Energy storage is becoming increasingly important. As the world moves away from fossil fuels to more climate-friendly and sustainable renewable energy sources, there’s an opportunity to further decarbonise by storing energy surpluses for future use. Our High-Temperature geomembranes make pit thermal energy storage a viable, energy-and cost efficient solution.

Water is one of the most critical input materials for thermal power. As a storage medium, it exhibits good stratification and high heat capacity. However, the large steel thermal storage reservoirs typically used in these applications are size-constrained and costly. Now, with the use of a special temperature-resistant geomembrane as a lining component, pit thermal energy storage (PTES) solutions are successfully contributing to the energy turnaround. Built using earth basins, pit thermal reservoirs can be extremely large. In fact, the larger they are the more energy- and cost efficient they become.

Research indicates that the world’s primary energy consumption will continue to be fueled by an expanding world population, rising by 20-30% through 2040 and beyond. While several renewable energy sources have entered the energy mix, fossil fuels still meet the bulk of global energy demand. Companies and governments are thus highly focused on researching new processes and developing new sources of energy to meet demand. An example is the application of seasonal energy storage: solar-panel fields which power the PTES with thermal energy in Summer, for use of heating, in Winter. Among the growing opportunities are the conversion of previously non-recyclable waste materials into heat, electricity or fuel through processes such as combustion, gasification, thermal energy storage, anaerobic digestion and landfill gas recovery.

Solmax is proud to be at the forefront of innovation and advancement of new technologies that assist our clients to exploit the opportunities and address the challenges that these energy generation solutions present, with minimal impact to the environment.
MORE EFFICIENT

Capable of resisting extended exposure to heat, and adapted to the mechanical and environmental stresses inherent in thermal energy storage, our high-temperature liner makes PTES more efficient.

Pit thermal energy storage solutions allow large heat storage volumes, have low installation and maintenance cost, and can be used for multi-function or seasonal storage. With the Solmax High-Temperature liner, reliability, longevity and cost-effectiveness of PTES increases.

BUILDING A PTES RESERVOIR

A PTES reservoir comprises a pit lined with the Solmax High-Temperature geomembrane and filled with water. The PTES is covered with a floating cover which consists of insulation layers together with a High-Temperature liner.

PTES heat storage basin or pit is lined with the Solmax high-temperature geomembrane.

SOLMAX.COM

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.