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12 July 2024

**GH2 response to the Hydrogen Production Tax Incentive consultation paper**

Key points:

- GH2 strongly supports the Hydrogen Production Tax Incentive. We encourage the government to develop measures to foster large and stable demand particularly for those sectors which are not easy to electrify and where the impact on net zero ambitions will be greatest.
- We recommend that the final HPTI retains an exclusive focus on renewable green hydrogen. We support the emissions intensity threshold of  $\leq 0.6$  kg of CO<sub>2</sub>e.
- We recommend that the 10 year eligibility is extended to increase the bankability of early stage projects and that the deadline for FID is extended beyond 30 June 2030 to avoid creating a bottleneck that would increase costs, offsetting the positive impact of the incentive.
- The government should provide a framework where data on time-matching, deliverability and additionality/incrementality are captured, in order to enable Australian producers to access markets with those requirements.
- We recommend that the government adopts the approach set out in the *Green Hydrogen Standard* (Requirement 5A) which requires that the project operator to undertake an evaluation of the project's utilisation of electricity and the impact on the energy market.
- We recommend that the government commissions and publishes a study that uses electricity system capacity expansion modelling to quantitatively assess the impact of grid-connected electrolysis on the development of the electricity sector to ensure that subsidised grid-connected hydrogen production does not indirectly induce additional emissions.
- We welcome the HPTI's integration of Community Benefit Principles and encourage the government to align these with global best practice, including the *Green Hydrogen Standard* and the *Joint-Agreement on the Responsible Deployment of Renewables-Based Hydrogen*.

The Green Hydrogen Organisation (GH2) welcomes the opportunity to comment on Treasury's Hydrogen Production Tax Incentive (HPTI) consultation paper. GH2 is a global non-profit foundation incorporated in Switzerland<sup>1</sup>. GH2 was established in 2021 to dramatically accelerate the deployment of green hydrogen and to differentiate green hydrogen from production pathways based on fossil fuels. Green hydrogen made from renewables is the most sustainable hydrogen production pathway for sectors that need it to urgently to reduce their climate impact. We are a multistakeholder organisation with a wide range of corporate members, government and civil society partners.

The markets for green and truly low carbon hydrogen and derivatives like ammonia, methanol and e-kerosene are not growing fast enough to meet global decarbonisation and energy security goals. Users are not yet prepared to commit to long term offtake agreements when fossil fuels are cheaper, when the supply of green hydrogen is uncertain, and when the timeframe for establishing the associated transportation and storage infrastructure is unclear. There are some exceptions, for example the demand for green steel is starting to take off, as some producers of certain products are prepared to pay a premium.

Accordingly, GH2 strongly supports the HPTI, which provides a simple, transparent and efficient mechanism to support early movers in the green hydrogen industry. We welcome the emphasis on developing a simple framework that can quickly scale up production capacity. We recommend that the 10 year eligibility is extended to increase the bankability of early stage projects and that the deadline for FID is extended beyond 30 June 2030 to avoid creating a bottleneck that would increase costs, offsetting the positive impact of the incentive.

In addition to supporting producers, we encourage the government to develop measures to foster large and stable demand particularly for those sectors which are not easy to electrify and where the impact on net zero ambitions will be greatest. A leading example is the demand side mandates established under the European Union's Renewable Energy Directive (RED), which include a binding target of 42% of green hydrogen in total hydrogen consumption in industry by 2030, a minimum level of 1% in transport sector, and binding targets in the aviation and maritime sectors. These send a strong signal to producers and consumers alike that a large and growing market will be established within a fixed timeframe.

Australia is playing a leading role in the development of the green hydrogen industry, and in the development of standards and certification systems. The HPTI will undoubtedly inform and influence the development of hydrogen incentive schemes in other jurisdictions. We would welcome greater collaboration on these issues at the global level.

GH2's initiatives aimed at scaling up green hydrogen include the *Green Hydrogen Standard*<sup>2</sup> which defines what renewable electricity can be used to produce green hydrogen and its derivatives;

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<sup>1</sup> [www.gh2.org](http://www.gh2.org)

<sup>2</sup> [www.greenhydrogenstandard.org](http://www.greenhydrogenstandard.org)

includes an emissions threshold aligned with net zero; and incorporates sustainability criteria to ensure green hydrogen projects have a positive impact on the communities where they are located. Version 2.0 of the Standard was rolled out at COP28 where we also launched the *Joint-Agreement on the Responsible Deployment of Renewables-Based Hydrogen*<sup>3</sup> together with the UN Climate Change High-Level Champions. The Joint Agreement aligns with many of the requirements of the Green Hydrogen Standard and together GH2 and partners can demonstrate what sustainable leadership looks like on green hydrogen deployment.

We also put sustainability at the centre of our work on *Good Green Hydrogen Contracting*<sup>4</sup> which includes topics such as community engagement, fiscal terms, pricing, land and infrastructure access. These topics are all aimed at ensuring that green hydrogen projects are stable, that green hydrogen contracts can stand the test of time and that there is a reasonable share of benefits divided between investors, governments and the wider population.

Our detailed comments on the HPTI paper are as follows:

### 1. Prioritising green hydrogen with near zero emissions

The 2023 Breakthrough Agenda report<sup>5</sup> authored by the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and the UN Climate Change High-Level Champions have recommended that hydrogen “production routes will need to achieve verifiable low-carbon intensities that trend towards near zero by 2030”. At the Green Hydrogen Organisation, we argue that green hydrogen made from water and renewable electricity with near zero emissions is the only sustainable means of producing hydrogen to decarbonise key economic sectors like chemicals, fertilisers, steelmaking and shipping. We therefore welcome that the proposal focuses exclusively on green (renewable) hydrogen, which must be produced with an emissions intensity less than or equal to 0.6 kg of carbon dioxide equivalent from well to the production gate, with verification of production volumes and emissions intensity occurring through the government’s Guarantee of Origin Scheme. The *Green Hydrogen Standard* requires emissions of <1kg CO<sub>2</sub>e / kg H<sub>2</sub> using a “well-to-gate” approach, although we expect this threshold to be lowered as we move toward a full life cycle assessment. We recommend that the final HPTI retains an exclusive focus on renewable green hydrogen.

We assume that the proposed threshold is aligned with the approach outlined in the International Partnership for Hydrogen and Fuel Cells in the Economy (2023) *Methodology for Determining the Greenhouse Gas Emissions Associated with the Production of Hydrogen*<sup>6</sup>, which is currently being

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<sup>3</sup> <https://climatechampions.unfccc.int/wp-content/uploads/2023/12/Joint-Agreement-on-the-Responsible-Deployment-of-Renewables-Based-Hydrogen.pdf>

<sup>4</sup> <https://gh2.org/green-hydrogen-contracting>

<sup>5</sup> <https://www.iea.org/reports/breakthrough-agenda-report-2023>

<sup>6</sup> <https://www.iphe.net/iphe-wp-methodology-doc-jul-2023>

transposed into an ISO Standard<sup>7</sup>. GH2 is a liaison member of the ISO/TC197/SC 1/WG 1, where the detailed methodology is being further developed.

## 2. Treatment of (renewable) electricity

The accurate measurement of the greenhouse gas (GHG) intensity of the electricity used to produce green hydrogen is a high priority, especially for projects that are connected to the electricity grid. While many green hydrogen projects in Australia are off grid (with behind-the-meter carbon-free renewable electricity inputs), the HPTI is structured to allow producers using grid-supplied electricity to qualify.

There is a growing body of research and advocacy<sup>8</sup> warning that the additional demand for renewable electricity from green hydrogen production may indirectly reduce renewable energy consumption in other sectors (which can use renewable energy more efficiently) driving up total emissions. In response, the “three pillars” (hourly time-matching, deliverability and incrementality) have been adopted or proposed – with some important exceptions and exemptions – in the EU, US and Canada. There is also fierce criticism that the overzealous application of these pillars may curtail green hydrogen production and undermine efforts to reduce emissions in hard to abate sectors.

GH2 agrees that governments should prioritise interventions that deliver the largest reductions in total greenhouse gas emissions as quickly as possible. We also need to balance the quick wins against the longer-term challenge of decarbonising hard to abate sectors. Accordingly, the Green Hydrogen Standard (Requirement 5A) requires that the project operator undertakes an evaluation of the project’s utilisation of electricity and the impact on the energy market including, where applicable, network congestion and the impact of their operations on the greenhouse gas emissions from the electricity grid:

*The project operator must demonstrate that it has identified and implemented technically feasible and cost-effective measures that support energy efficiency or other decarbonisation options, addressing any impacts vis-à-vis access to affordable and reliable energy. Where the evaluation concludes that the project may lead to a significant utilisation of renewable energy from the electricity grid and/or increased greenhouse gas emissions from the electricity grid, there is an expectation that the project operator has identified and implemented technically feasible and cost-effective measures to support the deployment of additional renewable energy capacity.*

It is important that the government’s Guarantee of Origin Scheme addresses these issues. Given the comparative advantage on alignment “with our international trading partners current and future needs” noted in the consultation paper, the government should provide a framework where data on time-matching, deliverability and additionality/incrementality are captured, in order to enable Australian producers to access markets with those requirements.

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<sup>7</sup> <https://www.iso.org/standard/88686.html>

<sup>8</sup> See for example [Princeton](#), [Bloomberg NEF](#) and the [Energy Futures Initiative](#).

We encourage the government to commission and publish a study that uses electricity system capacity expansion modelling to quantitatively assess the impact of grid-connected electrolysis on the development of the electricity sector to ensure that subsidised grid-connected hydrogen production does not indirectly induce additional emissions.

### 3. Community Benefit Principles

Understandably there is a major focus on green hydrogen as a way to decarbonise key parts of our economy. Hydrogen standards and incentive schemes therefore tend to emphasise the carbon intensity of the production process. However, green hydrogen can and must be much more than a clean energy carrier and ally in reaching our climate targets. If developed well, the green hydrogen economy can offer a positive sustainability impact on the lives of people living along the green hydrogen supply chain.

We welcome the HPTI's integration of Community Benefit Principles, including a focus on investment in local communities (including First Nations communities), domestic industry and supply chains, and skills, and the promotion of diverse workforces, secure jobs and tax transparency. GH2 has consistently argued that green hydrogen standards and incentive schemes must take these considerations into account. We encourage the government to consider the following requirements under the Green Hydrogen Standard, in particular:

- Requirement 2 on Stakeholder engagement
- Requirement 4A on Affected communities and livelihoods
- Requirement 4C on Indigenous Peoples
- Requirement 5A on Renewable energy sources
- Requirement 5B on Water use and quality, and
- Requirement 7 on Governance, transparency and accountability

As we build the renewable green hydrogen sector at pace to address the climate emergency, we need to bring society with us. Our work on the Green Hydrogen Standard and Good Green Hydrogen Contracting are aimed at ensuring that the sector grows responsibly and equitably. We would welcome a dialogue on opportunities to harmonise the Community Benefit Principles with global best practice.

We look forward to collaborating with the Australian Government on the further development and implementation of the HPTI.

Yours sincerely,

A handwritten signature in dark green ink, appearing to read 'Jonas Moberg'.

Jonas Moberg  
CEO  
Green Hydrogen Organisation