Hydrogen Europe:
European Hydrogen & Fuel cell Project Database

Project SOFC-Life

Solid Oxide Fuel Cells – Integrating Degradation Effects into Lifetime Prediction Models

Long-term stable operation of Solid Oxide Fuel Cells (SOFC) is a basic requirement for introducing this technology to the stationary power market. Degradation phenomena limiting the lifetime can be divided into continuous (baseline) and incidental (transient) effects. This project is concerned with understanding the details of the major SOFC continuous degradation effects and developing models that will predict single degradation phenomena and their combined effect on SOFC cells and single repeating units. The outcome of the project will be an in-depth understanding of the degradation phenomena as a function of the basic physico-chemical processes involved, including their dependency on operational parameters. Up to now research has rarely succeeded in linking the basic changes in materials properties to the decrease in electro-chemical performance at the level of multi-layer systems and SOFC cells, and even up to single repeating units.

Project Information

Type of project : Research
Timing : 01/01/2011 > 31/12/2013
Project website: http://www.sofc-life.eu/sofc-life/EN/Home_2/home_node.html
Project Budget : 5.649.854 €

Funding

European Union through FCH JU: **Grant agreement 256885** - **CORDIS link**

Project partners

Coordinator :

JÜLICH - Forschungszentrum Jülich GmbH

Partners :

CEA - Commissariat à l'énergie atomique et aux énergies alternatives
DVGW - German Technical and Scientific Association for Gas and Water
Empa - Eidgenössische Materialprüfungs- und Forschungsanstalt
VTT - Technical Research Centre of Finland
HEXIS AG
HTceramix SA
TOPSOE FUEL CELL A/S
INSTITUTE OF HIGH TEMPERATURE ELECTROCHEMISTRY
ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE
IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE
ELECTRICITE DE FRANCE
ZURCHER HOCHSCHULE FUR ANGEWANDTE WISSENSCHAFTEN

Sub project(s)

Sub project 1

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Sub project categories
Research

Project Id: 1089
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