



Hydrogen Europe: European Hydrogen & Fuel cell Project Database

Project IDEALHY

Integrated Design for Efficient Advanced Liquefaction of Hydrogen

Hydrogen is an important energy carrier as a viable future clean transport fuel. H₂-fuelled vehicles are affordable, infrastructure investments are manageable and H₂ and electric mobility are required to meet future CO₂ emission targets. Plans are made to implement H₂-refuelling infrastructure in Germany followed by roll-out over Europe by 2015. Logistically, liquid H₂ appears the only viable option to supply the larger stations in the medium term. Without developing a liquefaction capacity, there is a serious risk to H₂-infrastructure development and implementation. However, at present liquefaction of H₂ is expensive, energy intensive and relatively small scale. Reduction of liquefaction costs via technology development and increased competition is crucial. IDEALHY is an enabling project for viable, economic liquefaction capacity in Europe, to accelerate rational infrastructure investment, and enable the rapid spread of H₂-refuelling stations across Europe. The IDEALHY project researches, develops and scales-up data and designs into an optimised design for a generic liquefaction process at a scale of 30-50 te/day, representing a very substantial upscale over proposed and existing LH₂-plants. The project also develops a detailed strategic plan for a prospective large-scale demonstration of efficient H₂-liquefaction with options for location. The focus is to improve substantially efficiency and reduce capital costs of liquefaction through innovations, including linking LH₂ production with LNG terminal operations to make use of available cryogenic temperatures for pre-cooling. Supporting economic and lifecycle assessment of the resulting gains in energy efficiency will be made, together with a whole chain assessment based on near term market requirements. IDEALHY will be undertaken by a partnership comprising world leaders in H₂ distribution and liquefaction technologies, research institutes, academic partners and pioneering SME suppliers to the liquefaction industry.

Project Information

Type of project : Research

Timing : 01/11/2011 > 31/10/2013

Project website: <http://www.idealhy.eu/>

Project Budget : 2.117.530 €

Funding

European Union through FCH JU: [Grant agreement 278177 - CORDIS link](#)

Project partners

Coordinator :

[SHELL GLOBAL SOLUTIONS INTERNATIONAL B.V.](#)

Partners :

[Linde Kryotechnik AG](#)

[SINTEF ENERGI AS](#)

LOUGHBOROUGH UNIVERSITY

TECHNISCHE UNIVERSITAET DRESDEN

NORTH ENERGY ASSOCIATES LIMITED

WEKA AG

PLANET PLANUNGSGRUPPE ENERGIE UND TECHNIK GBR

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

Sub project 1

Country: Netherlands

Address: Carel van Bylandtlaan 23 2596 HP The Hague

Sub project categories

Research

Project Id: 1019

This project datasheet was last updated on : 19.06.2018

[Modify this project datasheet](#)