northern ireland water

Water Efficiency
Advice for Business Customers

At Northern Ireland Water we aim to –

- Provide cost effective water and sewerage services
- Meet the requirements of our customers
- Contribute to the health of the community
- Protect the environment

Why should a business save water?

It will enhance:

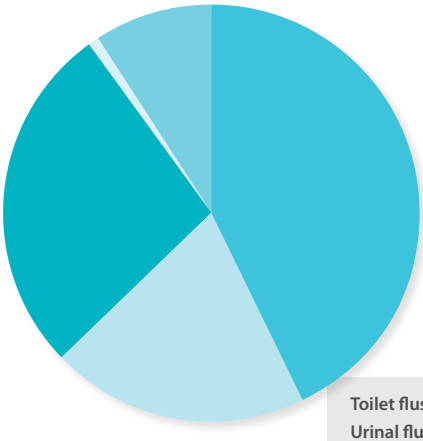
- Operational efficiency–reducing the water and energy bills
- Environmental impact- lessen the carbon footprint
- Reputation- socially and environmentally

Small behavioural changes, could see a business reap big benefits.

What is normal water usage?

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

This can be made up as follows:



Toilet flushing	43%
Urinal flushing	20%
Washing	27%
Cleaning	1%
Canteen use	9%

The overall water consumption may also include water lost through wastage and misuse, and water lost through leaks or other plumbing defects.

Use the formula below to work out the usage per person per day:

$$\text{Number of litres/person/day} = \frac{\text{Water used as billed (m3) x 1000}}{\text{No. employees x no. days worked}}$$

If water is used in the business processes, subtract this amount from the water used figure (m3).

Water costs can be between 1 & 2% of a company's turnover.

Savings of between 30 and 50% can be achieved by investing in no- and low-cost water reduction techniques and technologies. A company with an annual turnover of £2 million could save up to £20,000 per year.*

*Source: www.wrap.org.uk

The Nine Steps that could make your Business more Water Efficient

1. Check the supply pipe

The supply pipe is the section of water pipe, which runs from the property boundary to the building, normally this pipe is buried underground which means that any defects or leaks will not be visible.

To check the supply pipe for leaks:

- Locate the meter(s) and internal stop-tap/valve(s)
- The meter is usually found where the supply pipe leaves the public highway; occasionally it is inside the property
- Stop-tap/valve is found where the supply pipe enters the building, typically under a sink, stairs or in a boiler room
- Understand the meter dials and know how to take a reading from the water meter
- Check for underground pipe leaks in the supply pipe (runs from property boundary to the stop-tap/valve)
- Close the internal stop-tap/valve for 5 minutes
- If the meter dial has moved or is moving it indicates that there is leakage between the meter and the stop-tap/valve and this should be investigated further and repaired promptly

2. Inspect internal pipework

Check that pipes are kept to minimum length and are insulated to prevent water in pipes freezing during winter weather. Consider using trace heating in vulnerable areas.

These measures will reduce both water and energy use. Pipe insulation will reduce the risk of pipes bursting from freezing.

Consider introducing regular internal pipework checks for leaks: open the stop-tap/valve during a time when there is no water usage and re-check the meter.

If there is leakage in the internal pipework or excessive usage, the meter will have moved, this should be investigated further and repaired promptly.

3. Educate employees

Change Employee's behaviour by explaining the importance and practices of water efficiency.

Have a Water Management Plan and appoint a member of staff to monitor water use.

4. Regularly monitor water usage

- Compare the water account with previous periods by keeping regular readings and a log of them
- Know the location of the water meter(s) serving the property and know how to read the meter
- Check the meter serial number matches the one on the bill
- Compare with the expected amount for the size and nature of the business
- Check that it is normal consumption

Unusually high readings indicate a leak or excessive usage.

Small Diameter Meter types

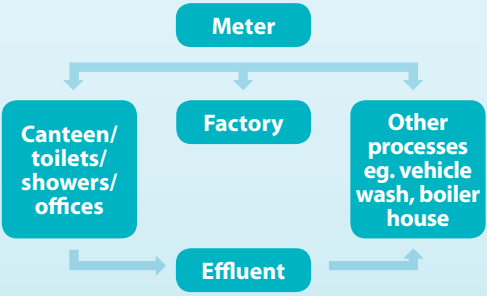
5. Consider preparing a water balance diagram

A water balance diagram will help the business to understand its water usage and may reduce water costs.

The diagram will help to:

- Record water usage and overuse
- Identify leaks
- Indicate where efficiency improvements can be made

These could include the installation of meters (sub-metering) at significant points in the system, this would be undertaken by the customer.



6. Assess plumbing appliances for water efficiency

- **Taps**

  Make taps more water efficient e.g. fixing dripping taps, fitting aerators, spray heads, push or infrared operated taps: ensure any water fittings purchased and installed are compliant with the Water Supply (Water Fittings) Regulations (NI) 2009. Check fittings for compliance with the UK water industry by referring to the Water Regulation Advisory Scheme website and check the approved materials fittings directory (**http://www.wras.co.uk/Directory/**).

  A running tap uses 6 litres/min.

  A dripping tap wastes 30 litres/day.

- **Toilets (WC's)**

  Make WC's more water efficient: check overflow is not running; water is not running into the pan between flushes; replace older cisterns with modern smaller capacity ones; retrofit toilets with dual flush.

  Cistern Displacement Devices, take up space in the cistern reducing the amount of water per flush by 3 litres. These can only be used in older cisterns with volumes of 9 litres (2 gallons).These devices are available from NIW.

  Toilet flushing often uses 43% of high quality water.

  Changing from an older cistern to a modern one could save 3–5 litres per flush.

- **Urinals**

  Automatic flushing of urinals is one of the largest wastes of water. Make urinals more water efficient by adjusting the time between flushes, by using a motion sensor to only flush when in use, or by installing 'Waterless Urinals'.

  Controlling water in urinals can save 50% water use.

- **Showers**

  Make showers more water efficient by installing push button showers or by installing aerating shower heads.

  These measures will reduce the levels of water wasted in the business.

  Power Showers - use 80 litres per 5 min – almost the same as a bath.

  Ordinary Showers - use 35 litres per 5 min shower.

7. Processes

- **Manufacturing**

  Reduce the required water amounts by adjusting time /temperature/humidity.

  Check that machines are properly calibrated to prevent over use of water.

- **Laundries**

  Check efficient use of machines i.e. correct weight, amount of detergent and cycle used. Consider installing water efficient machines or convert existing machines so that the final rinse water is used for pre-rinse.

- **Cleaning**

  Change cleaning practices to reduce water usage e.g. scrape before washing, mop or wipe up spillages, fit trigger hoses and recycle water when possible.

  These will reduce the levels of water wasted in the business.

- **Process Water**

  Determine if process water can be used elsewhere i.e. irrigating or cleaning.

  This will reduce water usage and possibly trade effluent charges.

8. Grounds

Check for damp patches in grounds of the property along the route of the supply pipe.

Damp patches may indicate a leak in the supply pipe.

Consider collecting or 'harvesting' rainwater – this could be as simple as a water butt or a more sophisticated rainwater water harvesting installation. (These more complicated systems need to be compliant with BS 8515 and 8525).

Rainwater could be used as an alternative water supply, for example in washing vehicles, washing windows, watering plants etc.

Consider water efficiency in the garden e.g. drought resistant plants.

This will reduce the need to water the grounds.

Use self-closing trigger hoses not a sprinkler; which uses 300-600 litres of water per day.

Reduce the water usage.

9. Catering

- **Sinks**

  Reduce water i.e. fit triggers, auto shut-off taps, use the plug to soak items, do not run water.

  A running tap uses up to 6 litres of water per minute.

- **Appliances**

  Reduce water i.e. use water efficient devices, fully load glass/dish washers, check overflows regularly, instead of sink waste disposal unit "bag it and bin it".

  These will reduce the amount of water wasted in the business.

How should a business prepare for the winter period?

- Know the layout of the pipework on the property
- Ensure pipes are well insulated and check regularly (compliant with BS 5422 and installed in accordance with BS 5970). A burst pipe can have more implications than the immediate water damage caused. A business can close for weeks while the damage is repaired, losing vital income, time and customers
- Locate your stop-tap/valve, ensure that staff, know where it is and how to turn it off, periodically check it works
- If the business is located beside empty premises, have a contact number of the estate agent or owner in the event of a burst pipe
- Have a contingency plan for loss of water supply, NI Water recommend storage capacity sufficient to meet the business needs for a period of at least 24 hours
- Know where the meter is and check it regularly. A higher than normal meter reading may indicate a leak
- Closing down the business for a holiday period? Plan for the event of cold weather i.e. set the heating timer, check the premises regularly or even consider draining down exposed and vulnerable pipe work that may be liable to freezing temperatures.
- Have the number of an approved plumbing contractor to hand. NI Water recommends using plumbers who are members of the plumbing industry licencing scheme. Locate the nearest approved plumber by telephoning **0845 2240391** or by referring to **www.needaplumber.org**
- Make sure that there is adequate insurance cover

What to do if there is a burst?

- Turn off the stop-tap/valve (turn it clockwise)
- NI Water recommends contacting an approved contractor of the SNIPEF scheme on **0845 2240391** or refer to **www.needaplumber.org** to find your nearest approved contractor
- Phone your insurance company

Additional tips for farmers

- Install a number of stop-tap/valves to isolate water supply to disused areas of the farm and land during the winter months. Drain down pipework that is at risk of freezing due to its exposed position
- Inspect remote troughs which may not be used at this time of year; consider draining them and turning the supply off
- Ensure all underground pipes are buried 750 millimetres (2 ½ feet) below ground level
- Ensure there is sufficient water storage to meet the farm needs; NI Water recommends the storage capacity should be sufficient for a period of at least 24 hours
- Ensure that no exposed water supply pipe (blue plastic pipe) is above ground as this can freeze and degrades when exposed to UV light and this can affect the water quality

General points

- Ensure the plumbing systems are properly installed and compliant with the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009
- Ensure the plumbing systems are installed and maintained by appropriately qualified plumbers who are members of an approved contractor's scheme (**www.needaplumber.org**)
- Customers can make themselves aware of information on the NI Water website
  http://www.niwater.com/newwaterregs.asp
  http://www.niwater.com/informationleaflets.asp (Codes of Practice)
  www.needaplumber.org
  www.wras.co.uk Water Regulations Advisory Scheme - contains up to date interpretations of the Water Byelaws/Regulations as well as access to many guidance documents, the Fittings and Materials Directory and relevant contacts for further guidance and support
  www.bsonline.bsi-global.com British Standards Online - the authoritative and most current site for all BSI publications. Updated daily, the site includes over 38,500 current, draft and historic British Standards, more than 16,000 of which are BSI adopted European and International Standards

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