# Article information:

Energy and economic analysis of a hydrogen and ammonia co-generation system based on double chemical looping - ScienceDirect --- 基于双化学回路的氢氨热电联产系统能源与经济分析 - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1004954120306170>

# Article summary:

1. A double chemical looping process for hydrogen production is proposed, which shows higher efficiency compared to independent chemical looping systems.

2. The system can generate high-pressure and medium-pressure steam through heat exchange, reducing utility consumption and costs.

3. The production cost of ammonia in the system is estimated to be 108.66 USD per ton of NH3, with equipment cost identified as a major factor influencing production cost.

# Article rating:

Appears strongly imbalanced: The article is written in a biased or one-sided way, and the information it provides is not trustworthy enough to be considered a reliable source. You should consult other sources to find reliable information on the presented issues.

# Article analysis:

The article titled "Energy and economic analysis of a hydrogen and ammonia co-generation system based on double chemical looping" discusses the potential benefits and efficiency of a new process called double chemical looping for hydrogen production. The article provides an overview of the process, its simulation using Aspen Plus software, and the economic evaluation of ammonia production.

One potential bias in the article is the lack of discussion on the limitations or challenges associated with double chemical looping. While the article highlights the higher production rates of hydrogen in the series system compared to independent systems, it does not mention any drawbacks or potential issues that may arise during implementation. This omission could give readers an incomplete understanding of the technology's feasibility.

Additionally, there are unsupported claims in the article. For example, it states that N2 utilization can significantly improve system economical efficiency without providing any evidence or data to support this claim. Without supporting evidence, it is difficult to assess the validity of this statement.

The article also lacks exploration of counterarguments or alternative perspectives. It presents double chemical looping as a promising technology without discussing any potential criticisms or alternative approaches to hydrogen production. Including a balanced discussion would provide readers with a more comprehensive understanding of the topic.

Furthermore, there is promotional content in the article. It mentions specific software (Aspen Plus) used for process simulation without providing justification for its selection or discussing other available options. This could suggest a bias towards promoting Aspen Plus rather than presenting an objective analysis.

Overall, while the article provides some valuable insights into double chemical looping for hydrogen production, it has several shortcomings that limit its credibility and objectivity. The lack of discussion on limitations and challenges, unsupported claims, absence of counterarguments, promotional content, and one-sided reporting all contribute to potential biases in the article.

# Topics for further research:

* Limitations and challenges of double chemical looping for hydrogen production
* Criticisms of double chemical looping as a technology for hydrogen production
* Alternative approaches to hydrogen production
* Disadvantages of using Aspen Plus software for process simulation
* Comparison of different software options for process simulation in hydrogen production
* Economic evaluation of other ammonia production methods

# Report location:

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