



Improving Water Supply Resilience for Agriculture

U3A - Changing Water Environment: Challenges and Opportunities Seminar

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Content of this talk

- Overview of the Environment Agency in water resources management
- Context setting: The National Framework for Water Resources
- A closer look at agriculture as one component of the National Framework

Role of the Environment Agency: water resources management



- Strategic oversight: “Secure proper use” of water resources across all sectors
- Set the framework for water resources planning in England; provide guidance on the development of water resources management plans and drought plans and advise Government on their adequacy.
- Allocate water resources through abstraction licences (regulatory role).
- Operate some strategic transfer schemes.
- Advise Government on the needs for future policy and legislation.

Role of the Environment Agency: allocation of water rights

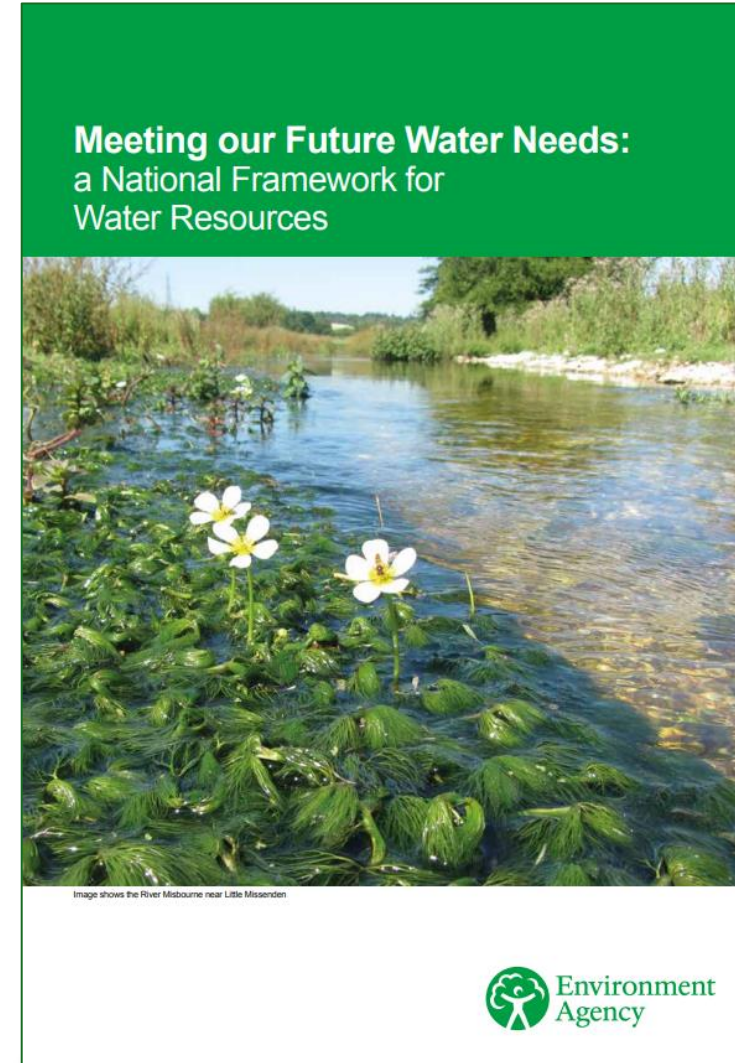
- Allocation of water resources (regulatory role)
- Success is where we can allocate water abstraction rights in a way that is sustainable provided that:
 - The quantities are reasonable and justified
 - Existing water rights and lawful uses remain protected
 - It is taken at a rate which doesn't deplete an aquifer/ catchment
 - It doesn't adversely affect habitats dependent on a healthy water environment
 - There is a proper 'use' of water resources (e.g. 'hoarding' water rights doesn't prevent others from gaining a benefit)
 - Water is used efficiently; carbon emissions are minimised while doing so
- Compliance assessment and enforcement



The National Framework for Water Resources

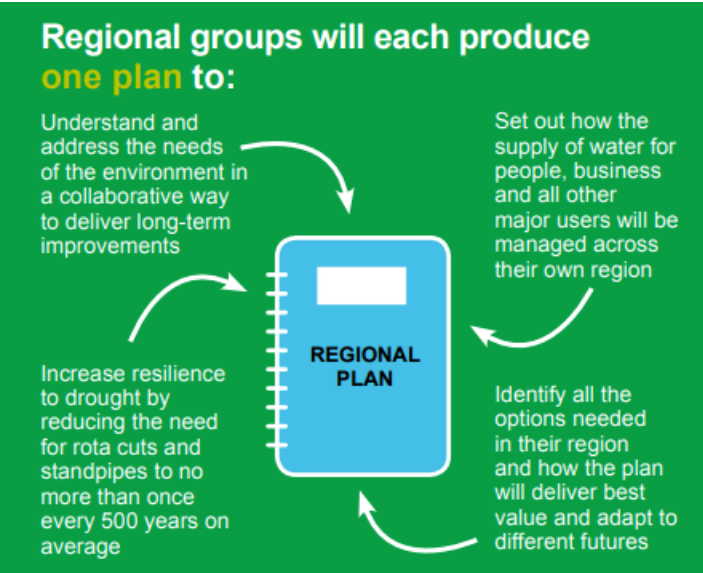
Pressure on water resources is growing

- The National Framework for Water Resources (2020) sets out the challenges for water resources
 - Future water demands for public water supply, energy and agriculture
 - Environmental sustainability needs
 - Climate change impacts
 - Improved levels of supply resilience
- Sets out our expectations for delivering and identifying solutions
- Provides a framework for the development of Regional Water Resources Plans
- Facilitates multi-sector engagement
- Provides an interface with catchment planning
- **A revised Framework to be published in Spring 2025**



Regional Water Resources Groups

- The National Framework set out a requirement for 5 Regional Water Resources Groups to produce regional water resources plans.
- Multi-sector: consider water needs of the environment, water companies, energy, industry, agriculture, business, etc.



A summary of England's revised draft regional and water resources management plans

Updated 21 March 2024

Table 2: Total public water supply demand deficit by region group at intervals up to 2050 in MI/d (sum of surpluses and deficits)

Regional plan	2029-30	2034-35	2039-40	2044-45	2049-50
East	-228	-357	-383	-709	-769
North	-149	-163	-226	-336	-347
South East	-876	-1213	-1703	-1955	-2511
West Country	12	-40	-147	-180	-202
West	-214	-392	-585	-710	-1032

The national deficit by 2050 for public water supply **without action** is almost 5,000 MI every day. This equates to the amount of water that approximately 36.5 million people would use at current rates of consumption.

The National Framework for Water Resources 2025

A retained focus on secure public water supplies

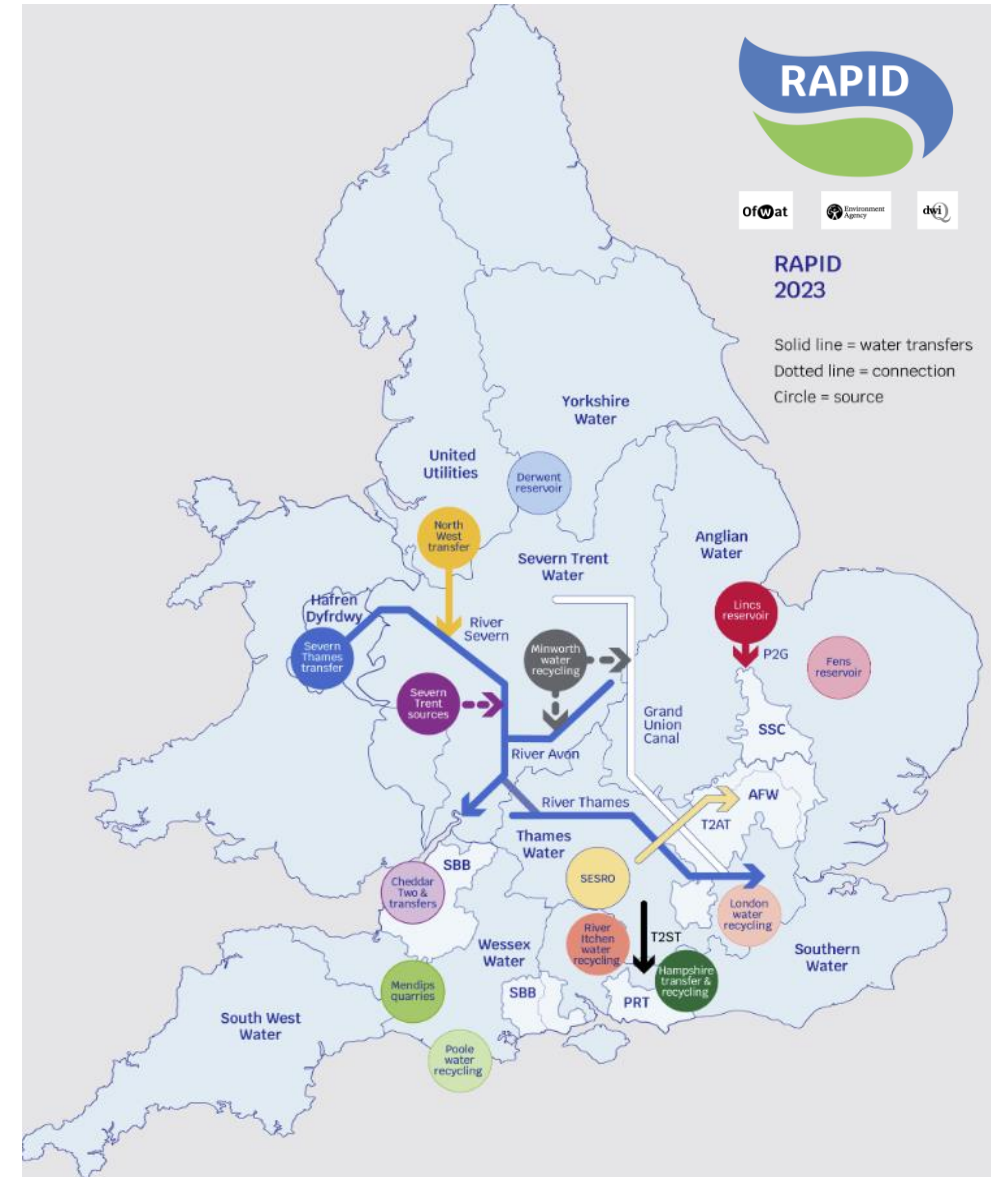


- Importance of **delivery of demand management actions now** and continued development of enabling policies (needed because of long lead times for resource development)
 - Smart metering and tariffs
 - Leakage: 50% reduction by 2050
 - Per capita consumption: 110 litres per person per day by 2050
 - Water efficiency labelling
 - Minimum standards for showers, taps and toilets; water fittings and building regulations.
 - Tighter standards for new homes.
 - Non-household demand management: 9% reduction by 2037/8
 - Enhanced demand management in areas of water stress
- Importance of **monitoring progress and adaptive planning**

The National Framework for Water Resources 2025

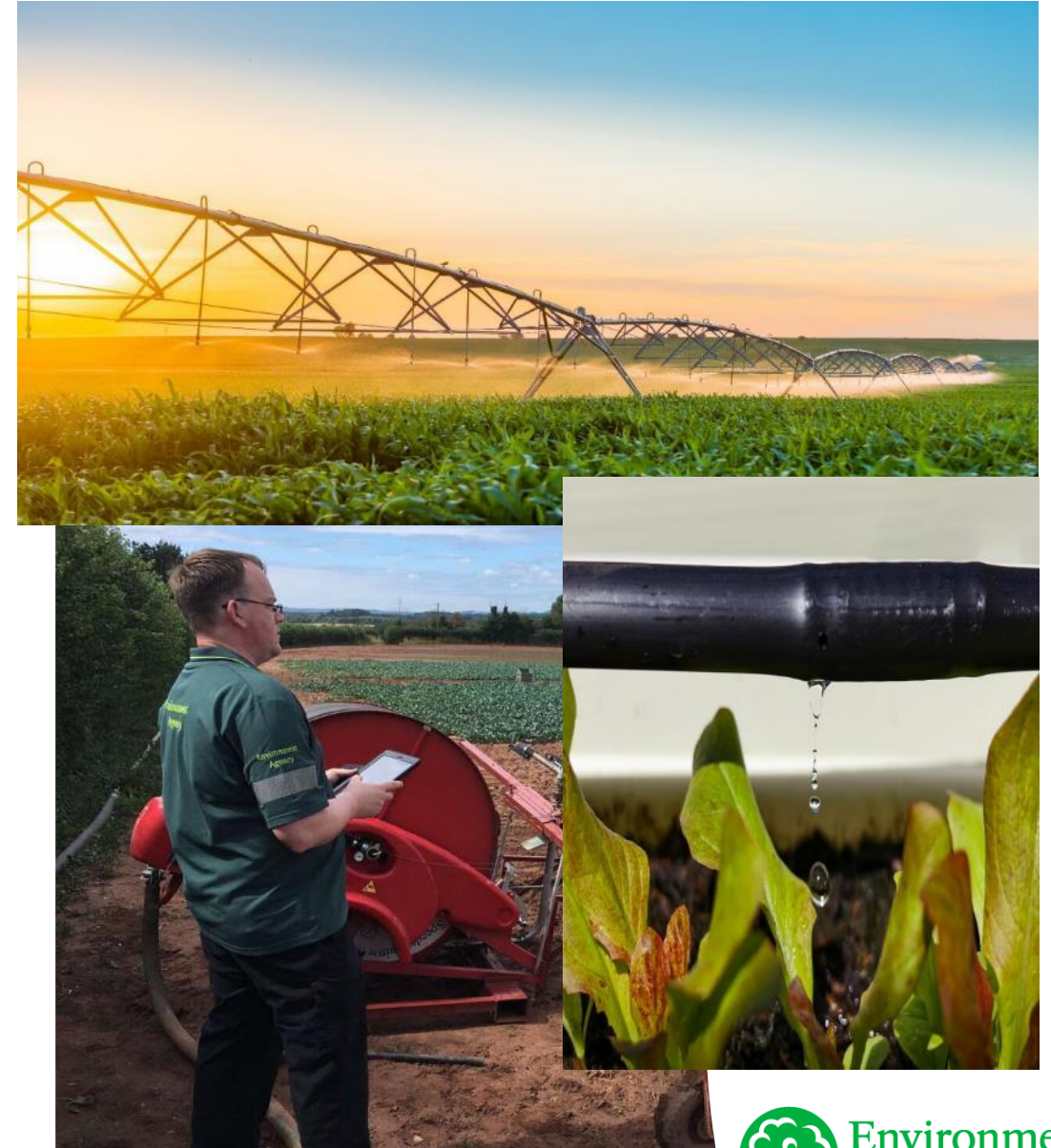
A retained focus on secure public water supplies

- Demand management alone will not be enough.
- **Need for additional options to be identified and assessed**
 - Drainage water from IDBs, highways, quarries and mines; recycled water; desalination; reservoirs; transfers.
 - Role of RAPID in assessing strategic resource options and enabling delivery at pace.
- The need to reserve water rights associated with future national critical infrastructure schemes.
- **Joined-up proposals**, particularly with energy and agriculture
- The importance of water returned to the environment as a resource.



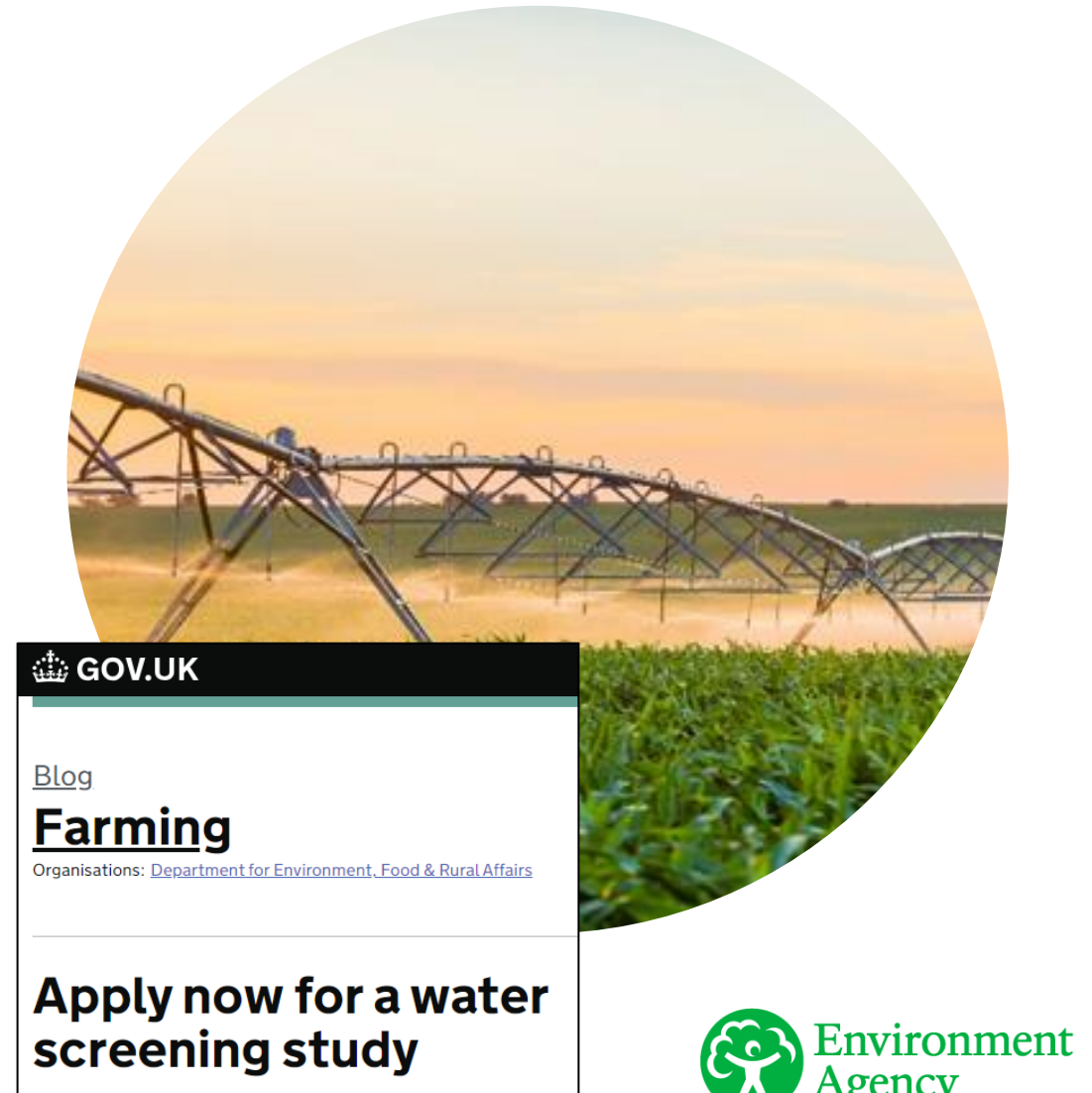
Improve the resilience of water supplies for agriculture

- Raise awareness of future pressures on water resources.
- Improve collaboration; support the establishment of Water Abstraction Groups.
- **Invest in studies to identify, screen and prioritise Local Resource Options for agriculture.**
- Develop pathways for investment to enable Local Resource Options to be implemented.
- Continue to promote water sharing and water rights trading.
- Invest in the use of Water Abstraction eAlerts to improve access to water.
- Promote smart farming.



Local Resource Options (LRO) Studies - Aims

- Support the agriculture sector to identify, assess and prioritise options as a way of increasing water supply resilience.
- Facilitate and support collaboration by working with local groups of farmers. Includes promoting the establishment of Water Abstractor Groups (WAGs).
- Provide a pathway to delivery, linked to government support.
- Inform future policy advice to Defra.



LRO Applications

- 20 LRO Studies
- >109 farms
- Around 36,000 ha of farmland
- 4 regions across England
- 18/20 study groups have faced water restrictions in the past 10 years
 - *due to drought or water abstraction licence conditions*
- **All** study groups expressed concern over the future of their water supply



Local Resource Options (LRO) Studies

- Outcomes

- Methodology developed
- First round of projects starting to report back
 - River Thet trial identified a multi-ownership reservoir near Cambridge as the top option.
 - Water rights sharing a common theme
 - Several new Water Abstractor Groups being formed
- Looking to apply the approach to other sectors of water use.
- Lessons learnt report – inform policy advice to Defra

Example LROs:

- farm storage reservoirs (new, resizing and/or change to multi-season operation)
- water rights trading
- demand management, leakage control and irrigation scheduling
- water sharing
- rainwater harvesting
- improve connectivity of existing sources
- treated effluent reuse
- drainage water use
- aquifer storage and recovery
- wetlands for high flow attenuation
- conjunctive use schemes, i.e. mix of groundwater and surface water



Potential Benefits

(initial assessment)



Potential benefit of
£145
million
to England's economy





“The most
expensive water is
no water.”

Spanish Irrigator, 2023

Courtesy of the UK Irrigation
Association

Slides for potential use to help with explanations if questions arise.

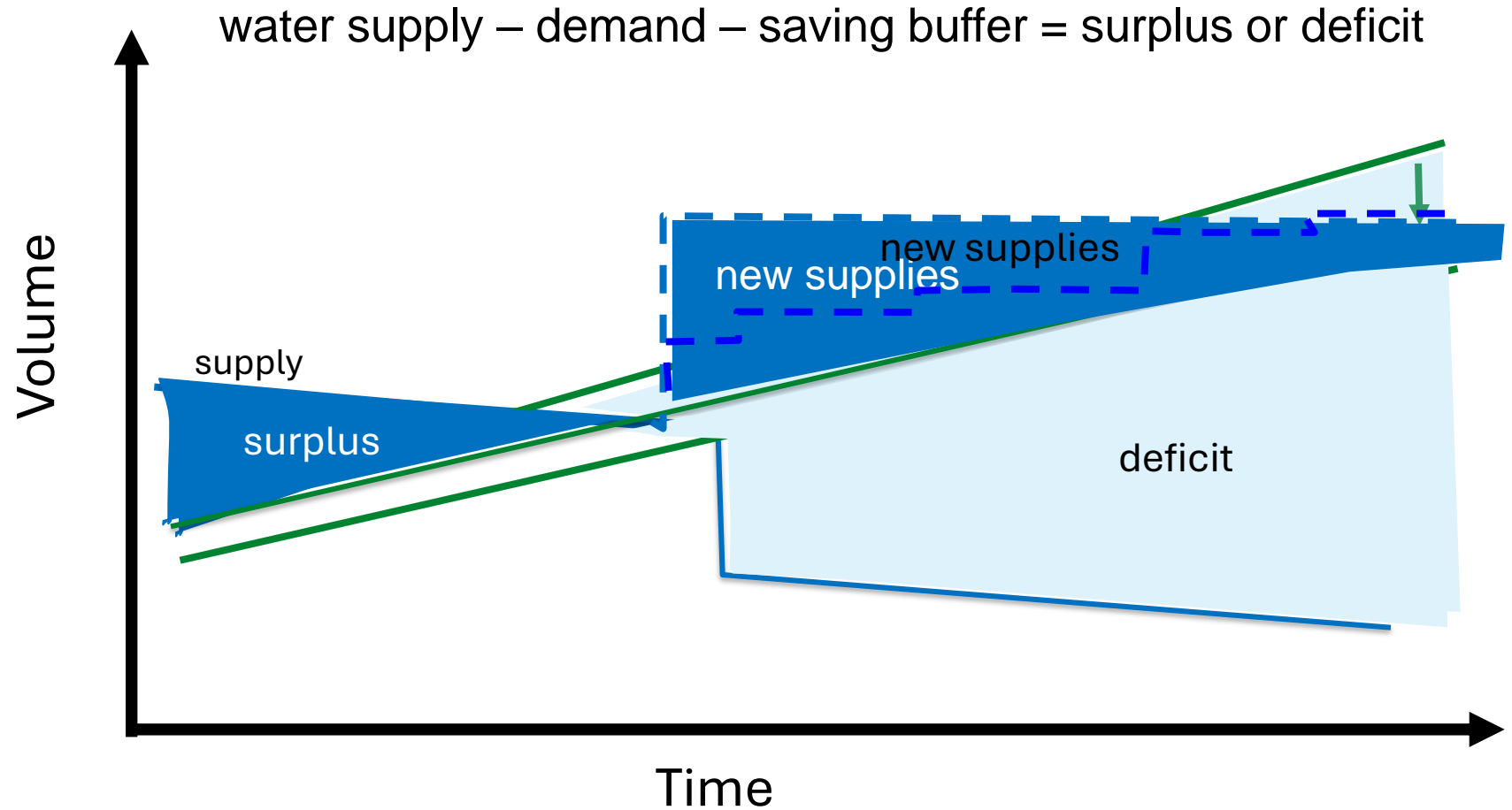
Strategy for tackling water resources security issues: Water Resources Management Plans (WRMPs)

- Water companies must produce a water resources management plan every **5 years** - statutory
- WRMPs should show how companies will provide a secure supply of water to customers over at least **25 years**.
- They should ensure an efficient and sustainable use of water resources.
- Water resources planning process works alongside the process for setting water companies' price limits (PR24).
- Water companies must engage with **customers and stakeholders** as they develop their WRMPs via a public consultation process.
- Water companies produce an **Annual Review** of their WRMP every year to report on progress.



Water Resource Planning assumptions:

- Supply forecast – how much water is available?
- Demand forecast – how much water do customers need?
- Supply/demand balance – surplus or deficit?



Particular pressure on water supplies in Eastern England

- The whole of Eastern England is classified as 'seriously water stressed' for public water supply
- The problem is getting worse
 - Increasing demand in this area
 - Highest rates of new housing development in the country
 - Decreasing supply
 - Changing (less dependable) weather due to climate change
 - Ambitious future environmental demands
 - Abstraction licence reductions
- If no urgent action:
 - Environmental damage, and endangering key habitats
 - Constrained agricultural production
 - Constrained economic growth

