

AUSTRALIAN HYDROGEN INDUSTRY'S RESPONSE

Draft Delegated Act
on Article 27(3) of
Directive (EU)
2018/2001

AUSTRALIAN HYDROGEN INDUSTRY SUBMISSION

The Clean Energy Council (Australia) and the Australian Hydrogen Council welcome the opportunity to lodge a joint submission on behalf of the renewable hydrogen industry in Australia to provide feedback on the recently released draft Delegated Acts relating to the European Union rules for renewable hydrogen under the 2018 Renewable Energy Directive. For the purposes of this submission, we focus on the first proposal on *'Production of renewable liquid and gaseous transport fuels of non-biological origin'* ('RFNBOs').

Together, our two leading industry associations (see the appendix for further information about us) represent the overwhelming majority of companies operating in the renewable electricity and emerging hydrogen sectors in Australia, and our aim is to accelerate the domestic clean energy transition and help Australia realise its potential as a major clean energy supplier to the world.

We welcome the European Commission's External Action Service's External Energy Engagement Strategy and its recognition of Australia as a significant future producer of green hydrogen. We agree that strengthening energy links should be a priority.

We acknowledge the long-standing leadership of the European Union in spearheading the global clean energy transition, and recognise the increased urgency of the task before the EU in phasing out the region's dependence on Russian fossil fuels. Russia's act of aggression against Ukraine has threatened the energy security of households, business and industry not just in Europe, but across global markets – including in Australia – and we need to scale-up renewable energy alternatives as quickly as possible.

With exceptional solar and wind energy resources, a large and sparsely populated land mass, fast-growing deployment of renewable energy plants (doubling in the last five years to 33 per cent, and projected to increase to almost 80 per cent by 2030), a highly skilled workforce, mature energy export supply chains, and a safe and stable liberal democracy, Australia is a leading candidate for producing among the lowest cost renewable hydrogen in the world.

Our Federal, state and territory governments have been working in close co-operation with industry to promote the development of a local hydrogen industry, and over the past two years, Australia, in partnership with Germany, has been actively exploring the feasibility of renewable hydrogen exports to Europe. Detailed economic analysis completed by this bilateral partnership in 2021 showed that shipping costs from Australia will have a very modest if not largely negligible impact on the cost of Australian renewable hydrogen.

Australia is therefore very well placed to support the European Union's ambition to import 10 million tonnes of renewable hydrogen by 2030, and a number of our member companies are actively working to progress hydrogen export projects as quickly as possible so as to support this goal.

We are concerned however that the rules proposed in the Delegated Act on 20 May 2022, which are proposed to apply equally to international markets, will make it significantly more complex and costly for industry to answer Europe's call for clean energy supplies. They will slow the development of projects or make export-orientated projects for Europe economically unviable. With the conflict in Ukraine threatening European energy security, and the criticality of decarbonising the economy to limit the impacts of climate change it is crucial to minimise any barriers which may impede the development of the renewable hydrogen industry.

In particular, we are concerned about:

1. The **strict temporal correlation** between renewable electricity generation and hydrogen production which provides little flexibility for proponents to balance electricity supply and load, and is likely to significantly increase hydrogen production costs.
 - **We would suggest that a more flexible operating envelope for time-matching (eg. one month, rather than one hour) should be adopted on a permanent basis.** This could still require that the total renewable electricity generation exceeds the renewable hydrogen production demand across the full operating profile, but would provide greater flexibility to hydrogen producers about how the demand and supply balance is managed. This will reduce the delivered cost of renewable hydrogen by increasing capacity factors and protecting the performance of expensive new capital equipment.
2. The requirement for **additionality** of renewable electricity supply. While we understand the drivers and intent of the additionality principle, it is important to note that:
 - The demand for renewable electricity from the emerging renewable hydrogen sector will incentivise and accelerate the build out of additionally renewable electricity generating capacity.
 - The deployment of additional renewable electricity capacity will continue to accelerate the demise of coal and gas power plants which are already struggling to compete in electricity markets against wind and solar plants with a \$0 short-run marginal cost. Any momentary increase in non-renewable generation across the broader electricity market would be temporary, and in turn help to boost demand and bring on new renewable capacity. We note in particular that under Australia’s legislated Renewable Energy Target framework, we have near 100 per cent certification and consumption of renewable energy, with a deep and well traded market, meaning that there is a very effective and rapid price signal/mechanism to bring on new generation as additional renewables are demanded.
 - One of the greatest impediments to the deployment of renewable energy plants in Australia over recent years has been *insufficient electricity demand* to soak up excess supply of renewable electricity during daylight hours. By creating a new, large source of flexible industrial demand exclusively for renewables, the hydrogen sector will thus support further deployment of renewable electricity generating capacity.
 - And finally, detailed electricity system modelling carried out by the Australian Energy Market Operator (AEMO) and released in December 2021 forecasts that on our current trajectory, renewable electricity will account for 79 per cent of annual electricity generation in Australia’s national electricity market by 2030 (up from ~33 per cent today), and account for 96 per cent by 2040, *without* considering Australia’s renewable hydrogen production and export opportunity. Some regions already have substantially higher renewable energy penetrations.
 - According to the same modelling, if we are to realise our potential as a major exporter of renewable hydrogen, Australia will need to deploy over 550 GW of new variable renewable energy (VRE), which is 37 times the amount of current installed VRE capacity.

We note that a key aim of the requirement for additionality is to ensure that *“incentives for an increase of fossil electricity generation are prevented by an increase in the production of renewable electricity”* and we consider that within this broader context of vast deployment of new renewable energy generating capacity in Australia to meet our clean energy export opportunity, the additionality requirements are unnecessary.

Nevertheless, noting the EU's concerns that renewable hydrogen production could result in higher greenhouse gas emissions within the broader electricity system, the Commission could consider alternative options for addressing these concerns, which would however support greater efficiency and flexibility for the emerging renewable hydrogen sector.

- **Option one:** Where proponents or markets can demonstrate that new or projected renewable electricity generating capacity across a network/region/bidding zone will exceed the renewable electricity demands of a proposed renewable hydrogen project over a given timeframe (eg. 3-years), then the additionality requirement would not apply.
 - **Option two:** The EU sets a 'minimum additionality threshold' – potentially in the order of 70 per cent – which would ensure that proponents sourced the majority of their power from newer renewable energy power plants, while still allowing proponents to negotiate power purchase agreements with renewable energy plants that are more than three years old for a minority of their power needs (in this example, 30 per cent). This would result in green hydrogen projects assisting to expand the installed renewable generation capacity, while also allowing for the participation of existing renewable electricity generators with spare capacity. This modification to the additionality rule would deliver a positive market outcome for all market participants by providing greater flexibility to hydrogen producers, supporting efficiencies in the deployment of capital, increasing competition in the electricity market, and ultimately lowering the cost of supply.
3. The **exclusion of renewable hydrogen from sources which have received 'operating or investment aid'**. We note that governments worldwide, including in Australia have been acting to incentivise the faster deployment of renewable electricity through their own targets and support programs, and this accelerated deployment is a positive outcome which can ultimately assist the European Union to achieve its import goals at a lower cost.

Given the inherently higher cost of renewable hydrogen compared to fossil-based alternatives, and the steep upfront capital costs, we consider there to be a very real risk that Europe's 10 million tonne hydrogen production target will not be met if it insists on projects being prevented from accessing any additional financial support.

In addition, we note that defining subsidies within any given market could become extremely complex (eg. targets, certificates, rebates, exemptions, discounted tariff structures, carbon pricing, preferential rates for clean energy projects), and overall, such a sweeping exclusion for projects could make participation in the European scheme complex and unattractive.

Recognition of credible guarantee of origin schemes can provide flexible assurance frameworks for renewable hydrogen

Australia recognises the importance of being able to clearly demonstrate the clean energy and emissions credentials of its hydrogen to prospective offtakers, and our Federal Government and Clean Energy Regulator are working to develop a high-integrity guarantee of origin scheme based on the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE) accounting framework.

Consideration and recognition by the EC of domestic guarantee of origin schemes like Australia's, or global accreditation schemes like the recently released Green Hydrogen Organisation's Green Hydrogen Standard, can provide a more flexible and adaptable framework for countries outside the EU to be able to demonstrate the environmental credentials of their products.

At the same time, this would provide flexibility for jurisdictions outside of the EU to be able to develop their markets in a way that reflects their own electricity market contexts, which will naturally differ from the European market.

Conclusion

Australian industry has been gearing up over the past two years to be in a position to supply international markets, including Europe, with renewable hydrogen. Our ability to do so will benefit both Europe and Australia, accelerating our respective clean energy transitions. It is important however that we do not hobble the industry before it has gotten off the ground with very stringent rules that will make renewable hydrogen projects and products even more expensive, complex and administratively burdensome. Doing so will only leave European industry at the mercy of high gas prices for even longer. There is also a strong chance that highly prospective renewable hydrogen producers like Australia will find it easier and more attractive to supply other markets which do not have such stringent rules for this emerging sector.

We appreciate your consideration of the Australian hydrogen industry's feedback and the proposed modifications which, if adopted, can assist the global renewable hydrogen sector to scale up more rapidly in a way that is both more efficient and appropriate for individual markets.

Australia looks forward to being a trusted strategic partner in Europe's clean energy transition, and we hope that the Delegated Act can be reviewed and refined to support a thriving and mutually beneficial trade relationship between our two regions. We stand ready to provide additional detailed input as required.

Yours sincerely,



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ABOUT US

Clean Energy Council

The Clean Energy Council is Australia's peak body for the renewable energy sector in Australia. We represent and work with over 1,000 leading businesses operating across solar, wind and hydro power generation, as well as energy storage and renewable hydrogen.

Our vision is for Australia to be powered by clean energy, and we are advocating for Australia to meet 100 per cent of its own power needs with renewable energy by 2030. Australia also has huge potential to far exceed this 100 per cent target, supplying large volumes of clean energy (via renewable hydrogen and its derivatives, or direct electricity supply via undersea cables) for international markets, drawing on its immense renewable energy resources and deep expertise in energy and resource development and trade.

More information about the Clean Energy Council and our policy and advocacy efforts are available on [our web site](#).

Australian Hydrogen Council

The Australian Hydrogen Council is the peak body for the hydrogen industry, with more than 100 members from across the hydrogen value chain.

Our members are at the forefront of Australia's hydrogen industry, developing the technology, skills and partnerships necessary to build Australia's hydrogen economy.

Find out more about the Australian Hydrogen Council [here](#).