

Ofwat  
Centre City Tower  
7 Hill Street  
Birmingham  
B5 4UA

18 July 2019

Dear Sir/Madam

### **Ofwat's Emerging Strategy**

Thank you for the opportunity to respond to the above consultation. Please find below the response to this consultation from Northumbrian Water Limited.

The main points we wish to communicate in this response are:

- We support the continued use of revenue controls and outcome-based incentives as the primary regulatory tools for the water sector, which could be set over a broader set of criteria and longer-period in future reviews;
- We believe it important that allowed returns are set at a level consistent with maintaining financeability of the sector, and that the overall price and service package balances customer interests with deliverability;
- We have yet to see compelling evidence that more prescriptive systems of governance lead to improved outcomes for customers beyond what is already achieved through effective price and outcomes based regulation;
- Whilst alternative rewards to those currently in the regulatory framework could be beneficial, mechanisms for lighter touch regulation or longer regulatory periods need to be carefully designed;
- We welcome the continued focus on customer engagement, and believe there is an opportunity for customer views to be given more weight in the regulatory process;
- We welcome the focus on the long term, and believe the "RAPID" approach could be broadened to give a regulatory framework to support broader long term resilience plans;
- We welcome any developments which further align company interests with those of customers and the environment;
- We would be keen to work with Ofwat and other stakeholders to understand how such developments might manifest within the regulatory framework, and align with other initiatives for example Water UK's work on Public Interest Commitments.

Alongside this submission, a further addendum following a programme of employee engagement on the Emerging Strategy will follow, outlining our employee's responses to the proposals.

I hope this proves useful; please get in touch if we can provide any further information.

Yours faithfully,

Heidi Mottram CBE  
Chief Executive

## **NORTHUMBRIAN WATER LIMITED**

### **RESPONSE TO CONSULTATION ON OFWAT'S EMERGING STRATEGY**

July 2019

#### **Introduction**

Northumbrian Water Ltd (NWL) is one of ten regulated Water and Sewerage Companies in England and Wales, operating in the North East of England, trading as Northumbrian Water (NW), and in the South East of England, trading as Essex & Suffolk Water (ESW).

In the North East, the business comprises the supply of both potable and raw water and the collection, treatment and disposal of sewage and sewage sludge, serving 2.7 million people in the major population centres of Tyneside, Wearside and Teesside as well as the large rural areas of Northumberland and County Durham. We provide only waste water services in Hartlepool.

In the South, we supply water services to 1.5 million people in Essex and 0.3 million in Suffolk. Our Essex area is part rural and part urban and includes the main population centres of Chelmsford, Southend and the London Boroughs of Barking and Dagenham and Havering and Redbridge. Our Suffolk area is mainly rural with the largest towns being Great Yarmouth and Lowestoft.

NWL is a wholly owned subsidiary company of Northumbrian Water Group Limited (NWGL).

The sections below set out our views on each aspect of the strategy. A further addendum, following a consultation with our employees, will follow outlining the views and opinions on the Emerging Strategy.

#### ***“Retain and evolve”***

##### ***An allowed return on the assets of the regulated company***

We welcome the retention of this element within the emerging strategy, supporting the TOTEX approach that sets overall controls for the amount of revenue that can be recovered from customers, giving companies some flexibility over the balance of capital investment and operating solutions deployed to address a given challenge; again creating the right conditions for efficient solutions, improved outcomes for customers, innovation, collaboration and investment in the sector.

It is important that allowed returns remain consistent with maintaining the overall financeability of the sector, particularly in light of developing external factors, such as Brexit.

We support strong incentives to increase efficiency and acknowledge the legitimate role of the regulator in seeking to avoid excessive and unwarranted returns. However, while affordable bills are important to customers so is the provision of an excellent and resilient service. If the balance is pushed too far with an excessively harsh regulatory settlement this may act against

customers' interests by increasing the risk of failure and may not be consistent with government's objectives for resilience in a critical public health sector. There needs to be an appropriate balance.

***Outcome based incentives, reset every five years***

We welcome the continued focus on outcomes based regulation, which holds companies to account for the outcomes delivered for customers, as opposed to holding companies to account for the activities or investments they undertake to deliver such outcomes. This gives companies the freedom to innovate as long as the right end results are delivered – driving innovation while also protecting customers.

We also support a focus on comparative performance. We welcomed the focus on customer experience performance that began via the “Service Incentive Mechanism”; whereby water companies' performance was assessed relative to one another, with above average companies rewarded and below average penalised. This created a strong incentive for improvement, which in turn drives innovation and improved outcomes for customers.

It is important that Ofwat's future approach to setting price and service levels is consistent with what is feasible for the industry to deliver, does not go beyond what could realistically be achieved in a competitive market, and is supported by robust evidence to demonstrate deliverability. At PR19, Ofwat has unpacked each individual component of price and service, and set upper quartile targets for each. In combination this results in a price and service package set significantly beyond anything currently being achieved in the industry (and also beyond current improvement trends) with insufficient evidence provided in relation to deliverability.

***Financial resilience and board leadership***

We agree that responsible governance arrangements which consider the interests of customers and other stakeholders alongside those of investors are essential. We would argue that these interests have always been intertwined and that the current regulatory environment's incentivisation of delivery and improved performance, based on customer and stakeholder objectives is the most appropriate way of delivering this.

We accept the principles outlined by Ofwat on Board Governance and believe it is the responsibility of the company to demonstrate they are being delivered, rather than demonstrating a rigid 'one size fits all', model or structure which has the potential to risks less investment in the sector if investors have to accept responsibilities, without clear authority or control in delivering them.

*We have yet to see compelling evidence that more prescriptive systems of governance lead to improved outcomes for customers beyond what is already achieved through effective price and outcomes based regulation.*

***Markets, trading and competition***

The expansion of Abberton Reservoir in 2014 allowed for the biggest inter-company water transfer since privatisation with a 20M/l day transfer organised between Essex & Suffolk Water and Thames Water.

*We are in conversations about further opportunities in this area and welcome Ofwat's focus on this area. It should still be recognised that distribution of water resources remains a challenge, which needs to be considered as part of Ofwat's future strategy.*

Northumbrian Water was the first water company in the country to successfully turn 100% of our sewage sludge – 2million cubic metres – into renewable energy, generating more than £5m of efficiency savings that we can pass on to customers each year. This produces 10MW energy – the equivalent of the amount needed to power about 20,000 homes. At present, 88GWh of energy – enough to power 7,000 homes – is passed into the grid annually through our gas-to-grid plant at Howdon, North Tyneside. A second gas to grid plant at Bran Sands in Tees Valley is currently in development.

*We welcome Ofwat's intent to enable new uses for the waste produced by the industry, however innovation should be able to take multiple directions rather than being narrowly focused – this means a mechanism must allow considerable flexibility, whilst also accounting that some innovations may not necessarily produce long term success.*

### **Customer engagement**

We welcome the retention of customer engagement in the “retain and evolve” section of the strategy, building on the increased focus on customer engagement introduced by Ofwat recently; including in the PR19 methodology and the strength of the #tappedin campaign on customer participation.

*We believe there is an opportunity for more weight to be given to customer views in the regulatory process, along with more clarity on how customer views will be reflected in decision making.*

### **“Shifts”**

#### **Creating a better future**

##### ***Long-term expectations***

We welcome in principle the development of longer-term views and ambitions across all elements of the water sector. The challenge remains tracking and rewarding progress, with uncertainty around future circumstance or customer opinions. On a practical basis aligning longer-term plans with Water Resource Management Plans is worthy of further consideration.

We welcome the joined up regulatory approach in the form of the Regulatory Alliance Promoting Infrastructure *Development* “RAPID” towards delivering faster progress on regional water resources resilience. We think in order to further the resilience objective there is scope to broaden this approach and to set out a regulatory framework to support delivery of multi-faceted long term resilience plans, similar in nature to the current approach for Water Resource Management Plans.

Below are some examples of areas where we believe long-term expectations could be set that align with voice of the consumer:

#### *Taking on the Affordability Challenge*

NWL has a long history of leading the industry in the realms of affordability and supporting vulnerable customers operating in some of the most income deprived areas of England. It includes being the first water company to partner with StepChange, the Debt Charity, and the first to recognise, as well as commit to the eradication of, water poverty. Funding research from respected charities such as National Energy Action (NEA) to form the Water Poverty Unit who have already engaged with Ofwat and CC Water indicate the scale of the commitment from NWG's leadership.

With NEA we brought together a 'Water Story' that sparked an industry discussion and led to considerable positive feedback from Ofwat. The film and discussion piece, focused on how National Energy Action, working with NWL, have a new, innovative programme to eradicate water poverty by 2030. There is much to be learnt from other sectors and being innovative in any approach is important. We believe a focus on targets for Water Poverty, from a set definition against which companies can be tracked, should be a feature of any Ofwat strategy for the sector going forward.

#### *Towards a Carbon Neutral Future*

We would welcome long term targets for carbon reduction and achieving a carbon neutral position for all water companies as soon as is practical. At NWL we have reduced operation emissions by 46% since 2009 and are the only water company in the UK to use 100% of the sludge remaining after sewage treatment to produce renewable power – we have also used our experience from this to create further opportunities for green gas development. We will achieve a net zero carbon emission position in 2027, three years ahead of the WaterUK Public Interest Commitment ambition, 23 years ahead of the new government target and will be the first water company in England to meet this ambition.

We will power all 1,858 of our sites using renewable electricity for at least the next four years, enabling us to eliminate the equivalent of 125,000 tonnes of CO2 emissions every year. The company will create zero avoidable waste by 2025; this will mean eliminating, re-using or recycling 90% of waste from their operations, and working with partners to contribute to the circular economy in their regions. Beyond this our investment in natural solutions such as reedbeds has provided environmental benefits in biodiversity and reduction in CO2 emissions, with the use of hydroelectric power and solar continuing to contribute. Frankly – this should be an area where water is the leading business – adding public value to our private enterprise.

#### ***Long-term water supplies***

Aligning long-term planning and targets with the Water Resources Management Plans may be beneficial, creating a single viewpoint and allowing for cross-company consideration. Support for schemes that future-proof water resources post any individual AMP, if they reach appropriate customer acceptance levels, could be offered within any framework.

Below are some examples of areas where we believe lessons can be shared for long-term water supplies:

#### *The Abberton Scheme*

The Abberton Scheme, completed in 2014, is the only major reservoir development in the last 30 years. At the same time it is a key case study in Environmental Net Gain and in reducing environmental impacts during construction. Abberton Reservoir was, and remains a Special Protection Area (SPA) – classified under EC Birds Directive. At designation Abberton Reservoir was numerically the most important reservoir in the United Kingdom for wintering wildfowl.

After a long selection process the decision to proceed with Abberton for securing Essex & Suffolk's Water Resources for the next 60 years was made. This was a £150m joint engineering and ecological enhancement scheme with mitigation incorporated into the design resulting in a 58% increase in storage (over 16,600 MI – 6.640 Olympic Swimming Pools). At the very beginning our team used disturbance experiments and density calculations to predict potential impacts, from this it was officially concluded that there was no adverse impacts upon the integrity of the site (SPA). Planning permission was granted with support from Natural England, other stakeholders and without a public inquiry and a 5 year post-scheme monitoring secured through S106 agreement.

As a result of the scheme there was a significant increase in dabbling ducks (Gadwall, Shoveler & Teal – the target species). Carefully designed phasing and restricting the construction programme had allowed waterfowl to redistribute within the site - and we gave the mitigation habitat the needed time to mature before construction began. From the scheme we learnt that environmental challenges and improvements are something to incorporate not fear - looking for the opportunities.

As an element of our investment in the Abberton reservoir enhancement scheme we sponsored academic research, alongside a part-time PhD for one of our team members. The research demonstrated the success of measures we took to minimise the works' impact, which will be useful in future projects and in demonstrating best practice. The results of this will improve the effectiveness of our future conservation projects and the lessons should benefit all future reservoir developments – this is now being considered as part of an academic course at the University of Essex. How lessons can be shared and collective experience spread throughout the industry from this large scale projects should be considered as part of Ofwat's future strategy.

The scheme was formally opened by Sir David Attenborough who noted, *"I can remember a time when nature conservation and development were seen to be in opposition. You either developed or conserved. Here at Abberton Reservoir, this is fundamentally, extraordinarily and wonderfully different. This development has been constructed hand-in-hand to create a wonderment for the people and wildlife who live and visit here."* In line with Ofwat's emerging strategy, the Abberton Scheme demonstrates the potential for, and clear benefits from, developments that also benefit the wider environment.

#### ***Long-term operational resilience***

We welcome the inclusion of this aspect in the strategy. We believe there is an opportunity for the regulatory approach to place equal scrutiny on whether companies are investing sufficiently for the future (i.e. to maintain resilience) as is currently given to cost efficiency.

In this regard, and in order to balance the needs of current and future customers, there may be greater need for engineering and operational expertise, in order to assess the specific circumstances of individual companies, to complement comparative tools such as econometric models, which can only ever be a guide to decision making.

*One practical suggestion is for efficient, customer supported, resilience schemes to be considered through a more strategic form of approval, such as a long term resilience plan - similar to the current Water Resources Management Plan approach.*

We are currently in process of developing our long term planning strategy in the form of our Drainage and Wastewater Management Plan (DWMP). Our DWMP will set the strategic context of how we manage our assets in response to emerging challenges posed by climate change, urban creep and growth now and in the future. Alongside the Water Resources Management Plan approach, the development of Drainage and Wastewater Management Plans (DWMPs) offers areas which could integrate well into the Emerging Strategy. The overarching nature of DWMPs means their production supports the delivery of many of our customer, environment and communities outcomes.

The strategy should also aim to build on and support other strategies such as the Environment Agency's Flood Coastal Erosion Risk Management Draft Strategy and the National Infrastructure Assessment's recommendations on working on a set of resilience standards to address flood risk, sustainable growth and encourage community resilience schemes.

The challenge of climate change means proactive thinking into addressing future challenges and raising awareness is required. A strategy that draws on local, regional, national and international expertise to help the sector develop our thinking is important. As the sector move towards a more catchment based approach, we are keen to start looking at more resilient ways of managing rain water in a different manner; exploring its value as an asset and promoting ways to re-use it more effectively – which would be welcomed within the strategy.

We have experience in establishing and maintaining multi-stakeholder management groups, with our award winning Northumbria Integrated Drainage Partnership (NIDP), for which we are considered to be industry leading. An example project to have benefitted from such ways of working is below:

#### *Killingworth/Longbenton Scheme*

Since 2010 Northumbrian Water, working with local Authorities, and the Environment Agency, have implemented a collaborative prioritisation process, through the Northumbria Integrated Drainage Partnership (NIDP), to identify and investigate areas at greatest risk of flooding. The Killingworth and Longbenton area was one of those areas identified as having the highest risk. From this award-winning scheme (RICS Regional Award for Infrastructure 2018), over 3500

properties in the Forest Hall and Longbenton areas of North Tyneside have benefited from increased flood protection from the sewer network, surface water and the main river.

This innovative multi-site project, delivered in a phased approach through a three year construction programme, has used sustainable techniques to manage surface water, storing over 22,000m<sup>3</sup> in flood events. The scheme has provided opportunities to increase biodiversity through the creation of one hectare of new wetland habitat. To date, five surface water storage areas have been constructed and a further two are being constructed this year.

Since we are lowering the permanent level of Killingworth Lake, we are installing floating islands to provide plants which can help to improve water quality through their rootzones as well as providing shelter for fish from predators or heat. We have also provided additional bat boxes to the Gosforth Park SSSI. We have agreed a specific landscaping plan with the local authority to reinstate the Lakeside Park once the scheme is constructed. This includes additional bird and bat boxes, marginal planting, and new trees. The CIRIA BEST tool (estimating the Impacts of SuDS) was used to calculate and monetise the environmental benefits of the scheme demonstrating over £30m benefits. The tool considers amenity value, biodiversity and ecology, flooding, recreation and education among other criteria.

Funding from all flood risk authorities including Northumbrian Water, the Environment Agency and North Tyneside Council has been brought together to cover the £5.4 million cost of the project ensuring that a scheme that was unaffordable and undeliverable by any single party has been successfully implemented. This has ensured that public and private funding has been brought together to ensure best value for flood risk authorities and their customers.

#### *Forward thinking*

Consideration is needed on how to assess forward looking resilience in a way that does not rely on a backward looking assessment tool. As the climate is changing, we will need to plan on the basis of what is coming, not what has happened historically. Both the WRMP and DWMP processes require forward thinking scenario planning which could be further embraced as methodologies going forward.

We welcome Ofwat's suggestions that the high level of activity at the point of a periodic review could be better spread over the whole control period, giving time and space for in depth discussions of particular topics.

*We are particularly interested in whether more of what constitutes enhancements could be assessed and resolved over a longer period than a single review.*

## **Driving transformational change**

### ***The pace of innovation***

We welcome Ofwat's focus on increasing the pace of innovation and the opportunities for developing this area further. It must be recognised that as a sector that runs Critical National Infrastructure we do face some challenges with getting ideas out into the field in a way that maintains safety and security. By its very definition, innovation often means following a path for the first time. It can sometimes be difficult to experiment at scale and it can be difficult to

maintain momentum when ideas hit barriers. Of specific consideration for this area we would like to offer the following examples:

#### *Industry Collaboration*

We are well into planning the water industry's third Innovation Festival – last year's event attracted over 2,000 people from 510 organisations and generated 42 great ideas. This year's event will run from the 8-12 July at Newcastle Racecourse. We invite the whole sector to join us at this event to tackle big issues such as Leakage, Flooding and Customer Engagement. We have developed a web-based Open Innovation Marketplace, where we are giving visibility for all of the ideas that come out of our festivals. We are making that available for any organisation that wants to collaborate with us. As part of this we have done some interesting work with a company called Top Coder which we believe could provide some industry-wide solutions to open innovation.

Going a stage further, in September this year we will continue and expand our collaborative efforts with the launch of Innovate East, which is another style of innovation festival, working in partnership with Anglian Water, to be held in Ipswich. Taking on further challenges and demonstrating collaborative efforts to tackle the issues ahead for the water sector – and beyond.

#### *Bringing ideas in from other sectors*

Last year we formed our External Innovation Panel, which was chaired by Dr Piers Clark from Isle Utilities. We wanted to have diverse opinions, so the panel has been drawn largely from outside of the sector, including leaders from Amazon, Apple, Arsenal, ComparetheMarket, IBM and National Grid. They have challenged and inspired our thinking. Through their direction we use technology from the health and life sciences sector to improve our water quality assessments; and we use data science to extract valuable insights (for example it helped us predict blockages at pumping stations and reduce failures by 80%).

#### ***Protecting and enhancing the natural environment***

We welcome the approach on the natural environment. We also believe that incentivising natural innovation could be a useful approach – whether it is promoting biodiversity or using natural methods to benefit water supplies. Example of this are below:

#### *Brunton Park – Sustainable drainage systems (SuDs)*

The Brunton Park estate in Newcastle saw large scale investment into a SuDs programme which saw a successful partnership between Northumbrian Water, the local authorities, the Environment Agency and the residents. Sharing our collective knowledge, we were then able to see how our combined action, of putting in underground storage, diverting a watercourse and using water butts, and less hard surfacing, all made a positive contribution towards delivering a solution.

In removing the risk of predicted flooding to over 100 properties in Brunton Park the partners have, by integrated working, delivered a sustainable solution which is functional and complementary to the local landscape, ecology and business. As the site matures and the residents become accustomed to the new environment and habitats we believe it will prove to be a significant asset to the locality and anticipate the community will become justly proud of it.

The key ecological constraints concerned otters, bats, the loss of mature trees from garden habitats and potential loss of lowland heath. A suite of mitigation measures was developed to reduce the impacts of the project and promote additional measures which would enhance the value of the site. These included the timing of certain works, providing a variety of water depths and ground slopes along the watercourse to maximise ecological diversity, the planting of new trees, developing a wet woodland area as well as the provision of kingfisher burrows in steep bank sides and space for otter holts. The SuDS basin and channel also includes wide, flat margins for floodplain species and wetland plants. This provides foraging for insects and therefore for bat species. Rush and reed species planted around the SuDS system will provide spaces for otters.

#### *Reedbeds at Hanningfield*

The reedbeds at Hanningfield were a first for sustainable drinking water treatment. It provides a natural method of dealing with the sludge which remains after drinking water treatment. This now contains 16 reed beds, with a surface area of more than 10 acres, have been constructed and planted at a cost of £4.5million. The natural plantation is now an essential part of the drinking water treatment process for the nearby water treatment works. Part of the drinking water treatment process involves separating silts and algae from the raw water - it creates up to three million litres of a sludge containing ferric used in the treatment process every day. Most of the sludge is water which, once treated, can be recycled back to the reservoir for re-use.

Reed bed systems had been used successfully for many years to treat sewage and food waste but never before in the water treatment process. It naturally recycles the valuable water from the sludge without mechanical or chemical processes. Traditional methods of dewatering sludge involve mechanical systems which require high levels of maintenance labour and power. The reed beds save 70 tonnes of CO<sub>2</sub> emissions a year compared to the traditional system. The creation of the new reed bed is also an important addition to the wildlife habitat of the reservoir – so a cleaner, more efficient, natural and environmentally beneficial scheme.

#### **Customer relationships**

We support the direction of Ofwat in developing mature relationships with our customers. *This should also be considered in approaching long-term resilience – if customers in a mature relationship with their water company support long investment for future resilience, this should be readily encouraged and accepted in business plans.*

#### **Encouraging private enterprises delivering public value**

We recognise our role as a private company that provides a public good. The development of our five capitals reporting approach through the 'Our Contribution' report is being embedded within our projects and business activities. This allows us to consider not only financial capital but natural, social, manufactured and human & intellectual capital – recognising this is an area that we are keen to develop further so in principle support this aspiration. However there are not yet common standards for reporting or a clear understanding of what 'good' looks like – therefore any change in incentives for this area should be carefully considered to not allow gaming or create a sector that is not leading in full capital reporting. This would require

considerable further development to enable clarity on how this aspect of the strategy ultimately manifests itself in the regulatory framework.

A vital consideration here is outcomes, rather than an intrinsic focus on structure or governance. Multiple models can deliver public value, but there is not a one-size fits all approach that works for every organisation – nor should a regulator seek this. We believe this is closely linked to legitimacy – which is found in our sector within price reviews and service targets. Any encouragement or reward should be outcome focused based on customer priorities, with a principles level approach to delivery, which allows for innovation on delivery, finances and collaboration.

For example our 'Improving the Water Environment' scheme which will see us invest £2m to work in partnership (including with Anglian Water and Thames Water for our ESW operating area) to enhance the areas of streams, rivers, lakes, reservoirs, wetlands, beaches and coastline that our customers can access.

Water UK's Public Interest Commitments also offer an opportunity for the sector to demonstrate leadership and build a collaborative approach for the wider public benefit – with the commitments fitting closely to our own business plan, although we plan to exceed them in most areas. NWL will be taking a leadership role in delivering the wider sector commitments on both affordability and water poverty; and carbon reduction – support for this style of arrangement that allows shared innovation would be welcomed.

*We welcome any developments which further align company interests with those of customers and the environment. We would be keen to work with Ofwat and other stakeholders to understand how such developments might manifest within the regulatory framework, and align with other initiatives for example Water UK's work on Public Interest Commitments.*