Current Sustainable/Renewable Energy Reports, vol.10, no.3, pp.119-129, September, 2023.

# Multi-criteria decision-making for renewable hydrogen production site selection: a systematic literature review

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**Abstract-**

**Purpose of Review**
**Multi-criteria decision-making (MCDM) methods are now used for hydrogen infrastructure planning. We present a first structured review on MCDM use for locating renewable hydrogen production.**
**Recent Findings**
**The review shows that different methodologies and criteria are used depending on the spatial scale of feasible alternatives. Many criteria are related to renewable energy production, such as wind speed or solar irradiance. However, most articles also consider parameters such as hydrogen demand or access to water. There is no consensus on how to weigh criteria affecting renewable electricity generation versus those affecting hydrogen production. Furthermore, the role of the operational mode of production facilities, being connected to a renewable energy plant or using grid electricity, on optimal the site selection is not addressed in any of the reviewed articles.**
**Summary**
**This article comprehensively reviews MCDM methods for locating renewable hydrogen production plants and highlights the latest methodological advancements. Hence, this review significantly contributes to improving the development of this clean energy source.**

**Index Terms- Renewable hydrogen production · Site selection · Multi-criteria-decision making (MCDM) · Geospatial Information System (GIS) · Infrastructure planning**



**Citation:**
*Serna, S.; Gerres, T.; Cossent, R. "Multi-criteria decision-making for renewable*

*hydrogen production site selection: a systematic literature review", Current Sustainable/Renewable Energy Reports, vol.10, no.3, pp.119-129, September, 2023.*