

From: Harley Betts <BettsH@landcareresearch.co.nz>
Sent: Wednesday, 23 October 2019 10:19 a.m.
To: Hydrogen
Subject: Hydrogen green paper - submission

Hello,

RE. Hydrogen generation technology

I have read your green paper on the future for hydrogen in New Zealand and would like to draw your attention to a significant emerging hydrogen generation technology that appears to have been overlooked. Your paper focusses on steam methane reforming (SMR) and electrolysis as the two main ways in which hydrogen can be generated, both of which are relatively expensive, require large energy inputs and, in the case of SMR, releases large amounts of carbon to the atmosphere.

An Australian company, Hazer Group, has been developing the Hazer Process by which methane is cracked using a cheap catalyst (iron ore) into hydrogen and carbon – the carbon being captured in the form of solid graphite which itself can be used for a number of industrial applications (lubricants, batteries, etc) and has its own market value. So the nett cost of hydrogen production by this method is significantly less than the cost of SMR or electrolysis, and the carbon emissions profile of this process is extremely low because the carbon is captured as a valuable product, not released to the atmosphere.

I refer you to Hazer's latest presentation, dated September 2019, which outlines their progress to date and their future plans. Importantly, they have now progressed beyond the lab scale and have proven that the process works at larger scales, and they are now focussing on commercialising this process through joint venture agreements and securing offtake partners for their graphite and hydrogen.

This process has the potential to eclipse both SMR and electrolysis as the cleanest and cheapest way to produce hydrogen at scale and therefore it certainly deserves to be considered in your research.

Here's Hazer's website link: www.hazergroup.com.au

And their latest presentation: <https://www.hazergroup.com.au/wp/wp-content/uploads/2019/09/4487xm9f4c34hc.pdf>

Best regards,

Harley Betts

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