

Specialist Press Release

February 24, 2021

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Energy revolution in heating: Innovative heat storage solution for energy-efficient refurbishment of residential neighborhoods

Jena, Germany – The question of how to best reconcile sustainable technologies in built-up areas with affordable living space is currently being examined in the German city of Jena. As part of a research project, the regional growth initiative “smood – smart neighborhood” is working on innovative solutions for the energy-efficient refurbishment of older neighborhoods.

The go-ahead for this initiative – and for BAUER Resources GmbH as a partner in the joint GeoHeatStorage project – was given in July 2019. The aim is to structurally develop gravel aquifers near the surface for large-scale, cost-effective heat storage with the capacity to provide seasonal heat storage to an entire neighborhood. For this purpose, Bauer Resources, in collaboration with Bauer Spezialtiefbau, is developing a standardized and cost-efficient specialist foundation engineering method for construction of the cut-off wall for geothermal heat storage. What makes this project unique: The use of a natural aquifer for heat storage has never been realized for a whole neighborhood with current methods. After conducting extensive preliminary ground surveys, the mixed-in-place method (MIP) developed by Bauer proved to be particularly suitable for this project, building on its track record of 2.6 million MIP walls on about 650 sites. The method gets top marks not just from an economical and technical point of view but also in terms of ecology.

Compared to the jet grouting method, this achieves a reduction in the amount of construction materials as well as a substantial decrease in the need for disposal of excavation material. For the first time, there is a viable option for a sustainable and economical heat supply of existing neighborhoods, not just making an important contribution to the energy revolution but also to climate protection.

Images: 2021-02_BAUER+Resources+GeoHeatStorage ...



(1) Bauer Resources participates in the joint GeoHeatStorage project for development of a unique specialist foundation engineering method for the creation of geogenically-bound heat storage systems in urban neighborhoods. © BAUER Group



(2) The mixed-in-place method (MIP) developed by Bauer has proven to be a particularly suitable specialist foundation engineering method for the project. © Guido Anacker



(3) For the first time, a viable option exists for the complete decarbonization of heat supply to existing residential neighborhoods. © Guido Anacker

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 and constructed wetlands. With 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 the GERMAN WATER and ENERGY GROUP (GWE) – manufacturers of pioneering products and developers of integrated applications for well-drilling and geothermal – as well the Site Group for Services and Well Drilling Ltd. in Jordan. More at bre.bauer.de

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. With over 110 subsidiaries, Bauer 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, oil and gas. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2019, it employed about 12,000 people in around 70 countries and achieved total Group revenues of EUR 1.6 billion. 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](#)!