

# EFFICIENT PIT PROJECT: TOGETHER WITH ITS PARTNERS, SOLMAX IS DEVELOPING THE NEXT GENERATION OF PIT THERMAL ENERGY STORAGE

**Hamburg, September 15<sup>th</sup>, 2021.** What does the next generation of Pit Thermal Energy Storage (PTES) look like? This question is the focus of the **Efficient Pit** research and development project funded by the German Federal Ministry for Economic Affairs and Energy on the basis of a resolution by the German Bundestag. Over the project's four-year duration, project participants Solmax Geosynthetics GmbH and Solites, a division of Steinbeis Innovation GmbH, are dedicating themselves to the overall goal of further developing PTES in such a way that they can permanently meet the requirements of the German and European heating sector – paving the way for a successful heating transition. The geosynthetics manufacturer Solmax is contributing its expertise in the field of materials and construction methods, while Solites is focusing on research and development.

“Together with our partner Solites, we will do everything we can to make our multifunctional PTES even more efficient and thus make our contribution to a successful and sustainable heat transition”, explains Thomas Labda, Project Manager and Key Account Manager Renewable Energy at Solmax.

In the **Efficient Pit** project, materials and designs are to be developed that remain permanently stable at storage temperatures of up to 95 °C. Another objective is to ensure that the geosynthetic system solutions can meet the high demands placed on PTES in terms of impermeability and durability at high operating temperatures and the resistance and robustness of their coverings to UV radiation and weathering. Working together, the project participants are investigating solutions for cost-effective, durable construction methods as well as operational control of the heat storage's sealing and insulating function. An expansion of simulation models and design tools to support the industry are also part of the project. Among other things, a modular system for different storage sizes is to be developed.

The project participants are planning to build a test PTES at Solmax's production site in Rechlin where they test the refined materials, designs and functionalities under real conditions. Aside from laboratory tests on the stability and ageing of the temperature-resistant geosynthetics, a focus is also on the further development of new system components. In addition, Solmax's installation teams can optimise the handling, assembly and welding of different products and installation parts in its storage laboratory and develop repair options under real conditions.

With the aid of its own installation teams, Solmax has been building PTES worldwide for several years, using its geosynthetic products, such as the Solmax High-Temperature Liner. By seasonally storing larger amounts of thermal energy, they are a cost-efficient and effective solution. Using PTES, heat generation from renewable energies and industrial processes can be exploited all year round.

With the launch of its **Efficient Pit** project in September 2021, Solmax is emphasizing its commitment to environmental protection and is making a significant and active contribution to a climate-friendly future.





Image: In Langkazi, Tibet a 15,000 m<sup>3</sup> PTES with a capacity of 700 MWh of heat was constructed and professionally sealed by Solmax.

#### About Solmax

Solmax is a geosynthetics pioneer, innovator, and leader. With almost five decades' experience, our GSE and TenCate Geosynthetics acquisitions make us the world's largest geosynthetics manufacturer. With plants in North America, Europe, Asia, and the Middle East, our geosynthetics are used in critical applications by the biggest names in mining, petroleum, waste management, construction, agriculture and irrigation, civil engineering, hydraulic and environmental works, infrastructure, and transport. Our products safeguard the earth from waste and contaminants, and protect investments, helping preserve the integrity and longevity of vital infrastructure in the toughest environments. With expertise across all geosynthetics categories, Solmax is an innovation powerhouse. Our vision is to advance the geosynthetics industry, raising standards and creating products that are more reliable, stronger, resistant to contaminants, and accessible everywhere.

*Solmax - geosynthetics that support human progress.* Visit us at [www.solmax.com](http://www.solmax.com).

#### About Solites

Solites works in all areas of solar and sustainable thermal energy systems that contribute significantly to reducing CO<sub>2</sub> emissions. As a research institute in the Steinbeis network the focus of our work is on innovative and new technologies for which the state of the art does not yet exist or where it has to be adapted to new problems. Solites' range of services includes basic and applied research, project development, technical concept development, system simulation, design and optimization of complex thermal energy systems by simulation, scientific-technical accompaniment of planning, tendering, commissioning and construction, operation optimization, measurement data analysis and evaluation as well as support and advice for political initiatives and market development. Solites was founded in May 2005 by former employees of the Institute for Thermodynamics and Thermal Engineering at the University of Stuttgart. Since then, the Solites team has been growing steadily and has strategically expanded its professional leadership in its business areas. Solites scientists are member or chairman of national and international expert groups, advise ministries and funding agencies.

[www.solites.de](http://www.solites.de)

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