

# Water Management in the UK

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# Overview

- Background to Water Management in UK
- Customer Legitimacy
- The Future

# Water Management in the UK

- Public Water supply and sewerage services are provided by private companies
  - Monopolies in their area of supply (although water and sewerage providers may be different)
  - 25 year evergreen licences
  - Own all own assets (including reservoirs etc)
  - Vertically integrated from source to tap, and sink to discharge
  - Economic regulator, Ofwat, oversees charging and service levels
- Water quality at customers' taps regulated by the DWI
- Water in the natural environment regulated by the Environment Agency
  - Water abstraction governed by abstraction licences
  - Waste discharges covered by discharge consent regime
- Ofwat and EA independent bodies, but accountable to Government department DEFRA. DWI is a department within DEFRA

# UK water supply sector overview

- **England & Wales privatised**
  - Wales now “not for profit” cooperative
  - Scotland and N Ireland – still public sector
- **Two types of company in England & Wales**
  - Water only (WoCs) – already private companies
  - Water and Sewerage (WASCs) – privatised in 1989
- **Privatisation resulted in**
  - 22 Water only companies (now 11)
  - 10 WASCS
  - Lot of comparative data
  - Very fragmented in South East
- **Mergers difficult but not impossible**
  - Competition Commission inquiry due re South Staffs/Cambridge merger

The WaSCs and the WoCs



Source: Ofwat.

# Bristol Water

- Owned 70% by Capstone, 30% by Agbar
- Size:
  - Provides drinking water to 1.15m people in over 0.5m properties
  - Area of supply 2,400 km<sup>2</sup>
  - Operates 17 treatment works and 6,700 km of mains
  - Average age of mains 68 years
- Private company since 1846
- Revenue £100.7m in 2010/11
- 70% of domestic customers unmeasured. Bills based on property rateable value (last reset in 1971)

# Ofwat and its Regulatory framework

- Economic and service levels regulator- the Water Services Regulation Authority
- Civil Service organisation based in Birmingham, away from London
- Created and controlled by Government legislation- the Water Industry Act
- Exercises power under that Act, gathering information, by issuing guidance and under the Instrument of Appointment or water company licences
- Appeals against Ofwat decisions are difficult
- Ofwat's key duties under Water Industry Act include:
  - To secure that companies are able (in particular by securing reasonable returns on their capital) to finance the proper carrying out of those functions
  - To ensure that consumers are protected by ensuring that any transactions carried out by companies are at arms length
  - Promote competition

# Ofwat

- Sets price limits and outputs through RPI+/-K
  - Company allowed to increase basket of tariffs from 1 April each year by K factor plus inflation from the previous November
- 5 year price reviews
  - Lengthy and complex review process
  - Allows Ofwat assessed efficient opex, current cost depreciation, tax plus
  - Current cost allowed return on regulatory capital value (RCV)
    - RCV is not the same fixed assets in “normal” accounts
    - ‘fixed’ for 5 year period reflecting assumed capex less depreciation
  - Incentive based regulation
- Possible interim price determinations
  - Business risk largely with company

## Regulatory framework – other regulators

- Consumer Council for Water (CCWater)
  - Becoming more important
- Drinking Water Inspectorate (part of Defra)
  - Water quality
  - Passionate advocates for drinking water quality
  - Input to future capex requirements
- Environment Agency
  - Water abstractions and discharges
  - Limited interface compared to water and sewerage companies
- Government
  - Expresses views to independent regulators
  - Interest can vary unpredictably
  - Two Government reviews currently underway:
    - Introducing competition
    - Charging and Fairness

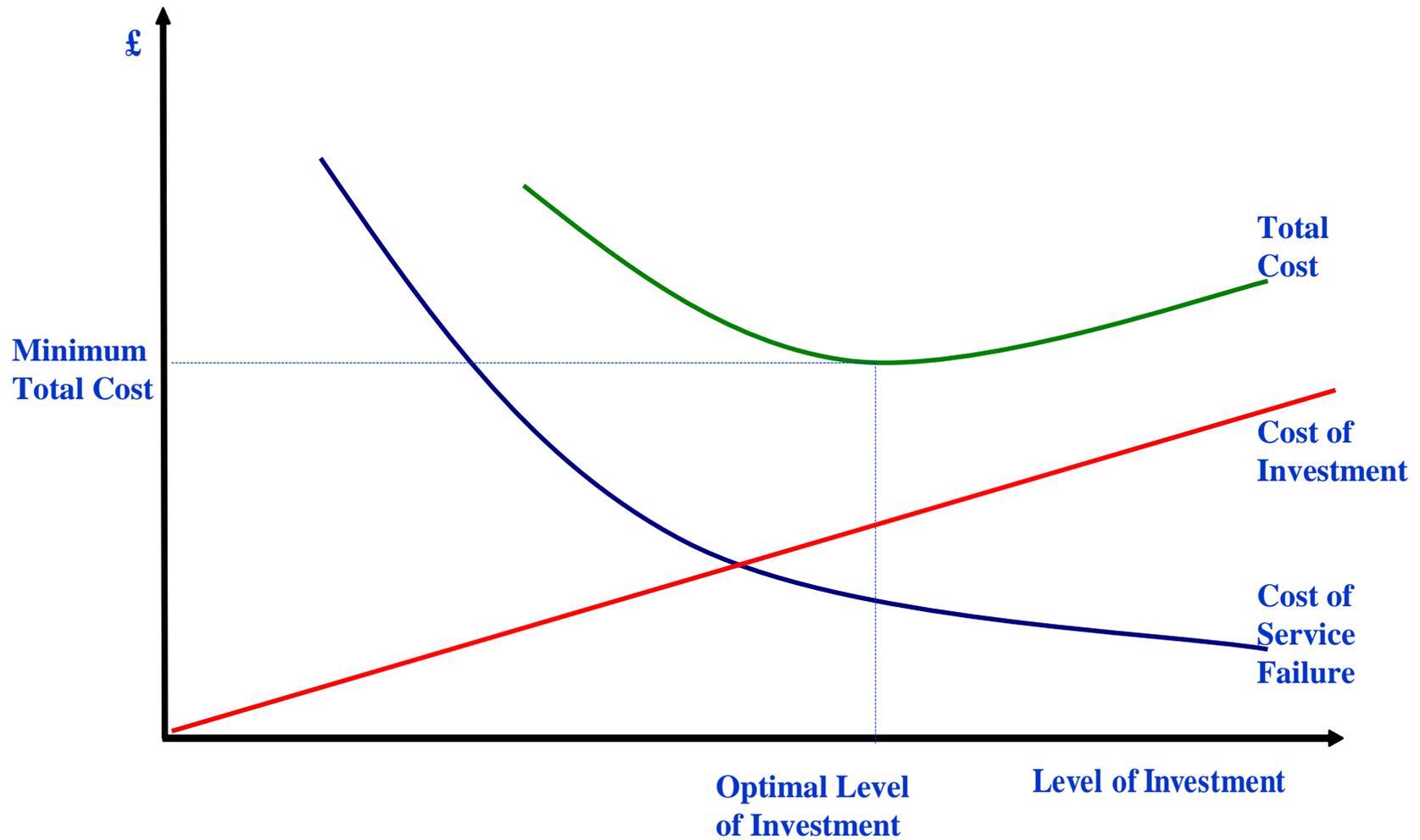
# Customer Legitimacy

- Key issue – how can the industry make sure it provides the right level of service for customers and continues to do so into the future?
  - No direct democratic representation through government or local authorities
  - No competitive market to allow customer preferences to be revealed via the market
- Target service levels and bills are set for five year intervals as a result of a ‘negotiation’ between the regulator and the water companies
- UK approach has been to gradually increase the level of engagement with customers through the price setting process - vital for long term legitimacy

# Delivering the right level of customer service

- Ofwat, as an economic regulator, has brought an economics based perspective to this issue
  - Customers should be provided with the water service they require at a price they are willing to pay
- Improvement of some aspects of service is expensive – there is a trade-off between service and cost. At the heart of the economic approach is getting the right balance for such trade-offs
- A key part of such an approach is valuing changes in service levels.
  - Most companies have addressed this by undertaking willingness to pay surveys of customers using choice experiment methods
  - Armed with such willingness to pay it is possible to find an optimal level of investment

# Optimal Level of Investment



## Consequences of Approach

- Practical implementation of this approach imposes a key requirement on company investment planning:
  - The need to understand the impact of investment on levels of customer service
- Progress in this area is varied across the industry. Most companies have managed to apply it to investment in:
  - Mains and communication pipe replacement
  - Pumping stations, treatment works M&E plant and meters
  - Investments to improve water quality and balance supply and demand
- Has proved more difficult in other areas where either:
  - It is difficult to link the investment to an impact on customer service
    - e.g. IT, vehicles and offices
  - Linking investment to risk of failure – e.g. civil structures and reservoirs
- Addressing the difficult areas is a key priority for companies

## Other Considerations of Approach

- Some strengths from economic approach
  - Effective where service levels can be linked to investment and investment valued
  - Used in other areas such as leakage. The level of leakage set by each company is based on the economic level at which the cost of further leakage reductions outweigh the savings (including those of future resource development)
  - Climate Change mitigation incorporated by including Government shadow price for Carbon
- Some Caveats
  - Customers are not alike, arriving at the right balance continues to require judgement
  - Can make strategic decisions such as introducing metering or widespread lead pipe replacement more difficult
  - Can be difficult to incorporate likely future increases in value

# The Future - Background

- UK Water sector has successful previous 20 years
  - significant improvements in water and environmental quality
  - significant increases in efficiency
  - high customer satisfaction
- But significant future challenges remain:
  - UK Population increase of 17% by 2030, and greater than 33% in South East and areas of the South West (including Bristol)
  - Impacts of climate change
  - Little new water available in many areas with high growth
- Ofwat believes a change in approach is required to meet these challenges in the most resource efficient manner and to ensure bills remain affordable

# Resource Efficiency – Water

- Three key areas:
  - Allocative efficiency – ensuring the mix of sources of water used is optimal and that the best options for new supply are chosen
  - Productive efficiency – loss of water from source to tap
  - Consumptive efficiency – efficient use by customers
- UK Regulatory approach to productive efficiency is relatively mature based on assessment of economic level of leakage – however, little focus to date on upstream losses
- Current regulatory developments are in the areas of allocative and consumptive efficiency

# Water – Allocative efficiency

- Economic Approaches
  - Encouraging trading of abstraction rights – successful examples in Australia
  - Calculating the ‘value of water’ at source and using it fully in economic appraisals for new sources
- Regulatory Approaches
  - Competition – allowing new companies to develop new sources and provide raw water
  - Outsourcing – new sources provided by tendering process run by Regulator
  - Changing incentives and requirements for cross border trading between companies
- Issues
  - Trading unlikely to be attractive to public water suppliers
  - Potential mismatch between long term decision making in respect of long life assets and a water ‘value’ that may be temporally volatile

# Water – Consumptive efficiency

- Targets
  - Currently companies must deliver an activity based target (e.g. supplying water efficiency packs to customers requesting them)
  - Discussion of change to a per capital consumption target
- Regulation
  - Move towards retail separation and retail competition. Expectation that this will give retailers greater commercial incentive to supply water efficiency services to customers
  - Smart meters and tariff policy – some experimentation beginning to be encouraged
- Issues
  - Ofwat recognise current approach is not sustainable
  - Difficult to change customer behaviour and imposition of efficiency on customers could be seen as ‘nanny state’
  - Smart meter approach uncoordinated

# Cost Efficiency

- Key changes proposed:
  - Upstream competition and outsourcing (linked to allocative water efficiency)
  - Third party creation of new assets (e.g. Thames Tideway perhaps)
  - Retail competition for non-household customers
- Issues
  - Unbundling the value chain could lead to losses of productive efficiency in excess of any allocative efficiency improvements
  - Competitive markets can result in short term value recognition – can be difficult to align with long life assets
  - Mixed results for non-household retail competition in Scotland. The Scottish water regulator claims competition has been a success, but:
    - Report by Deloitte suggests costs to serve are higher than in England
    - Customer watchdog has revealed a significant increase in complaints from non-household customers
    - Less than 2% of customers have switched supplier

# Summary

- UK Water regulation in transition
- Key driver for change is to try and obtain maximum efficiency in the development of new resources to meet the needs of a growing population
- Additional driver is the belief of Ofwat that increased choice as a result of more competition will increase legitimacy of water industry
- Change will present opportunities as well as difficulties