



# ALLIED WATERS – SOLUTIONS

## *Securing water for food*

Allied Waters focuses on implementing game-changing innovations in the urban water cycle that are “driving the circular economy”. Innovative solutions to water scarcity, turning residuals into resources, new energy/water concepts based on green hydrogen and new bacterial proteins are a flavour of the topics covered under the Allied Waters umbrella.

We collaborate in Collabs, public-private partnerships including research centers, commercial-enterprises and end-users. Allied Waters reinvests any profit into research and development in order to generate new innovative solutions.

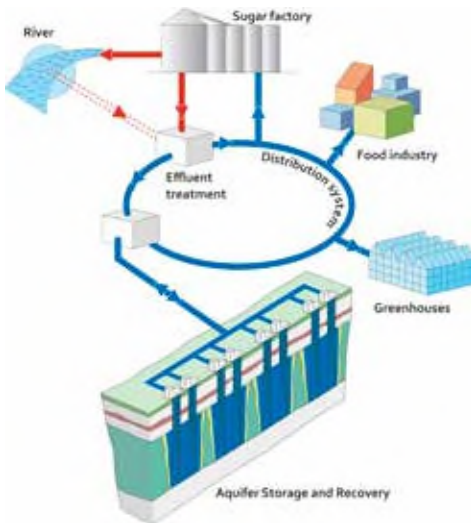


Continuous availability of high-quality water is essential for modern agriculture. Yet, freshwater availability is under increasing pressure worldwide. Securing fresh water for drinking water, industries, and agriculture requires innovative thinking in water resource management and use of nature-based solutions. We are dedicated to implementing these solutions to help you meet your water demand.

Allied Waters - SALutions capitalizes upon 65 years of water storage and treatment experience that has successfully secured water supply in urban coastal regions in The Netherlands, adding new features to secure water availability in various environments and at various scales.

### Rainwater harvesting and aquifer storage

Glasparel+ is a 90 hectares ultra-modern greenhouse horticultural area in Waddinxveen, the Netherlands. The water demand is fully met by rainwater from the greenhouse roofs and 26 hectares of surrounding industrial zones. The very effective storage in deep sand layers in the underground (Aquifer Storage and Recovery: ASR) using groundwater wells is chosen to cover for seasonal variations and prolonged droughts while keeping the spatial footprint limited. The water facility consists of small aboveground reservoirs connected to three ASR well fields that store large volumes of rainwater. Altogether up to 600 000 m<sup>3</sup> of excess rainwater can be stored per year. A fully automated installation allows for the injection of the rainwater via the ten ASR wells and the supply of the recovered water to the greenhouses when demanded.



### Growing tomatoes on reuse water from sugar beets

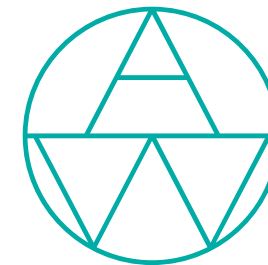
At the Nieuw Prinsenland greenhouse cluster in Dinteloord, the Netherlands, effluent from the neighboring sugar factory is converted into large volumes of high-quality irrigation water. Aquifer Storage and Recovery (ASR) is applied to balance the availability of this reuse water in Autumn and Winter with the demand for additional irrigation water by the local farmers in

Spring and Summer. The system provides local farmers with an extra 300.000 m<sup>3</sup> of freshwater, in addition to the rainwater that is already harvested and stored in aboveground reservoirs. This additional freshwater is stored underground using eight ASR wells. The sugar factory, farmers and the ASR system are connected by a 5 km distribution loop, guaranteeing an automated maximum supply of 200 m<sup>3</sup> of fresh irrigation water per hour during dry spells. Consequently, farmers enjoy a year-round supply of sufficient high-quality irrigation water.

### Securing water at a Singapore vertical farm

Urban Farming Partners and HSL Singapore are developing an urban farm to produce vegetables for the local market. The Urban Farming Partners consortium has expertise in various aspects of indoor growing concepts, from growing and logistics to marketing and urban planning. Allied Waters - SALutions has joined the Urban Farming Partners consortium, bringing in expertise on rain-water harvesting, water reuse, and aquifer storage and recovery to balance water demand and supply.

*Allied Waters, driving the circular economy.*



**ALLIED WATERS®**

Driving the Circular Economy

[www.alliedwaters.com](http://www.alliedwaters.com)