

Life Cycle Analysis and Economic Impact

U. Wagner, M. Beer, J. Habermann, P. Pfeifroth

This document appeared in

Detlef Stolten, Thomas Grube (Eds.):

18th World Hydrogen Energy Conference 2010 - WHEC 2010

Parallel Sessions Book 5: Strategic Analyses / Safety Issues / Existing and Emerging Markets

Proceedings of the WHEC, May 16.-21. 2010, Essen

Schriften des Forschungszentrums Jülich / Energy & Environment, Vol. 78-5

Institute of Energy Research - Fuel Cells (IEF-3)

Forschungszentrum Jülich GmbH, Zentralbibliothek, Verlag, 2010

ISBN: 978-3-89336-655-2

Life Cycle Analysis and Economic Impact

Ulrich Wagner, Michael Beer, Jochen Habermann, and Philipp Pfeifroth

Abstract

This chapter presents a life cycle analysis of different potential fuels and power trains for passenger cars. The focus of the study is electric vehicles powered by batteries and fuel cells. First the cumulative energy demand (*CED*) is introduced as an instrument to compare the different technologies. Subsequently, several process chains for transportation are shown in a holistic approach. Finally, an economic and ecological comparison of the different drive technologies is used to work out the constraints and the necessary future development for hydrogen and electric power trains. The results are taken from several reports for the Bavarian Hydrogen Initiative (*wiba*), which is coordinated by the authors.

Copyright

Stolten, D. (Ed.): *Hydrogen and Fuel Cells - Fundamentals, Technologies and Applications*. Chapter 26. 2010. Copyright Wiley-VCH Verlag GmbH & Co. KGaA. Reproduced with permission.