

# Rural technology assessment, Scotland

WRc were engaged to conduct assessments of 140 water treatment technologies for their suitability for treating rural water supplies.

## Challenge

In a rural area of the UK there are approximately 20,000 private water supplies supplying about 3% of the population. These supplies vary in size and quality and include surface water, private impoundment reservoirs, and groundwater such as wells, boreholes and springs. Some have adequate treatment and are well managed, but others present greater treatment challenges as a result of the quality of the water. The water utility is facing a big challenge in addressing the need to sustainably supply water and treat wastewater in rural communities they serve. The Company has acknowledged the scale of this challenge requires solutions which are a complete paradigm shift from current approaches in order to meet the long term aspiration for carbon neutral, minimal/zero environmental impact and minimal/zero waste solutions.

By utilising WRc's unique scientific and process expertise in assessing innovative technology applications and their capability, tools were developed to assess over 140 emerging technologies for their suitability for use in public water supplies.

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## Solution

WRc collated a list of 140 technologies which were suitable for the client in terms of the treatment capacity. The list was further evaluated and shortlisted for a single household, up to four households and up to fifty households (small community).

Using the list of technologies and the defined assessment criteria, an Active Water Treatment Technology Selection Tool was developed. This tool provides a list of collected technologies and their effectiveness in removing various impurities in the water. In addition, it allows the client to filter the list based on the removal capacity of certain impurities. This in turn provides the flexibility to look into the pros and cons of each technology and to compare the technologies against each other and package the suitable technologies together.

During this project three main deliverables were produced:

- Active Water Treatment Technology Selection Tool.
- PowerPoint Emerging Technologies Tool.
- Technology Trialling Protocol.

## Outcome

The study carried out by WRc provided the client with a detailed view of water treatment technology suitability for use in rural public water supplies. This allowed the client to optioneer the various treatment solutions and make the right choice of technology for different water treatment challenges and in a variety of situations

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