

Response ID ANON-FTZ1-692F-C

Submitted to **Hydrogen Certification Survey**

Submitted on **2020-06-19 15:57:13**

Privacy Collection Statement

1 Do you agree to the Privacy Collection Statement?

Yes, I agree

Consultation on hydrogen certification

1 What is your name?

Name:

ANU Energy Change Institute: Grand Challenge

2 What is your email address?

Email:

zerocarbon@anu.edu.au

3 What is your organisation?

Organisation:

The Australian National University

4 Who are you answering on behalf of?

Industry

About your company

1 Which of the following best describes the current or intended operations of your business?

Company that makes or sells technology or equipment to produce hydrogen

Other:

2 Where are your company's headquarters located?

Australia

Other:

3 Which sector best describes your organisation's operations in Australia?

B Mining:

C Manufacturing:

D Electricity, Gas, Water and Waste Services:

F Wholesale Trade:

G Retail Trade:

I Transport, Postal and Warehousing:

M Professional, Scientific and Technical Services:

69 Professional, Scientific and Technical Services (Except Computer System Design and Related Services)

Other (please specify):

4 Is your organisation currently a liable entity under the National Greenhouse Energy & Reporting Scheme

I'm not sure

Certification

1 Which do you consider more important for your Australian operations?

An international certification scheme

2 For the scheme you nominated above, what is the ideal date to have it in place by?

Select year, starting from 2021:

2023

Why?:

Australia has a potential comparative advantage in large scale production of low-/zero-carbon hydrogen and ammonia. We need to play an active, indeed leading, role in the development of the rules of international markets if we wish to optimise our opportunities for becoming a major exporter.

In contrast, Australia has a relatively small domestic economy. The costs of playing a leading role in establishing frameworks and technologies for the use of hydrogen in the domestic economy are therefore difficult for us to defray. Larger economies with clear comparative advantage in technology exports such as Germany, Japan, South Korea and the US will be able to move much faster and with much lower average cost than we can. It is thus likely to be in Australia's interest to be a technology follower when it comes to domestic use and integration of hydrogen and ammonia. Subsidies would therefore be much more efficiently directed at producers. Infant industry protection for consumption of hydrogen and ammonia in Australia would be highly inefficient given the relatively small size of our economy and the ready availability of cheap renewable electricity.

The obvious answer to the idea start date is "as soon as possible". That said, it is not worth locking in a substandard certification scheme in the interest of speed. The hydrogen economy is rapidly evolving and there is also value in not committing to a particular approach earlier than necessary to keep options open. 2023 is the earliest that large scale exports of low- and zero-carbon hydrogen and ammonia are expected to occur. There are risks to our export potential if the scheme is not in place by this time.

Between now and 2023 Australian government, business, research and community organisations should work with each other and engage actively with international stakeholders. It is important that Australia play an active role in developing the rules of global hydrogen and ammonia markets and supply chains. In particular, we need to ensure that certification schemes and standards in other countries do not become technical barriers to trade for our exports.

3 If the ideal date was not achievable, what would be the latest date a certification scheme could be in place by without adversely affecting your Australian operations?

Select year, starting from 2021:

2030

Why?:

Japan has set 2030 as the year they expect to begin large scale hydrogen imports, and many other hydrogen strategies within the IEA's Future of Hydrogen report are also noted or recommended to have 2030 milestones.

4 If both domestic and international schemes are important (Q7), should there be separate schemes or a single scheme? If there are separate schemes, what elements would be the most important to align and what linkages need to occur?

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5 A certification scheme would measure and track the carbon emissions associated with hydrogen production. Are there any existing carbon accounting methodologies that a certification scheme should align with or adopt (e.g. the Australian National Greenhouse and Energy Reporting System?).

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A certification system designed to provide reliable information about greenhouse gas emissions should be the priority. Simple classification bands should be avoided given concerns around defining the criteria e.g. for "green" or "low-carbon" hydrogen and ammonia.

To this end, the adaptation and extension of existing reporting schemes which are internationally accepted is a fair and efficient way forward. In particular, this approach reduces the regulatory and reporting burden on firms which already report. In Australia's case, this would mean adopting and modifying as required the Australian National Greenhouse and Energy Reporting System.

We recommend that Australia pursue certified/accredited emissions-labelling without a threshold beyond which a certification is issued. This would provide transparency and correct market information asymmetries by providing emissions accounting, but would side-step issues of "green" or "clean" being defined differently in different places. This approach would by default allow importing countries to assess whether the emissions from Australian-produced hydrogen meet their own definitions of "green", "clean", "low", and so forth. This continuous accounting approach would interact with other emission accounting schemes such as the NGERs and IPCC accounting.

6 Are there any other existing Australian regulatory frameworks that might interact with a certification scheme?

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If Australia pursues a "Guarantee of Origin" scheme, along the lines of CertifHy in Europe, then a key feature will be the ability to identify "clean" energy used for hydrogen generation. In this case, green hydrogen certification could interact with the Renewable Energy Certificates (RECs) system. There may be complexities

to explore in terms of whether the “additionality” requirement aligns with the scenario of hydrogen produced from RECs-qualified generation. If Australia pursues an emissions threshold definition of green hydrogen, then there may also be interactions with Australian Carbon Credit Units, which could also interact with RECs. It is important to set up certification systems that avoid double-counting of emissions reductions, as this would lower international trust in Australian certifications.

7 What are the three most important features a certification scheme should have?

1:

Reliable, internationally accepted information on the greenhouse gas emissions (carbon dioxide equivalent) associated with the all stages in the hydrogen or ammonia value chain, using continuous and rigorous carbon accounting.

2:

Clarity of boundaries which define the hydrogen value chain assessed by the certification scheme. For example, does the scheme consider only emissions during production, or also during preparation of hydrogen for transport or during the transportation process itself? For so-called “brown” or “blue” hydrogen, emissions arising from the extraction and processing of the parent fossil fuel also need to be included. For example, emissions due to gas extraction can add an additional 28% to the emissions intensity of hydrogen made from natural gas via steam methane reforming.

3:

Ensuring that the carbon accounting process allows equivalency between schemes which may have different boundaries, to enable interoperability.

8 What are the three most important things a scheme should avoid?

1:

Labelling or calculations that obscure how certification is determined, as this would hamper establishment of equivalency across international systems

2:

Overly broad inclusion criteria or weak (high carbon) definitions of “green”

3:

Drawing boundaries of the scheme in such a way as to substantively favour one technology over another (e.g. excluding emissions from extraction, processing and transport of upstream hydrocarbons).

9 Is there anything else you would like to bring to our attention?

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Greenhouse gas emissions are not the only criterion on which Australian producers may wish to be able to distinguish themselves from (e.g. low cost) products from countries with less strict social and environmental protections. The certification scheme would ideally be designed in such a way that it could be expanded to include information on other criteria. For example, sustainable use of water, or respect for human rights, especially the rights of indigenous peoples. In light of the Australian National Hydrogen Strategy’s objective of ensuring our industry meets evolving consumer and community expectations about greenhouse gas emissions, it is essential that the certification system not lock in a “green” label which reflects the current structure of Australian industry. Hence we strongly support the approach of focussing on reporting emissions using rigorous carbon accounting as opposed to labelling “green” or “not green”.

10 Commercially sensitive information

If you wish your answers to be treated as commercial-in-confidence, please tick this box:

No

11 Participating in the technical advisory group

If you would like to be considered for membership of the technical advisory group, please tick this box.:

Yes

If you would like to use an alternate email to the one you provided at the beginning please enter your email address.:

12 Thank you for taking the time to complete this survey.