

Techno-economic analysis of green hydrogen production from biogas autothermal reforming

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Description

The development and deployment of energy mix hydrogen production technologies, and the prospect of supplying “green” hydrogen to fuel-cell cars are expected to play significant roles in the near future. The sustainability of the process is a key enabler for a hydrogen-including economy. A techno-economic analysis of the BioRobur technology, which involves the green hydrogen production of $100 \text{ N m}^3 \text{ H}_2/\text{h}$ (5.0 grade), has been performed in this study to provide a basis for comparison between the final cost of the hydrogen and the European target. Moreover, a technology for its eventual implementation has been addressed, in which the weakness and strengths have been identified by means of a SWOT analysis. The cost and supply analysis of this biogas-to-hydrogen production system, via autothermal reforming, indicates that municipal solid waste (MSW) is an important source of the low-cost supply ...