

Researchers built on the success of a state-of-the-art micro-CHP system that uses a solid oxide fuel cell (SOFC) stack developed by project partner Sunfire. To date, this system has undergone extensive field trials as part of European-wide residential fuel cell micro-CHP deployment initiatives, and it is one of the most promising SOFC ...

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A solid oxide fuel cell (or SOFC) is an electrochemical conversion device that produces electricity directly from oxidizing a fuel. Fuel cells are characterized by their electrolyte material; the SOFC has a solid oxide or ceramic electrolyte.

Ceres Power and Delta Electronics have signed a global long-term manufacturing collaboration and license agreement for solid oxide electrolysis cell (SOEC) and solid oxide fuel cell (SOFC) stack...

the UK through a low-carbon energy hub. Two cases were compared: a solid oxide fuel cell (SOFC) integrated combined heat and power (CHP) system fuelled by natural gas and hydrogen; and a SOFC-heat pump (HP) integrated CHP system fuelled by natural gas and hydrogen. The study used the actual electricity

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In the SOFC and Li-ion battery hybrid (SBH) power generation system, the current output of the SOFC subsystem is connected to the DC bus through a unidirectional DC-DC converter. Li-ion battery has the advantage of flexibility for power output is used to improve the slow power response of SOFC, which is directly connected to the DC bus.

Executive Summary: SAFARI aimed to design, optimise and build 5 100We SOFC stacks, and to integrate them into 2 truck (Fig 1) cab power systems comprising both rapid heating planar SOFC from ALM and microtubular SOFC from ADE, together with a battery and appliances found in a modern truck. Additional components of the system were a gas ...

The SOFC based CHP systems were run based on a cluster's monthly power and heating usage in the United Kingdom. To the best of the authors' knowledge, this is the first study of its kind based on the actual electricity and heating demands of a locality in the UK.

The project aims to develop a hybrid SOFC-battery power system to displace unmanned underwater vehicle (UUV) propulsion. This hybrid system is required to generate 1800 kWh of electricity during a 70-day mission without releasing exhaust at any point. The unit must be self-contained and operate on liquid fuel with no need for extra air supply.

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