



Cascade Water Products

Arbroath-based Cascade Water Products Ltd has developed a domestic micro greywater reuse system which exploits natural matching in domestic water usage – approximately the same amount of water is used in showering or bathing as is used in flushing a toilet over the course of day. Their patented Aqua Gratis system is a simple, compact mini water treatment system which captures and reuses bath and shower water to flush toilets. Features include a control panel with remote monitoring which acts as a SMART Meter for Water. The SMART meter further reduces domestic water consumption by detecting leaks and changing water consuming behaviour. Aqua Gratis can be applied at a household level and reduce domestic water consumption by up to 45% with consequent reductions in damage to the environment associated with water abstraction, treatment and energy use. It also reduces the volume of wastewater to sewer, important in densely populated areas where utility companies' wastewater systems are at, or near, capacity.

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Highlights

Developing a patented domestic micro-greywater reuse system.

Reducing water consumption and making water supplies go further.

Potential to save money and contribute to achieving Net Zero by making significant reductions in energy requirements for water production and wastewater treatment.

Continuing small scale product development throughout the COVID-19 pandemic, securing grants to help with this.

Good fit with Green Recovery.

The target market for Aqua Gratis is developers and housing associations in water stressed areas. The company consider that water utilities could save millions of pounds on energy and infrastructure costs for water supply and wastewater removal, and installation of Aqua Gratis will go a long way to contribute to meeting net zero targets. Meetings have been held with Severn Trent Water, Thames Water, and a Nottingham housing association who are interested in trials of the technology.

Cascade believe their technology addresses many of the challenges associated with domestic greywater reuse systems including long-term robustness, customer acceptance and cost. They are also in discussion with the Duchy of Cornwall which recognises the importance of greywater re-use in its commitment to be zero carbon across the estate by 2028.



The COVID-19 pandemic has highlighted the importance of water supply with patterns of domestic water use and water consumption changing during lockdown. For the company, the pandemic also resulted in reduced investment funding and a slowing of their Innovate UK project which was helping to take the Aqua Gratis system to development. However, the team secured an Innovate UK COVID-19 Continuity Grant to help them continue to produce their system using the expertise of their chief technical officer Peter Holdsworth. He continued to build and refine development of a pre-production model from his garage-based workshop throughout the pandemic.

Meetings with builders and others who can help to assemble and deliver Aqua Gratis to market were underway in October 2020, contributing to the country's Green Recovery from the pandemic.

