

Innovation Strategy Consultation Response, from AxiaOrigin

We're pleased to provide our response to your Emerging Strategy Consultation and would welcome the opportunity to discuss any sections of it that might be of particular interest.

Q1. Main barriers to innovation in the sector and why?

In 3 words, it's the **Second Translational Gap**.

Explaining the Second Translational Gap requires your acceptance that some jargon-y language is permitted in this discussion, and cross-sector learning is relevant for water companies.

The definition of the 'Translational Gaps' comes from health and care.

The First Translational Gap is the gap between a good idea and researching or piloting an initial intervention. You cross the gap by answering a specific question. In health and care, this might be funding and implementing a clinical trial. For Ofwat, this might be trialling the use of social media analytics in control rooms. The solution for the First Translational Gap is funding. It is always funding. In the UK, there is a long history of being quite good at solving the first gap. We're good at pilots in the UK.

The reason the Translational Gaps were defined at all is the observation it takes decades for known solutions to scale and spread. The Second Translational Gap describes the gap between evidence-based knowledge of best practices and the widespread and accepted use of those best practices in routine ways of working. In health and care, this means every A&E using the same protocol to make sure heart attack sufferers have the best chance of survival.

The solution for the Second Translational Gap goes far, far beyond funding. You have to win hearts and minds, persistently push water uphill, write world-class business cases that are rejected without explanation, involve the public without making leaders feel they are being set up for embarrassment, you have to measure and monitor signs of improvement, you have to collaborate

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with the knowledge there might not be any direct benefit for you. The Second Translational Gap is hard. It is so hard, the most senior and experienced leaders in the world will convince themselves it is beyond their influence, so they go back to the First Translational Gap with new funding sources.

The main barriers to innovation in the sector can all be framed within the Second Translational Gap, and the reason why is that it is really hard and the skills needed to handle the Second Translational Gap are not in the traditional leadership toolkit of most senior leaders in 2019/20. Just like in health and care, water needs to realise and accept that closing the Second Translational Gap requires specific leaders and infrastructure, with the acceptance of new experts in leadership roles whose job titles might sound like nonsense to traditional leaders. The reasons why these barriers exist at all comes down to self-awareness and open-mindedness of leaders - which is very uncomfortable for senior leaders to hear and certainly much harder to accept. It is very easy to evidence water's commitment to the First Translational Gap, by funding Innovation Festivals, sensor trials, and having people in roles called "Head of Innovation", but the water sector doesn't seem to realise it is trying to solve the Second Translational Gap with tactics that work best for the First Translational Gap.

Q2: Do you think the financial support cited in section three is required to stimulate innovation in the sector? If so, what do you believe is the appropriate amount and funding and why?

Yes, it is arguable from observation of water leaders that unless there is a financial incentive, innovation will not be driven. The appropriate amount however is much higher than £200m, but that does not mean Ofwat's 'contribution' isn't proportional or appropriate at £200m. Instead of thinking about the £200m in isolation, it may be worthwhile to think about the 'total cost of innovation' over the duration of AMP7. In other words, if the total investment - financial, carbon, etc - of all water companies over the duration of AMP7 is taken into account, then what is the total spend across the sector and what proportion of this does the £200m Ofwat fund represent? What percentage would Ofwat want this to be?

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It is arguable the actual amount offered is not as important as the expectation for return on invested capital, especially if the return on that invested capital is reported beyond financial measures and includes sustainability measures such as carbon balance. This could be especially powerful if the history of the sector's contribution to the climate crisis is taken into account. If the amounts in each of these dimensions was obviously impressive, it is reasonable to expect senior leaders will take it more seriously.

Instead of simply increasing the value of the £200m fund, it will be more impactful to radically increase the expected return on invested capital. For example, by insisting on circular re-investment loops to maximise the 10-year or 100-year return on invested capital. This will enable Ofwat to proactively address the predictable criticism of water companies for not enabling AMP-to-AMP or even year-on-year growth through innovation activities.

Similarly, embracing the emerging science and best practices related to 'Open Innovation' - which focuses on externalising and distributing risk and cost of innovation - presents the opportunity to celebrate amazing case studies and apply them to water, eg NASA's \$30k solution for a key issue with the International Space Station. This is especially relevant for the water sector as there are early examples of hackathons and informal collaborations, and there is clear reference to Open Innovation principles throughout multiple PR19 submissions with a specific example that is a practical application of the global thought leadership position on Open Innovation. Why not fund the most ambitious Open Innovation programme in the world with success measurement starting with sustainability measures?

Q3: Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interests of customers?

No, they are not structured or specific enough. For example, the final 'open by default' principle is laudable but not specific enough. It could read, "For leakage reduction and customer/stakeholder engagement excellence, there will be an agreed data structure to enable the long term and totally transparent comparison of equivalent activities, eventually using automated and digitally enabled

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methods for open and global experimentation," and this could be nested within a group of principles labelled, "Open by default".

In short, the draft principles are not structured or specific enough to safeguard the interests of the public in a period ahead when the climate crisis and natural resource stewardship will become more dominant in the awareness and expectations of customers. The addition of principles under the heading, "Engaging beyond water" with specific principles related to listening to and being influenced by global movements, for example, will make today's news headlines about climate action and the political response to Greta Thunberg relevant for water companies and their customers. The principles can therefore be used to find common ground with customers and stakeholders.

Q4. What are your views on the collectively funded innovation competition model? What other key considerations not highlighted should we take into account in designing/implementing the competition?

It reads like a distillation of best practices from energy, which might be very comforting for water leaders and familiar through an economic regulation lens, but perhaps might not represent emerging best practices or reflect the dynamically changing environment for collaborative innovation. The model is coherent and safe - however it does not come across as if written from a position of experience in 1) the disbenefits of such an approach; or 2) from the perspective of the competition participant. We will present our views in 2 parts, firstly examining some of the key features of the design and secondly, offering a future view.

Part 1. Do you want a few Olympic athletes or do you want everyone to get fit? At the moment, the collectively funded innovation competition model reads like a water sector Olympics for innovation. A multi-year cycle with an annual opportunity to dock in with the mothership, 'bigger-the-better' sentiments, intentions for extremely impressive outcomes that are unobtainable for many - which is why they win the competition prize. Plus, a year upfront to get ready for a 4-year cycle is just like the Olympics.

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If you place yourself in 2012, on the 'Super Saturday' during the London Olympic Games when a flurry of medals inspired the country, we encourage you to reflect on whether that is the set of emotions you want to evoke through the proposed competition model.

If you want to achieve the equivalent of Jessica Ennis and Mo Farah winning gold medals to the adulation of the public, then your design might work - for which you will need a 'Charles van Commenee' as the head coach to have the single goal of achieving 'at least one gold medal in the stadium'. Or, do you want millions of people to run 5k for the first time, or try a new sport.

Despite best intentions and purposeful plans, the 2012 London Olympics did not inspire the country to, sustainably, get off the couch. That wasn't Charles van Commenee's job - it was to win a gold medal in the stadium, and he did that. Is it Ofwat's role to win a gold medal in the stadium when the world is watching, or get everyone to try a sport so we have multiple repeating generations of Olympic hopefuls, to unearth 1,000 people with the potential to win gold? We believe it is the latter.

To enable collective benefits and collaborate for innovation excellence, simpler is better. Instead of spending a year working out and setting up the team to manage the innovation fund, perhaps get everyone together to work on small collaboration projects where everyone needs to 'get fit', and fully fund their participation from the proposed £200m. You could start with social media for customer engagement - a project every single water company needs. If you make it a qualifying requirement for the innovation fund in years 2-5 of the AMP, you can start to develop an innovation culture of collaboration.

Alongside social media for customer services, also delivered over 3-6 months there might be 3 or 5 other modest-scale projects where collaborative learning and development is critical for shared success. Ofwat can create the conditions for every water company to 'get off the couch' and prove they are willing and able to win a gold medal at the end of AMP7.

Part 2. You really, really, really need a Theory of Change for Innovation. A 'Theory of Change' is a logical, structured definition of the demand-side and supply-side drivers and influences that

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eventually result in the change you desire. To most, this sounds at best like management jargon that might apply to someone else, at worst it sounds like fluffy nonsense. The commonly repeating story of senior leaders who embrace having a Theory of Change is that they initially thought it was a waste of time, and now they can't believe they didn't have one before. This is true for problems as complex as reducing the risk of radicalisation online and making the internet safer for children. The Theory of Change defines and focuses the scope of all innovation activity, enabling transparent collaboration and reporting of progress against specific goals. You really, really, really need a Theory of Change!

Instead of taking a year to determine a measurement approach, assessment framework and KPIs to measure the return on the fund to exceed the Ofgem performance stated as a potential benchmark, instead you could take a week or a weekend to define with representatives from every water company and their main suppliers and preferred advisers, the thought-structure for how innovation drives specific outcomes for all water companies. This would be the starting point for the Theory of Change.

The influences on this exercise will go far beyond the problem statements in PR19 submissions, and embrace a changing world with the increasing influence of the UN Sustainable Development Goals and the emergence of new environmental champions such as Greta Thunberg. It is especially poignant for us that the deadline for this response is the same day as the Global Climate Strike, a movement sparked by a single child's local activism less than 2 years ago. How can we possibly fully embrace the opportunity for innovation in the sector without taking into account the inspirational and dynamic changes in the context for what we are doing? Greta Thunberg is not trying to win the Olympics - on this very day of this submission, she has inspired millions of children to get off their metaphorical couch.

We strongly encourage Ofwat to take these future trends - Agenda 2030, UN Sustainable Development Goals, school children and youth activism for the climate crisis - directly into account in the design and implementation of the competition mechanism. Practically, this requires Ofwat and key stakeholders to embrace the emergence of Open Innovation and we encourage leaders to think of this the way you might have thought about Lean a decade ago. Embracing Open

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Innovation in 2019 will enable the water sector to be the equivalent of the early adopters of Lean that transformed their leadership cultures as the world realised Toyota were onto something.

Finally, a less structured and more emotional plea - why so traditional in your approach? In the age of eliminating single use plastics, Greta Thunberg, Extinction Rebellion and youth-driven movements to drive society-level change, please don't collude with the old-fashioned view that the bigger the prize, the better the outcome.

Q5: What are your views on the end-of-period innovation roll-out reward we describe in section three? What other key considerations not highlighted (e.g. whether it should be collectively funded or individually funded) should we take into account in designing/ implementing the reward?

There is a specific line in this section that jumps off the page: "The introduction of a roll-out reward may be effective in cases where companies have insufficient incentive to turn a successful trial into business as usual." We would like to assert the view that this is a very important point to breakdown, potentially de-myth and certainly re-frame if an end-of-period prize is given.

We have described in detail our views on turning successful trials into business as usual in our response to question 1, regarding barriers to innovation and our explanation of the Second Translational Gap. The solution for this gap goes far, far beyond funding, so it is potentially erroneous to assume that an end-of-period reward will drive adoption. We believe it is realistic to assume the lessons learned from other sectors turning successful trials into business as usual, for example in health and care or aviation safety, will also apply to water. To turn successful trials into business as usual, you need to focus on people, on culture, on the way senior leaders embed innovation in their annual planning and creative problem solving that will feel very uncomfortable for many leaders.

Instead of a per-company reward, framed as a very valuable carrot, perhaps instead we can plan for widespread success. Instead of giving a prize for water companies at the end of AMP 7, why not give a gift to the sector much earlier. There is enough time between now and the end of AMP 7

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to organise for World Water Day to be held in the UK and execute the requirements of that responsibility as a festival and celebration of water stewardship. Instead of giving cash prizes to a few, why wouldn't we instead enable every water company to celebrate water stewardship in partnership with local councils and schools, and build actual and virtual pavilions to host events for the year the UK celebrates its role as a global influence on water stewardship.

Why wouldn't we enable every water company to follow Yorkshire Water's lead and engage the Global Action Platform for Sustainable Development Goal 6 for Water Stewardship and make sure the global focus embraces the UK. Why wouldn't we enable every water company to follow the lead of the water companies who are members of the UN Global Compact? Why wouldn't we invest the proposed end-of-period incentive in circular economic models to design the reinvestment of realisable financial and carbon savings, into new innovations in AMP 8.

Similar to our comparison of the collective funding mechanism proposed to an Olympic Games funding cycle, why would Ofwat wish to issue a Nobel Prize for water stewardship to a single water company, or the equivalent of the Global Teacher Prize for a few teachers, instead of investing the available budget in circular re-investment projects and celebration of the sector's wider influence on global sustainability?

Q6: What other potential alternative mechanisms for funding/ rewarding innovation not discussed do you think we should be considering? Which financial support mechanism or combination of mechanisms should we introduce and why? What would be an appropriate split of available funding/ reward?

A potential alternative mechanism is a circular model. In other words, a commercial design inspired by the 'circular economy' concept, that is funded upfront by Ofwat and sustained over years by the reinvestment of savings from the work. In combination with a 'Theory of Change' to define the drivers for innovation in the sector, a circular model could be applied to specific elements of the Theory of Change. This might represent a completely new way of working for the sector, which presents Ofwat with the opportunity to guide water companies to work together on a commercial concept every water company finds intriguing.

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A second alternative mechanism is **micro-funding**, using Open Innovation principles that might look like crowd-funding (specifically considering the way crowd-funding works for entrepreneurs). Given the requirement to significantly improve the quality and long-term impact of stakeholder engagement, adopting a crowd-funding approach (where Ofwat-managed funds provide the budget and water companies' local stakeholders provide the crowd), might enable two strategic goals to be achieved with one mechanism. For example, budget for 5-10 sub-£25k projects for each water company could be awarded by local crowds for local entrepreneurs, which supports an approach that can already be evidenced by companies such as NWG working with start-ups based in the North-East. This will also greatly stimulate interest in the wider start-up community to think of the water sector as an opportunity for growth and technical innovation, eg tech start-ups for multi-channel customer engagement or wastewater sensors.

Q7: Do you think the potential industry activities discussed in section four could help drive innovation? Are there other activities not identified which you think the industry should be considering?

The sector-wide joint innovation strategy could be focused to produce a sector-wide innovation Theory of Change, as described in previous answers. This will present water companies with the authentic opportunity to define the 'why' and the 'how' for innovation in the sector, leaving the 'what' for local focus and wider collaboration with stakeholders and supply chain partners. This will introduce the Theory of Change method to the sector and explain its potential use for other areas of strategic focus where attitudes and long-term ways of working need to be addressed.

Collaborative strategy development as you have described can be separated into **evidence-based strategy development** and **collaborative and collective action**. We believe it is important to treat these two requirements very separately. If this is not done, workshops for collaborative strategy development can feel like 'strategy by committee' and the realistic outcome is an agreed written statement. Whereas separating out the suggested components enables enjoyable and focused workshops to agree the questions that need to be answered and evidenced to enable each water company to make decisions and contributions about common innovation strategy. This

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will be much more fun than aiming for a unifying document. The collaborative and collective action to follow could be designed around a locally delivered workshop, with supporters and co-presenters/facilitators from other water companies helping, with focused support for the lead facilitator from each water company such as expert coaching, preparation and rehearsals for these symbolically important workshops.

The innovation in water centre of excellence could be a virtual centre of excellence and a set of pop-up centres of excellence. Inspiration can be taken from the Apple Store phenomenon, whereby an inspirational design is replicated to deliver equivalent experiences consistently across the world. Why not commission the architects who designed the Apple Store to design the innovation in water centre of excellence, and then enable each water company to revive wasteland or retail outlets on a failing high street, and use a pop-up approach to drive innovation and inspiration for the public's relationship with water, and natural resources more broadly. This could be done in partnership with the UN Global Compact to celebrate UN Sustainable Development Goal 6 for water stewardship, and have a principal daytime purpose for education and engagement for natural resource management and climate action more broadly. This could be a bit like Jamie Oliver's cooking school in Leeds Market to help locals learn how to cook healthy food.

Gaining greater insights makes reference to 'open by default' and artificial intelligence. There is such phenomenal potential in the paragraphs that are written in this section, but they do not represent how innovation and progress with data and analytics **actually** happens in asset rich environments. Ofwat, and every regulator, has the most extraordinary **dark data** opportunity - where 'dark data' refers to data assets an organisation has, or has access to, that it does not routinely use. We cannot overstate how phenomenal your opportunity is - but it requires methodology and expertise to drive sustainable and, frankly, game-changing success. The culture of insight generation in water is more buzzword bingo than operational excellence. We would like to explain these assertions in more detail in person and we will be writing to your Chairman separately to try and drive this. We view this as an urgent obligation in light of some of the content in your other consultation document.

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Q8: Do you think the proposals in section five will help drive innovation? Are there other activities not identified which you think Ofwat should be considering?

Yes, they will drive some activity that is innovative. Until a structured approach, that might be captured as a 'Theory of Change' is defined, listing tactics such as the Ofwat version of Ofgem's Innovation Link will simply be interesting one-off options. As a strategy for additional activities to help drive innovation, we recommend taking inspiration from digital ecosystems and communities and '**stand on the shoulders of giants**'. This means participating in and helping develop **existing approaches** Instead of inventing innovation infrastructure. This might be as straightforward as putting forward ideas for the **GovTech Accelerator** programme or whatever succeeds it if it changes in the years ahead, or participating in open source communities for specific elements of innovation, for example online communities for coding languages particularly well suited for analytics.

The reference to the FCA's regulatory sandbox does not reflect the extraordinary personal story of the inspirational leader who made it happen. If such examples are used by Ofwat as best practices to emulate in water, we encourage you to reflect on the likelihood of replicating that story and whether and how the conditions and drivers are equivalent. We would like to suggest the innovation opportunity for a regulator has radically evolved since the FCA started the journey that resulted in their regulatory sandbox, and contemporary approaches to Open Innovation will be a very sensible starting point to develop the same benefits as the FCA's approach, but in less time and with less dependence on a single extraordinary leader.

Innovation managed as a **systemic driver of business value** is not the same as innovation driven by disruption by inspirational innovators. We strongly encourage you to think of the water sector as being well suited to systemic innovation driven by method, structure and evidence-based best practices, and not very well suited (at present) to disruptive innovations driven by leadership mavericks.

We are AxiaOrigin, a values-driven data and analytics consultancy aligned around the UN Sustainable Development Goals. We are passionate about providing insight from some of the

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most challenging data sets without the need for complex IT solutions. Our approach to using Open Innovation and social data enables organisations to widen their data set and bring people into the conversation that they might never have previously heard from. We'd love to speak more with you about your emerging strategy and how you might be able to answer some of the questions we've posed above.

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