

25 October 2019

Mark Pickup
Principal Policy Advisor
Energy, and Resource Markets Branch
Ministry of Business, Innovation and Employment
By email to hydrogen@mbie.govt.nz

Dear Mark

A vision for hydrogen in New Zealand

1. This is a submission by the Major Electricity Users' Group (MEUG) on the Green Paper "A vision for hydrogen in New Zealand" released by the Minister of Energy and Resources on 2nd September 2019 by the Ministry of Business, Innovation & Employment.¹
2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.

Q1a, Q2a, Q3a, Q4a, Q5a and Q6a: What is the role of government?

3. The role of government should be to remove barriers to the uptake of hydrogen to make the energy sector "hydrogen ready" just as the government needs to make the sector "solar ready", "battery ready" or more accurately "new energy storage innovations ready" and ready for other emerging technologies that may prove economic in the future.
4. Hydrogen is just one option for future energy use and storage that different generic classes of consumer at different years in the future and different rates of uptake may elect to use. Within each generic class, for example process heat, there will be differences in whether end users elect to use hydrogen depending on a range of site-specific factors. Certainty on the role of government as a neutral actor focussed on removing barriers to make the energy sector ready for a range of emerging technologies is critical.
5. At a broader perspective government's overarching deployment of resources and legislative framework must ensure all feasible low-cost future energy paths are kept alive as options. For example, a poor outcome would be for government to make the economy ready for hydrogen and other emerging technologies but fail to have policies that ensure the lowest feasible delivered electricity price path. In a scenario where there are higher

¹ <https://www.mbie.govt.nz/have-your-say/a-vision-for-hydrogen-in-new-zealand-public-consultation/>.
Document URL [https://www.mbie.govt.nz/document-library/search?type\[65\]=65](https://www.mbie.govt.nz/document-library/search?type[65]=65).

electricity prices than would otherwise be, the investment case for green hydrogen producers and the transitional market opportunities for blue and grey investors will be undermined.

6. Three specific considerations for the role of government relevant for the hydrogen vision paper are listed below with each discussed in the following sections:
 - a) Keeping options open including transitional strategies;
 - b) R&D support is a secondary role and should not extend to corporate welfare;
 - c) Being accountable across all portfolios for taxpayer monies spent.

Keeping options open including transitional strategies

7. Keeping an open mind on using blue and grey hydrogen as transitional options to seed the hydrogen market in New Zealand should delays in technology improvements and cost reductions make green hydrogen not viable in the near term. The Green Paper considers such a transitional role (p11):

“While hydrogen produced from fossil fuels and industrial processes (brown, blue and grey) may play a role in the transition of New Zealand’s regions and existing industries, the Government considers there is greater opportunity for New Zealand in exploring the use of our renewable energy to produce green hydrogen as an alternative fuel for domestic use and for export.”

8. The text above focusses on the opportunity of green hydrogen. When that opportunity is realised depends on uncertain and speculative future improvements in technology and reductions in cost. The Green Paper recognises the current commercial impediments to green hydrogen (p12):

“Today, green hydrogen production costs are challenging (electricity costs factor significantly in the economics of electrolysis) and higher than brown hydrogen produced from natural gas which is coupled with the release of the greenhouse gas CO₂.”

9. The primary role of government should be to focus on the more material barriers to commercialisation such as the price of carbon and changes to existing Gas Act and health and safety legislation that had not contemplated the wider use of hydrogen. Removal of those barriers should be colour blind to the type of hydrogen suppliers and consumers may wish to invest in and use.
10. Given a level playing field for all types of hydrogen, MEUG suggests the private sector rather than government will be better at assessing risks and uncertainty of future improvements in technology and reduced costs.

R&D support is a secondary role and should not extend to corporate welfare

11. The secondary role of government should be to support research and development where there is a wider public good. Such government support should not extend to corporate welfare.
12. The Green Paper notes (p27):

“New Zealand is acknowledged as one of the best places in the world for innovation, trials and demonstrations with minimal regulatory impediments. Working in partnership with international stakeholders to encourage the use and production of hydrogen will be critical in achieving our goals.”
13. Following on from the point above that changes to government policy should be indifferent to the type of hydrogen being produced, MEUG suggests a research and development programme should also consider brown, grey and blue hydrogen related projects such as Carbon Capture and Storage. The latter has as long and as controversial history as hydrogen with researchers. Both have the prospect of being beneficial to New Zealand and the world if their economics improve. Hence both should be considered when developing a suite of research and development projects to keep options open for the transition to and longer-term production and use of hydrogen in New Zealand.

Being accountable across all portfolios for taxpayer monies spent

14. A necessary and required role for government is to be accountable for taxpayer monies used for supporting the establishment of a hydrogen supply chain and end use markets. This role is not discussed in the Green Paper.
15. MEUG suggests confidence by suppliers and consumers in the overall strategy for ensuring New Zealand can realise hydrogen opportunities will be improved if the government is transparent on the decisions and costs for various support mechanisms across all Ministerial portfolios. Without that transparency there may be a perception the government favours one type of hydrogen and development plan over other options. The risk is those other options might achieve the government’s long-term objectives at lower cost but investors and the public shy away from those because they perceive government as having dictated the path ahead.

Yours sincerely



Ralph Matthes
Executive Director