

Draft

Final Drought Plan

2022

Appendix C: Demand side options



1 Introduction

This appendix outlines the drought management demand side options that we may need to undertake during a drought event in order to manage demand for water.

Our demand side options during a drought event include enhanced water efficiency promotion, additional leakage control and targeted pressure reduction. These are also detailed in Section 2.4.2 of our main Drought Plan document. It should be noted that while demand actions are very much linked with our resource position, other factors are considered including the effectiveness of demand actions, resources levels in other parts of the region and customer impact.

The remainder of this appendix provides more detail on our demand side options, in particular the water use restriction options. Our phased approach to the introduction of restrictions on customer water use is presented, in the context of the relevant legislation and our drought levels, together with details of the exceptions which would apply. A summary of the estimated savings in demand from each level of water use restriction is included, with information on how these savings have been determined. We also outline the actions that we would take during drought events to measure the benefits of any demand side options implemented, to inform future drought planning assessments.

2 Leakage control and pressure management

On reaching Level 1, we will enhance our leakage detection and repair activities and implement pressure reduction on the network (see section 2.4.2 in main document for more details). This will be targeted to those areas where it is considered appropriate, and where the greatest savings can be achieved. We will begin the preparations during the “enhanced monitoring and operations” level and will consider undertaking earlier leakage and pressure reduction if demands significantly increase before reaching level 1.

Leakage control is a key activity in managing the balance between water supply and water demand. Our long-term programme for leakage reduction is outlined in our business plan in line with our Water Resources Management Plan. This ensures that we manage leakage at a sustainable and economic level and achieve our target set by Ofwat. While leakage control is a long-term activity, during a drought situation we will make every effort to further reduce leakage beyond our Ofwat target through additional leakage detection and repair over and above our normal efforts alongside pressure reduction. The extent to which, during a drought, will depend on leakage levels and weather conditions at the time.

Enhanced leakage detection and repair is relevant at all times of year however the success of such activity depends on a variety of circumstances, particularly the time of year and ground conditions. Enhanced leakage detection and repair would continue for the duration of a drought event and will increase as the drought gets more severe. We will:

- Increase resources for detecting and repairing leaks. This will include the usage of sensors to identify leaks more efficiently;
- Review and adapt our leakage targeting approach, ensuring we’re reducing leakage in the areas supplied by water resources that are relatively low;
- Step up localised pressure reductions in low risk areas;
- Work with our partners and supply chain to speed up repairs;
- Work with Local Authorities and the Highways Agency to reduce the notice periods required before we can carry out a repair in the road;
- Increase advertisement of our free ‘Leakline’ service and online channels for customers to use to report leaks;
- Increase the frequency of our leakage performance reviews and operational meetings;
- Encourage customers to report leaks using tools such as our app;
- Use our partner and United Utilities vehicles with digital messaging capability to run specific messaging across the region, alongside existing partner and United Utilities livery which now carries all-year round leakage related messaging;
- Promote pipe lagging (according to the season) and encouraging customers to repair leaks on their own pipes;

- Consider increasing promotion of the private leak repair scheme, which offers free repairs (depending on terms and conditions) to leaks on supply pipes to homes; and
- Proactively contact customers if we believe their might be a leak on their property through analysis customers meter readings.

3 Water use restrictions

Water companies must demonstrate that they have implemented appropriate water use restrictions, and show that they have been effective, in order to support drought permit/order applications (with the exception of winter restrictions) which pose additional environmental risk.

Our phased approach to implementing water use restrictions on customers is summarised below and follows that set out in the UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013):

- Commence our behaviour change campaign for voluntary water use restraint to change customer behaviour in level 1.
- Temporary Use Ban representations in level 2; From experience in previous dry weather events, this now will be between 2-5 days before Temporary Use Ban implementation.
- Implement Temporary Use Ban and continue to consider representations in level 2.
- Consider the need for an ordinary drought order to ban non-essential uses; apply for and implement if appropriate in level 3.

Further details of the restrictions in water use which would apply at each level are given in Table 1 below. The geographical extent of water use restrictions will be determined based on consideration of the area at risk and the anticipated benefits arising from the action.

Under a Temporary Use Ban and/or a drought order to ban non-essential use, statutory and discretionary exceptions would apply. Details of these exceptions are provided in Section 3.5 of this appendix.

Information around compensation for not meeting service level agreements as part of demand management actions or for an Emergency Drought Order (EDO) can be found on our website under our standards of service¹. Compensation does not apply once we are officially in a drought (with exception of an EDO) or because of required work to resolve an emergency such as a burst main, planned works on our water mains or if there is a problem on your own pipework.

¹ Standards of service can be found here: <https://www.unitedutilities.com/globalassets/documents/pdf/8051-6077-standards-of-service-2019-v4-web-acc.pdf>

Table 1 Water use restrictions associated with each drought level

Drought Level	Type	Restrictions	Notes/Actions
Enhanced monitoring and operations	No restrictions	None implemented	<ul style="list-style-type: none"> Period of routine monitoring of water resources and environmental baseline by water companies. Usual company water efficiency and leakage control activities.
1	Campaign for voluntary water use restraint	Customers asked to exercise voluntary restraint in their use of water, and in particular not to use hosepipes connected to the mains water supply to wash cars or water their gardens. This is entirely voluntary and we appreciate that some customers are more able than others to do this.	<ul style="list-style-type: none"> Awareness raising of water resource situation to promote efficient use of water (see Agile Communications in Appendix B). Enhanced water efficiency campaigns with customers (Agile Communications). Enhanced leakage detection and repair activity. Localised pressure reduction activity.
2	Temporary Use Ban	<p>Section 76(2) of the WIA 1991, as amended by Section 36 of the FWMA 2010, states that the following eleven uses of water can be restricted:</p> <ol style="list-style-type: none"> 1. Watering a garden using a hosepipe; 2. Cleaning a private motor vehicle using a hosepipe; 3. Watering plants on domestic or other non-commercial premises using a hosepipe; 4. Cleaning a private leisure boat using a hosepipe; 5. Filling or maintaining a domestic swimming or paddling pool; 6. Drawing water, using a hosepipe, for domestic recreational use; 7. Filling or maintaining a domestic pond using a hosepipe; 8. Filling or maintaining an ornamental fountain; 9. Cleaning walls, or windows, of domestic premises using a hosepipe; 10. Cleaning paths or patios using a hosepipe; and 11. Cleaning other artificial outdoor surfaces using a hosepipe. 	<ul style="list-style-type: none"> Commence representation period for a Temporary Use Ban. Restrictions apply to domestic customers i.e. a domestic customer could not undertake these activities unless subject to an exception. Enhanced water efficiency campaigns with customers. Enhanced leakage detection and repair activity.

Drought Level	Type	Restrictions	Notes/Actions
3	Drought order to ban non-essential use	<p>The Drought Direction 2011 defines the range of ten water use activities that may be prohibited with the successful application of a Drought Order:</p> <ol style="list-style-type: none"> 1. Watering outdoor plants on commercial premises; 2. Filling or maintaining a non-domestic swimming or paddling pool; 3. Filling or maintaining a pond; 4. Operating a mechanical vehicle washer; 5. Cleaning any vehicle, boat, aircraft or railway rolling stock; 6. Cleaning non-domestic premises; 7. Cleaning a window of a non-domestic building; 8. Cleaning industrial plant; 9. Suppressing dust; and 10. Operating a cistern in any building that is unoccupied and closed. 	<ul style="list-style-type: none"> • Restrictions apply to all customers (domestic and commercial). • Enhanced water efficiency campaigns with customers. • Enhanced leakage detection and repair activity.
4	Emergency drought order	Customers would be subject to the imposition of rota cuts and/or the use of standpipes	Put in place standpipes and emergency planning procedures.

3.1 Agile Communications for voluntary water use restraint

Post 2018, we set out an ambition to reduce our reliance on Temporary Use Bans as the primary solution to reduce customer demand within our drought plan, we will be looking at additional options to help reduce demand.

In 2020, we utilised behaviour change pilots to demonstrate alternative ways to encourage voluntary restrictions. In order to encourage a reduction in customer demand for water, we will commence this campaign for voluntary water use restraint within level 1. Further detail on our approach to communicating with customers and other stakeholders during a drought is provided in section 2.4.2 in the main drought plan and Appendix B.

We need to ask customers to play their part to reduce usage through a series of phased interventions designed to deliver a targeted reduction in their demand at each point. These interventions combine a variety of activities, which are more specifically directed at customers and their particular circumstances, tariff type and lifestyle. The savings required will be measured against the modelled peak of demand during a dry weather scenario to demonstrate whether customer usage is below, in line or above those predictions. Achievement of those savings will be tracked through a dynamic dashboard which will aggregate usage data from metered and unmetered customers and businesses and be operated in real-time to allow changes to be made in the interventions being used.

3.2 Temporary Use Bans

In previous drought plans, the announcement of a Temporary Use Ban was 3 weeks prior to implementation (representation period). However, following our experience in the dry weather event of summer 2018, we reviewed our Temporary Use Ban processes. Our new approach is to initiate a 2 to 5 day notification period for a Temporary Use Ban (depending on the situation being experienced). This provides increased flexibility, a clearer message to customers and improved confidence in our projections of crossing drought levels to prevent unnecessary impact to customers. The representation period of three weeks is maintained, to ensure customers have the appropriate amount of time to make representations for exemptions from the restrictions. Priority services customers are automatically exempt.

On 1 October 2010, Section 36 of the Flood and Water Management Act 2010 amended Section 76 of the Water Industry Act 1991. It introduced new powers of restriction on water usage known as Temporary Use Bans; supported by definitions set out in the Water Use (Temporary Bans) Order 2010. The term Temporary Use Ban is now used instead of hosepipe ban as it is more encompassing.

In order for us to implement a Temporary Use Ban we must be satisfied that we are “experiencing, or may experience, a serious shortage of water for distribution” and that voluntary water use restraints have not brought demand down sufficiently. There is no formal definition of this in the legislation but notably there is no explicit link to drought. In these circumstances we will give strong consideration to implementing a Temporary Use Ban at Level 2 during the summer (April to September), in order to reduce external household demand. Due to the level of connectivity in our system, we would apply a Temporary Use Ban across each of our Water Resource Zones rather than locally. We will gain Board approval before implementing a Temporary Use Ban.

The benefit of demand restrictions during the winter is negligible given the limited use of hosepipes for garden watering and washing motor vehicles where most usage is seen. Therefore, we believe that introducing a Temporary Use Ban in winter and autumn months is not appropriate as it will not result in a reduction in demand for water. Consequently, we do not plan to introduce a Temporary Use Ban during the winter period (October to March). However, we may continue water use restrictions implemented during the summer into the winter months if there is a high risk of restrictions being required the following summer. Similarly, if storage is below the relevant levels only for the Dee, and the storage is not being used to regulate flows in the river, then we may decide not to introduce water use restrictions as this may not benefit storage in the Dee regulating reservoirs. However if there were wider zonal benefits, or a forecast that Dee regulation may be imposed, we would consider implementing water use restrictions.

During a Temporary Use Ban, we will prohibit all categories of usage outlined in Section 76 of the Water Industry Act 1991. This is because all restrictions contribute to an overall reduction in demand and are therefore necessary during times of drought. Most of the uses of water in a Temporary Use Ban only apply to the use of water drawn through a hosepipe or similar apparatus. The exception to this is filling/maintaining a domestic swimming/paddling pool and filling/maintaining an ornamental fountain in which the use of water which may be prohibited extends to all means of filling, including fixed or permanent plumbing (but excludes handheld containers in the case of domestic swimming/paddling pools).

Section 76 of the Water Industry Act 1991 (as amended) stipulates the following:

- Notice must be given to those affected (no time restriction is imposed, and our notice period would be from 2 to 5 days as outlined previously).
- As a minimum, notice must be advertised in two newspapers circulating in the area to which the restrictions apply and on our website.

In line with the UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013), a PDF version of the notice will be available for downloading from our website. Details on how to make representations on

the categories covered by the ban will be included in the legal notice and on our website and we will provide a dedicated email address for the public to respond.

As a water company we are well versed in dealing with incidents and have incident management processes in place in the event of an unexpectedly large response.

In a drought, discussions will be held with our regional group Water Resources West on whether it is possible to co-ordinate drought communications and Temporary Use Bans. However, due to the nature and geography of our region this is not always possible.

3.3 Drought order to ban non-essential use

The Drought Direction 2011 relates to ordinary drought orders (previously known as non-essential use bans) which are granted by the Secretary of State to restrict water use (under Section 74 of the Water Resources Act 1991). Drought orders (for non-essential use tend to cover non-domestic activities whereas Temporary Use Bans (under Section 76 of the Water Industry Act 1991) tend to cover domestic activities, although there are exceptions.

In order to grant a drought order to restrict non-essential use of water, the Secretary of State needs to be satisfied that “by reason of an exceptional shortage of rain, a serious deficiency of supplies of water in any area exists or is threatened”. This differs from a Temporary Use Ban as it is expressly linked to drought. The Secretary of State can require a public inquiry or hearing in relation to the drought order, whether or not there are objections to it. We will gain Board approval before applying for and implementing a drought order to restrict non-essential use of water.

For drought orders to restrict non-essential water use, a notice will be advertised if a drought order is granted. Due to the level of connectivity in our system, we would apply a drought order across each of our Water Resource Zones rather than locally.

Following the implementation of a Temporary Use Ban (after Level 3 during the summer (April to September)) we would carefully consider the merits of applying for and, if granted, implementing a drought order to restrict non-essential uses of water. This would follow a full assessment of the potential demand savings, taking into account the statutory and discretionary exceptions that could apply, and the socio-economic impacts such a restriction could have in the North West. This would be done in conjunction with consideration of potential future resource position.

3.4 Emergency drought order

Our assessments, based on repeats of the worst droughts in the historic record, but with forecast future demand for water and current infrastructure, show that we should not need recourse to rota cuts or standpipes in drought situations. Therefore, this Drought Plan does not include detailed plans for this scenario.

3.5 Exceptions

We will take a pragmatic approach to granting exceptions for water use restrictions. The UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013) categorises exceptions as:

- Statutory exceptions – these are defined in the legislation and will be automatically granted;
- Discretionary universal exceptions – these are offered by all water companies, including ourselves, and include exceptions for Priority Services customers (including disabled and blue badge customers). During 2018 on the announcement of the TUB, we contacted Priority Services customers directly informing them they would be exempt from the TUB. This will continue for future dry weather events. Other exceptions include customers using an approved drip or trickle irrigation system fitted with a pressure reducing valve

and timer system, commercial customers that use hosepipes as part of their business (e.g. hand car washing, window cleaning, graffiti removal); and

- Discretionary concessional exceptions – these are offered at the discretion of each water company on an individual basis. We will apply all the discretionary concessional exceptions included in the UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013).

Table 2 is taken from the UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013) and sets out the exceptions that we will grant for Temporary Use Bans. Table 3 sets out the exceptions that we will grant for a drought order (non-essential use ban). We will apply all of the exceptions listed in the tables below.

Customers may wish to apply for an exception even if they do not consider themselves to be part of an exception category; we will consider each case on its individual merits. Further details of how to apply for exception will be published on our website once we advertise the notification of the intention to implement a Temporary Use Ban.

Table 2 Temporary Use Ban exceptions

Temporary Use Ban category	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
1) Watering a garden using a hosepipe	<p>Using a hosepipe to water a garden for health or safety reasons</p> <p>NB In this category, the definition of “a garden” includes “an area of grass used for sport or recreation”. Therefore it should be noted that watering areas of grass, which are used for sport or recreation, is covered by a statutory exception for health and safety only in relation to the active strip/playing area, not the entire ground.</p>	<ul style="list-style-type: none"> • To Priority Services customers • Use of an approved drip or trickle irrigation system fitted with a pressure reducing valve and timer 	<ul style="list-style-type: none"> • To customers on the company’s Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge • To water newly bought plants for first 14 days • To water food crops at domestic premises or private allotments • To water newly laid turf for first 28 days 	<p>The whole of the sports pitch can still be watered using other methods. Some companies may wish to grant a Discretionary Concessional Exception to allow the use of a hosepipe to water other grassed areas used for sport where there is no health and safety risk</p>
2) Cleaning a private motor vehicle using a hosepipe	<p>A “private motor-vehicle” does not include: (1) a public service vehicle, as defined in section 1 of the Public Passenger Vehicles Act 1981(c), and (2) a goods vehicle, as defined in section 192 of the Road Traffic Act 1988 (d).</p>	<ul style="list-style-type: none"> • Use of a hosepipe in the course of a business to clean private motor vehicles where this is done as a service to customers • To Priority Services customers 	<ul style="list-style-type: none"> • To customers on the company’s Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge • Use of specific low water use apparatus, such as pressure washers 	<p>Taxis and minicabs are not considered to be public service vehicles and so are subject to bans¹</p>

Temporary Use Ban category	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
3) Watering plants on domestic or other non-commercial premises using a hosepipe	Does not include watering plants that are (1) grown or kept for sale or commercial use, or (2) that are part of a National Plant Collection or temporary garden or flower display	<ul style="list-style-type: none"> To Priority Services customers Use of an approved drip or trickle irrigation system fitted with a PRV and timer. 	<ul style="list-style-type: none"> To customers on the company's Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge To water newly bought plants for first 14 days To water newly laid turf for first 28 days 	The water restriction does not apply to the watering of plants that are grown or kept for sale or commercial use by horticultural businesses e.g. plant nurseries etc.
4) Cleaning a private leisure boat using a hosepipe	<p>Cleaning any area of a private leisure boat which, except for doors or windows, is enclosed by a roof and walls</p> <p>Using a hosepipe to clean private leisure boat for health or safety reasons</p>	<ul style="list-style-type: none"> Commercial cleaning Vessels of primary residence Cases where fouling is causing increased fuel consumption Engines designed to be cleaned with a hosepipe 	<ul style="list-style-type: none"> To remove graffiti To prevent or control the spread of non-native and/or invasive species 	
5) Filling or maintaining a domestic swimming or paddling pool	<p>(1) Filling or maintaining a pool where necessary in the course of its construction</p> <p>(2) Filling or maintaining a pool using a hand-held container which is filled with water drawn directly from a tap</p> <p>(3) Filling or maintaining a pool that is designed, constructed or adapted for use in the course of a programme of medical treatment</p> <p>(4) Filling or maintaining a pool that is used for the purpose of decontaminating animals from infections or disease</p> <p>(5) Filling or maintaining a pool used in the course of a</p>	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Pools with covers used to minimise evaporative losses when not in use Pools with water conservation and/or recycling systems approved by the water company Paddling pools at early stages of a drought Pools that are subject to significant repair and renovation Filling new pools 	<ul style="list-style-type: none"> Hot tubs are not classed as pools Pools with religious significance are not domestic pools Pools used by school pupils for swimming lessons should be excluded: they are covered by Drought Order legislation

Temporary Use Ban category	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
	<p>programme of veterinary treatment</p> <p>Filling or maintaining a pool in which fish or other aquatic animals are being reared or kept in captivity</p>			
6) Drawing water, using a hosepipe, for domestic recreational use	None	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Pools with covers used to minimise evaporative losses when not in use Pools with water conservation and/or recycling systems approved by the water company 	
7) Filling or maintaining a domestic pond using a hosepipe	Filling or maintaining a domestic pond in which fish or other aquatic animals are being reared or kept in captivity	<ul style="list-style-type: none"> To Priority Services customers 	To customers on the company's Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge	Filling and topping up of a pond by fixed and buried pipes is not restricted
8) Filling or maintaining an ornamental fountain	Filling or maintaining an ornamental fountain which is in or near a fish-pond and whose purpose is to supply sufficient oxygen to the water in the pond in order to keep the fish healthy	<ul style="list-style-type: none"> None 	To operate water features with religious significance	
9) Cleaning walls or windows of domestic premises using a hosepipe	Using a hosepipe to clean the walls or windows of domestic premises for health or safety reasons	<ul style="list-style-type: none"> To Priority Services customers Commercial cleaning 	<ul style="list-style-type: none"> To customers on the company's vulnerable customers list who have mobility issues but are not in possession of a blue badge. For the removal of graffiti Where very low water use technologies are employed and approved by the water company 	<ul style="list-style-type: none"> The use of water-fed poles for window cleaning at height is permitted under the health and safety statutory exception The restrictions do not apply where the cleaning apparatus is not connected to mains supply

Temporary Use Ban category	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
10) Cleaning paths or patios using a hosepipe	Using a hosepipe to clean paths or patios for health and safety reasons	<ul style="list-style-type: none"> To Priority Services customers Commercial cleaning 	<ul style="list-style-type: none"> To customers on the company's vulnerable customers list who have mobility issues but are not in possession of a blue badge. For the removal of graffiti Where very low water use technologies are employed and approved by the water company 	
11) Cleaning other artificial outdoor surfaces using a hosepipe	Using a hosepipe to clean an artificial outdoor surface for health or safety reasons	<ul style="list-style-type: none"> To Priority Services customers Commercial cleaning 	<ul style="list-style-type: none"> To customers on the company's vulnerable customers list who have mobility issues but are not in possession of a blue badge <ul style="list-style-type: none"> For the removal of graffiti Where very low water use technologies are employed and approved by the water company 	<ul style="list-style-type: none"> The use of water-fed poles for window cleaning at height is permitted under the health and safety statutory exception The restrictions do not apply where the cleaning apparatus is not connected to mains supply

Table 3 Drought order exceptions

Drought order purpose of use	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
Purpose 1: watering outdoor plants on commercial premises	The purpose specified does not include watering plants that are: (a) grown or kept for sale or commercial use; or (b) part of a National Plant Collection or temporary garden or flower display.	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Use of an approved drip or trickle irrigation system fitted with a PRV and timer Watering newly-bought plants 	
Purpose 2: filling or maintaining a non-domestic swimming or paddling pool	The purpose does not include: (a) filling or maintaining a pool that is open to the public; (b) filling or maintaining a pool where necessary in the course of its construction; (c) filling or maintaining a pool using a hand-held container which is filled with water drawn	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Swimming pools serving industrial training if considered justified Swimming (including inflatable) pools with covers Pools with religious significance Pools fitted with approved water 	<ul style="list-style-type: none"> Hot tubs are not classed as pools Pools with religious significance are not domestic pools Pools used by school pupils for swimming

Drought order purpose of use	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
	<p>directly from a tap;</p> <p>(d) filling or maintaining a pool that is designed, constructed or adapted for use in the course of a</p> <p>programme of medical treatment;</p> <p>(e) filling or maintaining a pool that is used for the purpose of decontaminating animals from infections or disease;</p> <p>(f) filling or maintaining a pool that is used in the course of a programme of veterinary treatment; (g) filling or maintaining a pool in which fish or other aquatic animals are being reared or kept in captivity;</p> <p>(h) filling or maintaining a pool that is for use by pupils of a school for school swimming lessons. Note that a pool is not open to the public if it may only be used by paying members of an affiliated club or organisation.</p>		<p>conservation or recycling systems</p> <ul style="list-style-type: none"> • Pools that are subject to significant repair and renovation 	<p>lessons should be excluded: they are covered by Drought Order legislation</p>
Purpose 3: filling or maintaining a pond	<p>The purpose does not include:</p> <p>(a) filling or maintaining a pond in which fish or other aquatic animals are being reared or kept in captivity</p> <p>filling or maintaining a pond using a hand-held container which is filled with water drawn directly from a tap</p>	<ul style="list-style-type: none"> • To Priority Services customers 	<ul style="list-style-type: none"> • To customers on the company's Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge 	
Purpose 4: operating a mechanical vehicle-washer	<p>Operating a mechanical vehicle-washer for health or safety reasons</p>	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Washers which recycle water and thus use less than 23 litres per wash • On biosecurity grounds 	
Purpose 5: cleaning any vehicle, boat, aircraft or railway rolling stock	<p>Cleaning any vehicle, boat, aircraft or railway rolling stock for health or safety reasons</p>	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Low water use technologies • Small businesses whose sole operations are cleaning of vehicles using hosepipes • Those using vessels as a 	

Drought order purpose of use	Statutory exception	Discretionary universal exception	Suggested discretionary concessional exception	Notes
			primary residence <ul style="list-style-type: none"> Cases where fouling of hulls causes increased fuel consumption Removal of graffiti To prevent or control the spread of non-native and or invasive species 	
Purpose 6: cleaning non-domestic premises	Cleaning of any exterior part of a non-domestic building or a non-domestic wall for health or safety reasons	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Small businesses whose sole operations are cleaning of nondomestic buildings using hosepipes Low water use technologies Removal of graffiti 	
Purpose 7: cleaning a window of a non-domestic building	Cleaning a window of a non-domestic building using a hosepipe for health or safety reasons	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Small businesses whose sole operations are cleaning of non-domestic buildings using hosepipes 	
Purpose 8: cleaning industrial plant	Cleaning industrial plant using a hosepipe for health or safety reasons	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> For the removal of graffiti 	
Purpose 9: suppressing dust	Suppressing dust using a hosepipe for health or safety reasons	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	
Purpose 10: operating cisterns (in unoccupied buildings)	None	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	

Water use restrictions will be lifted when it is deemed that water resources have returned to a normal level of risk and will follow the statutory process as outlined in the Water Industry Act 1991 and Water Resources Act 1991 as appropriate. Notice of the lifting of water use restrictions will be given in the same manner as when they are imposed i.e. advertised in two newspapers and on our website.

New Appointment and variation (NAVs) and licensed/appointed suppliers operating in our area, operate under their own instrument of appointment; as such we have no control over demand restrictions imposed on their customers,

however we would work closely with them during dry weather. We currently have one NAV in our area (Leep Water Networks Ltd, formerly Peel Water Networks Ltd.) and have eight licensed/appointed suppliers operating in our area. During the 2010 drought, we agreed with Peel Water Networks Ltd that they would mirror the restrictions imposed by us, and Leep Water Networks Ltd.'s Final Drought Plan 2018 mirrors our approach to drought actions (www.leeputilities.co.uk/s/Leep_Water_Final_Drought-Plan-2018_100620.pdf). In any future drought event we would seek to reach similar agreements with any inset appointees or licensed/appointed suppliers operating in our area.

4 Benefits of demand side options

Our estimates of the demand savings which may be achieved from the different types of water use restrictions are summarised in Table 4 and are discussed further in the following sections. It is important to caveat that there are uncertainties attached with the anticipated savings however continuous monitoring will be undertaken during prolonged dry weather in order to test the success of demand actions. Anticipated savings in table 5 throughout the period are mentioned below.

Table 4 Estimated seasonal demand savings - not cumulative

Drought Level	Water use restriction type	Agreed Savings	
		Summer (Apr – Sep)	Winter (Oct – Mar)
1	Further public communications and voluntary use constraints	2%	1%
2	TUBs	3%	0%
3	Drought Order Restricting Non Essential Use	5%	5%

It is important to recognise that the percentage savings in demand, which can be achieved by implementing water use restrictions, are best estimates and are subject to a high degree of uncertainty. This uncertainty arises because there have only been a small number of instances where each type of water use restriction has been implemented to date (the last restrictions on non-essential use were in 2006), generating a relatively small dataset upon which to base demand saving estimates. There are also statutory exceptions, particularly in relation to Health and Safety, which are universally applied and would impact the projected savings further. Their effectiveness is also dependent on customer behaviour and other factors, such as the weather, timing within the year and the influence of holidays and/or major events. Despite this uncertainty, the benefits of water use restrictions are apparent during drought events because they play an integral role in slowing down the rate at which demand increases, in attenuating peaks in demand, and in reducing the overall amount of demand.

In order to base our assumed demand savings on the best available evidence, for this update of our Drought Plan we have undertaken a full technical review of how water efficiency, Temporary Use Bans and other water use restrictions are represented in our water resources system simulation models. This has included a review of the latest available evidence, to ensure that our assumptions of demand savings align with the rest of the water industry and with our own historic data sets (Table 5). Our review included:

- Our own experience of implementing water use restrictions in 1995/96, 2010 and 2018 (voluntary reductions only in 2018);
- Evidence from a study commissioned in 2019 to examine the influence of voluntary water use reductions and a Temporary Use Ban representation period during the dry weather of summer 2018; and
- Evidence from other water companies' experience and relevant UKWIR research studies.

Table 5: Comparison of demand savings with other water companies

Drought Level	Demand management actions	Literature review	Other Water Companies	Measured reduction at United Utilities	Recommended demand saving
1	Further public communications and voluntary use constraints	3-5% UKWIR	(1-3% average range) Severn Trent (0.5%) Yorkshire Water (2%)	0-2% (2018)	2% (1% October to March) 1% saving will only occur during a very particular historical drought where it has been followed by a dry winter (e.g.1995/96)
2	Temporary Use Ban	3-5% UKWIR	(1.7-5.1% average) Severn Trent (up to 5%) Yorkshire Water (up to 5.7%)	2% at start of representation period in 2018. 3-5% in 1995	3% (5% Including voluntary saving) Agile Communications target
3	Non-essential use ban	0.2 %	(5.5% average) Anglian (14-20%) Severn Trent (up to 5%) Yorkshire Water (0.8 %)	0.2% in 1995	5% (10% Including saving from voluntary savings and Temporary Use Ban)

From this information, we have developed the customer demand savings summarised in Table 4.

It is important to be able to measure these demand savings on an operational basis. The method by which we will do this is described in section 4.5.

4.1 Demand savings from leakage and pressure management

Savings made through enhanced leakage detection and repair will vary across the region and will depend upon the situation in other regions of the country, the location and severity of the drought, the timescale for implementation of the action etc. Enhanced leakage detection and repair would be targeted to those areas where it is considered appropriate, and where the greatest savings can be achieved. Based on our experience in 2018, we estimate that there could be a potential saving of up to 0.45% (8.9 MI/d).

It is important not to place too much reliance on leakage detection and repair achieving a predefined demand reduction since the magnitude of any reduction is also influenced by a variety of circumstances including soil moisture deficit, leakage levels at the time and the availability of leak detection and repair resources. Pressure management in the water distribution network is a key aspect of leakage management.

Droughts can increase leak breakout rates as there is a link between soil-moisture deficit and increasing leakage levels, for example, due to increased subsidence of soils. In this event, additional resources are needed to simply hold leakage steady and the benefit of significant increase to our leakage control activities would be to minimise

increases in leakage which might otherwise occur. Therefore, enhanced leakage detection and repair may not result in a reduction in leakage levels, but rather reduce the increase that would otherwise have occurred.

Reducing water pressure could potentially save up to 0.25% (4.8 MI/d) at level 1, depending on how severe the drought is and the size and number of low-risk areas where pressure could be reduced. As a drought progresses, we will increase targeted pressure reduction where possible and which could provide potential savings of up to 1.7% (34 MI/d) at level 3. We are continually trying to optimise the water pressure in our network, so the benefits of reductions will reduce over time. These actions may not result in demand visually reducing, however they will reduce demand compared to what it would have been if the action wasn't undertaken. For example demand may go up by a 100 MI/d due to various factors and the level 1 pressure action would mean it would only increase by 4.8% (95.2 MI/d).

It should be noted that the leakage and pressure management demand savings described are maximum benefits. These will become increasingly difficult to attain as we reduce leakage in line with our performance targets.

4.2 Demand savings from voluntary water use restraint

The saving associated with a campaign for voluntary water use restraint is estimated to be around 2% of the peak dry weather demand expected during a summer drought period, based on a study of demand patterns during summer 2018. This is lower than our previously assumed savings of 3% based on our experiences in 1995/96 and 2010, however there have been significant changes in our customer base since that time (i.e. an increase in the proportion of metered to unmetered customers) and an improvement in our understanding of weather-related demand through regression modelling. Demand savings experienced by other water companies are in the order of 1.3% to 4.2% (on average), therefore an assumed saving of 2% is broadly in line with the UK water industry. During winter drought situations, we will continue to use enhanced communications to reinforce how customers can help to save water and use water wisely inside the home, for example by lagging pipes to prevent burst pipes in freezing temperatures. Therefore, we estimate up to a 2% saving of peak demand during the summer and a 1% saving during the winter from voluntary water use reduction. This assumed saving includes saving from Agile communications however we will aspire for higher demand savings in order to delay the likelihood (and potentially reduce the chance) of a Temporary Use Ban. This has been demonstrated through sensitivity analysis which has shown that a demand saving at level 1 of 2% will reduce the risk of Temporary Use Ban being implemented from 1 in 20 years to 1 in 23 years (See Appendix E for more information on stress testing). This is an equivalent improvement in service level of around 10-15%.

Whilst our current assumption of 2% demand saving is based on historical data. Our ambition is to delay Temporary Use Ban implementation as much as possible through Agile Communications, where greater emphasis will be made on voluntary use restrictions through our behaviour change strategies in order to make the demand savings we need.

4.3 Demand savings from Temporary Use Bans

As per previous section, we will endeavour to use voluntary use restraint through Agile Communications to make the demand savings we require. In the event that a drought is more severe (or demand is especially high) and that a Temporary Use Ban cannot be avoided, the assumed demand savings are shown below.

Our current model assumption is based on a study of 2018 demand patterns and evidence from previous drought (e.g. 1995) which showed an additional demand saving (over and above that achieved from voluntary use restraint) of around 2% to 3% when a Temporary Use Ban was announced. Therefore, we estimate a peak demand saving from a Temporary Use Ban to be 3% over and above the 2% saving from voluntary use restraint (5% saving in total), during the summer months of April to September inclusive. The cumulative 5% demand saving from the implementation of

a call for voluntary restraint and a Temporary Use Ban is well aligned with the UK water industry and in particular with neighbouring companies: Severn Trent Water, Yorkshire Water and Dŵr Cymru Welsh Water. Whilst the overall cumulative saving of 5% has remained the same compared to the 2018 drought plan, our estimate of the Temporary Use Ban benefit (relative to the voluntary use benefit) has increased from 2% to 3%.

We have assumed that there are no further savings to be achieved from a Temporary Use Ban during the winter months of October to March inclusive, for the reasons as outlined in Section 3.2.

4.4 Demand savings from drought order to ban non-essential use

Evidence from the 1995/96 drought indicated that very small demand savings were achieved from a drought order (approximately 0.2% demand reduction). The benefits achieved in any subsequent drought event will depend upon various factors including: the time of year; weather conditions; the supply area concerned; and the proportion of demand accounted for by the water uses prescribed in the Drought Direction 2011 (which replaced the Drought Direction of 1991). Comparisons with neighbouring water companies' assumed savings and industry research found our anticipated saving to be the lowest, and suggested that savings would be likely to be higher (typically around 5%). Our assumption is that a drought order will provide an additional 5% demand saving across the year (a cumulative saving of 10% including voluntary reduction and temporary use ban savings, during the summer months of April to September inclusive). This brings us in line with the UK water industry while, as a precautionary approach, still being lower than the potential saving of 18.5% suggested by UKWIR research.

Nevertheless, a drought order would still need to be compared with the effectiveness of other drought actions for protecting essential water supplies. Within drought Level 3, an assessment of the relative merits of a drought order to manage customer demand in a particular drought event would be discussed with our environmental regulators and the Consumer Council for Water.

4.5 Measuring the benefits

Measuring the benefits of our demand side options is critical in allowing us to adapt and target our approach to reducing demand for water as effectively as possible. In order to continually refine and improve our understanding of the benefits of demand side options, in any future dry weather events, we will take steps to increase monitoring in order to assess the impact on customer demand. This is an important element of our activity, both during and after a drought, in order to improve our estimates of the demand savings from demand side options.

As part of normal operations, we undertake a weekly review of demand levels to support our production planning and other operational activities (e.g. activities related to our leakage and water efficiency programmes). We monitor demand for water at a resource zone level, as well as at a demand monitoring zone² (DMZ) level and a district metered area³ (DMA) level. These demands are also retrospectively analysed to better understand the factors that influence demand for water (e.g. weather patterns).

In addition to our weekly review of demand levels, we collate and analyse data from customer meters to gain further insight into the relative movement of the components of demand for water.

- Automatic meter reading (AMR) data from household and non-household customer meters; and
- Continuously logged data from non-household customer meters.

² We have 33 demand monitoring zones and they align quite closely to the historic council boundaries

³ These are the same areas used for leakage reporting and targeting – we have around 2,600 active DMAs

We are combining more of this information together in operational and management dashboards to allow us to have a full picture of consumption/usage and leakage. This, combined with analytics and customer research into water using behaviour, will allow us to better quantify (and reduce) demand-related uncertainties (see Table 6). Thereby, improving the estimation of demand side option benefits during dry weather. The analysis and reporting of demand data will be fed back to our communications team to help inform the effectiveness of demand saving measures allowing us adapt and tailor our approach. This is part of our Agile Communication strategy (see section 2.4.2 in main document).

Table 6 Key demand-related uncertainties that can impact our understanding of the benefits of demand side options on consumption/usage

Uncertainty	Context	How we will treat uncertainty
Behaviour	We are trying to measure the impact of changes in water using behaviour, however this behaviour is also influenced by numerous external factors (for example, the impacts of the COVID-19 pandemic)	Detailed monitoring and analysis, combined with customer research to better understand water using behaviours
Leakage	Changes in leakage will directly impact demand for water	Use district metered area (DMA) leakage data to understand changes in leakage over the course of the dry weather event
Weather	Linked to behaviour, hotter and/or dryer weather often leads to increases in consumption/usage	We can understand the impacts of weather on demand for water using weather-demand models, combined with customer research to better understand water using behaviours

5 Demand side options

Option Name: Drought publicity	
Trigger/previous action	On reaching Level 1 we would enhance our water conservation/efficiency publicity programme to customers. At each subsequent level the communications to customers would reflect the actions associated with that trigger (e.g. at Level 1, a campaign for voluntary water use restraint may commence using our Agile Communications approach). Concurrent actions could include rezoning of water supplies
Demand Saving MI/d unless stated otherwise	The saving associated with drought publicity is difficult to quantify separately to the impact on demand resulting from the implementation of water use restrictions (see following drought option forms). We believe that a combination of increased publicity and a campaign for voluntary water use restraint could result in a saving of 2% of the average dry weather demand expected during a drought period. This is based on experience of hosepipe bans introduced by us in 1995/96, 2010 and the representation period in 2018. It is important not to place too much reliance on drought publicity achieving a predefined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances, such as uptake of publicity by local and national media
Demand saving Percentage reduction on peak week demand	The saving associated with a combination of increased publicity and campaign for voluntary water use restraint has been estimated to be 2% of the average dry weather demand expected during the drought period. This is based on experience of hosepipe bans introduced by us in 1995/96 and 2010 and 2018
Location Area affected or whole supply zone	Drought publicity would be targeted to those areas where it is considered appropriate, however it is likely that the effects would be seen in neighbouring areas
Implementation timetable	<p>As part of our normal operation we take an active role in promoting the efficient use of water to all types of household and non-household customers. A range of measures are undertaken including many publicity, education and advisory activities.</p> <p>Drought publicity is relevant at all times of year however the nature of the publicity depends on a variety of circumstances, particularly the time of year and recent weather. During the winter, publicity will focus on providing advice to customers to use water wisely inside the home and to lag their pipes to prevent bursts in freezing temperatures. Whereas in the spring/summer, publicity would concentrate on the use of water for garden watering etc.</p> <p>Drought publicity would continue for the duration of a drought event, including drought recovery. It is important that following a drought, customers are thanked for their role in helping the water situation</p> <p>A substantial customer communications programme would accompany the implementation of a Temporary Use Ban to highlight the reasons for the restriction, the need to comply to conserve water, the details of the restriction, to explain the actions being taken by us to protect water supplies and to promote Leakline. A detailed communications plan will be prepared in preparation for the lead up to Level 1 (a campaign for voluntary water use restraint)</p> <p>We will also communicate with the Consumer Council for Water, Ofwat and other regulators and bodies as appropriate. Neighbouring water companies, licensed suppliers and inset appointees will also be informed in case of any queries from their own customers. We will also seek to provide a telephone information line or similar service to deal with customer queries, and this will be publicised as part of the communications programme</p>
Permissions required and constraints	None

Risks associated with option	It is important not to place reliance on drought publicity achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances.
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Option Name: Enhanced leakage detection and repair

Levels/previous action	<p>On reaching level 1, we will enhance our leakage detection and repair activities and will be targeted to those areas where it is considered appropriate, and where the greatest savings can be achieved.</p> <p>Preceding actions could include rezoning of water supplies and customer communication actions.</p>
Demand Saving MI/d unless stated otherwise	<p>Savings made through enhanced leakage detection and repair will vary across the region and will depend upon the situation in other regions of the country, the location and severity of the drought, the timescale for implementation of the action etc. We estimate that there could be a potential saving of up to 8.9 MI/d.</p> <p>It is important not to place too much reliance on leakage detection and repair achieving a predefined demand reduction since the magnitude of any reduction is also influenced by a variety of circumstances including soil moisture deficit, leakage levels at the time and the availability of leak detection and repair resources. Pressure management in the water distribution network is a key aspect of leakage management</p> <p>Droughts can increase leak breakout rates as there is a link between soil-moisture deficit and increasing leakage levels, for example, due to increased subsidence of soils. In this event, additional resources are needed to simply hold leakage steady and the benefit of significant increase to our leakage control activities would be to minimise increases in leakage which might otherwise occur. Therefore, enhanced leakage detection and repair may not result in a reduction in leakage levels, but rather reduce the increase that would otherwise have occurred</p>
Demand Saving Percentage reduction on peak week demand	Potential saving of up to 8.9 MI/d, however enhanced leakage detection and repair may not result in a reduction in leakage levels, but rather reduce the increase that would otherwise have occurred.
Location Area affected or whole supply zone	Enhanced leakage detection and repair would be targeted to those areas where it is considered appropriate, and where the greatest savings can be achieved.
Implementation timetable	<p>Leakage control is a key activity in managing the balance between water supply and water demand. Our long-term programme for leakage reduction is outlined in our business plan in line with our Water Resources Management Plan. This ensures that we manage leakage at a sustainable and economic level and achieve our target set by Ofwat. Whilst leakage control is a long-term activity, during a drought situation we will make every effort to further reduce leakage beyond our Ofwat target through additional leakage detection and repair over and above our normal efforts. The extent to which, during a drought, our intensive efforts can further reduce leakage will depend on leakage levels and weather conditions at the time.</p> <p>Enhanced leakage detection and repair is relevant at all times of year however the success of such activity depends on a variety of circumstances, particularly the time of year and ground conditions. Enhanced leakage detection and repair would continue for the duration of a drought event.</p>
Permissions required and constraints	Liaise with councils and Highways Agency to reduce notice periods required before a repair can be carried out in the highway
Risks associated with option	It is important not to place reliance on enhanced leakage detection and repair achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances i.e. leakage levels and weather conditions at the time

Option Name: Campaign for voluntary water use restraint

Levels/previous action	<p>In order to encourage a reduction in customer demand for water, we will commence a campaign for voluntary water use restraint at drought level 1. The message will be conveyed through the use of press releases and coverage on our website and social media channels. This action will be done in accordance with our Agile Communications approach.</p> <p>However, before deciding to commence a campaign for voluntary water use restraint, we would assess actual customer demand data to establish whether sufficient reductions in demand were being achieved from the preceding drought publicity.</p> <p>Preceding actions could include rezoning of water supplies; bringing water sources online; customer communication actions.</p>
Demand Saving Ml/d unless stated otherwise	<p>Before commencing a campaign for voluntary water use restraint (particularly on the use of hosepipes connected to the mains water supply for domestic purposes), we will consider carefully what impact it will have on current and forecast levels of demand. It is expected that this will achieve the highest saving of demand from the beginning to reduce the risk of having any further restrictions.</p> <p>The saving associated with a campaign for voluntary water use restraint has been estimated to be 2% of the average dry weather demand expected during the drought period. This is based on experience in 1995/96, 2010 and 2018, however it is possible that greater demand savings could be realised in a future drought event.</p> <p>Whilst our current assumption of 2% demand saving is based on historical data. Our ambition is to delay TUBs implementation as much as possible through Agile Communications, where greater emphasis will be made on voluntary use restrictions through our behaviour change strategies in order to make the demand savings we need.</p> <p>It needs to be appreciated that the success of voluntary use restraint is influenced by a variety of circumstances, such as the weather (particularly temperature), soil moisture deficit, political climate and uptake of publicity by local and national media. All of these factors play a part in reducing demand.</p>
Demand Saving Percentage reduction on peak week demand	<p>The saving associated with a campaign for voluntary water use restraint has been estimated to be 2% of the average dry weather demand expected during the drought period. This is based on experience in 1995/96, 2010 and 2018.</p>
Location Area affected or whole supply zone	<p>A campaign for voluntary water use restraint will only be introduced in those areas where it is considered appropriate, as in the case of the 2010 and 2018 drought where voluntary use restraint was only implemented in the Integrated Resource Zone.</p>
Implementation timetable	<p>Initiating a campaign for voluntary water use restraint would form the first step in the implementation of a Temporary Use Ban. The representation period for a Temporary Use Ban would be initiated at drought level 1, and would be commenced between 2 and 5 days prior to the implementation of a Temporary Use Ban depending on the situation being experienced. However, we would still aim to delay TUBs implementation as much as possible through Agile Communications.</p> <p>In previous drought plans, the announcement of a Temporary Use Ban was 3 weeks prior to implementation (representation period). However, following our experience in the dry weather event of summer 2018, we reviewed our Temporary Use Ban processes and updated this along with several other changes to the Drought Plan, which were amended through our Annual Water Resources Review of 2018/19. Our new approach is to initiate a 2 to 5 day notification period for a Temporary Use Ban, in order to increase flexibility, provide a clearer message to customers and improve confidence in our projections of crossing drought levels to prevent unnecessary impact to customers. The representation period of three weeks is maintained, however, to ensure that those customers who should be exempt from restrictions still have sufficient time to represent themselves.</p> <p>This would be implemented during the summer (April to September). We do not plan to implement a campaign for voluntary water use restraint during the winter (October to March). Instead, we will focus attention in winter on publicity to advise customers to use water wisely inside the home and to lag their pipes to prevent bursts in freezing temperatures. The duration of a campaign for voluntary water use restraint would depend on the current situation but there is no limit on the length of time it could be in place for.</p> <p>Duration of a campaign for voluntary water use restraint will depend on the particular circumstances of a drought event. In 1995/96 a hosepipe ban for example was in place for 14 months and in 2010 one was in place for just 42 days.</p> <p>A substantial customer communications programme would accompany a campaign for voluntary water use restraint to highlight the reasons it is needed to help conserve water and to explain the actions being taken by us to protect water supplies and to promote Leakline. It would also explain details of the Temporary Use Ban restrictions, the exception process and detail the timings of the proposed Temporary Use Ban.</p> <p>We will also communicate with the Consumer Council for Water, Ofwat and other regulators and bodies as appropriate. Neighbouring water companies, licensed suppliers and inset appointees will also be informed in case of any queries from their own customers. We will also seek to provide a telephone information line or similar service to deal with customer</p>

	<p>queries, and this will be publicised as part of the communications programme.</p> <p>There will be no prior notification for the public for a campaign for voluntary water use restraint, however communications leading up to it will highlight the need for it should customer demand not reduce, and drought permits/orders continue to be required.</p>
Permissions required and constraints	<p>The decision to commence a campaign for voluntary water use restraint rests with the board of United Utilities. The decision will be taken at the same time as the decision to implement a Temporary Use Ban. This will be subject to satisfying the serious deficiency of water available for distribution criteria in Section 76 of the Water Industry Act 1991.</p> <p>We would consult with the Consumer Council for Water and the Environment Agency before implementing a campaign for voluntary water use restraint. We would also have regular communications with these bodies as well as others including Ofwat, Drinking Water Inspectorate, Natural England, Defra etc.</p>
Risks associated with option	<p>It is important not to place reliance on a campaign for voluntary water use restraint achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances. It is important to consider the credibility of any communications with customers.</p>

Option Name: Temporary Use Ban

Levels/previous action	<p>In order for us to implement a Temporary Use Ban we must be satisfied that we are “experiencing, or may experience, a serious shortage of water for distribution”. There is no formal definition of this in the legislation but notably there is no explicit link to drought. In these circumstances we will give strong consideration to implementing a Temporary Use Ban at Level 2 during the summer (April to September), in order to reduce external household demand. Due to the level of connectivity in our system, we would apply a TUB across each of our Water Resource Zones rather than locally.</p> <p>Before deciding to introduce a Temporary Use Ban, we would assess actual customer demand data to establish whether sufficient reductions in demand were being achieved from the campaign for voluntary water use restraint to meet our commitment to customers to not have a Temporary Use Ban in place any earlier than necessary.</p>
Demand Saving Ml/d unless stated otherwise	<p>Before implementing a Temporary Use Ban we will consider carefully what impact it will have on current and forecast levels of demand. We would implement all options available under Section 76 of the Water Industry Act. This includes the prohibition of the following:</p> <ul style="list-style-type: none"> • Watering a garden using a hosepipe • Cleaning a private motor-vehicle using a hosepipe • Watering plants on domestic or other non-commercial premises using a hosepipe • Cleaning a private leisure boat using a hosepipe • Filling or maintaining a domestic swimming or paddling pool • Drawing water, using a hosepipe, for domestic recreational use • Filling or maintaining a domestic pond using a hosepipe • Filling or maintaining an ornamental fountain • Cleaning walls, or windows, of domestic premises using a hosepipe • Cleaning paths or patios using a hosepipe • Cleaning other artificial outdoor surfaces using a hosepipe. <p>The saving associated with water use restrictions has been estimated to be 3% of the average dry weather demand expected during the drought period (5% when including voluntary use restraint during the summer months of April to September inclusive). This is based on experience of hosepipe bans introduced by us in 1995/96, 2010 and to a less a degree in 2018, however it is possible that greater demand savings could be realised in a future drought event. We have not planned for a further reduction of demand between a campaign for voluntary water use restraint and a Temporary Use Ban</p>

	It is important not to place reliance on a water use restriction achieving a predefined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances, such as temperature, soil moisture deficit, political climate and uptake of publicity by local and national media, which all play a part in reducing demand.
Demand Saving Percentage reduction on peak week demand	During the 2010 drought, implementation of the hosepipe ban resulted in a reduction in demand of approximately 3% - this is the assumption on which our plans have been based upon. Further evidence in 2018 suggested a similar amount of saving could be achieved even though a TUB did not formally commence due to changes in the weather and reduction in demand.
Location Area affected or whole supply zone	A Temporary Use Ban will only be introduced in those areas where it is considered appropriate, as in the case of 2010 drought where the hosepipe ban was only implemented in the Integrated Resource Zone.
Implementation timetable	<p>In order for us to implement a Temporary Use Ban we must be satisfied that we are “experiencing, or may experience, a serious shortage of water for distribution”. There is no formal definition of this in the legislation but notably there is no explicit link to drought. In these circumstances we will give strong consideration to implementing a Temporary Use Ban at Level 2 during the summer (April to September), in order to reduce external household demand. Due to the level of connectivity in our system, we would apply a TUB across each of our Water Resource Zones rather than locally.</p> <p>The benefit of demand restrictions during the winter is negligible given the limited use of hosepipes for garden watering where most usage is seen. Therefore, we believe that introducing a Temporary Use Ban in winter and autumn months is not appropriate as it will not result in a reduction in demand for water. Consequently, we do not plan to introduce a Temporary Use Ban during the winter period (October to March). However, we may continue water use restrictions implemented during the summer into the winter months if there is a high risk of restrictions being required the following summer. Similarly, if storage is below the relevant levels only for the Dee, and the storage is not being used to regulate flows in the river, then we may decide not to introduce water use restrictions as this may not benefit storage in the Dee regulating reservoirs. However if there were wider zonal benefits, or a forecast that Dee regulation may be imposed, we would consider implementing water use restrictions.</p> <p>Duration of the restrictions will depend on the particular circumstances of a drought event. In 1995/96 the hosepipe ban was in place for 14 months and in 2010 one was in place for just 42 days. During 2018, we commenced the representation period for a TUB, however was removed after rainfall arrived and demand subsequently reduced.</p> <p>A substantial customer communications programme would accompany the implementation of a Temporary Use Ban to highlight the reasons for the restriction, the need to comply to conserve water, the details of the restriction, to explain the actions being taken by us to protect water supplies and to promote Leakline. It would also explain the details of any exceptions available to customers and the process by which a customer may apply for an exception.</p> <p>We will also communicate with the Consumer Council for Water, Ofwat and other regulators and bodies as appropriate. Neighbouring water companies, licensed suppliers and Inset Appointees will also be informed in case of any queries from their own customers. We will also seek to provide a telephone information line or similar service to deal with customer queries, and this will be publicised as part of the communications programme.</p> <p>There will be 2-5 days notification for the public before the implementation of a Temporary Use Ban, however communications leading up to the restriction will signal our intention to introduce a Temporary Use Ban should demand not reduce and drought permits/orders continue to be required.</p>
Permissions required and constraints	<p>The decision to introduce a Temporary Use Ban rests with the board of United Utilities subject to satisfying the serious deficiency of water available for distribution criteria in Section 76 of the Water Industry Act 1991.</p> <p>Before implementing a Temporary Use Ban, we would consult with the Consumer Council for Water and the Environment Agency. We would have regular communications with these bodies, as well as Ofwat, Drinking Water Inspectorate, Natural England, Defra and other relevant organisations.</p> <p>We have developed a customer code of practice that sets out our approach to enforcement of water use restrictions on customers.</p>
Risks associated with option	It is important not to place reliance on a Temporary Use Ban achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances. It is important to consider the credibility of any communications with customers.

Option Name: Ordinary drought order (non-essential use ban)

Levels/previous action	<p>Following the implementation of a Temporary Use Ban (after Level 3 during the summer (April to September)) we will carefully consider the merits of implementing a drought order to ban non-essential uses of water. This would follow a full assessment of the potential demand savings and the socio-economic impacts such a restriction could have in the North West.</p> <p>A campaign for voluntary water use restraint and a Temporary Use Ban (primarily affecting domestic customers) will always be introduced before a drought order to ban non-essential use (primarily affecting commercial customers) is applied for. This approach is in line with the UKWIR Code of Practice and Guidance for Water Companies on Water Use Restrictions (2013) (see Section 3.7 in the UKWIR document).</p> <p>Preceding actions could include rezoning of water supplies; bringing water sources online; customer communication actions etc.</p> <p>The implementation of a drought order to ban non-essential use may not necessarily be associated with drought permit/order applications depending on factors such as the likely benefit of such an action.</p>
Demand Saving Ml/d unless stated otherwise	<p>The benefit will depend upon various factors including the time of year, weather conditions, the supply area concerned and the proportion of demand accounted for by the water uses prescribed in the Drought Direction 2011 (which replaced the Drought Direction of 1991). It will be important to carefully evaluate the possible demand benefits before deciding to implement the ban.</p> <p>In 1995/96 we sought to prohibit the full set of uses specified in the Drought Direction 1991 with exceptions applied to automatic car washes that recycled the water. The 1995/96 drought order to ban non-essential use was in force in Greater Manchester, most of Lancashire and south Cumbria from 9 October 1995 to 2 April 1996, affecting a population of 4.1 million. In evaluating the impact of this on demand, it was concluded that it was not a direct demand management tool. The quantity of water saved was very small (about 0.2% of regional supply) and no significant direct impact on demand was observed. However, comparisons with neighbouring water companies' assumed savings and industry research found United Utilities' anticipated saving to be the lowest, and suggested that savings would be likely to be higher (typically around 5%). Our assumption is that a drought order will provide an additional 5% demand saving across the year (a cumulative saving of 10% including voluntary reduction and temporary use ban savings, during the summer months of April to September inclusive).</p> <p>It is important not to place reliance on a drought order achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances.</p>
Demand Saving Percentage reduction on peak week demand	<p>Based on the savings observed during the 1995-96 drought, we would expect to see a reduction of 0.2% in demand. However this saving was achieved later in 1995 after the warmest weather. For that reason (and comparisons with neighbouring water companies), we would anticipate a saving of 5%.</p>
Location Area affected or whole supply zone	<p>A drought order to ban non-essential use will only be introduced in those areas where it is considered appropriate, as in the case of the 1995-96 drought where the ban was only implemented in parts of the region.</p>
Implementation timetable	<p>Following the implementation of a Temporary Use Ban (after Level 3 during the summer, i.e. April to September), we will carefully consider the merits of implementing a drought order to ban non-essential uses of water. This would follow a full assessment of the potential demand savings and the socio-economic impacts such a restriction could have in the North West. A drought order will only be introduced in those areas where it is considered appropriate. It will not always be the case that a drought order will be applied across the whole of a resource zone.</p> <p>A substantial customer communications programme would accompany the implementation of a drought order to ban non-essential use to highlight the reasons for the restriction, the need to comply to conserve water, the details of the restriction, to explain the actions being taken by us to protect water supplies and to promote Leakline.</p> <p>We will also communicate with the Consumer Council for Water, Ofwat and other regulators and bodies as appropriate. Neighbouring water companies, licensed suppliers and Inset Appointees will also be informed in case of any queries from their own customers. We will also seek to provide a telephone information line or similar service to deal with customer queries, and this will be publicised as part of the communications programme.</p> <p>The preparation time for a drought order is relatively prolonged due to the need for application to the Secretary of State. There is no statutory time period for the Secretary of State to make a decision. Defra (2015) advise that applicants should allow 28 days for an application to be determined if there are no objections or complications.</p> <p>A drought order can last up to six months, though it can be amended to last up to a maximum of one year. We will have a drought order to ban non-essential use in place no longer than</p>

	necessary.
Permissions required and constraints	<p>The Drought Direction 2011 relates to ordinary drought orders (non-essential use ban) which are granted by the Secretary of State to restrict water use (under Section 74 of the Water Resources Act 1991). Drought orders (for non-essential use tend to cover non-domestic activities whereas Temporary Use Bans (under Section 76 of the Water Industry Act 1991) tend to cover domestic activities, although there are exceptions.</p> <p>In order to grant a drought order to ban non-essential use of water, the Secretary of State needs to be satisfied that “by reason of an exceptional shortage of rain, a serious deficiency of supplies of water in any area exists or is threatened”. This differs from a Temporary Use Ban as it is expressly linked to drought. The Secretary of State can require a public inquiry or hearing in relation to the drought order, whether or not there are objections to it.</p> <p>For drought orders to ban non-essential water use, a notice will be advertised if a drought order is granted. Due to the level of connectivity in our system, we would apply a drought order across each of our Water Resource Zones rather than locally.</p> <p>Our assessment of the relative merits of a drought order in the summer months would be discussed with the Environment Agency and the Consumer Council for Water.</p>
Risks associated with option	It is important not to place reliance on a drought order achieving a pre-defined demand reduction since the magnitude of any reduction is influenced by a variety of circumstances. There is a risk that the Secretary of State will not grant the drought order or may restrict the extent to which certain water uses are curtailed

Option Name: Pressure management

Trigger/previous action	In drought level 1, we will consider reducing the pressure in certain parts of our water network, to help reduce demand. A comprehensive assessment of customer impact and risk will be undertaken before any measures are implemented. As a drought develops, we may consider further reductions in pressure.
Deployable Output of action MI/day. Include how this is calculated	Calculated potential benefits are based on current DMA leakage levels, average zonal pressure and max property heights. In is anticipated pressure reduction at level 1 will give up to 4.8 MI/d, level 2 up to 12.6 MI/d and Level 3 up to 35.15 MI/d. This corresponds to increased targeting of pressure reduction as a drought progresses. Pressure reduction in 2018 was predicted to provide 8 MI/d benefit.
Location Area affected or whole supply zone	We would concentrate on areas that would provide the biggest demand saving benefits and where there is a low risk of impacting customers and businesses. However pressure reduction would be considered across the whole supply zone.
Implementation timetable	At drought level 1, 2 and 3.
Permissions required and constraints	No permissions required however we would concentrate on areas that would provide the biggest demand saving benefits and where there is a low risk of impacting customers and businesses.
Risks associated with option	Reduced pressure in high areas may increase the risk to disruption to service levels. However every effort will be given to avoid pressure reduction in areas where this is most likely.