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**FACT SHEET for the research project  
Cavern storage Graz**

**SHORT TITLE / ACRONYM**

Cavern storage Graz

**LONG TITLE**

Feasibility of underground heat storage (cavern thermal energy storage- CTES) in the vicinity of the city of Graz

**DESCRIPTION**

The "Cavern Storage Graz" project, running from April 2022 to June 2022, investigated the fundamental feasibility of cavern storage for underground heat storage within the urban area of Graz. The study was conducted in cooperation with the Technical University of Graz's Institute of Rock Mechanics and Tunnelling and Geo5 GmbH, commissioned by Energie Graz GmbH & Co KG. The main objective was to develop a criteria catalog for hydraulic and rock mechanical requirements, as well as to identify suitable geological areas in the vicinity of Graz. The potential sites include the Karolinen Quarry and the Admonter Kogel, both of which are suitable for construction due to their geological properties.

The storage sizes range between 50,000 and 200,000 cubic meters, with a modular system recommended to adjust the capacity according to demand. The potential sites should also be located near the existing district heating network. Additionally, the sites must provide sufficient overburden to prevent seasonal temperature fluctuations.

In general, additional geological investigations, including geophysical measurements and test drilling, are necessary. It has been demonstrated that the establishment of underground thermal storage facilities near Graz is feasible, offering a potential opportunity to promote green energy.

**PROJECT COORDINATOR**

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