

Water process

Water

We have a responsibility to provide a safe and reliable drinking water supply to our 1.4 million household and business customers, 24 hours a day, 365 days a year, while ensuring water abstractions and water supply activities do not damage the environment.

Water Production

We have impounding reservoirs – that is, water storage areas mainly created by building dams across river valleys in upland areas. We have water treatment works, where reservoir water is treated so it can be drunk from the tap, these supply an average of 828 million litres of water every day through a network covering 27,000km.

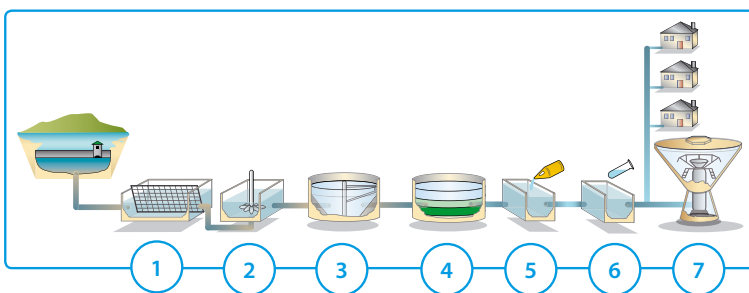
By the time water reaches rivers, reservoirs or aquifers, it already contains a wide variety of substances which determine its quality. It absorbs dirt, dust and gases from the air, debris and bacteria from the ground, and soluble minerals from rocks.

At a water treatment works the main objective is to destroy the bacteria and remove unwanted substances. Although water treatment techniques vary widely depending on local factors, the end result will always be water that complies with current Drinking Water Directives.

Distribution

Delivering great volumes of water to virtually every domestic, agricultural and industrial premise in the land requires a vast network of pipes and mains. Much of the network in our region covers rural areas with small populations where it is much more costly to supply each resident than in high density urban areas.

A visual representation of the water cycle:



- 1. Screening** – Water is taken from the river or reservoir and arrives at one of our treatment works. The water needs to be screened to remove debris such as leaves, sticks, plastics and fish.
- 2. Clarification** – Chemicals are added to the water which causes small particles of impurities to cling together to form clumps. These clumps eventually form a sludge which is separated from the clean water.
- 3. Filtration** – This is where the water is filtered to remove any remaining small particles such as sand or gravel.
- 4. pH adjustment** – The water is treated to ensure the correct pH is achieved in line with regulations.
- 5. Disinfection** – The final step of the treatment process is to add chlorine to kill any bacteria in the water.
- 6. Quality control** – Before the water leaves the treatment works it is tested to ensure it complies with all quality compliance.
- 7. Distribution or storage** – The potable water is pumped through a network of pipes to the customers homes, some of the water is stored in service reservoirs in readiness for supply demands.