

Review of: "Low-Carbon Hydrogen Economy Perspective and Net Zero-Energy Transition through Proton Exchange Membrane Electrolysis Cells (PEMECs), Anion Exchange Membranes (AEMs) and Wind for Green Hydrogen Generation"

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Potential competing interests: No potential competing interests to declare.

This article provides a good comprehensive review; however, it needs the following necessary amendments to be published:

1. The abstract of the article doesn't state the goal of this review properly. Only green hydrogen production is described among various low-carbon hydrogen production routes. Though authors mention technical and economical aspects in the abstract, mainly technical information is provided.
2. In sec 1.1, the article doesn't put much focus on green hydrogen. Please describe in detail and use necessary schematics.
3. In Figure 3., please provide information regarding whether publications are experimental, modelling-based, or review.
4. In section 2, "Economic Aspects of Green Hydrogen," it says "However, because it is made from fossil fuels, CO₂ emissions increase. Green hydrogen is not made from fossil fuels; please correct it.
5. In section 2, it says "Green hydrogen, which will be sold between US\$1.5 and US\$3.4 per kilogram in 2023". This is now 2024, and please provide price information with necessary citation for 2023.
6. In Figure 4, the "sustainable hydrogen supply chain management scheme" doesn't describe in detail for the modelling; omit if not described in detail.
7. Mention hydrogen demand sectorwise, like automobile, chemicals, etc. For example, you could mention it in fig. 2.
8. In many areas, authors are mentioning "Low-Carbon Clean Hydrogen," whereas only the green hydrogen route is being explored. Please simplify by using green hydrogen.
9. In section 3, provide a little insight into PEM and solid oxide electrolyte, as well as a table for cost comparison.
10. In section 4, explain why particularly wind energy, not hydrothermal or solar for electricity, is chosen.
11. Overall, there are many repetitive sentences as well as many grammatical mistakes. Please correct those.