Changing Environment

July 2015

This paper has been written by Anglian Water as a contribution to Water 2020, Ofwat's programme for determining the form of the 2019 review of water price controls.

Introduction

With the final determinations for AMP6 now issued, the water industry needs to prepare for the future. This report provides an overview of the future environmental and regulatory pressures the industry may face in future.

The report is intended to act as a guide to inform a broader strategic review of industry needs for the future. As the report will demonstrate, the future is one of uncertainty with many variables and potential scenarios. Whilst managing uncertainty always presents risks, the industry is well placed to do this.

The industry has significant experience in environmental planning, water resource planning, dealing with extremes of weather, and the uncertainties in economic and housing growth in a changing economic climate.

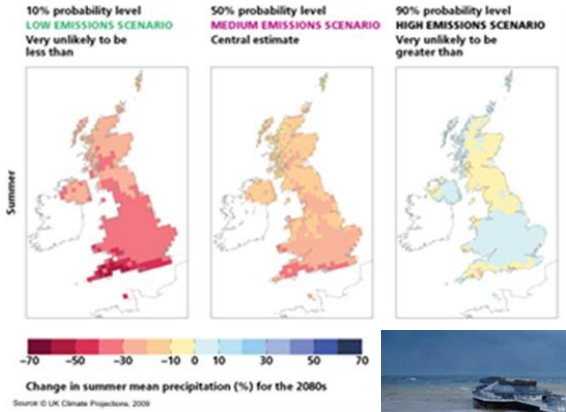
However the uncertainties of climate change, the food, energy and water nexus, regulatory and market reform changes, and changing customer needs, in a world of increasing social media and transparency means that the industry will need to review the appropriateness of its planning tools and its ability to deal with future challenges.

Environmental Pressures

Climate Change

Whilst there remains debate regarding the cause of climate change, it is increasingly becoming accepted that climate change is occurring. There however remains a great deal of uncertainty with respect to the extent of the impacts.

- higher average and peak temperatures
- changes in seasonal rainfall patterns
- rising sea levels
- Increase in extreme weather events
- More frequent and severe droughts and flooding



The past is no longer a robust indicator of the future
Need for more integrated water resource planning and flood management
Risk and scenario based planning tools

Water, Food and Energy Nexus

Water is the primary resource upon which nearly all social and economic activities and ecosystem functions depend.

Environment Agency: 'Water resources in England and Wales - current state and future pressures 2008'

- there are significant pressures on water resources affecting both the water environment and water supplies
- in many water catchments there is little or no water available for abstraction during dry periods
- pressures are greatest in South East and Eastern England - driest parts of England and Wales, coupled with the highest population density and household water use.
- the demand for water to irrigate crops in East Anglia adds to the pressure on resources during the driest times of the year.
- Over the next 30 years, there will be increasing pressures from the rising population and associated development.
- Looking further ahead, the impact of climate change could also have a major impact on the water that will be available for all uses.

A more joined up policy approach is needed to deal with the increasing competing pressures for water resources and land management.

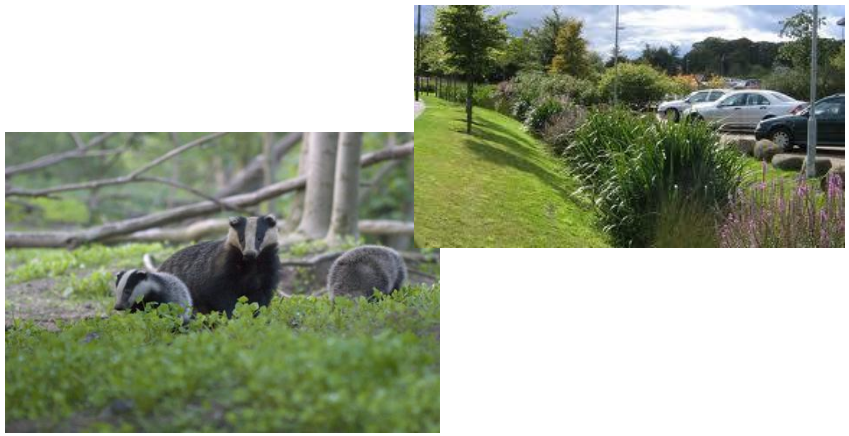
Environmental Pressures

Making Space for Nature: Lawton report 2010[3]

The Lawton report highlights that 'our natural environment provides us with a range of benefits (ecosystem services) including food, water, materials, flood defences and carbon sequestration'. It goes on to say that establishing a coherent and resilient network will help wildlife to cope with the pressures of climate change, and in doing so can help us mitigate and adapt to climate change.

Five key approaches are highlighted to enhance the resilience and coherence of the ecological network:

- improve quality of current sites
- increase the size of current wildlife sites
- enhance connections between, or join up, sites
- create new sites
- reduce pressures on wildlife



Increased NGO pressure to improve natural environment
Ecosystems Services approach
Valuing the environment and services it provides
Move away from hard engineering to softer environmental solutions

Micro-pollutants and Health

There is increasing awareness and concern regarding micro-pollutants in water and the environment. Dealing with micro-pollutants by end of pipe treatment is not a sustainable solution and they must be tackled at source. There is increasing research into the occurrence and impact of micro-pollutants such as:

- pharmaceuticals
- micro-plastics
- endocrine disruptors
- metals

EU Commission are considering new or amended legislation to address micro-pollutants which may have implications for the industry if not tackled at source.

Micro-pollutants must be tackled at source and not allowed to enter the sewerage system or impact on drinking water resources

EU Law & Regulatory Framework

2015 EU Workplan

- Boost for Jobs, Growth and investment
- Communication on post-2015 Sustainable Development Goals

Regulatory Fitness Check (fit for purpose)

- Streamline legislation and reduce regulatory burden
- Environmental policy frameworks:
  - water, air, industrial emissions and waste
- Red tape reduced by >25%
- Regulatory impact assessments
- Greater attention needed on whether objective met efficiently and effectively

EU Law & Regulatory Framework

Focus on implementation of Directives

- Increased Infraction risk
- Increased scrutiny

EU Citizens' Initiative

- Direct participation
- 1 million EU citizens/7 EU countries
- Invitation to Commission to propose law
- Citizens Committee

Will UK remain in the EU?

Implications of staying in?
Implications of coming out?
Government response to increasing Infraction risk?

Legislative Challenges/Change

Water Framework Directive

- 1st RBMP mostly water company funded
- 2nd RBMP likely to be mostly water company funded
- 18% UK water bodies achieve Good Ecological Status
- Are the aims and objectives achievable/affordable?

Urban Wastewater Treatment Directive

- Infraction proceedings against UK
- Combined sewer overflows

21st Century Sewerage

- Sewerage system that meets customer expectations
- Adequately protects the environment
- Meets the needs of water body users
- Holistic, sustainable and affordable

Legislative Challenges/Change

Environmental Permitting Regulations

- Tightening regulatory controls
- Additional regulatory burden
- Increased risk legal action

Catchment based approach

- Move towards water & food nexus
- Partnership and collaboration
- Dependency on others
- Uncertainty
- More holistic and cost effective solutions

Catchment Based Approach
Partnerships for Action

Uncertainty of catchment based approaches vs increased regulatory burden and tighter legislation

Legislative Challenges/Change

Waste

- Our wastes = valuable resource
- National interpretation of EU Directives on definition of wastes could be barrier to more sustainable waste outcomes
- Complex set of regulations, needs simplifying
- Move towards "circular economy" requirement

Water Re-use

- Valuable resource
- No clear framework or guidance
- Barriers to Upstream Reform
- Legal ownership issues

Sentencing Council Guideline on Environmental Offences

- **Applies to all offenders and organisations sentenced after 1 July 2014**
- **Applies to offences committed after 6 April 2010**
- **Guidance looks at culpability and harm**

For **large** organisations, the suggested range of fines is as follows:		
Deliberate		
Category 1	£1,000,000	£450,000 - £3,000,000
Category 2	£500,000	£180,000 - £1,250,000
Category 3	£180,000	£100,000 - £450,000
Category 4	£100,000	£55,000 - £250,000
Reckless		
Category 1	£550,000	£250,000 - £1,500,000
Category 2	£250,000	£100,000 - £650,000
Category 3	£100,000	£60,000 - £250,000
Category 4	£60,000	£35,000 - £160,000
Negligent		
Category 1	£300,000	£140,000 - £750,000
Category 2	£140,000	£60,000 - £350,000
Category 3	£60,000	£35,000 - £150,000
Category 4	£35,000	£22,000 - £100,000
Low/No Culpability		
Category 1	£50,000	£25,000 - £130,000
Category 2	£25,000	£14,000 - £70,000
Category 3	£14,000	£10,000 - £40,000
Category 4	£10,000	£7,000 - £25,000

New guidelines could drive risk averse behaviour and stifle innovation.

Potential to distort cost benefit analysis and prioritisation of investment