Water Management – Hospitality Sector

The current weather has brought with it a water shortage challenge across the country. Tourism and Hospitality businesses use a lot of water in their day-to-day operations and should implement good practices to minimise its use for both environmental and financial reasons. The less water used the lower the cost (The median total cost of mains water for commercial businesses is c. €2.28 per 1,000 litres/ m³) and the less demand it places on these scarce supplies.

One item of information that can be quite surprising is that less than 2% of Mains Water (Treated drinking water) is directly consumed – the majority is used for toilets, personal washing, cleaning and food preparation.

This short practical guide has been created by the Green Hospitality Programme and is backed up with some case studies and resources on the GreenHospitality.ie website.

It is designed to assist you in reducing the amount of water you use every day and will support the call for all of us to conserve this scarce and important life-giving resource. Many of the recommendations can be implemented at home as well so give each of your staff a copy of this guide also and ask them to take some direct action at home.

There are 2 key approaches to water management;

Measurement – Monitoring and Understanding

Minimisation – Communication & Investment

Measurement

Do you know how much water you use? Is this Good Practice or Bad Practice? If it is Bad Practice it is costing your business money and wasting this resource.

The old saying, "you can't manage what you can't measure" holds true with water use. It is important to understand how much water your business is consuming and how it is divided among the various uses such as in the guest rooms and common areas. A great place to start is with a thorough evaluation of water use in the property, also called an audit or site survey. This can be done in-house or contracted out to a third-party specialist.

An audit includes collecting historic water bills and counting all the water using fixtures and appliances inside and outside of the building. Observing how water is used in various operations such as cleaning guest rooms, laundry, and food service is also very useful. The evaluation should identify the associated water flows. Additional data such as occupancy rates are useful during this assessment. A detailed water use profile will enable precise planning and implementation of improvements.

We recommend that consumption is monitored at least once per week so that you can build up a good picture of consumption.

Measuring equipment water flows – see the guide on the GreenHospitality.ie website here

Benchmarking

Few businesses benchmark their water consumption. In GreenHospitality.ie we have been benchmarking for 15 years and can tell hotels what the average 2016 consumption per sleeper is – 301 lts. This means that if a hotel is worse than this it knows that it can improve. If its better, it probably can still improve as 301 litres/sleeper is a lot of water!

For other tourism businesses you can calculate your own benchmark – it could be; Litres of water per cover, visitor, etc.

Your Meter

All business premises have a mains water meter – they are usually located outside the curtilage of the property so that Irish Water does not have to enter the grounds to read the meter. In many local authorities the information is read electronically but there is also an analogue view available.

Find out where your meter is and start taking readings and calculating your daily, weekly consumption. Track how it falls after you take some actions.

If you have a problem finding your meter contact Irish Water or your local authority for assistance. www.water.ie

Sub-metering

Best practice is to sub-meter water consumption where there are departments that use a large amount – especially Leisure Centres with swimming Pools, Kitchens and Inhouse Laundry's.

Diehl meter   Itron meter

Hot Water

When water consumption is reduced you will often reduce hot water consumption. This will be a superb additional benefit as hot water can cost 6 to 10 times more than cold water

A 1,000 m3 leak (less than 2 litres/minute) would cost on average €2,280 – if it was hot water it could cost from €13,680 to €22,800

Understand your Bill

Irish Water provide good information on this topic on their website under – For-Business/Billing-explained/Understand-your-bill

However, if your bills are estimated then you really are not getting enough information in as timely a manner as you should. At a minimum you should be reading your water meter weekly and for larger businesses a daily read should be implemented

Understand the Costs and Engaging

A Cubic Meter of water/ m³ (1,000 litres) costs from €1.59 in Kildare to €3.04 in Wicklow. (This includes water delivered and sewerage removed)

In practice, 2 restaurants on either side of the Kildare/Wicklow border will be paying different prices for the same commodity. This is a legacy issue from prior to Irish Waters creation and a process is currently in place to rationalise water charges – the indicative proposal is for a cost of €2.78/m³ for under 20,000m3 pa or €3.12/ m³ for under 1,000/ m³/pa – a lower charge will apply for Industrial usage.

There is a consultation process underway right now and all businesses are advised to engage with their representative organisations so that their voice is heard.

Irish Water estimates that a small majority of users will see their costs fall. More information can be found on the [CRU Website Here](). **Submissions close after the 15th August 2018.**

Well water.

You might think that if you have a well it doesn't matter. But this is the wrong approach. Environmentally you are extracting water from the local water table and in drought periods may be negatively impacting other users – waste is waste!

Commercially it costs money to extract well water and treat it for hygiene purposes and deliver it to your customers, plus the ensuing waste water has a treatment cost.

Well Water extraction good practice: Put a meter on your well and measure regularly your usage – if you also use mains water add the 2 together and work out your average consumption.

Leaks

We all know that more than 40% of mains water never reaches consumers – our ancient pipe system leaks all over the place. But, once water passes through your business meter you pay for it – therefore it is vital to find and eliminate any leaks.

Leak Detection – Mains

Do an overnight or night time test when the business is "resting" or little water is being consumed. Work out the litres per hour that goes through your meter = your leak. Multiply by 8760 and that is your annual leak. Multiply by the total cost of water in your area and that is the cost.

> Overnight Test: The water meter is read at midnight and again at 6.00 am – the business was closed during this period and total water consumption was calculated as 600 litres. This is a 100 litre per hour leak = 876 m³

Call a plumber and fix the mains leaks.

Leak Detection – Day-to-Day

Other leaks can be from faulty equipment – taps, showers, toilets, cisterns, etc. Engage and train your staff to spot and report these as fixes are often a few euro – whilst the waste can be many multiples.

Communication and Investment

Now that you know how much water you are using, and where, and have fixed the leaks, you are able to implement the next phase – changing human behaviour and investing to save.

Minimising Water Waste

A lot of waste comes from poor behaviour (People wasting water) and we all know that water leaks also cause a lot of waste. Understanding how much water and how you compare to others can help you to identify waste – either through leaks or poor behaviour.

> If a kitchen porter leaves the Pot Wash Sink Tap (20 lt/mn) on with no stopper in the sink for 5 minutes every hour he will waste 1,700 litres per day, 11,932 per week, 51,708 per month or 620,500 per year – Costing c. €1,800 pa or if its hot water up to €10,000 per annum

Both staff and customers need to be communicated with and encouraged to minimise water usage.

Investment

By installing low water use equipment, businesses can reduce water consumption – without any negative impact on customer service. This is a key principle in the tourism and hospitality sector – the customer should not notice any environmental improvement unless you want them to.

Where can you Invest?

Your plan should focus initially on areas where there is the greatest use of water and the smallest investment;

Little or No Cost

Towel Reuse Programme – Ask customers to hang up their towels for reuse and ensure staff follow through. Make sure you have a policy in place to ensure that if your staff feel that fresh towels are required, that they provide additional as opposed to replacement – don't annoy your customer.

Linen Reuse Programme - Do not change linen during a guest stay **or** engage with the customer asking them to request a linen change – if this is not your existing standard.

Hint: Do not claim that you are saving the world or minimising pollution as you are trying to guilt your customers whilst saving money. GreenHospitality.ie promotes a more positive approach where the savings are either shared with the customer or used for environmental good works locally.

Bedroom Toilets – with old cisterns – displace up to 1lt of water per flush with a brick or bottle of water or commercial water toilet reduction device – such as a "Hippo" Bag, or similar

Note: If a brick make sure it is non-permeable as if it degrades under water it will destroy the toilet.

Reduce water pressure – this can be done by area or across the property. Make sure it does not impact negatively on your operation

Swimming Pool Backwash – base this on pressure reduction, not a schedule

Quick Return on Investment

Public Bathrooms/Areas

These are in use 24/7 *(Guest and Employee)* and use a lot of water therefore the Return on Investment will be quite short.

Urinals – described as an "Engineered Leak" traditionally these flush every 10-15 minutes – 24/7. Even when the business is closed (The author managed a hotel that used 25% of its destinations water flushing urinals when the hotel was closed! – and there was a permanent water shortage at the destination)

Solution: Waterless urinals, sensors

Taps – traditionally 2 tap sinks with screw taps dispensing up to 15 lts water per tap per minute. 95% of running tap water never touches users hands!

Solution: Mixer taps – Good practice is lever - Best Practice is with sensors – maximum 4 lts/min

Toilets – Old style uses up to 15 lts per flush. Dual flush uses 4/6 litres per flush

Solution: Install dual flush – do the ladies first as they are flushed after every use.

> An old 12 litre/flush toilet in use 6 times per hour replaced with a 4/6 litre dual flush toilet will save €1,000 per toilet per annum (Based on future average cost of water)

Showers – where available for Public/Employees – Can use up to 25 Litres/Minute, hot and cold water.

Solution: Low flow shower from specialist suppliers. Mixes air with the water to give the impression of a greater volume – Maximum 10 litres/minute

Cleaning with hoses – All areas – especially leisure Centres, Kitchens, back of house - use a spray unit on any hose pipes

General Short-term returns

Aerators – for taps– these can be screwed on

In Line flow regulators – these can be inserted in individual bathrooms or for key areas

Longer Investment Return

Sub-metering – for high water use areas – Kitchens, Laundry, Swimming Pools, etc. Should be linked to your mains water meter and ideally all data managed in the cloud with alarms sent when consumption exceeds acceptable levels.

Often the payback on these meters can be very quick as they allow you to identify poor behaviour and reduce consumption. When employees know that they are being measured their performance alters.

Pool covers – reduces evaporation when the pool is not in use (Correctly used, a pool cover can also reduce total energy usage in a swimming pool by up to 30%)

Ice Machines – use air cooled as opposed to water cooled. If using water cooled, capture the waste water and use it in the pot wash – as it is warm/hot.

Rainwater Harvesting – when it rains capture this and use it for pool backwash or non-potable uses – or install a full filtration system and use within the business.

New Equipment – when replacing equipment such as Dishwashers, Washing Machines, etc. ensure that the new machines use the minimum quantity of water possible, allied with excellent energy efficiency.

Communication

Employee Training – train your employees to use the least amount of water when working, especially;

- Accommodation – aim to achieve a one flush standard when cleaning toilets
- Accommodation – minimise water use in cleaning bathrooms – look at alternative solutions to minimise rinsing such as the GREENClean programme
- Kitchen – Dishwashing – make sure full loads are in operation
- Kitchen – Pot Washing – make sure the stopper is in the sink when the taps are on
- Kitchen – defrosting – do not use running water
- Swimming Pool/Leisure – backwash when pressure drops across the filters
- Laundry – ensure only full loads are washed
- All Staff – report leaks immediately

Customer Communication – engage with your customers – don't be afraid of them – be up front with your message *"We are working hard to reduce our environmental impact, without impacting on your stay – however, there are a number of things you could do to support our actions"*

- Bedroom Bathrooms – Towel reuse programme – shower and shower shorter – don't leave the tap running
- Bedrooms – Linen reuse programme

Tell a story – you should also include messages/information about your other environmental activities – your community engagement, energy efficiency, carbon offsets, waste minimisation, etc.

Checklists – we have enclosed 2 checklists – which are also available on our website here to download – to assist you in putting an action plan together.

Conclusion

We hope that you find this guide to water management and minimisation useful and we would welcome any case studies that can show water reduction from any actions you implement – please send them to us at info@greenhospitality.ie or if you require any direct support

Disclaimer: Please refer to our disclaimer on www.greenhospitality.ie/services

Good Practice Actions - CHECKLIST

Good Practice Actions - CHECKLIST	Are we Implementing Good Practice Yes / No
Action Plan – we have a water reduction plan in place with specific targets with completion dates	
Measurement – We regularly read our Mains Water Meter and compare consumption on at least a weekly basis and communicate our progress/benchmark to all employees.	
Water Flows measured – we have measured the average flows or usage from the following – Taps, Showers, Toilets, Urinals	
Benchmark – we benchmark our consumption against available benchmarks – either national or local.	
Leak Detection – we formally check for mains water leaks at least monthly by carrying out the "Overnight" test	
Leak Detection – we have trained all our staff to report visual leaks and we have a process in place to have them fixed.	
Employee Training – we have identified where we use water within our business and have trained our staff to be aware of and minimise the use of water – by department – especially high usage areas such as Kitchen, Laundry, Leisure Centres.	
Customer Information – we have engaged with our customers – at the point of use – about our water reduction initiatives – and ask them to support them	
Plants and Grounds - We do not use Mains Water to water plants or grounds	
Dishwashing – we ensure that only full loads are sent through the machines and that pre-rinse is minimised	
Laundry – Clothes Washers – we ensure that only full loads are washed	
Towel reuse programme – we have a Towel Reuse programme in Guest Bathrooms and customers are requested to support it and staff trained to follow through	
Linen reuse programme – we have a Linen Reuse programme in Guest Bedrooms and customers are requested to support it and staff trained to follow through	
Guest Bathroom cleaning – staff are trained in how to minimise water use during cleaning – including only flushing the toilet once	

Best Practice Actions - CHECKLIST	Are we Implementing Best Practice Yes / No
Sub-metering – major water using departments are sub-metered and consumption analysis/benchmarks monitored on at least a weekly basis – key areas include Kitchens, Leisure Centres, Full in-house Laundry	
Taps – The flow rate is 6 litres/minute or less. Public Bathrooms – all taps are mixer type with flows less than 4 litre/minute	
Showers – low flow showerheads are in place with flows of less than 10 litres/minute	
Urinals – are either waterless or have sensors in place to minimise flushing	
Toilets – dual flush toilets are in use or – Guest Bedrooms: Water reduction actions taken – Public Toilets: Dual Flush toilets are installed	
Pre-Rinse unit – Maximum flow of 8 litres/minute when in use	
Equipment – dishwashers, clothes washers, etc. Water efficient models are in use	
Rainwater Harvesting – collected and stored and used wherever possible	
Ice Machines – only air cooling units are used	
Swimming Pool Showers – push button or sensor units are in use	
Swimming Pool Management – Pool Covers are in use daily to minimise evaporation	
Swimming Pool Management – Backwashing is implemented based on usage/pressure as opposed to a regular schedule	
Floor Cleaning – all departments – staff are trained to minimise the use of water and low flow spray heads are in use instead of free-flowing hoses.	

GreenHospitality.ie (GHP.ie) is the Irish Hospitality, Travel & Tourism Resource for Sustainable and Responsible Tourism. GHP.ie's objective is to support the Irish Hospitality sectors drive to improve its Sustainability by providing a certification programme and support to minimise its costs through better Resource Efficiency by; - Pricing and using **energy** wisely, - Selecting the correct equipment and controls to manage the use of **energy** and **water** and to prevent losses, wherever possible, and - Correctly minimise, separate and dispose of **waste streams**.

Certification Programme – Green Hospitality Award

GHP.ie offers an internationally recognised environmental certification programme that enables businesses gain competitive advantage by promoting their responsible credentials, as well as using it to maintain the cost savings introduced through better resource efficiencies. Certification is optional though strongly recommended.

Recognition – for smaller businesses and activities we operate, through our sister company GreenTravel.ie our **GREENMark** recognition programme which allows them to promote their sustainable business approach. Our **GreenTravel.ie** website provides a marketing platform for all recognised sustainable hospitality businesses

Consulting and Support – Resource Efficiency

Businesses can avail of a number of resource efficiency support services through our Consulting Service – **Green Trading Company (GTC)** – to assist in identifying opportunities, securing grant aid/financial support for projects, join one of the GTC programmes, or any combination of services, depending on what their immediate requirements are.

Resource Efficiency Support and Certification

The most beneficial support GHP.ie can offer to businesses is a combination of Resource Efficiency Support and advice linked to potential certification.

This is a combination of our **GREENStart** offer initially followed by annual support through our **GREENSave** package. This annual support includes a site visit and review with the business of ongoing energy, water and waste management performance and opportunity review for the following year.

With Energy, Water and Waste costs set to increase steadily in future years this is an investment in a support service that will bring expert advice and guidance to this large cost area. Businesses are not required to become certified to avail of our annual support package – though we recommend it as a tool designed to support ongoing cost saving and as a CSR tool.

For more information contact us at info@greenhospitality.ie or through our website www.greenhospitality.ie