



## CASE STUDIES

# Rainwater Harvesting at Kingspan's Sherburn Manufacturing Facility



## Challenge: Storing & Recording Rainwater

Kingspan's **Planet Passionate initiative** is a 10-year programme that aims to

make an impact on three big global issues: climate change, circularity and protection of the natural world. As part of the programme, Kingspan Group plans to harvest 100 million litres of rainwater across all its facilities by 2030, and hence lower its use of mains water by an equivalent amount.

**Kingspan Insulated Panels's** Sherburn manufacturing site uses large amounts of water in its production processes. Indeed, its overall usage is one of the highest in the Group. Its 400m-long factory building is considered ideally suited to rainwater harvesting, thanks to its large 17,000 metres squared roof area.

The requirement was to capture and store up to 200,000 litres of rainwater at any one time, although, unfortunately, Sherburn has little available space for the traditional, above-ground rainwater storage tanks.

There was also a need for management to have real-time oversight of the system's operations to ensure its optimal performance and smooth co-ordination with the production processes, and for the team to be able to record the amount of rainwater captured each year to ensure the installation meets the agreed targets.

## **Solution: Storage Tanks & Tank Monitoring**

To save space, **Kingspan Water & Energy** supplied the Sherburn facility with both below- and above-ground storage tanks. Two 79,000L below-ground rainwater harvesting tanks provided a combined total of 158,000L storage capacity, and two 22,000L above-ground rainwater storage tanks delivered a further 44,000L capacity.

Each tank was fitted with both rainwater filtering devices and pump protection systems to ensure that any impurities and sediments were removed from the

water before it went into storage.

The **Watchman Flo** a bespoke control package, designed inhouse by our Smart Monitoring team for Sherburn, uses new **software** to manage and co-ordinate the capture and delivery of rainwater from each of the four tanks. The system tracks the water levels in each tank and records both the overall harvested volumes as well as the amount of water that is then recycled into the production process.

The control package also ensures that rainwater use is prioritised when there is sufficient available volume. If rainwater supplies do run low then the system will automatically switch to mains water.

All this data is processed by specialist telemetry providing the on-site team with 24/7 remote access with performance statistics through an app.

Conor McEntegart, Sustainability Engineer at Kingspan Insulated Panels, advised,

“This fantastic system will hugely reduce our mains water, but in addition, it will help us with our overall water management. Climate change is known to increase the chances of extreme weather events, including flooding. The hundreds of thousands of litres of rainwater we plan to capture and reuse on-site will reduce the potential for local surface water flooding following heavy rainfall.”

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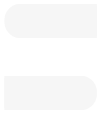








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