Integrated Design for Demonstration of Efficient Liquefaction of Hydrogen (IDEALHY)

Fuel Cells and Hydrogen Joint Undertaking (FCH JU)

Grant Agreement Number 278177

Title:	Procedure for Achieving a Fully Engineered Package
Authors / Project Partner:	Christoph Haberstroh, Hans Quack, Ilka Seemann / Technische Universität Dresden
	Lutz Decker / Linde Kryotechnik AG
Deliverable Number:	5.24
Date:	11 November 2013
Report Classification:	Restricted (*here: Publishable Summary*)

New Energy World JU
fuel cells & hydrogen for sustainability

Approvals	
WP Leader	✓
Coordinator	✓
FCH JU	**pending**

Contacts
christoph.haberstroh@tu-dresden.de **info@idealhy.eu**

Acknowledgements

The research leading to these results has received funding from the European Union's Seventh Framework Program (FP7/2007–2013) for the Fuel Cells and Hydrogen Joint Technology Initiative, under grant agreement number 278177.

Disclaimer

Publishable Summary

Within the IDEALHY project the partners have compared different hydrogen liquefaction options, including existing plants and proposed processes. A process has been identified which offers a high thermodynamic efficiency and simultaneously appears very cost effective.

When doing the prediction of the capital cost it turned out that there is relatively large amounts of uncertainty about the cost of realisation, both on the side of the component suppliers as well as on the side of the principal investor. It is therefore important to reduce the uncertainties on both sides during the time until the decision is actually taken to build such a plant. This requires a carefully planned transition from basic engineering to detailed engineering. The complication is that the fixation of the process and the freezing of the design parameters must go hand in hand with the development and design work needed on the component supplier side .

This report outlines the procedure which should be followed to achieve this.

Key Words

Process planning

Investment decision

Regulation

Permitting

Component development

Table of Contents