Leaner & Greener Water

TED Tourism Enterprise Development Programme

TOURISM NORTHERN IRELAND

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What we will Cover…

Why is water conservation important for your business?

Step-by-Step Approach to establish:

1. How much water is used in your business
2. Where is water used in your business
3. What actions you can take to save water (and money) in your busines?
4. How you can develop an action plan to reduce water use

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8 Steps to Water Savings

1. Appoint a Green Team or Green Champion
2. Calculate Annual Units & Cost (Worksheet 1)
3. Establish your benchmark
4. Start monitoring Monthly Units & Cost (Worksheet 1)
5. Measure Flow Rates
6. Do a Walkaround Water Audit
7. Analyse Data and Prioritise Action
8. Create your Water Saving Action Plan

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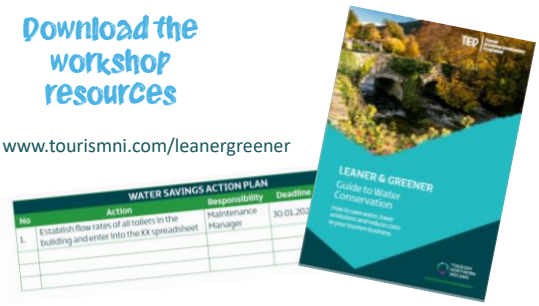
Download the workshop resources

www.tourismni.com/leanergreener



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Water Conservation

Why is it important for your business?

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- It reduces costs and saves you money
- It reduces greenhouse gas emissions
- It makes your business more resilient
- It may boost your business brand and reputation
- Your clients, customers and staff expect it

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Top line

- About 71% of the earth's surface is made up of water
- 97.5% of all that water is saltwater.
- Of the remaining 2.5%, the majority is permanently frozen or otherwise unavailable for use.
- Only 1% of earth's water is available for our use.
- There has been a 600% increase in global demand for water over the last 100 years.
- A growth in demand of 50% globally is anticipated up to 2030.

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Top line facts - NI

- Brushing your teeth with the tap running can use 6 litres of water per minute
- Around 30% of water in an average household is used to flush the toilet
- A bath uses 80 litres of water. In 5 minutes, a standard shower uses 35 litres of water and a power shower uses 90 litres of water

Source: Northern Ireland Water: https://www.niwater.com/why-save-water-at-home-bathroom/

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Top line facts - NI

Typical business premises, on average, use 50 litres of water per person per day.

Water use in typical business premises:

- Toilet Flushing 43%
- Urinal Flushing 20%
- Washing 27%
- Cleaning 1%
- Canteen Use 9%

Source: Northern Ireland Water. www.niwater.com/what-is-normal-water-use

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Four reference points

Your Water Bill	Your Water Meter	Sub – Meters	Your Water Flow Rate

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Step 1

Green

Team or Champion

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Leaner & Greener Wisdom

Only when you measure and monitor can you truly manage water and save money

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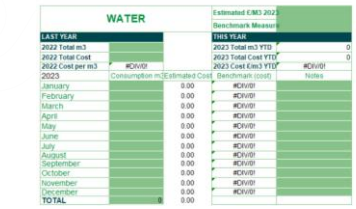
Water Use & Costs Sheet – Worksheet 1



WATER			Estimated €/M3 2022 Benchmark Measure	
LAST YEAR			THIS YEAR	
2022 Total m3			2023 Total m3 YTD	0
2022 Total Cost			2023 Cost €/m3 YTD	0
2022 Cost per m3	#DIV/0!		2023 Cost €/m3 YTD	#DIV/0!
2023	Consumption m3	Estimated Cost	Benchmark (cost)	Notes
January		0.00	#DIV/0!	
February		0.00	#DIV/0!	
March		0.00	#DIV/0!	
April		0.00	#DIV/0!	
May		0.00	#DIV/0!	
June		0.00	#DIV/0!	
July		0.00	#DIV/0!	
August		0.00	#DIV/0!	
September		0.00	#DIV/0!	
October		0.00	#DIV/0!	
November		0.00	#DIV/0!	
December		0.00	#DIV/0!	
TOTAL	0	0.00		

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Step 2

Annual Use & Costs

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How much water do you use in your business right now?

This is your baseline.

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Start by establishing your annual figures for 2022.

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Four reference points

Your Water Bill	Your Water Meter	Sub – Meters	Your Water Flow Rate

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Understand your bill

Source: https://www.niwater.com/understanding-your-bill/

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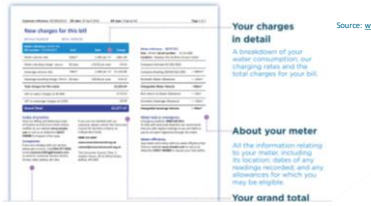
Understand your bill

Your bill - back



Your charges in detail

A breakdown of your water consumption, our charging rates and the total charges for your bill.

About your meter

All the information relating to your meter including its location, dates of any readings recorded, and any allowances for which you may be eligible.

Your grand total

Source: www.niwater.com

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Worksheet 1: Water Use & Costs – Annual & Monthly

WATER			Estimated £/M3 2023	
			Benchmark Measure	
LAST YEAR			THIS YEAR	
2022 Total m3			2023 Total m3 YTD	0
2022 Total Cost			2023 Total Cost YTD	0
2022 Cost per m3	#DIV/0!		2023 Cost £/m3 YTD	#DIV/0!
2023	Consumption m3	Estimated Cost	Benchmark (cost)	Notes
January		0.00	#DIV/0!	
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April		0.00	#DIV/0!	
May		0.00	#DIV/0!	
June		0.00	#DIV/0!	
July		0.00	#DIV/0!	
August		0.00	#DIV/0!	
September		0.00	#DIV/0!	
October		0.00	#DIV/0!	
November		0.00	#DIV/0!	
December		0.00	#DIV/0!	
TOTAL	0	0.00		

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Water Bill Health Check

This free service provides you with a simple breakdown and explanation of your water bill.

It makes sure that you are being billed correctly and helps identify opportunities for you to save money on your water bills.

If appropriate for your circumstance, you will also receive some water efficiency advice.

For your free Water Bill Health Check email contact@consumercouncil.org.uk or call 0800 121 6022.

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Suggested Actions

- Ensure you are receiving a metered bill.
- Get familiar with all the information on your bill.
- Apply for Water Bill Health Check through The Consumer Council
- Record your 2022 figures (cubic meters of water and cost per cubic member) in Worksheet 1

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Step 3

Benchmark

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Why benchmark?

Benchmarking allows you to track your own performance over time

Benchmarking allows you to compare your performance against others in the industry

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Benchmark examples

95 litres per guest
45 litres per square meter
110 litres per cover

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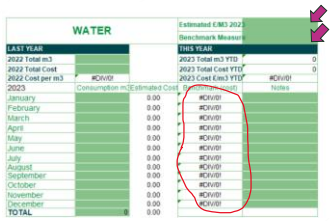
Worksheet 1: Water Use & Costs – Annual & Monthly



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Step 4

Monitor

Monthly

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Four reference points

- Your Water Bill
- Your Water Meter
- Sub – Meters
- Your Water Flow Rate

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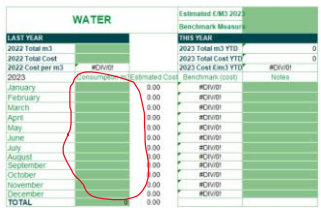
Worksheet 1: Water Use & Costs – Annual & Monthly



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Northern Ireland Water

- NI Water aims to read the meter at least twice a year.
- Guarantees that one bill per year is based on a meter-reading.
- Metered customers usually receive a bill every 6 months.

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Why is it recommended to read your meter?

- The information is more timely
- The information is more accurate
- Allows you to monitor patterns over different months, weeks and even days

Important Note: Be safe and follow guidelines-
www.niwater.com/read-your-meter

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Sub-Meters

Sub-meters are useful for larger businesses or where certain departments use large amounts of water.

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Step 5

Measure Flow Rates

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Once you have a good sense of how much water is being used to run your business, it's time to get behind those figures and establish where and how the water is being used:

- ✓ Count water-using fixtures and appliances inside and out.
- ✓ Identify associated water flows

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Four reference points

Your Water Bill	Your Water Meter	Sub – Meters	Your Water Flow Rate

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Water flow rate

The speed at which water flows out of a tap, shower or toilet in litres per minute.

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What is considered a good flow rate?

- ✓ Kitchen Taps: 6-8 litres per minute
- ✓ Public and Restroom Taps: 2-4 litres per minute
- ✓ Showers: 6-8 litres per minute
- ✓ Toilets: 4-6 litres per flush based on dual flush toilet

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Calculate flow rate taps and showers

- ✓ Open tap or shower at full force.
- ✓ Let it run for 10 seconds into a large bucket.
- ✓ Measure how much water is in the bucket.
- ✓ Multiply by 6 to get the litres used per minute.

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Comparing flow rates

Number of liters per minute

X

Estimated number of minutes in use per day

X

Number of weeks in use in the year
= Annual consumption

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Comparing flow rates

MY BATHROOM TAP	OPTIMAL BATHROOM TAP
6 (litres per minute)	3 (litres per minute)
X	X
120 (minutes per day)	120 (minutes per day)
X	X
363 (days in use per year)	363 (days in use per year)
= 261360 litres/year	= 130,680 litres/year

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Step 6

Walkaround Audit

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Conduct a Water Audit

4.2 Walkaround Water Audit Template

WALKAROUND WATER AUDIT		
Area	What I notice	What could improve here
Ladies Toilet	1 tap left running on full force but nobody there	Change to a tap that switches off automatically
Mens Toilet		
Kitchen Wash Up		
Kitchen Dishwasher		
Bedroom Showers		
Bedroom Toilets		
Garden		
etc...		

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Step 7

Analyse Data

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Your Flow Rate Analysis and Walkaround Audit will give you a clear picture of your water use profile and will highlight priority action areas

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Analyse the outcomes of your audit

What jumps out as a priority area for attention?

Share outcomes with your team or mentor

Brainstorm solutions

Broadly estimate costs and resources required

Prioritise!

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First take the actions with the lowest cost and highest impact

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Step 8

Action Plan

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Áine Martin

Experiences from Ireland's First Carbon Neutral Hotel

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Áine Martin

Water Conservation
"Experiences from Hotel Doolin-Ireland's First Certified Carbon Neutral Hotel"

Tourism NI Leaner & Greener Series

24th January 2023

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Case Study- Hotel Doolin

Ireland's first certified Carbon Neutral Hotel

HOTEL DOOLIN

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Overview of Hotel Doolin

- 17 bedrooms
- 9 holiday homes
- Eco Wedding Venue (capacity 300 guests), hosts 130 weddings per year-generally 2 day events
- Home of Doolin Folk Festival & Doolin Hedge School Festival
- Glas Restaurant
- Fitz's Pub & Snug Bar
- The Attic Music Venue
- Stonewall Café & Pizzeria
- 120 employees

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What are the incentives to setting up a Green Team?

1. Reduce Carbon Footprint
2. Improve involvement within your Community and within your region.
3. Increase Corporate Social Responsibility activities & purchase locally

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3 R's

- **REDUCE!**
- **REUSE!**
- **RECYCLE!**

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3 P's

– **PEOPLE!**

– **PLANET!**

– **PROFIT!**

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Training staff at induction and regular training sessions

- Every employee who starts working in Hotel Doolin receives a full induction day where the Green Hospitality efforts and policies are clearly explained amongst other Hotel information.
- The manager on duty for AM and PM shifts is responsible for ensuring **water saving measures** are being carried out in all areas and spot checks are to be done too.

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How to achieve carbon neutral certification?

We worked with the **Green Hospitality Programme** - the national resource for sustainable and responsible tourism in Ireland recognised by governmental authorities including Fáilte Ireland, Tourism Ireland, Discover Ireland and the **Sustainable Energy Authority of Ireland (SEAI).**

Certification included several visits, creating a five-year energy efficiency plan and finally being assessed and in our case, awarded the **Carbon Neutral12 GREENMark** certification. Hotel Doolin is now the **first premises** in Ireland recognised as having achieved this certification

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Green Team

Sub-teams:

- Water
- Energy
- Waste
- Green Purchasing / Corporate Social Responsibility



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Why reduce water consumption?

- Cost
- Environmental Impact

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Water Consumption & Results

WATER	2019	2020	2021
Food Covers & Guests	273,160	130,448	201,804
Total (cubic metres) per annum -43% saving in 2021 v's 2019	6,296 (23L per guest)	2,878 (22L per guest)	3,578 (18L per guest)

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Establishing Baseline

- Read water meter at the same time every day. Suggest morning time as it can be the first job of the day and record in a book, day by day, month by month.
- To calculate the total usage, you deduct the last day of the month from the first day of the month. Water is measured in cubic meters.
- It is important that the meter is read every day.

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Set a Target for reduction

- Once a baseline is established, the next step is to tackle reducing water consumption and setting the target reduction for your business.
- Allocate responsibility to relevant departments
- E.g Maintenance Manager, Executive Chef
- "Low Hanging Fruit" if this is the first year that water conservation measures are being taken.

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Shower & Tap Aerators

- Replacing your shower head and tap aerators with new, water-saving ones will bring you a return on investment after a few months of use.
- Also reduces energy usage as less water is required to be heated.
- Reductions of up to 55% can be achieved without affecting guest comfort.

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Hippo Bags in Toilet Cisterns

Hippo Bags are a simple, proven and low cost water saving device to help conserve water in toilet cisterns at home and in businesses. Every time a toilet is flushed the Hippo saves approximately 3 litres of water.
Payback is 8-12 weeks.
€5.68 for 2 bags.

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Harvesting Rainwater

- 6500 litre tank in the garden underground
- Low maintenance required
- Water is used for polytunnel and cleaning back of house yard.

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Harvesting Rainwater

Installed 4 shoots running from gutters into pipes bringing rainwater to the tank. This water is used daily for watering plants / polytunnel and cleaning also.
It is also used for power hosing the hotel & footpaths.

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Changing Behaviour

- Suggest actively changing behaviour on a weekly basis by engaging and encouraging the team to reduce their carbon footprint. This training and education hugely increased their positive effects on the activities and achieving the fundamental targets that are set in place.
- Examples include:
- Refraining from defrosting food with running water.
- Training Kitchen porters not to leave taps running. Knee taps are a good option.
- Standard operating procedures for cleaning bedrooms.
- Fix leaks and dripping taps / equipment.

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Additional steps

- Water refill station
- Sell reusable water bottles
- No plastic bottles of water or soft drinks sold in plastic.

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Additional Steps

- Urinals in bathrooms flush every 2 hours and are spot checked regularly.
- Operate a towel & linen re-use programme in the bedrooms to reduce amount of laundry.
- Incentivise the guests to not have their room serviced by giving them a 5 euro bar voucher and there has been a very positive uptake on this offering.

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Recommended Steps & Tips

- Start if you haven't already as it is the responsible thing to do and also a very positive exercise for the team, guests, suppliers and all stakeholders involved in the business.
- Get your team involved.
- First step is to start recording and monitoring your water usage and then setting a target for what you want your business to achieve in terms of a reduction.
- Train your team from Day 1 about reducing water consumption.
- Hippo Bags / Aerators / Harvesting Rainwater
- Training staff to be aware of reducing water consumption. Get their ideas and suggestions.

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Top Tip!

- File the following invoices in a separate folder:
  - -Water, you may only get one water bill per year
  - -Waste
  - -Energy bills (electricity, gas and oil). Start tracking your consumption and set a target.
- Look at your consumption - Follow up on discrepancies – you may have a leak. Turn the water off and establish this.
- Make it fun. Don't make it a chore!

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Any Questions?

Thank You!

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Worksheet 3: Water Savings Action Plan

4.3 Water Savings Action Plan Template

WATER SAVINGS ACTION PLAN				
No	Action	Responsibility	Deadline	Notes
1.	Establish flow rates of all toilets in the building and enter into the XX spreadsheet	Maintenance Manager	30.01.2023	

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Leaner & Greener Wisdom

It's only an action plan if it is clear who has to take the action and when that action has to be taken by

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Action Ideas

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4 Main Action Areas

- Fix leaks
- Invest in Equipment
- Alter behaviour
- Introduce new systems

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It is your responsibility to check for leaks.

Once the water enters your property, you are responsible for it.

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Action Area 1: Fix Leaks

Mains Leak: Overnight Test

- ✓ Select a time when your business has minimal or no activity.
- ✓ Take a meter reading.
- ✓ Wait 3 hours and take the meter reading again.
- ✓ If there is a substantial difference, you have a leak.
- ✓ Call a plumber.
- ✓ Contact Northern Ireland Water to report leak and find out if they can repair.

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Action Area 1: Fix Leaks

Equipment Leaks

- ✓ Act on leaky equipment as quickly as possible e.g. taps, shower heads, appliances.
- ✓ Engage staff to be alert to leaks and to report leaky equipment.
- ✓ Designate responsibility for reporting leaks.

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Action Area 2: Invest in Equipment

- ✓ **Aerators:** to reduce flow rate (without affecting customer experience)
- ✓ **Cistern Bags:** if toilet flow is high. Monitor to ensure flush remains strong enough.
- ✓ **Waterless or sensored urinals**
- ✓ **Taps:** replace traditional taps with mixer taps, lever taps or sensor taps.
- ✓ **Low flow showers** – mix air with water to preserve shower experience.

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Action Area 3: Influence behaviour Change

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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, 1,700 litres per day are wasted, 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

Source: Green Hospitality Ireland

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Action Area 3: Change behaviour

- ✓ Start with yourself!
- ✓ Invest in communication, training and monitoring
- ✓ Train staff to set equipment to water-saving and energy-saving cycles
- ✓ Invite ideas for water conservation from your team
- ✓ Recognise and reward great suggestions or actions and the impact of staff actions on savings

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Action Area 3: Change behaviour

Indoors

- ✓ Choice of wash cycle in dishwashers and washing machines.
- ✓ Ensuring full loads
- ✓ Minimising water used when cleaning.
- ✓ Use of alternative cleaning products that don't require rinsing
- ✓ Use of sink stopper when rinsing or washing.
- ✓ Avoidance of tap-running in advance of or after cleaning.

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Action Area 3: Change behaviour

Indoors

- ✓ Check sprinklers are not sprinkling hard surfaces
- ✓ Select plants that require minimal watering
- ✓ Water early in the morning and late in the evening to avoid evaporation
- ✓ Start mulching – add layer of bark to keep the sun off the soil and reduce water

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Action Area 4: Introduce new systems

- ✓ **Install sub-meters where relevant**
- ✓ **Rainwater harvesting**
- ✓ **Water filtration system**

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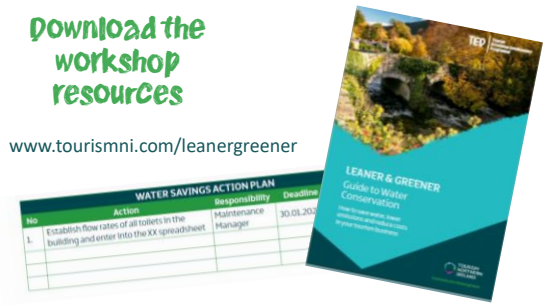
Download the workshop resources

www.tourismni.com/leanergreener



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7. Future Webinars

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Save the Date

Tuesday 7th February, 10.00-11.00am

- Leaner & Greener Waste Management

Tuesday 14th March, 2.00-3.00pm

- Leaner & Greener Food Waste Webinar

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Questions Comments

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