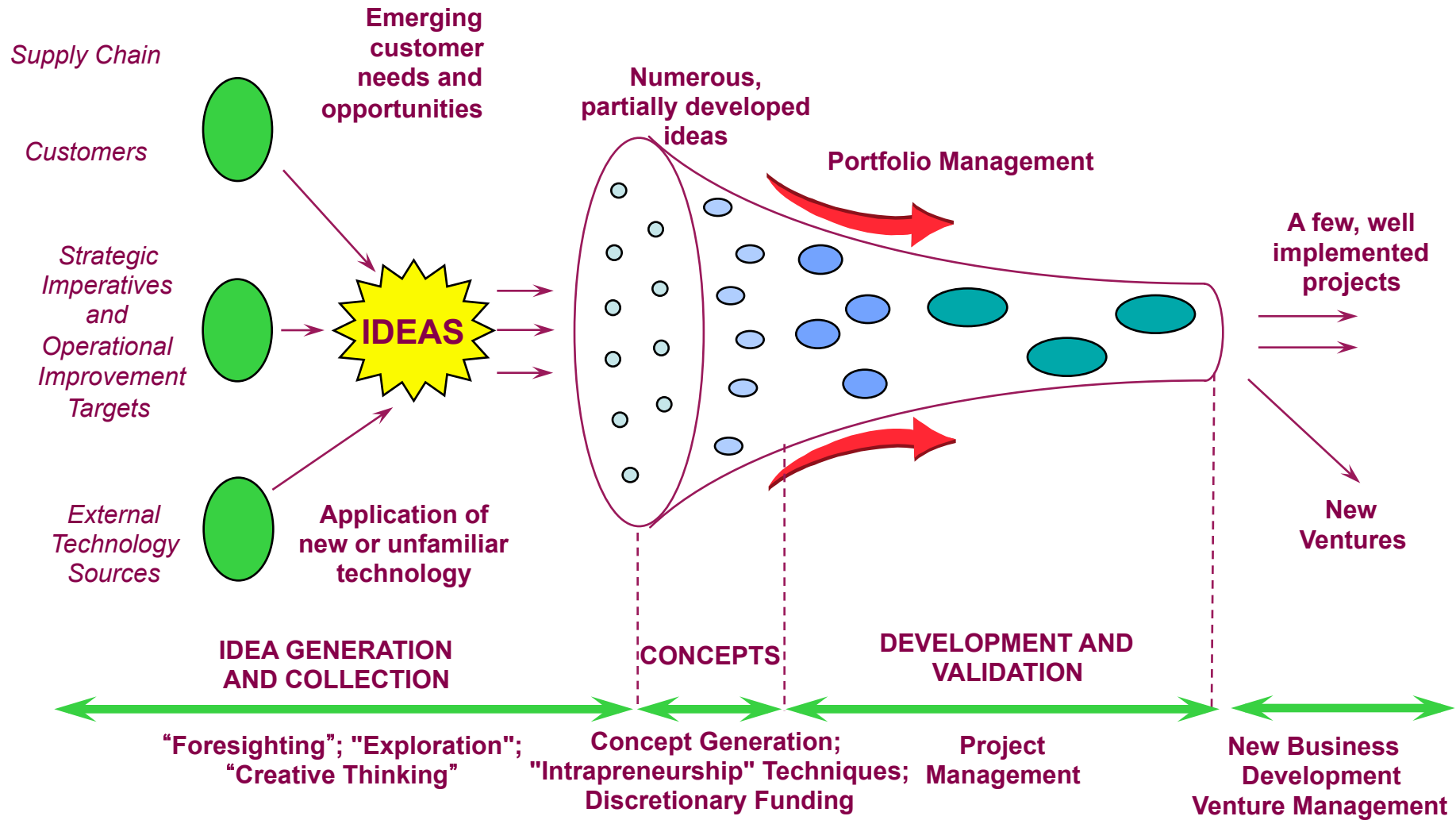
Cultural



IT Solutions

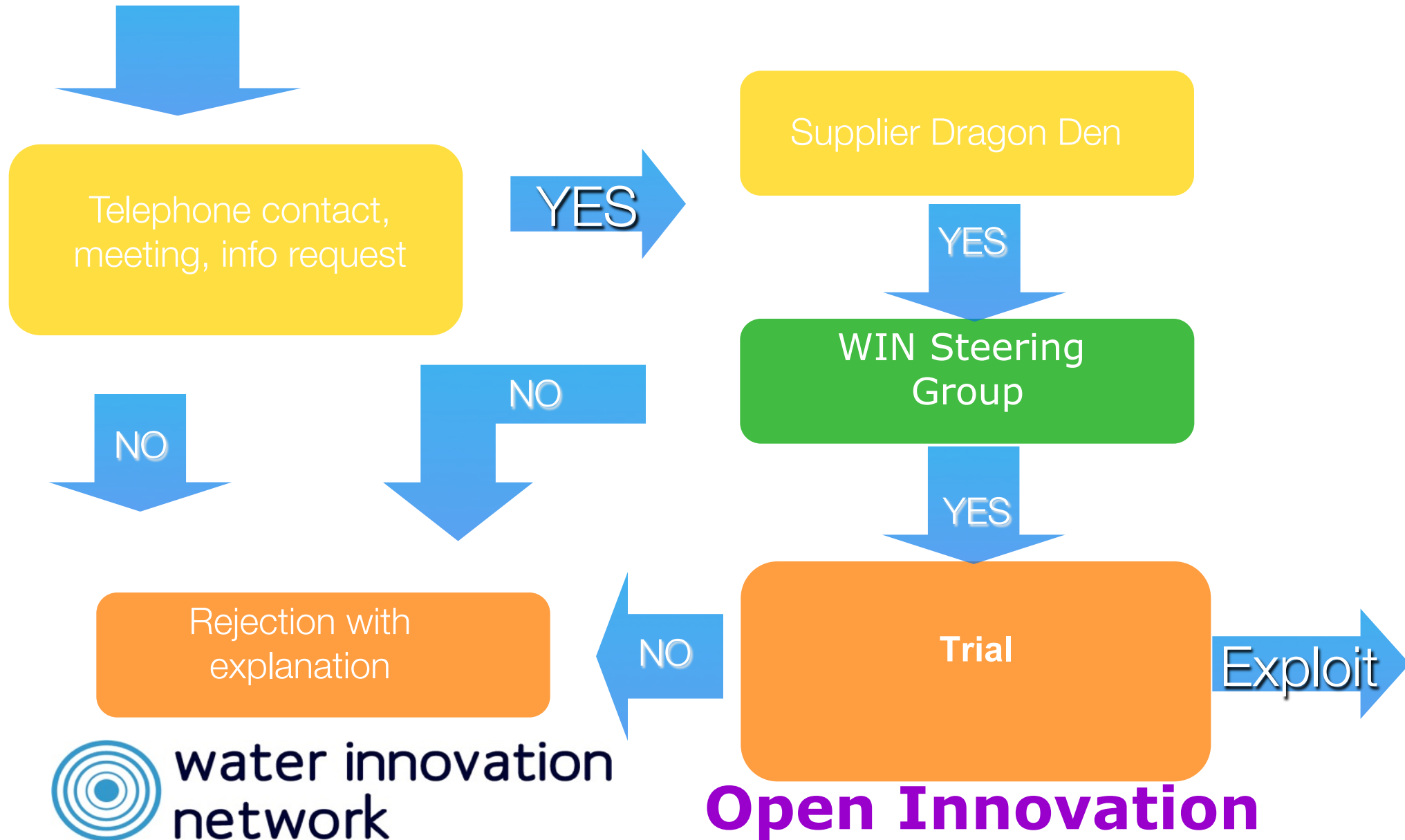


Managing the Innovation Process



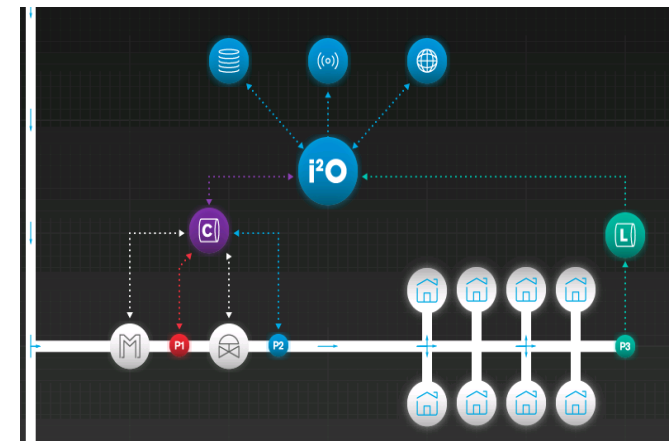
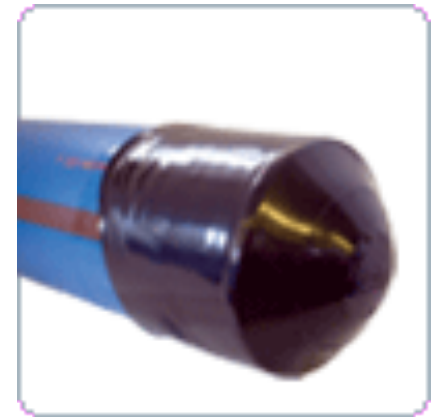
Idea/Innovative
Solution

The Water Innovation Network



Ideas and Events Exploitation

- 350 Companies engaged
- 120 ideas received on all parts of the value chain
- 5 ideas exploited in the business
- Some submissions are currently in trial
- Themed Events
 - Renewable Energy, Drought, European Brokerage Event, etc...



Improve what we've got !

Activated Sludge



Trickling Filters

Water Meters – What Next ?

Our meters are changing...

- Current penetration around 70%
- Opportunities for Smart Metering
- A multi-utility approach?
- Trials underway:-
 - 11,000 IHDs (with GEO, internal meters only)
 - Refuse trucks in Colchester



Reducing Cost & Carbon



Conventional in-situ reinforced concrete

Conventional techniques are labour and materials intensive.

Structured plastic with conventional bedding

Lower cost solution with lower embodied carbon, but still requires bedding and surround to be craned into position.

34% cost saving

39% reduction in embodied carbon



Precast concrete

Precast concrete units provide a more cost effective solution than plastic for certain ground conditions.

28% cost saving

19% reduction in embodied carbon

(50% reduction with cement replacement)

Structured plastic in curved trench

A specially fabricated bucket enables a curved-bottom trench to be dug, making significant savings on imported bedding and surround materials.

38% cost saving

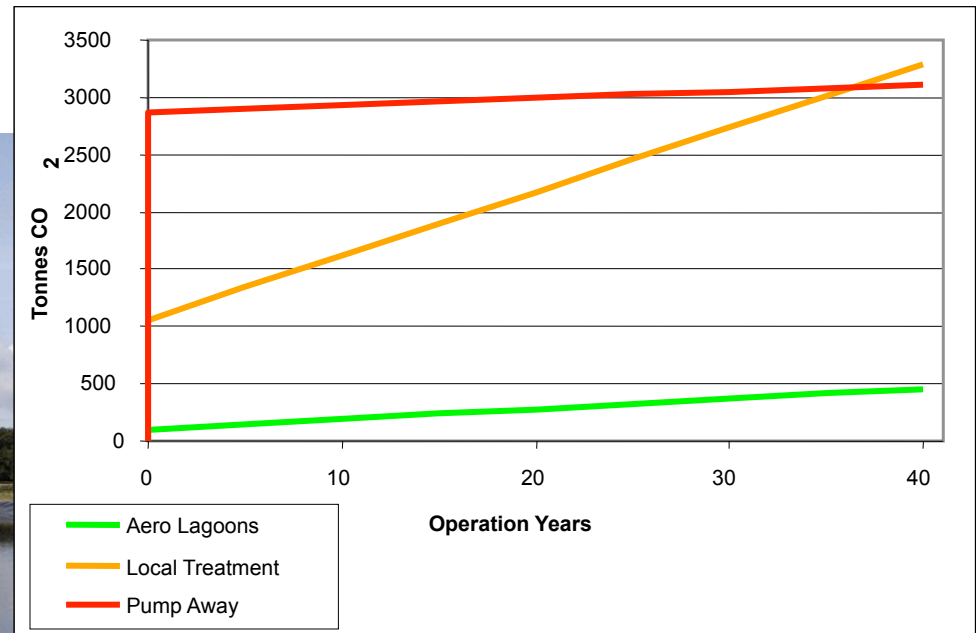
50% reduction in embodied carbon

(55% reduction with SMR)

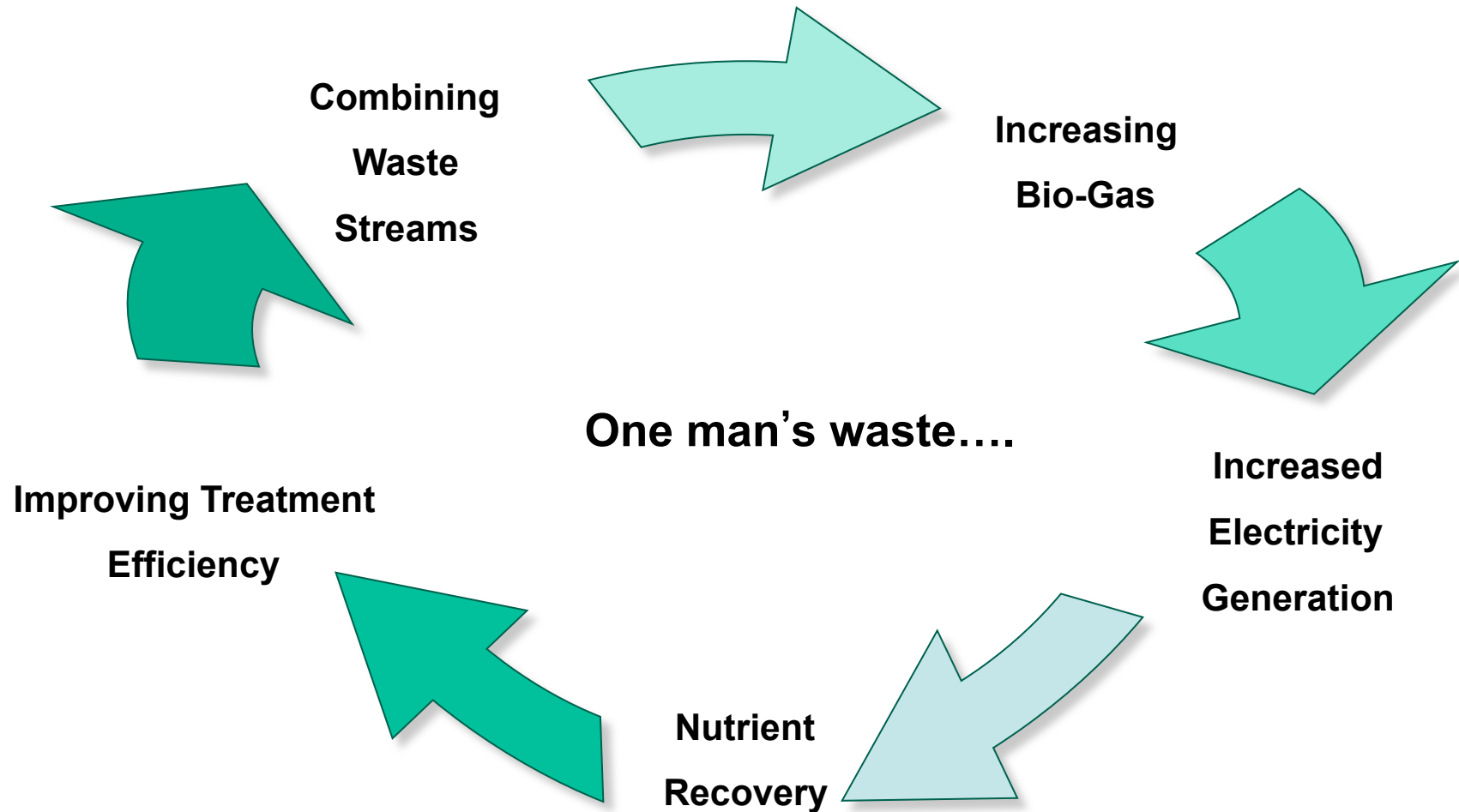


Low Carbon Solution – Natural Approaches

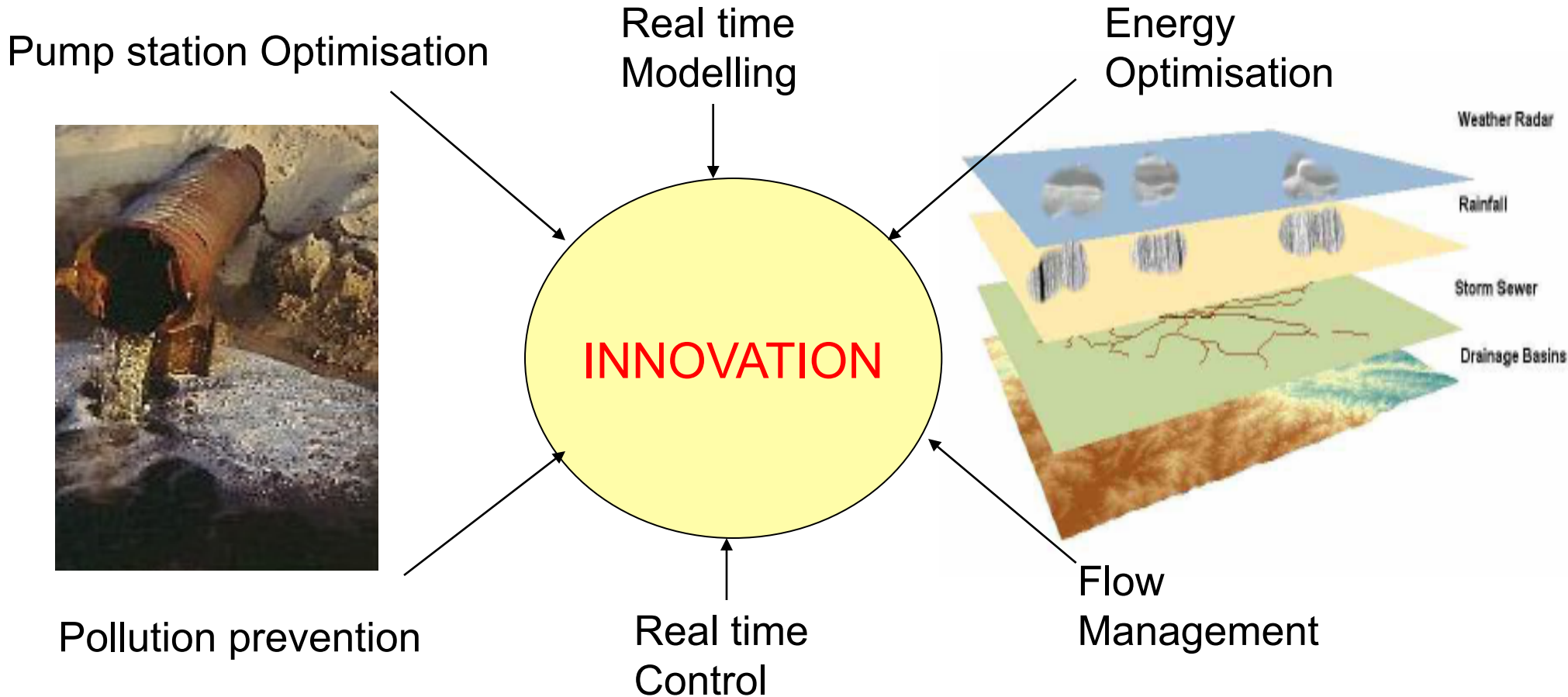
- Use of low energy solutions to meet environmental requirements



Wastewater – Maximising Resources



Intelligent Sewers

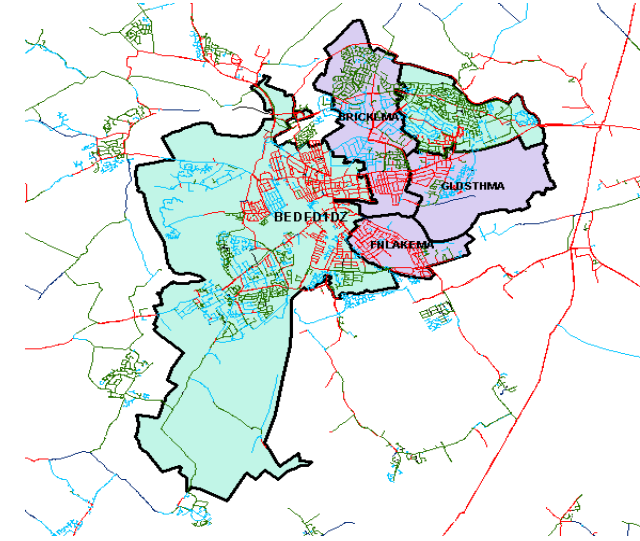


Intelligent Water Networks – Future Opportunities

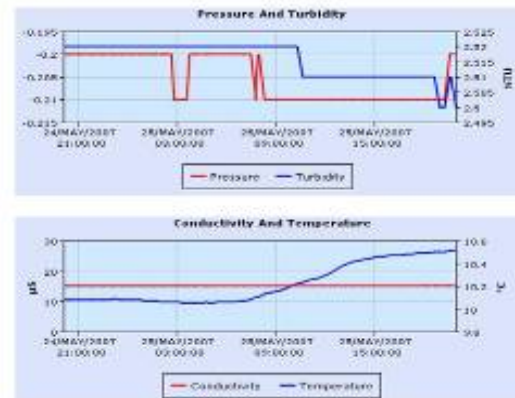
Burst prevention,
Leakage reduction



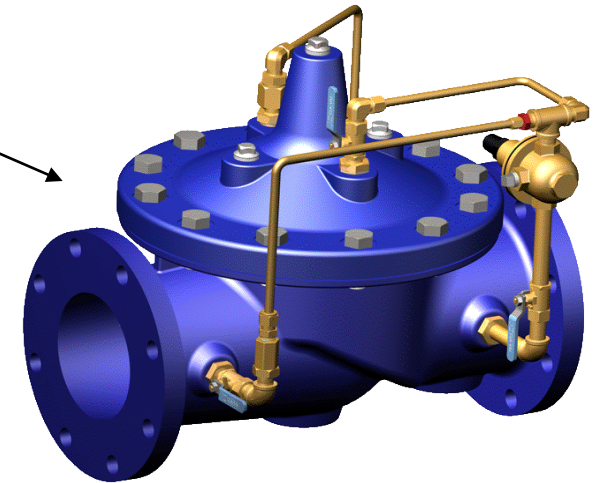
Demand prediction



Real time Control



Pumping Optimisation



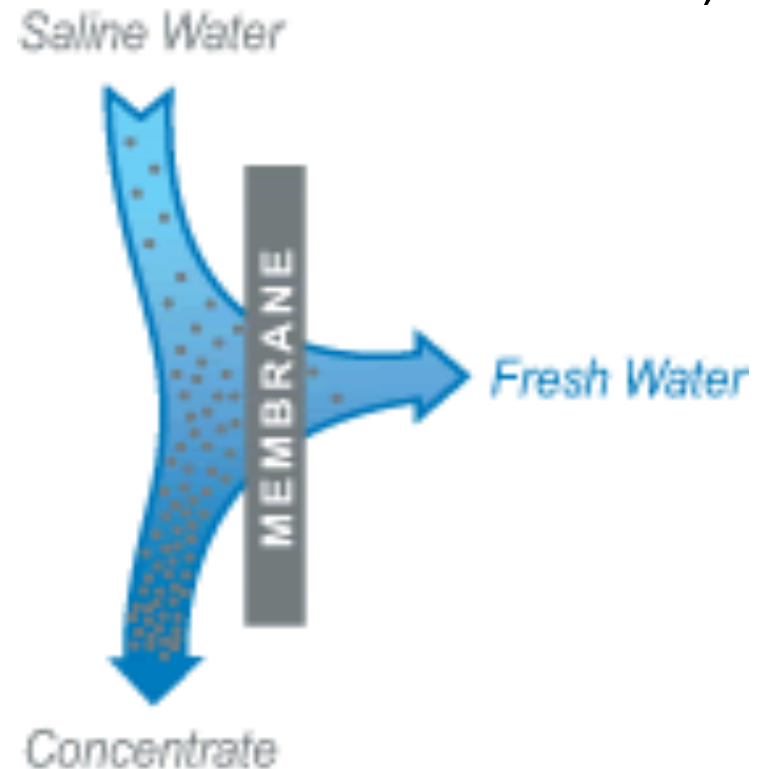
Pressure and Flow
Management

Longer Term Opportunities for Innovation in Water Treatment

Removal of pesticides (Low cost – low carbon)



Desalination (An Infinite Resource)



Opportunities Moving Forward

- Engage the supply chain through an open innovation approach
- Real time operation and monitoring of assets
- Low cost & low carbon
- Collaboration with other industries (e.g. Power)
- Strategies beyond the 5 year window



love every drop.

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