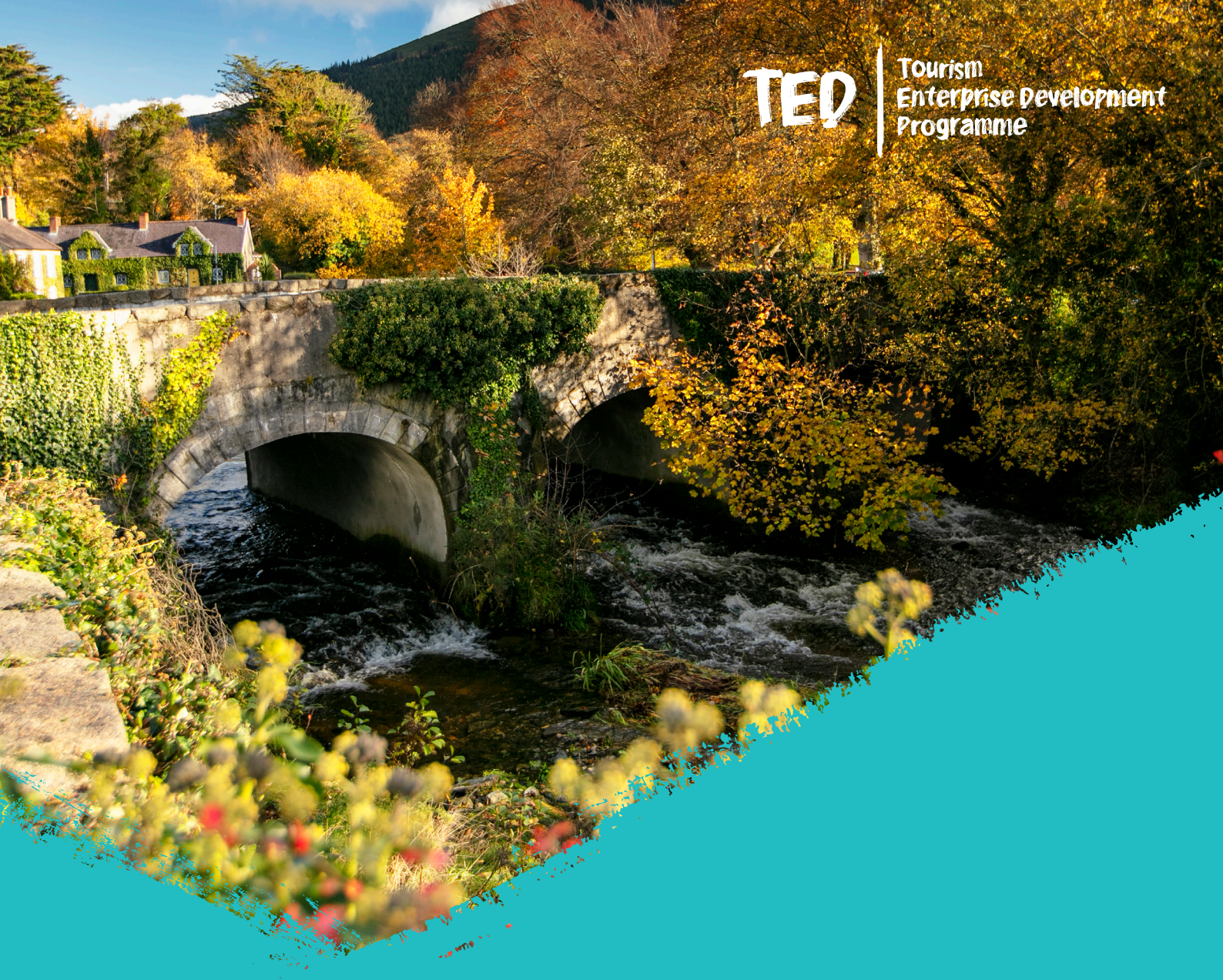


TED | Tourism Enterprise Development Programme

LEANER & GREENER

Guide to Water Conservation

How to save water, lower emissions and reduce costs in your tourism business

TOURISM NORTHERN IRELAND

tourismni.com/leanergreener

Contents

PART 1: CLIMATE, CARBON AND COSTS

1.1 What does 'Going Green' mean?

'Going Green' is a common term to describe the process of reducing carbon emissions caused directly or indirectly by your business.

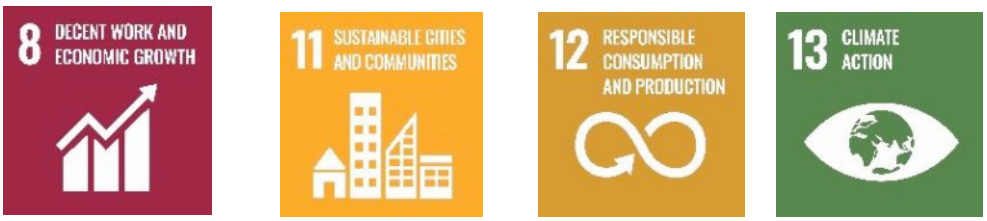
'Going Green' means taking intentional action to reduce the carbon emissions of your business, mainly by managing energy, waste, water and transport more responsibly and more efficiently.

'Going Green' means being proactive and:

a) taking control of your use of energy and water, and setting targets to reduce the amounts you use
b) taking responsibility for waste and setting targets to reduce the amount of waste generated in your business
c) taking the actions that will make sure you reach those targets
d) monitoring and measuring performance and impacts

'Going Green' is a legislative requirement. In June 2019, the UK became the first major economy to commit to a one hundred per cent reduction in greenhouse gas emissions by 2050. The Climate Change Act (Northern Ireland) 2022 has re-affirmed Northern Ireland's commitment to this target. To meet it, every business sector will have to massively reduce its carbon footprint. See Part 3 of this guide for more information on carbon footprint and carbon emissions.

Water Conservation Actions contribute to the following UN Sustainable Development Goals:



1.2 Leaner & Greener Water Conservation

Systematically conserving water will reduce the running costs of your business (making you leaner) and will also reduce carbon emissions from your business (making you greener). It is a win-win situation – it is good for business and it is good for the environment.

1.3 Understanding Carbon Emissions

What is a Business Carbon Footprint?

"A Carbon Footprint measures the total GreenHouse Gas (GHG) emissions caused directly and indirectly by your business." (Carbon Trust)

Why is it good to know your Business Carbon Footprint?

"It will help you understand what your key emission sources are and what opportunities you have to reduce them. It gives you an initial benchmark against which you can measure progress." (Carbon Trust)

Know your Scopes

Internationally, greenhouse gas emissions are categorised as either Scope 1, Scope 2 or Scope 3.

The following table explains what is included in each of these categories and also summarises the key actions you can take to reduce each one.

You will note that Water Conservation contributes to reducing Scope 3 emissions.

What are Scope 1 Emissions?	How can you reduce them in your business?
Emissions your business produces directly e.g., through burning fossil fuels such as gas and oil to run your heating system.	1. Train staff to use energy and equipment more efficiently 2. Invest in more energy-efficient equipment 3. Use less energy that is derived from fossil fuels – replace fossil fuels with renewable alternatives
What are Scope 2 Emissions?	**How can you reduce them in your business?**
Emissions your business produces indirectly e.g., when you buy electricity which is produced by burning fossil fuel.	1. Switch to a certified green electricity supplier 2. Switch to your own renewable energy sources
What are Scope 3 Emissions?	**How can you reduce them in your business?**
Emissions not directly owned or controlled by your business, but that your business is indirectly responsible for e.g., through the products you buy from suppliers or through the transport of staff and visitors to your premises.	**1. Conserve water** 2. Minimise food waste and general waste 3. Source more supplies locally 4. Enable staff and guests to travel sustainably 5. Upgrade insulation in your building

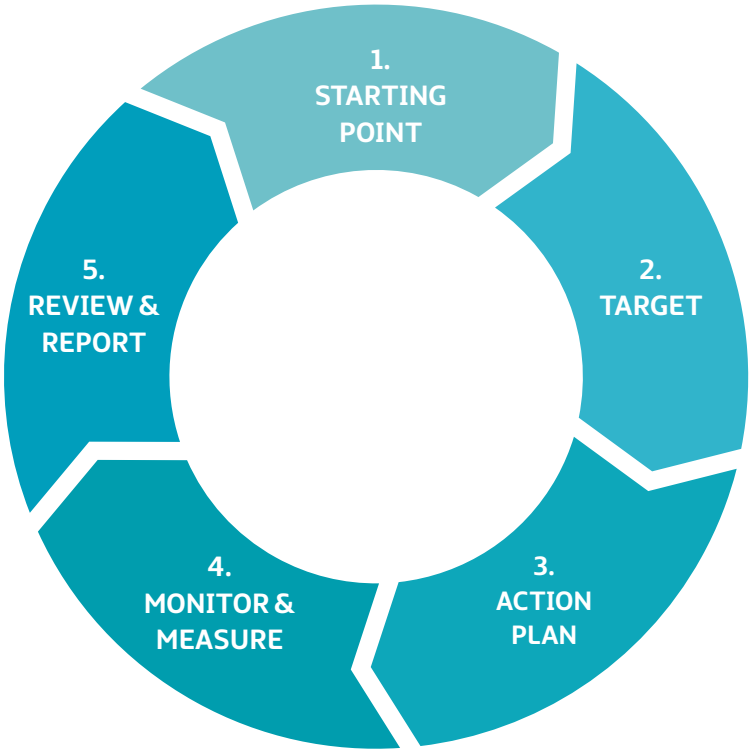
PART 2: A LEANER & GREENER ROADMAP

2.1 A process for managing energy costs and carbon emissions in your business

The single most important determinant of successful energy management is the commitment and leadership of the business owners and senior managers. Only senior management can make this topic a strategic business priority. Only senior management can create the conditions for change to happen.

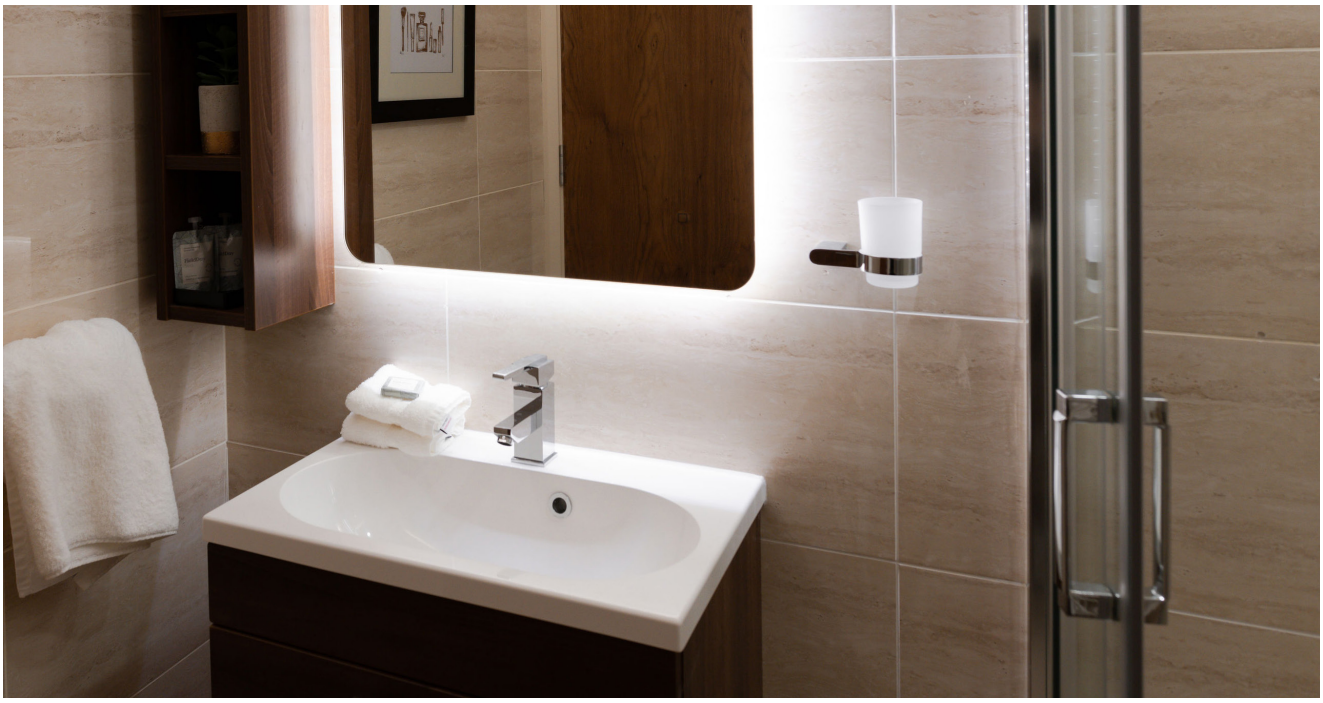
Assuming that managerial support exists, the diagram below shows a good approach to energy management. You will see that it is the same cycle that would apply to the management of any process or system within your business.

1. **Where are you now?**	This is your Starting Point.
2. **Where do you want to get to?**	This is your Target.
3. **How will you get there?**	This is your Action Plan.
4. **How will you keep track of progress?**	Use our Leaner & Greener Energy Spreadsheets to help you measure and monitor.
5. **How will you keep everyone informed?**	Schedule times for review and reporting within your business.



2.2 Best practice step-by-step approach to conserving water

	Action	Top Tips
1	Appoint a Green Champion or Green Team	Appointing a Green Champion or a Green Team is the very first step in saving energy and costs. In a small business, one person may be responsible for this – a Green Champion. In a larger business, it is wise to bring a team of people together – a Green Team. They must have both the responsibility and authority to drive your cost-saving and carbon-saving ambitions. Team members may also need training, meetings, resources and above all time to lead through the rest of the steps below.
2	Gather data on Annual Water Use (m3) and Water Cost (£) in your business (Log this data in the Water Use & Costs template – see Section 4.1)	The very first job of your Green Champion or Green Team is to establish your Starting Point i.e. find out how much water, in cubic metres (m3), that your business used in the last year and how much that water cost (£). You can get this information by reviewing your water bills for the previous year. **Tip: If you need help reading your bill, visit https://www.niwater.com/understanding-your-bill/**
3	Establish your benchmark against which you will measure future performance (Enter your Benchmark Measure in the Water Use & Costs template – see Section 4.1)	Benchmarking allows you to track water use over time. It allows you track your own performance and also to compare your business against others. When you have worked out your annual costs and consumption, you can establish m3 and cost per person/per metre/per cover/per room/per ticket – whichever benchmark is the most relevant for your business and that you can track consistently over time. **Tip: Make note of how you calculate your benchmark so that you and other team members calculate it in the same way each time. This is the only way to ensure you have comparable data.**
4	Conduct a Water Audit: (Find a handy table and some tips in Section 4.2)	You need to understand where water is used in your business and how water is used in your business. A Water Audit will help you do this. There are three elements in the Water Audit i. List water-using equipment, inside and out ii. Identify the flow rate of equipment and compare to optimal flow rates (See Page 7) iii. Walk around your business and observe the impact of staff and customer behaviour
5	Analyse data and develop your Water Action Plan (See Section 4.3)	By now, you will have great information on where and how water is used in your business, as well as how much it costs. Once you know which equipment and operations use the most water, determine the best ways to cut that use without impacting the business. The plan should include immediate and short-term actions as well as medium to long-term ones. It is important to set goals that are specific and measurable. Be clear on who is responsible for each action and the deadline by which it is to be complete.



What does 'Flow Rate' mean and why is it important?

The Water Flow Rate is the speed at which water flows out of a tap, shower or toilet in litres per minute.

If you identify the flow rate of your water-using equipment, you can compare it to best practice flow rates. This will allow you to see if equipment is using more water than it should and to calculate the savings you might make if you adapted or replaced that piece of equipment.

Best Practice Benchmark Flow Rates

- **Kitchen Taps:** **6-8 litres per minute**
- **Public and restroom taps:** **2-4 litres per minute**
- **Showers:** **6-8 litres per minute**

Source: Environmental Protection Agency, Ireland

FORMULA FOR WEEKLY CONSUMPTION IN LITRES
Flow Rate x Estimated Minutes in Use Per Week

PART 3: ACTION IDEAS FOR SAVING WATER AND MONEY

FIND AND FIX MAINS LEAKS

- Select a time when your business has minimal or no activity
- Take a meter reading. Wait 3-5 hours (or overnight) and take a meter reading again
- If there is a substantial difference, you have a leak
- Contact a plumber to rectify and notify Northern Ireland Water

EQUIPMENT: LEAKS

- Act on equipment leaks e.g., dripping taps as quickly as possible
- Designate responsibility in your team for reporting leaks
- Engage staff to be alert to leaks and to report leaky equipment promptly

EQUIPMENT: OPTIONS FOR TAPS & SHOWERS

- Install low-flow aerators on taps
- Install low-flow shower heads
- Install self-closing or sensor operated taps to avoid taps running unnecessarily
- Use mixer taps
- Install trigger-operated hoses in kitchens

EQUIPMENT: OPTIONS FOR TOILETS & URINALS

- Retrofit or install dual flush systems
- Reduce cistern capacity by installing a water displacement device (e.g., brick, bag) to reduce flush volume
- For automatic flush urinals, install motion sensors or shut-off valves
- Invest in waterless urinals

ENGAGE STAFF

- Invest in communication, and monitoring
- Train staff to set equipment to water-saving and energy-saving cycles
- Invite ideas for water conservation from the team
- Recognise and reward great suggestions and the impact of staff actions on consumption and costs

NEW SYSTEMS

- Establish a rainwater harvesting system to collect water for landscape irrigation
- Install a water filtration system to allow water to be recycled and re-used
- Install sub-meters in areas of high water usage to get a more accurate breakdown of water consumption

Measure and monitor consistently

Know where you can find consumption data:
There are two sources of data for water consumption: your water bill and your water meter.

Your water bill will tell you how many m3 of water your business consumed in the bill period and how much that cost. Northern Ireland Water aim to read each meter twice per year and guarantee that one bill per year is based on an accurate meter reading. This means that your bill may only be an estimate and therefore not a true reflection of your consumption. In addition, your bill comes much later than when the water was consumed. If you have sprung a leak, you may not notice it for 6 months when a higher bill than usual arrives.

Read and Record your Meter Reading each month
If you want to actively manage water consumption as part of your business operations, it is important therefore to read your meter regularly and log and monitor the meter readings. You will get timely and accurate readings, will spot leaks quickly and will be able to monitor and predict patterns over different months and even weeks.

Process for meter reading:

1	Read the meter at the same time of day and on the same day each month.
2	Log the weekly/monthly figure in the Annual Use & Costs spreadsheet (see Section 4.1 and it is also in your Leaner & Greener Water Workbook)
3	After a few months, you will see a pattern of the amount of water used to run your business.

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

Four more reasons why measuring and monitoring water use is important:

1

Your ability to report accurately and memorably on your successes in conserving water depends on how well you keep track of your key numbers.

2

To apply for independent certification, you must provide data on water consumption and water conservation in your business and be able to demonstrate improvements as a result of actions you take.

3

To apply for and win green awards, you must provide evidence of improvements. Your data is that evidence.

4

Sharing data with your staff makes the Water Conservation Project meaningful and transparent.

When the data reveals the impact of actions on the consumption and cost figures, your team will be motivated and inspired to continue

In your Leaner & Greener journey, data is your friend!

PART 4: USEFUL TEMPLATES FROM THE LEANER & GREENER WATER WORKBOOK

4.1 Annual Units & Costs Template

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		0.0	# DIV/0!	
February		0.0	# DIV/0!	
March		0.0	# DIV/0!	
April		0.0	# DIV/0!	
May		0.0	# DIV/0!	
June		0.0	# DIV/0!	
July		0.0	# DIV/0!	
August		0.0	# DIV/0!	
September		0.0	# DIV/0!	
October		0.0	# DIV/0!	
November		0.0	# DIV/0!	
December		0.0	# DIV/0!	
TOTAL		0.0		

What is this template for?

Use this template to note your 2022 baseline and benchmark consumption and then to measure and monitor monthly going forward.

Why should you use it?

This template helps you get clear on how much water it takes to run your business and how much that water costs. It allows you to monitor your water consumption year-on-year and month-on-month.

How do you fill it out?

You only need to complete the cells shaded in green:

2022 Total m3 Get this data from your 2022 bills

2022 Total Cost Get this data from your 2022 bills.

Estimated £/m3 2023 Check the price per cubic metre on your most recent bill and use this as an estimate for the immediate future.

Benchmark Measure Insert a unit of activity against which you will benchmark e.g., number of customers/ covers/tickets/transactions/rooms/square metres.
Select the benchmark activity that is most appropriate for your business.
This allows you to work out how much water is used per customer, per ticket, per transaction, per room, per square metre.

Consumption m3 Insert the consumption per month using readings from your water meter.
If you do not have readings, insert the average for the last year based on your water bill.
Note anything that happened in this month that may have affected water use.

Comments This will be useful when comparing year-on-year.

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...		

What is this template for?

Use this table to note your observations during a Walkaround Water Audit

Tips

- Set aside time to walk around your business and focus exclusively on water consumption.
- Just observe how things are done in your business on a day-to-day basis.
- Ask yourself 'Where are we wasting water?'
- Consider where changes in equipment, behaviour or standard practice could lead to significant savings.
- Simply write down what you observe and where you believe improvements could be made.
- Try not to blame or judge – during the audit phase, you are just gathering information.

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	

What is this template for?

This template allows you to document a practical Action Plan to reduce water consumption and reduce costs.

Why should you use it?

This creates a single document where all actions that you can commit to are listed. It establishes priorities and responsibilities within the team, as well as timelines for action.

How do you fill it out?

Action: State the Action you will take
Responsibility: Clearly identify who is responsible for delivering on this action.
Deadline: Set a specific date when this action is targeted for completion.
Notes: Add any information here that is relevant to the particular action e.g., additional resources required. (The first line is filled in as an example)

PART 5: SUPPORTS

Tourism NI
Growing Greener Experiences Together
https://www.tourismni.com/business-guidance/business-support/sustainability/

Carbon Trust
A Guide to Carbon Footprinting for your Business
https://www.carbontrust.com/resources/a-guide-carbon-footprinting-for-businesses

Northern Ireland Water
Guidelines for Water Charges : Non Domestic Charges
https://www.niwater.com/home/

Guidelines for reading your meter
www.niwater.com/read-your-meter

Guidelines for understanding your water bill
https://www.niwater.com/understanding-your-bill/

Keep Northern Ireland Beautiful
Carbon Literacy Programme
https://keepnorthernirelandbeautiful.etinu.net/cgi-bin/generic?instanceID=73

Invest Northern Ireland
A Practical Water Efficiency Guide for Businesses in Northern Ireland
https://www.investni.com/sites/default/files/documents/static/library/invest-ni/documents/water-efficiency-guide-a-practical-guide.pdf

Business in the Community
Responsible Business and Strategy
https://www.bitc.org.uk/responsible-business-and-strategy/

The Consumer Council
For a free Water Bill Health Check
https://www.consumercouncil.org.uk/businesses/save-money/water-bills/water-bill-health-check