Industries in Europe utilize more than 50% of the water withdrawn for human activities. To comply with environmental policies and protect the ecosystem, industrial companies are increasingly treating their own wastewaters to enhance effluent quality for environmentally-safe discharge.

An example is the Nyrstar Balen site in Belgium, part of Nyrstar, a mining and metals company who is a market leader for zinc and lead. Nyrstar has made large investments to build a water treatment plant for their 500 hectares. Due to previous industrial activities in the area, the groundwater is contaminated by metals.
The water treatment plant, operational since 2016, pumps 100 m³/h of contaminated groundwater to a depth of ca. 150 meters. The pumped water is used as much as possible in the industrial production processes, such as for washing of the gases generated by the roasting process and for washing of the filters from the leaching process.

The resulting wastewater is then thoroughly treated to comply with strict effluent quality limits, especially those for metal concentrations. The wastewater undergoes a physical chemical treatment that involves pH increase and metal precipitation. As a final treatment step filtration with Sibelco sands is applied to remove the remaining contaminant particles. This is an important step as it is essential in achieving the required discharge limits.

DID YOU KNOW?

Nyrsar’s water treatment plant operates 24/7 and treats approximately 100 m³ of wastewater per hour.

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