

#22

COMPLETE

Page 4: Privacy Information

Q1 **Respondent skipped this question**

Privacy information

Page 5: Submitter information

Q2 **Respondent skipped this question**

Name

Q3 **Respondent skipped this question**

Organisation and role (if submitting on behalf of a company or organisation)

Q4 **Respondent skipped this question**

Email Address

Q5 **No**

Are you happy for MBIE to contact you, if we have questions about your submission?

Q6 **Individual**

Please clearly indicate if you are making this submission as an individual, or on behalf of a company or organisation.

Page 6: Strategic context

Q7

If there are other issues we should be considering in our assessment of the strategic landscape for hydrogen in New Zealand?

One worry about using more hydrogen as a fuel is that it could accidentally make another problem worse: too much methane, a potent greenhouse gas. When released, hydrogen can snatch away the special molecules in the air that normally help break down methane. It's like using up all the soap before we've finished cleaning. If we're not careful, using hydrogen could mean methane sticks around longer, heating up our planet.

Another issue with hydrogen is that it's not as straightforward as plugging in a battery. Getting energy from hydrogen involves several steps – creating it, storing it, and then turning it back into electricity. Each step loses some energy, much like some water spills every time you pour it into a different cup. This loss adds up, and it means hydrogen's overall energy efficiency from start to finish, or 'round trip efficiency,' is lower compared to other ways we can store and use energy.

Page 7: Use cases for hydrogen

Q8

Do you agree with our assessment of the most viable use cases of hydrogen in New Zealand's energy transition?

No,

Please provide further explanation to your response:
Even for large vehicles, as batteries get better and can hold more power for longer, electric options are catching up fast.

Q9

What other factors should we be considering?

Improving battery technology.

Page 8: The pathway to 2050

Q10

Do you agree with this assessment of the potential for hydrogen supply and demand in New Zealand?

No,

Please provide further explanation to your response.:
The infrastructure requirements are enormous and haven't been properly identified.

Q11

Do you agree with the key factors we have set out that are likely to determine how hydrogen deployment could play out?

No,

Please provide further explanation to your response:
No, the paper doesn't take into account the physics constraints of hydrogen.

Page 9: How hydrogen could contribute to our objectives

Q12

Do you agree with our findings on the potential for hydrogen to contribute to New Zealand's emissions reduction, energy security and resilience and economic outcomes?

No,

Please provide further explanation to your response. You may comment on any or all of these objectives.:
Hydrogen is problem not a solution. Refer to this paper for an outline of the methane issue.
<https://www.nature.com/articles/s41467-022-35419-7>

Q13

Do you have any insights we should consider on what is needed to make hydrogen commercially viable?

Yes,

Please provide further explanation to your response:
An assessment of the cost of green hydrogen is needed.

Page 10: Government position and actions

Q14

Do you agree with our policy objectives?

No

Q15

Do you agree with our positioning on hydrogen's renewable electricity impacts and export sector?

No

Q16

Do you agree with the proposed actions and considerations we have made under each focus area?

No

Page 11: Other Feedback

Q17

If there is anything else you'd like to tell us, please comment below.

Respondent skipped this question
