

GRATTAN
In

Renewable Hydrogen Target for electricity
generation in the South-West Interconnected
System

Response to consultation paper

Tony Wood and Alison Reeve

Table of contents

Overview	2
1 Background and context	4
2 Why a renewable hydrogen target is the wrong policy (for now)	7
3 Responses to consultation questions	10

1 Background and context

The West Australian hydrogen strategy sets a vision of WA being 'a significant producer, exporter and user of renewable hydrogen'.

Western Australia will develop industry and markets to be a major exporter of renewable hydrogen. To facilitate the export of renewable hydrogen, Western Australia will develop domestic production capabilities and applications of renewable hydrogen, improving the State's hydrogen industry expertise, contributing to global decarbonisation and decarbonising the State's economy. It will also contribute to improving air quality across the State.¹

Developing new industries will be key to Australia flourishing in a net-zero global economy. Australia is heavily dependent on exports that cause emissions when produced here, or are inputs for emissions-intensive processes overseas (see g. 1.1). This must change, and government's approach to industry policy must change to achieve it.

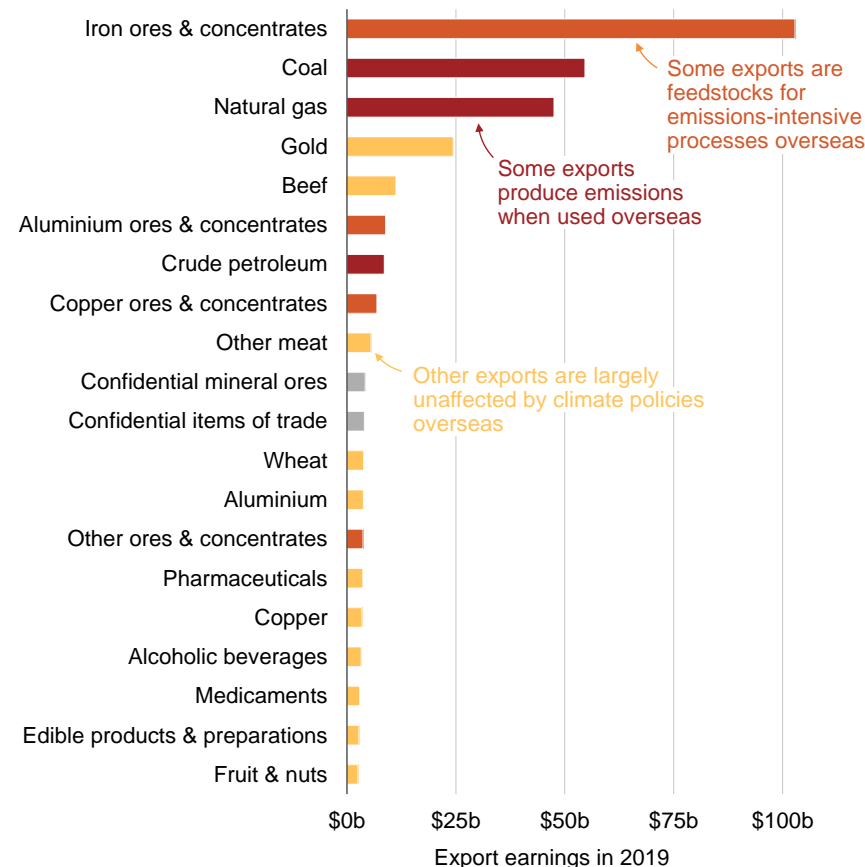
1.1 Hydrogen's role in a net-zero economy

Green hydrogen is considered a potential future export growth commodity, and may play a role in decarbonising heavy industry in Australia too, as an input to decarbonise minerals processing and ammonia and steel production.

The role of hydrogen in the electricity sector is less clear. Our research on the National Electricity Market shows that a 90 per cent renewable grid can be achieved at low cost.² The last 10 per cent is much harder,

Figure 1.1: Some of Australia's biggest exports will decline in a net-zero world

Value of goods exports (\$ billion 2019)



1. Energy Policy WA (2022).

2. Wood and Ha (2021).

employment and economic opportunities will be important to sustain support among the Australian people for the transition to net zero.

Industry policy requires sustained collaboration between the public and private sectors.⁶ Australia has successfully used industry policy in the past. We should learn from that success to set a new strategic direction for the future.

1.2.1 What 21st Century industry policy looks like

Many industry sub-sectors share two common challenges. They currently lack commercially viable abatement pathways. And they face re-investment decisions within the next 30 years that, taken wrongly, could lock in emissions for an extended period.

Australia's industry policy today is a mix of direct grant schemes with poorly articulated objectives and ill-structured scope, and ineffective regulatory policies. Both are routinely open to lobbying by vested interests.

Australia needs an overarching policy framework with consistent, targeted policies linked to clear goals, developed and executed in sustained collaboration with industry. The policy framework needs three key components: policies and programs to stimulate supply of green commodities and products, targeted support for technology-specific market failures, and market-based policies to underpin demand. Each component should be deployed to address each of the three challenges in the right place and at the right time. And, the framework needs to ruthlessly target areas of clear economic advantage. There is no time (or capital) to waste.

6. Australian Industry Energy Transitions Initiative (2022).

2 Why a renewable hydrogen target is the wrong policy (for now)

2.1 WA has not set clear goals and pathways for decarbonisation

The West Australian Government has committed to net-zero emission by 2050 and to close down state-owned coal generation by 2030. But beyond this, there are no clear goals or pathways to decarbonise the state. Without knowing when the state wants to reach net-zero emissions in its electricity system and its industrial sector, it is impossible to sensibly design a hydrogen target, or even to assess whether it is the right tool for the job.

Applied in the wrong way, a renewable hydrogen target for electricity generation could support hydrogen generation at the expense of direct

2.3 Linking the electricity market to global trade is politically risky

If Australia takes one lesson from the war between Russia and

Industrial facilities that don't export may also need hydrogen to decarbonise production. Cement production is one example; ammonia and urea production is another.

Skewing domestic hydrogen production towards electricity production through a mandatory target will potentially lock minerals processors and heavy industry out of hydrogen. Hydrogen producers are likely to prefer a guaranteed market, such as a mandatory target provides. And investors will have the same preference.

In ~~the~~ ~~paper~~, we explained that a better approach is for governments to put in place targets for green commodities in construction. This would generate demand for green steel, green aluminium, green concrete, green glass, and many other materials. This demand would flow through to demand for hydrogen where hydrogen is the most economic way to 'green' these production processes.

7. What are some other approaches which could be considered alongside a renewable hydrogen electricity generation certificate scheme that would provide a framework to deliver on the objectives or outcomes sought?

It would be preferable to invest directly into de-risking hydrogen use projects, including electricity generation, before proceeding with a certificate scheme.

8. Is the proposed approach of certification, deemed liability and certificate transfer an efficient and effective way to deliver on the intent of the Renewable Hydrogen Target for electricity generation? Are there alternative approaches which could better deliver on the objectives?

The proposed approach is consistent with other certificate schemes in operation in Australia, including the Renewable Energy Target. However, such schemes are best used to support the deployment phase of proven technologies where the role is clear and the technology is proven but a cost gap exists. This gap may be because there is no explicit emissions reduction or reliability policy or because some scale is necessary to reduce a cost premium for the technology.

9. What are the benefits, costs and impacts of an exemptions regime for a Renewable Hydrogen Target for electricity generation?

Exemptions tend to drive up the cost impact of achieving the target on those who are not exempt. In this case, ordinary consumers would pay higher costs if exemptions were in place.

The purpose of exemptions for energy-intensive and trade-exposed businesses is to prevent carbon leakage: goods currently produced in Australia shifting to being produced offshore in jurisdictions with higher emissions intensity of production. This can happen because Australian exporters compete with other exporters that do not face a carbon price in their home country. And it can happen because Australian producers

face competition from importers who do not face a carbon price in their home country.

Three criteria for determining eligibility should apply:

1. The activity is likely to move to another country; and
2. The dominant reason for the move is the cost of complying with the hydrogen target scheme; and
3. Global emissions will increase as a result.

10. Should the Renewable Hydrogen Target for electricity generation consider alternative renewable fuels as eligible for the creation of Renewable Hydrogen Electricity Generation Certificate? Why or why not?

The costs of using other fuels should be tested against hydrogen before a final decision is made.

11. Please consider the benefits, costs and implications of a 1%, 5% and 10% Renewable Hydrogen Target for electricity generation in the SWIS on your business or industry, and provide commentary on how you would expect to react from a commercial and investment perspective to each target level.

No comment.

12. At a whole-of-economy and / or sectoral level, what do you consider to be some of the benefits, costs and implications of a 1% target, a 5% target, and a 10% target?

This would depend on the size of potential exports. Diverting hydrogen to produce 5 per cent of WA's electricity may be a very small amount compared to exports (in which case the role it plays in developing

exports is questionable) or it may be very large (in which case the policy has not succeeded in developing an export industry).

to own its own hydrogen production. The knock-on effect would be very little base from which to build an export industry.

21. Would you expect one very large renewable hydrogen producer, a number of very small renewable hydrogen producers, or some other combination, to emerge in the State as a result of the scheme? Alternatively, would a domestic-focused producer have sufficient scale to operate in a domestic market only?

No comment.

Bibliography

Adelaide Advertiser (2022). "White elephant": Former adviser raises hydrogen doubts".
 . <https://www.adelaidenow.com.au/news/south->