

What is Underground Sun Storage?

With "Underground Sun Storage", the world's first hydrogen storage facility in an underground porous reservoir, RAG Austria AG - Renewables and Gas - and its project partners are setting new international standards. Two years after the start of the project, the underground sun storage facility was opened on April 27, 2023.

What is the underground sun conversion project?

Building on the research conducted so far, for the first time the Underground Sun Conversion project will enable production of natural gas directly within a gas reservoir using a microbiological process initiated specifically for this purpose by RAG, and to store it in the same reservoir.

Can underground gas storage be used for hydrogen storage?

The use of underground gas storage for hydrogen storage is also included in the Long-Term Strategy 2050 - Austria according to Regulation (EU) 2018/1999 of the European Parliament and of the Council on the Governance System for the Energy Union and Climate Change.

What is underground sun conversion (USC)?

The aim of the project is to take RAG Austria AG's patented "Underground Sun Conversion" (USC) technology (which involves methanation of CO₂ and green H₂) to the next level, and to design services based on it. Field tests are planned at RAG's research facility in Pilsbach (Upper Austria).

When will the underground sun conversion test facility start?

Pilsbach / 1st March 2018. Construction of the Underground Sun Conversion test facility at Pilsbach in Upper Austria will start in early March at the same site where the forerunner project, Underground Sun Storage, was successfully carried out.

Who conducted the "underground sun conversion" project?

This project was conducted by Prof. Dr. Andreas P. Loibner (BOKU - University of Natural Resources and Life Sciences, Vienna) and provides the basis for the "Underground Sun Conversion" project. Pilsbach / 1st March 2018.

Im Leitprojekt „Underground Sun Storage 2030“ (USS 2030) wird die sichere, saisonale und großvolumige Speicherung von erneuerbarer Energie in Form von Wasserstoff in unterirdischen Gaslagerstätten entwickelt. Darüber hinaus werden alle am Projekt beteiligten Partner gemeinsam wertvolle technische und ökonomische Erkenntnisse für den Aufbau einer gesicherten ...

Underground Sun Storage Logo Download 300 dpi (RGB) (jpg, 553 KB) Download Logo Print (SW, 4C: pdf, jpg) (zip, 2 MB) Underground Sun Storage Logo SW Download 300 dpi (RGB) (jpg, 433 KB) Top. Drucken. Konsortium ...

"Underground Sun Storage" - Publish-able final report 31. October 2017. Download (pdf, 9 MB)
Underground Sun Storage Status June 2019. Download (pdf, 520 KB) Brochure "Underground Sun Storage" Status ...

Underground Sun Storage EN; Partners; Cooperation Partners; Hychico; Hychico. Hychico was established in 2006 and its main activities, located in Argentine Patagonia, are power generation from renewable sources and the production of hydrogen and oxygen. The Pilot Project, composed of an Hydrogen Plant and a Wind Park, is currently producing ...

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 ...

Stigbergsgaraget. Two-thirds of households in Stockholm have access to a car, and around 15 percent of road surfaces are used for parking. Space is at a premium in the city, so there is a strong case for replacing roadside parking with underground car parks. ...

Underground Sun Storage 2030 project investigates and demonstrates a seasonal storage option for renewable energy as pure hydrogen storage in suitable underground gas reservoirs. Based on scenarios with 100% ...

Zwei Jahre nach dem Start des von RAG Austria geleiteten Projekts „Underground Sun Storage 2030“ (vgl. eia 5/2021) und nach der Inbetriebnahme im April 2023 wird nun im Projekt erstmals die saisonale Speicherung des grünen Energieträgers Wasserstoff in einer ausgeführten Erdgaslagerstätte in die Praxis umgesetzt.

Summary To find a storage system that can make renewable energy baseload capable and provide seasonable large scale storage RAG Austria AG initiated the ...

The International Gas Union (IGU) hosted the World Gas Conference (WGC), which takes place every three years, from 1-5 June 2015 in Paris. Stephan Bauer presented the Underground Sun Storage project at the conference, the international gas industry's biggest and most prestigious meeting with 3,500 delegates from around 100 different countries.

Anrainertag „Underground Sun Storage“ am 6.10.2015 in Pilsbach/Oberösterreich 06.10.2015 | Veranstaltung Einen Tag nach der offiziellen Eröffnung lud die RAG die Bewohner der Gemeinde Pilsbach und der Ortschaft Moosham zum Anrainertag auf das ...

Die Wasserstoffverträglichkeit der unterirdischen Porenspeicher wurde bereits in den Vorgängerprojekten „Underground SUN.STORAGE“ sowie „Underground N version“ untersucht. Es konnte der Nachweis erbracht werden, dass ein Wasserstoffanteil von bis zu 20 % in Erdgaslagerstätten gut verträglich speicherbar ist.

Press Release OTS "Underground Sun Storage 2030" 08.06.2021 | Report In the worldwide unique project "Underground Sun Storage 2030" (USS 2030), the safe, seasonal and large-volume storage of renewable energy in the form of hydrogen in underground, former natural gas reservoirs, is being developed.

Summary To find a storage system that can make renewable energy baseload capable and provide seasonable large scale storage RAG Austria AG initiated the Underground Sun Storage project. The research done in this project should prove the feasibility of storing hydrogen in depleted natural gas reservoirs just like commercial natural gas storages. The project was ...

Das erfolgreiche Forschungsprojekt „Underground Sun Storage“ zur Speicherung von Wind- und Sonnenenergie in natürlichen Erdgaslagerstätten wird fortgesetzt. Mit dem Folgeprojekt „Underground Sun Conversion“ soll es erstmals möglich werden, direkt in einer Erdgaslagerstätte Erdgas durch einen von der RAG gezielt initiierten ...

SENS develops, designs, builds and sells large-scale energy projects by combining next-generation energy storage technologies: underground pumped storage (UPHS) and battery systems (BESS) with energy from solar and wind power.

With "Underground Sun Storage", the world's first pure hydrogen storage facility in an underground porous reservoir, RAG Austria AG and its project partners of the Austrian energy community are setting new international standards. This project builds on findings from predecessor projects, in which it was demonstrated that a hydrogen ...

Employing deep reservoirs as UGS (underground gas storage) has a long history across continents. In 2018, 689 underground gas reservoirs with a total volume of 417 bcm were in operation worldwide.

The Underground Sun Storage 2030 project takes the initiative a step further by building on these findings. Experiments in the laboratory have shown that the hydrogen content can be increased to 100%. We are now carrying out a field trial to gain new insights into the storage of hydrogen produced from solar and wind power in former gas ...

The hydrogen compatibility of underground pore storage systems had already been investigated in the previous projects "Underground SUN.STORAGE" and "Underground N version". It was possible to prove that a hydrogen content of up to 20% can be stored in natural-gas storage facilities with good levels of compatibility.

Two years after the start of the project, the underground sun storage facility was opened on April 27, 2023. In this unique cross-sector demonstration facility, solar energy is converted into green hydrogen by water electrolysis and stored in ...

There is a rich diversity of underground facilities in Sweden, with varying size and function, built to meet a variety of needs. Infrastructure projects are the most common type, including road and rail tunnels, car parks, wastewater treatment ...

The underground book storage at the National Library of Sweden is in a rock cavern so large that the library will be able to expand into it gradually over 40 years. Out of sight, out of mind Surface facilities that generate noise, odour and cause other environmental disturbances cannot be built close to residential areas, and a considerable ...

In 2013, RAG Austria AG started to investigate the tolerance of hydrogen in underground gas storage facilities in a depleted underground natural gas reservoir. The goal of the project was to demonstrate that specific gas storage reservoirs can tolerate hydrogen content of up to 10 %. This goal was successfully achieved.

In the lead project "Underground Sun Storage 2030" (USS 2030), the safe, seasonal and large-scale storage of renewable energy in the form of hydrogen in underground gas reservoirs is being developed. In addition, all partners ...

The project "Underground Sun Storage" as well as the further research project "Underground Sun Conversion" receive funding from Austrian Climate and Energy Fund established by the Ministry for Transport, Innovation and Technology, as part of its energy research programme. Final Report.

Underground Sun Storage: Publizierbarer Endbericht 31. Oktober 2017 Seite 8 von 187 2 Kurzfassung Der publizierbare Endbericht zum Projekt Underground Sun Storage fasst die wesentlichen Erkenntnisse aus dem Forschungsvorhaben zusammen. Dort wo erforderlich, wird auf weitere Publikationen, die im Zusammenhang mit diesem Projekt entstanden sind, ...

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With "Underground Sun Storage", the world's first pure hydrogen storage facility in an underground porous reservoir, RAG Austria AG and its project partners of the Austrian energy community ...

4 0183; Natural hydrogen from underground reservoirs could bypass this issue, offering a cleaner, more sustainable solution. Read more: Mysterious "Dark Comets" Found to Have Two ...

Boken "Sweden underground" Boken och hemsidan Sweden Underground 2018; ett samarbete mellan Svenska Bergteknikföreningen, Stiftelsen Bergteknisk Forskning (BeFo), Trafikverket, SKB och andra partners.. Sweden Underground 2018; publicerad på engelska och versig till en bred, internationell och svensk målgrupp bestående av samhällsplanerare, ingenjörer, forskare och ...

Flexible Storage: Eine nachhaltige Speicherlösung für ein erneuerbares Energiesystem der Zukunft. Das Forschungsprojekt „Underground Sun Conversion - Flexible Storage“ zielt darauf ab, eine saisonale und großvolumige Transformations- und Speicherlösung für erneuerbare Energien bereitzustellen.

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