

## Water Efficiency Awards 2016

**Baroness Parminter** (right) hosted this year's event at the House of Lords in March.

Waterwise Chair, **Martin Bradbury** (below) presented the 2016 awards that are listed on page 2.

He remarked that *'this year's entries covered a huge range of companies. These included water companies, public bodies, NGOs and as well as private organisation.*

*The scale and scope of projects has continued to increase over the 10 years of the awards. The quality is now amazing'.*



The Environment Agency Chairman's Award went to Howard's Nurseries for their Self-Sufficient Water Management System.



The Essex & Suffolk team of Liz Wright, Kerri Russell and Sarah Bowerman with the award for their H2eco project. (All photos courtesy of Tim Hodges)

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Full details of each project can be found at [\[link\]](#)



# Water Efficiency Awards 2016

Category	Winner	Runner(s) up
Built Environment	Smarter Home Visit (SHV), Thames Water & Groundwork	North West Cambridge Development, South Staffs Water & University of Cambridge
Business & Industry	Bourne Leisure Holiday Home Retrofits, Northumbrian Water & Bourne Leisure Ltd	Clearwater Court Bathroom Fittings Pilot, Thames Water & Emcor
Community & Education	Water Explorer, Global Action Plan with support from HSBC Water Programme	Big Difference Scheme, Citizens Advice, Bureau & Severn Trent Water Water Efficiency Schools (WESP), Thames Water, Global Action Plan Eco Action Games and ech <sub>2</sub> o
Farming & Horticulture	Self-Sufficient Water Management System, Howard Nurseries	Rainfall and Recycled Water Reservoir System, Hilliers Nurseries
Innovation	#watersavingselfie#, Essex & Suffolk Water	Save a Bucket Load with Christine Walkden, Essex & Suffolk Water Objective monitoring of UK showering behaviour and a behavioural intervention to reduce water use in the shower, UK Water Industry Collaborative Fund and Unilever R&D
Research & Evaluation	H2eco Research & Analysis, Essex & Suffolk Water	Behavioural Economics and Water Efficiency, Essex & Suffolk Water Faith & Water, Thames Water, LSx Sustainability Exchange and University College of London
Exemplars		
England	Water is Precious (3D Street Art), Affinity Water	
Scotland	Water Efficiency Trial (WET), Scottish Water & Energy Saving Trust & Etive	
Wales	Schools Outreach Programme, Dwr Cymru Welsh Water	
Clare Ridgewell Award	Water Saving Steff, Stephanie Hurry, Affinity Water	
Environment Agency Chairman's Award	Self-Sufficient Water Management System, Howard Nurseries	

Full details of each project can be found at [\[link\]](#)



## Environment Agency

### DM bulletin review

Thank you to all those who responded to the *Demand Management Bulletin* survey. It helps us to making it more user friendly and focussed.

We are pleased to report that over 90% of respondents 'agree' or 'strongly agree' that the Bulletin '*keeps me up to date with all demand management developments*'.

Between 73% and 80% found the 'format and layout', 'number of items included', 'length of items', 'clarity of information', 'level of detail included', 'presentation as a whole' and 'frequency of publication' all as 'good' or 'excellent'.



**Jo Carson**, from the Institute of Customer Service, dealt with *Customers and Water*. The Institute collects a mass of customer information across all sectors that portrays the strong message that '*companies that had greater customer satisfaction tended to be more successful in the market place*'.



She said that a company's board should put customer service first on the agenda and have a dedicated person on the subject on the board.

Waterwise's **Jacob Tompkins** looked at *Technology Trends* and reflected on 10 years of Waterwise and the huge progress that has been made.



Water efficient technology is now mainstream in the bathroom industry. He said that he would like to see a similar shift in technology mindset in other water sectors. Indeed, Waterwise is working with the horticultural sector and starting to work with house builders to transform their sectors too.

He said that the most interesting development is the interface between Information and Communications Technology (ICT), consumers and utilities. Projects in the ICT4Water cluster [\[link\]](#) (such as iwidget and daiad, wisdom, issiwatus and watersocial) all touch on the use of technology to manage data and to democratise water.

There is a new range of micro-sensors that can be added to any water using device. They can then communicate with each other and with a mobile platform to map water use. These can be combined with apps to inform and empower customers. This is the overlap between technology and behaviour as you can layer elements onto the information.

Eventually we may see more personalised water services. Technology can be used to create a water saving culture through the development of social infrastructure.

However, the area where technology is still struggling is funding. Waterwise sees new ideas every month. Some are insane, but a few of them have huge potential. There is a massive gap, though, between a prototype stage and its marketability and there is no financial support for this. Waterwise often ends up referring people to international funders as there does not appear to be any mechanisms in the UK to support these new inventions.

**Professor Paul Dolan**, LSE, presented *A Behaviour Observer*. He emphasised the benefits of observing behaviour rather than carrying out market research and how important it is to select the best messenger to change behaviour.



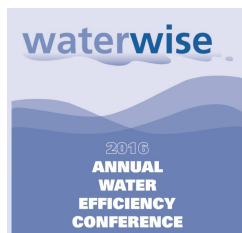
He recommended reading the Nudge Unit's report *MindSpace* [\[link\]](#) that describes the brain's 'system 1' and 'system 2' that is the key to understanding behaviour.

'System 1' is unconscious reasoning (automatic, low effort, rapid non-logical, non-verbal and contextualised) and 'system 2' is conscious reasoning (conscious, controlled, high effort, slow, abstract, linked to language and logical).

Most behaviour is driven by 'system 1' which is '*reptilian and fast*'. If we want to understand how to change behaviour we have to understand the mechanism of 'system 1'. It is the context and environment that matters when people are faced with a decision. To change behaviour we should appeal to sub-conscious.

## Waterwise Annual Conference 2016

Waterwise held their annual *Water Efficiency Conference* *Water Efficiency: Engaging People* on 2 March 2016 at the Royal Society for Arts in London.



The continuing interest in water efficiency was reflected in an attendance of 100.

The following picks out some of the main issues raised at the conference.

**Martin Bradbury**, Chair of Waterwise, set the scene by saying that '*without engagement we can't deliver*'.



If you want something done for you, make it easier. This is an obvious but overlooked fact. He emphasised the importance of the 'messenger effect'. We spend a long time getting the message right, but a short time on finding the right messenger.

There is, though, a more conciliatory approach to changing behaviour by bringing together both 'systems 1 and 2', the conscious and the unconscious. We are largely hard wired but there is still an important part for local knowledge to play.

**Sharon Darcy** of Sustainability First, in her presentation on *Tariffs: Experience and Future*, wondered whether stakeholder engagement is just a ticking box?



Political and deregulation pressures are looking to put customers in control and customer engagement needs to get right to the top of an organisation.

She gave the reasons why tariffs are likely to be a growing issue in water:

- there are 'water stressed' areas with increasing demand and climate change impacts with a need to address uncertainty. Tariffs are potentially a flexible and responsive way to manage deficits
- tariffs can be tailored to help customers in vulnerable circumstances as well as reduce peaks in demand and long-term costs
- there is a change in customer expectations and a desire for control especially through efficient appliances
- tariffs are a key part of a competitive market, but there is a need for equity.

In 2015, Sustainability First launched the *New Energy and Water Public Interest Network* ('New-Pin') [\[link\]](#) which is a network of regulators (Ofwat, Ofgem, Environment Agency and WICS), energy and water companies and public interest advocates.

She referred to Ofgem's *UK Electricity Demand Project* [\[link\]](#) which was a three year multi-partner smart demand project.

It looked at similarities and differences between energy and water and exploring long-term public interest issues (consumer, citizen, environment and investors) on topics such as long-run affordability, trust and resilience.

Amongst its aims was to increase understanding amongst company boards of the value of public engagement and what successful engagement and governance in public interest looks like.

Ofwat's **Georgina Mills**, in presenting *Customer and Ofwat*, said that customers are at the heart of everything we do. There is a primary duty to protect the interests of consumers wherever possible by promoting effective competition.



The Ofwat publication *Water2020* looks towards protecting the non-household sector, especially micro-businesses in the same way as in the energy sector. She confirmed that *'the bar has been set higher for customer engagement'* for PR19 and for Customer Challenge Groups (CCGs) it is important to retain what has worked well.

CCGs *'challenge and assure'* but are not a substitute for companies engaging with their actual customers. A consultation *Customer Engagement at PR19* closed in February and Ofwat is currently considering

responses. A decision document is due in May on which a consultation is expected this November.

**Alan Lovell**, CCWater, in *Looking at Customers and Tariffs*, asserted that *'too many people don't care how much water we use as the cost is not big enough'*.



He said that the impression before he started was that there were two vital challenges to fix, affordability and the need for more care over the use of water.

The obvious solution to both was a low basic charge, with steeply rising charges above that level, a 'rising block tariff'. The key factors to encourage action is that tariffs should be easy to understand, send the right signals, target the right people and are fair and affordable.

However it is not quite as simple as that as this requires universal metering. This is problematic as not all properties have meters or ever will have.

Thus CCWater's position is to support universal metering only in water-stressed areas and otherwise to recommend that metering should be voluntary.

CCWater has generally separated the efficiency challenge from the tariff debate. The tariff debate has primarily been about 'social tariffs' These are now in place for 15 companies and further four will follow this April, leaving just two companies without a scheme.

Others are making good progress and have implemented the recommendations of CCWater's *Living with Water Poverty* project to help raise awareness.

He confirmed that *'there is no silver bullet for the affordability challenge'*. There is a key role for CCWater to encourage appropriate sharing of data where there are customer benefits to doing so.

However, we must not ignore the link between efficiency and affordability. There is still more to be done to raise customer awareness of water resource problems and benefits of water efficiency.

Water companies are doing good work but need to find new partners and new ways of communicating with customers. This can be through better targeting of information and practical advice, working with housing providers and the energy sector as well as cross-reference to other affordability schemes.

He finished by saying his original simple solution isn't practical, but *'it remains a passion of mine to address both efficiency and affordability, combined where possible'*.

## Defra Enabling resilience



Demand management activity does not exist in a vacuum. There are great changes ahead for the water sector as the Government looks towards a more resilient water sector.

Defra has recently issued *Creating a Great Place for Living: Enabling Resilience in the Water Sector*. [\[link\]](#) that *'is a roadmap setting out how we will enhance our policy framework during this Parliament to secure the long-term resilience of the sector, helping to deliver a cleaner, healthier environment, benefiting people and the economy'*.

The likely impacts of climate change and population growth on water supplies were set out in the Environment Agency's 2011 *Case for Change*. [\[link\]](#)

This was updated in December 2013 with *Current and Future Water Availability – Addendum: A Refresh of the Case for Change Analysis*. This refreshed demand forecasts relating to the agriculture sector, the industry and commerce sectors, households and leakage in light of the changes to socio-economic scenarios. [\[link\]](#)

In November 2015 The Environment Agency issued *Water Supply and Resilience and Infrastructure - Environment Agency advice to Defra*. [\[link\]](#) It is an overview of the long-term resilience of water supplies in England which explains that parts of the country are exposed to higher risks of water restrictions and supports the case to make water supplies more resilient.

To address this, Defra then asked the water industry to develop a *National Water Resources Long-term Planning Framework*, which will establish water needs over the next 50 years and the strategic options that could meet these needs. [\[link\]](#)

This Water UK-led project will be assured by an independent expert panel and deliver its conclusions by summer 2016. It is intended to shape and inform both the policy framework and the water resources management plans that companies develop.

This project should provide valuable evidence for the National Infrastructure Commission, to help its assessment of long-term infrastructure needs. In October 2015, the Chancellor announced the creation of the Commission to provide expert independent analysis of the long-term infrastructure needs of the country.

Under the Government's proposals, the Commission will publish a *National Infrastructure Assessment* every Parliament setting out its analysis of the UK's infrastructure needs over a 10 to 30 year horizon.

In a joint letter to water companies in November 2015 [\[link\]](#) Ofwat set out *guiding* principles that *'will set a strong expectation that companies look beyond the minimum 25 year planning period to understand their long term needs and consider options that ensure resilient supplies over the long term*.

*In doing this we expect companies to demonstrate consideration of every option to balance supply and demand, for example:*

- minimising leakage, reusing water (for example through effluent reuse) and helping customers use water efficiently.

The new Defra report includes a helpful series of charts giving indicative timeline for the developments of *Water Resources Management Plans*, the *2019 Price Review*, and for a *National Policy Statement for Water Supply Infrastructure*.

## Northern Ireland Looking 25 years ahead



Coinciding with the Defra publication, Northern Ireland's Regional Development Minister, Michelle McIlveen, launched *Sustainable Water - A Long-Term Water Strategy for Northern Ireland (2015-2040)*. [\[link\]](#)

The document includes the following policies:

- encourage households and businesses to be water efficient
- deliver water efficient residential and commercial development
- achieve a Sustainable Economic Level of Leakage (SELL) in all supply systems.

## Water UK

### Water statistics



Gradually more information on water use is becoming available in the public domain following the demise of the annual returns to Ofwat. Water UK have taken up the baton by publishing, by member company, most of the data that was available in the *June Returns* [\[link\]](#). CCWater has also published *Delving into Water 2015* that provides a wealth of customer water use information by water company. [\[link\]](#)

## Waterwise

### Every Last Drop



Nice and Serious, who describe themselves as 'an ethically-driven creative agency', has produced *Every Last Drop* in partnership with Waterwise. It is an interactive website which takes a detailed look at how much water we waste on a daily basis and how small changes can make a difference. To view the graphical designs and watch the accompanying video [\[link\]](#).

### Joining in with WaterSafe

Waterwise and WaterSafe joined forces for a national weeklong campaign, during *Water Week*, to promote simple water saving tips for the home, garden, schools, workplace and communities. To see the information packs, posters and infographics [\[link\]](#).

### Smart Approved Water Mark

At the Waterwise conference CEO Chris Philpot described how Australia's *Smart Approved WaterMark* has joined forces with Waterwise. This international water conservation label is now available across Europe for all water efficient products. For further information and how to apply [\[link\]](#).

## Water company initiatives

### Southern Water leads the debate

Following the launch last September of their *The Effect of Metering on Water Consumption* report at the Portcullis House in Westminster, Southern Water kept up the momentum by hosting a water efficiency seminar in March with speakers from CCWater, Ofwat and Waterwise.

Ben Earl, water efficiency manager, said *'this was a crucial event that sets the scene for some forthcoming work to come with our regulators, local authorities and community organisations and it was important to engage so many people - both from within Southern Water and externally in the process'*.

*This was a valuable opportunity for us to kick start the debate and we are really looking forward to working with our partners to help make a real difference to customers and the environment both now, and in the future'*. For more details [\[link\]](#).

## Domestic

### CIWEM makes recommendations

CIWEM has issued *Water Efficiency: Helping Customers to Use Less Water in Their Homes*.



For anyone interested in the subject it provides a great deal of well research background information that leads to a number of important recommendations that includes:

- The European Water Label for new water using products is welcome and the programme sponsors should extend the scheme beyond bathroom products to all water using devices
- water efficiency measures that reduce hot water use should be available as part of the Government's future energy efficiency incentive scheme

- product-level standards rather than property-level standards should be adopted and implemented for new homes. This will overcome the criticism of calculations used to determine property-level standards and enable planners and developers to fit more proven water saving devices
- more stringent standards should be made mandatory for all new homes in areas of designated water stress
- exemplars for water efficiency should be developed and the practicalities of delivering water neutrality around new developments should be tested further
- a water saving forum should be established, with a clear mission to develop credible and technically robust approaches to determine the most effective ways of reducing consumption. It should be held to account by Ofwat to achieve its stated aims.

On the last point the document states that *'many different organisations and individuals have a role in water efficiency, from government departments such as Defra, DCLG and DECC to water companies, local government, building control, manufacturers, retailers, plumbers, builders, and universities, to individual businesses and households'*.

*This diverse range of stakeholders needs to have a common understanding and shared responsibility if water efficiency is to be delivered effectively and successfully' ... 'Nudging alone is unlikely to be sufficient.*

*For water efficiency gains of the required magnitude to be achieved, we consider there to be a need for strong leadership from government, regulators and water suppliers, working collaboratively'*. To see the rest of the recommendations [\[link\]](#).



## Showerhead that changes colour

A smart showerhead that changes colour when using too much water was revealed during the recent *Consumer Electronics Show* in Las Vegas. A French design firm has unveiled the showerhead that flashes different colours using LED lights.

Called the *Hydrao Smart Shower*, this invention by Start & Blue starts out with the colour blue, but will flash green when it's already using about 10 litres of water, it will then turn purple when it hits the 50 litre mark and when it's beyond 50 litres, the device will start flashing red signalling that it has used too much water. [\[link\]](#)

## Watersave/WRAS

### Positive reaction from plumbers

A survey of approved plumbers in the UK, carried out by WaterSafe, reveals they are helping homes and businesses save millions of litres of water each year and money off water and energy bills.



WaterSafe, the national accreditation scheme for plumbers in the UK, carried out a survey of its plumbers to find out how much they talk about saving water with their customers and how often they recommend products to cut down on waste.

An impressive 98% think it's part of a good plumber's job to provide advice on water efficiency and 92% regularly talk to customers about products which can help save water. One respondent said *'it shows a plumber cares about the industry rather than just making money. It's professional to know about water efficiency'*.

Many plumbers said customers were often unaware that they were using more water than they needed to

and also didn't realise that by using less hot water they could also save on energy bills.

Julie Spinks, director of WaterSafe, said: *'WaterSafe plumbers are all fully qualified and trusted to work safely with drinking water in homes and businesses but they are also offering customers additional free advice which can help them save water, save energy and save money. It's inspiring to hear that plumbers are motivated to give the best possible service to customers on all aspects of their water supply and also care about protecting water sources and the environment in which they live and work'*.

The appliances plumbers are most likely to advise customers on are toilets, taps and showers. The survey did indicate, however, that two thirds (68%) of plumbers are unaware water companies offer free water-saving products to their customers.

The introduction of the Water Label in 2014 is also helping plumbers identify water efficient products more easily, with a 'traffic light' rating showing how much water they use. Three quarters of the plumbers surveyed are aware of the label and would promote it to customers.

As the survey showed that only a quarter of approved plumbers are active on social media, the quickest way to find a qualified and trusted business is to type in your postcode on the WaterSafe website [\[link\]](#). For further information, contact Ben Bostock at [\[email\]](#).

### Laurie Young

WRAS has learnt of the death of Laurie Young last December. With Graham Mays, Laurie wrote the WRAS *Water Regulations Guide* which has been of such importance and value to water inspectors and installers and users of plumbing systems in the UK by defining and explaining the requirements of the *Water Fittings Regulations* and *Scottish Byelaws*. We

would like to extend our sympathies to his family and colleagues.

## Non-Domestic Retail market

*Edie.net* reports that Severn Trent Water and United Utilities have announced they will join forces for the non-household retail market. Portsmouth Water became the first to reveal that it would exit the business retail market.

Of the water only companies, Affinity Water, Bristol Water, Essex and Suffolk Water, Sutton and East Surrey Water all say they plan to remain in the market, with South East Water and Cambridge/South Staffordshire Water refusing to comment. Of the water and sewerage companies eight of nine say they will not exit the retail market, with Southern Water saying it is undecided. [\[link\]](#)

### WET means less water

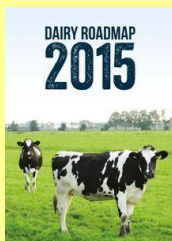
East Malling Research's Paul Dracott is helping to set up a new *Water Efficient Technologies* (WET) centre at the Kent-based horticultural research station. It aims to help growers of horticultural crops boost both their productivity and the quality of their fruits and vegetables for the benefit of the entire horticultural supply chain.

Dracott was the project manager for the recently concluded Environment Agency and European Regional Development Fund backed, and Kent County Council-sponsored, WATERR project [\[link\]](#). It was set up to help demonstrate the horticulture industry's commitment to using water as efficiently as possible.

The proposed WET centre [\[link\]](#) is designed to be the successor to that initiative

## Dairy Roadmap

The *Dairy Roadmap* [\[link\]](#) is an initiative that represents the UK dairy industry's commitment to reduce its environmental footprint. A taskforce of 25 organisations within the UK dairy industry define targets and produce regular reports on progress that the industry is making on environmental matters.



This is the third report since the roadmap was launched in 2008. The 2015 report highlights a new set of targets for 2025.

Dairy processors have reduced relative water consumption by 15%, and 78% of farmers have implemented water efficiency methods, exceeding the 70% target.

In 2012, 78% of farmers were implementing water efficiency methods. Of these, 30% were collecting rain water, 94% re-using water from a plate cooler and 53% have diversified water supplies using a borehole.

A recent ADAS study found that dairy farms pay between £31 and £100 per cow, per year for water and could meet 20% of these needs from rainwater sources [\[link\]](#).

## Premier Inn leads the way with water economy challenge

The *Whitbread Group* has recognised current stresses on national water supplies, by setting a challenge to deliver significant reductions in mains water consumption as part of their corporate environmental responsibility plans; setting a target to reduce consumption by 1 billion litres against its 2009 baseline, to be delivered by 2017.

Alongside many initiatives underway to deliver this plan, greywater recycling has been identified as a key contributor to the water strategy, and has become the design standard for all new-build *Premier Inn* hotels.

Backing the programme has been the UK's leading greywater recycling specialists *Waterscan*, who has designed, manufactured, installed and maintained a bespoke system aimed at reducing mains water consumption on average by 30% on each site.

The systems used low-energy components, and a triple-redundancy design to maintain consistent performance and virtually eliminate risks of operational failures. Built-in telemetry is used to monitor performance and transmit live system diagnostics.

*Premier Inn* is the first UK hotel chain to employ greywater recycling, and the first to achieve the *Carbon Trust Water Standard*. With 46 systems installed to-date, the impressive performance statistics of the *Waterscan* systems include providing recycled greywater for 100% of toilet-flushing, thus reducing water consumption by an average of 30%, or 30-litres/room/day.

For each hotel this result in a saving of mains-water consumption of around 650m<sup>3</sup> per year, equivalent to more than 8,000 baths.

## Smart water for food and drink

Business in the Community has issued *Smart Water* that is intended as a practical resource for food and drink manufacturers, caterers and retailers operating in the UK. This report brings into one place the tools and resources that exist to help businesses.



It sets out six steps to work towards sustainable water management which includes a great deal on water scarcity, monitoring water use and on water efficiency.

The report has a foreword by Parliamentary under Secretary of State for Environment and Rural Affairs, Rory Stewart, and is supported by the National Farmers Union, the Food and Drink Federation, WRAP and the British Retail Consortium. [\[link\]](#)

## Hampden Park's water use goal

Scotland's national football stadium has reduced its water consumption by 35% in the space of fifteen months after installing monitoring equipment which identified anomalies and spikes in water usage.

The 52,000 seater Hampden Park stadium in Glasgow installed automated meter reading (AMR) devices, which automatically collect data on the site's water consumption every 15 minutes.

The AMR devices found that automatic flushing urinals were using up water at the same frequency for 50,000 people as they would for 200 people. The software also identified a leak in the football pitch's water irrigation system [\[link\]](#).

Meanwhile, Levi's Stadium in California, which hosted the recent Superbowl, has been connected to the City of Santa Clara's recycled water system, which provides about 85% of total water use within the stadium [\[link\]](#).

Edie.net in a feature, *Greening the Game*, features the world's most sustainable sports stadiums. [\[link\]](#)



## Water footprint

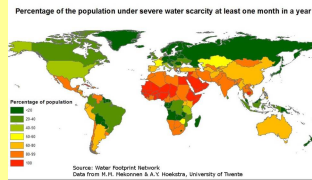
### Water Footprint Network

The latest newsletter from the Network [\[link\]](#) includes details of global droughts and water scarcity. Drought in Africa is now seriously affecting southern Africa and, especially, Zimbabwe.

A number of Caribbean countries have been placed under immediate drought warnings or watches, the Marshall Islands has declared a state of national emergency, citing its severe drought conditions as one of the worst disasters to ever befall the archipelago nation.

The central government of India is giving monetary assistance to seven drought-affected states.

The Network cites the World Economic Forum's *Global Risks Report 2016* [\[link\]](#) that places 'water crises' at the top of the list of global risks of highest concern.



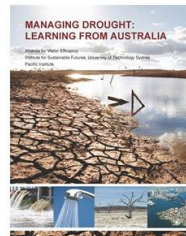
Based on a survey of nearly 750 members of the World Economic Forum, almost 40% deemed water crises to be the risk to be most worried about over the next 10 years.

There are also details of an article in *Science Advances* showing that over a billion people live in areas with severe water scarcity at least one month a year. [\[link\]](#)

## Drought

### Learning from Australia

It is not always applied, but if you want to learn about something, then contact experts with knowledge and experience.



This is exactly what the US Alliance for Water Efficiency has done by commissioning a report from the Institute of Sustainable Futures in Australia.

*Managing Drought: Learning from Australia* is a report on the strategies developed and mistakes made during Australia's decade-long millennium drought that can provide a powerful resource for California, as the state enters its fifth year of severe drought. [\[link\]](#). The report recommends:

- broad community involvement across sectors – households, business, industry and government – fosters a sense of fairness and collaboration in saving water.
- clear, credible communication about the drought situation and response is needed to maximize public participation and support.
- Innovative water-pricing mechanisms, not employed during Australia's millennium drought, could be used to incentivise water savings in California.

Professor Stuart White, director of the Institute for Sustainable Futures, at the University of Technology Sydney said *'the Australian experience shows that investment in water conservation options provided the cheapest, quickest and most effective contribution to managing demand during the drought. Without them many cities and towns would have run out of water'*.

## Thailand's worst drought in 50 years

The Thailand Government is calling on people to lower their household water consumption by at least 20% in the face of the severe drought. The water level at 10 large dams is seriously low. Agencies plan to either divert water from nearby reservoirs to those dams or draw from their so-called 'dead storage', which are reserves kept to protect the structural integrity of the dams. [\[link\]](#)

## Leakage

### Dubai achieves low water loss rate

Dubai claims to have achieved its lowest ever water-loss rate of 8.26% (unfortunately this is the only unit available), thanks to the service provided by Dubai Electricity and Water Authority.

They have used Supervisory Control and Data Acquisition (SCADA) to survey the water network and identify and remotely-manage potential leaks in the system. DEWA has also adopted modern technology to scan the transmission and distribution networks to prevent cracks from causing leaks in the system. [\[link\]](#)

### Allan comes 8th

As the number of LEAKSSuite users exceeds 10,000, Allan Lambert has been voted 8th out of 25 International Water Industry Leaders in a poll by the readers of *Water & Wastewater International*. [\[link\]](#)

### Beware percentages

Allan Lambert contacted us following our item on the CCWater report in Issue 17 (January), expressing concern that the *Bulletin's* wording appeared to support CCWater's practice of expressing total daily leakage as a % water put into the system, as being one of the measures 'of most service to demand management'.

Allan had since contacted CCWater to explain that since OFWAT's 1996 recommendation against using this flawed performance indicator to track changes in leakage, its misuse had effectively ceased in England & Wales for the last 20 years, a stance recently confirmed by a 2015 CIWEM Policy Position Statement and a 2015 EU Report.

However, publication of 'Distribution Input' (DI) and 'Leakage' figures in MI/day for companies in the CCWater Report was a most welcome initiative. They clearly illustrate how showing changes in consumption and leakage as % of DI confuses interpretation of actual changes in volume of leakage.

- 2011/12 consumption FELL by 1.0% (116 MI/day) but shown as % of DI ROSE by 1.4%
- 2011/12 total leakage FELL by 8.5% (288 MI/d) but shown as % of DI FELL by only 1.4%
- 2012/13 consumption FELL by 3.6% (413 MI/day) but shown as % of DI FELL by only 0.6%
- 2012/13 total leakage ROSE by 0.02% (1 MI/d) but shown as % of DI ROSE by 0.6%
- 2013/14 consumption ROSE by 1.7% (187 MI/day) but shown as % of DI ROSE by only 0.2%
- 2013/14 total leakage ROSE by 0.6% (19MI/d) but shown as % of DI FELL by 0.2%

Changes in consumption and leakage as % of DI can only be equal and opposite in sign (one positive, one negative) as the data above shows (or both equal to zero) for this 'zero-sum' calculation. For more information on this topic [\[link\]](#)

## Australia & New Zealand

### Desalination go ahead

As it becomes drier in Melbourne the 'Target 155' is being reactivated. It is a campaign encouraging residents of Melbourne to voluntarily limit water use to 155 L/p/d [\[link\]](#). However, at the same time, the first water order from Victoria's controversial Wonthaggi desalination plant has been placed by the state government in a bid to combat declining water storages.

The Melbourne Age reports that *'the order will push up water bills by \$12 a year for households. Even with no order placed, Victorians pay \$1.8 million every day to keep the desal plant open and ready for an order. Both the Coalition and Greens have condemned the decision, saying that the government was trying to create a crisis to justify the expensive plant'* [\[link\]](#).

## USA & Canada

### White House Water Summit

On *World Water Day*, the White House held a Water Summit [\[link\]](#). Issued on the same day was *Commitments to Action on Building a Sustainable Water Future* [\[link\]](#) that contains many commitments by a host of organisations to a water efficient future.

A typical example is Renovate America [\[link\]](#). The leading provider of residential Property Assessed Clean Energy (PACE) financing in the US has been recognised by the White House for its goal to help homeowners save 34.1 billion gallons of water over the next 10 years. This is through new and existing water-efficiency projects.

The company is expected to enable \$1.4 billion in new financing for an estimated 111,000 water efficiency home improvement projects. This new private investment will help create an additional 12,000 jobs and \$2.4 billion in local economic impact. [\[link\]](#)

### Obama's Water Innovation Strategy

Earlier, in December, The Obama administration announced a new *Water Innovation Strategy* [\[link\]](#), an initiative aimed at making the United States more water efficient, saying the country has the potential to reduce its total water use by a third.

Deputy Interior Secretary Mike Connor said *'from a technology standpoint, the administration views this as similar to the great strides that it's made in the renewable energy area, where we set goals of reducing the costs of solar energy'*.

President Obama's budget includes almost \$260 million to fund a water innovation strategy, which the White House says will boost water sustainability and reduce the price and energy costs of new water supply technology.

The president's budget would fund water conservation investment and R&D of new water supply technology. This includes:

- \$98.6 million for the federal WaterSMART program, which promotes water conservation initiatives and technologies
- \$4 million of new funding for the US Geological Service to provide near real-time assessment of water use during drought, so communities can better manage their water
- \$15 million in additional funding for US Department of Agriculture research to support agricultural production and practices that conserve water
- \$88 million for the National Science Foundation for water research, focusing on technologies that increase the US water supply, drinking water quality, and water for use in agriculture and industry processes or cooling.

### Innovation programme

For the first time, the U.S. Environmental Protection Agency is participating with the US Bureau of Reclamation as well as the Central Arizona Project, the Metropolitan Water District of Southern California and Southern Nevada Water Authority in the *Innovative Conservation Program*. The program,



which includes Southern California Gas, seeks to advance water-saving efforts by finding new and innovative methods for using supplies more efficiently [\[link to programme\]](#).

### Fix-a-leak week

EPA's *WaterSense* programme encourages everyone to be a leak detective and 'chase down' plumbing leaks during the 8th annual *Fix a Leak Week*. [\[link to programme\]](#)



### Tax on lawn removal rebates

The Alliance For Water Efficiency's *Water Efficiency Watch* [\[link\]](#) reports that the Inland Revenue Service and Department of Treasury clarified that these rebates are officially considered taxable income.

This means that responsible homeowners across the country who took advantage last year of local rebate programs to improve water conservation or water runoff management are facing an unexpected tax bill this spring.

The Alliance for Water Efficiency has endorsed the new *Water Conservation Tax Parity Act*, that seeks to clarify that rebates provided by water utilities for water-efficient improvements to a home, are not subject to federal taxes.

### Conservation generation

Harvey Djanogly of GabiH2O sent a copy of their report on a behaviour change program, *Conservation Generation Camp Program Pilot - Making Water and Energy Efficiency Fun, Easy, and Rewarding*.



It evaluates a programme carried out at two residential camps in North Carolina over the summer

of 2014. The results could well be exported with success to schools and other outreach programs targeting water efficiency and sustainable living [\[link\]](#).

### California drought continues

A nearly average spring snowpack in the Sierra Nevada is likely to prolong tough water conservation measures in drought-stricken California. However, the restrictions could be loosened in some areas after an El Nino storm system drenched the northern half of the state this winter. [\[link\]](#)

## World

### Drought in Malaysia

Penang has activated its water supply alert status in preparation of drier and hotter days ahead as climatologists warn of the 'super El Nino' phenomenon. [\[link\]](#)

### Drought in East Mediterranean

A NASA study has found that a drought in the east Mediterranean that ended in 2012 was the worst in nearly a millennium. It focused on the eastern Mediterranean Levant region: Cyprus, Israel, Jordan, Lebanon, Palestine, Syria, and Turkey.

The agency found that the drought that lasted from 1998 to 2012 was the region's driest drought in 900 years. And its cause is likely linked to human-fuelled climate change. [\[link\]](#)

## Diary

### 7 to 9 September - WATEFCON 2016

Next year's Water Efficiency in Buildings Network's conference theme is *Water Demand Reduction, Scale and Process*. It is to be held at the University of Coventry, hosted by Professor Sue Charlesworth, Centre for Agroecology, Water and Resilience.

The deadline for submission of abstracts is 29 January 2016. [\[link to event\]](#)

### 26 to 29 September - Global Leakage Summit

The *Global Leakage Summit* is returning to the UK for its 8th conference. For details [\[link\]](#)

### 5 to 7 October 2016 - WaterSmart Innovations

The eighth *annual WaterSmart Innovations Conference and Exposition* is to be held at the South Point Hotel, Las Vegas. [\[link to event\]](#)