Ofwat water resources working group

25 July 2016

Agenda

No	Item	Time (minutes)	Lead
1	Welcome and introductions	10.00 (5m)	Peter Hetherington
2	Project management	10.05 (10m)	Hanif Jetha
3	Market information platform – the story so far	10.15 (15m)	Peter Hetherington
4	Water 2020 – water resource planning and third party options – recap from last paper and observations on May W2020 paper	10.30 (30m)	David Hinton
5	Break	11.00 (10m)	-
6	Competitive markets to tackle water scarcity	11.10 (20m)	Luke DeVial
7	Thoughts on Ofwat 2020 – market information platform	11.30 (10m)	Darren Leftley
8	Water resource information necessary to support an efficient market – an entrant's view	11.40 (10m)	Jerry Bryan
9	Improving market information – Initial Ofwat thinking	11.50 (40m)	Ian Pemberton
10	Lunch	12.30 (30m)	-
11	Form of control	13.00 (60m)	Peter Hetherington
12	Access pricing – update from sub-group	14.00 (30m)	Peter Hetherington, Frank Grimshaw
13	Ofwat updates • licencing; • the water resources price control boundary; and • May document consultation responses (as of July 21)	14.30 (45m)	• Stephen St Pier • Ian Pemberton/David Young/Rob Lee • Riccardo Zecchinelli
14	Actions and agenda for next meeting	15.15 (15m)	Peter Hetherington

Project management

Action (from 28 June meeting)	By Whom
Minutes and terms of reference: Ofwat to circulate these to group members for comment (to be finalised at next working group).	Ofwat, Group members
Boundary of the price control: Companies to report any unclear or "tricky" scenarios which do not easily follow the proposed approach.	Incumbent companies
Boundary of the price control: Ofwat will host a conference call in July to discuss the evidence provided by companies regarding the water resources boundary. If you want to be involved in this call please contact Ian Pemberton.	Ofwat, Group members
Access prices for bilateral water resources providers in England: Ofwat has asked for volunteers to work as part of a sub working group on access pricing issues.	Group members
Market Information platform: Please can you come prepared for our next meeting with ideas on • What WRMP information would be most useful to present to potential bidders and how might it be simplified? • What contextual information might be useful? • At what scale should information be presented	Group members
Presentations for future working groups: Ofwat is looking for volunteers to present at future working groups, topics available at the next working group (25 July) are the market information platform and form of control. Future topics will be set out at the next meeting.	Group members

We have set up a Water 2020 working groups website where all papers, plus minutes of the meetings are available for download: http://www.ofwat.gov.uk/regulated-companies/improving-regulation/future-price-setting-for-2020/water-2020-working-groups/

Market information platform – the story so far

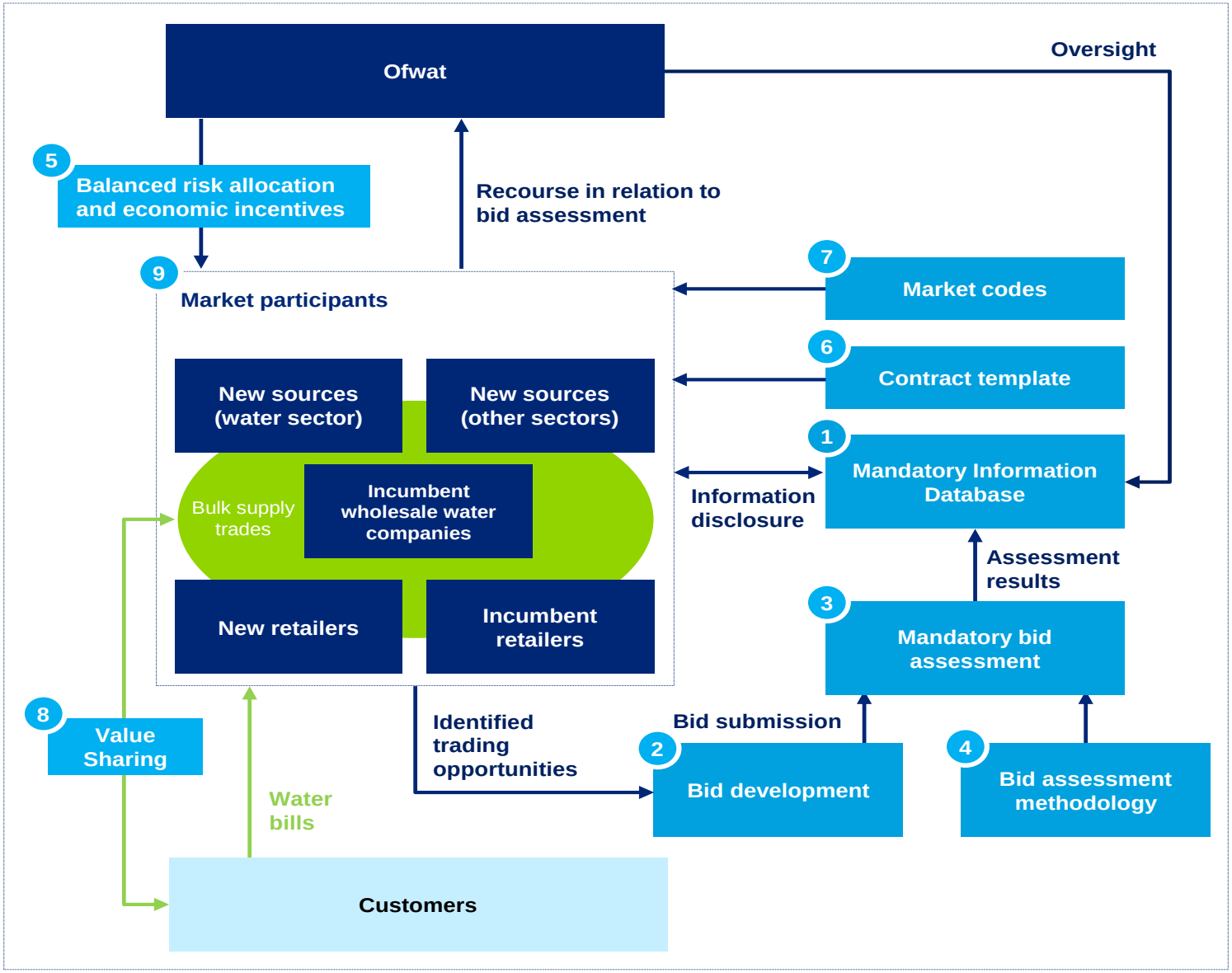
Our December proposals

December consultation proposal	• Market information database, managed by a third-party organisation, which would also provide a platform for bid assessment on an ongoing basis • Based on the recommendations of the Deloitte Report "Water trading – scope, benefits and options" • Principles-based approach to bid assessment, with potential recourse to Ofwat

Stakeholder feedback	• Stakeholders were generally supportive on the overall policy proposal to improve information provision and encourage trading but some raised concerns including
	  ○ Risks to resilience, water quality and environmental impact
	  ○ Cost and complexity of the proposed design
	  ○ The sharing of sensitive data such as cost information and intellectual property with value
	  ○ The model of third party design which most supported but some saw as overly complex
	  ○ The need for a bid assessment frameworks given existing legislation and controls to ensure fairness
	  ○ Alignment with WRMP19

Further review and analysis	• The input we have received underlines the importance of taking a targeted and proportionate approach to information provision • In the first instance our focus will be on stimulating conversations between potential suppliers and buyers rather than setting out all information required to determine a trade • This puts greater emphasis on commercial negotiations and means complex issues such as resilience, water quality and environmental risk will be determined off-line • International experience suggests that third-party brokers may play a significant role in aggregating and analysing data to identify opportunities
Revised policy decision	• We will require incumbent companies to make data available on supply-demand deficits and water resource costs in a consistent format on their websites with Ofwat providing a signposting page • We will require companies to allow reasonable use of published information • We will require companies to publish a bid assessment framework setting out polices and process for assessing bids to supply water resource or demand management/leakage services • These changes will be supported by a license modification

Deloitte proposed market design



Key:

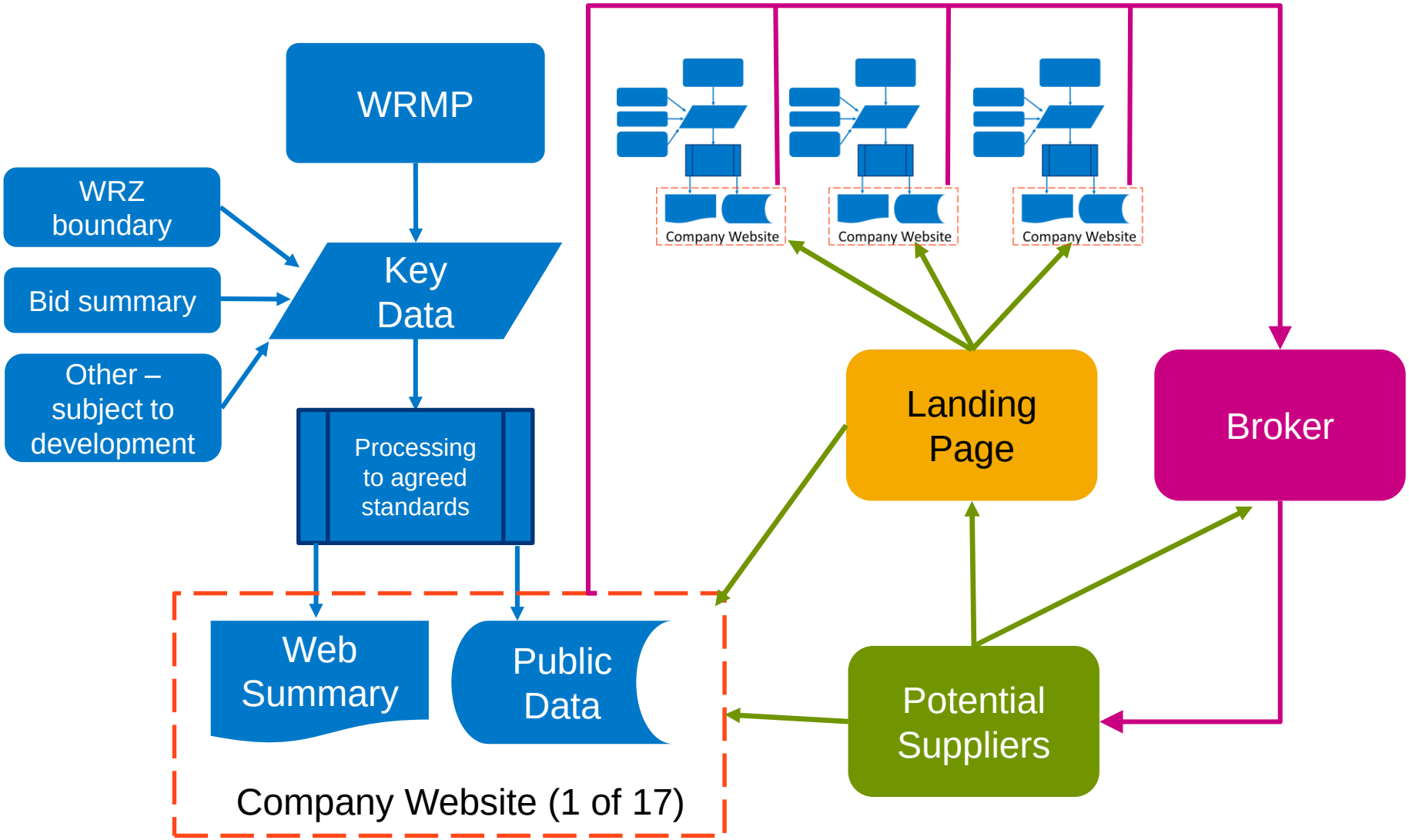
Market entity

Market design element

Information / contract flow

Money flow / value sharing

Revised structure of the market information platform



south east water

Water 2020 – water resource planning and third party options – recap from last paper and observations on May W2020 paper

David Hinton – Asset and Regulation Director

Outline - Summary

- Objective of reform – what are we trying to achieve?
- Potential reform option – creating a marketplace for third party options
- How has W2020 addressed issues and proposed reform
- My view on areas for further discussion

Objective of reform in water resources

- The objective of any reform is to result in better outcomes for customers and society
  - Least cost resource solutions
  - Protecting or improving resilience of supplies
  - Protecting or improving local ecosystems
- Reforms aimed at achieving these outcomes could include some or all of
  - Changes to the water resource planning process or guidance
  - Changes to the methodology for economic regulation
  - Changes to facilitate greater competition from new supplies and between existing supplies
- The debate around reform can focus on competition or trading or innovation – but these are the 'means to the end' and the focus should be on achieving better outcomes

Barriers faced by third party schemes

- Regulatory incentives and biases
  - Preference for ‘build over buy’ – due to capex bias or concern over control and risk management
  - Disproportionate bias against options with greater uncertainty (demand management)
  - Trading incentives may be insufficient
- WRMP process
  - Complexity and detail of process may bias against third party options
  - Concern about degree of control over third party options
- Information failures
  - Third parties providing insufficient data on costs and risks of options
  - Third parties lack information of company demands and potential prices

Options for further reform

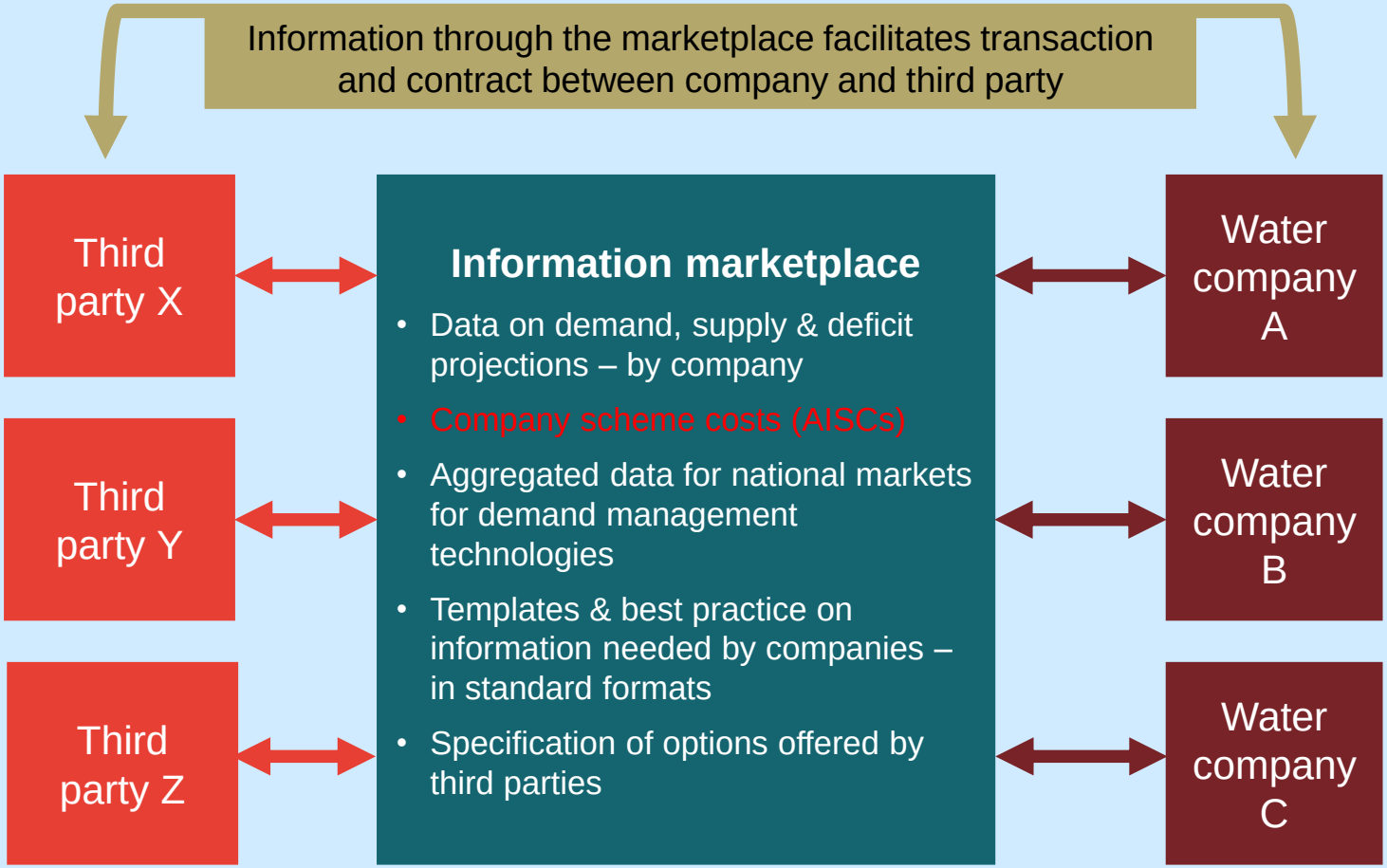
- A number of further reform options can be identified – for example
  - Develop a system operator role – with responsibility for procuring new supplies
  - Introduce greater bilateral competition between existing and new supplies
- Our work focussed on an option of addressing the information failures through the creation of an 'information marketplace'
- This needs coupling with improved incentives
- The aim would be to address the information barrier and facilitate the entry of third party suppliers

Creating a marketplace for water resources

- Proposed solution involves the creation of an information exchange or marketplace
- Objective is to eliminate many of the search costs and enable efficient transactions to be identified
- Water companies would provide
  - data on their projections for demand, supply and deficits
  - data on the costs of the companies' proposed supply / demand schemes
  - guidance and templates on the information that companies need in order to evaluate third party options
- Potential third party suppliers
  - Can respond to the company data to offer potential solutions that meet company requirements and with the specific information that companies' need
  - Have greater visibility over the level of national demand – particularly relevant for possible demand management or leakage reduction options
  - Can provide information on potential innovative options for further development with interested companies

Creating a marketplace for water resources

- Schematic shows the flows of information in the marketplace
- The transactions are still bilateral contracts between buyer and seller but in the context of more complete information



Creating a marketplace for water resources

- Specific design of marketplace would address:
  - Treatment of commercially sensitive information – though much of the company information about supply and demand projections is publicly available
  - Formats can be developed that would balance the need to protect pricing or costing data while revealing enough information to encourage entry
  - Commercial arrangements for participating in the marketplace
- The role for regulatory intervention to address this information failure may be limited
  - Once established the benefits should ensure that the marketplace is commercially viable
  - However does it need a regulatory kick start
  - market failure stems from the lack of information and once established it should be self-sustaining
- Therefore any initial resources required to 'kick-start' the marketplace could be raised from companies or regulator

W2020 Issues and Thoughts

Water 2020 – high level observations

- Broadly aligned with the approach just highlighted
- Barriers expressed are similar although possibly underplays the risk point on being a recipient of a bulk supply
- Remedies underplay the need for increased incentives
- Proposes a company not centrally held database
- Proposes a bidding assessment process
- Overly focused on bilateral market model

Further thoughts and issues

- Market enablers
- Does W2020 go far enough in making the right transactions more likely - it so far delivers:
  - Transparency of information improving the search process
  - Improvement to the clarity of process for the market entrant
  - Clarity on how the bids will be assessed
- It doesn't yet:
  - Provide further incentives to trade
  - Deal with the risk in a drought issue
  - Make the transaction process easier past the bidding phase
  - Look to create or facilitate the creation of the broker role

- It creates a kind of poor mans e-bay where the site just gives you a list of shops which you have to search individually.

The broker

- What and who should this be
- They could on an ever increasing complexity scale:
  - Collate the information into a single but regionally separable database.
  - Provide an admin service on bid production, assessment and collation
  - Facilitate the trades and seek to market the market incentivised on volume of trades/activity
  - Run the whole process market the market and collect a % of the transaction
  - Could be a combination of the above
  - DO we expect a third party to fill this role? From the outset or after establishment?

Further thoughts and issues

- Cost transparency – dependent on number of market players

Option type	Low no. of regional players	Medium no.of regional players	High no. of regional players
Leakage solutions	Unlikely	Likely	Unlikely
Demand solutions	Unlikely	Likely	Possible
Supply solutions	Likely	Unlikely	Unlikely

- Although efficient trades may take place transparency of cost particularly for supply options mat provide windfall gains to supply provider

Concluding thoughts

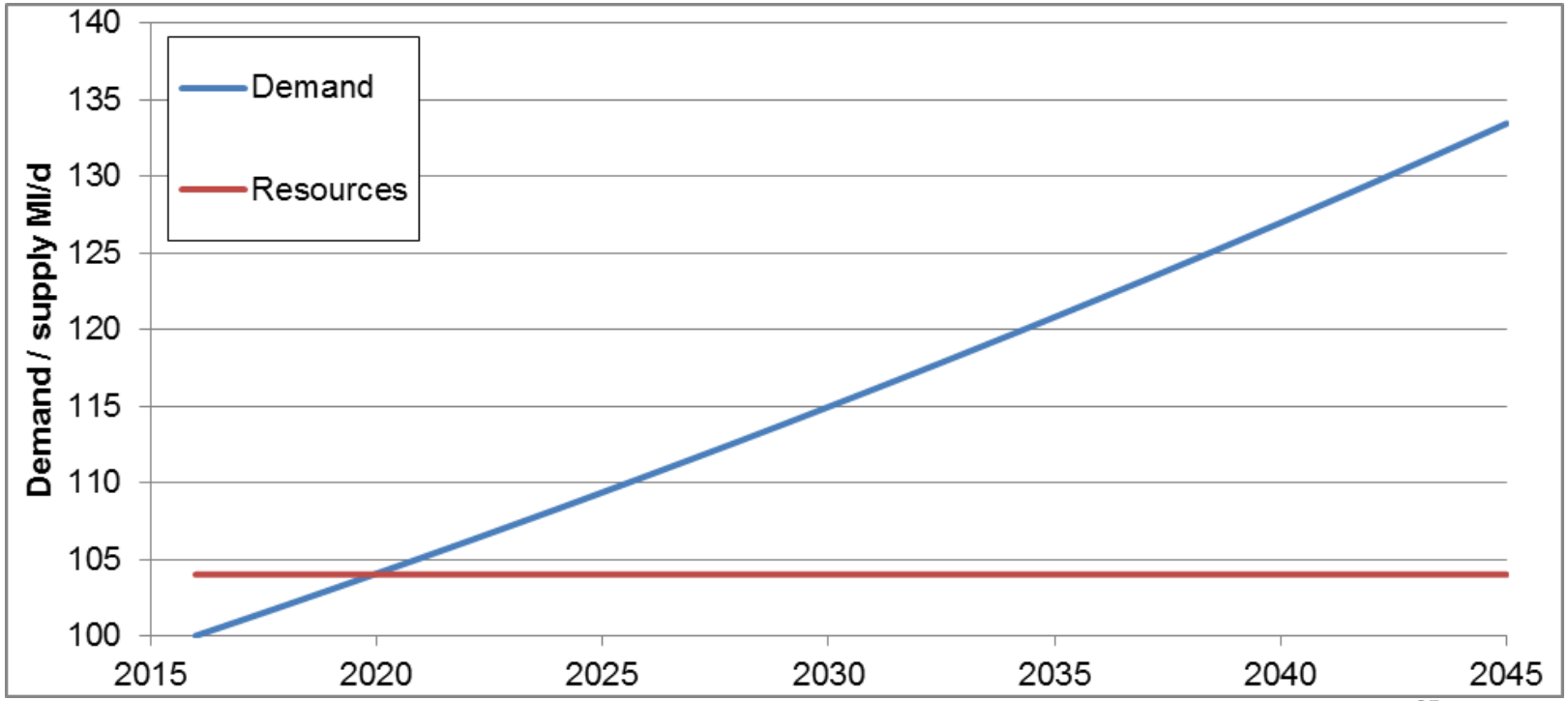
- There are potential material benefits from greater water trading and involvement of third parties
- A number of changes to the regulatory methodology and WRMP process have already been made to address barriers to these trades
- The effectiveness of these changes is not yet clear and changes to incentive structures may take time to feed through
- The option to create an information exchange could address one of the remaining barriers around search costs – this could complement the regulatory incentives
- However W2020 could go further and doesn't go past the bidding process
- It doesn't improve the incentives
- Trading will rely on the emergence of a broker – plus, for it to be effective?

Break

Wessex Water

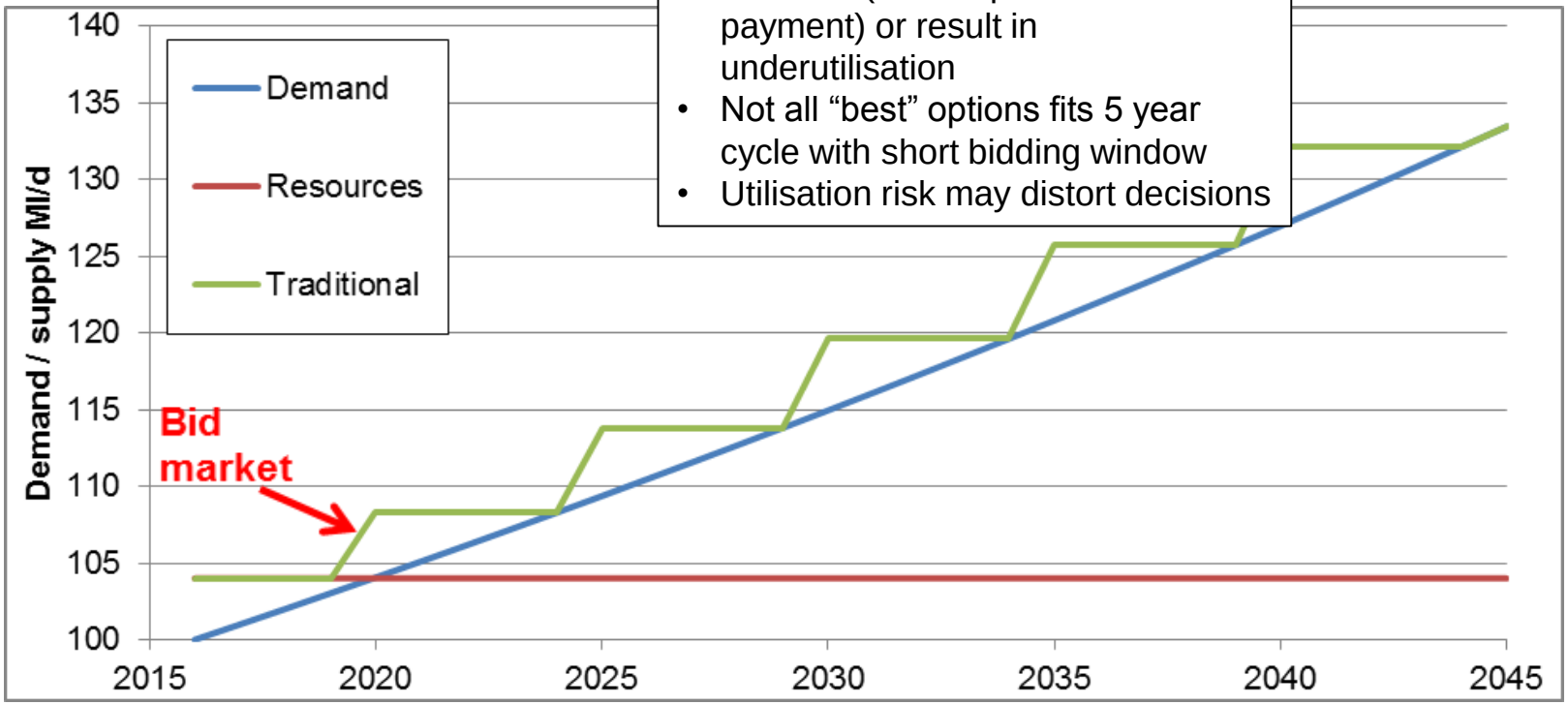
Competitive markets to tackle water scarcity

What is the problem?



Traditional approach

- No space for efficient competition outside bid market
- Subsequent bilateral trades either thwarted (no compensation payment) or result in underutilisation
- Not all “best” options fits 5 year cycle with short bidding window
- Utilisation risk may distort decisions



Competitive market

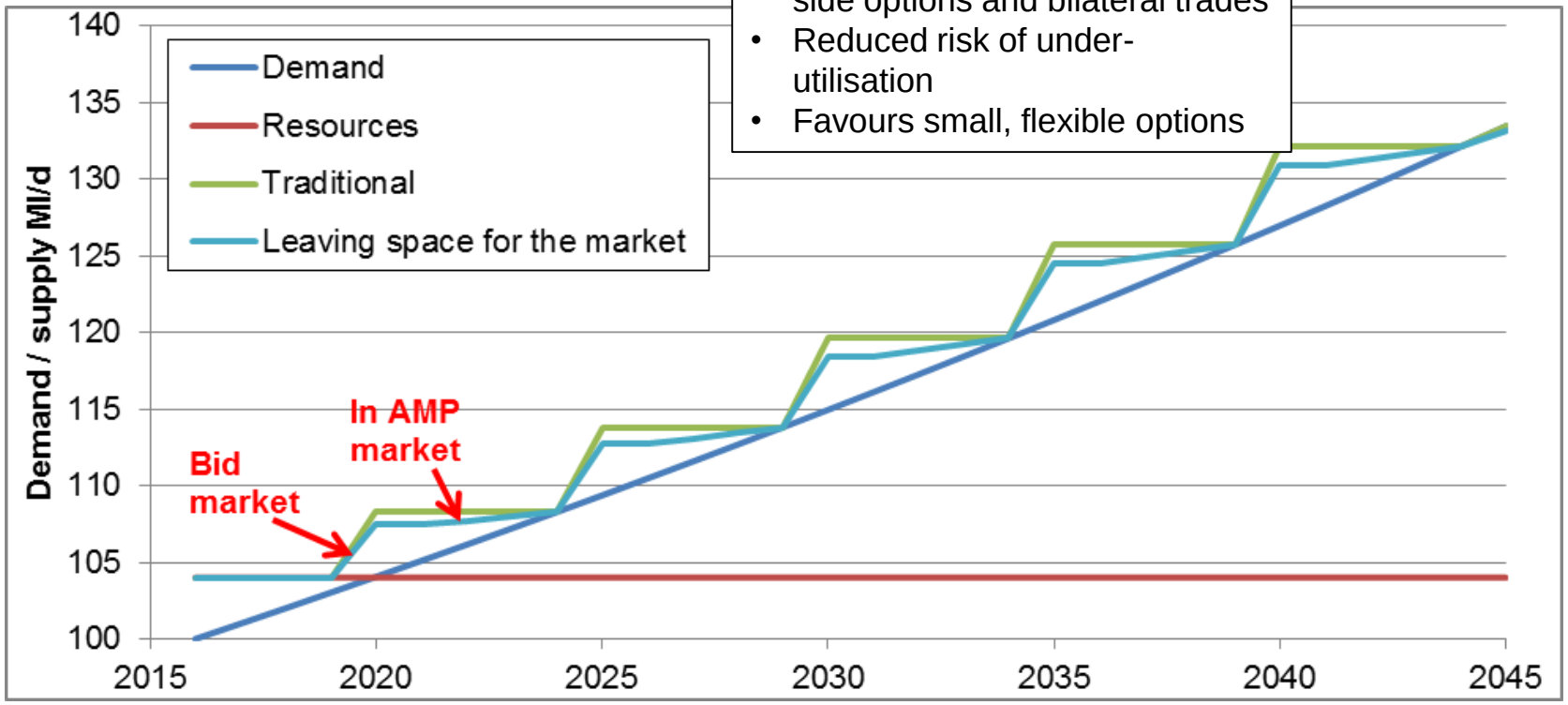
- Primary market
  - As per Ofwat proposal but:
  - Bids sought for [80%] of predicted deficit
  - Paid at bid AIC

- Secondary market
  - Companies plan to meet [20%] of deficit during the AMP
  - Bilateral trades and demand management schemes (third parties)
  - Paid next scheme AIC less [10%] subject to floor of highest AIC paid in the primary market

- To ensure resilience
  - If secondary market not fully taken up then shortfall added to primary market for following AMP
  - Secondary market limited to [2%] of distribution input to allow for supply / demand balance step changes

Competitive markets

- Space for ongoing efficient competition
- Greater support for demand side options and bilateral trades
- Reduced risk of under-utilisation
- Favours small, flexible options

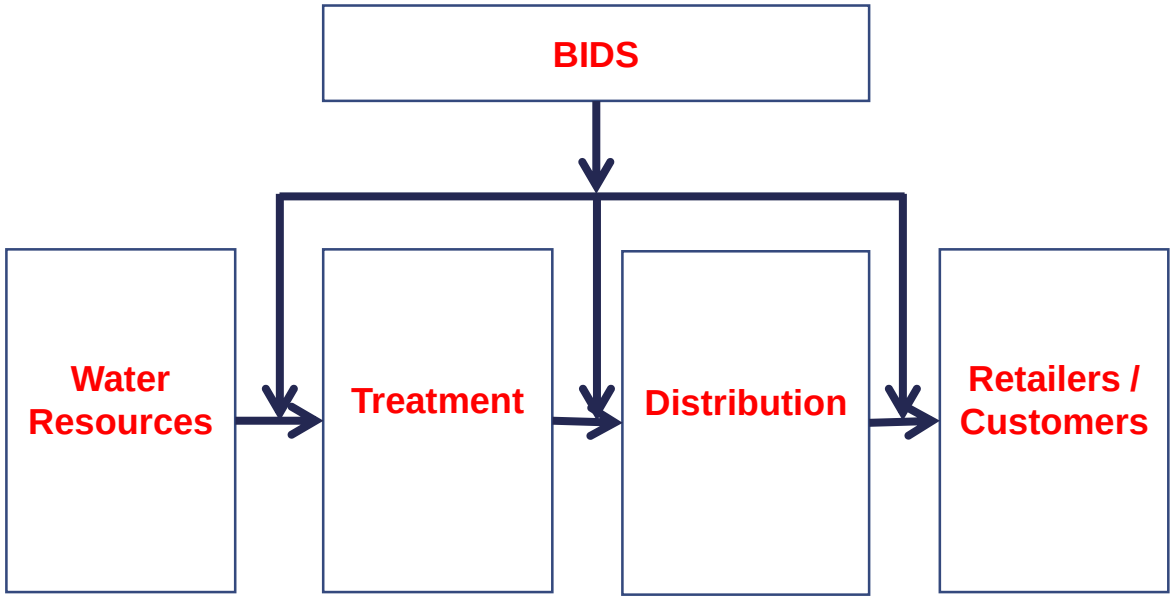


What water resources do we want / have?

- Three key characteristics to a “water resource”

- Type of water – raw or treated or distributed?
- The location of the resource – relevant both within and between resource zones
- Temporal availability

Type of water



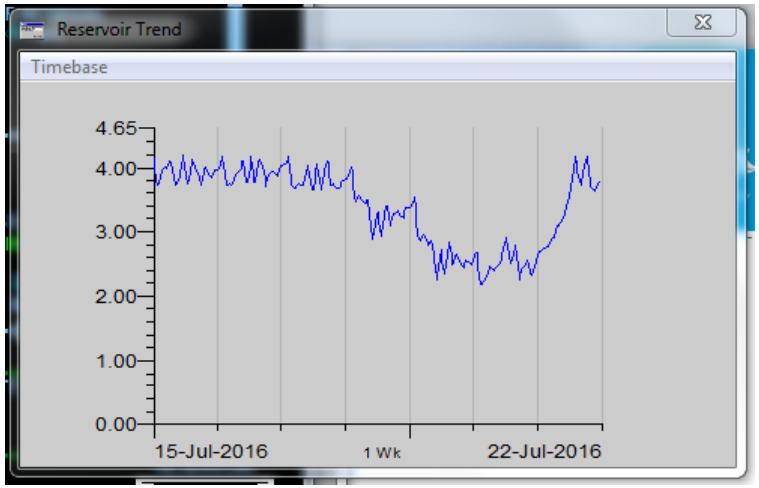
- If need is raw water (i.e. have treatment capacity) then raw or treated water or demand management bids are OK (treatment and distribution credits?)
- If need is water treatment capacity then raw water bids are no good (distribution credit for demand management option?)

Location

- Ideally one market per resource zone
- But – may be additional intra-resource zone costs if:
  - Meeting a lumpy deficit (large and location specific)
    - Loss of a polluted source
    - Sustainability reduction
  - Transferring a lumpy new resource
- Water company adds these costs to bidders AIC?
- Demand management options likely to avoid these costs

Temporal need and availability

- Peak capacity (7 days?)
  - failure mode = service reservoir empty
- Dry period (months to a year or two or three)
  - failure mode = impounding reservoir empty or
  - failure mode = annual abstraction licence exceeded



Peak availability

- Good solutions
  - Demand management
  - Treated water
  - Distribution capacity
  - Treatment capacity
  - Increased daily abstraction licence
  - (Treated water storage)

- Bad solutions
  - More raw water storage
  - Inputs of raw water to a reservoir
  - Increases in annual licences

Average availability

- Good solutions
  - **Demand management**
  - **Treated water**
  - **Distribution capacity**
  - **Treatment capacity**
  - **Increased daily abstraction licence**
  - **(Treated water storage)**

- Bad solutions
  - **More raw water storage**
  - **Inputs of raw water to a reservoir**
  - **Increases in annual licences**

Bid process

- Water company needs to make clear their needs in terms of:
  - Type of water
  - Location
  - Availability
- Bidders can then submit their proposals against these needs
- Probably a degree of offline iterations to ensure apples compared with apples
- Need for transparency
  - but also commercial confidentiality
  - role for company auditors / review by CCG?
  - to be outlined in bid assessment framework?

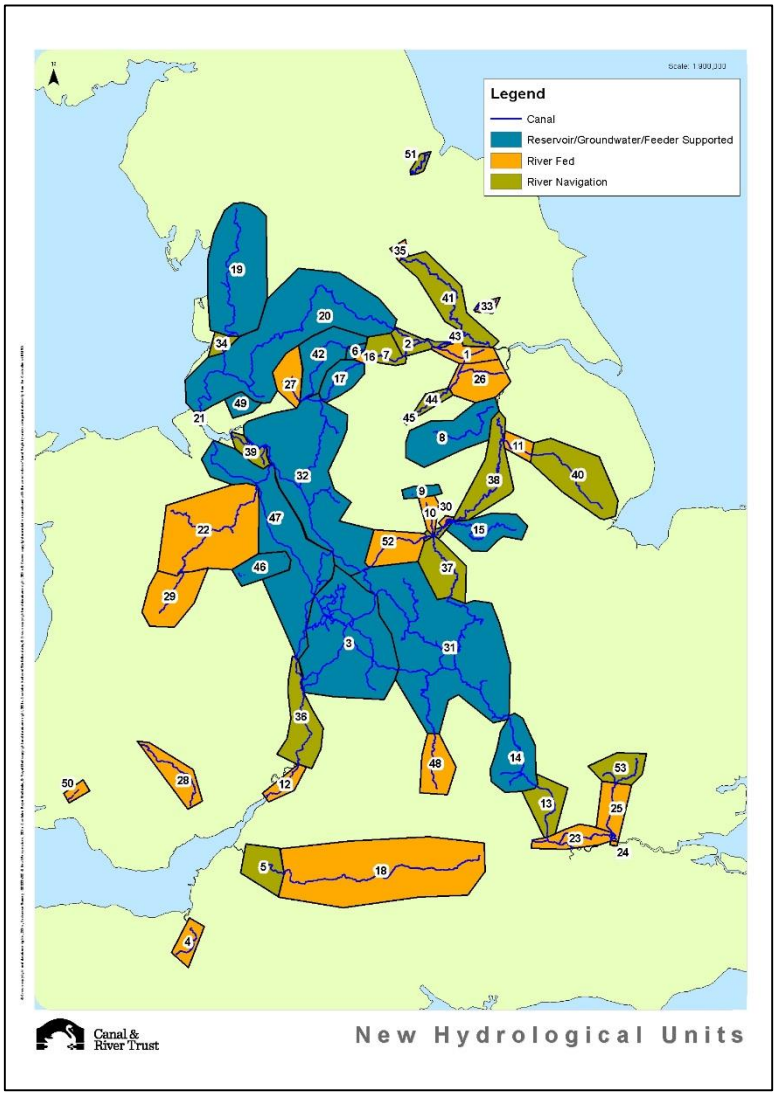
Canal & River Trust

Keeping people, nature & history connected

Thoughts on Ofwat 2020 – market information platform

Darren Leftley
Head of Commercial Water Development
July 2016

Background

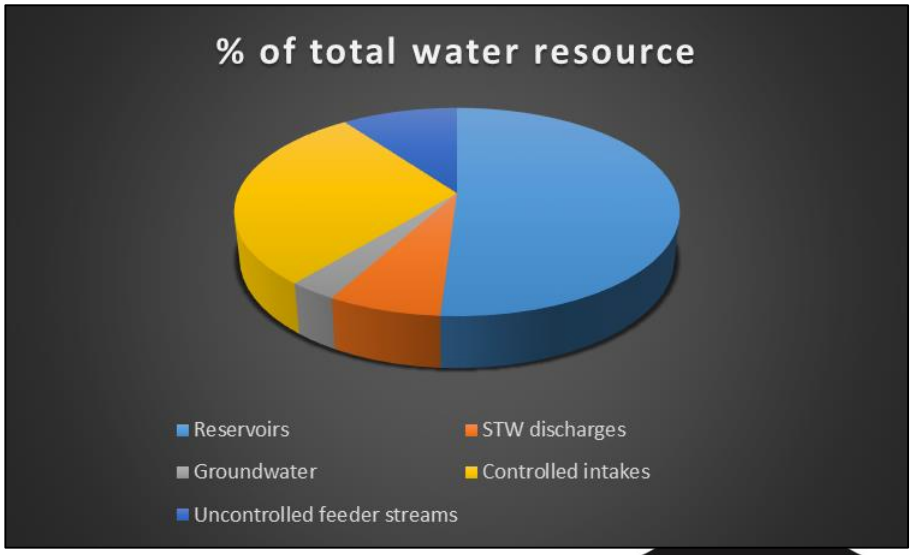


Assets

- 3200 kilometres of waterway
- 74 pumping stations
- 73 reservoirs
- 400+ Intakes

Water Business

- 300+ non-domestic customers
- £5.6m income per annum
- 320 Ml/d total transfers to water companies



Information Sharing

- Track record of negotiating contracts with water companies
- WRMP discussions with water companies
  - Improved guidance this time
- Collaboration on projects such as canal water transfer
- Drought Plans

Improving Information Sharing

- WRMP Information a good start
- Needs to be more:
  - Accessible
  - Consistent
  - Detailed
- Should include:
  - Cost/benefit information
- Issues
  - Facilitating transfers between water companies who are not adjacent

Water resource information necessary to support an efficient market – an entrant's view (supporting paper)

Jerry Bryan

QUESTION: If a market participant can deliver alternative and/or more innovative water resource schemes than those within an incumbent's WRMP, how can the merits of those alternatives be objectively and transparently assessed?

Reference document: Thames Water, *Development of large scale water resource options, option screening report* (2015)

A word of thanks to the authors of this excellent report. The provision of option details, ranked by AIC+carbon cost appears to be very helpful. Is this an industry standard approach? If not, can we have such a consistent approach, with projects ranked within WRZs?

Looking at the detail within the Thames' document, there are a number of key factors that appear to require a threshold test or a cost adjustment. It is apparent that some such adjustment has been made in some cases but the method and magnitude appears unspecified.

Thus the cost of RO has been reduced because it does not require as much subsequent treatment before distribution as other options (e.g. effluent reuse). This would appear to suggest that companies do understand the cost implications of such options, downstream of traditional water resource cost boundaries. It would be better to calculate the full costs of the chosen option and make any subsequent adjustment transparent.

Threshold tests might include the resilience of the proposed scheme. At least one incumbent specifies a 1 in 200 year event as the required level of resilience in third party schemes. Is it reasonable to have that as a threshold or should there be a lower bar and perhaps a weighting that would allow less resilient schemes to proceed, whilst recognising the associated risks? Any such threshold or weighting needs to be explicit.

The answer to the preceding point will also be influenced by other factors. Scheme A may be less resilient that a new reservoir but could be available within 12 months, whereas a new reservoir could take up to 30 years. Lead time therefore needs to be considered and valued.

Similarly ‘Ramp Up’ times until output reaches specification, for schemes that operate intermittently (e.g. RO and some effluent reuse), can be significant. How might this be objectively factored in to the scoring of a scheme with significantly lower ramp up times?

All proposed schemes will have an impact on downstream infrastructure and associated totex, most obviously, water treatment, treated water storage, bulk and local distribution. It has been suggested that these costs might be outside the scope of the current exercise and yet it is (a) apparent that some projects within existing WRMPs have already been adjusted for at least some of these externalities and (b) it is equally apparent that these costs might be considerable (perhaps even dwarfing the resource costs). Choosing projects on the basis of their water resource costs alone and ignoring the associated downstream costs of delivery is likely to lead to inefficient outcomes and unfairly discriminate against projects for which these associated (non-WR) costs are lower. It is difficult to see how any scheme can be adequately judged without knowledge of these downstream costs. Any assumption that all projects will incur the same costs is clearly wrong.

Some schemes may also have a bearing on other categories of cost. Examples might include using SUDs and local wastewater treatment conjunctively with water resources. This may have benefits for an incumbents drainage and first-time sewerage challenges, which will have totex implications that need to be understood in the context of options appraisal.

Improving market information – Initial Ofwat thinking

What is the simplest way of tackling the information problem we have identified?

Bearing in mind:

- WRMPs offer a resource of information we can mine.
- modern technology doesn’t require data to be held in one place for it to be aggregated
- international experience suggests brokers will step in to provide data analysis and aggregation services tailored to business need.
- full bid assessment is often complex and site-specific.

- Companies will be required to make data available on supply-demand deficits, and water resource costs in a consistent format on their websites with Ofwat providing a signposting page
- We will require companies to allow reasonable use of published information
- Bids will be made directly to companies with summaries posted by companies on their platform
- We will require companies to publish a bid assessment framework setting out polices and process for assessing bids to supply water resource or demand management/leakage services.
- These changes will be supported by a license modification

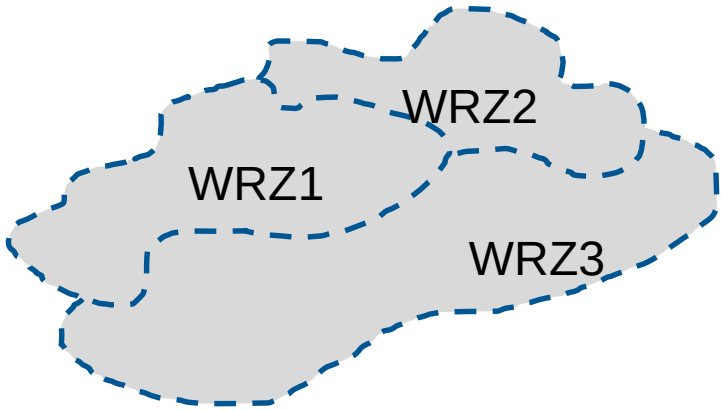
What does this mean in practice?

Static maps and tables of key indicators

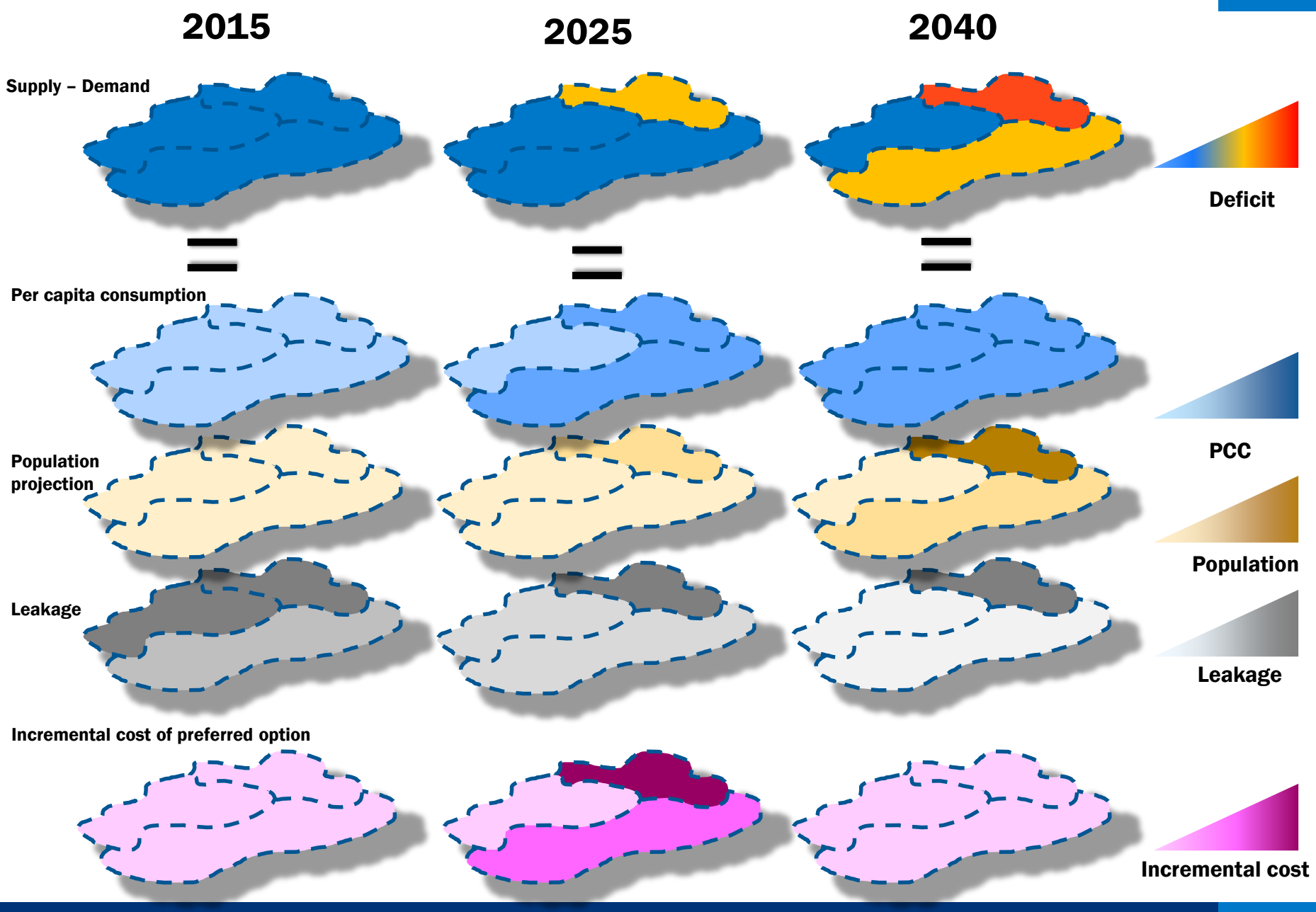
- How supply demand deficit is predicted to develop over time and space.
- Underlying drivers e.g. pcc, population, sustainability reductions and leakage.
- Incremental cost information

Data tables and GIS boundaries to allow a third party to manipulate and combine data. (So called 'Flat Data format')

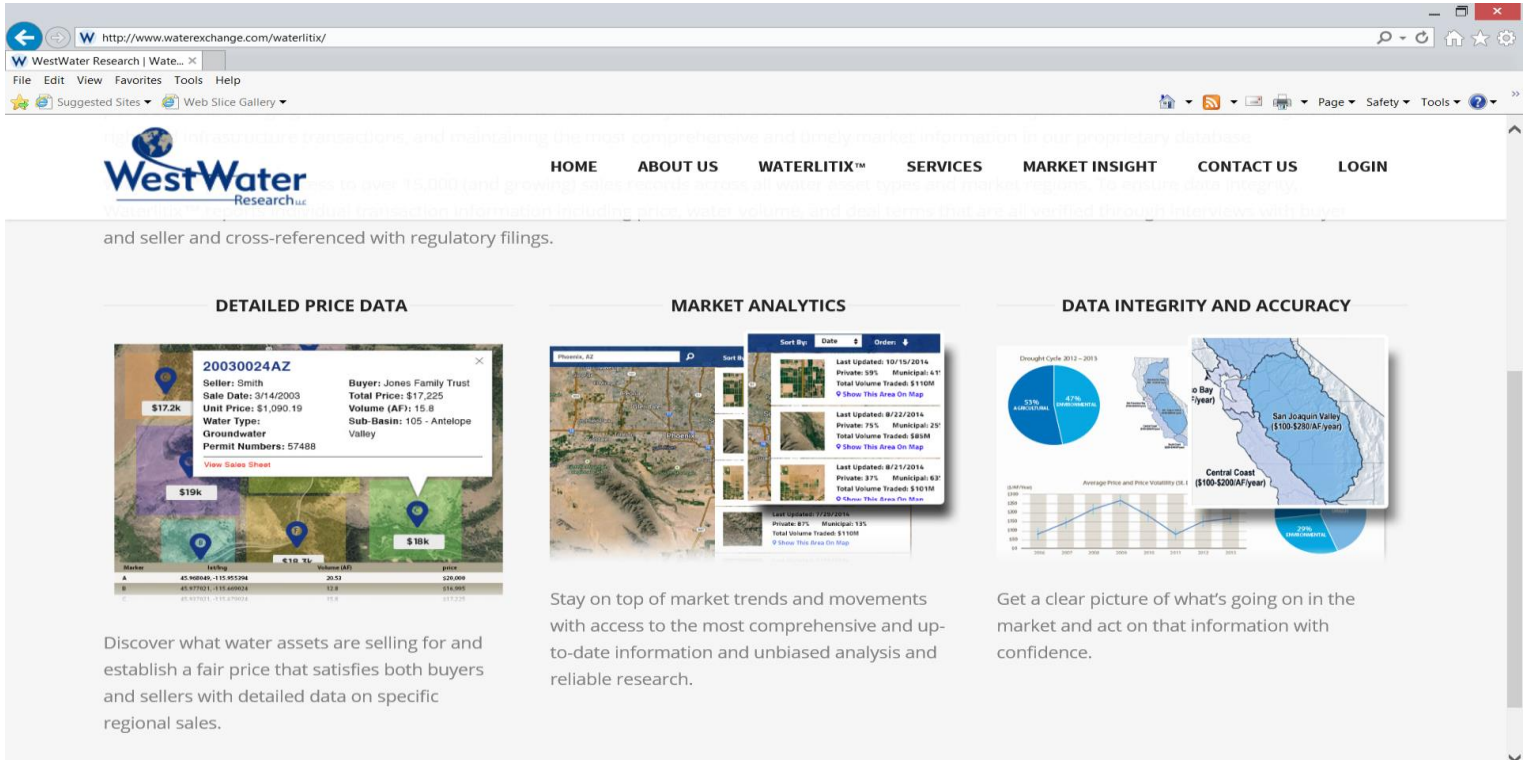
Series of maps – Maybe
Supply demand deficit by WRZ, current, 5,(10),15 and (25) years?
PCC
Population with growth
Projected leakage



Data underpinning supply-demand projections



- WaterLitix is just one example of third party data analysis and trading services offered in the US
- Data will be less detailed and sophisticated in England and Wales but there is still scope for innovation



www.waterexchange.com/waterlitix/

Bid assessment framework

Ofwat will publish principles but it will be up to companies to take ownership of their development.

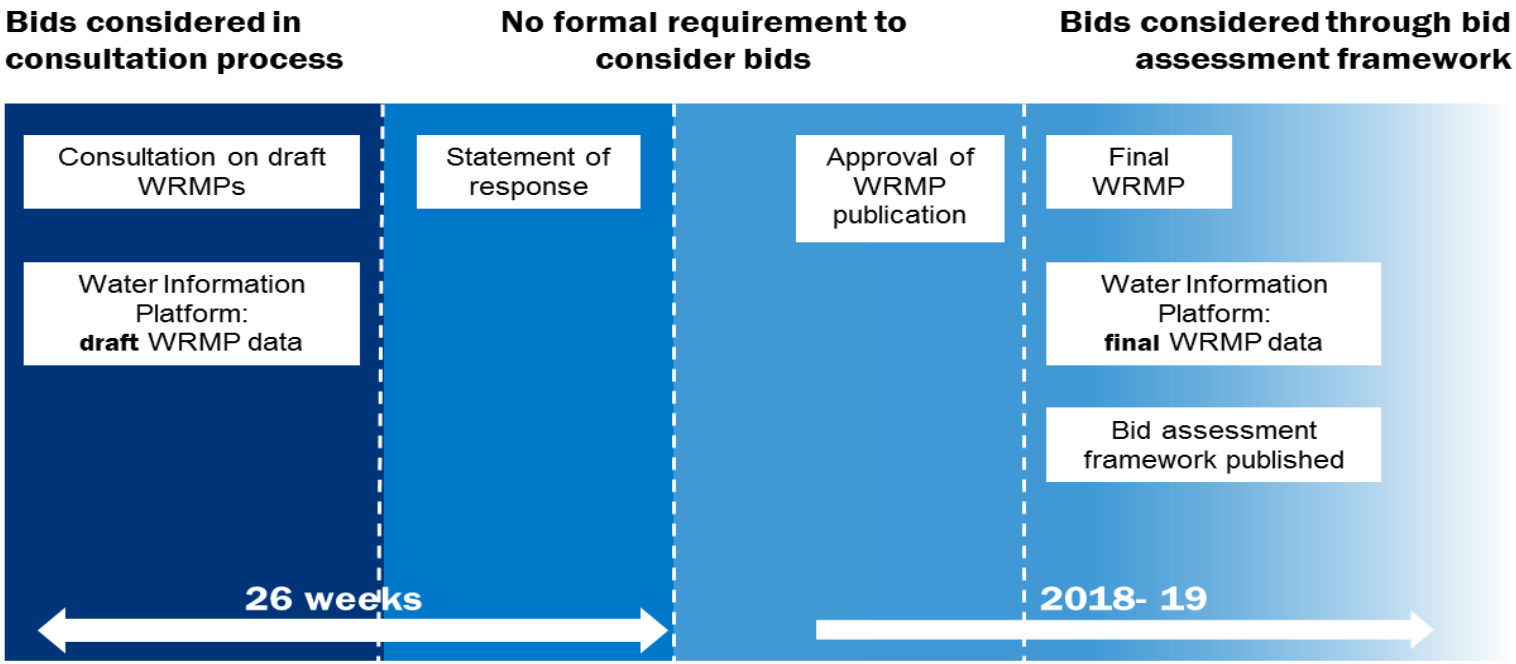
Our initial thinking is that principles will cover:

- Stakeholder engagement in developing the framework;
- Principles of bid evaluation such as transparency and fairness
- The relevant legal and policy framework, differentiated for England and Wales as necessary
- A tiered approach – mirroring that in the WRMP process
- Service expectations for considering bids, for example timescales for responses and decisions
- Interaction with the WRMP planning cycle
- Processes for dealing with queries and complaints
- The process for review and publication of final framework

We have not stated what we information we might expect companies to publish about bids received

Interaction between WRMP development and bid assessment

- The first iteration of the platform will go live when draft WRMP consultation goes live
- Companies will be expected to consider bids through the consultation process
- Bids made between closure of consultation and publication of final WRMPs will not be formally considered as part of the update (unless companies choose to do so)
- Companies will update their platforms as and when final WRMPs are published
- Subsequent bids will be assessed through the bid assessment framework



We'd like to discuss:

Information platform

- What is the key information to be posted?*
- Can that information be derived from WRMPs? If not – where is it held?
- Are water resource zones the right scale – especially where they are very large?
- Are there any third party IPR issues associated with publishing data and geographic information?

Bid assessment framework

- Are there any gaps in the principles we propose?
- How much flexibility should be offered to companies e.g. should those in surplus be able to decline resource bids?
- What information should companies be required to publish about the bids they receive and when?

Timetable

- Should companies "close" the bidding process in the run-up to consultation on WRMP24? – if so, when?

Other

- Are there any other critical issues we need to consider?

*Please refer to handout of WRMP TAG exercise on the information platform

Handout - Outputs from WRMP TAG exercise on information needs

Buyers: *Information Platform*

- Location
  - Water resource zone
  - Wider geographical context?
- Price (Fixed / variable)
- Timing of deficit
- Input specification
  - Treated / Raw
  - Potable / non-potable
  - Peak / average volume required
- Environmental data required to demonstrate sustainability, no deterioration etc.
- WRZ constraints / demands
  - Population, PCC, Leakage
  - PWS network information
  - Water efficiency uptake
  - Obligations to buyers in Water Act
- Infrastructure availability for water transfer

Sellers: *Bid Assessment Framework*

- Location (NB demand / leakage management options are not geographically constrained)
- Offtake locations
- Restrictions on use
  - Abstraction conditions
  - Other legal constraints
- Availability – years, seasons, option purchase
- Cost
- Deployable Output - Annual / Daily / Peak
- Security of supply / resilience
  - Different drought return periods
  - WRMP dry year conditions
- Environmental impact (EIA / SEA)
- Quality
- Treatment requirement
- Vetting requirements – Name & financial viability / credibility of seller, proof of ownership
- Carbon footprint of supply
- Maintenance regime
- Relationship with other stakeholders e.g. NGOs / Farmers

Must **Should** **Could**

"database should enable third parties to propose demand as well as supply side options"

Lunch

Form of the water resources price control

What is the form of control?

The form of control is the structure we adopt for price limits, it includes:

- **What is controlled** e.g. prices or revenues
- **How it is controlled** e.g. is the control set upfront (ex ante) or require compliance with a set a principles (ex post)
- **The period the control covers** e.g. how often are controls reviewed

Why is the form of control important?

There are close links between the form of control for the separate water resources price control and:

- **Access pricing.** Through the structural link to the control
- **Cost assessment**. How we need to capture efficient costs
- **Cost recovery**. How efficient costs should be recovered
- **Incentives**. It creates incentives for companies to act in certain ways
- **Risk**. It is one of the ways that risk is allocated

Where is the form of control set?

		Number of controls	Designating activities to controls	Form of control	Duration of controls	Inflation of revenue
PR14	Retail	Ofwat sets in price review	Ofwat decides but limited in licence	Ofwat sets in price review	Ofwat sets in price review (but no more than 5 years)	Ofwat decides at price review
PR14	Wholesale	Defined in licence as all wholesale or water and sewerage	Limited in licence	Defined in licence	Defined in licence (5 years)	In licence covers all of wholesale
PR19?	Retail	Ofwat sets in price review	Ofwat decides but limited in licence	Ofwat sets in price review	Ofwat sets in price review (but no more than 5 years)	Ofwat decides at price review
PR19?	Water resources	Defined in licence	Ofwat decides but limited in licence	Ofwat sets in price review	Ofwat sets in price review (but no more than 5 years)	In licence
PR19?	Water network plus	Defined in licence	Limited in licence	Defined in licence	Defined in licence (5 years)	In licence

- We are proposing to follow the retail approach from PR14 and set the form of control for water resources in the price review methodology
- There will be a statutory consultation on the methodology in July 2017
- This is subject to licence change process and the approach above is not final but our initial thoughts

What does the PR14 form of control look like for water resources?

- Water resources is part of wholesale water control and is subject to a 5 year total revenue control based on a RCV based building block approach
- The activities in wholesale water are limited in the licence
- The revenue allowed to the appointed business in respect of the wholesale water activities is defined by a set formula

Wholesale water form of control at PR14

For each Charging Year starting on or after 1 April 2016 the revenue allowed to the Appointed Business in respect of the Wholesale Activities concerned will be the product of the following formula:

$$R_t = R_{t-1} \times (1 + (RPI + K_t)/100)$$

Where:

R_t = Revenue allowed to the Appointed Business in Charging Year t;

R_{t-1} = Revenue allowed to the Appointed Business in the Prior Year;

$RPI + K_t$ = a number which is the sum of:

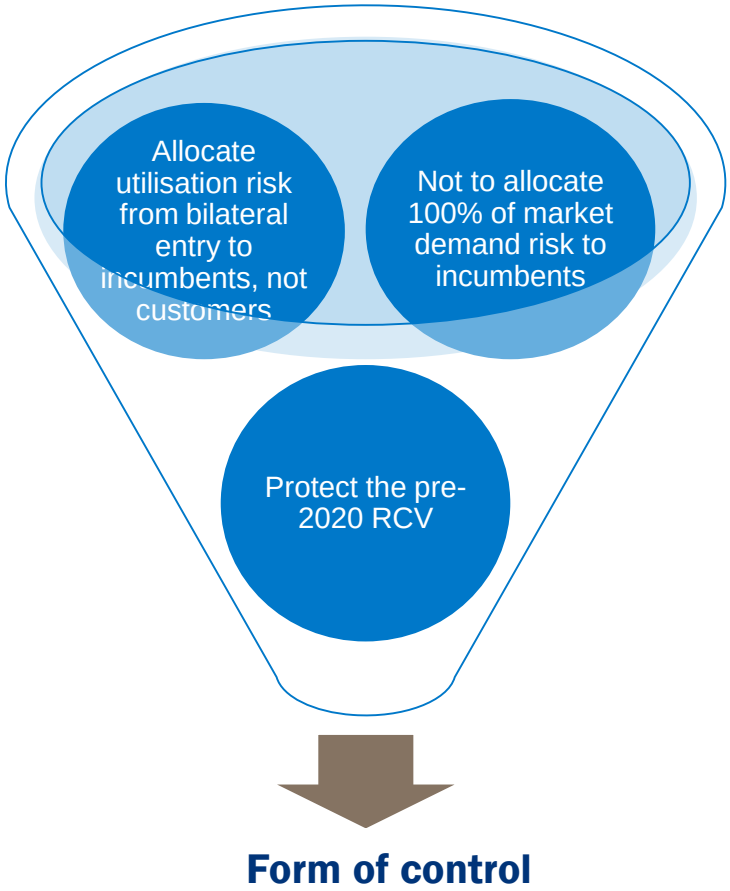
1. the percentage change (expressed, in the case of an increase, as a positive number, in the case of a decrease, as a negative number, and, in the case of no change, as zero) in the Retail Prices Index between that published for the month of November in the Prior Year and that published for the immediately preceding November; and
2. a number, "K_t" for Charging Year t, which may be a positive number or a negative number or zero

What are we trying to achieve?

We want the separate price control for water resources to help:

- develop markets that work to the benefit of customers
- encourage high-quality long-term planning
- improve information transparency
- assist with developing better targeted regulatory incentives
- increase the focus on water resources
- limit the potential effect on financing costs
- focus markets in relation to new water resources

In achieving these there are three key objectives that impact the potential design of the form of control



Why we need to change the form of control ….

We have not identified a way to rely solely on a financial distinction between pre 2020 and post 2020 investment to meet our objectives as shown by the simple example

- Incumbent seeks and is granted a special cost factor of £100m for the construction of a new reservoir
- This would be split between RCV additions and PAYG, menu sharing would apply to cost under/over spends but once the allowance is made there is no volume or utilisation risk
- If the reservoir is not needed at all due to bilateral market entry, customers remaining with the incumbent are stuck will the costs allowed for reservoir through the special cost factor. As some customers shift to the entrant, the prices to the customers left with the incumbent will increase
- This problem is not solved simply by a stated policy that post 2020 investment is “at risk” and by making a financial distinction between pre- and post-2020 investment and expenditure
- Even if the part of the £100 million special cost factor for the reservoir that is funded through the RCV (not PAYG) is separately recorded from the pre-2020 RCV and declared “at risk”, the risk does not materialise on its own
- **This expenditure is only at risk if we change the price control framework to put it at risk**

Three potential approaches for the form of control

Option 1: Unit cost approach

Set an average revenue control (not total revenue) or price cap based on an assessment of the unit costs (including financing costs) of supplying raw water, without reference to the levels of past investment, RCV or expenditure. Revenue would fall automatically as the incumbent loses market share to bilateral market entrants

Option 2: Asset based approach

Separately identify the specific assets attributable to post 2020 investment (including additional capacity and maintenance/renewal of existing capacity) and introduce a policy that these assets might be disallowed/removed from the RCV to the extent that they are under-utilised

Option 3: Adjustment based approach

Keep a total revenue control but introduce an element to the price control framework which means that the financial remuneration to the incumbent for post 2020 investment depends on the extent to which that investment is use or needed

Assessment of the potential approaches for form of control

	1 Unit cost approach	2 Asset based approach	3 Adjustment based approach **Decision**
Achieving our objectives	Exposes incumbents to full market wide demand risk Does not fit well with the objective of protecting the pre-2020 RCV Protects customers from bilateral market entry	Does not expose incumbents to market wide demand risk through form of control Protects pre-2020 RCV Will distort company optimisation decisions in favour of newer assets over older ones	Does not expose incumbents to market wide demand risk through form of control Protects the pre-2020 RCV Protects customers from bilateral market entry
Addressing known problems	Revenue control affected by changes in volumes, similar to revenues of a competitive firm	Timing issues – customers would not be properly protected Unlikely that regulatory commitment would bite	Revenue control would reflect changes in utilisation due to bilateral market entry in an direct manner
Practicality	Can be set on existing data Allows for a simpler price control structure (though radically different from the status quo)	Very information intensive, would require detailed information logging	Can be based on existing data Will require ongoing additional data for adjustments

Our adjustment based approach will use capacity

- Our approach works by drawing a clean line between the capacity available from existing assets in a WRZ at 31 March 2020 and any subsequent capacity developed from 1 April 2020
- Having drawn this line, we can then look at outturn demand in any subsequent year and determine objectively the extent to which the post-2020 incremental capacity is used or needed due to bilateral market entry and make the relevant adjustments
- Incumbents are not exposed to market wide demand risk through the form of control
- Because we look at overall capacity, rather than specific assets, we do not distort company optimisation decisions
- With the capacity distinction at 31 March 2020, we are able to limit the allocation of utilisation risk from bilateral market entry to protect the pre-2020 RCV

Allocate utilisation risk from bilateral entry to incumbents, not customers ✓

Not to allocate 100% of market demand risk to incumbents ✓

Protect the pre-2020 RCV ✓

And will result in the following form of control

Sum of

1. Fixed element for pre-2020 capacity

Fixed revenue element = *PAYG (fast money) + Run-off + WACC x RCV (for pre-2020 capacity)*

2. Variable element for post-2020 new capacity

Variable revenue element = *PAYG (fast money) + Run-off + WACC x RCV (for post-2020 capacity) -* ***within-period adjustment factor*** *for bilateral market entry*

The **adjustment factor** reflects:

- Volume differential – extent to which customer demand is higher or lower than expected at the price review due to bilateral market entry
- Unit cost measure – annualised unit cost of the post-2020 new capacity, applied to the volume differential measure to calculate the financial adjustment factor to apply to the water resources control.

For company areas where no new water resources are planned the adjustment factor will be set to zero

Key inputs required for form of control

In order for the form of control to operate the following key inputs are required:

- Quantification of the level of capacity available at 31 March 2020
- Quantification of the additional capacity provided by the post-2020 incremental water resource investment of the incumbent that is funded through the price control (and the volume of annual water demand that can be accommodated by this capacity)
- Outturn demand for the water supplied by the incumbent water company
- Outturn demand for the water supplied by bilateral market entrants (in aggregate)
- Information on the peaking factors and headroom allowances that are used by water companies to derive estimates of capacity requirements from estimates of annual average demand

Building on these the example overleaf shows how the **within-period financial adjustment** for bilateral-market entry would operate in three steps:

- **Step 1**: At PR19 determine the existing capacity at 31 March 2020 and the expected change in it over PR19. Volume forecasts, supported by peaking factors and headroom allowances will also be required. These are used to derive a total capacity requirement and identify if additional capacity is required
- **Step 2**: Determine the revenue allowance for pre-2020 capacity and for post 2020 capacity. The unit cost allowance for new capacity post-2020 is calculated as a ratio between the revenue allowance and the amount of new capacity (also capturing seasonal peaks and headroom)
- **Step 3**: Calculation of the within-period adjustment is obtained by multiplying:
  - **The additional capacity (Ml/day) required from the incumbent that is not utilised due bilateral market entry**. This is calculated by assessing the change in market share versus forecast; and
  - **By the unit cost allowance on volumetric basis**

Form of control – a more detailed example (2)

Calculation	
Input	

FYE (31 March)	2021	2022	2023	2024	2025
A) Demand and capacity requirement forecasts at PR19					
Total water resource capacity in WRZ at 31 March 2020					
Existing capacity at 31 March 2020: Ml/day dry year peak week	385.00	385.00	385.00	385.00	385.00
Volume forecasts at time of PR19 review					
Total WRZ annual average demand (normal year): Ml/day	250.00	250.00	270.00	270.00	270.00
Incumbent's annual average demand (normal year): Ml/day	250.00	250.00	265.00	265.00	265.00
Peaking factor: dry year peak week demand / normal year annual average demand	1.40	1.40	1.40	1.40	1.40
Headroom allowance: capacity required vs peak demand	1.10	1.10	1.10	1.10	1.10
Capacity forecasts at time of PR19 review					
Total capacity required from incumbent: Ml/day dry year peak week	385.00	385.00	408.10	408.10	408.10
New capacity needed from incumbent from 1 April 2020: Ml/day dry year peak week	-	-	23.10	23.10	23.10
B) Water resources revenue control determination at PR19					
RCV-based building blocks allowance for pre-2020 capacity					
RCV-based revenue allowance for pre-2020 capacity (calculation details omitted)	200.00	200.00	200.00	200.00	200.00
Price control allowance for additional capacity at PR19 review					
Total revenue for new capacity	-	-	5.00	5.00	5.00
Amount of new capacity funded from incumbent	-	-	23.10	23.10	23.10
Unit cost allowance on capacity basis: £ m per per Ml/day dry year peak week	-	-	0.22	0.22	0.22
Unit cost allowance on volumetric basis: £ m per year per Ml/day annual average	-	-	0.33	0.33	0.33
Water resources total revenue control before adjustment	200.00	200.00	205.00	205.00	205.00
C) Calculation of within-period adjustment factor based on outturn volumes					
Outurn demand during price control period (reflecting effects of entry)					
Incumbent's annual average demand: Ml/day	250	250	265	265	291.5
Bilateral entrant total annual average demand: Ml/day	0	0	5	10	5.5
Outturn total WRZ annual average demand: Ml/day	250.00	250.00	270.00	275.00	297.00
Variance in incumbent demand vs forecast that is attributable to bilateral market entry					
Incumbent forecast of its market share of annual average demand	100.0%	100.0%	98.1%	98.1%	98.1%
Outturn incumbent market share of annual average demand	100.0%	100.0%	98.1%	96.4%	98.1%
Change in market share vs forecast * total forecast market volume: Ml/day	-	-	- -	4.82	-
Financial adjustment for variance in demand: £ m per year	-	-	- -	1.61	-
Net within-period financial adjustment	0.00	0.00	0.00	-1.61	0.00

What we said in May 2016

"Our view is that the concept of WAFU (water available for use) from WRMPs, which is an estimate of the capacity within a WRZ, will provide a starting point for development of capacity measures for the purposes of the water resources price control."

What is WAFU?

The value calculated by deducting allowable outages, sustainability changes, raw water losses and treatment work losses from deployable output in a resource zone. To this imports are added and exports deducted.

Questions to explore

- Is WAFU the right metric to start with or is a different metric more appropriate? (e.g. Deployable output)
- How should it be adjusted for price control purposes?
- What are the potential risks of using a capacity measure and how can they be avoided?

What is it?

A technique to determine what steps need to be taken in order to move policy from its current state to its desired, future state

What we are asking for

In developing the form of control we are keen to identify (1) any gaps we may have missed and (2) to identify scenarios to test it against to ensure it meets our objectives.

Questions to explore

- What gaps are there that we haven't covered today?
- Is the form of control flexible enough to meet all potential scenarios?
- If not, what are the potential unseen scenarios? And how could they be incorporated?

What are they?

Unintended consequences arise when policy decisions have effects that are unexpected.

How they can occur

Our changes to the form of control, by design, have an impact on the balance of risk and incentives. This may mean that companies will have incentives to act in certain ways that are unexpected and not in line with our objectives.

Questions to explore

- What examples of unintended consequences can you identify?
- How does the unintended consequence flow through?
- How would you able to avoid it?

Access pricing for bilateral markets in England – update from sub-group

Who is on the group

Darren Rice

James McLaughlin

Nagi Suzuki

Phillip Dixon

Frank Grimshaw

The sub group lead for Ofwat is Mat Stalker

Purpose

- Focus on access pricing – with links to form of control
- No published material, but report back to main water resources working group

Issues to address

- Issues of different priorities
  - Timing – methodology statement vs charging rules
  - Overall impact
- Some issues directly affect access price, other are more practical.

Immediate analysis priorities

- How to use cost information to determine the access price.
- How the proposed approach to access prices, combined with the form of control, will impact incumbents' and entrants' businesses.

Ofwat updates
1- Licencing

What we have said

The May document set out how company licences needed to change to enable Water 2020 policy decisions

We asked companies to confirm they agreed in principle to a specific package of policy decisions to be in the licence modification process

What part of the licence needs to change?

Water 2020 policy decisions require changes to condition B of the licence. This sets out the rules for price reviews and price controls…

What policy decisions require licence changes

- indexation of revenue by CPI or CPIH
- Separate controls for water resources and sludge
- Information remedies in sludge and water resources
- In period adjustments for outcome delivery incentives

When are we looking to make changes by?

We want the licence changed before the methodology paper (June 2017)

We expect formal consultation in the autumn (end of October)

Our proposed approach and the work of the water resources group

Licence changes need to enable May document policy

Decision for companies to accept and Ofwat whether to refer to CMA

Discussion on exact content of the licence underway

Separate process from this group to look at the detail

Suggested taking a less prescriptive approach in the licence on water resource control and information remedy

Detail of control set out in methodology and determination not licence

Process and governance in licence, guidance sits outside the licence

This group has important role in:

- developing the information collected and shared to support the market to sit outside the licence
- Understanding and defining the boundaries for the control which support the designation of activities to controls

Ofwat updates

2- Boundary for water resources price control

Contents

- Overview of price control units in wholesale water
- Price control units in a simple example
- Price control units in real world examples 1-4
- Clarification 1-2
- Boreholes – Current thinking on energy cost allocation
- RAGs timetable

Water Resource – Raw Water Abstraction Licence

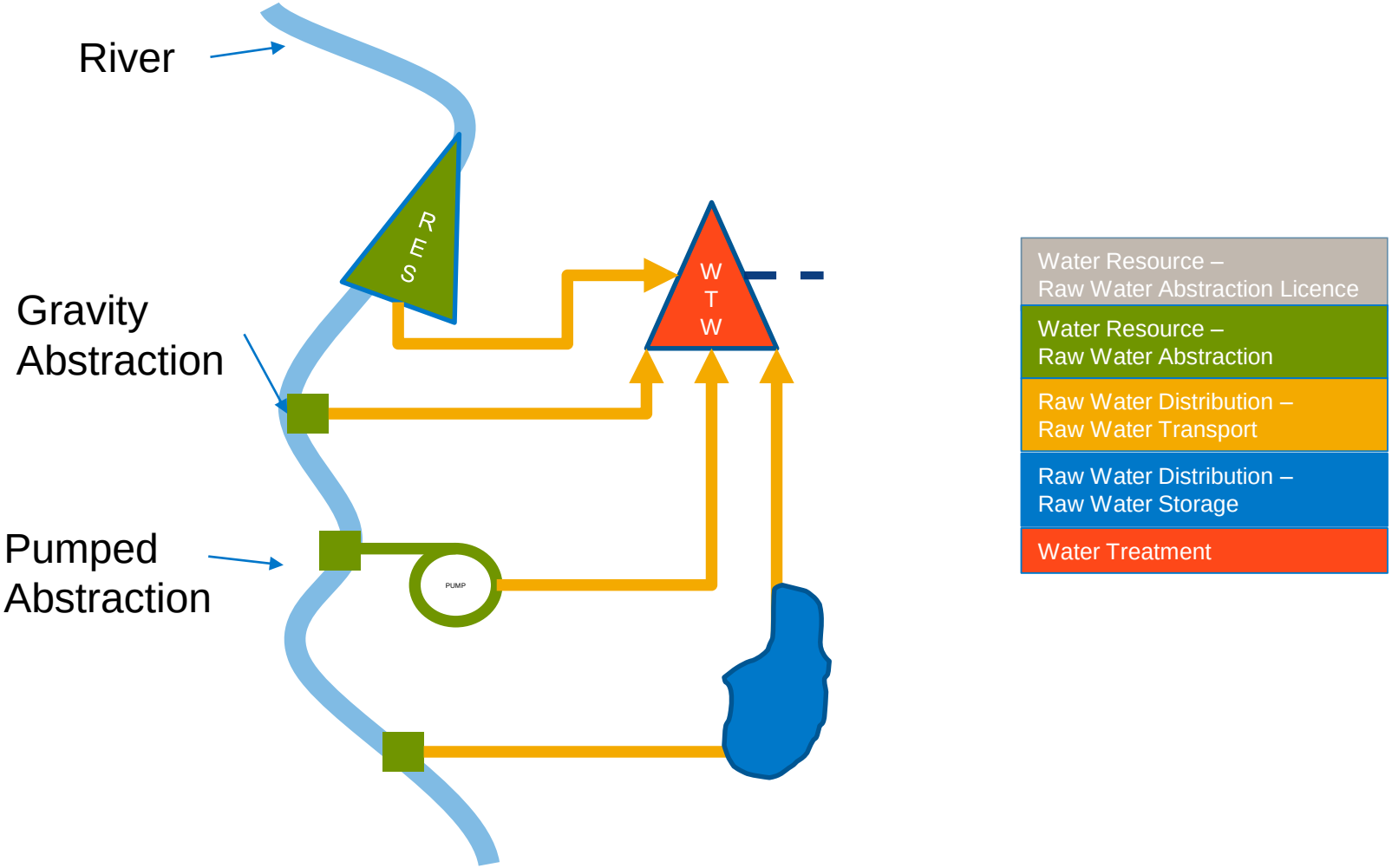
Water Resource – Raw Water Abstraction

Raw Water Distribution – Raw Water Transport

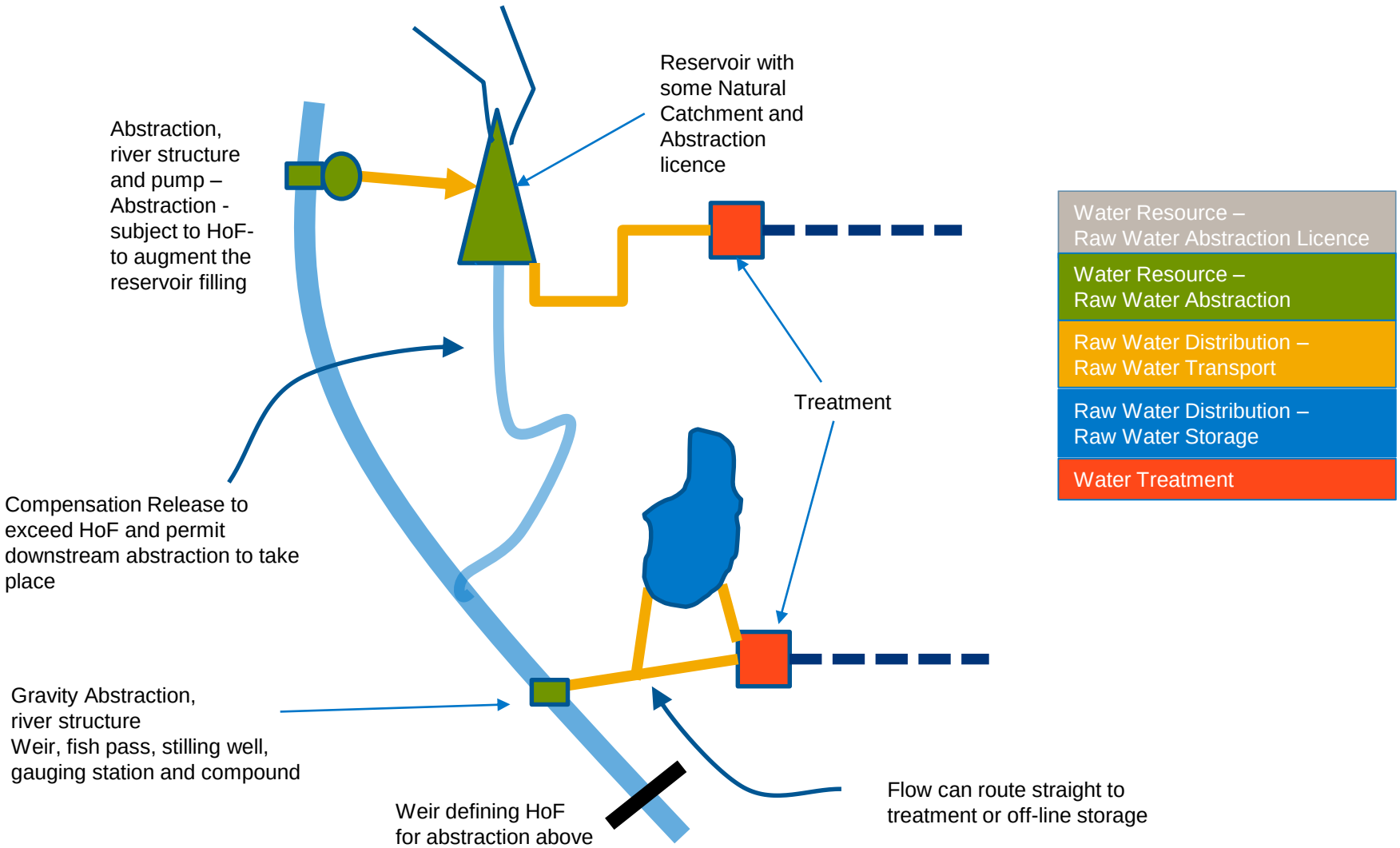
Raw Water Distribution– Raw Water Storage

Water Treatment

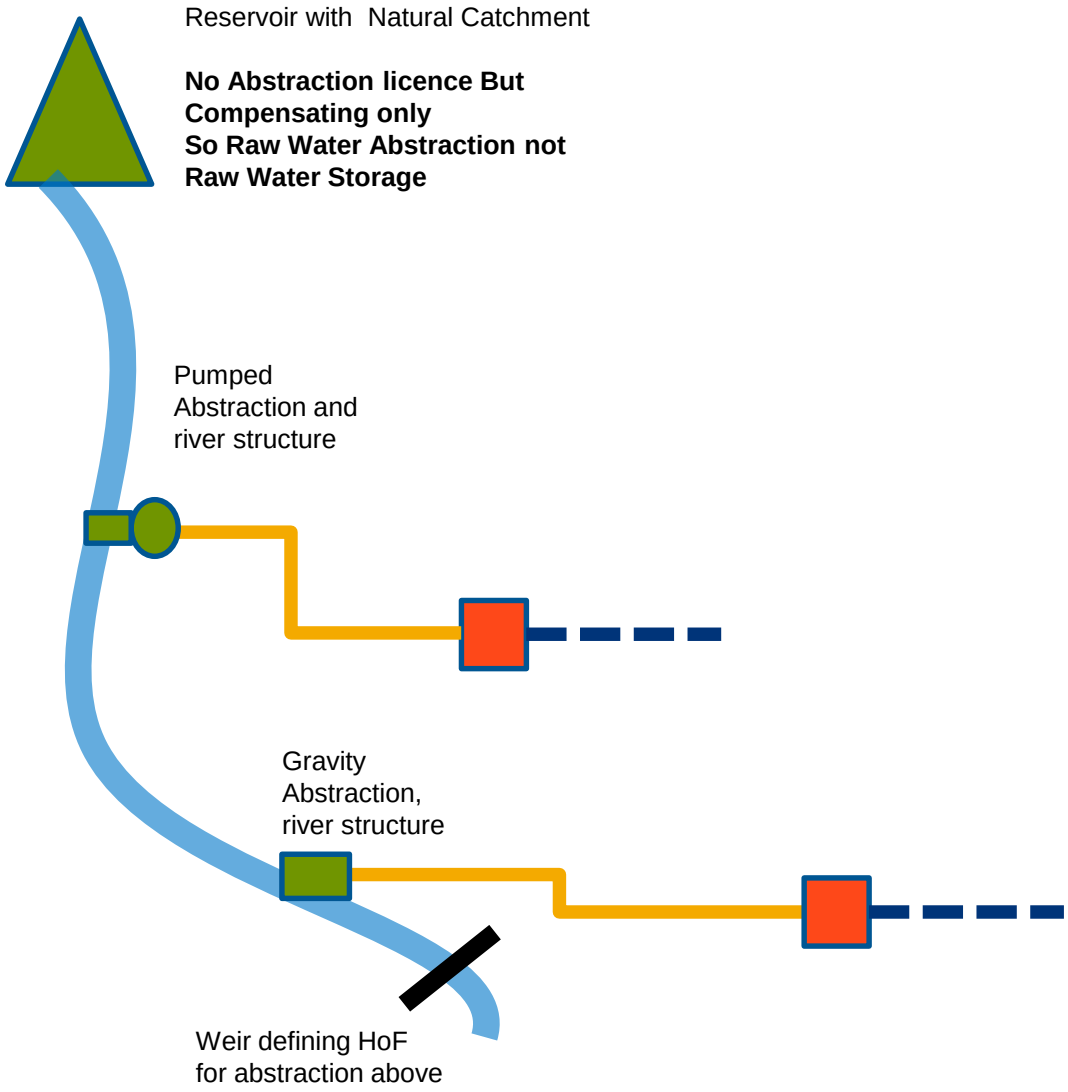
Price control units in a simple example



Price control units in real world example 1



Price control units in real world example 2



Water Resource – Raw Water Abstraction Licence

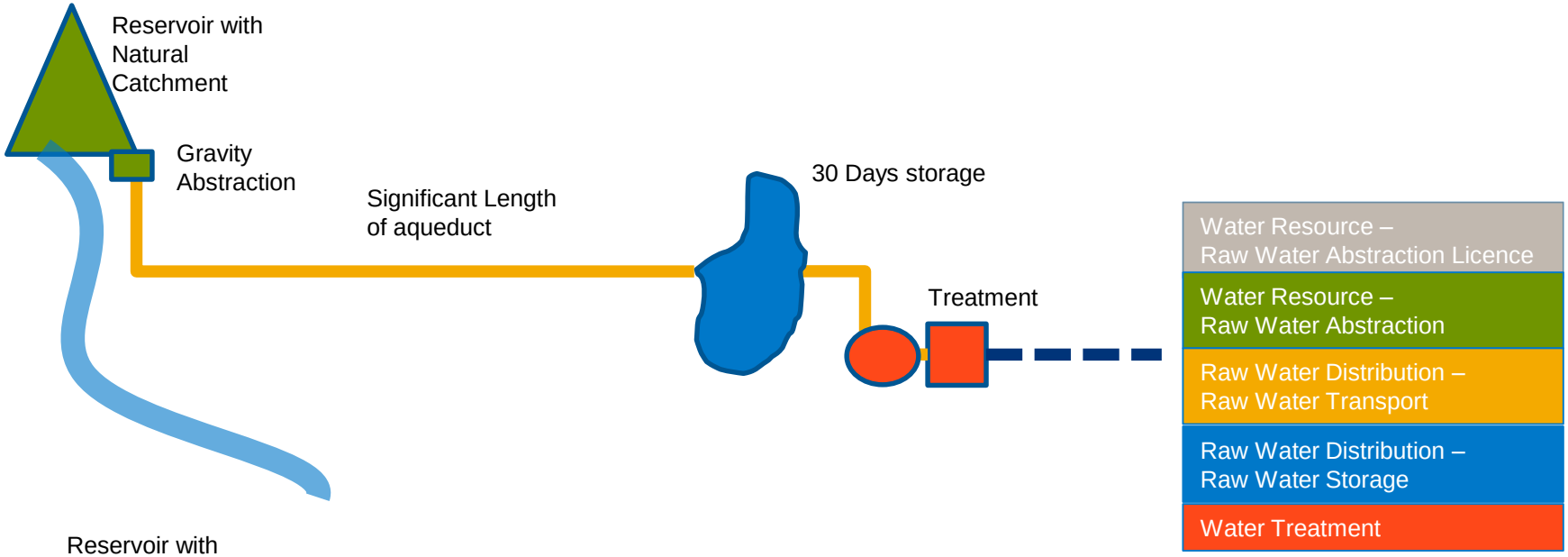
Water Resource – Raw Water Abstraction

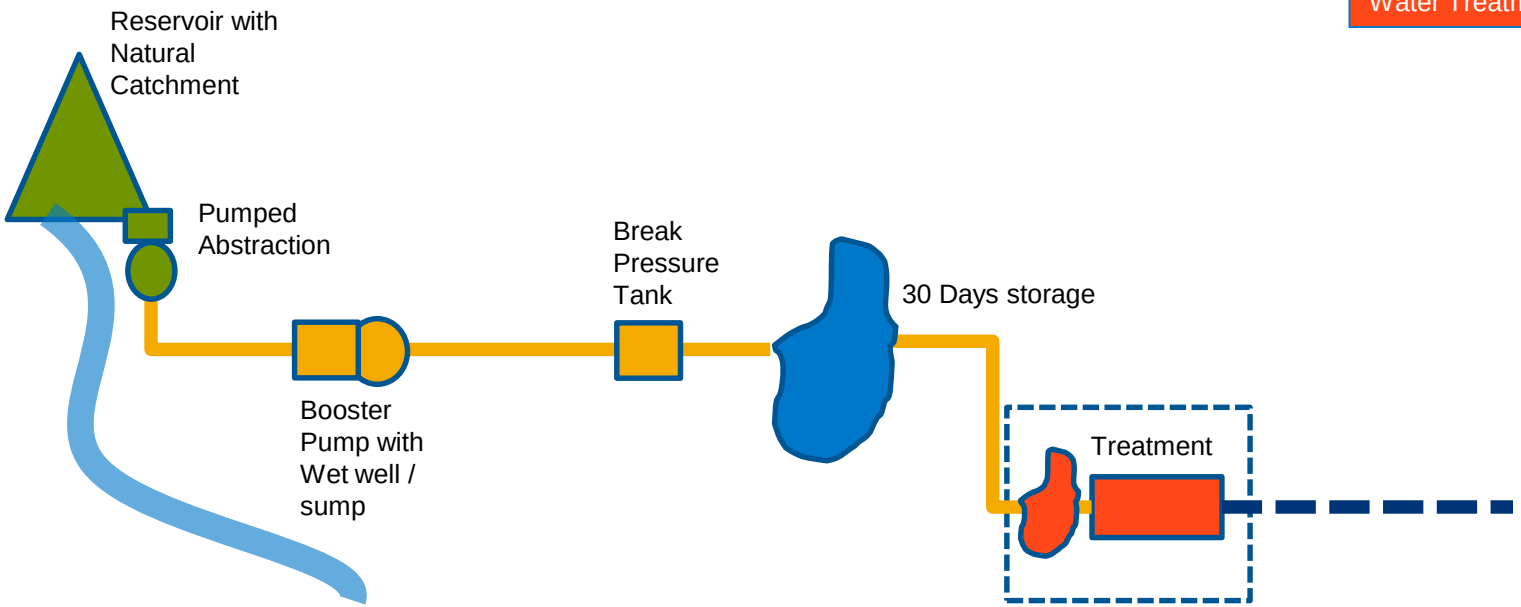
Raw Water Distribution – Raw Water Transport

Raw Water Distribution – Raw Water Storage

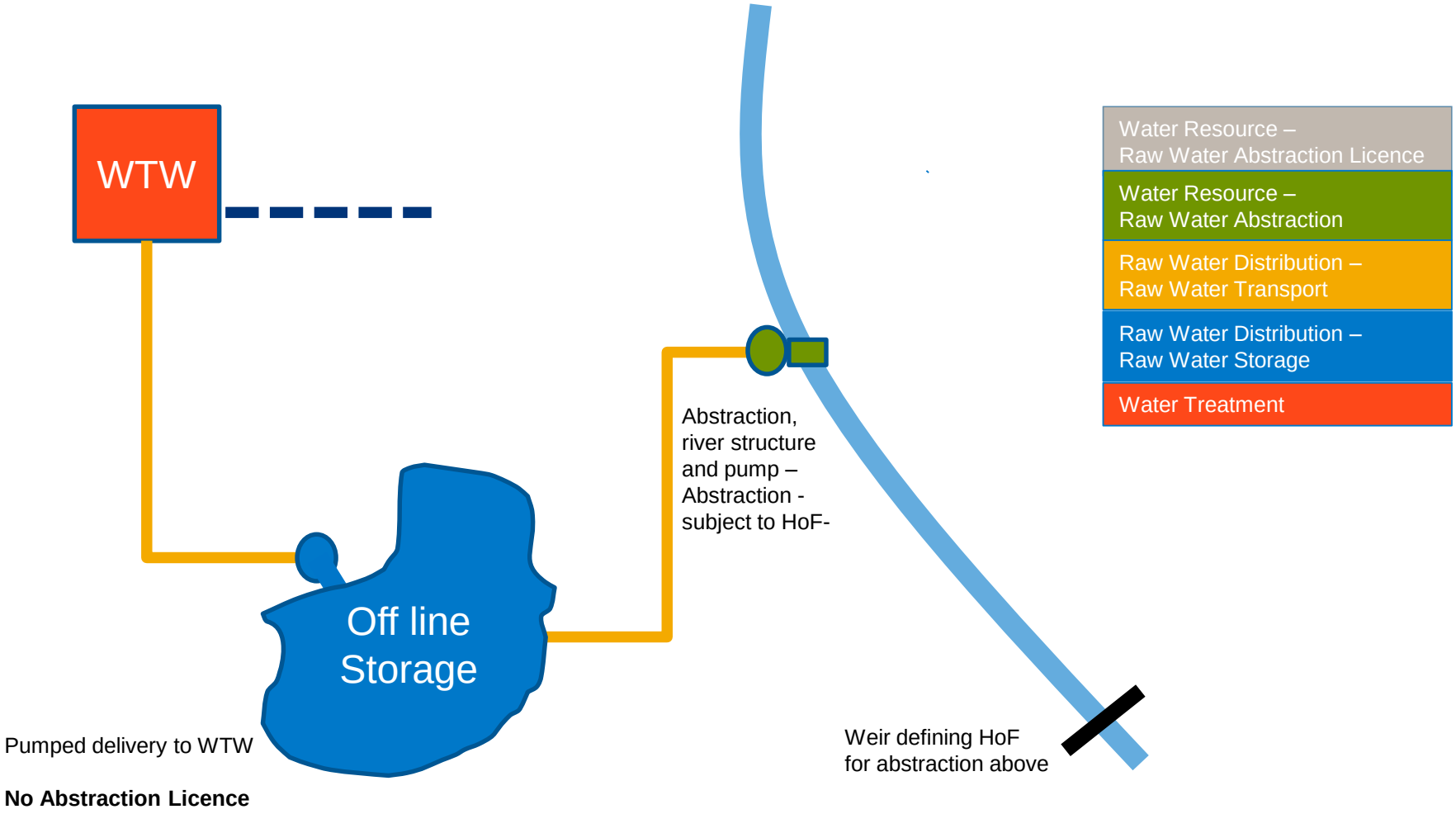
Water Treatment

Price control units in real world example 3





Price control units in real world example 4



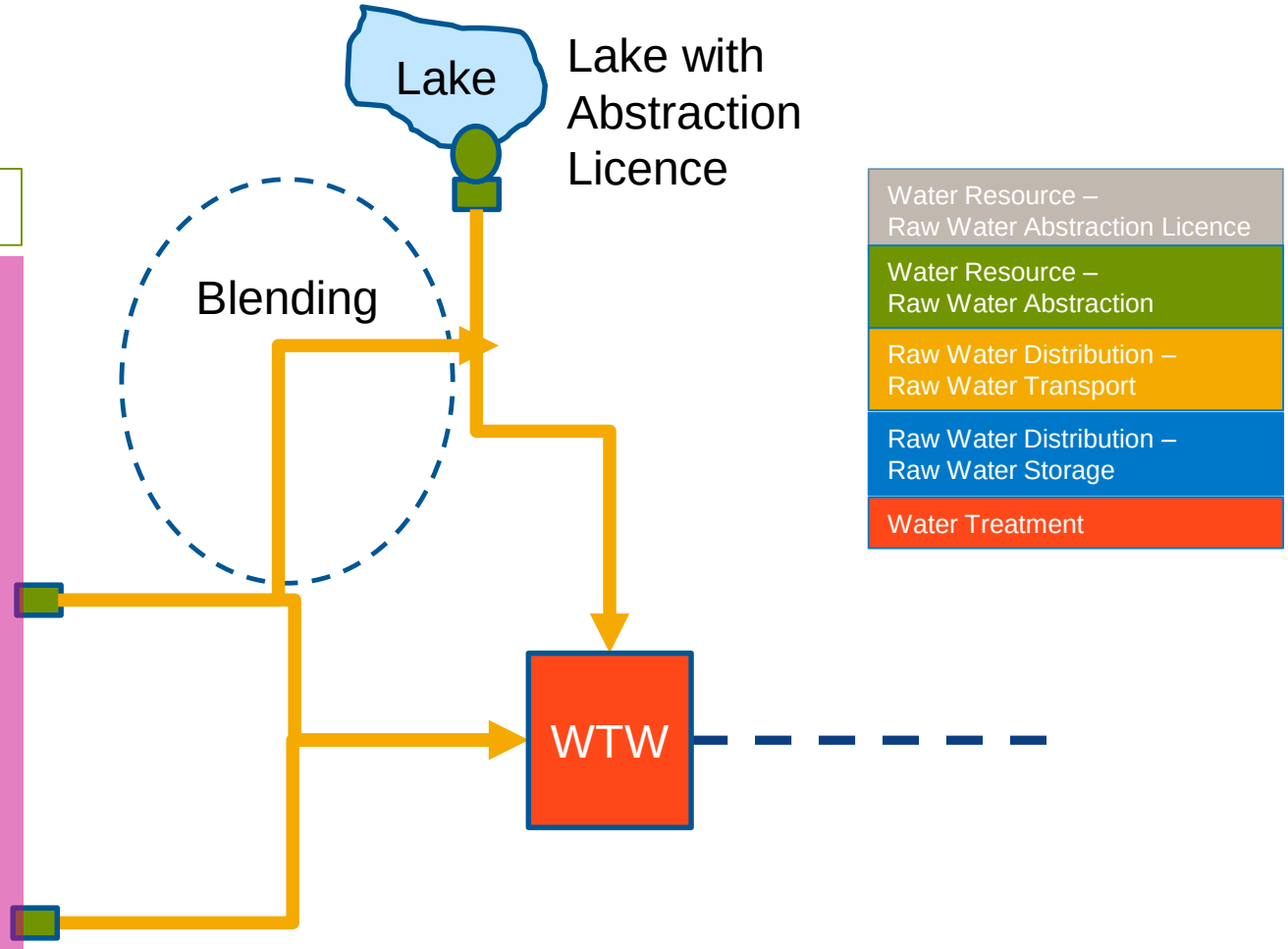
Clarification: Lakes, Springs, Adits and Blending

Spring, Adit, Tunnel etc.

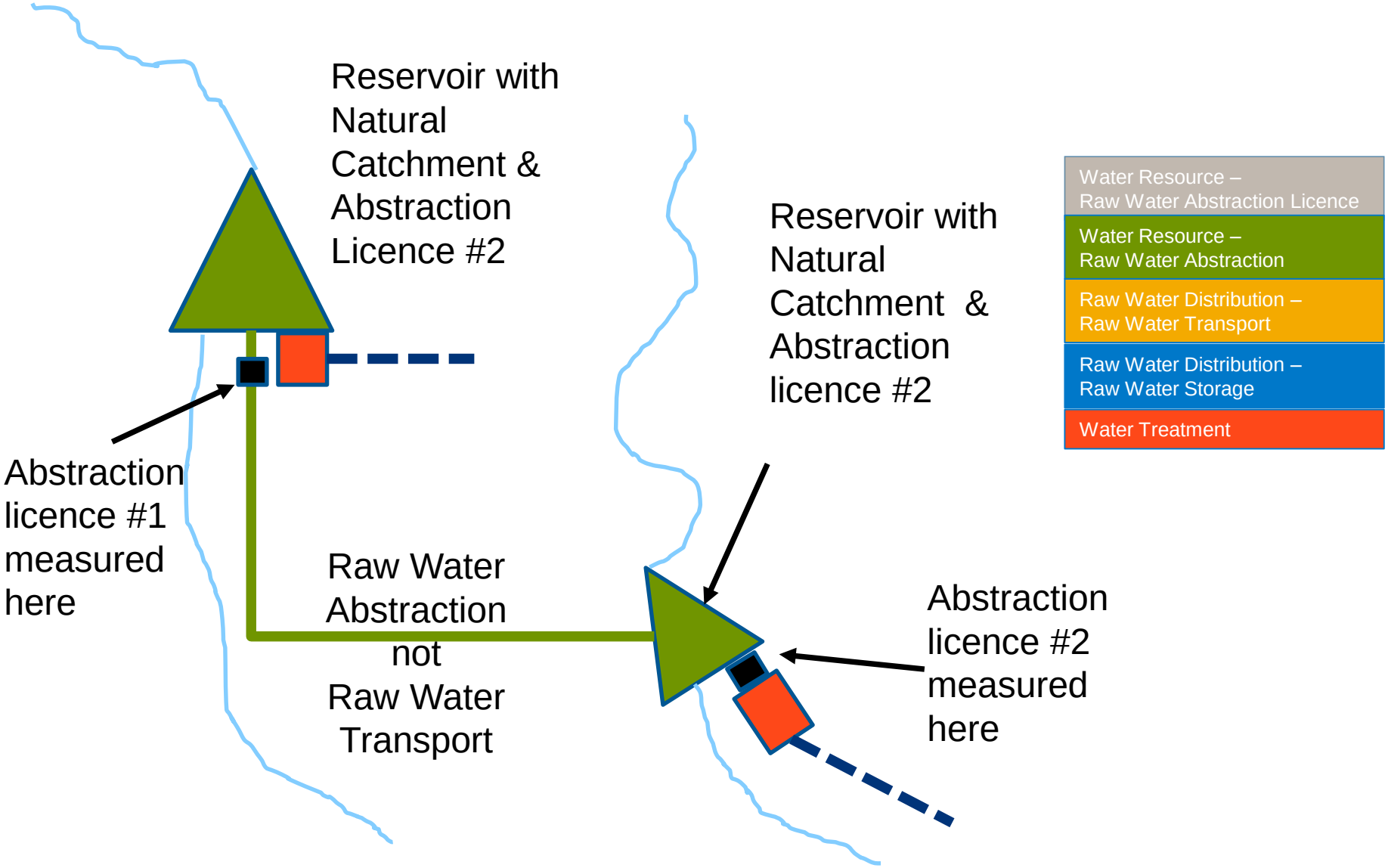
<u>Boundary for water resources taken from proposed RAGs</u>

For pumped systems - Assets and activities upstream of the outlet of the first pump/set of pumps

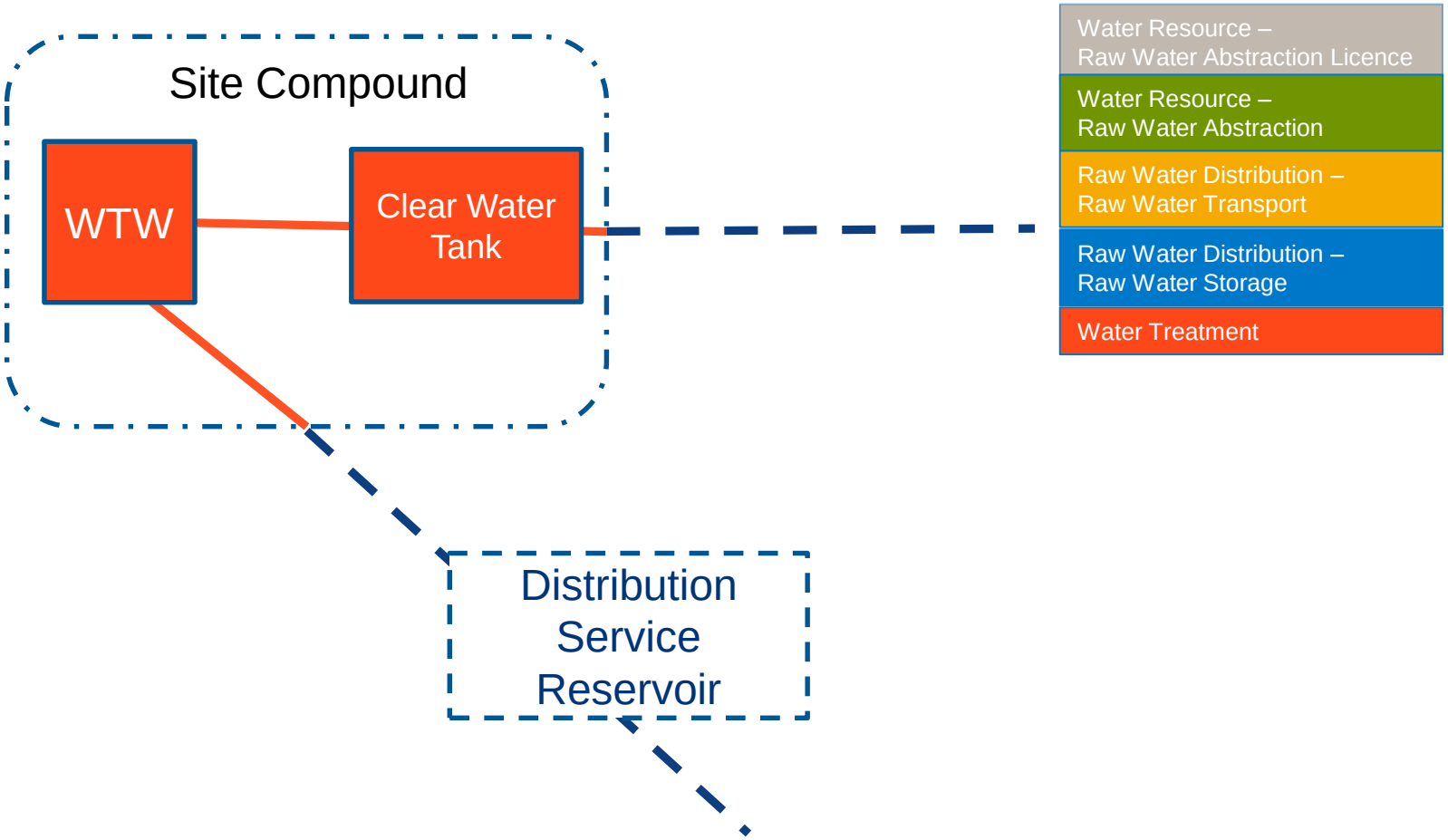
For gravity fed systems - Assets and activities upstream of the outlet of the structure controlling abstraction.

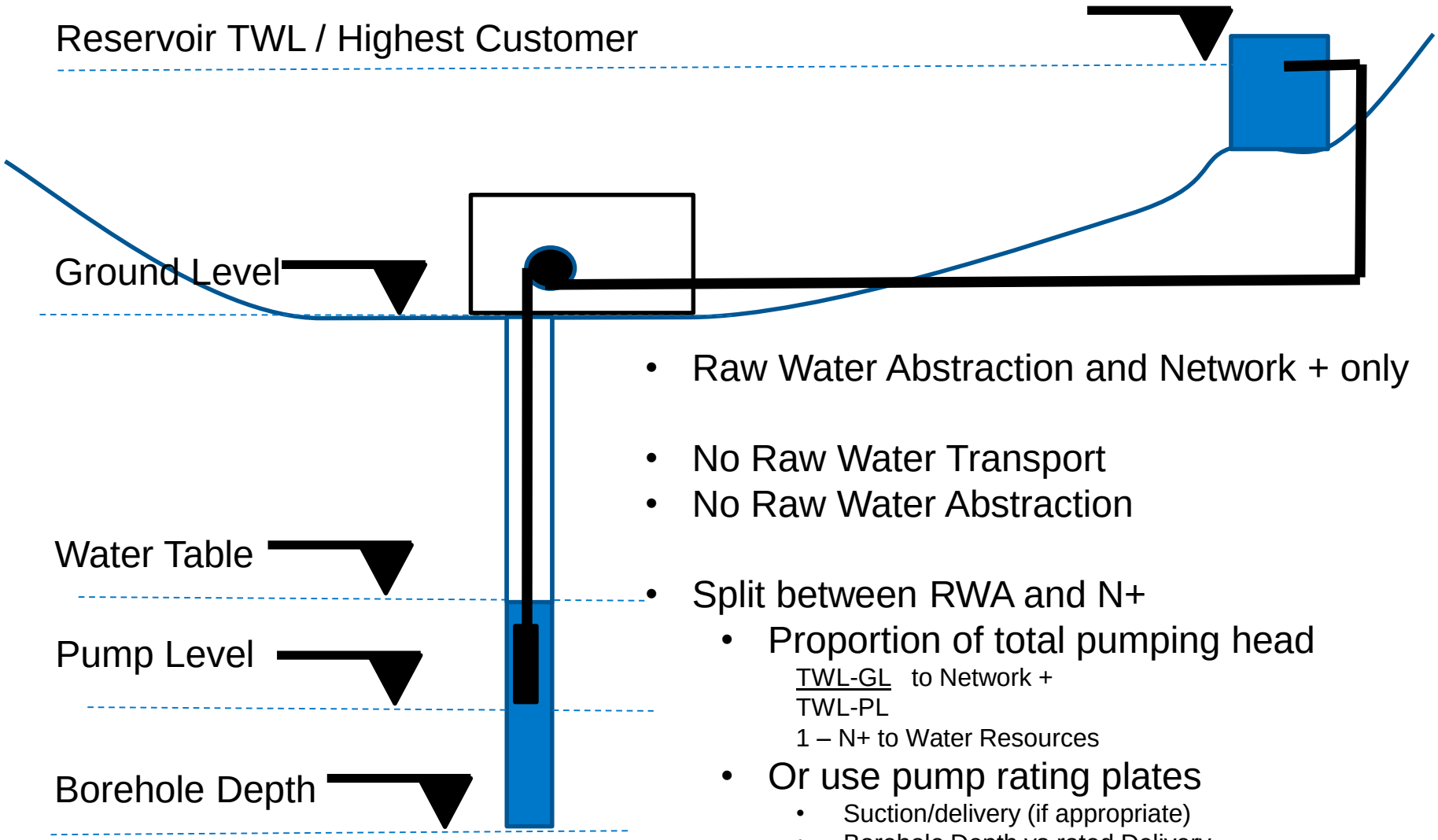


Clarification: Interconnected reservoirs with abstraction licences



Clarification: Clear Water Tanks vs Distribution Reservoirs





- Raw Water Abstraction and Network + only
- No Raw Water Transport
- No Raw Water Abstraction
- Split between RWA and N+
  - Proportion of total pumping head

    $\frac{\text{TWL-GL}}{\text{TWL-PL}}$ to Network +

    1 – N+ to Water Resources
  - Or use pump rating plates
    - Suction/delivery (if appropriate)
    - Borehole Depth vs rated Delivery

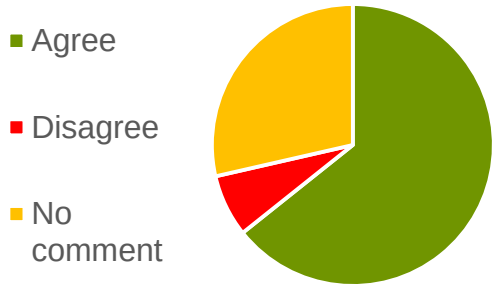
Timeline	
17 August	Launch RAG consultation
13 September	RAG consultation closes
30 September	Publish: • Information notice; • summary of changes made to proposed RAGs; and • finalised RAGs

Ofwat updates
3- May document consultation responses
(as of 21 July 2016)

Q1 Do you agree that the water resources price control framework should differentiate between utilisation risks relating to market-wide demand and utilisation risk relating to bilateral market entry?

- As of 21 July we had received 15 responses on this question (11 from companies and 4 from other stakeholders)
- The **majority of respondents (9 out of 15) agreed** that market-wide demand and bilateral market entry risks should be treated differently
- A number of respondents said that companies **should not bear all the risk** and that **more detail** on the mechanism was required

Overall



"Yes, we agree that, subject to the safeguards for the pre-2020 RCV, incumbent companies should be exposed to these impacts. This is a natural consequence of creating a contestable market."

"Customers should not pay more if there is lower than anticipated third party use of an incumbent company's water resource capacity."

Area of support and challenge

Support

- Appropriate to treat differently these risks given their different nature, definition and consistency in measurement
- Some consensus that companies are the best part to bear risks ahead of a contestable market
- Overall consensus with the principle to allocate risk to the party best able to manage it
- It would be prudent to isolate this consequence of the Water 2020 proposals from other risks facing companies, as drivers of utilisation risk

Challenge

- Allocating all of the bilateral market risk solely to the incumbent might have a negative impact on resilience in the medium to longer term
- Distinguish the boundary between market wide utilisation and bilateral market entry utilisation might be a very complicated and discretional
- Bilateral market entry risks might be less difficult to estimate and control compared to market-wide demand risks
- Bilateral market entry model presents potential issues for the water resources management planning process.

Additional comments

- Challenges to distinguish the measurement of supply/demand relating to bilateral market entry from the wider market variation in demand.
- The burden of the bilateral market entry risk should not fall on the environment if a company (new entrant or incumbent) has failed to plan properly

Additional comments

- The implementation of demand side water efficiency measures and leakage reduction schemes further complicates this measurement of bilateral market utilisation

Q2 Do you agree that the price control arrangements for increases in water resources capacity should, at least in some circumstances, expose an incumbent water company to some degree of market-wide demand risk? If so, what circumstances?

- As of 21 July we received 15 responses on this question (11 from companies and 4 from other stakeholders)
- The **majority of the respondents (10 out of 15) do not agree** that new capacity should be exposed to some market-wide demand risk
- That said **8 out of 15** respondents said that **further discussion and more evidence is required** to make a full assessment

Overall

"There are further issues that need to be explored in more detail if the proposal is to be implemented without adverse impacts on resilience."

"In general it is appropriate for companies in a market to be exposed to risk of demand fluctuations. There are, however, a number of issues which arise from making returns on resources investment variable with changes in demand."

Area of support and challenge

Support

- Recognize intent to promote a better allocative efficiency
- If demand risks properly allocated, environmental benefits are expected
- If demand risks are properly identified might avoid inefficient expenditure in oversized assed and reduce the likelihood of under-utilisation

Challenge

- Interactions with resilience, potential for adverse impacts
- Demand side risk might impact negatively especially the highly metered and already resource constrained companies
- Demand side risk is not completely diversifiable
- Perverse incentives may be generated to take greater risk e.g. reducing headroom
- Unreasonable being penalised for under-utilisation of assets due to wrong public population forecasts
- Utilisation risk would be asymmetric (because there is no upside)
- Unnecessary increase in the cost of capital
- Existing framework at PR14 such totex incentives drive better capacity investment decisions

Additional comments

- incentivise them to work with retailers and bilateral market entrants to plan water resources more effectively

Additional comments

- More clarification how market-wide demand risk is recognized in the access pricing
- Companies most affected and capacity constrained could seek to hedge market demand risk
- What is 'under-utilised'. Under-utilisation can be efficient where assets used only in particular cases
- Measurement could be an issue, e.g. impossible assessing the long-term demand risk based on one price review period

Actions and agenda for the next meetings

Group priorities identified at the last meeting

Planned meetings - 2016

There are three further meetings of this group in 2016:

- Thursday 29 September
- Tuesday 1 November
- Tuesday 13 December

All meetings will be held in Birmingham, dates for 2017 will be confirmed in the Autumn

Confirmed agenda items

- September 29 – Resilience, Cost Assessment for water resources, Market Information, Access pricing update
- Later meetings – Form of control, utilisation risk, RCV allocation, Incentives for trading/interconnection, Bid assessment framework, Risk based review

We would like volunteers to help facilitate sessions in future working groups please contact Peter Hetherington to discuss potential sessions

Thank you and questions

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