

# **Societal Penetration of Hydrogen in a Carbon-Constrained World**

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One of the greatest challenges for the global energy system is the need to decarbonize while maintaining a stable energy supply. A successful energy transition to a high share of renewable energy will require enabler technologies such as storage, which include hydrogen as one such option. This research investigates the societal penetration of hydrogen, using a global model which considers transport, electricity generation, industry and household use cases. Under the current policy regime, whereby nuclear generation is reducing in OECD nations, we identify a strong use case for hydrogen as a renewable energy storage medium and in the transport, industry, chemical feedstock and household sectors, notably as a blended city gas alternative.