

Sustainable Management of Available Water Resources with Innovative Technologies (SMART) – Artificial groundwater recharge with treated wastewater in Jordan

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With approx. 180 m³ renewable water resources per resident Jordan is one of the most arid countries in the world. Jordan's demand for fresh water significantly exceeds the amount of water available. Groundwater is the most important source of water supply in Jordan and is much overused.

Under the joint research project SMART it is intended to develop an integrated water resources management concept (IWRM) for the catchment area in the lower Jordan Valley as a model region. In close cooperation with the German research institutes Helmholtz Centre for Environmental Research (UFZ) and Water Technology Centre (TZW) as well as the Al-Balqa' Applied University Jordan, HUBER SE investigates the possibility of artificial groundwater recharge through infiltration of treated wastewater.

The innovative method of a MBR system with ultrafiltration is applied to treat municipal wastewater. HUBER supplies a MBR pilot plant as a compact containerised unit including a mechanical pre-treatment system and electrical control system. The plant is designed for remote data transmission and telecontrol. All quality requirements for artificial groundwater recharge according to Jordan Standards (JS No. 893/2006) are reliably met.



SMART II demo plant at Fuhais near Amman (© Künzelmann, 2010)



HUBER MBR pilot plant

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