Sophia Energy Storage Project

What is Sophia Project?
The SOPHIA project has provided HyGear with th knowledge to widen ist technology base for producing hydrogen in future years. SP is a major developer and supplier of SOFC systems. It is constantly improving iis cells, stacks, and systems. The results obtained in the SOPHIA project will assist SP in this efort.

What are the goals of Sophia?
Key targets of the SOPHIA project and expected outcomes are the development of cells (including large scale) and stacks which work under pressurized conditions, meet long durability (< 1% per 1000 h) and high performance (> 1 A/ cm2).

Is there a potential market for Sophia technology?
A large potential market existsfor the SOPHIA technology with production capacities. In 2010 the European Commission has adopted the Communication "Energy 2020 - A strategy for competitive,sustainable and secure energy". It includes five headline targets that set out where the EU should be in 2020.

Where can Sophia Systems be deployed?
Large scale SOPHIA like systems can be deployed in Southern Europeas the market analyses have shown. Deployment of stand-alone SOEC systems can be worldwide. EPFL is an important institute for education,training and PhD students in the field of system modelling,solar receiver modelling and fuel cell and electrolyser research.

What is the Sophia consortium?
The SOPHIA consortium can be divided into two partner groups, Industry and RTD-performers. Each group will identify the best type of exploitation action and the specific audience of the exploitation activities.

How can Sophia improve a fuel cell & electrolyser?
As a general matter,all the numerical means developed in SOPHIA will be valorized through studiesdedicated to the optimization of high temperature fuel cell and electrolyser. They allow to narrow the gap between the laboratory developments and the pre-commercial systems.

Rural and remote health facilities in Africa require sustainable off-grid energy supplies and water free of bacteria and viruses. The EU-funded SophiA project will develop containerised solutions for hospitals using natural refrigerants, solar thermal energy and photovoltaics. This will make it possible for health care units to access carbon ...

With a budget of 8 million euros over four years, SophiA will develop containerized solutions for hospitals using natural refrigerants, solar thermal and photovoltaics to enable more and more African people to access carbon-neutral energy for electricity, heating and cooling of medicine and health care units as well as safe and

clean ...

These aspects are covered by the SOPHIA project. A 3 kWe-size pressurized HTE system, coupled to a concentrated solar energy source will be designed, fabricated and operated on-sun for proof of principle. Second, it will prove the concept of co-electrolysis at the stack level while operated also pressurized. The achievement of such ...

Recently funded by the European Commission, the SOPHIA project directly addresses these issues by providing African people with access to carbon-neutral off-grid ...

On 21 August 2024, the Bulgarian Ministry of Energy opened a tender procedure for National infrastructure for storage of renewable energy (RESTORE) for granting stand-alone battery energy storage system (BESS) tender funded under the EU"s Recovery Resilience Facility (the "Procedure").The deadline for submitting applications will be 17:00 on 21 November 2024.

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The African manufactured SophiA systems will for the first time provide an innovative solution that covers cooling in 4 temperature ranges: air conditioning for surgery / intensive care unit, for medicine/food, blood plasma, and sensitive medication in a cascade refrigeration system with highly efficient thermal energy storage.

"SophiA: Sustainable off-grid solutions for Pharmacies and Hospitals in Africa - Self-sufficient cascade system in combination with a thermal energy storage charged by a two-phase thermosiphon", SCHMID O., MELITO E., KAUFFELD M., ICR 2023, DOI 10.18462/iir.icr.2023.00447

Several partners of the European project SOPHIA predicted the module energy production and back side temperature. Several types of modeling approaches for the electrical models are ...

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Sofia Energy Centre is an independent consulting company working in the area of energy efficiency and renewable energy sources. The Centre provides services to the European Commission, international organizations, national, regional and local authorities and organizations for the development, management and implementation of energy projects and ...

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Key targets of the SOPHIA project and expected outcomes are the development of cells (including large scale) and stacks which work under pressurized conditions, meet long durability (1% per 1000 h) and high performance (> 1 A/ cm2). Additionaly the Proof-of-concept for co-electrolysis and syngas production and the manufacture of an optimized ...

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PROJECT SUMMARY. The 1.4 gigawatt (GW) Sofia Offshore Wind Farm, sited on the shallow central area of the North Sea known as Dogger Bank, is the largest offshore wind project in RWE"s current portfolio. Now under construction, the project is located 195 km from the nearest point on the UK"s North East coast on a site of 593 square kilometres ...

Web: https://degotec.fr