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Closing the Loop for Process Industries

Discover how Europe will become more competitive globally by reusing resources from industrial wastewater

Brussels, 13 February 2018 – A new economy is emerging; one that is 'closing the loop' and able to reuse all resources from waste products: the circular economy can increase efficiency and productivity, decrease costs and create jobs in harmony with the environment.

The EU Innovation Action project ZERO BRINE advances circular economy business model solutions by re-designing the value chains of industrial wastewater. Coordinated by TU DELFT, ZERO BRINE includes 22 partners from research institutes, SMEs, process industries, and end-users from 10 countries across Europe aiming to close the water cycle by recovering and reusing the minerals and water from the brine (saline impaired effluents) of process industries, thus facilitating the implementation of the Circular Economy package and the SPIRE Roadmap.



The ZERO BRINE large-scale demonstration plant recovers resources from two local industries in the Botlek area of Rotterdam Port, the Netherlands.

ZERO BRINE – Industrial Wastewater – Resource Recovery – Circular Economy



PRESS RELEASE

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Recovering high quality resources

ZERO BRINE integrates innovative technologies to recover water and minerals of sufficient purity and quality for good market value. Brine generated by industrial processes is treated by pre-concentration, organics treatment, ion separation, membrane concentration, thermal concentration or crystallization. The aim is to provide cost-effective, integrated, adaptable systems to minimize waste, effluent discharge and the environmental impact of industrial operations while increasing economic efficiency by reusing the recovered resources such as minerals (magnesium), salts, clean water and waste heat.

Replicable and scalable

Over the next 4 years, ZERO BRINE is developing pilot plants in 4 process industries that provide massive potential to replicate and deploy circular economy solutions in the field of industrial wastewater treatment. Journalists and policy-makers will be invited to visit and learn more about the 4 pilot projects at a demonstration water plant in the Netherlands, a coal mine in Poland, a silica factory in Spain, and a textile factory in Turkey.

To facilitate market uptake, ZERO BRINE will develop an Online Brine Platform, a web platform to connect industry, technology providers and end users. This digital platform will advance the industrial symbiosis in Europe and worldwide, provide effective brine treatment solutions to process industries and ensure extensive knowledge exchange and dialogue between key stakeholders. In addition, 5 Brine Excellence Centers integrated in partner organizations in the Netherlands, Italy, Greece, Poland and Spain will provide the opportunity for end-users to test and develop customized and validated brine treatment solutions.

Adding value as a key element to more sustainable water cycles, ZERO BRINE technological solutions and business models contribute to advancing the circular economy and ultimately will make Europe more competitive globally.

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