#21

COMPLETE

Page 4: Privacy Information

Q1

Privacy information

Respondent skipped this question

Page 5: Submitter information

Q2

Name

Q3

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

Respondent skipped this question

Q4

Email Address

Q5

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

Yes

Q6

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

Individual

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?

Safety:
Hydrogen is invisible and has a low ignition energy, posing a serious safety risk to firefighters and other emergency personnel.
A nationwide upgrade of emergency personnel skills and equipment will be needed if hydrogen is to be transported around the country in tanker trucks.

Leakage:
Hydrogen leaks through most materials, including the carbon composite fuel tanks of fuel cell vehicles.
Transportation leakage is considerably larger than industrial leakage.
Low-level hydrogen leakage has a climate impact, with a global warming potential of over 100 times that of CO2 over ten years.

Water Demand:
Producing 1 kilogram of hydrogen requires 9 kilograms of water.
Seawater can be used, but traditional methods of electrolysis produce toxic and corrosive chlorine ions.
The environmental risks of water demand and wastewater disposal related to green hydrogen production are not mentioned in the assessment.
Overall, hydrogen poses a number of safety, leakage, and water demand challenges that need to be addressed before it can be widely adopted as a fuel.

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:
There is only a tiny amount of green hydrogen produced in the world. There is a reason for this, it is highly energy inefficient. Hydrogen should be only considered where there is no viable alternative such as the production of steel and ammonia. It should be one of the last things considered for transportation. The rapid improvement in battery technology may remove the case for using hydrogen in the future.

Q9

What other factors should we be considering?

I suggest you look at all the material available on https://h2sciencecoalition.com/

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.:
Your document is relentlessly positive about hydrogen. The reason other countries are also considering it is due to the same influence of business hydrogen promoters, this doesn't make it a good idea. Recently several countries have retreated from their previous pro-hydrogen position. We should be paying very careful attention to them

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:
Hydrogen should have a very limited part of the NZ energy future.

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.:
In most cases there are better ways to achieve emissions reduction. We should be doing less flying, using electric powered trains more for shipping goods

Q13

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

No,
Please provide further explanation to your response:
I don't think green hydrogen will every be commercially viable

Page 10: Government position and actions

Q14

Do you agree with our policy objectives?

Yes,
Please provide further explanation to your response.:
The objectives are fine but hydrogen is not the answer to most of them

Q15

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

No,
Please provide further explanation to your response.:
New Zealand should wait to develop widespread hydrogen use until hydrogen leakage and its global warming impact are better understood.

Q16

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

No,
Please provide further explanation to your response.:
You have not given nearly enough consideration to the problems in using hydrogen and it's effect on the rest of the energy system

Page 11: Other Feedback

Q17

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

Again, I suggest you give close attention to the experts that have provided information on https://h2sciencecoalition.com/