

Microorganisms store electricity from renewable energy sources

Source:

Krajete GmbH

Section:

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Company: Krajete GmbH

Location: Linz, Austria

Description:

Austrian Krajete GmbH developed an innovative process that allows the storage of electricity from renewable energy sources using microorganisms. In the process of transformation, the natural metabolic process of the so-called archaea is used, which produces pure methane with the exclusion of oxygen. The process allows the conversion of climate-damaging CO₂ and hydrogen into storable methane, which is highly efficient and environmentally friendly.

The conversion of the climatic CO₂ (and hydrogen) into natural gas in a bioreactor - a regulated system in which specific strains of the microorganisms designated as Archaea convert CO₂. The company succeeded in perfecting the process of methane production under controlled conditions in the bioreactor as a whole - high resource efficiency and sales speeds are just as strong as its robustness and the ability to cope with rapidly changing conditions.

The application possibilities for this highly efficient process for producing pure methane are numerous. In addition to the storage of renewable surplus energy from solar, wind and hydro power plants (power to gas), refining of raw biogas to pure natural gas can be carried out, or biofuels can be produced. The production of biofuels in comparison to the current production from (food) plants has the great advantage of not causing competition for cultivation surfaces. In addition, the actual storage itself consumes hardly any energy. Once converted, the methane can be stored passively until use - an important criterion for distinguishing it from other storage processes.

Krajete GmbH has for the first time succeeded in developing this promising process for industrial applications. By registering a total of four patents, the company is now in the

position to license the entire process to customers from the energy industry, chemical industry and mechanical engineering.

Further information [LINK](#).





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