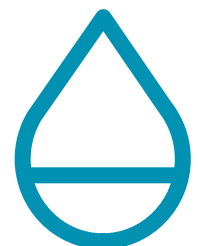


WATER EFFICIENCY FOR BUILDINGS



A fact sheet to help you optimise
water consumption in a practical
and cost-effective way



WHY IS WATER EFFICIENCY WORTH CONSIDERING?

Water is not always front of mind for many businesses or building managers, but there are multiple reasons that can make it worth looking at.

RETURN ON INVESTMENT

It is common for water efficiency to achieve excellent returns and low payback periods when targeted effectively.

USER EXPERIENCE

It is often possible to improve staff and customer experience and amenity at the same time as improving water efficiency - no need to choose one.

PREPARED FOR EMERGENCY

The process of understanding and optimising water uses helps to equip organisations to confidently mitigate risks from future droughts and water supply emergencies - operationally and also with social licence.

SUSTAINABILITY

Tangible improvements in water use demonstrate a real commitment to the environment and local community.

AVOIDING DAMAGE

Hidden leaks and losses that go unnoticed for some time can put roads, structures and other expensive assets at risk of significant damage. Awareness enables early intervention - which can make all the difference.

MINIMISING DISRUPTION

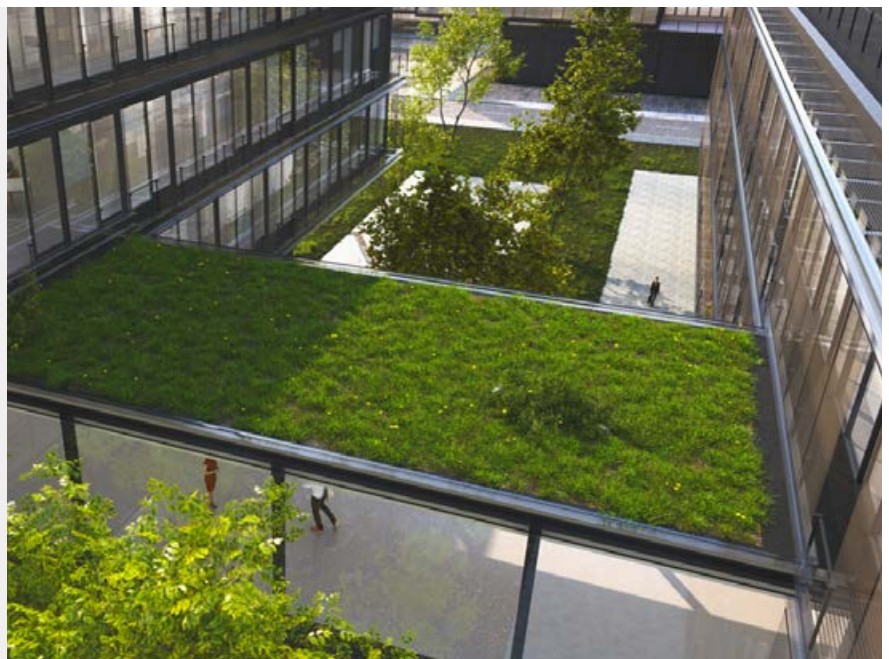
Spotting a water issue early enough to fix it before it fails catastrophically is cheaper and less disruptive for everyone.

ENJOY IMPROVED USER EXPERIENCE AND IMPROVED WATER EFFICIENCY

Optimised bathroom fitouts with high performing taps, toilets, shower and urinals.

Resilient and thriving turf and gardens that are easy to manage and provide consistent amenity.

Appliances and fittings that are better to use with less water, such as pre-rinse spray valves and dishwashers.



BENEFITS OF IMPROVED WATER EFFICIENCY



BECOME A SUSTAINABILITY LEADER



BRIDGE THE INFORMATION GAP



PROVIDE A BASELINE FOR IMPROVEMENT



LOWER ENERGY AND WATER BILLS



ENHANCE CORPORATE REPUTATION



REDUCE ENVIRONMENTAL IMPACT



IDENTIFY COST SAVINGS



ALIGN WITH COMMUNITY EXPECTATIONS



RETURN ON INVESTMENT

Water costs are not the largest expense for most organisations, but it is common to find a strong return on investment from improvements. Many people don't realise that water savings can be:

INEXPENSIVE

Many water improvements can be cheap to do, especially if you take care to only make them in the optimal areas.

MORE THAN JUST WATER

Many organisations have an opportunity to save on more than just water usage costs. For example:

- **Wastewater costs**

For some buildings, each kilolitre of water may also be costing sewer and/or trade waste charges.

- **Energy**

Water savings can often mean significant energy savings – especially when reducing the need for hot water or water that must be pumped.

- **Other costs**

Some improvements that save water can also save chemicals or staff time on an ongoing basis – and these can add up quickly.

AVERAGE WATER COST SAVINGS

APPROXIMATE SAVINGS PER SECTOR:



\$66,000 per annum

when a shopping centre improves its NABERS Water rating from 3 to 5 stars*



\$55,000 per annum

when a hotel improves its NABERS Water rating from 3 to 5 stars**



\$27,580 per annum

when an apartment building improves its NABERS Water rating from 3 to 5 stars***



\$22,800 per annum

when an office building improves its NABERS Water rating from 3 to 5 stars****



COMMON EXAMPLES OF WATER EFFICIENCY IMPROVEMENTS

Some examples of relatively common improvements are:

LEAKS

Leaks are common across all sectors and can use a surprising amount of water. This can range from small toilet leaks to valve problems and hidden pipe losses. It might not be practical to avoid leaks, but finding and fixing them quickly can save a lot of water compared to having them run for longer.

TAP AERATORS

Replacing aerators in taps can be a cheap, easy and effective way to achieve efficient flowrates and keep high and reliable performance.

SHOWERS

Shower water use can be significant portion of water use for a site – especially in accommodation and aged care sectors. Replacing worn units with reliable low-flow fittings can represent a hot water energy saving in addition to water savings.

URINAL FLUSHING

Excess flush volume and frequency in urinals is common, and reducing this is often an easy tweak.

COOLING TOWER BLEED OPTIMISATIONS

An optimised cooling tower bleed setpoint can reduce water sent to drain, which can also reduce chemical dosing costs.

GARDEN AND TURF WATERING ADJUSTMENTS

It is common across sectors for watering systems set to water longer or more frequently than needed. This can often be an easy change.

MORE EFFICIENT APPLIANCES AND FITTINGS

Upgraded dishwashers, glasswashers, washing machines, spray valves, wok stoves and washdown equipment can reduce water use in laundry and kitchen areas. These can be a bit more capital intensive than other changes, but some upgrades may also help reduce energy, chemical and staff costs.

ALTERNATE WATER SOURCES

It is possible to use rainwater, stormwater, and even treated wastewater for non-potable uses like toilet flushing, garden watering or cooling towers. It can be challenging to make alternate water sources cost-effective, but it is possible. Projects tend to be best with steady supply and demand and cost-efficient plumbing requirements for any retrofits.



Remember, every building is unique. It is important to work out what is important in each area from the many potential improvement options – otherwise it is easy for the financial feasibility to erode.

STEPS TO IMPROVING YOUR BUILDING'S WATER EFFICIENCY



1. START WITH A NABERS WATER RATING

Set a benchmark. This might also give you an indication as to whether there might be some potential opportunities to be found.

2. UNDERSTAND YOUR WATER CONSUMPTION

Quantify where and how your water is being used. See below for tips.

3. BE PRAGMATIC WITH IMPROVEMENTS

It's usually more important to make a change that you can stick with than trying to go to the limit of technology every time.

4. CONTINUE WITH NABERS WATER RATINGS

In 12 months' time, see how far you've come by getting another NABERS Water rating.



TIPS FOR UNDERSTANDING YOUR WATER CONSUMPTION

1. Get familiar with your main water meter. Figure out how to read it, take some readings, check to see if it's moving out of hours.
2. Consider installing some additional water 'sub-meters' to track water use in different areas.
3. Consider installing one or more dataloggers on water meters to read flows every 5-15 minutes and looking for leaks and other patterns in the flow graphs.
4. Start calculating and comparing quantities for your different water uses. Remember some might be different than you expect at first.

The NABERS team is ready to provide advice and assistance.

Check out nabers.gov.au/water for further information

or contact us at nabers@environment.nsw.gov.au

Shopping centres

* Calculated averages from the NABERS dataset as at Jan 2020. Based on a multi-storey shopping centre in Sydney CBD with GLAR of 46,707 m² and central serviced shopping centre area of 17,190 m². Site has 447 mechanically ventilated car parking spaces and 1,648 naturally ventilated or open-air car parking spaces. Site has 360 trading days annually with 60 hours of weekly service.

Hotels

** Calculated averages from the NABERS dataset as at Jan 2020. Based on a 4-star hotel in Sydney CBD with 265 rooms, 69 rooms with full-service laundering and a function room with 567 seating capacity.

Apartment buildings

*** Calculated averages from the NABERS dataset as at Jan 2020. Based on an apartment building with 177 units located in Sydney CBD with a temperature-controlled pool & gym on site.

Offices

**** Calculated averages from the NABERS dataset as at Jan 2020. Based on a 15,000 m² office building in Sydney CBD, rated over 50 hours.

Information in this fact sheet is provided by Adam Jones from BMT.

NABERS is a national initiative managed by the NSW Government on behalf of Australia's Federal, State and Territory governments.