Water Industry Experience in the United Kingdom

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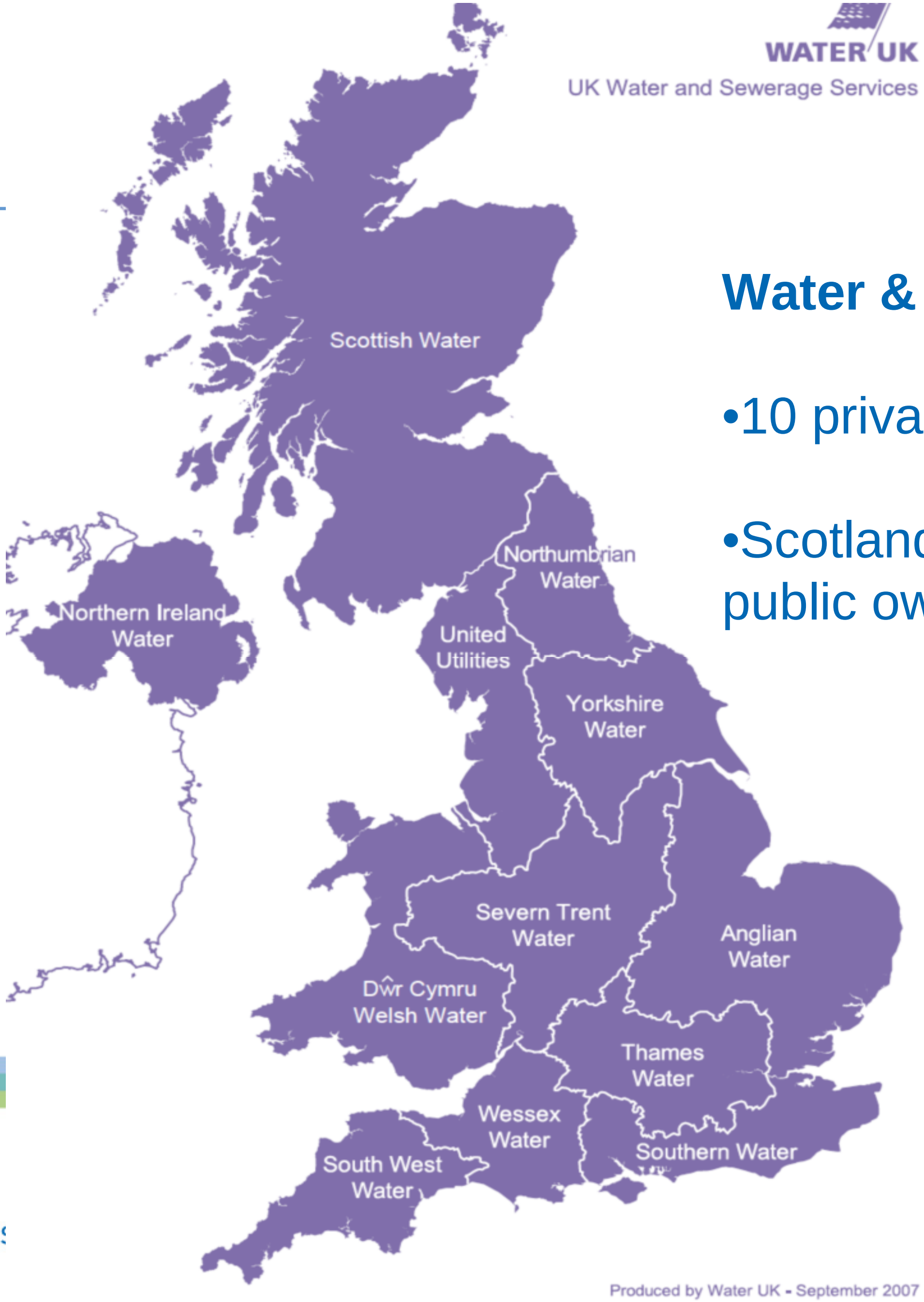
Outline

- Introduction
- UK Water Industry: Historical Context
- UK Water Industry: Today
- Some Experiences from South West Water
- Conclusion



Water & Sewerage Companies in UK

- 10 private companies in England & Wales
- Scotland and Northern Ireland remain in public ownership

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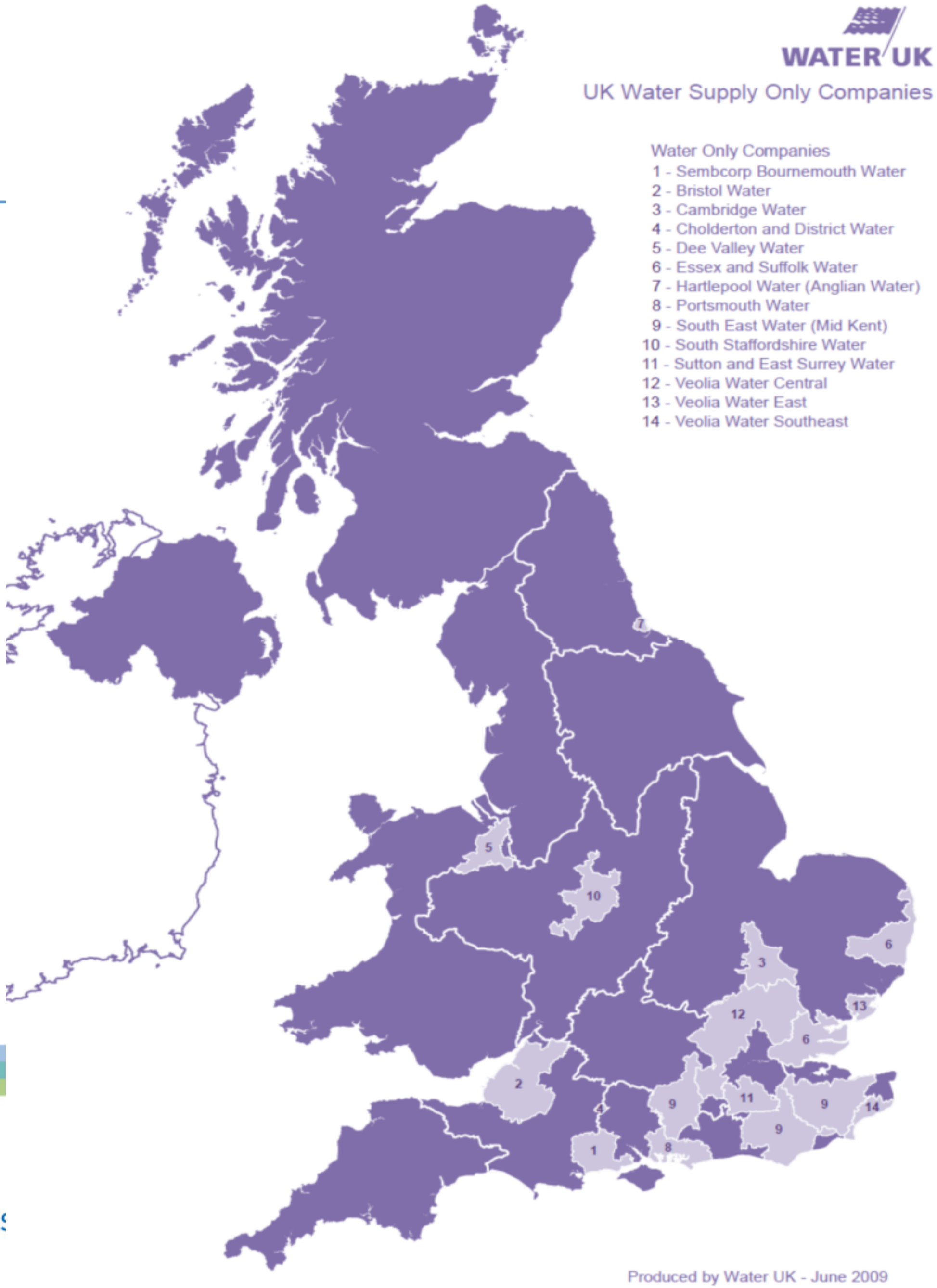

Water only Companies

- 14 smaller water only companies
- Generally historic companies
- Established before Privatisation

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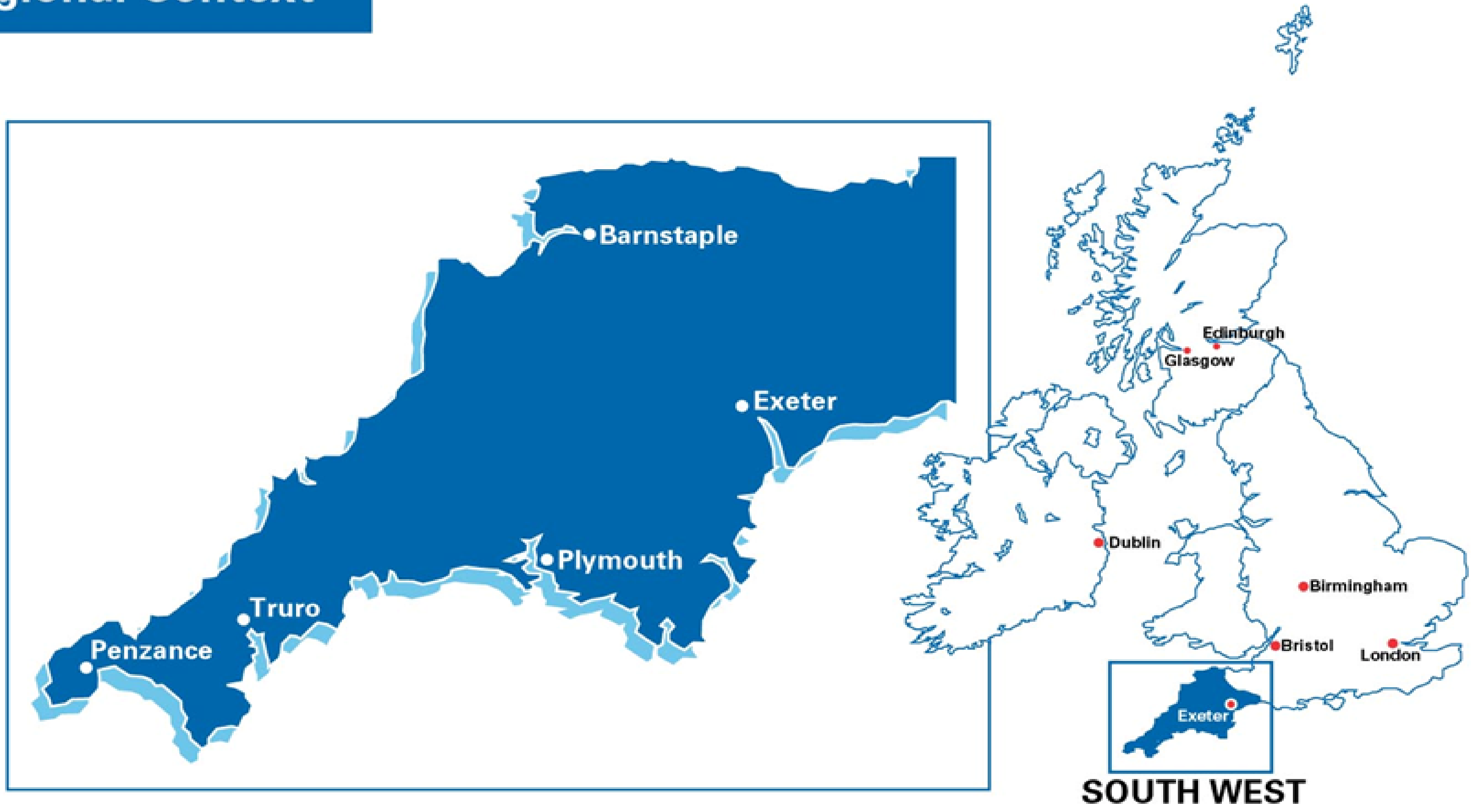
South West Water Regional Context



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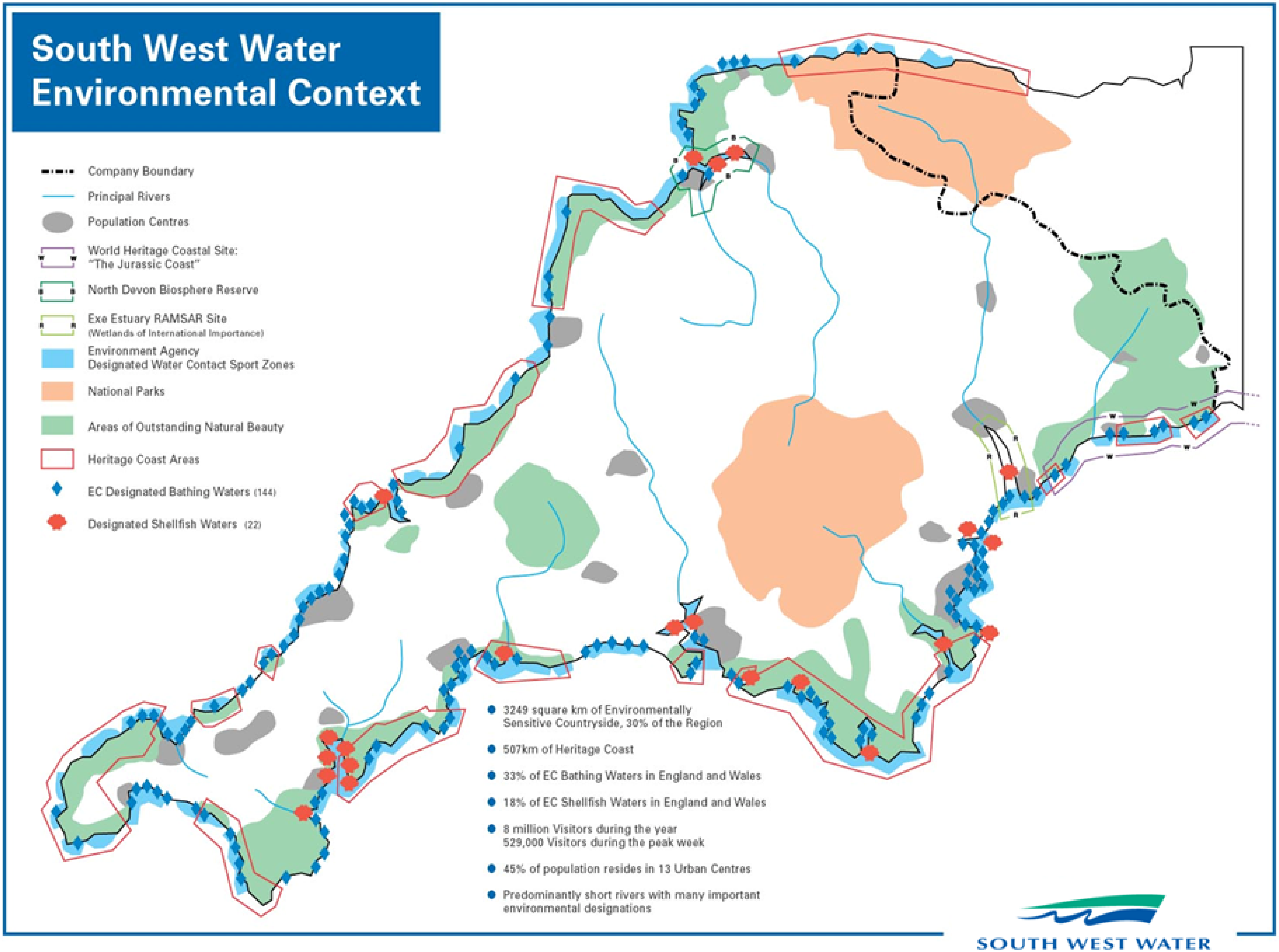
Introduction

Overview of South West Water

- Water and sewerage undertaker
- 1.65m population plus 10m tourists
- 15,000 km of water mains
- 14,000 km of sewers
- 17 impounding reservoirs
- 39 water treatment works
- 636 waste water treatment works
- Region of outstanding environmental quality


South West Water
Environmental Context
Company Boundary
Principal Rivers
Population Centres
World Heritage Coastal Site:
"The Jurassic Coast"
North Devon Biosphere Reserve
Exe Estuary RAMSAR Site
(Wetlands of International Importance)
Environment Agency
Designated Water Contact Sport Zones
National Parks
Areas of Outstanding Natural Beauty
Heritage Coast Areas
EC Designated Bathing Waters (144)
Designated Shellfish Waters (22)
3249 square km of Environmentally Sensitive Countryside, 30% of the Region
507km of Heritage Coast
33% of EC Bathing Waters in England and Wales
18% of EC Shellfish Waters in England and Wales
8 million Visitors during the year
529,000 Visitors during the peak week
45% of population resides in 13 Urban Centres
Predominantly short rivers with many important environmental designations
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The Water Industry in the United Kingdom

Historical Context

UK Water Industry: Historical Context

Before 1973: Fragmented local industry

- 1000s small local companies, gradually consolidating
- Mostly owned by local government
- 33 historical, privately owned, water only companies
- Lack of asset investment
- Weak customer service & performance
- Inefficient
- Poor regulation

UK Water Industry: Historical Context

Water Act 1973: Enforced legal consolidation

- 10 state owned, regional Water & Sewerage Companies
- Assets transferred without compensation as all state owned
- Based on Integrated River Basin Management concept
- 33 historical, privately owned companies, remain
- Economies of scale & efficiency improvements
- Real increase in investment, but still inadequate
- Asset quality/performance still poor


Burrator , Devon


Standpipes 1976

UK Water Industry: Historical Context

UK Water Industry: Historical Context

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- Economies of scale & efficiency improvements
- Real increase in investment, but still inadequate
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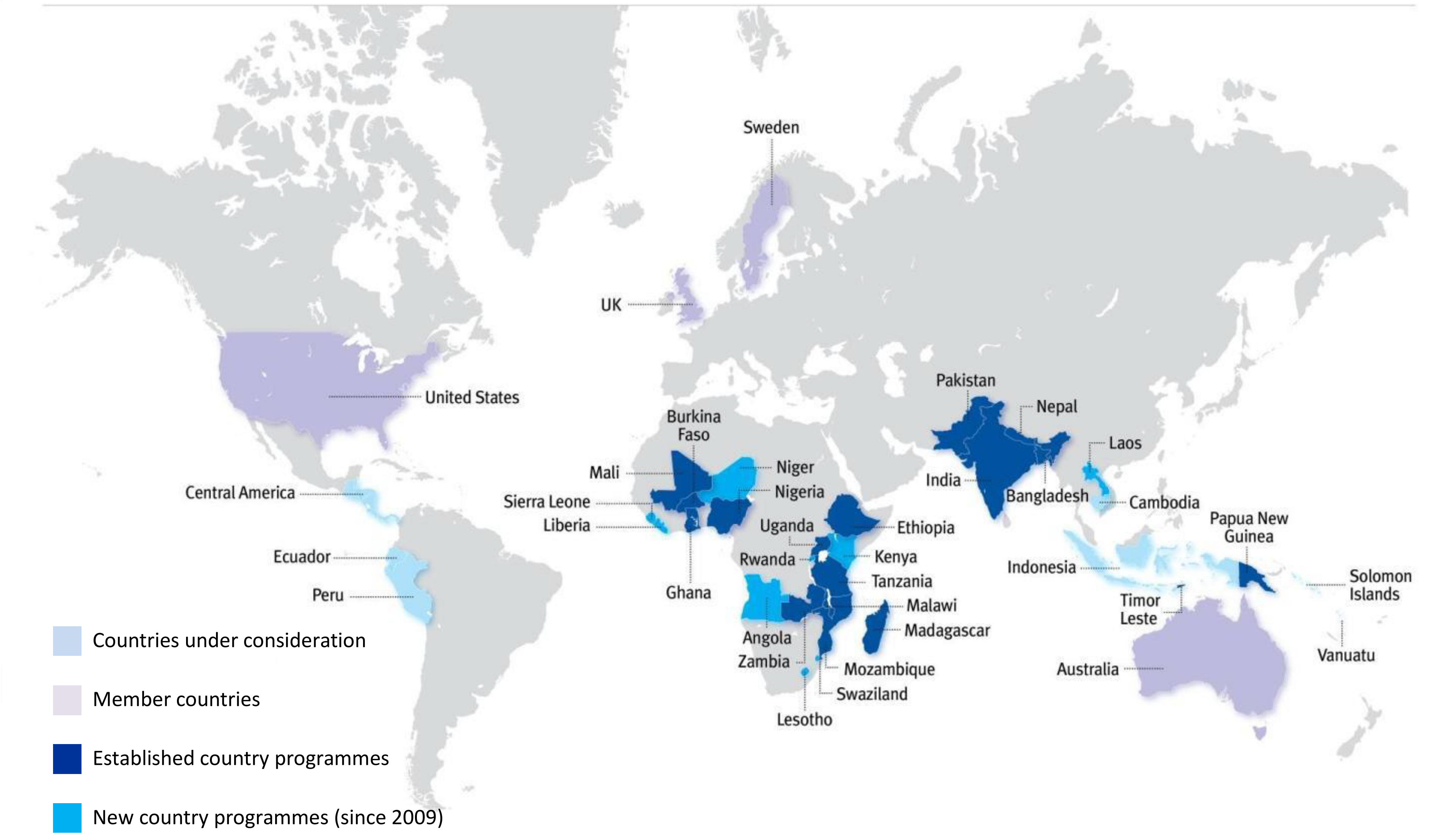
- Clearer industry leadership -WaterAid established in UK


Signing of first WaterAid Trust Deed
July 1981 London

WaterAid international



UK Water Industry: Historical Context

Privatisation1989: Transfer to private sector

- 10 Regional companies transferred to private ownership
- Individual customers pay for the water service they use
- Private finance to fund required investment
- True competitive market not possible
- Regulated “Comparative Competition“ model created
- Independent regulators formed
  - Economic regulator (Ofwat)
  - Drinking Water Inspectorate (DWI)
  - Environment Agency (EA)

The Water Industry in the United Kingdom

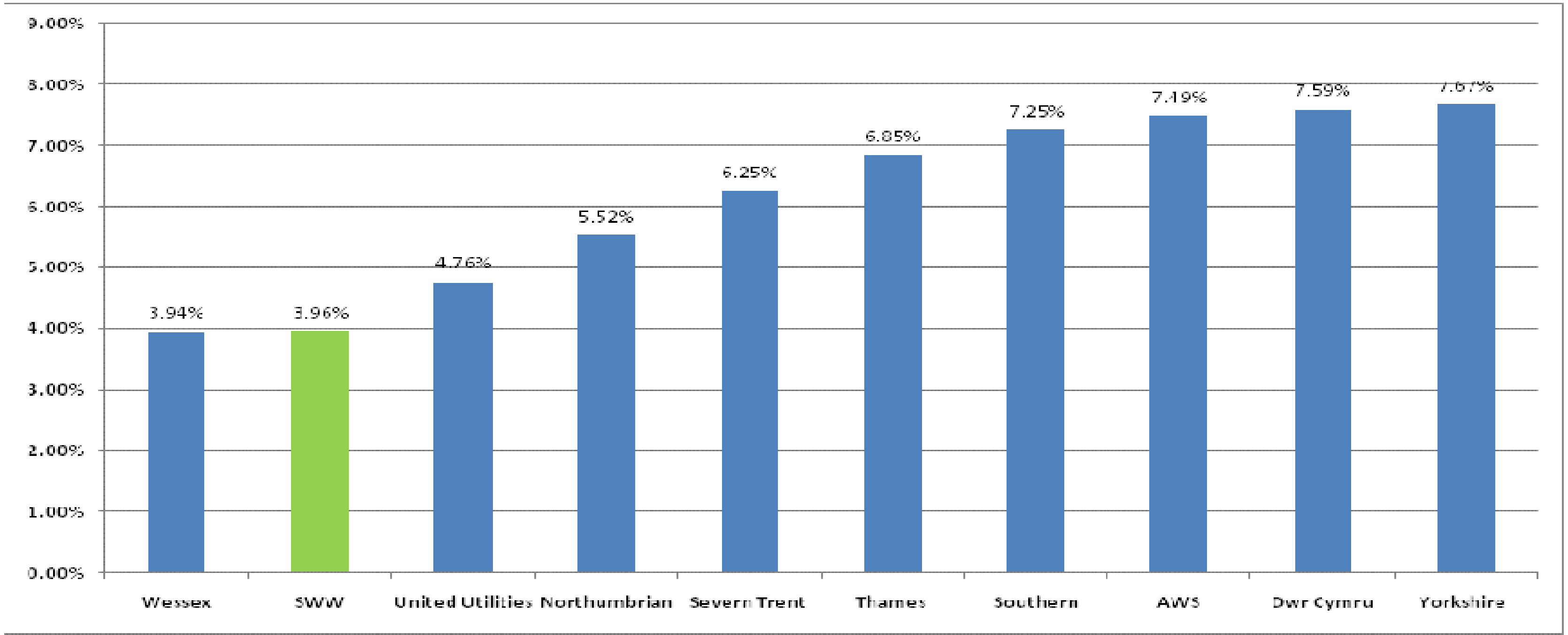
Today

UK Water Industry: Today

“Comparative Competition” Model

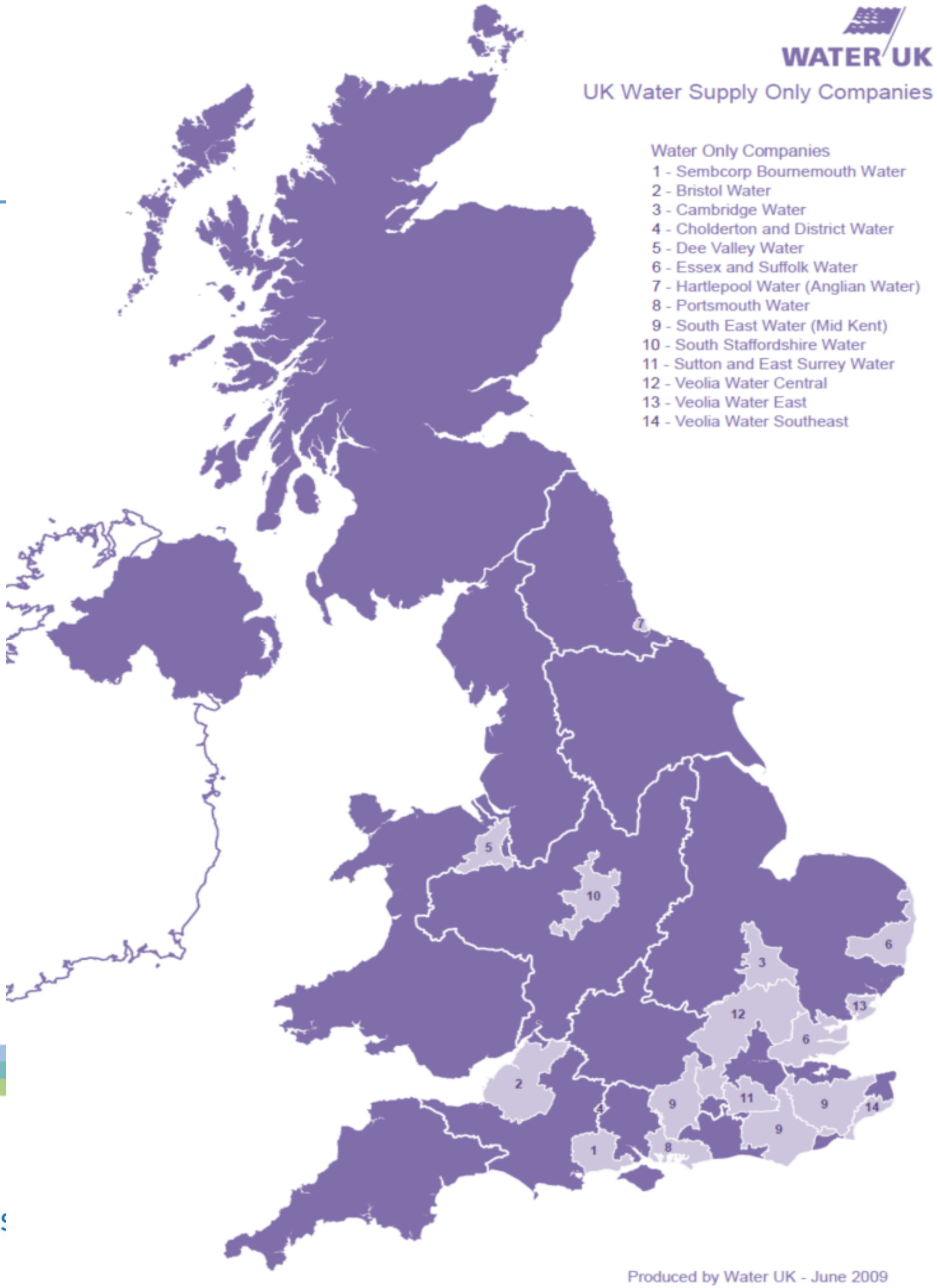
- Ofwat compares performance of all companies
  - allows larger profits to efficient companies
- Companies borrow money from commercial markets
  - companies that borrow cheaply get larger profit
- Ofwat sets targets for a 5 year period
- Shareholders keep outperformance against targets
  - Customers get benefit afterwards

UK Water Industry: Today



Source: Pennon calculation based on company Annual Reports

Basis: Net interest payable (excluding pensions net interest) / average net debt



5 Year Business Planning Process

- Plan submitted to Ofwat
- Evidence that required service can be delivered
- Evidence that customers are "willing to pay"
- Independent customer body challenges company plan
- Ofwat sets price limits
- Ofwat monitors delivery

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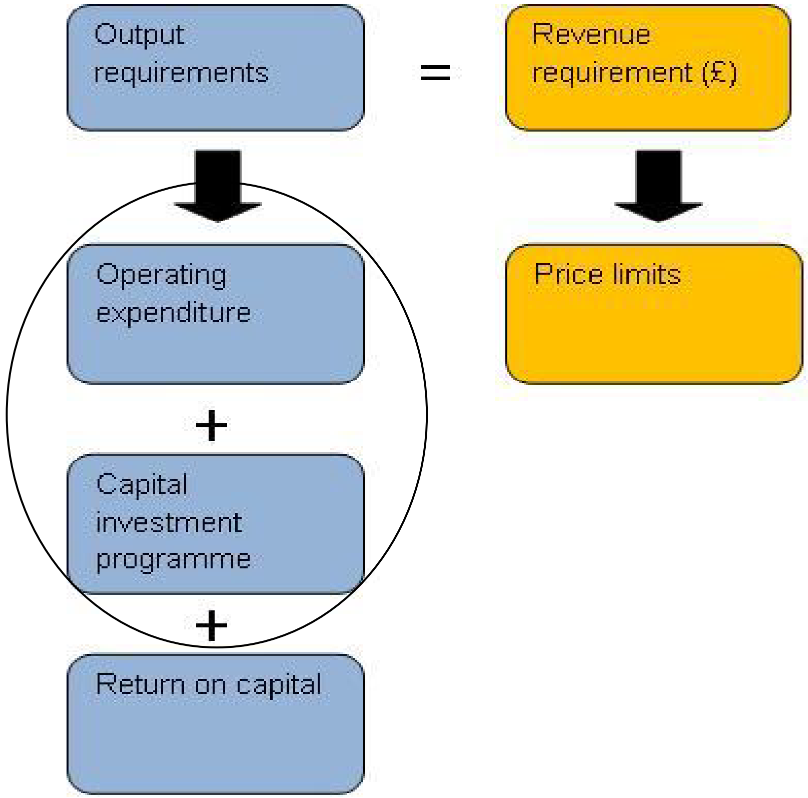
UK Water Industry: Today

Plan building blocks

Operating and capital costs determined from

Asset Management Plan



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UK Water Industry: Today

Asset Management Plan -Scope

- Costs for maintaining “base” service

- Costs from improvements to service
  - Quality –e.g. new legal obligations
  - Supply/demand –e.g. new customers
  - Resilience -e.g. climate change mitigation

UK Water Industry: Today

Asset Management Plan -Principles

- “Common Framework” document defines good practice
- Forward looking, risk based
- Based on modelling rather than expert judgement
- Consider consequences and probability of asset failure
- Whole life costing
- Requires cost benefit analysis for each investment

UK Water Industry: Today

Customer support for 5 year business plan

Investment required balanced with “willingness to pay”

-3 stage approach

- Stage 1
  - Company research to support Company's Business Plan
- Stage 2
  - Customer body research -by Consumer Council for Water
- Stage 3
  - After plan submitted
  - Ofwat test customer support to inform their final decision

UK Water Industry: Today

Focus Groups

- Representative focus groups consulted
- First unprompted priorities identified
- Priorities for prompted levels of service
  - "stated preference survey"
  - price impact of each level of service
  - levels of service match asset plan

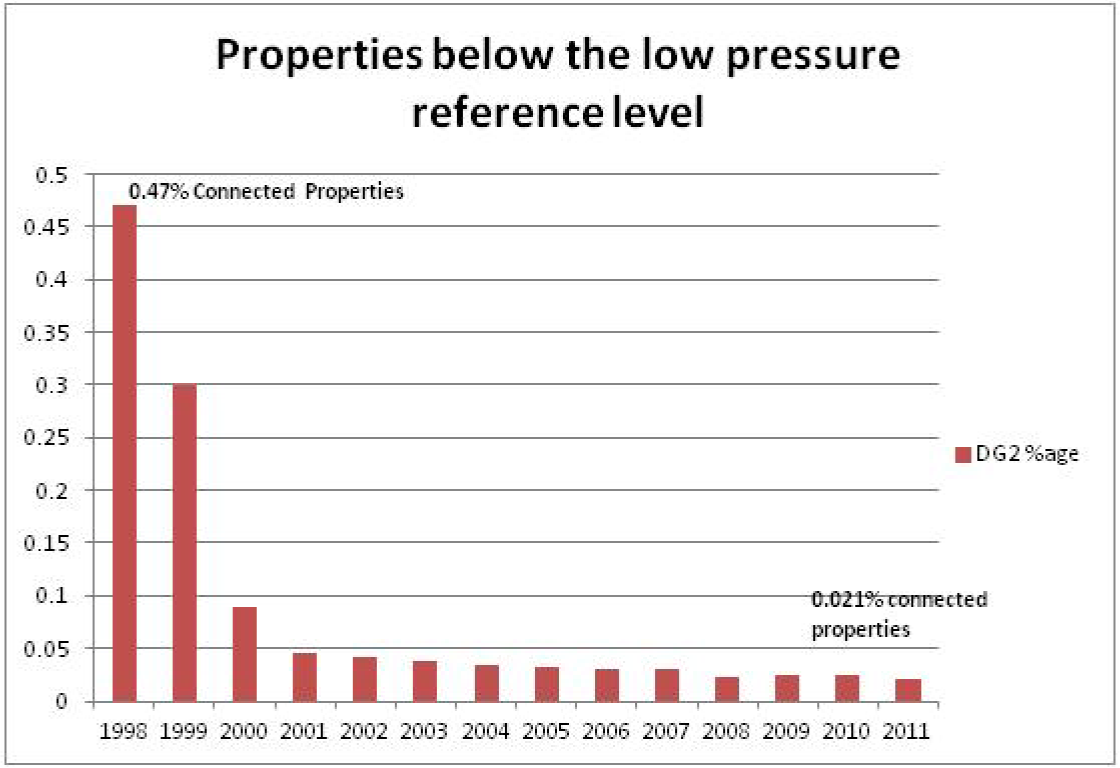
Service Level	PACKAGE A (Current Service)	PACKAGE B	PACKAGE C
The number of households out of 700,000 affected by supply interruptions of between 3 and 24 hours each year	**8,000**	**5,000**	**2,000**
The chances of a widespread hosepipe ban being imposed for 6 months in any year.	**5 in 100**	**1 in 100**	**5 in 100**
The chances of piped supplies being restricted for 3 weeks because of drought in any year	**20 in 1,000**	**5 in 1,000**	**5 in 1,000**
How many million litres of water leak from the Company's pipes each day	**84 Million litres**	**84 Million litres**	**84 Million litres**
The change in your annual water and wastewater service bill that will be required to obtain the service levels in either package B or C rather than the current level of service. If your bill was currently £500, it would increase to £540 for a package that cost £40.	**£0**	**£80 for package B**	**£40 for package C**

UK Water Industry: Today

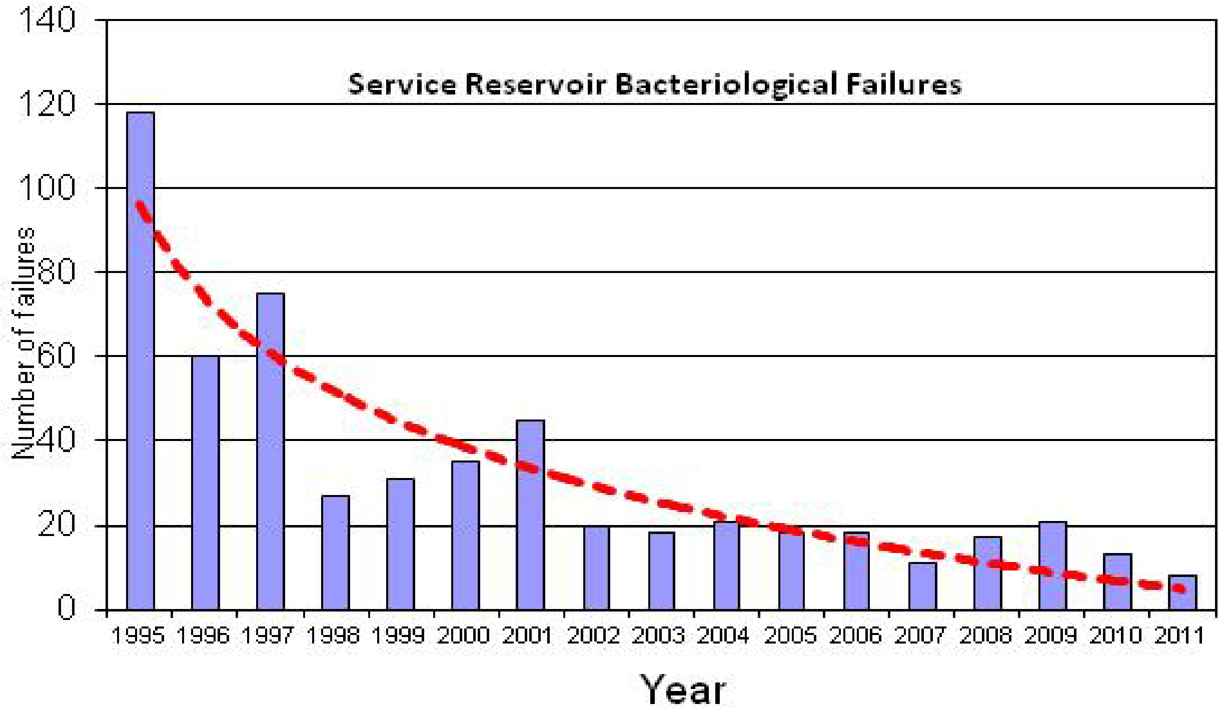
Industry achieved objectives of privatisation

- Met EU Directives on drinking water and environment quality
- £90 billion investment funded from private sector
- Enhanced efficiency to mitigate price impacts
- 90% customer satisfaction
- Water companies trusted more than energy sector

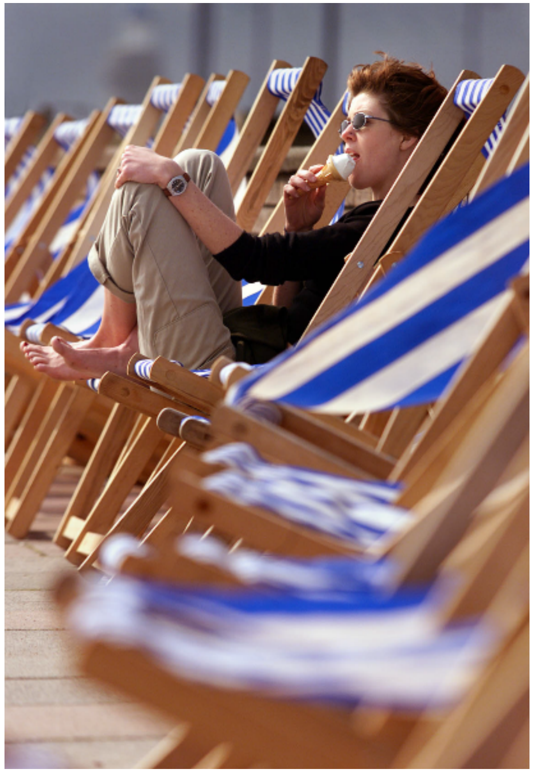
UK Water Industry: Today



UK Water Industry: Today

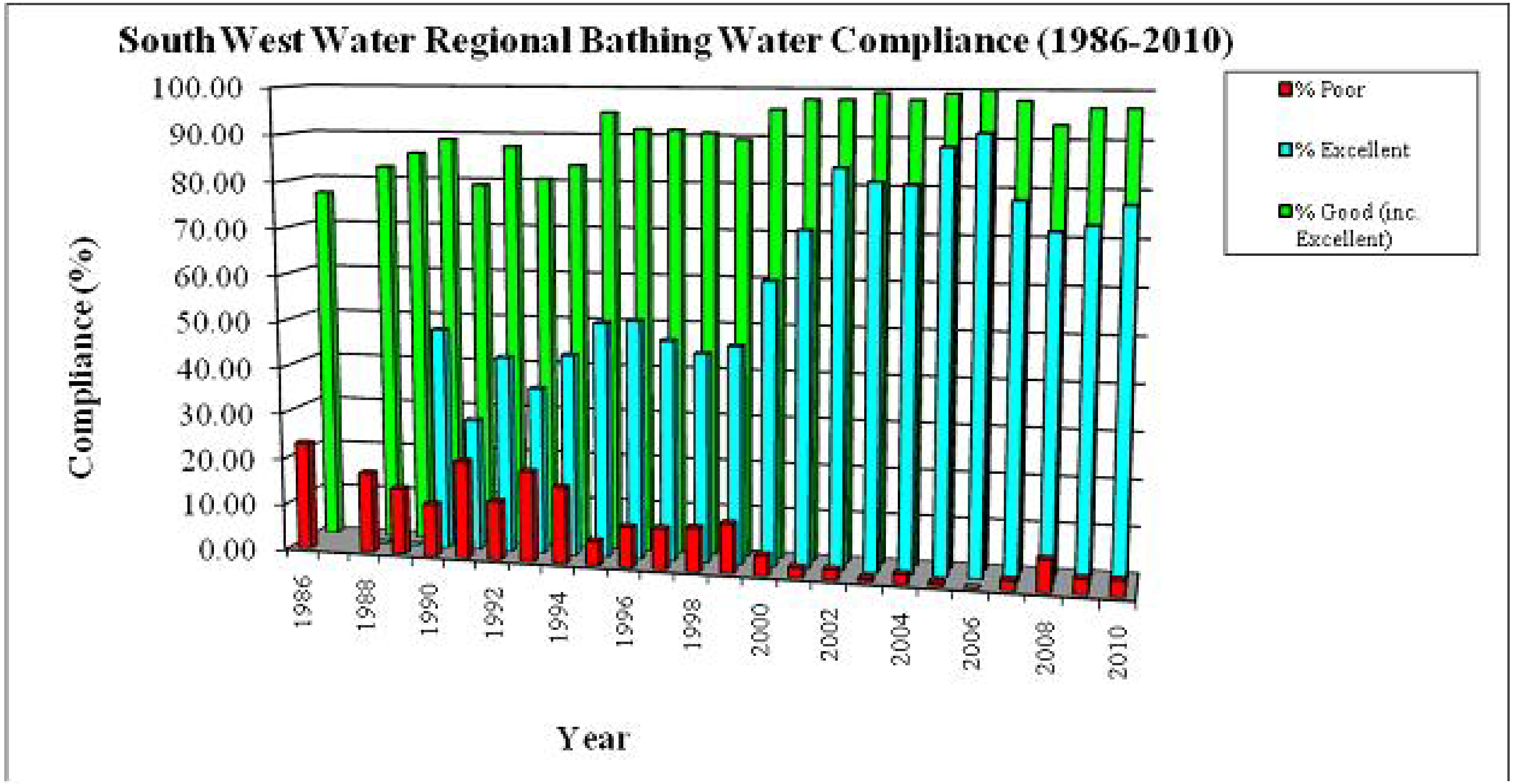


South West Water today



- No water restrictions -15 consecutive years
- Outstanding tap water quality
- Leakage reduced by 60% since 1989
  - Best leakage record in the industry
- Best ever bathing water results over 90% reaching excellent status last year

UK Water Industry: Today



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The Water Industry in the United Kingdom

Conclusion

Conclusion

The UK Water industry has changed significantly over last 40 years

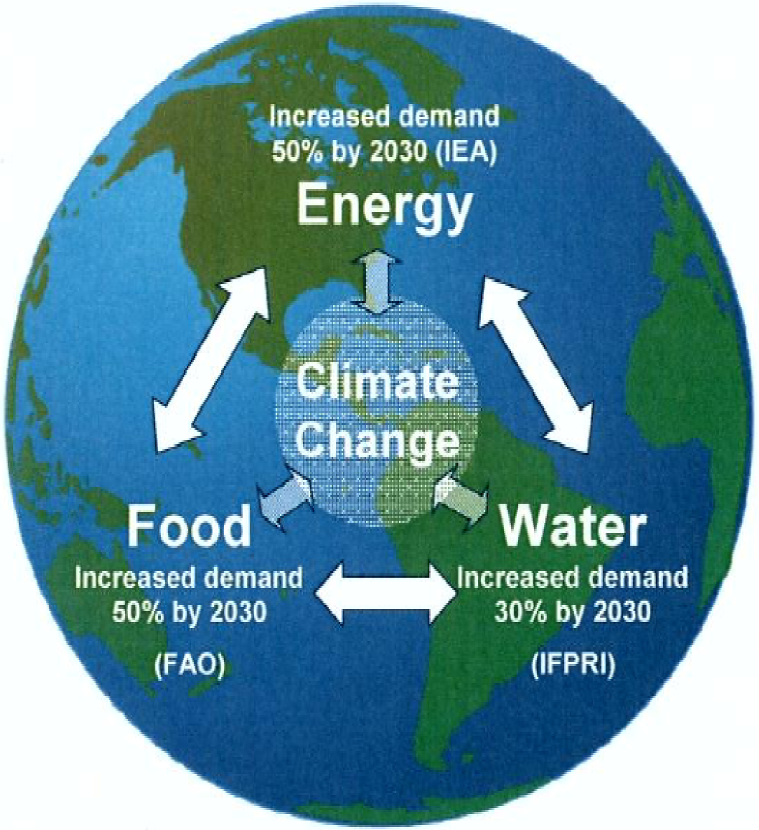
- From fragmented, state owned organisations
- To privatised consolidated companies
- Investment has increased to raise asset performance
- Customer support has been maintained so far

Challenges remain

–to meet impacts of climate change more investment required

Government Office for Science

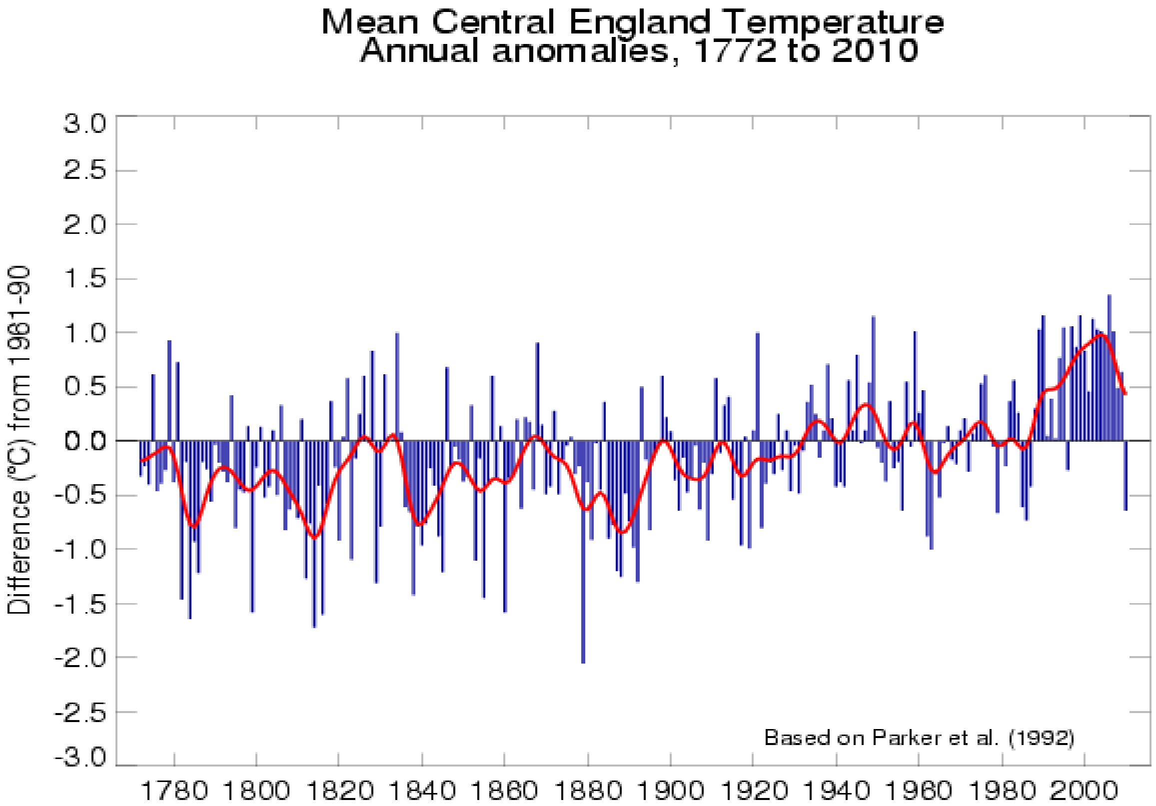
The Perfect Storm?



1. Can 9 billion people be fed equitably, healthily and sustainably?
2. Can we cope with the future demands on water?
3. Can we provide enough energy to supply the growing population coming out of poverty?
4. Can we do this whilst mitigating and adapting to climate change?
5. How does science and engineering help in preventing and adapting to this **perfect storm** scenario?

Asset Investment to meet Climate Change

Met Office



UK temperature records began in 1659, since then the 10 hottest years have been:

2006 1999 1990 1949 2002 1997 1995 2003 1989 2007

"Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" – IPCC 2007

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Questions?