THE
WATER REPORT
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SEPTEMBER 2015

Open questions

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THE WATER REPORT COMPETITION WATCH

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Publisher: Kew Place Limited

EDITOR'S COMMENT

Can you always make ends meet?

Water companies challenged to deliver more for less at the last price review may look with grim satisfaction on Ofwat's attempts to do likewise, as its five year business plan published last month details (see p14). But even a cursory look at the regulator's forward work programme and the deep cut inflicted on its core budget this year shows there is real risk of a responsibility and capability mismatch if sufficient funds are not allocated going forward.

Ofwat recently emerged from what Jonson Cox in the watchdog's 2014-15 annual report accurately described as a "challenging but successful" year. It delivered a new-style price review that was nail-biting at times but has ultimately been well regarded. It has now opened the debate on the next price review (see report p4-7 and interview p8-11). With more wholesale controls in the offing, and issues like moving away from RPI indexation part of the debate, more complication looks certain.

Courtesy of the Water Act 2014, Ofwat also now has to go beyond the day job and deliver first retail competition and then new wholesale markets. The former has already proved challenging two years ahead of delivery, and with issues like RCV allocation on the table as part of the latter, there looks to be little let-up after 2017. Moreover, Ofwat's trust and confidence strategy is also incredibly ambitious. It surpasses the traditional regulatory function and strays into leading the whole sector in its relationship with customers.

Unhappily given this bigger, bolder work programme, Ofwat's resources, both financial and human, are under pressure. This year its core budget is £21m. And it is no secret that there has been a lot of staff turnover since PR14 concluded.

To its credit, Ofwat openly acknowledges the resource challenge and has a strategy to address it. This involves slimming down the in-house team; partnering more; increasing efficiency and potentially bringing in revenue by selling its expertise abroad. The stakeholder partnering element is already evident in the "marketplace of ideas" that has been encouraged for Water 2020 work (see p5).

Efficiency and collaboration are all to the good, but financial resources must also be sufficient. Let's hope that when drawing up Comprehensive Spending Review budgets, the government bears in mind that the sector's fortunes are to some extent bound up with Ofwat's, and that in the coming five years, both will be dealing with some fundamental societal challenges.

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Feedback, comments and suggestions very welcome.

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OFWAT OPENS DEBATE ON WHOLESALE MARKETS AND PR19

Regulator eyes sludge and water resources markets, more wholesale controls and a move away from RPI indexation.

At the end of July, following extensive pre consultation engagement, Ofwat published its long awaited opening thoughts on the framework for PR19 and on introducing markets into wholesale segments. The set of papers, collectively dubbed *Towards Water 2020* is an impressive collection of early thoughts which looks at responses to the many and multiple challenges facing the sector –and in good time before the next price review.

The papers intentionally set out to raise questions and set out possibilities rather than pin down Ofwat's position. In fact, the regulator has made an innovative move in actively encouraging different views to be aired by creating what it calls a "marketplace of ideas" – a forum for water companies and other stakeholders to publish their thoughts on how the sector needs to progress (see box).

But it is important to realise that the Water 2020 papers amount to far more than idle chat. The regulator offers a steer on its thinking in many areas and makes some substantive comments on changes in the pipeline. Moreover, there is clear commitment to continue a great many of its PR14 policies including on split price controls, totex and outcomes. There is also a hint of the iron fist in a velvet glove: it is clear that at some point the dialogue will have to make way for Ofwat to make decisions on the way forward. A formal consultation is due in December, with consultation on the detailed PR19 methodology slated for 2017.

Ofwat identified the key challenges facing the sector as:

- meeting demand for water in areas with stretched water resources
- dealing with new challenges around environmental water quality
- developing and maintaining resilient services and systems
- tackling affordability.

While the discussion papers have many facets, two key underpinning themes are discernible. Firstly, as noted there is a clear intention to build on rather than fundamentally alter PR14 principles. This includes pursuing further a targeted approach to regulation that puts the onus on companies to act responsibly and encouraging value to be fairly shared between customers, investors, the environment and society – with perhaps a weighting on customer interests. Unsurprisingly, Ofwat's strategic trust and confidence message runs as a thread throughout too. Secondly, there is a clear ambition to make greater use of markets in wholesale segments. And it is this that is likely to snaffle up most attention.

Promoting markets

The paper on *Promoting markets* is packed with issues, each of which could be the subject of a standalone discussion. It is our first look at how the Water Act 2014 provisions to enable the development of upstream water and wastewater markets could pan out.

Ofwat firstly scopes out an opportunity to introduce market elements into parts of the value chain where monopolies will prevail, through greater use of tendering. It cites the Thames Tideway Infrastruc-

ture Provider arrangements (see report p13) as perhaps a flagship example of this, though it also draws on the Offshore Transition Operator model in energy and smaller water examples including inset appointments and self-lay arrangements. The regulator suggests tendering could be used more widely and for smaller scale investments to apply downward pressure on costs and to reveal information about costs and efficiency. It notes: "This could result in an alternative to the comparative benchmarking that we have applied at past price reviews."

However, it also moves out of the monopoly space to identify scope for the introduction of upstream markets. Although not confined to these areas, Ofwat suggests the two extreme ends of the water and wastewater value chain are the most ripe for opening.

Sludge treatment and disposal. Focusing on this market will come as a surprise to few, given Ofwat's joint study with the Office of Fair Trading back in 2011 sought to identify and remove barriers to development. Since then, if anything the market has increased in potential value as the relevant technologies have improved and energy and fertiliser prices have risen. There are clear opportunities for incumbent companies to sell sludge to third party treatment providers, or to take in sludge and food waste from other sources, motivated by the value they could release from it.

Water resources trading. Again, Ofwat's focus on this area will surprise few, given both the seriousness of supply/demand challenges in some geographies and regulatory frustration that trading has failed to develop in any significant way despite its encouragement at PR14 through the likes of totex and the Abstraction Incentive Mechanism (which seeks to prevent abstraction from sensitive sites at low flows). Moreover, there is clear potential for firms to trade more given there are instances of water stressed areas sitting next door to areas where there is spare capacity.

For both sludge and water resources, Ofwat identifies a number of issues that need to be discussed before markets can be developed. But alongside these specific issues, there are obviously also generic issues that require attention if wholesale segments are to be opened up. Chief among these is how Ofwat should go about setting access prices, since the Water Act 2014 scrapped the costs principle and gave the regulator the power to set charging rules. Access prices are prices that service providers pay for access to an incumbent's facilities when these are required to provide services to end users. In setting prices, consideration must be given to both enabling efficient market entry and enabling incumbents to recover their efficiently incurred costs.

Of the many issues this throws up, the killer will be whether and how RCV is allocated along the value chain. It's no secret that this is anathema to investors, both because RCV is a fundamental building block of the industry and because it raises the spectre of the investor nemesis the stranded asset. Ofwat has committed to the protection of pre-March 2015 RCV, but expenditure after that date is not protected and could be allocated to segments where there is competition, raising the risk of stranding.

Some investors believe markets will shut the whole notion of RCV allocation down. Meanwhile, company discussion papers in the "marketplace of ideas" have identified alternative costing approaches, such as those based on modern equivalent asset valuations.

Finally, the *Promoting markets* paper opens up the subject of coordination once >

THE "MARKETPLACE OF IDEAS"

Ofwat has encouraged water companies to contribute thought papers on a wide range of Water 2020 topics. So far, topics on which companies have published include:

- Future challenges, pressures and uncertainties – Anglian Water, United Utilities and Yorkshire Water
- Customer engagement – Southern Water (lessons from PR14 and future application); Wessex Water (prospects for more direct negotiations between customers and companies when setting prices and service levels); Yorkshire Water (continuous customer engagement).
- Outcomes – Northumbrian Water (customer preferences, willingness to pay research and comparative issues).
- Totex – Anglian Water (PR14 review and future application)
- Menus and enhanced status – Anglian Water (PR14 review and future application)
- Capital maintenance – Anglian Water (PR14 review and future application)
- Access pricing – Anglian Water (principles for a future access pricing regime and alternatives for allocation of the RCV within an access pricing framework); Severn Trent (proposals for reform without undermining resilience).
- The future of the RCV – Severn Trent (cost recovery and remunerating new investment); South West Water (RCV allocation within the wider context of upstream reform); Yorkshire Water (impact and further research requirements).
- Price control duration – Northumbrian Water (duration, staggering and disaggregation).
- Water resources – Southern Water (enhancing innovation and competition); South East Water (greater involvement of third parties in water resources planning).
- Sludge – Wessex Water (regulation, commercialisation, innovation and efficiency).

All these papers are hosted by Water UK and can be accessed at www.water.org.uk/policy/future-water-sector. Companies are expected to publish further papers in coming months. *The Water Report* will report on company positions in future issues.

there are multiple players operating across the water value chain. Specifically, what role might a system operator (SO) play? Who should perform the different functions of an SO? Should the SO specify and procure or just provide information? And which SO functions should be performed at which geographic level – catchment, regional or national?

Engagement and outcomes

A second *Towards Water 2020* paper deals with customer engagement, outcomes and incentives. In terms of engagement with household customers, companies are given a clear steer that dipping in and out – for instance for business planning purposes – won't cut the mustard going forward. They are told engagement should be both long term and ongoing, and that they should draw on the data, intelligence and insight they gather from day to day customer interactions more. This is in part because methodological difficulties are identified with the hitherto heavily leant on willingness to pay (WTP) surveys. There were some significant variations in the WTP results between regions at PR14. How best to approach and use WTP information will be on the table going forward.

Although there is no explicit commitment to the use of Customer Challenge Groups at PR19, Ofwat describes the role they played at PR14 as "extremely valuable" and gives the impression that discussion on the future role of CCGs will be around the detail rather than the fact. Key questions in this area are: should CCGs be mandated or left up to companies? What structure, membership and leadership is optimal? How would CCGs work together and with other parties including Ofwat's Customer Advisory Panel and the Wales Water Forum?

For non household customers, the key issue will be what level of regulatory protection to keep after market opening, and for which customer groups. Ofwat does not envisage incentivising customer engagement once price and service regulation is removed. Special provision will be made for non household customers in Wales.

Contrary to earlier indications that customer engagement might be a preserve of the retailer, Ofwat spells out that it wants wholesalers to retain linkages with customers given they will continue to interact with them – for instance in fixing faults, dealing with leaks and installing meters. This is to be welcomed.

Finally, questions are raised about wholesale/retail engagement going forward. How should wholesalers engage with their retail customers in the setting of wholesale prices and service levels for non-household customers in the next price control? And should a similar approach be adopted to customer engagement in upstream areas in the future?

On outcomes, Ofwat is clear about its continued use of an outcomes based approach and Outcome Delivery Incentives (ODIs): "We consider that outcomes and ODIs are a key element of enabling a more customer-focused, innovative and efficient sector and we expect them to form part of PR19." Among the key issues it raises in this area are:

- Duration – should companies commit to outcomes for a period longer than five years, and do they need longer term rewards?
- Comparative analysis – Ofwat's late-on benchmarking and adjustment of com-

VIEWS ON PR14: OFWAT AND CCW

Ofwat's assessment of the last price review fundamentally endorses the principles and approach it took.

It wholeheartedly stands by its decision to disaggregate the previously unified price control into four separate controls; its outcomes focus; its Customer Challenge Group policy and putting customers in the driving seat; and its use of ODIs (which remains unpopular in some quarters). It is satisfied with the way its cost models, adjusted to company specific circumstances, worked and indicates that its policy of lower base returns with incentives on the table for outperformance balanced customer and investor interests well.

While it also stands by handing companies more ownership of their business plans, it observes some firms rose to this challenge better than others, and in particular that companies' cost allocations and risk management strategies need to improve. Likewise it views empowering companies to improve resilience to have had a mixed result, with intervention required in some cases to improve visibility on how companies planned to maintain asset health.

The regulator acknowledges the review was hugely challenging for it to deliver and with hindsight that it could have done some things better – for instance, if it had shared comparative information earlier and been clearer about the intervention it planned, this would have helped all parties. But the overall thrust is that working with its delivery partner, it delivered the review effectively.

Many of the learnings for PR19 are discussed elsewhere in this article. Among the others are: Ofwat will explore more powerful incentives; encourage companies to understand costs and their customers better; look into more challenging cost models; and streamline its own operations by agreeing its PR19 delivery model early and with regard to its resources. It comments: "This model will seek to take advantage of opportunities to make delivery less stretching, by reducing the level of engagement and realising efficiencies with submission of information and documentation."

Meanwhile the Consumer Council for Water published its assessment of PR14 in August. Tellingly this was called *A step in the right direction*. It views Ofwat's final determinations as a generally positive outcome for customers, and makes a number of key recommendations, including:

- **CCGs:** CCW recommends CCGs continue to provide scrutiny and challenge of business plans but reiterates its long standing view that the groups must be and must be seen to be independent in both their role and chairmanship. It wants to continue its membership of groups "as evidence of our PR14 involvement shows how we led many challenges, often using comparisons between company proposals and performance to inform this, and ensured the groups maintained their customer focus". It encourages the sharing of comparative financial, efficiency, operational and customer service data at an early stage.
- **Ofwat's role and methodology:** CCW supports the continued use of separate price controls, totex and the outcomes based approach. It would like to see process certainty at PR19: "Changes to the methodology and timetable disrupted the PR14 process, particularly for companies and CCGs." It remains disenchanted with ODIs, but urges caps/collars remain if the policy is to be continued and that customers are kept fully in the picture. When enhanced status is handed out, there should be demonstrable benefit for customers and the company's past performance should be taken into account. It believes Ofwat overestimated risk in setting the cost of capital at PR14 which "may lead to companies being more profitable than appropriate given the low risk of the industry".
- **Customer research:** good practice from PR14 should be shared for consideration for use at PR19, and CCW should continue to measure the customer acceptability of draft determinations and perhaps business plans using a constant methodology to enhance comparability.

CCW's report can be found at http://bit.ly/1N7kXlq pany ODIs at PR14 was unpopular in some quarters. For PR19, it is considering whether more comparative information should be made available to inform customer engagement earlier in the process and if so, whether it still needs to undertake comparative assessments and interventions to secure alignment to upper quartile performance. Moreover, it is mulling the use of dynamic, more stretching upper quartile benchmarks rather than historic ones. And where services are comparable between companies, should performance measurement be standardised to improve clarity?

- Multiple price controls – should companies develop outcomes for the whole range of services and then seek to allocate them to specific price controls or services, or should business plans be set for separate services?
- ODIs – companies were free to choose their own ODIs at PR14, which has resulted in substantial variation in the incentives in play across the industry. Total rewards and penalties were capped. For PR19, should ODIs be bespoke again or common and should caps/collars apply?

PR19

Ofwat's third *Towards Water 2020* paper is on *Regulating monopolies*, and essentially sets out all the balls that are in the air for PR19. This factors in the directions set in the *Promoting markets* and *Customer engagement and outcomes* papers, together with recommendations flowing from a review of PR14, which was also published in late July (see box – Views on PR14).

Further separation of wholesale price controls looks likely for a number of reasons, including because it would improve understanding of efficient costs, increase transparency, encourage a focus on customer outcomes in each business area and improve visibility of comparative efficiency. Ofwat says it will "consider whether, for example, the non-binding sub-caps for 'network plus' activities discussed in the final methodology for PR14 would be useful as part of our work on Water 2020". We should perhaps expect to see separate controls for sludge and water resources as this would enable better price signals and potentially support new entry.

Different forms of control could operate in different wholesale segments, ranging from the fully binding to the indicative. Controls could also vary in duration and have staggered starts to make workloads for companies and Ofwat more manageable. There could be more differentiation between companies when results are announced too: Ofwat indicates categories beyond the pretty blunt enhanced/non enhanced divide might feature next time around.

Despite the greater use of market evidence, the regulator will continue to need to benchmark efficient costs for 2020-25. Although there is no overt commitment, there is a working assumption that both its wholesale and retail cost models will live to see another day, subject to improvements. On the wholesale side, up for consideration are: how to hone benchmarking models; what type of efficiency target (upper quartile or frontier) is most appropriate; how to incentivise efficiency frontier shift; whether models should focus on particular parts of the value chain if wholesale controls are further disaggregated; how to improve enhancement expenditure modelling; how best to assess special factor claims; and whether comparators external to the industry should be used.

Inevitably risk and return are on the table too. Ofwat will consider how its PR14 package needs to change going forward: how to strike the right balance between base and outperformance rewards; how best to incentivise innovation; and whether risks are allocated to those able to control them best. There will of course also be scrutiny of what level of return is required to facilitate investment and financeability, alongside consideration of whether the financial resilience of some company structures needs another look given the introduction of wholesale markets.

Some of those issues will undoubtedly be overshadowed though by the fact that Ofwat has officially raised the prospect of moving away from RPI indexation. It's not the first time the issue has been mentioned – the debate on appropriate indexation spans regulated industries – but it is the first time it has been set out in black and white in water. Ofwat raises a number of questions, including which parts of the value chain should be indexed, which new measure should be used if RPI is dumped (CPI is the front runner but there are alternatives), what would the impact be on customer bills, and how should transition be handled. Ofwat mulls: "If a new index were to be adopted, it would be possible to phase-in the introduction of the new index by continuing to apply RPI to some proportion of the RCV and the new index to the remaining proportion. This would increase complexity of price control, but would provide greater time for adjustment."

But it is the impact on investor returns and company financeability that are the killer issues, given the prevalence of long dated RPI-linked debt in the industry. Ofwat acknowledges the issue, but is mild mannered in its language: "Companies may face some additional risk from exposure to differences between RPI and CPI or CPIH on existing RPI-linked debt." Meanwhile Agency Partners analyst Lakis Athanasiou talks of "value destruction".

Of all the issues raised by the *Towards Water 2020* papers, Athanasiou says: "The most important for investors is the move to CPI indexation. This has the potential to destroy very large chunks of value. We suspect a Severn Trent bid is unlikely with CPI indexation risk hanging over the industry." He is unconvinced by Ofwat's reassurance that it would prevent the move away from RPI from affecting the total level of returns. "We believe that Ofwat is obliged to say that it will adjust real returns and costs upwards if moving to CPI indexation, but we do not believe this is what will come to pass."

> **We consider that outcomes and ODIs are a key element of enabling a more customer-focused, innovative and efficient sector and we expect them to form part of PR19**

RPI indexation is embedded in company licences. Athanasiou says firms would fight "tooth and nail" against a change and that Ofwat won't have the stomach for battle: "In our view, Ofwat would not go to the bother of forcing through licence changes in the face of company opposition, without prizes for customers." In our interview on p8-11, Ofwat's David Black begs to differ.

- Ofwat's Towards 2020 papers can be found at http://bit.ly/1IOfCcF
- See interview with David Black who is leading Ofwat's Water 2020 work, p8-11 TWR

MARKETS RESEARCH

Ofwat has taken the first step towards introducing more competition into wholesale with a series of open discussion papers on its approach to PR19. David Black explains the regulator's thinking on this Water 2020 work and thorny issues including RCV allocation and RPI indexation.

Ofwat's acting senior director David Black has the both enviable and unenviable task of leading its Water 2020 work. Enviable – because as regulatory work goes, this is exciting stuff. Ofwat is leaping more than stepping out of its comfort zone and addressing head-on the multiple future challenges facing the sector – notably around introducing wholesale markets, increasing scope for entry and setting a framework for the delivery of ever-better outcomes. Unenviable – because of the associated complexity, and the almost inevitable headache that will come from being pulled in different directions by different stakeholders as the programme unfolds.

At the end of July, Ofwat published a series of discussion papers to officially launch its Water 2020 work. A report on the content of these papers precedes this article – see p4-7. At this stage, the regulator has intentionally scoped out options for further discussion rather than chosen solutions. Here, Black elaborates on Ofwat's thought processes so far and gives a flavour of what's to come.

Open to suggestion

Two things jump out from the reams of information contained in the July papers: firstly that the plan is to entrench and improve the PR14 approach; and secondly that greater use will be made of markets. Few would argue with the former principle, given virtually all stakeholders took a positive view of the PR14 settlement in the round. On paper, the latter is more contentious. But Black counters that there is widespread buy-in for making more use of markets: "We had a period of engagement workshops where we've talked through with stakeholders how to meet the challenges. I think there is an acceptance that markets have a greater role to play; the debate is more about how much, how far and how fast rather than a yes or no answer."

That fundamental buy-in aside, Ofwat appreciates that introducing more competition into what has hitherto been an integrated monopoly market will be no walk in the park. It has taken a progressive and innovative approach to the problem in openly inviting companies to pitch in with suggestions on this and other issues thrown up by future challenges. These have been published under the banner of a "marketplace for ideas". Black comments: "This has evolved from the work that's been done around upstream thinking, before Water 2020 got started. We asked for help from companies and other stakeholders, and companies have also felt free to offer help, to put forward points on issues that particularly matter to them.

"We thought it would be useful to get different perspectives. We were keen not to have a 'lowest common denominator' model whereby it would be necessary for everyone to agree with everyone in order to publish something. We have encouraged companies to form their own views rather than trying to develop an industry position. We think companies have responded to that. Some have focused on developing options and understanding issues. On the challenges facing the sector, we've lent quite heavily on that."

Indeed, Black admits that the "marketplace for ideas" approach has been adopted with one eye to helping Ofwat resource what is an incredibly ambitious programme in tight times. He says: "We're asking wide-ranging questions and looking right across the sector. Both from a resourcing perspective and in terms of trying to provide reasonable certainty, we need to get clarity on where we're going to focus and prioritise our efforts. At this stage, we thought it was important to open up the debate, put some ideas on the table and try to spot what else might be out there so we can take an informed view on how we prioritise our workload going forward. We are keenly aware that we do have a limited budget."

True to its pro-competition ethic, the regulator has tried to stimulate a bit of rivalry within the marketplace for ideas by indicating that attractive proposals may be taken forward. "Ofwat has tried to create that sort of contest and to encourage people to really stretch themselves," Black explains. As work progresses, he says Ofwat is likely to commission external support on specific issues, but he does not envisage a partnership arrangement of the kind employed for delivery of the last price review and retail market opening.

Dialogue not negotiation

How far this spirit of collaboration can be taken remains to be seen. Specifically, can solutions fundamentally agreeable to all be reached through collaboration or will there inevitably be battlefields ahead despite Ofwat's best efforts to encourage dialogue? Black: "The sector is facing very challenging issues and therefore there is a set of very challenging questions. They touch on a range of interests. We anticipate that there will be differences of view. We see it as our role as a regulator to challenge the sector on behalf of customers and stakeholders. Sometimes it is painful but if there are long-term benefits and long-term gains, we must make that challenge. But also we must ensure we take a reasoned approach and ensure people can understand why we've taken the approach we ultimately choose."

So as Ofwat chairman Jonson Cox pointed out at his Policy Exchange speech earlier this year, dialogue doesn't always mean negotiation. Black agrees: "In PR14 we did take decisions that individual companies didn't particularly like, but in taking those decisions we were trying to balance our statutory duties… Can we be optimistic that [in Water 2020] we'll get to a place where there is at least some common ground between us and other stakeholders? It's too early to tell. At the moment will ask questions and we welcome different perspectives.

"Historically there has been overly simplistic thinking about RCV allocation and competition and trying to do everything with one regulatory instrument. We are signalling now that that is not the case."

"Equally we will have to narrow down the options and get to a place where we can put our views out there. Ultimately we will have to make decisions on our approach and inevitably there will be various points of view about that."

RCV and RPI

One of the main areas of potential contention concerns how Regulatory Capital Value (RCV) might be allocated across the value chain as a result of competition being introduced into wholesale markets. Initially, Ofwat has eyed sludge treatment/disposal and water resources trading as the areas most ripe for opening. Black comments: "When we look at the sector and the regulatory model, there are real questions about whether companies are taking advantage of opportunities that sit outside their boundaries, both in the case of water resources and in the case of sludge. There have also been some exciting new technical changes in the case of sludge which means the market has moved quite a lot in the last five to ten years. And obviously we are building on the work that was done by Ofwat and the OFT [a joint market study with the Office of Fair Trading, published in 2011]. That's not to say markets can't play bigger role in other parts of the value chain, but it rather looks like these areas are areas of promise."

He adds that it is too early to say yet whether opening in these areas will be enforced, or just highlighted to companies as suitable areas for them to develop. Black mulls: "There is good reason for handing opportunities to companies, as they will focus on areas that are likely to work well. But on the other hand it might reduce the scope for markets to develop. On water resources, changes occurred during PR14 and the real question for us is whether we've gone far enough because we're still not seeing extensive trading. We have to ask: what is it about the policy settings that are not enabling this to take place?"

Returning to the RCV issue, the accepted wisdom once was you mess with this at your peril – or at least at the peril of sector investment. Black is optimistic though that a position acceptable to investors can be reached. "It is a very sensitive area," he observes. "But what I have been very pleased about in terms of the initial response from the investor community is that comments have been quite positive, recognising this is a balanced package; this is an evolutionary step.

"I think we have set out a clear rationale for the changes and that we, as a regulator, have an interest in getting fair value for customers. Some of that involves the costs to raise capital, so we don't want to destabilise or to create unnecessary risks in the way that we regulate… We want to send the right access price signals but also provide reasonable certainty around cost recovery to investors. The answer is to think about using more than one regulatory instrument to deliver this objective. Historically there has been overly simplistic thinking about RCV allocation and competition and trying to do everything with one regulatory instrument. We are signalling now that that is not the case."

He adds: "And there's a question about the scale of changes here. We are committed to protecting the pre-2015 RCV. The sticking points might be around getting new investments that work in customer best interests. We need to take a sensible manageable approach and think through what it really means for the existing businesses and new businesses and get as much light on it as is possible."

Although not related to the greater use of markets, another highly contentious area scoped out in the Water 2020 papers is the possibility of a move away from RPI indexation to an alternative such as CPI. This is not a water-specific issue and the debate is taking place against a background of broader discussion on the legitimacy of RPI indexation across regulated sectors. Some regulators, including WICS, have already switched over. But nonetheless the prospect of CPI rings loud alarm bells for water investors south of the border.

Black says: "We have to ask these hard questions. I think perhaps investors would prefer that we didn't but there is a real risk that we get into a situation where there is erosion in the legitimacy of the price control if customer incomes are indexed to CPI but their water bill is set up on RPI."

Is he as optimistic about prospects for investor agreement on moving away from RPI as he is on RCV allocation? "We have always been clear that our views about costs and WACC are based on a view about the level of RPI. If we were to move to a different form of indexation, that would have to be reflected in the calculations. We understand why investors have concerns and I think we can address them." While he doesn't profess to have the "how" squared off yet, he observes: "I think investors can take comfort from the fact that Ofwat is committing to financially neutral adjustments, though I've spoken to a number of investors and there is concern about whether the regulator will allow that to be passed through."

Does Ofwat have the stomach for battle on this issue? Yes, says Black. "Are we up for it? We have signalled that we are willing to ask these questions and during PR14, we faced some tough issues and we addressed them. We do keep our focus on the interests of customers in the longer term and I do think other stakeholders appreciate that. But it will be important to manage the issues during the period of change and we acknowledge that."

Cost models and dynamic efficiency

Beyond those two highly contentious issues for investors, how might PR19 shape up in view of the planned greater reliance on markets? Step one is to build on what was achieved in 2014. "PR14 was a big step. We made quite a lot of changes. A lot of good ideas were developed and what we're trying to do is build on PR14 to take it further forward."

Black accepts that is hard while AMP6 is still in its infancy. We won't really know how totex and outcomes play out until much later in the current period or beyond. But to wait and see is simply not an option. "It would be wrong just to wait to get started on PR19," he says. "But we will feed evidence over the period in to the development and design of our PR19 methodology and future price controls."

Although not set in stone, the July papers indicate the regulator plans to stick with the fundamentals of its PR14 cost models. This is despite those models coming in for criticism at the Bristol Water price appeal to the Competition and Markets Authority (see report, p12). Black explains: "We are of course interested in what the CMA says but we are aware that they are looking at one particular company and that all the other companies have accepted our determinations. On the whole, we're happy with the way the price review worked, especially given it was the first time we've done it this way."

We can though expect to see development in the way Ofwat challenged companies on efficiency at PR14. It is particularly keen to see the efficiency frontier shift forward and to dissuade companies from being happy to sit in the middle of the pack. Says Black: "There's a question about how you incentivise that and whether we should have a dynamic efficiency frontier. There's two things to consider: do you leave the frontier where it was in 2013 to 2014 ahead of the price control, or do you take account of the fact that you expect that efficiency frontier to move forward throughout the period and therefore stretch the companies over the period...That all remains to be seen but we are keen to push companies further and harder."

Wholesale control separation

Building on the four controls deployed at PR14, PR19 is likely to feature further separation of controls in the wholesale segments. Black says this work will in fact begin ahead of 2020. "We have a commitment to produce a non-binding control for network plus in both wholesale water and wastewater. That will be developed in the back half of the current period. So another reason for developing our policies now is to feed in to the development of network plus controls, and to give companies the opportunity to develop their assessment of costs in each area. A difficulty we had with separating wholesale water/wastewater and household/non household was it went to the wire before some companies had a good handle on some of the cost issues."

Post 2020, these disaggregated controls could take a number of forms, from fully binding to indicative. Will different types of control be active in different parts of the value chain? Black: "That's certainly possible, maybe even likely. What we're trying to do is provide information to facilitate better outcomes for customers and to facilitate the development of markets. Price controls are one-way of providing information but they do have costs associated with them...While that might be worth doing, we also want to look at other options. There might be less intrusive options or less expensive options to provide that information."

The newly opening sludge and water resources markets are front runners for having their own control arrangements, but there could be variety between even these. "It might be that the approach is different between water and sludge because of the nature of the markets, the nature of the possibilities, the potential for competition to develop," Black mulls.

There is also the possibility of longer or staggered price control periods after 2020. Says Black: "We're very serious about getting a long-term focus in the sector. One way of doing it might be to move to longer controls, but that's certainly not the only way of doing it. Longer term controls still have the cycle issue – it's just over a longer period. What we're trying to do is move away from five years of which three years is focused on delivery and two years on business planning and customer engagement. We are trying to move towards a model where it's a constant process of customer engagement and challenge and it's not about the industry focusing on the regulator during the price control."

Finally, PR19 could well feature a more differentiated grading of companies than the basic enhanced/non-enhanced categories that featured in 2014 (the idea of a third category was dropped mid way through for practical reasons). Black explains: "If you look at the differences between companies' business plans, they do come from quite different places. Some companies had to make relatively few changes and did that relatively quickly; they didn't require too much extra effort on their part or our part. Other companies really did have to go back and rethink their business plans which requires a lot of work on their side and our side. That suggests that just having two categories is a bit of a blunt approach. If there was more bright light between those that required minimal work and those that required a lot of work, that might be helpful – but it is something we have to think about further."

Ofwat will continue to work through the options of how to frame PR19, and in the meantime it will tie up unfinished PR14 business. Next year it is due to reopen the non household retail control set in 2014, to allow suppliers to adjust customer type costs and margins ahead of retail market opening. The regulator has faced calls from Business Stream and other new entrants to reopen the wholesale controls too, with a view to allocating bigger margins to non household retail.

Black confirms Ofwat has firmly shut the door on this particular matter. "We're not considering that. We are not reopening the wholesale control. We understand obviously that some parties would like to see different margins. But that's something we can look at PR19, as well as whether there is to be regulation of the non household controls in any form." The latter all depends on how the market shapes up after 2017. TWR

BRISTOL AND OFWAT DIG IN FOR FINAL CMA CLASH

Ofwat proposes £16m more should be slashed from PR14 FD totex

There was little sign of compromise when parties responded to the Competition and Markets Authority's (CMA) provisional findings on the Bristol Water price appeal at the end of July. Bristol's response was focused on persuading the CMA to revise its numbers upwards, while Ofwat put the proverbial boot in and urged the Authority to make harsher totex cuts that its December final determination (FD) had set.

Ofwat welcomed the CMA's package of price cuts and service improvements and its endorsement that Bristol would be financeable under the plan. But it hastily added that viewing a price appeal as a "one-way bet" should be discouraged and that Bristol's totex allowance should in fact be slashed back not only from the £429m the CMA's provisional findings proposed but also from the £409m the regulator set in December 2014's FDs. It advocated a totex settlement of £393m, comprising base expenditure of £318m (consistent with the FDs) and enhancement expenditure of £75m (lower than both the Ofwat and CMA numbers).

Elsewhere the regulator defended its cost allowance models which came in for heavy fire from the CMA. It argued: "In the context of a price review of 18 different companies and 28 wholesale cost baselines we are strongly of the view that aspects of our approach may remain appropriate."

Bristol Water praised the CMA's critical view of Ofwat's cost assessment methodology but remained dissatisfied with the deal on the table.

It argued that with the CMA average bill of £159, revenues would be insufficient and unreasonable: "..Imposing an immediate 19% reduction from the bill levels set by the Competition Commission in 2010 is not comparable to any reasonable benchmark, including the average 5% decrease in bills across the industry." It stressed: "Customer interests are not always best served by targeting the lowest possible bill level. Such an approach creates a significant risk of underfunding, with implications for current and future customers in terms of serviceability and greater costs in the future."

Price/risk trade off

This view found support from the company's CCG the Local Engagement Forum. In regard to maintenance expenditure in particular, it emphasised customers had found the company's original proposal acceptable. It said: "The CMA should give weight to the evidence of customer views that they do not welcome a trade-off of higher risk from reduced maintenance in return for lower bills, nor would they welcome any shocks in the next AMP arising from the 'sudden' need to catch up with too-long delayed maintenance."

Bristol said that for the scope of expenditure included in the provisional CMA findings, "the appropriate bill level is shown to be c£173, which would represent a 12% reduction from Bristol Water's 2014/15 average household bill".

Financeability and totex

On the related matter of financeability, Bristol disputed the CMA's view that it was financeable under the provisional plan. It urged the authority to undertake a full review of its credit ratios and credit metrics in the round, and to honour its commitment to make adjustments if a financeability problem is discovered. It offered: "We consider that the concerns with the provisional findings could be addressed through a higher pay-as-you-go or through a combination of higher WACC and higher PAYG." On cost of capital specifically, Bristol spelt out where the CMA had underestimated cost of debt and equity and concluded: "At present, the findings on certain components mean that the overall WACC permitted is too low to satisfy the requirements of the finance duty."

While grateful for the CMA's £20m uplift to £429m from the FD's wholesale cost allowance of £409m, Bristol argued the new figure remained too low. It said the provisional analysis had not taken sufficient account of special cost factors and the business plan assessment had drawn on unrealistic assumptions about cost increases and unrepresentative cost comparisons. "Moreover, in selecting the central point of the potential range of costs, the CMA has not fully taken into account the preferences of customers for price and risk, or the balance of risk to their service."

Bristol's comments on the CMA's judgements on key contested elements of its enhancement expenditure were:

- Cheddar Reservoir 2: Bristol proposed an "interim approach" given the discussion is chiefly around when the storage is needed rather than if. "We can demonstrate that to preserve the optimal delivery timeframe, we need to be in a position to commence construction during AMP7. This is only feasible if planning permission is maintained during AMP6 by carrying out some specific works at a cost of c. £1m."
- Cheddar WTW: Bristol views the CMA's allocation of £1m for further investigations and minor capital works (with an uncertainty mechanism should the investigations demonstrate the need for more expensive work) as a "reasonable alternative". The LEF however argued in support of the work going ahead promptly.

Final determinations are now due by 3 November, after parties agreed to extend the original six month deadline, starting from the 4 March referral date, by two months. TWR

SECTOR IMPLICATIONS?

Thames Water's response emphasised the need for the CMA to clarify the extent to which its findings in the Bristol case should be read as having sector wide implications. It called in particular for the CMA to spell out:

- **Retail controls:** the extent to which it has reviewed and endorsed Ofwat's retail price control methodology. Thames considers this was "almost entirely based on simple, unweighted averages of retail costs in one particular year", and disregarded the importance of factors such as changes in input costs over time, company-specific factors and regional wage effects. The CMA hasn't scrutinised Ofwat's retail controls as part of the Bristol appeal.
- **Totex models:** should the CMA's approach be understood to confer views on the appropriate cost assessment approach and form of totex modelling for other companies?
- **Horizontal ODI checks:** the CMA indicated it was not fully behind making adjustments to customer preferences on the back of comparative information. Thames supports this view and would like the CMA position clarified in the final determination.

TIDEWAY IP MODEL MAY BE ROLLED OUT

Regulator eyes opportunity for market testing of cost of capital after Bazalgette deal cuts Tideway bill impact by two-thirds.

Ofwat is keen to explore how the competitive market model used for the Thames Tideway Tunnel could be exported to other water infrastructure developments, after heralding the Tideway process as a massive win for customers.

On 24 August, the regulator awarded a licence to Bazalgette Tunnel Limited to finance and deliver the project. Bazelgette is a consortium of independent investors (see table).

The Tideway Tunnel will be the first project to be delivered under the Specified Infrastructure Projects Regulations 2013, introduced by the Flood and Water Management Act 2010. These allow for certain large and complex projects to be delivered by infrastructure providers (IP) that are selected by the incumbent undertaker (in this case Thames Water) following a competitive procurement. IPs are to be regulated by Ofwat under a project licence.

Ofwat said the new process – particularly market testing of the financing costs – had resulted in significant savings. "The cost of capital for this project, just 2.497%, has resulted in a significant reduction in the cost to customers. Previous worst case forecasts had predicted the impact of the tunnel on average bills would be £70 to £80. In fact the impact is now expected to be much lower than this: around £20 to £25 per year by the mid-2020s. £7 of this is already included in current bills." Thames' bills are now expected to remain at the current pre-inflation level until 2020.

In addition, Bazelgette's licence includes strong incentives in the form of clear rewards and penalties to complete the project on time, to quality and at minimum cost. If the project is completed under-budget, customers will benefit from the majority of those savings.

Markets in monopolies of this sort feature in the regulator's *Towards Water 2020* work on the framework for PR19 and on introducing markets into wholesale segments (see p4-11).

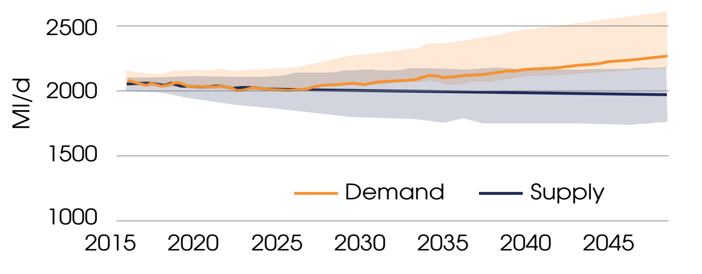
Acting senior director David Black is leading the work and commented on the potential to roll out the Tideway model: "Where there is large separable infrastructure, there is scope. We're also thinking more broadly though, that even for more monopoly-style activities, companies are obliged to deliver their business plans in ways that are economical and efficient. One of the ways of doing that is to have the market evidence about that cost. There's obviously a market view about the cost of capital. As a regulator you spend years trying to work out what that is. So market evidence is very valuable, not just for that project but also for the wider business." TWR

BAZALGETTE INVESTORS

Allianz Infrastructure Luxembourg 1 S.a.r.l	34.26%
Dalmore Infrastructure Investments LP	33.76%
IPP (Bazalgette) Limited	15.99%
DIF Bid Co Limited	10.66%
Bazalgette (Investments) Limited	5.33%
	100%

MARTIN BAGGS ON LONDON'S FUTURE SUPPLY AND SEWER PRESSURES

Projection of water supply and demand in London



Sewer capacity was one of two main issues on the future of the capital's water supply dealt with by Thames Water chief executive Martin Baggs at a City of London event in the summer. He displayed maps showing sewer capacity under increasing pressure over time up to 2080, and pointed out that massive development was earmarked for some areas where capacity is already strained. He said water and wastewater should be a key consideration in development planning and advocated an innovative response, including use of SUDS and rainwater harvesting, to the sewer capacity crunch.

But most of Baggs' presentation was devoted to clean water and the fact that demand in London is forecast to outstrip supply around 2025 (see chart). "Population is growing beyond expectation," he said. "It's the equivalent of adding the populations of Birmingham and Edinburgh into London."

Baggs highlighted Thames' short and medium term management actions, including increasing meter penetration to 70%, cutting leakage by 14% to 571Ml/d and doubling the volume of water saved through efficiency measures within the decade. He said these would narrow but not close the supply gap, and hence that a major new resource was needed. Baggs scoped out three options: a transfer scheme, a new reservoir and reuse. He indicated a new reservoir would be his immediate preference, saying: "We need to fill the bucket." But he added: "It's not a case of one, two or three to close that gap long term, we need all three."

Baggs flagged the financial cost to the capital should water use restrictions be deployed: a level 3 restriction (temporary use ban/Drought Order) would cost £9.5m a day, while a level 4 (rota cuts/Emergency Drought Order) would cost around £300m a day. He said such emergency restrictions would damage the heart of the UK economy and bring the capital to virtual standstill: "The tube would have to shut down without fire water, hotels would have to shut, lots of things."

NEWS IN BRIEF

Appointments: Sir Brian Bender takes the reins as chair of Water UK; Marcus Rink has replaced Jeni Colbourne as chief drinking water inspector; Tom Taylor succeeds Diane McCrae as CCW Wales chair from 1 October; Emma Howard Boyd has become deputy chair of the Environment Agency.

Cheers! The DWI has reported quality compliance of 99.96% in 2014. Meanwhile the Drinking Water Quality Regulator for Scotland reported 99.89% compliance.

Crypto case: As The Water Report went to press, United Utilities was lifting on a postcode by postcode basis the boil water notice it issued after discovering cryptosporidium in supplies.

Totting up: Ofwat published its reconciliation rulebook which sets out how it proposes to reconcile incentives set as part of PR14 and company performance at the next review in 2019.

Arup/WRc: Arup has formed a strategic partnership with WRc to tackle water issues, particularly the growing need for technology evaluation and accelerated adoption.

On the case: Ofwat has launched a new casework strategy. It will focus on pursuing high impact cases that effectively target the most serious consumer harm and detriment. It will minimise expending resources on individual, smaller-value cases.

Forging ahead: Independent Water Networks has replaced Southern Water and Thames Water as the water and sewerage supplier for a 1,900 home Forgewood development in Crawley.

Ofwat sets out low cost delivery model

Ofwat has set out plans for a new delivery model, to be in place by 2020, to deliver an ambitious work programme on a tight budget.

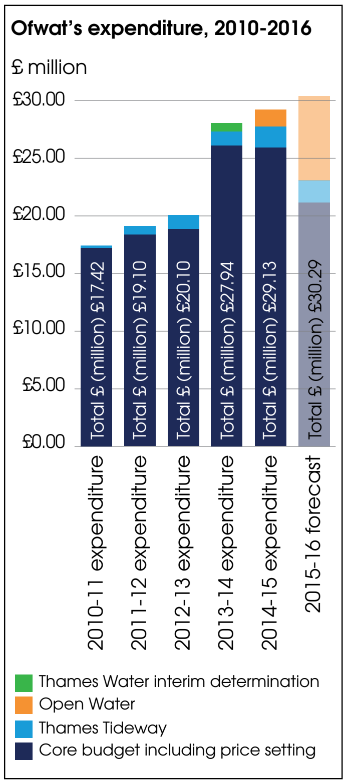
It will maintain a smaller in-house team, but one that is skilled up to operate flexibly. Crucial will be increased partnership working with sector stakeholders and external sources and, to manage peak workloads, with delivery partners. Ofwat said: "Building on the lessons of working with a delivery partner on the 2014 price review, we will explore a range of potential collaborative delivery approaches given the significant peaks in our workload expected in 2018-19 and 2019-20 to deliver the 2019 price review."

On top of that, Ofwat said it would seek efficiency savings – for instance by halving its Birmingham office space and reducing its travel and accommodation bill and that it may supplement its income by selling its economic regulation expertise overseas.

Ofwat's core budget was hacked back in 2015-16, to just over £21m (see chart). From 2015-16, the government will set the regulator's budget as part of the Comprehensive Spending Review. Ofwat said: "We have developed a five year financial plan to inform the UK government's decision on our resources."

The new delivery model formed part of a five year plan the regulator published last month – the first time it has publicly looked so far ahead. Among its priorities for the coming years are:

- 2016-17: a high-level framework for the 2019 price review and upstream reforms; set price controls for non-household retail services.
- 2017-18: PR19 methodology.
- 2018-19: publish the results of its review of companies' business plans; publish revised board leadership, governance and transparency principles.
- 2019-20: draft and final determinations



Water Matters

More customers think water is better value for money now than last year, according to the Conusmer Council for Water.

Its annual *Water Matters* survey published last month found three quarters of customers in England and Wales believe they are getting value for money – a rise of 6 per cent and the first increase in four years.

The survey of more than 5,700 customers also revealed the vast majority of bill payers are satisfied with their water supply (94 per cent) and sewerage services (91 per cent), while 68 per cent said their charges are fair – up from 54 per cent in 2013.

CCW chief executive Tony Smith urged companies to keep up the good work: "The challenge for the industry is to sustain this increase over a longer period."

Build better

Water UK has published the first quarterly report detailing water companies' performance on service levels for developers.

In April, the trade body published a set of service levels for water companies' developer services. It is now monitoring and publishing performance against them. The move aims to provide transparency with a view to driving up standards.

To complement the quantitative information, Water UK is working with its members to develop a customer satisfaction measure that will run in parallel with existing measures used to determine satisfaction among domestic customers. It will also this month run two workshops, one dealing with charging for infrastructure and the other on infrastructure and planning.

AIM taskforce

A taskforce comprised of water company and environmental representatives has made recommendations to Ofwat about how to develop the Abstraction Incentive Mechanism (AIM).

The group made recommendations on the following:

- the objective of the AIM
- which of a company's sources it should apply to
- definition of when AIM applies
- definition of the AIM baseline
- definition of the AIM incentive
- calculation of a reputational incentive for AMP6
- calculation of a potential financial incentive for AMP7.

On the latter point, it considers three alternative approaches and urges further work be undertaken during AMP6 to avoid introducing perverse incentives.

THE WATER REPORT

EUROPE WATCH

IN BRUSSELS THIS MONTH:

SLUDGE PRODUCTS MUST FEATURE IN CIRCULAR ECONOMY

During August, the European quarter in Brussels is usually a ghost town as all the officials, politicians and lobbyists go on their holidays or back home. But the European water sector has been quite busy, finalising its responses to two important consultations from the European Commission. These have given us the opportunity to raise the profile and understanding of the benefits of sewage sludge products.

As you can imagine, it is not that easy to get anyone outside the sector excited about this subject, and believe me, we have been trying for a while with the European Commission.

Why? Because we are trying to have wastewater "products" recognised as a contributor to the Commission's Circular Economy plan. The plan is about best use of raw materials and resources, to spur innovation and create economic opportunities, markets and jobs.

The first of the consultations we have just responded to was about the Circular Economy plan. This only seems to be focused on what to with old fridge-freezers, mobile phones and bits and pieces off old cars – the kinds of things we sadly find in our sewers from time to time.

But they have no idea about the potential in what should actually be in the sewers. The reasons we have given for including water in the Circular Economy package are:

- To facilitate the synergies between the Sewage Sludge Directive and the Waste Framework Directive and promote the use of sewage sludge as fertiliser.
- To create incentives to stimulate the use of recovered phosphorus to foster the implementation of sustainable facilities for phosphorus recovery from sewage sludge.
- To be a driver for the development and the implementation of new solutions to optimise and recover energy from sewers and wastewater treatment plants.
- To help to present water reuse as a safe and high quality resource.

Waste markets

The second consultation was about the functioning of waste markets in the EU. Our arguments in this response are the same as with the first. Sewage sludge should be managed as a resource but being legally a "waste" is a major disincentive to both recovery and re-use.

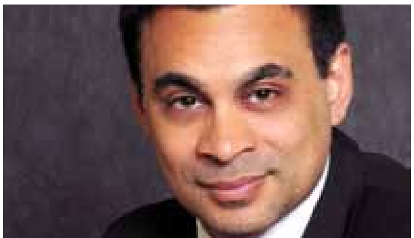
Strict national legislations together with market pressures have allowed a wide variety of high quality soil improvers and fertilizers using sewage sludge as a raw material to be commercialised in national markets. Biodegradable products containing sewage sludge shouldn't be disadvantaged by decisions made on biowastes in general and risk being perceived as second rate products (as will be the case if the current End of Waste criteria for biodegradable waste is approved and implemented).

This is why there should be an End of Waste criteria if the biosolids and other sludge products are produced from good quality sludge. The "end-of-waste" criteria should focus on the output, through specification on final product quality rather than by prohibiting input materials. It would allow biosolids and other sludge based products to move from large production regions to regions that need fertilisers.

Since all sewage sludge will not fulfil end-of-waste criteria, there is also need to investigate how the recycling and reuse of sewage sludge under the waste regime and fertilizer regulations will be maintained. The legislative framework for use of sewage sludge should enable both local and small scale use as well as high category solutions with EU market quality.

Another barrier is the absence of incentives (targets or financial instruments) to promote the use of secondary raw materials. As we know, different industries use sewage sludge or sludge based products as an energy source or raw material – ie cement factories, glass factories. Incentives would help to make recycled products more competitive against primary materials and allow them to move from production region to demanding regions.

The Commission is due to publish its Circular Economy action plan by the end of the year. This will be the second attempt as the first one, produced last year, had to be quickly withdrawn because of heavy criticism around its lack of ambition. I hope at least they have taken on board the solutions our sector has offered. TWR



Neil Dhot is secretary general delegate at EurEau, the European Federation of National Associations of Water Services. Neil will be providing an update from Brussels each month.

A major new multi-party work programme is underway to scrutinise the form and nature of the drainage system of the future.

DRAIN OF THOUGHT

In the face of climatic and demographic challenges, and EU wastewater policy that's trending towards tighter outputs, drainage is taking centre stage in a major new piece of work being undertaken by water companies, Water UK and other stakeholders. The programme, Delivering 21st Century Drainage for our Customers, could fundamentally change how we manage waste and surface water.

Tony Harrington, director of environment at Dŵr Cymru, is leading the initiative. He emphasises at the outset that the launch of the 21st Century Drainage work does not detract in any way from the huge strides the water industry has made on wastewater management since privatisation. He recalls: "I joined the industry in 1989. At that time, many coastal communities had very little if any sewerage service so everything – rain and sewage – was discharged without effective treatment. On all fronts, we've made huge steps forward."

But for Harrington, it's not about back-slapping for a job well done, it's more a case of so far so good. He continues: "We are clearly on a journey from 1989. Lots of issues have been dealt with, but look forward the next 25 years and there are more challenges there that we need to address." He lists among these challenges: climate change; tighter standards as Brussels looks to produce revised daughter directives of key pieces of European water legislation; the need to keep bills affordable; how to facilitate increased growth of the economy; and the pressures of an ever rising population.

David Elliott, Wessex Water's director of strategy and new markets, is heading up communications and engagement for 21st Century Drainage. On the last two points he stresses: "As a sector, we must enable growth and meet the aspirations of society. We are starting from the premise that we are not trying to stop things from happening."

A traditional engineered solution to coping with larger volumes of surface and waste water would be to build networks with bigger capacity. But this would come with an uncomfortably large price tag, would be disruptive and in some areas, technically unfeasible. The programme will not only scrutinise the challenges, but will put alternative solution approaches on the table and investigate the surrounding issues of policy, regulation, governance and structure so as to help governments in the UK arrive at more sustainable policies.

Coalition of the willing

Work on the future of drainage began last year at Water UK's environmental policy group chaired by Water UK's environment director Sarah Mukherjee. But while the trade body took the the initiative in getting the ball rolling, it and its member companies have adopted a sensible yet bold model for progressing the work. Harrington describes this as "a coalition of the willing".

The 21st Century Drainage programme board, which has been getting on its feet over the summer, features a number of essential drainage stakeholders including national and local government, economic and environmental regulators, environmental NGOs and water companies. Other interests including developers, planners, and land managers are also involved, and the plan is to involve housing associations and customers too in due course. The idea is that everyone with a significant interest will be given the opportunity to engage and contribute constructively as the challenges and potential solutions are discussed.

Says Harrington: "Solving the challenges of urban drainage is not unlike trying to drain a swamp full of alligators. If you get on the levy and look in, it is that much easier to see where the alligators are. We must step back from the day to day issues we face and review the challenges objectively so we can prioritise our resources to deliver what our customers deserve and need."

Harrington believes the experience to date of trying to progress sustainable drainage (SUDS) policy has highlighted the potential benefits of the the multi-stakeholder approach. Clearly it's early days, but he says the various stakeholders have "unsurprisingly found a lot of common ground".

He explains: "We are all on the same page here. Yes, different people have different priorities but fundamentally we all want to provide our customers with resilient drainage systems that are fit for the 21st century."

He adds that he has been delighted with the way the key stakeholders have approached the cooperative model so far. "From my point of view, my own board at Dŵr Cymru has been brilliantly supportive, as has Water UK's Council. Beyond that, I've been delighted by the energy, commitment and enthusiasm shown by government representatives in particular.

"I'm not saying this [the new approach] will solve all the problems, but we can definitely progress a range of issues which will undoubtedly bring benefits to our customers, to the economy and to the environment."

Work streams

21st Century Drainage is looking 25+ years ahead and seeks to identify the most appropriate drainage solutions to enable all parties involved to provide resilient and sustainable solutions for customers. The programme has seven work streams:

- Communications and engagement (see box, p18).
- Drainage capacity planning (led by Yorkshire Water): this will explore the future design approach to drainage systems and consider specifically how to accommodate climate change in an affordable way.
- Regulation (co-chaired by the Environment Agency): this work stream will consider among other things how we can use evidence better in the design, maintenance and regulation of such systems.
- Drainage misuse (led by Anglian Water): this group will consider how best to approach customer behaviours that contribute to network blockages and flooding, including specifically the flushing of wet wipes down the toilet and the disposal of fats, oils and grease (FOG) down drains.
- Groundwater inundation (led by Wessex Water): some areas, for instance parts of Surrey and Sussex, face particular challenges around high groundwater which floods drainage systems so they have no capacity left to do their job.
- Enablers to progress (led by Yorkshire Water): this group will seek to identify and address knowledge gaps with a view to pulling together a rationalised, prioritised list of work and research.
- Drainage infrastructure deterioration (led by UKWIR): this work stream will scrutinise through research some long running questions surrounding the longevity of drainage networks, among which are: how long can a drainage system be expected to last?; how quickly do different materials deteriorate?; and should we proactively replace infrastructure? The findings will enable a more proactive approach to maintaining such assets.

The 21st Century Drainage board is discussing which of these many areas should form programme priorities and this month will agree a research schedule with UKWIR. Harrington observes: "We are looking through to 2040, and must be careful how we spend customers' money. The danger being we could spend customer's money to little gain, so it is essential that research and solid evidence underpins any recommendations we make. We will share our research through UKWIR internationally and benchmark ourselves internationally too, particularly with EU colleagues and thereby assist EU Commission colleagues with any changes to regulations that may be needed."

David Elliott, Wessex Water

We are raising issues about the form and nature of the drainage system of the future. Is it there to manage whatever wastewater is thrown at it?

European policy

The international context, or rather the European context specifically, is high profile in this project. Water companies are engaging with Brussels through Eureau, the European Trade Association for Water Service providers, with a view to putting options on the table for future wastewater policy. They would like to shift the focus away from outputs and towards outcomes. Elliott explains: "The legislation we have is prescriptive on how CSOs are monitored, permitted and regulated. The danger is prescription leaves little room for innovation and flexibility that could deliver better outcomes, possibly at cheaper cost."

While it is too early to tell what Brussels' policy response will be, European policy makers are thought to be interested in engaging with the UK on this and at the very least collecting information. "We are in the vanguard on this," Elliott continues. "There is a lot of information coming out of the UK and we hope to be influential on future legislation."

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Tony Harrington, Dwr Cymru

Solving the challenges of urban drainage is not unlike trying to drain a swamp full of alligators. If you get on the levy and look in, it is that much easier to see where the alligators are

Harrington observes that the work being done in the UK is relevant for other member states even though their specific drainage situations vary. "Different countries have networks of different ages, face different impacts from climate change, and have different priorities…But the relevant principles are similar: the need to measure and report; the need to engage and educate; the need to deal with legal and regulatory issues."

There is variety within England too of course and in light of that, the 21st Century Drainage programme seeks to establish the evidence for policy makers to refresh regulatory principles and strategy, not to specify detailed solutions. "What's right for the Fens won't necessarily be right for London or Snowdonia," Harrington mulls. Witness the stark extremes of difference between the way London is dealing with excess surface water via the Thames Tideway Tunnel and Dŵr Cymru's Rainscape work (see feature, page 19-21). Harrington adds: "What we can do is improve the tools in our kit bag, so the most efficient tools can be chosen as appropriate in each application."

Beyond equipping companies to deal with wastewater challenges better, putting drainage firmly into the spotlight in the way the 21st Century Drainage work will is likely to have some other, as yet unspecified, consequences – be they structural, regulatory or political. Harrington says: "I can't help but feel that one of the outcomes of the work will be to highlight the complexity of the current arrangements to government. That could result in turn to anything from rationalisation of ownership/responsibilities, legal change or just better working arrangements." TWR

COMMUNICATION AND ENGAGEMENT

Communications and engagement is the most advanced work stream. Wessex's Elliott, who is heading up this aspect, says getting the 21st Century Drainage message across is in fact one of the programme's biggest challenges. "People just don't think about drainage and sewerage unless there's flooding, a beach or river is polluted, or for things like sewer tours or fat berg stories –Thames' fatberg got a lot of interest. Sewers are surrounded by the stuff of myth and supposition. What we are trying to do is start a more realistic debate, initially with policy makers and informed parties such as the Marine Conservation Society, Surfers Against Sewage, the RSPB – anyone who has an interest in our sewerage systems working well."

Levels of engagement

Communication and engagement will in fact take place on three levels:

- Policy-makers, national and European: because sewerage systems operate in conjunction with the wider catchment and because other agencies such as land and highway authorities play their parts, it is vital that policy is joined up. Elliott says: "It is important everyone is on the same page. We must help policymakers make informed choices, not reactive choices or choices made in ignorance."
- Technical: those making technical decisions around development and urban design equally need to make informed choices – for example, local authorities, planners and developers.
- Customers: in time, customers need to be brought into the dialogue, because they could be part of the solution to some of the country's drainage challenges. Elliott says: "We will need to gently nudge people away from the 'I'm a consumer, I pay, so I can use what I like' mentality."

So far, the group has concentrated on engaging with policymakers and environmental NGOs, to ensure they support fundamental messaging. It is producing two documents initially: a very brief executive summary for policy makers, and a more detailed content paper. Once there is fundamental agreement on principles, the programme will begin to disseminate its messages more widely and, Elliott hopes, more innovatively.

Consumers vs citizens

Underpinning the 21st Century Drainage work, and hence the communications challenge, are some fundamental questions. Elliott elaborates: "We are raising issues about the form and nature of the drainage system of the future. Is it there to manage whatever wastewater is thrown at it? We are straying into the realms of consumers vs citizens. Do we consume irrespective of the cost to society, or as citizens do we try to find ways that work best for society?"

Elliott says that while much of the content of communications at this early stage will involve setting out the challenges and the rational for the programme, it will also set out "our vision for what the future might look like; what it would look like if water systems worked with other environmental systems".

In fact, how built and environmental systems could work better together is one of the key specific issues the programme will explore. Traditionally, rainwater is channelled direct to drainage networks, many of which are combined systems that handle sewerage too. With more intense periods of rainfall accompanying a changing environment, networks are having to cope with a higher proportion of surface water than in previous years. The problem is particularly acute where populations have grown beyond what wastewater systems were designed to cope with.

The 21st Century Drainage work will be communicating this challenge and provoking debate around combined systems, storm overflows and alternative means of handling growing surface and wastewater volumes. "We want to start painting a picture of sewers operating in conjunction with the environment; of environmental and built water systems operating together," Elliott comments. "We need to be more innovative and imaginative."

He cites the example of storm overflows, which he says are "increasingly being perceived as a failure of service" even though they were designed to protect public health and the environment in times of need. "But they needn't be perceived negatively. For instance, we (Wessex) put in an overflow with a reed bed to provide an element of treatment when it operates. We have proved through sampling that there has been no deterioration in water quality of the local river. And the reed bed enhances the biodiversity of the reserve in which it is located."

Design and behaviour

Future urban landscape design will be another communications focus. The programme will spell out the need for everyone involved in urban landscapes – from individual customers to developers and urban planners – to consider water more deeply. Relatively simple measures such as rainwater gardens, permeable paving and urban greening can alleviate the load on drainage systems – something that would be particularly valuable at times of peak demand. Elliott says there also needs to be frank discussion about what to do in extreme circumstances. "We need a better understanding as a society about drainage and sewerage. We need appreciation that the water has to go somewhere and, for example, that we may need to accept some fields may need to be sacrificial."

The programme will also consider how best to communicate messages on non-flushables and FOG. While preventing misuse is essential, Elliott says the matter must be handled sensitively. "We need to take care about the language we use," he says. "What we term 'misuse' or 'abuse' to customers could be offensive. I'm sure many people would be horrified to think they were abusing anything."

The programme plans to establish a "consistent information base" that all parties involved can draw on, so the messages disseminated are consistent. "We would then like the partners to use that material to disseminate advocacy through their own channels," Elliott concludes.

REINING IN THE RAIN

Dŵr Cymru's RainScape programme is making the sustainable management of surface water a reality and leading the industry in taking the pressure off combined systems.

Dŵr Cymru's initial moves into the sustainable management of surface water came in the run up to AMP5 and were focused on improving the environment and on sewer flood protection. But the company has since adopted a much broader vision for the approach and in AMP6 is leading the industry in exploring the benefits of sustainable drainage far more extensively. Its work is badged "RainScape" and is headed up by Fergus O'Brien, RainScape strategy manager.

O'Brien thinks that in time, sustainable surface water management should become the norm. "The more we can make this day-to-day, business as usual, the better," he says. That's because there are multiple difficulties associated with the traditional 'direct to drain' approach. In many areas, sewerage and drainage systems are combined and the rainwater that runs off roads, roofs and other paved areas ultimately ends up in the public sewerage system. Sewers across the country are struggling to cope with increasing volumes of both wastewater and surface water as urban areas grow and as the changing climate brings more frequent severe storms. Just some of the resulting issues are sewer flooding, pollution of rivers and beaches, and development constraint.

The water industry and other stakeholders are exploring these challenges and possible solutions through a major new programme, Delivering 21st Century Drainage for our Customers (see feature page 16-18). This sets out to deal with the strategic, regulatory and technical issues which have to date dogged the swift progress of the implementation of a more sustainable way to manage urban drainage systems.

In parallel, Dŵr Cymru is pushing on with its RainScape work. On top of the £15 million it invested to alleviate sewer flooding and reduce its impact on the environment between 2012-2015, during AMP6 it will quadruple this spend on sustainable surface water management across Wales. A wide variety of work schemes, each suited to local needs, is going ahead – from fixing misconnections to protect bathing water quality at Swansea Bay, to extensive urban greening schemes at Llanelli (see below).

Llanelli catchment

The AMP5 sewer flooding work was concentrated in Llanelli and Gowerton. A further £25m will be spent in these areas in AMP6 and for good reason. Llanelli's drainage and sewer networks are combined, and because of high levels of rainfall and local topography, the area's network has to deal with frequent excesses of storm water. This is discharged to an estuary. Before the Urban Wastewater Treatment Directive came into force in the 1990s, there were continuous discharges of untreated sewage. The legislation demands these are now passed forward for treatment. But because the local treatment works can only treat a certain amount of water at any given time, overflows kick in during heavy rain, and the area has historic sewer flooding problems.

Pressure on the Llanelli system is getting worse as rainfall gets more intense. O'Brien quotes the 2009 UK Climate Projections that showed average rainfall in Wales grew 13% from 1961-2006, while winter levels alone grew 27%. "On top of that, there is urban creep and a bigger impermeable area, which has a multiplying effect."

Building bigger sewers or more storage tanks would be hugely expensive for customers, but even if money was no object, O'Brien says increasing storage would not be technically feasible. "The total storage requirement across the Llanelli and Gowerton catchments would be 650,000m^3. That's 42% of the capacity of the Thames Tideway Tunnel. This sort of thing is often measured in Olympic swimming pools, but we are talking more about football stadiums! It's just not do-able."

So the fundamental need is to hold back runoff from getting into the network. For AMP6, Dŵr Cymru has looked across the whole catchment and used hydraulic modelling to identify 180 potential locations for SUDS retrofit. It is pursuing a wide range of options that best retain run-off and direct it to local water courses or the estuary to take pressure off the system. But it also has an eye to delivering a far broader package of benefits to local communities (see box).

O'Brien explains: "Our actions are borne of necessity. We need

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RAINSCAPE IN LLANELLI

Wet play: 3m litres a year removed from the system by RainScape work at Stebonheath School

In addition to the flood protection schemes undertaken in AMP5, six major RainScape schemes have so far been completed in Llanelli.

The jewel in the crown has to be the work conducted during the 2013 summer holidays at Stebonheath School. Before the SUDS retrofit, the barren tarmac playground was prone to surface water flooding and this drained straight into the combined sewerage system. A number of features were introduced (after full consultation with the governors and staff, and a design workshop with the children) to slow down these flows, including storage tanks under the playground, grassed and planted areas, permeable playground surfaces and tub planters. Together these have succeeded in removing the equivalent of 3 million litres a year from the sewer network through evapotranspiration (the process of transferring moisture from the earth to the atmosphere by evaporation of water and transpiration from plants) and reduced runoff from the area by 52 litres per second during a one in five year storm. What's more, the school environment and appearance has been completely transformed and care has been taken to educate the children about the water cycle, the environment and water efficiency.

A short distance from the school is Queen Mary's Walk, where an £850,000 scheme designed to remove 4.3 million litres of water a year through evapotranspiration and reduce runoff by 96 litres per second was completed in autumn 2013. Post installation monitoring is showing that the swale, built on one side of a large open playing field, is beating its design targets. In 2014, it showed it could attenuate peak run off by 125 litres a second and over 10 million litres of water have been removed through evapotranspiration.

Last summer, work to install a host of sustainable drainage measures including basins, planters, swales and grass channels was completed around the Glevering Street/Swansea Road area. These are designed to reduce peak runoff during a one in five year storm from 600 litres a second to 300 litres a second and in their first winter of operation they easily reached that level. O'Brien says to get even more bang for buck, the company could explore some of the user behaviour initiatives deployed in Portland. "This strays into the Payments for Ecosystem Services area. We could pay customers to slow flows from their rear roof elevations that we can't get at, whether that's with a water butt, a rain garden or whatever. We would like to find a way of encouraging customers to do more themselves."

Streetwise: peak runoff halved around Glevering Street

These three schemes act to slow rather than divert surface water from Dŵr Cymru's sewerage network. O'Brien explains diversion was impossible in these cases: there is no easily accessible water course to receive diverted flows and land contamination (largely from the area's coal mining past) means the water cannot be allowed to drain to ground. Other RainScape schemes divert flows away from combined systems to local water courses rather than slow them down to alleviate peak load.

to deal with runoff and protect water quality, and sustainable solutions come at around a quarter of the cost of storage solutions. I think it helps the company is very innovative and agile, even in its structure. And we have Welsh Government support. If we can't make this work here, I'm not sure where you could."

Customer engagement

Of course, with innovation comes complexity. O'Brien says: "Storage solutions are fairly easy to identify and to fund, maintain and manage in the long run. This is more difficult and complex." As a consequence of both the innovative nature and the complexity of sustainable drainage solutions, Dŵr Cymru has thrown its heart into engaging with customers and other stakeholders. This has involved providing information about the concept and rationale for RainScape generally and detailed interaction with local communities on specific schemes and their benefits. To date, it has:

- liaised with over 3,500 customers
- hosted seven public exhibitions and five drop-in surgeries
- issued over 11,500 letters/newsletters
- arranged around 35 home visits
- knocked on over 1,500 doors
- responded to over 100 customer letters and emails
- opened a RainScape information station in April 2015 in Llanelli town centre.

O'Brien says the crucial thing has been to listen to everyone – residents, businesses, local representatives, Carmarthenshire Council, local media and other stakeholders; to answer their questions clearly and honestly; and to respond to concerns as much as possible. "Parking has come up as a critical issue for example," he comments. "In some places, parking is really tight so we have worked with residents to identify the least disruptive options and ahead of the work starting, we have advertised our activities really well to give people options."

There have also been plenty of lessons for ensuring customers remain happy with SUDS features once they are installed. O'Brien cites among unexpected features the fact that some planted areas are prone to gathering litter which blows in and doesn't budge. Litter collecting is outside Dŵr Cymru's responsibility, but the company is engaging on how best to deal with the problem in the interests of being a good neighbour. Elsewhere, it has learned lessons about which plants allow water to penetrate the soil best; which trees thrive (and which are prone to die and need replacing); and how best to present scheme designs to customers.

O'Brien says the company has learned "the sorts of thing people like and don't like" as it has gone along and has built this learning into subsequent engagement activities. In some cases it has been incredibly successful. Stebonheath school is one of Llanelli's key SUDS sites (see box), and the RainScape team has developed a close and respectful working relationship with the school management team. The chairman of the board of governors Nigel Bevan has become a real advocate of sustainable drainage and the benefit it has brought to the school, its children and the local community. He warmly welcomes visitors to view the works and has been instrumental in spreading the message in the local area. "I think we are the only school in the world to have done this," he beams. "I am so proud of what we have achieved."

Home and away

In planning its RainScape activities in Llanelli, Dŵr Cymru didn't start from an entirely blank sheet. It drew extensively on international best practice – for instance, from Malmo, Sweden, where the city has pioneered SUDS retrofit on both a flood protection and a regeneration ticket and has succeeded in providing for urban growth while reducing environmental impact. "One of the important legacies of this work was to identify that people like water features and that urban greening more generally had an amazing effect on the community," say O'Brien. "So in stark contrast to the usual method of sending water straight to drain as quickly as possible, the city has made water a real feature."

Similarly, inspiration has been taken from Portland in the US. Portland's work is important both for factoring benefits beyond those obvious for the water environment into its decision making processes (for instance, on air quality and health); and for pioneering the influence of user behaviour as a key part of its programme.

> **The more we can make this day-to-day, business as usual, the better.**

Here in the UK, the innovative nature of the RainScape approach means Dŵr Cymru is cutting a new path in some SUDS aspects. O'Brien says, for example, that the company is in the process of pinning down strategies for maintenance of the water features it has installed – what exactly is its responsibility and what falls to the local authority. "It's about getting the best mix," he explains. "Where we have made modifications to highway drains for instance, we need to transfer those over. But in cases like Queen Mary's Walk, it might make more sense for us to maintain the planting as we need it to be right for the swale to work to the best of its ability."

Nor are there any absolute SUDS standards to conform to, though for new developments these are in the pipeline. The Water Strategy for Wales pledges to review options for the implementation of Schedule 3 of the Flood and Water Management Act 2010, which requires new developments to include SUDS features that comply with national standards. Until then, the Welsh Government will publish interim national standards on an advisory basis.

With the Welsh Government and Natural Resources Wales firmly behind the sustainability agenda, Dŵr Cymru's RainScape activities look set only to grow in importance in the future. The company's work may even set the agenda for emerging issues such as national SUDS retrofit standards and maintenance arrangements.

Of course not everything is in Dŵr Cymru's gift and its stakeholder engagement work will continue to be crucial going forward. The early signs are good. The company is already working on Greener Grangetown – a joint scheme with the City of Cardiff Council and Natural Resources Wales – and with Keep Wales Tidy's SUDS for Schools programme.

So while O'Brien's hope that sustainable surface water management becomes business as usual may take a while yet to materialise, in Wales at least things are heading in that direction. TWR

GRAB THE RAB?

Could the Regulated Asset Base model that has served the water industry so well be exported to fund flood related investments? The Indepen Forum debated.

The regulated water and wastewater sector has done exceedingly well from the Regulated Asset Base (RAB) model. The approach has delivered predictable and reliable funding from equity and debt, enabling over £100m of investment to be made across the industry since privatisation. It has also kept the cost of infrastructure investment down, which has helped keep water affordable for customers.

But new challenges are facing both the industry and society more broadly, and the idea of exporting the regulated utility RAB model to new infrastructure challenges looks attractive. These challenges include dealing with ageing infrastructure, population growth and climate change; in a nutshell, how to build a more resilient water sector without sending bills skywards.

July's Indepen Forum explored the idea of rolling out the RAB – both in general and specifically at whether a RAB could be used to fund flood management investments. The idea of RAB extension is not new. It gained a high profile back in 2009 as a key recommendation of a Policy Exchange paper, *Delivering a 21st Century Infrastructure for Britain*. There has been little progress in the six years since 2009 on delivering that RAB extension vision. One Forum participant observed the infrastructure industries had been unimaginative, focusing only on using the RAB model within established narrow bands.

In terms of flood management, The Forum used the case study of Hull to frame the debate.

REGULATED ASSET BASE IN BRIEF

A RAB is a device to create an investable proposition in regulated utilities under which a regulator commits to a rate of return on an asset base, provided those assets are operated efficiently. Agreed infrastructure enhancements are accepted into the RAB and funded by charges over a number of years.

Case study: Hull

Dubbed "the New Orleans of the North", this city of 250,000 people is partly below sea level and sits where the River Hull meets the tidal estuary the Humber. It is under serious risk of flooding: in 2007, 8000 homes and businesses were flooded and there have been near misses since (in 2013, a quarter of a million tonnes of water were pumped out in one evening). Yorkshire Water has made tens of millions of pounds of investment already to mitigate this risk, in the likes of lagoon storage and pumps. But to really modernise flood management arrangements in Hull would be a multi-million pound, multi-agency job.

To add to the challenge, Hull is economically deprived and to date, the region's water customers have proved unwilling to pay for substantial flood investment in the city. At the last price review, Yorkshire Water asked its customers if they would be willing to pay £3.42 more to fund £50m of flood related investment in Hull. 63% said yes, but this fell below the acceptability threshold of 70% recommended by the Consumer Council for Water. The company was consequently unable to make the investment.

In cases like Hull's, the thoughts of key stakeholders have turned to finding different ways to fund flood defences and management; ways that involve multiple agencies including local authorities, local flood agencies, the Environment Agency, national government and the European government alongside the regional water company/companies.

No one at the Forum claimed to have a ready-made solution or all the answers. But there was agreement that it would be sensible for any viable alternative to current arrangements to provide continued opportunity for equity and debt investment and be transparent to those who ultimately foot the bill. A well regulated RAB model should certainly be looked at as a possibility.

Roll out the RAB

Indeed, many Forum members sung the praises of the RAB model and its potential to deliver for new sectors. A number of participants stressed though that a RAB alone would be inadequate; it would need to go hand in hand with solid, independent regulation that stretched those it regulated through either comparative competition or an econometric model.

There was support in the Forum for use of the RAB a bit closer to home too; that industries already used to the RAB model could seek to adjust it to suit new challenges. One member said the idea of a regulatory fence being built around projects with monopoly elements and with the RAB approach applied would be attractive – for instance, projects like the Thames Tideway Tunnel, or multi-stakeholder reservoirs.

Another participant asserted that the specifics of a RAB were of far less relevance than the underlying premise of a continuing commitment to funding; that a RAB without a funding commitment across generations would be useless. So a framework around the RAB that gives investors confidence was said to be essential; a clear unadulterated commitment that someone (it didn't matter who) would always pay.

Elsewhere in the debate, the role of the bill-payer in new sectors to which the RAB could potentially be applied was considered, and specifically whether the nature of the bill-payer would affect the applicability of the RAB approach. Flood defence and management, for instance, could potentially be paid for at least in part through local taxation rather than through the customer bills more familiar in regulated utility sectors.

The Forum discussed what the role of very local investment might be. Referring to the Hull flood case, for instance, one participant suggested that while customers across the whole Yorkshire region didn't enthusiastically back a £3.42 price rise to fund £50m of investment, residents of Hull itself may be willing to pay considerably more.

Finally, the Forum noted that extending the RAB to new infrastructure areas would raise multiple questions about the relationship between the public sector and the private sector. One participant said the beauty of the RAB model over alternatives such as PFI was that it is flexible and can cope with change; returns for private firms are guaranteed even if policy changes. TWR

RETAIL EXIT DETAIL ON THE TABLE

Water companies scrutinising the option to exit the non household retail market have until 15 October to respond to DEFRA's draft regulations, which cover both the exit application process and the enduring framework for customers and companies. The regulations enshrine the two key commitments made during the passage of the Water Bill: that exit will be voluntary, and that customers will be protected through the adoption of a 'principle of equivalence', delivered using deemed contracts. The key aspects governed by the regulations are considered in turn.

Exit applications

The process outlined in the draft regulations enshrines the policy proposed in DEFRA's December consultation, that the process will be common to all companies rather than bespoke, allowing for "a simple and light touch application process which will provide maximum certainty for undertakers and licensees".

Applicants will be asked to explain why they want to exit, which licensee(s) are lined up to receive their non household customers, and which premises will change hands. They will need to specify their desired exit date, allowing at least five months from the date of the application. This means companies hoping to leave as soon as the market opens need to apply no later than 1 November 2016. Subject to approval by Parliament, the applications process is expected to open on 3 October 2016. DEFRA aims to announce exits decisions in early December 2016, four months ahead of retail market opening in April 2017.

Once an application is lodged, the company must publish a notification on its website within one week, and inform Ofwat and CC Water. Once an exit is granted, the company must take "all reasonable steps" to inform the customers that will be affected by the exit, a minimum of two months before the exit date. This means telling customers what is happening and why; the terms and conditions that will apply after the exit and where they can find out more; contact details of the acquiring licensee; what will happen to any outstanding complaints; and how they can engage with the market and, if they wish to, switch supplier.

Two months is not long for affected customers to plan their response. DEFRA noted: "There was a range of responses received through the policy consultation on exits regarding the most appropriate form and timeline for customer communications ahead of an exit. These regulations seek to strike a fair balance with a focus on enabling customers to engage in the market. These are minimum standards which companies are free to exceed."

Transfer of property, rights and liabilities:

DEFRA commends the use of statutory transfer schemes but leaves these as optional except where special charging agreements are in place, in which case they are mandatory. Responsibility for dealing with complaints will transfer to the acquiring licensee. DEFRA points out: "Acquiring licensees will want to understand the liabilities that they are taking on before entering into a commercial arrangement with an undertaker around a retail exit." Provision was also made for the transfer of all the information a licensee will need to provide an effective retail service.

Statutory duties following exit

Exited undertakers are prohibited from providing retail services to non household customers, except to their own premises and to customers in the process of switching. Instead the acquiring licensee will be required to provide the service, and all licensees wishing to operate in exit areas must publish deemed contract schemes on their websites.

Identifying a supplier

DEFRA has altered its December position which proposed that for a two year period following a transfer, customers would have the right to switch away from the acquiring licensee and then return to them on the deemed contract. Stakeholders fed back that this could create undue complexity in the market, particularly over time as acquiring licensees merged or exited. The draft regulations propose an alternative – that transferred customers who have switched away from the deemed contract terms will retain the right to apply to Ofwat to be allocated to a licensee and placed on their deemed contract. Ofwat will then direct a licensee from a participating group, also known as the "Supplier of First Resort" (SoFR) pool, to supply the customer on the deemed contract. This right will not be time-limited.

This pool will also operate for new customers who do not identify a supplier from themselves, under Ofwat's direction, and SoFR suppliers must offer deemed contract terms.

All acquiring licensees are expected to join this pool, except for those self-supplying. However, DEFRA said it planned to "ensure that other acquiring licensees (such as niche licensees) are also able to opt out, should Ofwat consider them to have a valid reason for doing so". The final version of the regulations will incorporate a similar requirement for a Supplier of Last Resort panel.

Next steps

DEFRA will amend the draft regulations in response to feedback, before sending them to the EFRA Committee for comment. It plans to lay the regulations in Parliament in May 2016 and to allow for further Parliamentary scrutiny. The regulations, subject to Parliamentary approval, will come into force to allow for the submission of exit applications from 3 October 2016. TWR

ELIGIBILITY GUIDANCE SNUBS CALL FOR EASY REFERENCE LIST

Firms told to assess tough-to-classify customers on a case by case basis.

Water companies hoping for a standardised list classifying hard-to-handle customer types in the non household retail market were disappointed last month when Ofwat published guidance on assessing customer eligibility to switch supplier. The regulator essentially stuck by its March position, which put the onus on companies to use a patchwork of methods to assess whether tricky mixed-use premises should be in or out of the market.

In the case of most customers, classification as either household or non household is straightforward. But premises that are used for both domestic and commercial purposes could be difficult to classify.

A number of respondents to the consultation Ofwat issued in March called for more detail on how to assess particularly difficult cases. According to Ofwat: "A common request was for us to specify whether different categories of customers should be defined as household or non-household." Presumably these respondents were hoping to avoid cost and delays.

The regulator snubbed the request as neither possible nor appropriate. "A list of customer types could never provide absolute certainty to companies. This is because hard-to-define customers are difficult to categorise specifically as a result of their particular individual circumstances – which may go beyond simply what type of business they are involved in." It told companies to prepare to assess each mixed-use customer on a case by case basis.

However it offered one concession: that if a company has tried hard but continues to struggle with classifying a class of customer, it can seek help from Ofwat. If appropriate, the regulator will review the submission and issue a notice designed to provide clarification for companies as they make their assessments. But it cautions that firms "should not use this opportunity as a shortcut to data validation – the cases they submit must therefore affect a significant proportion of their customer base. We will not review instances where companies appear to be looking for case-by-case assessments to avoid engaging with these customers directly."

Another issue raised by respondents to the March consultation was whether Ofwat could clarify how companies should classify customers where Valuation Office data doesn't match company data. Ofwat advocated manual investigations in such cases. It said: "Open Water's data pilot recognised that VOA data and companies' own data will never match perfectly. There will always remain customers where it is not possible to match VOA data, and customer records that will match multiple VOA data. The data pilot identified the need for manual investigations to understand why multiple matches occurred and to understand on a case-by-case basis how customers should be classified."

Elsewhere, the August guidance, which deals with eligibility both pre and post 2017, considers:

- the factors to be taken into account in determining the extent of any premises (where the boundary for a single set of premises is drawn is relevant to both non-household classification and threshold eligibility pre 2017)
- how Ofwat will treat requests for eligibility determinations
- provision for non household customers in Wales. TWR

CLASSIFYING A MIXED-USE PREMISES

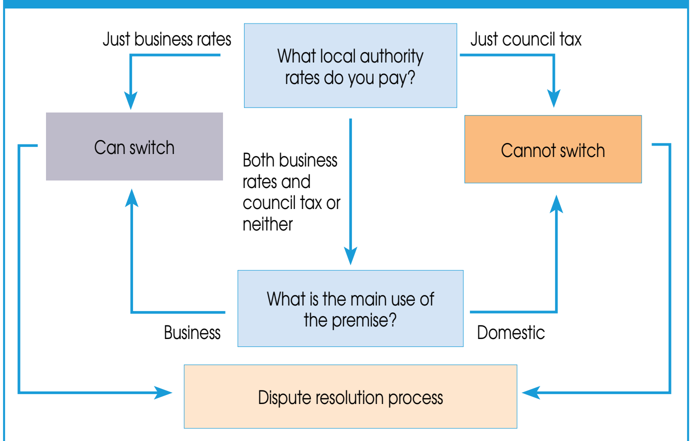
The guidance proposed that in the first instance, market participants rely on the classifications made to administer council tax and business rates to define principal use (see chart). It said: "We consider that, as a starting point and for the purpose of enabling water companies to expediently develop their customer databases, the default position should be that:

- premises liable for Council Tax only = household
- premises liable for business rates only = non-household
- premises liable for both Council Tax and business rates (or neither) = non-household."

In the latter case, the regulator suggests recourse to Valuation Office data, which should chime with customers' self-perception and is publicly accessible. But mixed use premises such as farms/farmhouses, nursing homes and on-site staff accommodation throw a bit of a spanner in the works. Ofwat suggests the premises should be classified as non-household if the household part of the premises is dependent in some way on the non-household part.

In such cases, the regulator advises that companies should allocate the mixed use premises to the non-household category and then use a number of techniques to establish whether it should stay there. These include scrutiny of company data; desk based research; requesting information from the customer; and gathering evidence on-site while, for instance, taking a meter reading. It will fall to Ofwat to determine disputes should they emerge, but even then the regulator says "it is likely that the principal use of the premises will have to be established without relying solely on any one factor".

CUSTOMER ELIGIBILITY FOR SWITCHING



Gemserv: firms shouldn't wait for policy stance on readiness

Markets expert Gemserv has urged water companies to ready themselves for retail opening now rather than wait and see whether a proactive or passive approach is taken by policy makers on readiness and assurance.

In a thought leadership paper published this summer, Gemserv noted that Ofwat's integrated market opening plans are light on the delivery requirements expected of water companies. It said: "This reflects the "light touch" approach adopted so far by Ofwat in monitoring companies' plans. The view is that companies are fully informed on their responsibilities and engaged in Open Water discussions, so will know what is necessary and will align their plans appropriately."

It noted also that "a number of market observers are beginning to question the "hands-off" approach to market readiness and assurance, and even some water companies are urging a more proactive and prescriptive approach by Ofwat to drive market readiness by incumbent water companies."

Gemserv stressed the high risk for market participants of failure to be ready and counselled that companies should manage the risks and put in place their own strategies for readiness. It identified the following key risks:

- breach of licence conditions
- delayed market opening and potential regulatory fines for late opening
- constraints on out of area marketing until in-area market is open
- customer switching problems, including erroneous transfers and customer complaints
- reputational damage
- referral to competition authorities by new entrants
- legal disputes.

The paper, *Market readiness and assurance: key aspects and considerations*, emphasised that "a wide ranging set of implementation plans is needed by each company", taking account of retail, wholesale and corporate services. It noted: "Some companies with two retail units (in and out of area) will need two sets of retail plans." A company's readiness strategy should include: a managed project; internal business solution development – processes and systems; market scenario development; establishing interfaces (B2B and with the central systems); data preparation and transaction capability build (which should include volume considerations); testing (user acceptance and business sign-off); and implementation.

In terms of operational market readiness activities, Gemserv identified the following core components:

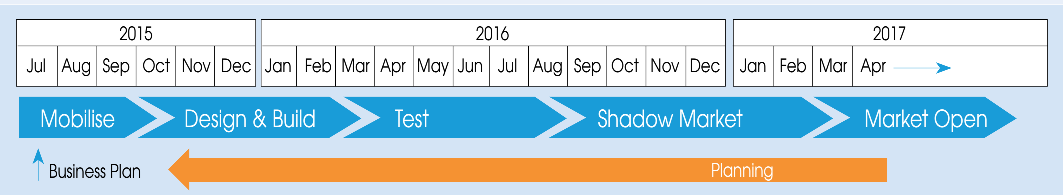
- Project governance/ implementation assessment: to identify the robustness of the company's programme to deliver appropriate business solutions in readiness for go-live.
- Business solution assessment: to identify gaps in the company's business solutions in relation to market interactions, considering all aspects of market design and the organisation's capability to deliver.
- Integration testing assessment: to verify the completeness and accuracy of the company test programme and the associated authorisation and sign-off process.
- Data connectivity testing: to demonstrate capability to interoperate with the market design and infrastructure, and other market participants.
- Market scenario testing: to verify the ability of the company to perform market activities down to transaction level, to manage exceptions and prove a complete and accurate output on market processes, including switching, meter exchange and wholesale charges reconciliation.

The paper can be found at http://bit.ly/1KNtBpX

MOSL names CGI as preferred bidder

CGI has been named preferred bidder to supply the central market system for the incoming non household retail market. It beat off competition from the three other companies that were asked to provide detailed solutions – Capita, Tata and Wipro – and is now working with MOSL on final details.

The design and build phase is expected to run until Spring 2016, with system testing from June to October that year. Data migration will run from April to October 2016, with shadow operation scheduled for October 2016. MOSL is expected to tender for testing and data services shortly.



Scots public sector supply still at standstill

Questions in the Scottish Parliament over ongoing delays to the award of the Scottish public sector water supply contracts have failed to throw any light on the cause of the standstill, or when it might end.

Labour MSP Lewis Macdonald posed a series of questions in July which were answered by deputy first minister John Swinney in July and August. But the answers were brief and evasive, and little new information was forthcoming.

The old supply contract, held by Business Stream, was due to end on 31 March 2015 but has been extended to 30 September 2015. Swinney said the delay was a result of the provision for a standstill period under EU procurement rules following a tender announcement. He added: "The standstill period has [been] extended in order to allow proper consideration of matters that have been raised on the outcome." He wouldn't be drawn on what legal or other advice the government was taking, saying only "due consideration" was being given.

Asked when he expected the new contract to come into force, Swinney said simply "following the conclusion of the standstill period". Macdonald subsequently asked the Scottish Government to confirm that the current standstill period would end on 30 September. Swinney replied: "No date has yet been set for the conclusion of the standstill period for water and waste water billing services to the public sector."

Anglian Water Business is the preferred bidder for the new £350m deal to supply 200 public sector organisations in Scotland with water and wastewater services. The contract is for three years and covers 15,000 sites and 27,000 supply points.

INDUSTRY COMMENT

SWITCHED OFF?

Customer inertia dogs regulated industries – will water be any different? Economic Insight research looks at customer awareness, interest and motivators – and what it all means for retailers.

Experience tells us that customer inertia can be an issue in retail service markets. Indeed, this matter has increasingly attracted the attention of regulatory authorities and agencies across a range of industries. These include retail banking, where the CMA's market investigation has identified inertia as being a key factor driving low rates of customer switching; and financial services more widely, where the FCA has raised concerns about inertia in the context of cash savings and annuity products, amongst others. It is a particular concern to economic regulators in industries where, having put in place the structures and tools necessary to enable and facilitate competition (typically including forms of vertical separation), customers remain unengaged. For example, in energy, despite retail markets being long-established, engagement remains low. Here both Ofgem and the CMA have identified inertia as being a key problem, which they have linked to the intrinsic lack of differentiation in relation to the supply of gas and electricity services.

In light of the above experience, might we be somewhat concerned about the prospect of inertia in the water retail market, which is due to be opened for business customers in England in 2017? Certainly there are some features of the market that suggest we should. In particular, the retail element of water and sewerage services represents a small component of customers' overall bills, at under 10% on average. In cash terms, that translates to around just £40 per annum. In comparison, in energy markets the equivalent figures are around 15% and £210 for dual fuel customers. Put another way, if switching supplier resulted in a customer saving 20% on the retail element of their bill, in water that would be a price reduction of just £8 over a year, compared to £42 in energy. The first concern might therefore be whether water retail is really "worth" enough to customers to motivate them to engage in the market, particularly where the experience in energy, which is worth considerably more, has arguably been disappointing.

The second most obvious concern relates to whether the scope for water retailers to differentiate their offers is sufficient to motivate customer engagement (given that, again, this has been an identified issue in energy). At face value, many of the core retail activities do not seem to lend themselves particularly well to differentiation.

It is important, notwithstanding the above, not to be unduly pessimistic however. At present, the fact is in England and Wales, there is no market for water retail. Therefore we do not know whether customer inertia will be an issue. However, to the extent that it could be, it would seem to be key that retailers seek to understand the issue and, where necessary, put in place appropriate business strategies to address it. In the absence of any observable market evidence therefore, we attempted to shine some light on the matter by commissioning YouGov to run a survey of businesses in England.

The survey, which was included with YouGov's existing omnibus panel of businesses, explored firms' awareness of, and attitudes towards, switching in water retail markets. The survey included a preamble that provided relevant contextual information regarding the future plans to introduce competition in water retail – and in addition, respondents were asked to identify whether they were decision makers for the purpose of determining their firm's choice of water retail supplier. In total, a sample size of 559 customers was achieved. In the following we summarise the main findings and results.

Figure 1: Awareness by industry

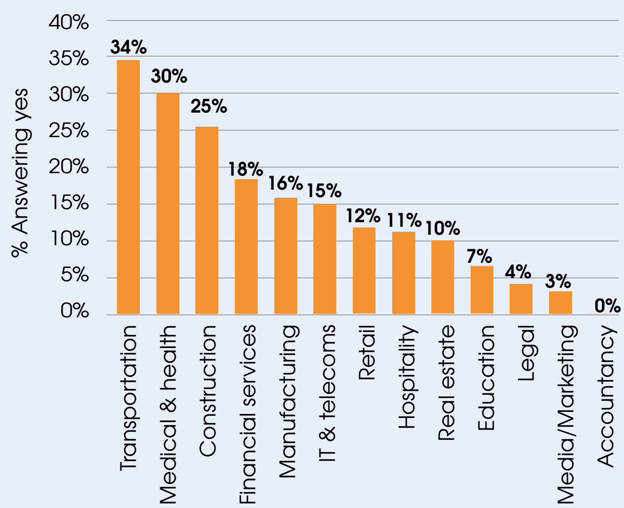
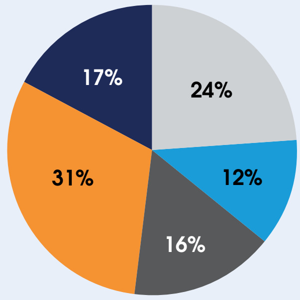


Figure 2: Likelihood of reviewing supply choice – total



The business definatley will not review our choice of water supplier **12%**
The business probably will not review our choice of water supplier **16%**
The business probably will review our choice of water supplier **31%**
The business will definitely review our choice of water supplier **17%**
Don't know **24%**

Awareness and interest

Respondents were firstly asked about their awareness of their ability to choose retail supplier from 2017. Unsurprisingly, the overall level of awareness was low, with only 15% of respondents indicating that they knew of the forthcoming market opening. However, when we cut the results by industry we found material variation – with industries including transport, medical & health and construction showing awareness percentages of between 25% and 34% (see figure 1).

To explore the potential for engagement in the market, we then asked respondents about their likelihood of reviewing their choice of supplier when they were able. Here, there is somewhat more promising evidence regarding the scope for engagement. In particular, figure 2 shows that more respondents indicated that they would "definitely" or "probably" review their choice of water retailer (48%) than would not (28%). Consistent with the awareness results, we also found that the likelihood of reviewing supplier varied materially by industry, with the vast majority of medical and health firms (71%) indicating that they would probably or definitely review their supplier choice. Similarly, it's also clear that there are some industries where it looks like engagement will be low.

The likelihood of customers reviewing their choice of supplier also varies materially by size and location of business. In particular, there is a strong positive correlation between firm size and the likelihood of reviewing supplier. This may well reflect the fact that larger customers will (on average) be higher consumers of water, and so may have more to gain from switching than small customers. It might also reflect the fact that larger firms may have more resources (such as procurement departments) that they can utilise to shop around for the best deal. Propensity to review is highest in the South West (60% definitely or probably will review) and is lowest in the East of England (39%). Again, a number of factors are likely to be in play here – but will in part reflect differences in average bill sizes across the regions (see figure 3).

Reasons to switch

Respondents were then asked to identify what factors were most likely to motivate them to change water retailer. Unsurprisingly, the majority (61%) identified "price savings" as being the most important factor. A range of other potential factors (water efficiency advice, account management quality and customer service quality) all generated similar levels of response, from 5% - 7%.

We then examined the size of price savings required to motivate switching. Here the survey revealed that 48% of respondents would require a saving of over 5% to switch, and 19% would require a saving of over 10% (see figure 4). These responses matter because, as shown earlier, retail only accounts for around 10% of bills in totality. Put simply, at face value it implies that retail related savings alone will not be sufficient to motivate a customer switch, meaning that retailers will need to think about strategies to overcome this, which might include:

- Bundling water efficiency advice that yields wholesale related savings
- Linking their retail offer with alternative water resource upstream (the type of bi-lateral model envisaged in the Water Act)
- Offering the cumulative savings customers could expect over time in the form of an "up-front" cash amount.

Offering cumulative savings over time in the form of a "lump sum" amount is only likely to be viable if customers are willing to sign up for fixed term contracts with water retailers. Here, the survey evidence suggests that such a proposition may well be viable, with only 9% of respondents indicating that they would not be willing to enter into any fixed contract term. Interestingly 35% of respondents were willing to sign up for contracts of 24 months of more.

Figure 3: Likelihood of review by size of firm

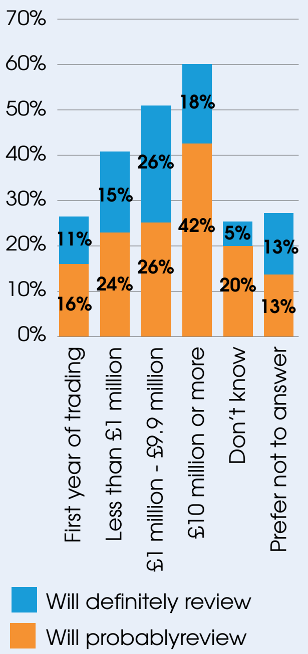
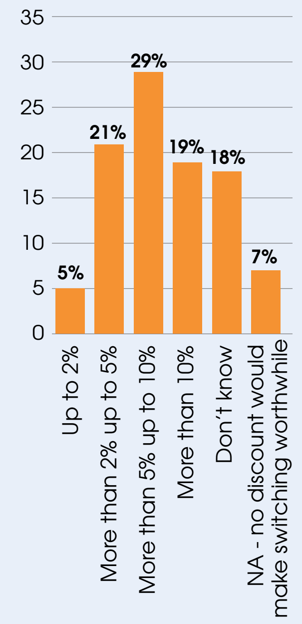


Figure 4: Size of price saving required to switch



Messages

Pulling the above evidence together, there are a range of issues and messages to consider.

- Firstly, whilst the current level of awareness is low, it is unclear whether this is a problem or not. After all, we are some way away from market opening. Therefore, the 15% awareness figure could be viewed through either a positive or negative lens, depending on one's perspective.
- Secondly, however, regardless of our perspective on current awareness, key stakeholders would most certainly want that to rise before market opening occurs. Here the critical issue is that this will not happen on its own – and this raises the question as to whether firms' own marketing efforts alone will be sufficient to achieve this, or whether there is a role for government or other agencies to play a part.
- Thirdly, from a commercial strategy perspective – it is vital that retailers seek to enhance their understanding of this issue – both in terms of the measurement of customer inertia, and its underlying causes – so as to ensure they can target their offers accordingly.
- Fourthly, it would be a mistake to assume that the most inert customers are not worth attempting to acquire. Fundamentally this rests on how much time, effort and resource is required to acquire them in the first place. It might well be, for example, that these customers are actually the most profitable – but that is something that would require further analysis.
- Finally – retailers will need to think innovatively about how to best overcome the price perception problem. Fundamentally, retail activities do not amount to much to customers in cash terms – and so retail related discounts alone may not be enough to excite them. Further, the obvious strategy of bundling water efficiency advice to increase the size of discount may not be effective in the long-run, not least because once a customer has followed any advice, and accrued the saving, the value would appear to rest back in wholesale. Our survey suggests contracting may be an effective solution – but other creative solutions need to be considered.

For incumbent firms, regulators and potential market entrants, one thing is clear: there's a need to rapidly develop hard evidence as to the extent and nature of likely inertia. TWR

Sam Williams is a director of Economic Insight.

INDUSTRY COMMENT

ACT NOW ON DATA VALIDATION

CGI says there really is no time to lose on data validation.

Calls to water companies to avoid hitting the rocks on data quality ahead of market opening are getting louder.

The experience from Scotland when the market was opened there, along with the latest work from Open Water, helps us in England to know where to focus our efforts. There really should be no excuse for water companies not having their data ready in time: the issues and the timescales are known.

The data required by the Market Operator's central systems will have to meet stringent completeness and quality standards. Amongst these are:

- *Accurate and complete premises addresses, linked to the UPRN, for all non-household (NHH) premises, not just those in the billing system.*
- *Meter details including the manufacturer, serial number, size and location coordinates, connected to the correct premises (household meters must be included if they are part of an otherwise NHH network).*
- *The correct status of the premises: occupied or vacant, along with the customer details where it is occupied, and the services provided.*
- *Valuation Office Agency Billing Authority Reference Number.*
- *Public Health related site specific arrangements.*
- *And water and sewerage references for the same premises have to be paired.*

Some of the data that is needed may not yet exist and will have to be created.

Moreover, this data is coming from more than one company (in Scotland only Scottish Water had to provide this data on market opening), providing further scope for error – for example, premises that are on more than one company's customer database yet have been recorded with different postcodes.

So getting this data correct cannot be completed in one go. All companies will have to provide their data to the central market systems which will then have to validate it and report any errors found.There will be inconsistencies between companies that will have to be resolved, almost always manually.

Resolving these issues will take time. Remember that in Scotland it took many months after market opening to have an adequate data set. The market could function because there was only one wholesaler of water and wastewater. In England, with multiple wholesalers, complex financial settlement between suppliers and wholesalers will be dependent on this data.

So unfortunately data quality cannot be put onto the "ignore" or "can be looked at later" pile. Drawing on our experience in helping our clients in other deregulating utility markets, the diagram shows where they should focus their efforts.

We can also learn some lessons from the Scottish experience:

- *There were more vacant properties than expected.*
- *Meter readers' notes are often ignored but they can provide a useful source for resolving discrepancies.*
- *Cleaning of a dataset must feedback to the source (and to business processes) otherwise the error will simply repeat.*
- *During the new connections process, developers often request more connections than they use, leaving the potential for the creation of phantom supply points.*
- *Data quality improvement projects rarely finish, they run out of money or time or both!*

One area that presents a unique set of problems is where companies provide sewerage only services to customers, typically through a water only company. Hitherto, there was little need to maintain a complete and accurate list of premises that sewerage services are provided to. However, once the NHH market opens, sewerage services will only be invoiced for those premises registered as receiving these services. And only the company providing the sewerage services can register these premises. Failure to register the premises means no income for that premises from the retailer, a quick route to ending up in sewage!

In these cases companies will have to compile accurate lists of premises to which they are providing sewerage services. A starting point could be the customer lists of the water only companies, but companies must ensure they comply with data protection requirements. A worst case would require visits to premises to understand what services are provided.

CGI will be providing facilities for water companies to validate their NHH customer records in advance of market opening. Areas that can be validated include:

- *Matches against UPRNs*
- *Cross checking across companies (where more than one company provides services to a premise)*
- *Unattributed addresses (where we believe an address in the supplier's area is a NHH premise yet the supplier has not included it in their submission)*
- *Other invalid data (for meters, addresses, services)*
- *Completeness of data*

Companies will be able to submit their data for validation multiple times, enabling them to improve their data incrementally. It is important that early submissions are made so that they can understand how much work will be needed to get their data into an adequate state.

No doubt perfection will be all but impossible, but high quality data sets should not be beyond any company's capability provided they start right away, if they haven't already. TWR

DATA READINESS PRIORITY AREAS

Customer & Registration Data
- Variations in spelling of customer name
- How customers link to registration data
- Identification of customers & premises with water-only/sewerage-only services to link with other wholesalers

Address Data
- Variations in spelling of addresses or missing entirely
- Linking premise ID with unique ID
- Assign UPRN to premise and link to SPID from MO
- Inconsistancy in VDA BA reference number

Meter Data
- Formats not standardised
- Meter duplication
- Incorrect/invalid XY co-ordinates
- Inconsistent chargeable v physical meter size
- Number of digits

Trade effluent
- Creation of unique discharge point ID and link to SPID
- Check for mandatory fields

Data Inconsistencies

DATA FORMAT
- New central store requires new and/or updated formats

DE-DUPLICATION
- Multiple rows with the same data
- Data mastering

jOINING MULTIPLE SOURCE SYSTEMS
- No common key across source systems; inability to link data together

Giordy Salvi is a water industry consultant at CGI.

LOCATION LOCATION LOCATION

Ordnance Survey is crafting valuable new offerings for the competitive retail market from its geographic datasets – including a new "light" service for retailers who haven't got access to GIS.

Water companies are already very familiar with the geographic data and services provided by Ordnance Survey (OS). Of the multi-layered OS MasterMap, the Topography layer is the industry favourite, and is widely used for a range of asset management and field operations.

As companies ready themselves for retail market opening in 2017, geographic and locational data will prove of additional value. Martin Shaw, energy and infrastructure account manager at Ordnance Survey, makes a number of recommendations for the market and its participants.

Central market and UPRN

A nationally consistent premises identifier in the form of a Unique Property Reference Number (UPRN) has been deemed necessary for the smart meter rollout in energy. Ordnance Survey's AddressBase data (see box) provides precise coordinates for every UPRN. This enables different parties to have a consistent and common view on each specific property for its entire lifecycle and enables information sharing.

Shaw urges MOSL, the company putting central water market arrangements in place, to adopt the UPRN as the common reference point for the retail water market and specifically to tie each UPRN to a meter. "If everything is right at the meter, that will be the best way of ensuring non-household market data is clean and complete," he explains.

According to Shaw, while other entities such as Royal Mail and the Valuation Office hold property reference data, OS's AddressBase from which each UPRN is derived is the most complete. It combines information from local government, Royal Mail and other services; incorporates both historic information and information on registered but yet-to-be-built properties; provides alternative addresses for the same property (the Old Bakery to locals may be 4 Lion Road to others); and includes properties such as community halls and substations that will be connected to the water/drainage network but may not receive any post.

Shaw explains: "A problem we had initially in energy was that some argued the Royal Mail's Postcode Address File (PAF) alone was sufficient for property identification. But this only contains active billing addresses – not premises that don't receive bills and not any planned or disused properties. There are 40m records in OS's AddressBase Premium, compared to 28m in PAF."

Retailer/wholesaler preparations

Incumbents face four main data tasks in readying their customer data for the retail market:

- Sorting non-household from household customers.
- Ensuring existing non-household data stands up to scrutiny.
- Plugging gaps in non-household information
- Linking non-household properties to meters.

Shaw says OS hasn't yet approached water companies in any concerted way about how it could assist with these preparations, but believes its comprehensive geographical and address based datasets could make the job easier. Together, its OS MasterMap and complementary datasets on addresses and businesses (see box – OS offerings) could be used to validate, cleanse and complete water company non household customer data. Shaw is confident the industry will reach this conclusion in time: "We believe our data will ultimately be used in the water market," he says, adding that it will be for each company individually to work out exactly how best to use OS's array of customer and address information.

But there's a problem, which OS's energy smart metering experience threw up. Shaw explains that despite the obvious value of AddressBase Premium to energy suppliers mandated to roll

OS OFFERINGS RELEVANT TO WATER RETAIL

- **OS MasterMap:** A continually updated and multi-layered database, OS MasterMap contains 450 million geographic features found in the real world, from individual addresses to roads and buildings. Every feature has a unique common reference, which enables the layers to be used together and combined with proprietary information. The layers available include Topography, Imagery, Water Networks and Integrated Transport Network.

In addition, OS offers a number of complementary datasets, including:

- **Address Base Premium:** this is a geographic dataset of 40m addresses, properties and land areas. It combines data from local government, Royal Mail, Improvement Service, Valuation Office and Ordnance Survey and includes detail on how each property is used. AddressBase Premium incorporates provisional addresses data (useful for infrastructure planning) and both historic and alternative addresses (useful for cross referencing).
- **Points of Interest:** Points of Interest is a location based directory of public and privately owned businesses, transport, health, education and leisure services in Britain. It offers considerable detail on business names, types and contact information, which could assist water suppliers with customer-facing decisions, plans and strategies in competitive market.

Spot on: detailed OS locational and address data

out smart meters across the country, getting them to look at the product was like "getting blood out of a stone". As retailers, these energy suppliers hadn't invested in the GIS and asset management systems commonly used by energy network and integrated water companies, so without multi-million pound investments simply couldn't use AddressBase Premium. He believes this situation could be mirrored in water as incumbents separate (to one extent or another) into wholesale and retail entities. "It is quite possible that the retail arms of regional water companies won't be able to tap into the GIS capabilities of the wholesale business, as that could be deemed unfair competitive advantage," Shaw explains.

So in making its pitch to water companies preparing for retail competition, OS is mindful of the different requirements of the two branches – wholesale and retail – of what have hitherto been integrated companies.

Shaw doesn't envisage any difficulty with wholesale businesses extended and adapting their existing use of OS data for the non household market. Wholesalers will need to continue to provide wholesale water and wastewater services, for which geographic information will remain valuable. It will enable the visualisation of issues otherwise impossible to deduce from fragmented sets of information. For wholesale water companies, locational information can:

- identify an asset in context of an address
- identify affected properties linked to an asset
- increase the speed of response to customer/retailer enquiries
- track resources and help liaison with field operators, contractors and customers/retailers in real time
- proactively alert customers/retailers of outages
- develop facilities for reporting faults via a specific location.

However, on the retail side Shaw says OS is keen to work with water company non household retail arms and with new entrants to develop a new Application Programme Interface (API) service – to give access to the complex geographical datasets at an affordable price and in a way that is accessible without heavy investment in GIS. "We have an offering called OS Places," says Shaw, "which is a cloud hosted address verification and cleansing API that is accessible via the web. You can look up addresses held in AddressBase Premium in real time. It has a number of uses – for instance it facilitates data cleansing, matching and verification and can save companies money by avoiding sending mail to an incorrect address. It lets users analyse address data rather than spending all their time managing it. At the moment, that sort of web-based offering is looking like the logical route for our 'light' water offering."

OS is trialling OS Places with one water retailer at present and is keen to hear from other incumbent retailers and prospective new entrants about their needs and requirements for such a system. Shaw would welcome any contact to that effect.

NON HOUSEHOLD DATA TROUBLE SPOTS

Eight water companies which between them serve 60% of non-household properties in England took part in a nine-month study to consider if external datasets could be used to help identify non-household premises, ready for inclusion in the retail market. The companies all used National Address Gazetteer and Valuation Office Agency records of properties liable for non-domestic rates but were free to choose their own matching methods.The study found:

- 68% of non-household premises matched to individual water company records
- 31% of water company non-household records were not found in the list of non-household premises
- 23% of non-household premises provided were not found in water company records.
- Different companies had very different rates of matching success – from under 40% to over 95%.

The study also identified a number of common challenges that all those preparing data for the new market would be wise to watch out for:

- Boundary issue: difficulty in identifying exactly which company a premise was served by at company boundaries.
- Two suppliers: it will be important for water only companies and the WASCs who provide sewerage services to non household customers in WOC areas to treat premises consistently.
- Similar addresses: domestic and commercial premises with similar addresses require extra work.
- The un-served: there is lack of visibility of premises not served.
- Eligibility: particularly around mixed use and multi-occupancy premises.
- Too many/not enough: the pilot highlighted examples of a single water company record covering more than one premises on the National Address Gazetteer/Valuation Office Agency roll or of several water company records covering a single premises.

End to end: UPRN and the lifecycle of an address

Open market services

It doesn't take much imagination to see how valuable OS datasets could prove once the market is open and suppliers are going head to head for business. Used together, AddressBase Premium and Points of Interest could identify non household customer targets by size or type of business. The data can be mined deeply. For instance, businesses based around eating and drinking are subdivided into a number of high level categories, including: function rooms/banqueting; restaurants; cafes; and fast food. Within each category there are sub categories, so for instance within fast food there are fish and chip shops, burger bars, kebab houses and so on. Replicated across all commercial customer types and across the country, and plotted geographically and with contact information thrown in, the value is obvious in the open market – both on the clean water and wastewater sides.

Shaw is keen to develop this offering for competitive retailers too. "These new retailers will want competitive advantage. How can we help them get it, and get it cost effectively?" he asks. Again, industry input is welcomed. TWR

WATER UK

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9.00am – 5.00pm

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Wednesday, 14 October

Contact Grace Williams
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> Hear about how real-time data enhances leakage management

> Learn more about recent innovations and new technologies in leakage detection and reduction

Chair

Martin Baggs
Chief Executive
Thames Water

Speakers on the day include:

Nicci Russell
Director of Parliamentary
& Public Affairs, Ofwat

Dennis Dellow
Technical Consultant
Northumbrian Water

Trevor Bishop
Deputy Director –
Water, Land & Biodiversity
Environment Agency