

12 July 2024

Submission in response to the Hydrogen Production Tax Incentive consultation paper

The Clean Energy Council (the 'CEC') welcomes the opportunity to provide a submission in response to Treasury's Hydrogen Production Tax Incentive consultation paper

The CEC is the peak body for the renewable energy sector in Australia. We represent and work with around 1,000 businesses operating in Australia across solar, wind and hydro power, energy storage and renewable hydrogen. Our mission is to accelerate Australia's clean energy transition.

The CEC warmly welcomes the Hydrogen Production Tax Incentive, which provides the broad-based support which the Clean Energy Council has advocated for over the past 18 months, for attracting investment in renewable hydrogen production facilities in Australia.

The tax-based production incentive, which is open to all eligible renewable hydrogen producers, provides a simple, transparent and efficient mechanism for supporting projects, which we expect will enable investment to get moving more quickly than alternative policies such as centralised competitive tender processes.

We note that the relatively short window of time to qualify for the incentive will inherently limit the support to early mover projects. In this context, it is appropriate that the Government keeps the eligibility criteria as simple as possible, and the constraints to a minimum, noting that the intent is to quickly scale up production capability in Australia.

The key points of this submission are summarised below.

\$2/kg incentive is significant, but further support is likely to be required by early movers: The \$2/kg refundable tax credit will go a significant way towards reducing the commercial gap between costs and willingness to pay by customers. However, we do anticipate that many projects will still need to seek ulterior sources of funding to lower their cost stack. This could be from ARENA through Hydrogen Headstart and other future programs it may offer, or international sources. Demand-side mechanisms to stimulate fuel switching from fossil-based fuel sources would also assist to drive domestic demand despite the persistent 'green premium'. The Clean Energy Council encourages the Australian Government to urgently bring forward demand-side policies for leading industrial decarbonisation needs and hydrogen use cases including low-carbon liquid fuels and green metals through the policy review processes currently under way.

The \$2/kg payment should be indexed: Electricity makes up ~70 per cent of the opex cost of renewable hydrogen projects, and it is the industry standard for electricity power purchase agreements to be indexed to inflation/CPI. In order to avoid an inherently diminishing subsidy over time for projects, inconsistent with the opex profiles, the Clean Energy Council strongly urges the Treasury to index the payments to CPI.

10-year tenor of support should be extended to increase bankability: Many of our members are concerned about the tenor of support (10 years maximum, declining from 1 January 2031), noting that this duration will be typically regarded by banks/financiers/investors as insufficient derisking to greenlight a production facility with a 20-25 year life. It leaves early mover projects, which will have an inherently higher cost base, exposed at the end of the ten years, potentially resulting in customers facing higher prices after the initial period. To avoid a significant step up in price after the first decade of project life, projects may opt to smooth out the subsidy's effects over a longer time scale (eg. 15 years), which will thereby lower the effective price per kilogram subsidy over the life of the support. The CEC recommends that the Australian Government adopt a longer tenor.

Extend the window of support to avoid the 'construction crush' pre-June 2030: The CEC understands and supports the Government's objective for the Hydrogen Production Tax Incentive to be targeting support at early mover projects. However, the effects of the current proposal, which would see diminishing support for projects which begin operations after 30 June 2030, is that there will be tremendous pressure on supply chains, the clean energy workforce, qualified contractors and professional services in the 2027-2030 period, at the same time in which the clean energy sector is sprinting to deliver 32 GW of projects under the Capacity Investment Scheme, transmission upgrades and Renewable Energy Zone infrastructure build outs. In the case of Queensland, a leading jurisdiction for green hydrogen projects, there will also be the additional contest for resources ahead of the Brisbane Olympics in 2032. A number of our members are concerned that this competition for workers, equipment and services will drive inflation in project delivery costs. In this context, it would be beneficial to extend the time period for which HPTI recipients could receive the maximum support (being 10 years, or 15 years in our recommendation), so as to avoid placing additional pressure on delivery in an already tight market.

Finally, in a related point, we note that a number of components for renewable hydrogen projects (eg. electrolyzers, compressors) have long lead times (eg. 2-3 years for an electrolyser), and construction timeframes even for smaller qualifying projects (eg. 10 MW) may nevertheless be in the order of three years. With the currently proposed sunset date for support of 2039-40, projects which reach FID after 2027 will be under tremendous pressure to construct as quickly as possible in order to ensure that they can access the maximum project support available (10 years). We recommend that the Government extends the sunset date for the scheme, so as to reduce the pressure for pre 30 June 2030 commercial operation dates.

Strong support for the Government's position on additionality and time-matching: The CEC strongly supports the Treasury's proposal not to impose substantial additional cost and complexity to projects through mandatory requirements for additionality and time-matching. We note that:

- Where additionality or hourly/monthly time-matching of renewables is required by hydrogen customers, projects will deliver this and demonstrate it through Australia's Guarantee of Origin scheme.
- Many of the proposed ultra large-scale projects are off-grid and will need to build their own renewable energy generation anyway. In these cases, additionality and time-matching are inherent to the projects.
- Australia is targeting 82 per cent renewables as a share of its total electricity generation by 2030, and the CEC considers 100 per cent renewables is feasible by 2035 with investment in a broad portfolio of renewable energy generation and storage technologies. It's worth noting that Europe itself does not require hourly time matching for regions who enjoy renewable penetration of >90%, and Australia should be able to reach this renewable energy share in the early 2030s, broadly coinciding with the start of operations of plants supported by the HPTI.)

The proposed emissions intensity threshold is readily achievable: We note that the proposed emissions intensity threshold of 0.6kg/CO₂-e or less per kilogram of H₂ is more stringent than the international Green Hydrogen Organisation's 'Green Hydrogen Standard' of 1kg or less of CO₂-e per kilogram of hydrogen. However, the proposed threshold is nevertheless readily achievable for renewable hydrogen projects via electrolysis, on the basis of a well-to-production gate scope, and the CEC supports the proposal.

Careful consideration is required in relation to community engagement performance standards, to ensure that projects remain bankable: The community engagement/benefit principles and any requirements on proponents/HPTI recipients will need to be given careful consideration to ensure that:

- **the expectations on proponents are reasonable and commensurate with the project size and community impact.** While our members strive to deliver high quality clean energy projects which deliver a lasting positive impact in their host communities, we must also be careful not to load up a nascent industry characterised by exceedingly tight project economics, with exceptionally high benchmarks, which are not faced by other sectors (eg. fossil fuel production) which we are working to compete with.
- **these reasonable community engagement expectations are reflected in the eligibility criteria, and there are tangible and objective mechanisms for proponents to demonstrate their commitment to these standards over time.** This could, for example, consist of proponents being required to sign up to a proposed set of Community Engagement and Benefit Principles as part of the eligibility criteria, which will be 'operationalised' through the implementation of a community engagement plan which proponents are required to develop, maintain and periodically update.
- **investors can be confident that there is no risk to the HPTI payments where the upfront eligibility criteria have been met.**

We discuss a number of the points outlined above – and many of the Treasury's questions – in further detail in the appendix.

Conclusion

The Hydrogen Production Tax Incentive is of critical importance to the timely development of the renewable hydrogen sector in Australia, and in turn, the achievement of Australia's industrial decarbonisation goals and the realisation of many of our economic expansion opportunities. It is a foundational pillar of the Government's Future Made in Australia policy. We commend the Australian Government on its substantial investment to scale up our sovereign hydrogen production capability, leveraging our world class renewable energy resources.

The impact of the HPTI scheme will be significantly bolstered by taking on board the industry feedback we have outlined above, and we stand ready to work with the Treasury and DCCEEW to finesse the final scheme design prior to its introduction to Parliament for legislative passage.

Please don't hesitate to contact me at afreeman@cleanenergycouncil.org.au should you wish to discuss our submission further.

Yours sincerely



Anna Freeman
Policy Director – Decarbonisation

APPENDIX – RESPONSE TO SELECT QUESTIONS – TREASURY CONSULTATION PAPER

	Question	Details (where relevant)	CEC response
2	Please provide any feedback on the proposed eligibility criteria.	<ul style="list-style-type: none"> Eligible entities – subject to Australian tax law Eligible facilities – located in Australia; FID on or before 30 June 2030; production from new or existing facility; each facility located on a single site; facility registered with CER. Emissions threshold: each kilogram produced with emissions less than or equal to 0.6 kg of carbon dioxide equivalent from well to the production gate. End uses: No constraints. 	<p>Eligible entities: Supported</p> <p>Eligible facilities: Supported</p> <p>Emissions threshold: Supported. We consider this to be a workable emissions threshold for 'well-to-production gate' boundary for the hydrogen production facility.</p> <p>End uses: While the CEC would ordinarily favour limiting support to 'hard-to-abate' end uses, in this case the CEC supports the Treasury proposal not to constrain the end uses. This is because the purpose of the incentive is to quickly scale up Australian renewable hydrogen production capability within a relatively short timescale. Placing constraints on the types of end use applications could add further complexity, narrow the market opportunities, and ultimately place limitations on customer end-uses which would increase the complexity for offtakers and likely render Australia a less attractive source of production (eg. in the case of exports to Asia or Europe).</p>
3	What key factors would need to be accounted for in a definition of an eligible facility for the purposes of the HPTI?		<p>All plant and equipment inside the site boundaries on the development application would be the maximum inclusion as part of the facility. However, the hydrogen production facility could be a minimum of the electrolyser only.</p> <p>Key factors to define eligibility should be kept broad and to a minimum to avoid red tape. For example, a hydrogen facility for the purposes of the HPTI is one that :</p> <ul style="list-style-type: none"> - Produces hydrogen via electrolysis using renewable electricity; or - Produces hydrogen via a low carbon process using sustainable raw materials; or - Extracts hydrogen from a natural deposit using a low carbon process <p>...where a low carbon process meets the threshold of 0.6tCO₂/kgH₂.</p>
4	What key factors would need to be accounted for in a definition of Final Investment Decision (FID) for the purposes of the HPTI?		Resolution of the Board and necessary financing. This could be demonstrated via Board minutes.

	Question	CEC response
5	How long do you expect it will take for projects to reach first production following FID?	<p>The time between a financial investment decision (FID) and first production will vary depending on the scale, structure and complexity of the project. However, we expect that minimum construction time frames could be in the order of 3+ years, even for eligible projects at the smaller end of the scale (ie. 10MW), due to lead times for certain equipment. For example, lead times for electrolyser orders are currently in the order of 2-3 years. Equipment orders would be placed after the project reached FID.</p> <p>The period between FID and the commercial operations date for a hydrogen production plant could be longer for larger projects.</p> <p>Beyond the simple construction timeframes, it should also be considered that due to the nascent stage of the industry in Australia, early mover projects may face additional challenges in timely construction due to the limited depth and breadth of the hydrogen skills base, and competition with other clean energy projects across Australia as the industry works to deliver 82 per cent renewables in the electricity system by 2030.</p>
6	For foreign investors, do you currently encounter any impediments to investment in projects that would be eligible?	No issues have been raised by our members in relation to impediments to foreign investment.
7	Please provide any feedback on the proposed emissions intensity threshold of 0.6kg of carbon dioxide equivalent up to the production gate.	While the proposed standard is tighter than the global Green Hydrogen Organisation's Green Hydrogen Standard for renewable hydrogen of 1kg of CO ₂ -e or less per kilogram of renewable hydrogen, the Clean Energy Council considers the 0.6kg CO ₂ per kilogram of H ₂ to be achievable for renewable hydrogen via electrolysis.
8	Other than electrolysis, what production processes would meet this emissions intensity threshold now or before 2030?	No comment from the CEC, noting that our membership is overwhelmingly composed of those delivering, supporting and leverage solar, wind, hydro and energy storage projects, and that renewable hydrogen production via electrolysis is the leading pathway for hydrogen projects in Australia.
9	Please provide feedback on the proposed minimum capacity requirement (equivalent to 10 MW electrolyser)?	In the interests of administrative simplicity, the CEC suggests that the Treasury may consider opening up the scheme to all renewable hydrogen projects – perhaps above 1 MW – to avoid creating a two funding tier system by which smaller projects (eg. refuelling stations or networks, or remote applications) will be forced to seek out alternative support options (eg. via ARENA grants).

	Question	CEC response
10	For renewable production processes other than electrolysis, is using the minimum capacity requirement of “equivalent to a 10MW electrolyser” appropriate? Is another definition of capacity required to deal with other production pathways?	The minimum threshold could be based on a tonnes per day (tpd) rate which could be set at the equivalent output of the minimum grid connected electrolyser running at, for example, 60 per cent utilisation.
11	Should grid connected electrolyser projects be required to match their hydrogen production with electricity generated by the same electricity grid? Please provide feedback on this proposal.	<p>Generally speaking, we expect it will be uncommon for large-scale projects (eg. 50MW+) to procure their green energy supply from a physically separate network noting that many large-scale projects see the best route to accessing low-cost electricity to be to access a behind-the-meter supply of solar and wind.</p> <p>The scenario which we may however see is that a grid-connected project sources some or all of its electricity from the grid and then ‘greens up’ its ‘black’/grid supply by purchasing large-scale generation certificates (LGCs) or the forthcoming renewable electricity guarantee of origin (REGO) certificates (separately from the electricity supply), as an offset to the emissions associated with its ‘black’ electricity usage. These LGCs or REGOs could potentially come from any renewable energy project in Australia (built after 1997 in the case of LGCs).</p> <p>While there is merit in being able to access a wide pool of certificates in order to keep the costs of renewable hydrogen down, in the interests of supporting the social licence of the emerging renewable hydrogen sector, the CEC believes that it is appropriate to require that the certificates are sourced from the same electrically interconnected grid (ie. NEM/SWIS/NWIS) as the electrolyser is connected to, in order for the renewable hydrogen to be considered ‘green’.</p>
12	Please provide feedback on the proposal to not include additional requirements on renewable energy generation for access to the incentive, such as additionality and hourly time-matching with hydrogen production.	<p>We support the Treasury’s/DCCEE’s position to <i>not</i> place requirements on projects for additionality and time-matching on the following basis:</p> <ul style="list-style-type: none"> • The HPTI scheme is designed to support early mover projects, and as such, this will limit the electricity market impacts of the scheme. • Both additionality and granular time-matching requirements for generation and production will increase the cost, complexity and delivery time frames of projects in Australia, which would be unhelpful to this start-up phase of the sector, and likely reduce the impact of the scheme. <p>Were an additionality requirement to be placed on the emerging renewable hydrogen sector, projects would:</p> <ul style="list-style-type: none"> • Not be able to make use of curtailed electricity from existing plant, which will drive up the cost of some projects who may be able to utilise this supply • Face increased development lead times, making it more challenging for some projects to benefit from the full value of the HPTI, in turn making the project less viable. <p>Were granular time-matching requirements to be placed on the sector as a condition of accessing the HPTI, projects would:</p> <ul style="list-style-type: none"> • Face a significantly higher cost of hydrogen production, reducing Australia’s ability to produce internationally competitive green hydrogen. In its analysis of the impacts of hourly time matching in the United States, which is currently being considered by the

		<p>US Treasury, consultancy Wood Mackenzie found that the resulting hydrogen could be 60-175 per cent more expensive than annual matching.</p> <p>Further to these issues, we would note that:</p> <ul style="list-style-type: none"> • Where additionality or hourly/monthly time-matching of renewables is required by hydrogen customers, projects will deliver this and demonstrate it through Australia's Guarantee of Origin scheme. • Many of the proposed ultra large-scale projects are off-grid and will need to build their own renewable energy generation anyway. In these cases, additionality and time-matching are inherent to the projects. • Australia is targeting 82% renewables as a share of its total electricity generation by 2030, and so by the time hydrogen projects come online, this will be a marginal issue for Australia. (We note that Europe does not require hourly time matching for regions who enjoy renewable penetration of >90%. Australia should be able to reach this renewable energy share in the early 2030s, coinciding with the start of operations of plants supported by the HPTI.)
Administrative arrangements		
13	Please provide any feedback on the proposed administrative approach.	<p>The CEC supports the administrative arrangements as outlined in the consultation paper.</p> <p>We would however like to emphasise that it will be essential for investment confidence and bankability of projects that any eligibility criteria for satisfying the periodic payments under the scheme should be specified within the registration process, and that the periodic execution of payments over the life of the scheme is not subject to conditionality outside of those transparent and established criteria.</p>
14	The proposed GO scheme will be used to support the registration and verification of hydrogen production. Are there any additional factors that would need to be accounted for in the proposed design of that scheme?	No additional comments from the CEC.
15	The Government may legislate the administrative arrangements in subordinate legislation. Please provide any feedback on this proposed approach.	<p>Confirming the administrative arrangements in subordinate legislation (regulations) will provide greater investor confidence, and we would welcome the opportunity to provide industry input into the drafting of these regulations.</p>

	Question	CEC response
	Community benefit principles	
16	What obligations should be imposed on potential recipients of the HPTI to ensure the community benefit principles are met?	<p>The community engagement/benefit principles and any requirements on proponents/HPTI recipients will need to be given careful consideration to ensure that:</p> <ol style="list-style-type: none"> 1. The expectations on proponents are reasonable and commensurate with the project size and community impact. <p>While our members strive to deliver high quality clean energy projects which deliver a lasting positive impact in their host communities, we must also be careful not to load up a nascent clean energy industry characterised by exceedingly tight project economics, with exceptionally high benchmarks, which are not faced by existing industries (eg. fossil-fuel production) that our sector is working to compete with.</p> 2. These reasonable community engagement expectations are reflected in the eligibility criteria, and there are tangible and objective mechanisms for proponents to demonstrate their commitment to these standards over time. <p>For example, this could be a requirement that projects sign up to a commitment to respect certain principles in their engagement with communities and stakeholders. By way of example, in 2017 the CEC developed a voluntary Best Practice Charter for Renewable Energy Projects which has almost 60 signatories, who have committed to engage respectfully with the communities in which they plan and operate projects, to be sensitive to environmental and cultural values and to make a positive contribution to the regions in which they operate.</p> <p>In addition, HPTI recipients could be required to develop, maintain and publish a community engagement plan for at least the duration of the government support, which is updated on a periodic basis, and sets out their approach to meeting the principles set out within the Charter, or a similar set of Community Benefit Principles.</p> <p>Earlier this year, the Clean Energy Council also released its Leading Practice Principles: First Nations and Renewable Energy Projects. This guide, which was co-designed with First Nations peoples, 'unpacks and operationalises' the First Nations Clean Energy Network's Aboriginal and Torres Strait Islander Best Practice Principles for Clean Energy Projects.</p> <p>Projects could be required 'to have regard to' specific guidance material (such as the CEC's Leading Practice Principles: First Nations and Renewable Energy Projects or a set of national community engagement guidelines) in developing and maintaining their community engagement plan.</p> <p>As part of the considerations for the design of community engagement and benefit principles, we strongly urge the Australian Government to adopt/recognise a common set of principles and guidance in support of its clean energy agenda, and avoid duplication or multiple sets of guidance which risk creating complexity, confusion and administrative burden for clean energy projects.</p> 3. Investors can be confident that there is no risk to the HPTI payments where the upfront eligibility criteria have been met. <p>Should there be a perceived risk that future HPTI payments may be subject to review against subjective criteria, projects may be considered unbankable by investors and financiers. To that end, the CEC recommends that where projects meet the eligibility criteria, there should be no scope for HPTI payments to be withdrawn.</p>
17	What obligations are potential recipients of the HPTI currently subject to that might support the community benefit objectives (noting these will be finalised under the Future Made in Australia Act)?	
18	Are there any additional objectives that you consider important? What obligations might support these?	

	Question	CEC response
19	Recipients of the HPTI may be subject to additional transparency and disclosure requirements in order to be eligible. What kind of requirements are appropriate? What are the key practical considerations to take into account when setting the requirements?	<p>The Hydrogen Production Tax Incentive is a taxation incentive, rather than a competitive process, and it is not intended to add unnecessary administrative burden onto projects. Rather, it is intended to accelerate the delivery of early mover renewable hydrogen projects.</p> <p>As such, the Clean Energy Council considers that the transparency and disclosure requirements should be consistent with:</p> <ul style="list-style-type: none"> • Meeting the obligations of entities under Australian law • Demonstrating compliance with eligibility requirements over the life of support under the HPTI scheme.
20	How should entities proposing to claim the HPTI be required to demonstrate compliance with tax obligations?	
21	What information do you consider important for the community that should be reported publicly on the recipients of the HPTI, such as the amount of credit received?	The CEC would expect that the kilograms of hydrogen produced by each eligible and registered renewable hydrogen producer would be disclosed on the Guarantee of Origin registry.
22	Who should the reporting requirements be imposed on? For example, on the recipient entity, or central reporting through a regulator?	<p>It's not clear which reporting requirements are being referred to in this question, but assuming that this relates to the reporting of the hydrogen volumes produced by, or credits paid to a proponent/facility owner, the CEC suggests that:</p> <ul style="list-style-type: none"> • Proponents will report the hydrogen production volumes to the Clean Energy Regulator • Proponents would claim the refundable tax credit as part of their tax filings. The data reported to the ATO in relation to the hydrogen production volumes could be verified with the Clean Energy Regulator. Alternatively, data sharing between the CER and the ATO could be automated.
Interaction with other government incentives		
23	Please provide feedback on the proposed treatment of the interactions between the HPTI and other forms of Commonwealth, State or foreign government support.	The CEC understands that eligibility for the HPTI does not preclude projects from accessing any other forms of project support, be it through contracts for difference, grant programs, concessional finance and international support etc. This is important, as we expect that while the \$2/kg of hydrogen will be vital for projects, proponents are likely to need to seek other avenues for further driving down their cost of production.

	Question	CEC response
24	How can the HPTI best leverage other types of support? Please provide examples relevant to your project if possible.	No additional comments from the CEC.
25	What are the key practical considerations with receiving support through the HPTI and the Hydrogen Headstart program simultaneously?	The CEC understands that the value of the HPTI will be taken into account by ARENA in the provision of Hydrogen Headstart payments, such that the total Government support from the two schemes does not exceed the top-up amount requested by the successful Headstart proponent as part of its application. The CEC is comfortable with this approach and has no further practical considerations to raise at this time.
26	Are there specific interactions with other support programs that should be considered?	Again, provided that eligibility for the HPTI does not preclude access to other forms of government and international support, the CEC has no further concerns at the present time.