# Hydrogen Europe:
# European Hydrogen & Fuel cell Project Database

## Project FCGEN

Fuel Cell Based Power Generation

For truck applications the increasing demand for electrical power when the vehicle stands still has lead to an increasing need for an on-board electric power generator which operates with high efficiency and very low emissions. A fuel cell based auxiliary power unit (APU), with a diesel fuel processor is regarded as one of the most interesting options since it combines high efficiency, low emissions and the use of the same fuel as the main engine. The overall objectives of FCGEN wer to develop and demonstrate a proof-of-concept complete fuel cell auxiliary power unit in a real application, onboard a truck. However, the vehicle demonstration objective was changed to laboratory demonstration as the project partner, CRF, who was responsible for the vehicle demonstration work package and providing the demonstration truck has left the project after 24 months and it was not possible for the FCGEN consortium to find a suitable replacement for CRF. The APU system consisting of a low-temperature PEM fuel cell, a diesel fuel processor and necessary balance of plant components will be designed to meet automotive requirements regarding e.g. size, mechanical tolerances, durability etc. High targets are set for energy efficiency and therefore this will significantly lead to emissions reductions and greener transport solutions in line with EU targets. A key point in the project is the development of a fuel processing system that can handle logistic fuels. A fuel processor consisting of autothermal reformer, desulphurization unit, water-gas-shift reactor, reactor for the preferential oxidation of CO, will be developed. The fuel processor will be developed for and tested on standard available low sulphur diesel fuel both for the European and US fuel qualities. Another key point is the development of an efficient and reliable control system for the APU, systems, including both hardware and software modules. In the final demonstration, the fuel cell based APU will be tested in laboratory environment as the first step in a defined plan towards Vehicle demonstration.

## Project Information

**Type of project :** Demonstration
**Timing :** 01/11/2011 > 31/05/2015
**Project website:** http://www.fcgen.com/
**Project Budget :** 9.309.998 €

## Funding

European Union through FCH JU: **Grant agreement 277844** - **CORDIS link**

## Project partners

**Coordinator :**
INSTITUT JOZEF STEFAN
**Partners :**
Powercell AB Sweden
JÜLICH - Forschungszentrum Jülich GmbH
Volvo Group
Fraunhofer ICT-IMM Fraunhofer Institute for Chemical Technology ICT, Branch IMM
JOHNSON MATTHEY PLC
CENTRO RICERCHE FIAT SCPA
MODELON AB

## Sub project(s)

# Sub project 1

**Country:** Slovenia
**Address:**
Jamova 39 1000 LJUBLJANA
**Sub project categories**
Demonstration

Project Id: 964
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