

Specialist Press Release

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Ecosys®: Wastewater treatment using the power of nature

Schrobenhausen, Germany – The innovative water treatment methods from BAUER Resources GmbH can be used to clean industrial wastewaters, sewage, and sewage sludge. And what's more: they are purely biological. After all, sustainability is gaining in importance. Bauer Resources has been a forerunner in the industry for years, and is now marketing the natural wastewater treatment method under the new brand: Ecosys®. With this initial step, the company aims to further advance the technology and gradually expand its market position.

Pure sustainability

The centerpiece of this sustainable technology: Millions of plants, tons of filter gravel and countless microorganisms that clean the wastewater naturally, entirely without the use of chemicals. The method is relatively simple but effective: At the end of the process, virtually all organic contaminants are broken down. And that's not all: "By using gravity-flow processes, no energy-intensive pumps are required in the entire system for treating wastewater. Not only does this save on energy costs, it also reduces CO₂ emissions", explains Dennis K. Alexandersen, Business Development Director, Region Middle East at Bauer Resources. In addition, constructed wetlands create natural habitats, improve biodiversity and encourage effluent reuse, which foster integrated landscape development.

Solutions for all locations

Not only do the natural methods reliably clean all kinds of wastewater, they are also suitable for a wide range of locations. Depending on the project requirements, a variety of wetland-technologies are used, either individually or combined. "We find the optimal solution for every location," remarks Dr. Roman Breuer, Managing Director of BAUER Resources GmbH. Even for decentralized and mobile use, a compact system has been developed for domestic wastewater and sludge treatment: the ReedBox®. "This makes it possible to treat smaller volumes very easily with minimal requirements for maintenance and operation," explains Dennis K. Alexandersen and sums up the advantages of the ReedBox®: "It is a green, user-friendly and cost-effective solution."

The world's largest reed bed treatment facility

Bauer Resources has already successfully completed more than a hundred projects of this kind, including the largest constructed wetland in the world. Since 2011, this plant has been using the power of nature to clean hydrocarbon polluted water from oil production at the Nimr oil field in Oman using a patented method. The plant is significant not only due to its enormous area of 13.5 km², but also because of its remarkable treatment performance: With the help of 1.5 billion reed plants, up to 175,000 m³ of polluted water are cleaned each day. In this way, a hydrocarbon content of less than 0.5 mg/l is achieved. Nearly 95% of the crude oil in the water can be recovered and removed without the use of energy or

chemicals – this corresponds to a daily average of 880 bbl of crude oil. “As a result, by the end of operation in 2044, estimates predict that 4.5 million tons of CO₂ emissions will be avoided,” highlights Dennis K. Alexandersen. The project currently saves around 225,000 t of CO₂ per year, which are then traded as CO₂ certificates.

Ecosys[®] is an important milestone in sustainable wastewater treatment. “Sustainability concerns us all,” emphasizes Dr. Roman Breuer. “That’s why we want to make this groundbreaking technology available in additional regions of the world.”

For more information about Ecosys[®] visit www.ecosys-wetlands.com

Photo: 2023-02_BAUER+Resources+Ecosys



Since 2011, Bauer has owned and operated the world’s largest reed bed treatment plant in Oman. © BAUER Group

About BAUER Resources Group

The regionally organized BAUER Resources GmbH is aligned to projects around the world with its subsidiaries in Germany, Africa, the Middle East and South America and has extensive expertise in the areas of drilling services and water wells, environmental services, constructed wetlands, mining and rehabilitation. With more than 30 years of experience, BAUER Resources GmbH's Bauer Umwelt business division is one of the leading specialists in site remediation, soil remediation and waste disposal, both in the domestic market and internationally. As an expert in pollution reduction, Bauer Umwelt offers a diverse range of services for all environmental issues. Other companies of the BAUER Resources Group are GERMAN WATER and ENERGY GROUP (GWE), SCHACHTBAU NORDHAUSEN GmbH and SPESA Spezialbau und Sanierung GmbH. More at bre.bauer.de

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. The Group can rely on a worldwide network on all continents. The Group’s operations are divided into three forward-looking segments with high synergy potential: Construction, Equipment and Resources. Bauer profits enormously from the collaboration of its three business segments, enabling the Group to position itself as an innovative, highly specialized provider of products and services for demanding projects in specialist foundation engineering and related markets. Bauer therefore offers suitable solutions to the world’s greatest challenges, such as urbanization, the growing infrastructure needs, the environment, as well as water. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2021, it employed about 12,000 people and achieved total Group revenues of EUR 1.5 billion worldwide. BAUER Aktiengesellschaft is listed in the Prime Standard of the German Stock Exchange. More information can be found at www.bauer.de. Follow us on [Facebook](#), [LinkedIn](#) and [YouTube](#)!