



Laboratory water efficiency

A typical laboratory can use up to 5 times more potable water than comparable commercial buildings. To create a sustainable campus for students and staff, it's important that we ensure water is used responsibly, efficiently and protected from pollution.

UNSW water facts

- UNSW campuses consume nearly 500,000 kL of water a year. That is equivalent to 200 Olympic-sized swimming pools.
- UNSW uses treated bore water for non-potable uses such as irrigation, cooling towers, toilet flushing and swimming pool (more than 50% of UNSW water is bore water from the Botany Sands Aquifer).

Water purity

- There are **4 common types of water purity** used in laboratories.
 1. Feed water – known as tap water is rarely used in UNSW laboratories due to its low purity.
 2. Reverse osmosis (RO) – otherwise known as Type III water is the starting point for most laboratory applications and is supplied by most faucets in UNSW labs.
 3. Deionized (DI) - otherwise known as Type II water is used in many applications, from buffer and media preparation to general chemistry and spectrophotometry.
 4. Ultrapure Water (known as Type I).
- All water purification processes use energy and produce wastewater. Typical production efficiency ranges from 11 – 75%.
- In general, higher water purity = worse environmental impact. Always avoid using excessively pure water.
- Most lab users are never taught which type of water is needed for specific applications. Take the time to **learn** which water purity level is necessary for your lab activities.

How you can conserve water

- Report water leaks to Estate Management, in **Archibus** or the **Online Service Request Form**.
- Check that taps are not left running when exiting a room.
- If using a glasswasher or autoclave, run in batches and always completely fill before turning on.
- Turn off local reverse osmosis water purifiers if not in use.
- 1 litre of reverse osmosis water takes ~5 litres of water to produce.
- Reduce water flow to an effective minimum when washing labware.
- Avoid using single-pass cooling.
- This refers to a mechanism of cooling where a continuous flow of water circulates once through a system before being disposed down the drain.
- Consider using air-cooled or process chilled water closed loop systems, like the **Findenser**.

View the annual water consumption profile of Kensington campus buildings **[here](#)**.