



# Hydrogen Europe: European Hydrogen & Fuel cell Project Database

## Project HyBalance

# HyBalance

Demonstrating the feasibility of central large scale electrolyzers in providing grid services and hydrogen distribution and supply to multiple high value markets

Power-to-Gas (PtG) is an innovative energy concept which will help to incorporate flexibility into future energy systems, increasingly characterised by the use of fluctuating renewable electricity. One PtG option, dubbed Power-to Hydrogen (PtH2) is to produce hydrogen from water electrolysis applying cheap renewable electricity in times of surplus and providing it for re-electrification in times of electricity shortages or to other hydrogen end-users, whatever promises the best business opportunities. It has been shown by recent studies that these can be best exploited, if PtH2 simultaneously supplies hydrogen to more than one end-use sector. The combination of electricity and mobility sectors has been earmarked as being specifically relevant, promising high utilization of the electrolyzers and hence possible revenues. It is the purpose of the HyBalance project to demonstrate the concept of multi-sectoral hydrogen end-use in the renewable energy friendly environment of wind-rich Denmark at Megawatt scale with a PtH2 plant. A group of partners representing all steps along the renewable electricity to hydrogen to end-use value chain have convened to develop a PtH2 demonstration plant. This plant will be designed for combined operation providing both grid balancing services and hydrogen for industry and as a fuel for transport in the community of Hobro in the Danish province of Nordjylland. The plant will be used to demonstrate its feasibility to identifying potential revenue streams from PtH2 under today's and future constraints (regulatory environment, state-of-art of key technologies), simultaneously applying most recent developments for hydrogen distribution and storage. Relevant applications in the hydrogen production site's proximity are: hydrogen refuelling stations for fuel cell cars and buses in Hobro, local industry and, as perspective, hydrogen storage in salt caverns located in Hvornum and Lille Torup.

## Project Information

**Type of project :** Demonstration

**Timing :** 01/10/2015 > 30/09/2020

**Project website:** <http://www.hybalance.eu>

**Project Budget :** 15.631.195 €

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## Funding

European Union through FCH JU: **Grant agreement 671384 - CORDIS link**

other : Danish ForskEL program, which is administered by Energinet.dk.

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## Project partners

**Coordinator :**[Air Liquide](#)**Partners :**[AIR LIQUIDE GLOBAL E&C SOLUTIONS FRANCE](#)[Hydrogenics Europe](#)

Ludwig-Boelkow-Systemtechnik GmbH

NEAS ENERGY AS

CEMTEC FONDEN

COPENHAGEN HYDROGEN NETWORK AS

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**Gallery****Country:** Denmark**Address:** Jyllandsvej 25, 9500 Hobro, Denmark**Sub project categories**

Demonstration

**Project status:** In operation

03.09.2018: Project inauguration in Hobro

Project Id: 993

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