

A Better Approach to UK Drought Management



Michael Gove: Water companies must 'raise the bar' on tackling leaks

Reservoir pictures show HUGE drop in water, but water chiefs STILL deny drought to hit UK

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A BETTER APPROACH TO UK DROUGHT MANAGEMENT

This thought piece is designed to help water utilities avoid headlines like these.

The problem with the current approach to Drought Management is that the burden too quickly falls on the customer. Usage restrictions of increasing severity are imposed on a public that feels they did nothing wrong. They are resentful of this. The media loves a hosepipe ban and it immediately resorts to negative headlines about leakage, dividends and bonuses. Customers and the media shift the 'blame' from hapless customers back to the water companies. No one is going to blame the weather because demand forecasting should anticipate the increasing frequency of extreme weather events, whether cold ones like Beast from the East or hot ones like the Drought of 2018. The media fails to mention the high levels of investment that the current industry structure has enabled, without which the UK's water infrastructure and supply capacity would be in much worse shape.

CURRENT APPROACH						
WATER RESOURCE	GOOD	BELOW AVERAGE	LOW	VERY LOW	EXTREMELY LOW	UNPRECEDENT-ED LEVELS
WATER COMPANY ACTION	NONE	ACTIVE MONITORING	ENCOURAGE REDUCTIONS IN USAGE	IMPOSE TEMORARY USAGE BAN	DROUGHT ORDER EXTRACT MORE	PUT IN STANDPIPES
CUSTOMER ACTION	NONE	NONE	VOLUNTARY REDUCTIONS IN USAGE	HOSEPIPE BAN	USE WATER FOR ESSENTIAL TASKS ONLY	TAKE WATER ONLY FROM STANDPIPES

What is needed is an approach in which it is the water company that acts and is seen to act to address problems that it is thought to have created through insufficient investment in capacity, leakage reduction, and resilience. The approach we propose for Drought Management is gradual reductions in pressure in the water network before usage restrictions are imposed. This means that the water company is seen to be the solver of the problems. This will reduce leakage – background leakage and bursts – avoiding leakage related criticism. It will also reduce open-tap demand with customers affected more or less equally. To enable this, Ofwat would need to exclude low pressure complaints from customers from SIM scores. Doubtless there would be some issues identified the first time this approach was applied but most of these could be addressed so that they did not recur.

PROPOSED APPROACH						
WATER RESOURCE	GOOD	BELOW AVERAGE	LOW	VERY LOW	EXTREMELY LOW	UNPRECEDENT-ED LEVELS
WATER COMPANY ACTION	ENCOURAGE REDUCTIONS IN USAGE	REDUCE PRESSURES BY 10%	REDUCE PRESSURES BY 20%	REDUCE PRESSURES BY 20%	REDUCE PRESSURES BY 30%	FURTHER PRESSURE REDUCTIONS AND RESTRICTIONS
CUSTOMER ACTION	VOLUNTARY REDUCTIONS IN USAGE	NONE	NONE	NONE	LIMIT WATER USAGE	LIMIT WATER USAGE FURTHER

Critically, the approach will buy a lot more time before any mandated restrictions would need to be imposed on customers. Time for rain to fall which, inevitably in the UK, in the end it does. It can easily be advanced or rolled back depending on the prevailing weather conditions. This would save the ignominy of cancelling a hosepipe ban days before it was due to come into effect following heavy rainfall, whilst emphasising the possibility that it might still have to be imposed if there was no further rainfall. Something of a PR disaster.

Water utilities could manually adjust pressure in the network but this would be costly and they could not reliably communicate to the public when the changes would occur. Or they could deploy Advanced Pressure Management solutions which enable them remotely to control and optimise pressures in their networks to a pre-planned schedule.

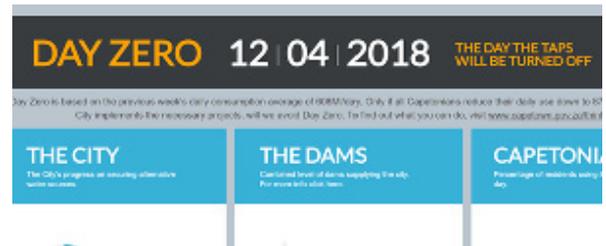
The cost to deploy Advanced Pressure Management network-wide would be in the region of £2-3m (assumes 2 million customers and 1,000 District Metered Areas), a fraction of existing pipe replacement + leakage find & fix budgets.

The ongoing benefits, in addition to the usefulness in a drought scenario are reduced leakage, bursts, energy usage and operating costs with improved asset life and better service to customers.

This technology is already deployed to some parts of some networks in the UK to hit leakage reduction targets and as a resilience tool.

CAPE TOWN

i2O's Advanced Pressure Management solution oNet has been used in Cape Town this year to significantly reduce demand and help avert what could have been the world's first major crisis in which a city ran out of water.



Day Zero – when water supplies were expected to run dry – was pushed out from March 2018 to an unspecified date in 2019 by reducing demand by 45 million litres of water per day and avoiding R1.6bn of capital expenditure.

The Demand Input reductions sought were achieved in 3 weeks rather than the 3 months that had been targeted.

UK water companies should all have this technology in place to minimise leakage and in anticipation of the increasing likelihood of drought conditions in the future. It offers them a better approach to Drought Management.