

THE ECOPROD GUIDE TO WATER SAVING IN YOUR BUSINESS

TABLE OF CONTENTS

1. INTRODUCTION	2
1.1. Why water saving matters	2
1.2. How water saving benefits your organisation	3
2. INSTALL WATER SAVING PRODUCTS	4
2.1. Taps	4
2.2. Urinals	4
2.3. Toilets	5
2.4. Showers	5
3. CHANGE BEHAVIOUR	6
3.1. Get staff buy-in	6
3.2. Think about how people use the kitchen	7
3.3. Gardens	7
3.4. Air conditioning	8
3.5. Pay attention to installation and maintenance	8
3.5.1. Check for leaks	8
3.5.2. Have a regular maintenance regime	8
3.5.3. Get equipment installed professionally	9
3.6. Reduce bottled water use in your organisation	9
3.6.1. Plastic bottles in the ocean cause many problems	9
3.6.2. Biodegradable plastic isn't the answer	10
3.6.3. Organisations are waking up to the need to reduce use of plastic water bottles	10
3.6.4. How can you reduce bottled water use in your organisation?	10
4. MANAGE YOUR WATER EFFECTIVELY	11
4.1. CNX	11
4.2. Aqualyics intelligent water management system	12
5. MEASURE AND UNDERSTAND YOUR CURRENT USAGE BEFORE YOU START	14
6. CHOOSE A RETAIL WATER COMPANY THAT CAN HELP YOU WITH WATER EFFICIENCY	16
7. WHAT IF YOU GET YOUR WATER FROM A BOREHOLE?	16
8. HOW WE CAN HELP YOU	18

CHAPTER 1:

INTRODUCTION

1.1 Why water saving matters

The Chief Executive of the Environment Agency has warned that England is set to run short of water within the next 25 years. Sir James Bevan warned that the country is now facing the so-called “jaws of death” – the point at which demand for water outstrips supply. Demand is ever-growing due to the country’s growing population, whilst supply is falling due to climate change.

This situation is driven by the twin factors of population growth, urban development and climate change. The population of the UK is currently 67 million and forecast to rise to 75 million by 2050. At the same time, temperatures are rising. Summers are predicted to be significantly hotter. By 2040 more than half of summers are likely to be hotter than the 2003 heatwave.

The effect of this could be to reduce the amount of water in some rivers by 50-80% during the summer months. This risk is not hypothetical. We’re already seeing the impact of water shortages due to climate change.

This situation requires urgent action, from both individuals and organisations. Water companies have committed to reducing the amount of water lost to leaks by 50% by 2050. The Environment Agency has plans for potential new reservoirs, desalination plants and pipelines and canals to enable water to be transferred to where it is most needed.

However, what’s also needed is a strategy to help individuals and companies to reduce their water usage on a day to day basis, by as much as a third. Currently the average person uses 140 litres of water per day and this needs to be reduced at least down to 100 litres. This can be achieved not only by helping people to reduce the amount of water that they use when they’re at home but also by organisations working to reduce the amount of water that employees use when they are at work.

At Ecoprod we’re dedicated to helping our clients to reduce their water usage. Our original focus was on waterless urinals but since then we’ve added a range of other water saving products to our portfolio including water efficient taps, showers and water management systems.

We’re past the point where water saving can be considered as an “optional extra” within organisations. It’s now commonplace for companies to focus on efforts to improve recycling, cut emissions, reduce their carbon footprints and so on. Offices have stickers to remind people to turn the lights off, separate bins for recycling, initiatives to reduce single use plastics.

Water saving needs to be considered in exactly the same way, as the default setting, the thing people do without thinking about it or needing to be reminded. Attitudes need to change so that, as Sir James Bevan says, “We need water wastage to be as socially unacceptable as blowing smoke in the face of a baby or throwing your plastic bags into the sea.”

1.2 How water saving benefits your organisation

Water-saving initiatives can help organisations to demonstrate sustainability, reduce their carbon footprint as well as helping achieve green certification and showing leadership in environmental management. So how can you start to deliver responsible water management, and consequential cost savings for your organisation?

Generally, an effective water saving strategy needs a two-pronged approach: reducing water usage and preventing wastage. The installation of some simple technical solutions can reduce water consumption significantly, but at the same time the most effective water-saving strategies are those that have staff buy in, so there's also an educational job to be done to help people understand the importance of conserving water and persuading them to modify aspects of their behaviour.

We've put together this guide to help you think through the main ways in which you can save water in your workplace, through cutting usage in the first place and through reducing wastage. This doesn't require a huge budget. Whilst some of the ideas we recommend are things you might implement at the same time as undertaking a washroom revamp, others are small changes that you can make quickly and with minimal cost right now.

CHAPTER 2:

INSTALL WATER SAVING PRODUCTS

2.1 Taps

When it comes to saving water, taps are a good place to start. A common waste of water in washrooms is taps left running. Push-operated taps can guard against this as can sensor-operated taps which ensure that the water is only running when it is needed. Indeed, by using sensor-controlled taps in office buildings facilities managers can reduce water usage by up to 70%.

Sensor taps also offer other benefits as well such as improved hygiene and cleanliness in your washrooms. Switching to sensor taps also cuts your energy usage. By using less water, you'll need to heat less water. Have a look at section 5 for a detailed case study showing what this could translate to in financial savings.

There are many different kinds of sensor taps available, depending on your requirements.

- Conti+ touch-free taps offer water savings of up to 70% compared to traditional taps and a choice of aerators offers you low flow rates of as little as 2 litres per minute. The taps also enable water flow delay time to be reduced, cutting consumption further, as well as automatic shut-off to guard against water being left running for too long.
- The Swiss Eco Tap uses an incredible 90% less water than traditional taps, with a flow rate of less than 0.5 litres per minute compared to one litre every five seconds for traditional taps, making it one of the world's most sustainable taps.
- miscea sensor taps also use up to 70% less water than traditional taps. Their advanced sensor technology enables them to regulate water use by automatically turning the water on or off exactly when needed. miscea taps also have advanced technology which dispenses soaps and other liquids as well. This helps reduce washroom costs as no liquids are wasted as the amounts dispensed can be accurately controlled.



2.2. Urinals

For most organisations the washrooms are the area where most impact can be had. In the washroom one of the biggest wasters of water are automatic flushing mechanisms on traditional urinals. We'd always recommend switching to waterless urinals as the savings in both water and cash can be very substantial indeed.

Typically, customers will save 100,000 litres of water per year per urinal, which generally translates to between £250 and £600 of savings per urinal per year (depending on how much you're paying for water in your region). You will generally also realise a sewage cost saving, as sewage costs are normally calculated based on water usage.

Waterless urinals can generally be easily retrofitted into existing washroom set ups and offer numerous other benefits from quicker and easier cleaning regimes through to lower maintenance costs down the line.



2.3. Toilets

As far as normal toilets go, think about installing dual flush cisterns which offer a choice between a full or half flush, depending on requirements. Of course, you may not want to go the whole hog and replace your toilets. In that case there are cistern replacement devices available designed to help you reduce toilet flushes artificially. If you do decide to install these it's important to keep an eye on them and make sure that the reduced flush is sufficient for users' requirements, otherwise you can end up using even more water if users find that they have to flush multiple times.

It's also important to have a regular maintenance regime – you should regularly be checking for leaks and ensure that they're fixed immediately. A leaking toilet cistern can waste between 400-600 litres of water per day – that's the equivalent of five baths full of water every day. Some kinds of leaks are easy to spot. If your toilet is leaking onto the floor, then the chances are that you'll spot that very quickly. Similarly, if the outdoor overflow is leaking then you'll probably notice that within a day or two.

However, modern push button toilets are generally designed so that any overflow runs back into the pan and this can make leaks extremely hard to spot. You may not spot leaks like this until your water bills start getting higher. A close inspection might reveal a small but continuous trickle of water at the back of the pan, or you might hear that there's water running even though the toilet hasn't been flushed. That's why it's important to ensure that your maintenance staff are vigilant and keep an eye out for such leaks. Intelligent water management systems can also help you identify unusual water usage patterns such as slow leaks – see section 4.2 for more information about how these work.

2.4. Showers

With showers the key is to encourage staff and customers to limit the length of time that they spend in the shower, ideally to 4 minutes or less. You can reduce water wastage from your existing showers by installing water-efficient shower heads, which can cut water use by up to 40% compared to standard shower heads. It's also important to include showers in your regular round of maintenance checks and to ensure that any leaks are fixed as soon as they're identified.

If you're refitting your shower room, then you can save even more water by installing purpose-built water-saving showers. We recommend Conti+ showers as they offer a number of important water-saving features.

- Electronic timer-controlled operation - you can determine the amount of time for which the shower will run after each push of the button. The shower comes pre-programmed to run for 3 minutes, which we've found to be the ideal time for hotels, gyms etc, or you can customise it to the requirements of your own users.
- Reduce your water bill - the super accurate, customisable timer-controlled operation removes completely any risk of users leaving the shower running. You can also educate your users to take shorter showers by reducing the running time depending on your users' habits. For example, we know that people tend to shower for much longer in universities than they do in hotels or gyms. Trial installations in universities show that reducing the time for which the shower automatically runs can change users' habits and encourage them to take shorter showers.
- No dripping after the shower stops running - typical shower valves are prone to leaking and drops, but Conti+ showers

have precision electronic control meaning there's no way that the shower can drip, thus further reducing your water bill and maintenance costs.

- Programmable automatic hygiene flushes - ensure that every shower gets run for the requisite amount of time by pre-programming regular automatic hygiene flushes which will automatically turn the shower on and off and run it for a pre-determined length of time. If you have a number of showers, then you can also opt for a software package that enables you to individually programme each one and customise completely to your particular requirements.



CHAPTER 3:

CHANGE BEHAVIOUR

One of the simplest ways to significantly reduce your water usage is to change people's behaviour within your organisation. Vast amounts of water are wasted every day and often there are simple behavioural changes that can prevent this.

3.1. Get staff buy-in

The key to getting staff buy-in is creating a workplace culture that encourages and incentivises water saving. Greater awareness of the importance of water saving generally leads to a culture in which employees take pride in monitoring water use. Consider ways in which you can acknowledge those that contribute the most to the water saving regime. In some organisations resource conservation is considered part of employees' performance reviews. In others, less formal initiatives publicly reward those that lead the way in this area.

Typically, your staff will know more about where water can be saved in your organisation that you do. It's often the case that water is being wasted simply because either people don't know what to do, or they're not telling you about problems like dripping taps that could easily be fixed if

only you were aware of them. Think about running a staff awareness campaign letting them know how important it is to reduce water consumption and how significant the results can be, both in environmental impact as well as in savings to the bottom line.

Encourage your staff to be water wise. Measure your current water usage and establish the baseline use levels then set some realistic targets for water saving. Make sure they're aware of your water saving initiatives by talking about water saving procedures and policies in staff induction sessions. Bring up discussion of water usage at team meetings and keep staff updated with reports on water usage including progress towards water saving targets. You could consider appointing someone as a 'water saving champion' to lead the efforts.

3.2. Think about how people use the kitchen

A lot of saving water in the kitchen is about changing people's behaviour – for example encouraging them to fill sinks for washing up rather than letting taps run, and to scrape dishes prior to washing rather than rinsing them under a running tap. If the sink is really just used for rinsing mugs and spoons, then perhaps it might be worth considering a move to push or spray taps – see 2.1 for more information about tap options).

If you have a dishwasher in your kitchen it's worth having a look at the different programmes that it offers. Most modern dishwashers offer a water-saving programme – make sure that it's this one that's being used, and make sure that there's a full load before the dishwasher is run. If you're installing a new dishwasher, then look for water-efficient models – modern water-efficient dishwashers use 50% less water than standard models.

3.3. Gardens

If you have a garden then maintaining it can use a lot of water, particularly during the summer months. However, there are various steps you can take to ensure that you're as efficient as possible when it comes to water use in the garden.

- Use drought-tolerant plants – consider the water requirements of the plants in your garden and prioritise those which do well in drought conditions and generally require less regular watering.
- Mulch your flowerbeds and pots – a layer of mulch on top of a bed or pot helps to keep the soil moist so you do not need to water so regularly.
- Water plants early in the morning or in the evening – watering when it's cooler means your plants get more benefit as the water has a chance to soak into the roots rather than being lost to evaporation in the heat.
- Rainwater harvesting – Install water butts or tanks that enable you to capture the rain water that falls onto your roof, so you can water your plants without using any mains water.



3.4. Air conditioning

Where possible, use fans and natural ventilation rather than installing air conditioning. If you are using evaporative air conditioners, set your thermostat to 24°C for the most efficient operation and ensure that you've switched off heating and cooling if the building isn't occupied. It is also possible to harvest the condensation produced by air conditioning units and to recycle it for uses such as watering the garden or cleaning, essentially anything that doesn't involve human consumption.

3.5. Pay attention to installation and maintenance

3.5.1. Check for leaks

There may be leaks in your system that you're unaware of. A simple way to find out is to check your water meter last thing at night (or before another period when the building will be empty, and no water should be used) and then again first thing the next morning. If water has been used during this period, then it could indicate that you have a leak somewhere in your system. An intelligent water management system such as the Aqualytics Flowless can also provide a technological solution to this problem (see section 3.2 for more information about this).

3.5.2. Have a regular maintenance regime

Even if things appear to be working properly it's important to have a regular regime of inspection and maintenance to make sure that everything is working as it should. Taps and pipes can scale up and when that happens, they operate much less efficiently – sometimes scaled up taps will stick on, for example, or users will need to run the tap for a much longer time to get the same effect.

I'd recommend inspecting all your fittings at least a couple of times a year. Check that taps are flowing freely and can be turned on and off. Make sure that toilet cisterns are up to scratch. Ask your staff to alert you to any problems that they are aware of. Common issues are things like hot water taking far too long to reach a particular point, necessitating excessive running of taps in order to get them to run hot enough. If that's the case it might be worth considering having a smaller water heater near to the point of use.

3.5.3. Get equipment installed professionally

Remember if you're installing any new equipment that correct installation is absolutely vital – mistakes at the installation stage can mean that you end up using more water rather than saving water, so you should always get advice from an expert supplier before you make any substantial changes to your washroom configuration.

3.6. Reduce bottled water use in your organisation

Plastic water bottles offer the benefits of convenience and portability but that comes at a serious environmental price, one which definitely isn't worth paying. A UN report published in 2016 stated that more than 300 million tonnes of plastic were produced in 2014 and predicted that this would rise to more than 2,000 million tonnes by 2050. Annual consumption of plastic bottles alone is predicted to top more than half a trillion by 2021. The demand for bottled water is seemingly unstoppable – over 20,000 bottles are purchased each second around the world. All this plastic has to be disposed of somehow and plastic water bottles contribute significantly to the problem.

Different kinds of plastic biodegrade at different rates but the average biodegrading time is 450 years and some kinds of plastic bottles will be with us for more than 1,000 years. The extreme durability of plastic bottles then presents the problem of how to dispose of them. Vast quantities of plastic waste now end up in landfill or in the sea after being dumped and this causes significant environmental problems.

3.6.1. Plastic bottles in the ocean cause many problems

The spread of plastic debris has economic, social and environmental costs beyond the obvious damage. For example, jellyfish use floating plastic debris in the ocean to 'hitch a ride' to new habitats where they are not indigenous, thus changing the ecosystems in those places, taking away food from fish and other marine life. Perhaps even more troubling is the fact that plastics are being ingested by

fish, seabirds and other marine organisms thus entering the food chain and making their way up to humans. A study by Plymouth University found plastic in a third of fish caught in the UK, including cod, mackerel, haddock and shellfish.

3.6.2. Biodegradable plastic isn't the answer

Even so-called biodegradable plastics don't really solve this problem as they only degrade at temperatures of 50c, so will never break down in the ocean where much plastic waste ends up. Plastic bottles can be recycled, but for this to happen they need to be collected up and at the moment that's just not happening consistently enough – less than half of the bottles bought in 2016 ended up being recycled, with the rest ending up in the ocean or as landfill.

3.6.3. Organisations are waking up to the need to reduce use of plastic water bottles

The majority of plastic bottles are used for drinking water and it's encouraging to see that organisations and governments are starting to take this problem increasingly seriously. For example, the sandwich chain Pret a Manger recently announced that it is trialling a new scheme that encourages customers to fill up water bottles for free using new filtered water stations in its stores. It will also sell two sizes of reusable glass bottles as an alternative to plastic bottles.

Similarly, the Glastonbury Festival has a long partnership with WaterAid, offering water bottle refill points around the festival site and encouraging festival-goers to buy a WaterAid refillable bottle or refill their own bottles rather than to buy bottled water. Bristol is now a so-called 'refillable city' in which hundreds of cafes, restaurants and bars will allow people to fill up their water bottles for free.

3.6.4. How can you reduce bottled water use in your organisation?

So, what can individual businesses do to address this problem? Installing prominent recycling containers throughout your premises makes it easier for staff to dispose of their water bottles in a more environmentally sustainable way, which is obviously a step in the right direction, however, better still would be to discourage employees from drinking bottled water at all. Here are some ideas about how to do that.

- Install a sustainable water dispenser – systems such as Billi’s range of filtered still, sparkling and boiling water dispensers completely eliminate the need for bottled water as employees can have chilled or sparkling water instantly. In addition, Billi products use far less energy and cost less than standard water systems.
- Give each employee a refillable water bottle – there are many different styles and types of bottles available, including BPA-free reusable plastic bottles as well as glass and stainless steel. Many are available with customisation such as your company logo printed on them and a scheme like this can also be a point of positive PR for your company.
- Educate employees on the negative effects of water bottle waste – many people simply aren’t aware of the damage that water bottles can do to the environment and would be horrified if they did know.
- Incentivise employees for using reusable bottles – some employers hold inter-departmental competitions with prizes available to whichever department becomes ‘bottle-free’ first.
- Create a sustainability team – often schemes like this work best when the ideas come from within your workforce rather than being imposed from the top down. Think about setting up a sustainability team with members drawn from employees in all parts of the organisation, tasked with the specific responsibility of coming up with ideas to further reduce bottled water use.



CHAPTER 4:

MANAGE YOUR WATER EFFECTIVELY

There are now technological solutions available to help you manage your water more efficiently, particularly if you have numerous appliances throughout your organisation.

4.1. Aqualyics intelligent water management system

Water damage is one of the most common reasons that businesses have to make insurance claims. Indeed, the AIB estimates that £3.9 million is paid out by insurers every day for claims arising from water leaks. Reliance on old technology, concealed infrastructure and a dependence on manual monitoring and intervention means that too often leaks are not spotted until it is too late, and the damage is done.

Many small businesses self-insure against damage from water leaks, reckoning that the risk is minimal. However, we never recommend taking that course as the consequences of a leak for your business can be hugely significant.

For example, an independent high street restaurant suffered a break in late one night. Thieves broke in at 12.20am and removed the coffee machine by force. This caused significant damage to the water pipes and water was left to flow unchecked into the restaurant through the night. As a result, the restaurant was closed for two weeks and the business lost £38,000 in revenue as a result as well as having to pay £14,000 to cover replacement fixtures and fittings and repairs. And of course, their insurance premiums and excess immediately increased.

Too often organisations don't give much thought to the consequences of water leaks until after they have suffered such a leak by which time of course the damage is done and the cost incurred. It's much better to think about avoiding or mitigating the risks associated with the escape of water before you suffer such an event.

You might think that, as in the example above, there's nothing you can realistically do to prevent such a leak. It's the result of a random act of vandalism that could realistically neither be predicted nor prevented. However, whilst you may not be able to prevent the leak in the first place, there certainly are things you can do to minimise the damage a leak can cause.

The Aqualytics Flowless intelligent water management system monitors water usage within your building 24/7. It learns about the water usage patterns in your building so it can immediately identify anything unusual and alert you. It knows the difference between a surge in water usage caused by a factory shift starting work, or a weekly deep clean and an unexpected leak. When it detects an unusual change in usage patterns it automatically alerts you via a smartphone app, at which point you can decide whether to remotely turn off the water to the affected area. You can also set it up so that it will automatically shut the water off itself if a human isn't available to make the decision.

Of course, not all leaks are catastrophic burst pipes or other sudden, massive increases in usage. In fact, most organisations are wasting massive amounts of water each year through small, incremental leaks. Things like dripping

taps, toilet cisterns that don't refill properly, leaking pipes due to poor quality installation of equipment and other smaller leaks. Whilst these kinds of leaks may not cause the type of sudden and catastrophic damage that a burst pipe can cause, the cost of them certainly adds up and the damage can still be significant and expensive to put right, all the more so because they can take so much longer to spot.

The Aqualytics Flowless intelligent water management system is also able to use machine learning to identify these kinds of smaller leaks. It's because of this that most of our customers notice roughly a 20% drop in their water bills fairly quickly after installation, even if they never experience a catastrophic leak. Businesses are losing water all the time through smaller leaks that they don't know about.

These days there's much more awareness that water is a precious resource that needs to be conserved. It's incumbent on all of us to save water wherever we can and installing a system like Aqualytics can reduce your organisation's water usage (and of course the associated water bills!) significantly as well as give you peace of mind that you're protected in the unfortunate event that you do suffer a more significant leak.

4.2. CNX

The CONTI+ CNX water management system enables the complete management of up to 150 connected products such as urinals, taps or showers. Tasks such as hygienic flushing and thermal disinfection can be controlled through its intuitive user interface using a tablet included in the standard delivery. This tablet can also be used to change settings, call up status information, activate individual and group functions and access recorded data.

Logging, safety routines and verifiable function checks of all hygienic measures provide reassurance to all users of the quality management of the water system whilst providing essential proof of safety reports. Reports are saved in PDF format and can be printed and sent easily. The web server integrated into the CNX controller provides a user-friendly overview of all networked taps in the building. Taps that have been linked to the network can be located and controlled via a WLAN connected tablet or laptop, either individually or in groups. The tap operating status, forthcoming action and notifications are all clearly visible on the display.

When online, each tap receives updates automatically. When offline, updates can be implemented via the tablet. All internet-enabled devices can be operated via web browser, regardless of the operating system installed.

- Automatic hygienic flushing – Whilst hygiene is an important issue, centralised control is a must. The settings for flush duration, interval and water run on time for every tap installed in the system can be set via a mobile device or PC.
- Thermal flushing – Safety is the buzzword for thermal flushing. As a result, the system only permits the thermal flushing procedure to be triggered at defined times that can be controlled via the tablet in line with the technical standard DVGW Worksheet W551. The complete process is monitored, recorded and can be printed.
- Tap management – Devices can be added, reassigned within groups or moved thanks to a clearly structured menu. An overview of parameters set for each tap can be viewed on the tablet.

It is essential that the correct temperature, water replacement and flow rate are provided and maintained. These interacting parameters are regarded as the ones which have the most significant effect on the hygienic quality of drinking water at a microbiological level, according to generally accepted engineering standards (including EN 806, DIN 1988-n00 and VDI/VGW 6023). The CNX system actively influences these parameters.



CHAPTER 5:

MEASURE AND UNDERSTAND YOUR CURRENT USAGE BEFORE YOU START

If you're serious about saving water then you'll want to be able to track the success of your water saving efforts. The simplest way to do this is to track via your water meter. This could just be a matter of taking a reading at the start of your water saving project and then keeping track of how usage varies as the project develops.

Talk to your water supplier about smart metering and online billing, if you're not already taking advantage of these options. Smart meters can give you the data you need to properly understand your water usage, making it much easier to identify problems such as leaks as well as helping you

benchmark your performance and evaluate the likely benefits of investing in water saving technology.

If you're considering a complete washroom revamp, perhaps installing waterless urinals or sensor taps, then you might want to be able to measure the effect of such interventions more precisely. We work with many clients who want to be able to measure the ROI of investing into water saving washroom equipment such as waterless urinals or water saving taps. Understandably, financial directors often require proof of the likely ROI before signing off the capital expenditure involved in a washroom refit.

Here we outline the process for doing this using the example of a major chain of service stations, who have installed Conti+ Ultra water saving taps which use up to 70% less water than traditional taps.

In order to measure the ROI they would achieve from installing water saving taps, the company first needed a clear idea of its existing water usage. We took one service station and installed water meters (two measuring hot water consumption and two measuring cold) in two banks of tap ranges. We used these to measure hot and cold-water consumption over a period of 10 weeks.

- The results showed that prior to the installation of water saving taps the site used 252.6m³ of water over the ten-week monitoring period (150.3m³ of cold water and 102.3m³ of hot water).

We then installed 15 Conti+ Ultra taps and measured the water consumption for a further 10-week period. We were then able to compare water consumption before and after the installation of the taps. Ten weeks is generally long enough to be representative and so we were able to extrapolate from that what the saving would be over the course of a year.

- The results showed that after the installation of water saving taps the site used 51.5m³ of water (28.1m³ of cold and 23.4m³ of hot).
- This is a saving of 201.1m³ water over a ten-week period which equates to a saving of 1,045.72m³ over a full year – a reduction of almost 80%.
- At the time of the test the company was paying £1.705 per m³ for their water so this reduction in water use equates to £1,782.95 over the year for a single washroom.

The company also wanted to know what their total hot water saving was for the test period, in terms of the energy that they had saved due to the reduction in hot water usage. For this we calculated the cost of the hot water used, assuming it was all heated in one hour, and then multiplied this by a diversity factor of 12 to take into account the fact that the facility is open 24 hours a day. This is a conservative estimate, rather than multiplying by 24, to take into account that usage will vary according to the time of day.

- Over the course of the 10 week trial the company cut hot water usage by 78.9m³, which equates to a reduction of 410.28m³ (or 410,280 litres) over a year, the equivalent of 1,124 litres saved per day.
- It takes 59.2 kwh of energy to heat 1,124 litres of water if heated in one hour.
- The service station chosen is a remote site using LPG rather than natural gas. One litre of LPG produces 6.9kwh and cost £0.178 per litre so the company saved at least £4.02 per day in heating costs.
- The total saving on the cost of heating water is £1,467.30 over the course of a year.

Using these figures we were able to calculate that the water saving taps would save a total of £3,250.25 per year (£1,782.95 in reduced water usage and £1,467.30 in heating costs) and pay for themselves within 16 months from installation. This figure takes into account the cost of running the trial and the metering too, as there is obviously a cost associated with installing meters that needs to be factored in when calculating ROI.

CHAPTER 6:

CHOOSE A RETAIL WATER COMPANY THAT CAN HELP

Since 2008 in Scotland and April 2017 in England, non-household water customers have been able to choose their water retail company. This is really about the “customer-facing” services including billing customers, handling payments, reading meters, and taking calls from customers about network related issues. You can find out more about water retail companies in England through Open Water here. A list of retail water companies in Scotland is available here.

A key benefit of retail competition in Scotland was water efficiency services. There was hope that this would be seen in England also, however the experience has varied for many customers. Below is a graph from a recent report Waterwise published on water efficiencies services being offered. These are some of the key areas you can ask about when looking for a new water retailer to support your business (full report available here).

We work with The Water Retail Company, headed by a team with extensive experience in the water industry and utilities sector. Its

simple, transparent, no-nonsense approach means it offers highly competitive pricing for water and sewerage services for large and multi-site customers.

Water efficiency is at the heart of the Water Retail Company's business and it works with clients to develop a strategic efficiency plan that uses technology and innovation to drive down bills through reduced water usage, reduced effluent discharge and reduced surface water drainage.

The Water Retail Company offers a bespoke and transparent service to all clients. It works with a small number of businesses, tailoring its services to your needs. Each customer has individual challenges, so it works with you to understand your business and any issues you face.

It will only sell water as part of a wider water efficiency package because water is a precious resource but additionally, the only way of making significant savings is by using less. It uses the latest technology and behaviour change techniques to improve efficiency in your business year on year.

CHAPTER 6:

WHAT IF YOU GET YOUR WATER FROM A BOREHOLE?

Saving water is important to all organisations these days but it's particularly important if you get your water from a borehole.

We have a growing number of clients who've installed our waterless urinals for precisely this reason. Clients like English Heritage at Stonehenge are not connected to mains water, so they need to extract all the water they use from a borehole – water that's used for drinking, washing and temperature control, and as a receptor for treating all the sewage effluent generated onsite. At Stonehenge all the waste water is treated onsite before being tankered away, a process that itself is water-intensive.

The amount of water that a site is able to extract from a borehole is limited by the terms of the borehole license. The borehole at Stonehenge is licensed to extract 35m³ of water per day, which can be a challenge considering that the site attracts upwards of 9,000 visitors on site at a time during busy periods.

It's important that Stonehenge does not go over its borehole licence limit otherwise it risks a substantial fine from the Environment Agency.

Of course, that's not the only reason that English Heritage is keen to reduce water usage at Stonehenge. Sustainability has been a key driver of the redevelopment of the visitor facilities at the site. The onsite sewage treatment plant, borehole water and ground source heat pumps are all part of this

drive and were included in the development specifically to reduce its carbon footprint and water usage, as well as to remove the need for expensive and intrusive connections to mains water.

If you're processing your own sewage onsite then reducing the amount of water that needs processing in the first place can significantly reduce the scale and cost of the effluent apparatus required to store your waste water before it can be removed from the site.

Thus the staff at Stonehenge are very focused on trying to limit the amount of freshwater that they use onsite. Waterless urinals play a vital role in this. Each urinal saves the organisation up to 100,000 litres of water per year. There are 11 waterless urinals installed in the Visitors' Centre and a further 8 the Groups Reception Centre, so between them they're reducing the amount of water that would otherwise need to be extracted from the borehole by almost 2 million litres per year.

We sometimes talk to people who tell us that they don't need to worry about saving water because they're on a borehole. Whilst it's true to say that the cost of your water supply can be lower if you're extracting from a borehole compared to what you'd pay for that water via mains supply, that doesn't mean you can use unlimited water with impunity. Borehole licences always come with restrictions and the penalties for breaching those restrictions can be severe, including prosecution in the most serious cases.

How we can help you

All of us have an obligation to save water. Whilst water saving should be an important part of any organisation's corporate social responsibility strategy, the savings go straight to the bottom line so commercially it's a no-brainer.

So why not take action today? Talk to us about how we can help you install water saving devices – urinals, taps, showers and water management systems – throughout your organisation, saving you significant amounts of water as well as reducing your costs.

Visit our website
www.ecoproduct.co.uk

Email us
enquiries@ecoproduct.co.uk

Give us a call
0844 800 7890

