

RECYCLED WATER - FACT SHEET

Snapshot

The use of recycled water for drinking and other purposes is a fact of life for many communities around the world. Wherever towns draw their supplies from rivers, most of them will be using some recycled water that has been discharged by upstream regions. This water has usually been treated multiple times; firstly before it is discharged as treated sewage effluent, then via natural processes as it proceeds down river, and again as it is added to the downstream water supply system.

Nor is recycled water a new concept to Australia. For decades, towns and cities have routinely used recycled water for non-drinking purposes such as for watering parks, ovals, industrial use and irrigation. Many downstream communities in Australia already draw on water supplies that contain wastewater discharged by communities upstream — Adelaide being just one example.

Some regions in Australia are now considering taking the next step by deliberately using recycled water to supplement drinking water supplies under carefully controlled conditions (this is called Planned Indirect Potable Reuse). However, there is a strong 'yuck' factor towards the use of purified recycled water for drinking and there are understandable health-related concerns.

Issues to consider

- Planned Indirect Potable Reuse involves adding highly treated recycled water into an existing drinking water source (such as a reservoir, river or aquifer) where it mixes with the 'natural water', before it is later drawn upon and further treated.
- Recycled water is first treated in Advanced Water Treatment Plants where purification processes include micro-filtration, reverse osmosis, advanced oxidation and ultraviolet disinfection. The reservoir or aquifer then acts as an environmental buffer during the time water is stored, allowing natural mixing and treatment processes to continue.
- Purified recycled water will usually be of better quality than the water flowing down rivers, which may contain contaminants from upstream activities.
- The *Australian Guidelines for Water Recycling* have been developed and endorsed by all Australian governments to provide a sound management framework that ensures recycled water is safe and reliable.
- Recycling produces a secure and sustainable source of water that is less dependant on climate and rainfall. There are also environmental benefits, with less energy use and greenhouse gas emissions compared with desalination, and reduced wastewater discharges.

The Australian scenario

Brisbane will become the first Australian city to officially use recycled effluent for drinking by the end of 2008, when purified recycled water is piped to Wivenhoe Dam. In Canberra, there has been community consultation on a proposal to take treated purified water and mix it with drinking water in Cotter Dam. Western Australia is trialling injecting treated wastewater into the Leederville aquifer to replenish groundwater and provide 1.5 billion litres of additional water for Perth's supplies.