

An award-winning water purification filter made of sidestream-based materials

Wastewater contains different harmful substances including dissolved heavy metal ions such as zinc, copper and nickel. These heavy metals are particularly problematic in water as they accumulate in the food chain from microorganisms to fish, and they sometimes reach our plates. These metals can be found in industrial wastewater from the metal, forest and mining industries but are also present naturally when drainage water runs through acidic soils that contain sulphates. Often the wastewater travels to a sewage treatment plant. The best technique to extract metal ions from wastewater is precipitation. For very clean water, different membrane water purification systems and ion-exchange resin are also used, but these techniques are expensive and less sustainable.

Sustainable solution for dissolved metals

Apila Group has developed a cost-effective and competitive material for the recovery of harmful metals from wastewater. It is based on sidestream or 'secondary' materials and can replace ion-exchange resin. The material acts as a filter in a water circulation system. A backwash rinses the filter to regenerate it so that it can be reused. Most importantly, thanks to this innovative technology, the valuable metals captured by the filter can be recovered and reused.

New business value from metal recovery

The filter is an outstanding innovation since metals such as zinc, copper and nickel are expensive raw materials. It fully follows the principles of a circular economy through its purification of water, use of sidestream materials and because it allows valuable metals to be taken back into use. This increases the value of the innovation and allows new ecobusinesses to grow next to the traditional wastewater purification industry.

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