

Fuel Provision for Early Market Applications

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Abstract

Early market applications of fuel cells need to be supplied with hydrogen, comprising production and distribution. Production of hydrogen can be based on a multitude of processes and energy carriers and can be assessed using criteria such as systemic requirements, economic efficiency, environmental sustainability, and user acceptability. While the long-term sustainable vision is based on renewable energy, cost considerations may be prevalent for early applications. Global production of industrial hydrogen is substantial, almost entirely based on fossil fuels and generally unavailable for other use. However, excess production capacity and by-product hydrogen and also the industrial hydrogen infrastructure might be used for the supply of limited volumes of hydrogen for early applications of fuel cells. Depending on the industrial structure, potential regional supply of industrial hydrogen varies. However, with growing demand and in order to put the long-term vision into practice, new supply from renewable source will need to be set up.

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