

Circular water solutions – reconstruct Ukraine

Circular Water Solutions can make a big difference in reconstructing Ukraine – and Swedish businesses at the forefront, can be a part of the solution.

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OVER THE PAST hundred years, Sweden has gradually improved treatment of both municipal and industrial wastewater. The main purpose has been to protect lakes, rivers and seas. The purification technology has gone from simple systems for the separation of particles and sludge to multi-stage treatments with various biological, chemical and physical methods. The solutions have been guided by linear principles, which have made reuse and recycling more difficult. In many parts of the world, it is now becoming clear that the water systems do not have the sustainable design that the future requires.

New smarter solutions for water management

When rebuilding Ukraine, we should take the opportunity to introduce new, smarter solutions for water management that enable the recycling of water, chemicals and energy. Such solutions are also better adapted to geopolitical tensions where the supply of nutrients, metals, renewable energy and chemicals become more expensive and difficult.

The Swedish industry has long worked with this type of solution. The driving force has been to reduce emissions and thereby improve the economy when losses are reduced. To reinforce this necessary paradigm shift, we have gathered around **Circular Water Solutions**, which works to:

- Increase awareness and implementation of circular solutions.
- Help large companies and society at large to reduce environmental impact.
- To stimulate the development of holistic solutions where companies of different degrees of maturity can complement each other.
- Stimulate the development of new solutions and verify these via testing and participation in pilot projects.

Solutions introduced by Circular Water Solutions members

In Sweden we have more than 40 incineration plants where we recover energy as electricity and hot water. **Mercatus** treats the flue gas condensate

with membranes and EDI. Thereby you are able to recover the water, produce more energy and at the same time you reduce environmental impact.

Open cooling systems using cooling towers are subject to a significant dilemma. You must prevent spread of Legionnaires disease at the same time not using biocides. The solution is the introduction of optimized UV systems which have been developed by **Wallenius Water Innovation**.

The metalworking industry is dependent on the use of water for many of the rinsing operations. In a Volvo painting line **Vilokan** has introduced pre-treatment and falling film evaporators and by that lowered the water consumption with 80%, and recovered the phosphating chemicals with 50%. The same technology, combined with distillation, is used to recover glycols from the de-icing of aeroplanes in a profitable way.

The stainless-steel industry are using strong acids in the pickling process. They must continuously be replaced with new acids. **Scanacon** has developed a technology to recover acids to the process in a circular way.

We must in the long run recirculate everything because the resources are not endless. The company **RagnSells** are developing solutions where ash can be transferred to salt and phosphorus can be recovered and brought back in the circle.

These good examples in Sweden mean that we can offer good, sustainable solutions for Ukraine and Swedish companies contribute to reducing global climate emissions, securing water management and stopping the loss of input raw materials to industry.

Read more at circularwater.solutions



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