

4. Boreholes to increase resilience of water supply



Situation

Much of our raw water is captured on higher ground through reservoirs, a significant proportion is drawn from lower lying loughs and rivers. This water often requires more treatment and pumping which increases emissions from fossil fuel generated electricity. We have also seen several unusually long dry spells and elevated temperatures, which create periods of exceptionally high demand for water. As a result, NI Water has faced increased water supply challenges.

Action

Groundwater is a special source of water that is largely untapped in Northern Ireland. Whilst it is limited, it has the potential to help us to supply customers at peak periods and help address climate change by using less energy and lowering our harmful CO2 emissions.

Groundwater is perfect as it is stored underneath the earth's surface in naturally occurring aquifers. It is also naturally filtered through rocks so requires minimal treatment to make it drinkable.

The geological formations which contain groundwater in Sherwood Sandstone aquifers are known to provide high quality water. Hydrogeologist Paul Wilson of The Geological Survey of Northern Ireland confirms that *"over a period that could be as long as one hundred years, Sherwood Sandstone can act as a great natural filter of water"*.

Working in collaboration with The Geological Survey of Northern Ireland, boreholes are being drilled to access this sustainable water supply. Test drilling has already begun in Lisburn and Moneymore to assess the potential for groundwater sources and has showed promising signs. NI Water is now looking forward to working with the quality and environmental regulators in the Drinking Water Inspectorate and NIEA to realise the full potential at these locations.

We will be using power from solar panels for abstraction and treatment of the water which will offset electricity usage and use activated filter media (recycled glass) to ensure it is treated to drinking standards.

Results

This innovative solution will not only provide water in all weathers but has the potential to reduce chemical use, and carbon.

Minister Mallon comments, *"As a society we need to think and act differently, and this includes the value of water - one of our most precious resources. I commend NI Water in looking at innovative solutions by sourcing groundwater as a way to provide drinking water to customers in the future. By proactively exploring this natural resource it will hopefully provide an environmentally friendly solution to assist at times of pressure when demand on water supply outstrips the normal supply such as what we experienced during the extreme heat this summer."*

