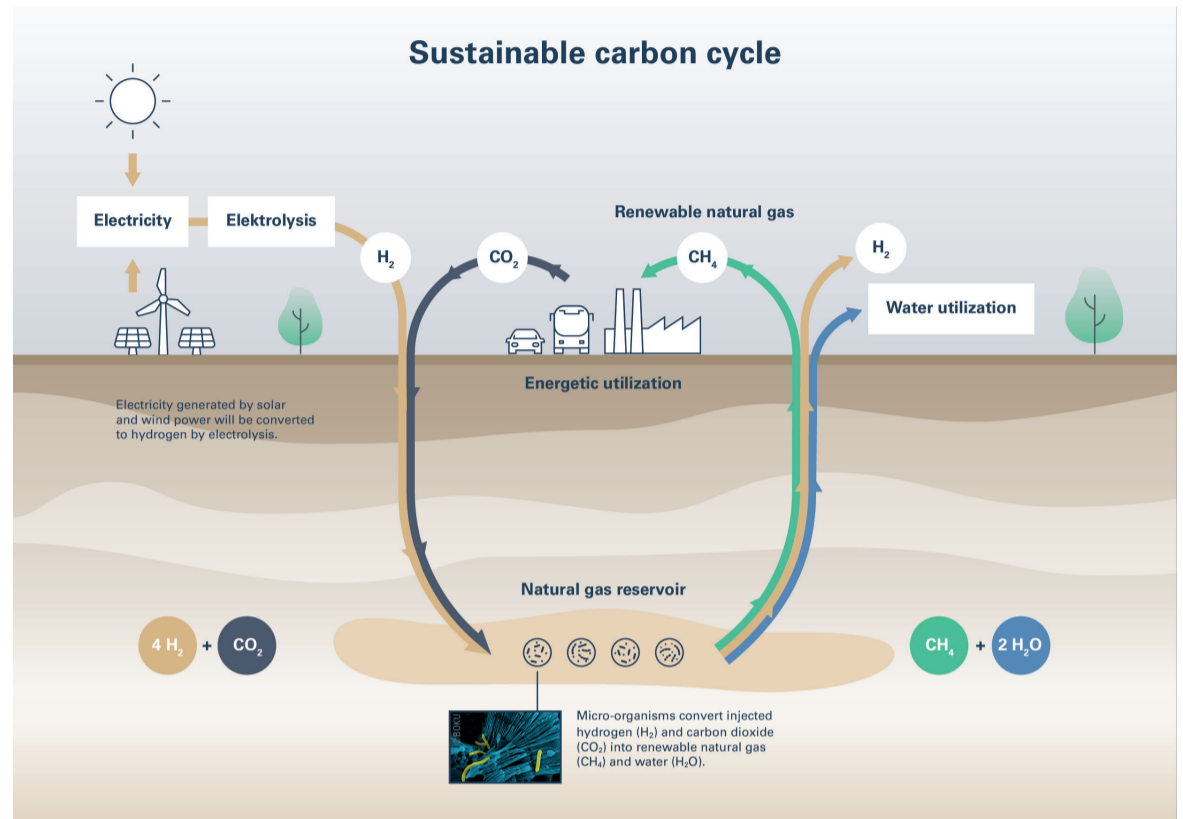


# USC Flex Store



## Underground Sun Conversion – Flexible Storage

From December 2020, the “Underground Sun Conversion – Flexible Storage” (USC-FlexStore) project will investigate seasonal storage of large quantities of renewable energy to be made available year round. This innovative international project is carried out with Swiss partners under the leadership of Energie 360°. It aims at developing a seasonal, high-volume transformation and storage solution for erratic renewable generation. Energy will be stored safely in gaseous form in underground facilities at depths of over 1,000 metres. The aim of the project is to take RAG Austria AG’s patented “Underground Sun Conversion” (USC) technology (which involves methanation of CO<sub>2</sub> and green H<sub>2</sub>) to the next level, and to design services based on it. Field tests are planned at RAG’s research facility in Pilsbach (Upper Austria).



## Project information

This project is based on the “Underground Sun Conversion” (USC) technology developed by RAG Austria AG in collaboration with the University of Natural Resources and Applied Life Sciences, Vienna (BOKU), and represents the next step in implementing this new, innovative and unique storage technology. “Underground Sun Conversion” involves injecting CO<sub>2</sub> and H<sub>2</sub> into a porous underground gas storage facility (a depleted gas reservoir), where microbial methanation has been found to occur, meaning the biological conversion of CO<sub>2</sub> and H<sub>2</sub> to methane, the main component of natural gas. This storage technology enables seasonal storage of large volumes of energy in the form of renewable gas. This will not only enhance the stability of European energy networks and energy supply, but is also essential for ensuring that the continent’s energy mix includes a higher proportion of (gaseous) renewables. The project will provide a first estimation of the potential for geological storage of energy in Switzerland using the „USC FlexStore“ approach. This process serves as a blueprint for future expansion to other regions around the world, and in turn as a model for the internationalisation of the concept.

## Project partners:



[www.wiva.at](http://www.wiva.at)

VEREIN WIVA P&G - Wasserstoffinitiative Vorzeigeregion Austria Power & Gas

This project is funded by the Austrian climate and energy fund, BMK and the Swiss Bundesamt für Energie (BFE) and runs within the scope of the program „ERA-Net Smart Energy Systems“