# Article information:

New paradigms in sustainable energy systems with hydrogen - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0196890423002960>

# Article summary:

1. The use of fossil fuels for energy production has led to pollution, health problems, and climate change, creating a need for cleaner alternatives.

2. Hydrogen is a promising alternative to fossil fuels as it is considered a clean fuel and can be produced through sustainable methods such as biomass valorization and utilizing excess energy from renewable sources.

3. Research and development in hydrogen production are crucial in addressing energy and environmental challenges in a clean, efficient, reliable, and affordable manner.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article "New paradigms in sustainable energy systems with hydrogen" provides an overview of the potential of hydrogen as a clean and sustainable alternative to fossil fuels. The article highlights the various methods of producing hydrogen, including through renewable sources such as solar and wind power, and its potential uses as a fuel, feedstock, and energy carrier.

However, the article has some potential biases and missing points of consideration. Firstly, it does not address the challenges associated with scaling up hydrogen production and distribution infrastructure. While renewable sources can produce excess energy that can be used to produce hydrogen, there are still significant costs associated with building new infrastructure for hydrogen production and distribution.

Additionally, the article does not address the potential risks associated with hydrogen production and storage. Hydrogen is highly flammable and requires careful handling to prevent accidents. Furthermore, while hydrogen is considered a clean fuel because it produces no emissions when burned, its production can still result in greenhouse gas emissions if not produced using renewable sources.

The article also presents a somewhat one-sided view of the potential of hydrogen as a solution to our energy needs. While it acknowledges that fossil fuels will continue to play a role in our energy mix for some time, it does not explore other alternatives such as nuclear power or carbon capture technologies.

Overall, while the article provides useful information on the potential of hydrogen as a clean energy source, it could benefit from addressing some of these missing points of consideration and presenting a more balanced view of our options for transitioning to cleaner energy sources.

# Topics for further research:

* Challenges of scaling up hydrogen production and distribution infrastructure
* Costs associated with building new infrastructure for hydrogen production and distribution
* Risks associated with hydrogen production and storage
* Safety measures for handling hydrogen to prevent accidents
* Greenhouse gas emissions associated with non-renewable hydrogen production
* Alternatives to hydrogen as a clean energy source
* such as nuclear power or carbon capture technologies

# Report location:

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