



# Hydrogen Europe: European Hydrogen & Fuel cell Project Database

## Project POWER-UP

### Demonstration of 500 kWe alkaline fuel cell system with heat capture

Alkaline fuel cells represent an efficient, sustainable and cost effective method for the generation of electrical power from hydrogen. AFC Energy (AFCEN) and Air Products (AIRP) are collaborating on a five year project to generate electrical power from a fuel cell system running on un-treated industrial waste hydrogen Air Products' hydrogen plant in Stade (Lower Saxony, Germany). The project will demonstrate, for the first time, the automated, scaled-up manufacture of a competitive 500 kWe alkaline fuel cell system from cost-effective and recyclable components over a period of up to 51 months. AFCEN's modular system is designed to operate continuously within the confines of the end-user's real-world operational schedules, and output at the Stade site will be gradually incremented over 2 stages. This installation will feature a new balance of plant design which includes heat capture and is containerised. Assessment of the social, economic and environmental impacts of the project will be made to provide a wider context. Results will be widely disseminated to increase awareness both within the field and outside. The knowledge gained during the project will increase knowledge in the field beyond the state of the art and provide additional knowledge in recycling and manufacturing. Each partner brings considerable expertise and resource to the project through use of existing personnel and equipment. This project not only represents an opportunity to exploit the fuel cell on an industrial scale but will also serve as a shop window for the entire fuel cell industry, not only for AFCEN. This will lead to wider economic benefits giving considerable economic value over and above the monetary cost. The consortium intends this project to demonstrate the fuel cell to be a critical technology to meet future energy needs in a sustainable and cost effective way.

## Project Information

**Type of project :** Demonstration

**Timing :** 01/04/2013 > 30/06/2017

**Project website:** <http://project-power-up.eu/>

**Project Budget :** 13.654.855 €

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## Funding

European Union through FCH JU: **Grant agreement 325356 - CORDIS link**

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## Project partners

**Coordinator :**

AFC ENERGY PLC

**Partners :**

[ZBT - The Hydrogen and Fuel Cell Center](#)

[PSI - Paul Scherrer Institut](#)

G.B. INNOMECH LIMITED

FAST - FEDERAZIONE DELLE ASSOCIAZIONI SCIENTIFICHE E TECNICHE

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[Sub project\(s\)](#)

**Sub project 1**

**Country:** United Kingdom

**Address:** CRANWOOD STREET 5-7 FINSGATE EC1V 9EE LONDON

**Sub project categories**

Demonstration

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Project Id: 1066

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