

Learning from the impacts of the 2018 freeze-thaw

Report by Water UK

28th September 2018

Summary

The rapid thaw which followed the "Beast from the East" in late February and early March 2018 led to a big increase in bursts on companies' water mains and in customers' own water pipes.

Reviews of the events carried out by Ofwat, DWI and CC Water highlight areas of success - including the tireless work of frontline staff who kept water supplies going for most customers - and challenges that need to be addressed.

The impact varied across the country, with Ofwat stating that fewer than 3% of all customers were affected. But in some cases, significant numbers of customers experienced disruption and hardship, and water companies are determined to prevent this happening again in the future.

Companies since then have been taking action to ensure that they are in a better position to face extreme cold weather this coming weather, as set out in their plans for submission to Ofwat by 28th September. These fall under three broad categories:

- planning and preparation, for example, carrying out preparedness exercises, with lessons learnt from recent events, enhancing leakage detection and updating modelling scenarios
- stakeholder and customer engagement, for example, reviewing the effectiveness of wider communication strategies and understanding what worked well in the deployment of alternative water supplies, and improving communications to customers ahead of the winter
- incident response, for example, working proactively and collaboratively with multi-agency partners, such as Local Resilience Fora, and with the supply chain, to maximise the deployment of resources and facilitate a stronger response across larger numbers of affected customers.

This report also identifies eight priorities for further, collective action to complement what is already being done by companies. Taken together, the priorities represent a programme of activity aimed at enhancing the three areas of capability highlighted above, with particular emphasis on strengthening the sector's ability to plan and prepare for extreme weather events. They cover

- agreeing an industry approach to planning for supply risk associated with extreme weather-related incidents (priority 1)
- improving the arrangements by which companies make provision for alternative water supplies (priorities 2-4)
- improving the robustness of arrangements under which bulk supplies are provided between companies (priority 5)

- improving engagement with affected customers (priority 6)
- sharing insights on the use of big data to understand network performance better (priority
 7)
- enhancing customer side resilience (priority 8).

For each priority, this report identifies actions for companies collectively to take forward over next 12 months (in some cases with key stakeholders), with particular emphasis on action in the shorter term.

The programme of activity needed to take forward the priorities will be overseen by a newly-formed Operations Strategy Group comprised of senior operations leaders from water companies. A quarterly progress report of will be published through the Operations Strategy Group, and a fuller 12-month review of what has been achieved will be carried out by the end of September 2019.

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1. Introduction

The severe weather in February and March 2018 (dubbed the "Beast from the East") saw a period of ground-freezing followed by a quick thaw. This put significant strain on parts of the UK's infrastructure, including water pipes.

The fluctuation of temperatures below and above 0°C caused water in the ground to freeze (resulting in expansion) and then thaw (resulting in contraction), or water in pipes or plumbing systems to expand and contact. Because of this "freeze-thaw" process, pipes in the ground or in thermally-exposed parts of properties were vulnerable to bursts and leaks.

The extent to which pipes burst or leaks occurred varied according to several factors – ground type, pipe material and presence of lagging, for example. Where pipes were affected across a significant area, the supplying water company was faced with a sudden and marked increase in demand as the cumulative effect of lots of relatively small bursts was felt.

In these cases, water company emergency response plans were triggered, resulting in teams of operatives being sent out to detect and fix leaks and bursts. Where the impact was such that supplies were lost, provisions were made for alternative water supplies. During the whole process, companies communicated with customers, regulators and government.

Reviews of the events carried out by Ofwat, Drinking Water Inspectorate (DWI) and the Consumer Council for Water (CC Water) highlight areas of success - including the tireless work of frontline staff who kept water supplies going for most customers - and challenges that need to be addressed.

The impact varied across the country, with Ofwat confirming that fewer than 3% of all customers were affected. But in some areas, significant numbers of customers experienced disruption and hardship, and water companies are determined to prevent this happening again.

In their reports on the freeze-thaw event, Ofwat and DWI made recommendations for action by companies, as well as recommendations specifically for Water UK. We agreed with Ofwat to report back by 28th September 2018, and in so doing we have also sought to address relevant recommendations in DWI's review.

In preparing this report, we have aimed to do two things: to understand and share what companies need to do, or have already done, to be in a better position to face extreme cold weather this coming winter; and to identify potential further, collective action which would enhance the sector's ability to mitigate and manage the impacts of extreme weather events.

In so doing, we have considered three key areas of capability:

 Planning and preparation: proper preparation and planning is the cornerstone of being able to effectively respond to any eventuality. Proper planning also entails horizon scanning and ensuring resilience for the future.

- Stakeholder and customer engagement: communication with customers and relevant stakeholders is critical to the management of any impacts of extreme weather before, during and after any incident.
- **Incident response:** a rigorous approach throughout the process of dealing with an incident covering preparation, response and recovery is key to ensuring that when things do go wrong, the impacts are minimised and those affected are provided with alternative services that match their needs.

Our approach to this report has been shaped by a number of other features:

- Engagement and sharing. A Strategic Steering Group drawn from a small number of company representatives was set up to oversee the development of this report and to engage with relevant Water UK networks, encouraging them to share good practice and lessons learned through their regular meetings. Water UK hosted workshops in April, July and September attended by all UK water companies (a list of those who participated is provided in Appendix 1). These workshops provided opportunities to share experiences and approaches (in turn triggering subsequent bilateral discussions), as well as allowing companies to consider the specific recommendations made by DWI and Ofwat, who together with CCW attended and presented their reports at our July workshop.
- **UK wide approach.** We have focused attention not only on England and Wales but have also drawn on Northern Ireland and Scotland to benefit from experience and good practice on a wider basis. In particular, we have revisited lessons from the 2010/11 freeze-thaw event in Northern Ireland, as captured in the March 2011 report by the Utility Regulator.
- Experiences from the 2018 heatwave. Where relevant, this report has also sought to
 draw on companies' experiences during the prolonged period of hot, dry weather of
 summer 2018 that impacted on water resources across parts of England. During this
 time, companies implemented a range of actions to maintain supplies, in some cases
 incorporating lessons learned from the freeze-thaw event earlier in the year

The following sections of this report highlight areas where water companies have already been taking action to prepare better for next winter and identify priorities for collective action by companies, some involving key stakeholders and regulators, that when completed will further strengthen the sector's ability to deal with extreme weather events. In Appendix 2 we cross-reference those priorities with the recommendations made in the Ofwat and DWI reviews.

2. Putting the sector in a better position for the next event

2.1 Changes made to improve response by winter 2018

Changes and improvements have already been adopted by companies to put them in a better position to manage the risk of an extreme weather event next winter. While each company's approach will be set out in their individual reports to Ofwat, examples of the sorts of actions which have been taken individually by companies or collaboratively through Water UK, are set out below.

Planning and preparation

- carrying out preparedness exercises, with lessons learnt from recent events being used to help develop companies' winter 2018/19 plans;
- increasing planned preparedness, including access to winter specific assets (e.g. larger fleets of 4x4 vehicles), upscaling locally stocked bottled water and access to drinking water grade or food-grade tankers;
- ensuring adequate bottled water and other alternative water supplies are stored locally to assist with quick deployment to customers;
- better understanding of deployable treatment works outputs to maximise the ability to meet higher demands for water;
- enhancing leakage detection, including customer side leakage (CSL) and providing free detect and repair schemes;
- updating modelling scenarios to include new historic worst case (including 2018 freeze-thaw and 2018 heatwave);
- using data and information gained from both the freeze-thaw event and heatwave in 2018 to improve companies' understanding of where their high-risk areas are and where to prioritise action and resources to mitigate risks in advance
- taken the lessons learned from Northern Ireland in 2010/11 to review and incorporate
 where necessary into their emergency plans. For example, several companies are actively
 engaging customers to encourage them to lag vulnerable pipes as part of their annual
 preparedness programmes.

Stakeholders and customer engagement

- agreeing, through MOSL, changes to the NHH retail market codes to allow for sharing of information on emergency contacts in non-household properties;
- reviewing the effectiveness of wider communication strategies and understanding what worked well in the deployment of alternative water supplies including bottled water to provide an evidence base for future changes of approach;
- improving communications to customers ahead of the winter including information on lagging and protecting pipes in exposed spaces, advice on finding stopcocks and actions to take in the eventuality of a burst;
- establishing a crisis communications protocol, through Water UK, that sets the framework for aligning national and local media messages during major incidents
- a specific focus on aligning priority services with energy sector is being addressed by a separate piece of work for completion in 2020 (Appendix 3).

<u>Incident response</u>

- working proactively and collaboratively with multi-agency partners, such as LRFs, and with the supply chain, to maximise the deployment of resources and facilitate a stronger response across larger numbers of affected customers;
- establishing, through the Security and Emergency Planning Network (SEPN), an LRF biannual meeting to review multi-agency best practice;
- working with DWI on the changes needed to the way in which incidents are reported, particularly around water sufficiency. DWI are engaged with the industry on this topic and have accepted an invitation to discuss actions to be taken with Water UK via the Strategic Drinking Water Quality Network at their October 2018 meeting;
- updating and testing key response frameworks, including Mutual Aid, through a SEPN Task and Finish group. The review will conclude by the end of December 2018 and be tested by the end of February 2019.

2.2 Priorities for collective action to enhance sector capability

As a result of the workshops hosted by Water UK, we have identified eight further priorities for collective action to complement that already being taken by companies, and to enhance the capability of the sector to prepare for and manage extreme weather events.

Taken together, the priorities identified below represent a programme of activity which will need to involve a range of industry groups, regulators and stakeholders. We believe it is important for industry to exercise clear oversight of this programme: following a meeting in September of companies' senior operations leaders, chaired by Water UK, this will be done through a newly-formed Operations Strategy Group.

<u>Priority 1: Agreeing an industry approach to planning for supply risk associated with extreme weather-related incidents</u>

Our workshops identified that there are many separate ways that water companies express and understand supply risks associated with bad weather, when compared to how companies address drought planning or sewer flooding. There is a real opportunity to move to a shared understanding in this area. This would both help long term business planning and help neighbouring companies better understand each other's capabilities to cope with large events.

Water companies will evaluate the development of a whole industry approach to risk planning, the assessment of "acceptable" risk, and production of clear, well-rehearsed plans for large scale incidents. This work will consider how to re-base planning assumptions on future forecasts of climate and weather rather than looking back at worse-case historic events.

A dedicated group under the oversight of the Operations Strategy Group will convene in October 2018 to develop this concept further and propose an appropriate action plan.

Priority 2: Assess the availability of alternative water supplies

Each water company has frameworks in place for the provision of alternative supplies to its customers during interruptions to supply. These comprise stocks of bottled water, in-house tanker fleets and static tankers or bowsers. Companies will utilise their own resources but also use third party logistics specialists (e.g. Water Direct, Wincanton) to augment these. The degree to which companies use third party providers depends on their own business risk analysis.

The Beast from the East highlighted limitations in this model (over-reliance on bottled water, multiple requests for access to bottled water reserves or maintaining stocks in most appropriate locations) that would benefit from review to avoid adverse customer experiences. Some customers reported that they didn't have enough information about, or access to, sufficient water; and companies reported some difficulties with their ability to access additional supplies.

The Water UK Security and Emergency Planners Network (SEPN) will review existing arrangements and develop a robust framework to enable the provision of alternative water supplies, including an assessment of wider supply chain ability to provide bottled water during a major incident. By the end of March 2019, the group will assess the adequacy of the total volumes currently accessible by water companies collectively (both directly held and through contracts with bottled water and third-party logistics providers).

Priority 3: Hold an Innovation Exchange on alternative water supplies

During discussions in the workshops hosted by Water UK, several new approaches were identified to support alternative water supplies. These were either adapted from other sectors or from across Europe. Examples include:

- transportable packaging plants to provide customers with hygienically sealed containers of tap water; or
- provision to customers of real time information through trackers on mobile assets to determine location and status linked to smart phone apps or customer facing websites.

Severn Trent Water will host an innovation event for water companies and suppliers to consider all aspects of alternative water provision, exploring the art of the possible and the scope for the future. This will be carried out jointly with British Water who have an established process of developing and running Information Exchanges, by the end of December 2018.

Priority 4: Review the regulations for the provision of alternative water

There is an increasing customer expectation that, in the event of an interruption to the mains supply, alternative water should be provided to customers via bottles. Our assessment is that this is not sustainable for anything but localised or short duration incidents due to bottled water shelf life, cost of bottled water, likelihood of event, stocking capacity and the resources involved. In addition, there are regulatory differences between bottled water quality standards and tap water standards that need to be managed.

For longer incidents, consideration will be given to the effectiveness of other forms of alternative water supply such as mobile tankers which can temporarily re-pressurise the network, albeit for short durations, in order that toilets can be flushed and storage vessels refilled.

The Security and Emergency Measures Direction (SEMD) establishes the requirements for the provision of alternative water supplies to customers during incidents. This in turn frames the plans that water companies put in place to establish their own stocks as well as the scope of contracts with third-party providers.

In parallel with the assessments being carried out on bottled water capacity and innovation in alternative water supplies, water companies will review the existing regulatory framework by the end of March 2019 and determine where any changes could be made to improve the way companies address alternative water supplies. Following this assessment, Water UK will approach government and regulators to seek their support for any proposed changes to the regulatory framework for alternative water supplies that have been identified.

<u>Priority 5: Improving the robustness of arrangements under which bulk supplies are provided</u> between companies

Many companies rely on the provision of water from neighbouring companies via bulk supplies. These supplies are established under the terms of bulk supply agreements that cover, inter alia, commercial terms and quality requirements. Typically, however, they do not establish any guarantee on the availability of water at high demand periods. Upstream companies have control over the supply and whether it can be continued. This introduces a risk to the downstream company of a supply not being available at critical periods.

All companies endeavour to provide bulk transfers and work constructively with neighbouring companies at such times. However, we consider that the robustness of the agreements should be tested and if necessary changes made so that all parties involved have greater clarity over how bulk supplies will operate in circumstances where maintaining supplies to customers is subject to significant risk.

Companies will assess the implications of the risks within bulk supply agreements with regard to both water quantity and quality. The assessment will propose modifications to the framework. An initial assessment will be carried out by end December 2018, initially via the Water UK Drinking Water Policy Advisory Group (PAG).

Priority 6: Improving engagement with affected customers

Ofwat's report, supported by CC Water's research, identified issues regarding the effectiveness with which some companies communicated with affected customers. Most issues relating to communication with domestic customers are being addressed by companies directly; however, through our work, we have identified some areas for further collaborative action, particularly in addressing the needs of business customers.

Customers who experience interruptions to their electricity supply can find out information about the interruption by initially using the "105" number. This provides a memorable number that directs the caller to the relevant network operator based on the location from which the call is made. This approach was developed as electricity customers often have low visibility of who the network operator is that supplies their property, as the day to day relationship for energy provision is between customer and retail provider.

Water UK explored with companies and the Energy Networks Association whether a similar system would be beneficial to water. Our conclusion was that a direct replication of the "105" dedicated phone number would not be applicable to domestic water supplies, as most customers know their local water company and would be readily able to contact them. Water UK has also recently introduced a 'postcode search' function to its website that customers can be directed to if they are unsure.

However, a central source of information may be an option for supporting non-household customers. We will explore this further, starting at a workshop for water companies and NHH retail organisations hosted by South West Water at the end of November 2018.

Water UK and MOSL have published supporting guidance on specific actions to take for sensitive business customers through development of site specific plans. These plans set out the specific requirements for business customers when supplies are interrupted or affected during an incident.

Since then there have been further developments in the process and frameworks by which wholesalers and retailers interact to support business customers during unplanned events (e.g. a change to the Wholesale-Retail codes, managed by MOSL, to ensure that retailers hold emergency contact details for non-household customers, and publication of good practice guidance for unplanned events and incidents¹). In combination, these changes should provide for a more efficient interaction between non-household retailers, business customers and water companies before, during and after incidents.

Water UK will work with water companies and NHH retailers (through MOSL and the UK Water Retail Council) to test the codes and guidance and conduct an exercise to simulate a range of crisis scenarios. This will be completed by March 2019.

Priority 7: Sharing insights on the use of big data to understand network performance better

In line with the trends in the wider digital economy, water companies are today collecting much more data on network performance than ever before. Data analytical tools are being developed to deliver improved insights to better understand better the way in which the network is behaving.

These insights can help companies in a number of ways:

 real time network performance data (pressures, flows, water quality data etc) can be analysed during an incident to help understand exactly which customers are affected and how, thereby optimising the operational response; and

¹ https://www.mosl.co.uk/documents?cat=31&from=&to=&sort=latest&pp=&

longer term, asset performance and condition-based data could be used as a
predictive tool to better understand those areas of the network which are most
vulnerable to failure so that preventive maintenance can be carried out before a
service failure occurs.

By December 2018, the Operations Strategy Group will agree a programme of activity to promote sharing of insights and developments in the use of smart networks, covering (among other things) the work of existing Water UK networks, relevant national innovation and big data conferences, and academic research.

Priority 8: Enhance customer side resilience

As highlighted in Ofwat's report and in structured discussions with companies, bursts on pipes and fittings within customer premises (plumbing), or on the pipes connecting their properties, accounted for a significant part of the impact. Companies note that when they got access to customer premises or were able to isolate them from the system, demand dropped. This type of failure is difficult to identify and will require collaboration with property owners to rectify. However, it is an important area as, over the medium term it is likely that customer side leakage will make a up increasing proportion of total leakage across the system.

As companies develop their long-term leakage strategies to deliver their targets for the next AMP and beyond, they will consider how to improve management of customer side leakage. This will be done through:

- programmes to generate new data and insights to understand the problems;
- promoting technology to help customers improve their ability to detect leaks; and
- linking leakage work with other activity such as metering or on drinking water quality.

Water UK will work with others to carry out a fuller analysis on the barriers and solutions to addressing customer side leakage. The analysis will inform policy, regulatory and business decisions and be completed by September 2019.

As part of that analysis, Water UK will work with water companies specifically to update our understanding of the policy implications of company supply pipe ownership. This will consider the impacts on water company responses to future incidents, as well as the wider risks and benefits of any change. The assessment will draw on experience from Welsh Government, who have been addressing this issue and inform the industry's future discussions with Defra, DWI and Ofwat.

3. Ensuring actions are taken

Water UK is committed to overseeing the continuation of this work over the coming twelve months.

The Operations Strategy Group will meet in October 2018 to ensure the right arrangements are in place to take forward the programme of priorities identified above. We propose that, through the Group, a quarterly progress report on the programme of activity is published, and that a fuller 12-month review of what has been achieved is carried out by the end of September 2019. In the shorter term, Water UK will hold an industry workshop by the end of November to enable companies to share and review their specific preparedness for the possibility of extreme cold weather in the coming winter.

Appendix 1 – Attendees at workshops and project steering group

Project steering group

Jim Marshall, Senior Policy Advisor, Water UK
Drew Ritchie, Managing Director, Wholesale Operations, Affinity Water
Amy Southward, Business Continuity & Emergency Planning Strategy Manager, Anglian Water
Bob Steer, Deputy Chief Engineer, Severn Trent Water
Bob Taylor, Operations Director - Drinking Water Services South West Water

Attendees at Water UK workshops

Date of Workshop	30 April 2018	13 July 2018	10 September 2018
Company	Attendee	Attendee	Attendee
Affinity Water	Anton Gazzard	Drew Ritchie	Drew Ritchie
	Amanda Reynolds	Anton Gazzard	Anton Gazzard
Anglian Water	Ian Rule	Jill Plover	Amy Southward
		Amy Southward	
Bristol Water	Christian Lockyer	Martin Harvey	Martin Harvey
Dŵr Cymru	Heulyn Davies	Mike Bishop	Aled Daniels
		Heulyn Davis	
Hafren Dyfrdwy			Stuart Owen
IWNL	Ed Attree		
Northern Ireland Water		Andrew Law	Andrew Law
			Des Nevin
Northumbrian Water	Nicola Shields	Martin Lunn	Martin Lunn
		Gareth Barrett	
Portsmouth Water	lan Limb	lan Davies	lan Davies
Scottish Water		Paul Maxwell	Caroline Olbert
SES Water		Karl Reid	Karl Reid
Severn Trent Water	Tony Ballance	John Devall	Bob Stear
		Bob Stear	
South East Water	David Hinton	David Hinton	Paul Howells
South Staffordshire Water		Andrew Lobley	Andrew Lobley
South West Water	Jo Ecroyd	Bob Taylor	Bob Taylor
	Alan Hyde	Alan Hyde	Jo Ecroyd
Southern Water	Simon Flamendi	Helen Simonian	Helen Simonion
	Simon Oates	Guy Franklin	
Thames Water	Kate Haycock	Stuart White	Anthony Crawford
	Ben Kay	Anthony Crawford	
	Stuart White		
United Utilities	Sally Ainsworth	Martin Padley	Mark Abbott
		Simon Boyland	
Wessex Water	Sue Lindsay	Ashlea Lane	Chris Muscat
		lan Drury	
Yorkshire Water	Richard Emmott	Pamela Doherty	Martyn Hattersley

		Emily Brady	
		Martyn Hattersley	
CCW		Phil Marshall	
		Jenny Suggate	
DWI		Milo Purcell	
		Catherine Fearon	
Ofwat		John Russell	
		Paul Martin	
Water UK	Jim Marshall	Michael Roberts	Michael Roberts
	Rae Stewart	Jim Marshall	Jim Marshall

Appendix 2 – How we addressed the recommendations from Ofwat, DWI and CC Water

Throughout this report we have reviewed the activity that has been taken by water companies to better prepare themselves for any future conditions as experienced in the Beast from the East. All water companies have reported to Ofwat with their own findings and action plans. Section 2 of the report highlights some of the actions already taken and sets out eight priorities for the sector to act collaboratively on. The assessment below considers the specific recommendations made by Ofwat and DWI and indicates where these align with our proposed priorities or where sharing and learning is taking place.

Ofwat https://www.ofwat.gov.uk/out-in-the-cold/

"Water UK will co-ordinate work in the following areas.

- a) Establish a co-ordinated approach regarding the sourcing and delivery of bottled water and other alternative water supplies in emergency situations. The ability of companies to rely on mutual aid in these sorts of circumstances should be explored further.
- b) Share best practice regarding communicating with customers and key local stakeholders (for example LRFs and councils) before, during and after incidents to ensure they are well informed and kept up-to-date, including how best to target communications and support to different types of customers, particularly those in vulnerable circumstances. This should include the consideration of whether a common emergency number to report water supply interruptions, such as is used in the energy sector, could be effective in providing great customer service in emergency circumstances.
- c) Share best practice between companies regarding emergency response. Better performing companies during this recent incident should share their experiences, data and key learnings to help others in the sector improve for example, sharing technical data about asset performance and failure rates to enable companies to better plan asset maintenance and estimate asset life.
- d) Consider how to improve the co-ordination and the sharing of information between wholesalers, retailers and business customers in emergency situations."

Recommendation	Addressed
Coordinated approach to the supply and provision of alternative	Priority 2, 3, 4
supplies (e.g. bottled water)	
Communicating with customers and key local stakeholders (for	Priority 6
example LRFs and councils) before, during and after incidents	
Share emergency response best practice and information (e.g.	Workshops and
sharing technical data)	forums
Co-ordination and the sharing of information between wholesalers,	Priority 6
retailers and business customers in emergency situations	

DWI http://www.dwi.gov.uk/press-media/press-releases/2018winter event.pdf

"The Inspectorate has noted shortcomings in the readiness of some companies to cope with the event, and to disseminate learning has made a number of recommendations for all water companies to consider and action where necessary. The Inspectorate suggests that water companies work together with the Inspectorate and other stakeholders, through Water UK, to consider how the industry might best respond to these recommendations."

In summary, DWI proposed areas of concern in 9 recommendations:

Recommendation	Addressed
Inadequate final reporting for sufficiency events;	Joint work with DWI
Identifying the root cause of loss of supplies, and failure to put in	Priority 7, 8
place mitigation to manage the consequences of reoccurrence;	
Capacity to make alternative supplies, or to meet SEMD guidelines;	Priority 2, 3, 4
Capacity of individual company and mutual aid arrangements for	Priority 2
equipment and resources;	
Adequacy of risk assessments of supplies in extreme weather;	Priority 1
Failure to learn from previous experience, especially from Northern	Workshops and
Ireland 2010/11 freeze thaw event;	company plans
Adequacy of contingency planning arrangements and bulk supply	Priority 5
agreements to ensure sources are available when needed;	
Adequacy of asset operability risk assessments and identification of	Progress via DW
critical failure points;	PAG
Resilience of companies to withstand extreme changes in weather.	Priority 1

CC Water https://www.ccwater.org.uk/wp-content/uploads/2018/06/SYSTRA-CCWater-Freeze-Thaw-Research-Final-Report.pdf

"The key themes can be summarised as water companies' preparedness; consumer and stakeholder communications; provision of alternative supplies for those without water; help for vulnerable consumers; and compensation arrangements for those without water for long periods. With this in mind, it's worth noting that a quarter of consumers affected by the freeze-thaw incident now have a different opinion of their water company, for either better or worse depending upon how well the company handled the incident. Water companies which manage such incidents well therefore have a big opportunity to improve consumers' perceptions, whilst companies which don't handle them well, clearly risk damaging consumers' perceptions, and potentially not just in the short term.

CCWater is now looking to all water companies in England and Wales to learn lessons from this incident and to implement improvements to how they prepare for and manage future

incidents of this nature – something which some but perhaps not all water companies did following previous freeze-thaw incidents in the UK. $^{\prime\prime}$

Appendix 3- Aligning approaches to priority services

Water UK has been working since 2016 with companies and the energy sector to improve awareness of, and ease of access for customers to, priority services. Initially this involved water companies moving to a common branding of 'priority services' for what had previously been referred to as special assistance services or similar in the water sector, and cross-sector signposting between water and energy companies.

In October 2017, with the Energy Networks Association (ENA) and Energy UK we announced a more ambitious project to work together align the previously separate water and energy sector priority service registers and establish data sharing arrangements between the two sectors by 2020, to improve uptake and avoid the need for the same consumers to register separately for different water and energy schemes.

This project is closely aligned with Ofwat and Ofgem's work to promote data sharing, under the auspices of UKRN, and we have been keeping Ofwat, Ofgem and UKRN fully briefed on progress. Following a successful pilot in North West England between United Utilities and Electricity North West and extensive technical work to confirm that the existing energy sector data sharing arrangements can be extended to the water sector with limited modification, we remain on track to meet the target of implementing water-energy priority services data sharing by 2020.

The arrangements will be fully compliant with GDPR requirements for customers to provide their explicit consent, and over time, as customers consent, is expected to result both in more customers being registered for priority services in the water sector and timelier and more up to date information for both the water and energy sectors, improving service delivery and making access to priority services easier for customers of both sectors.