

Background

ABEL Energy (ABEL) is an Australian green hydrogen and green methanol project developer, with a vision to become the largest owner and operator of green methanol production facilities in Australia. Our pipeline of projects is focussed on areas that are abundant in sustainable wind, water and biomass resources. Our flagship project, Bell Bay Powerfuels, is located at Bell Bay in Tasmania with two other sites under active development, including Townsville Powerfuels in Queensland and is investigating in conjunction with Norske Skog, Boyer Powerfuels in Tasmania.

The Bell Bay Powerfuels project (BBPF) is a commercial scale green methanol project development opportunity located in the regional Tasmanian Green Hydrogen Hub at Bell Bay. The BBPF project is one of the most advanced green methanol development opportunities being pursued by project developers across Australia and the Asia Pacific Region (other than China). On completion, it will produce up to 300,000 tonnes per year of renewable, green methanol to be used as a net-zero, low carbon liquid fuel for the maritime sector, as a sustainable feedstock for the chemicals and aviation fuel sectors, and as a diesel replacement for off-grid equipment and power generation. With commercial operations scheduled for late 2028, the project will be one of the largest green methanol production facilities in the Asia Pacific region.

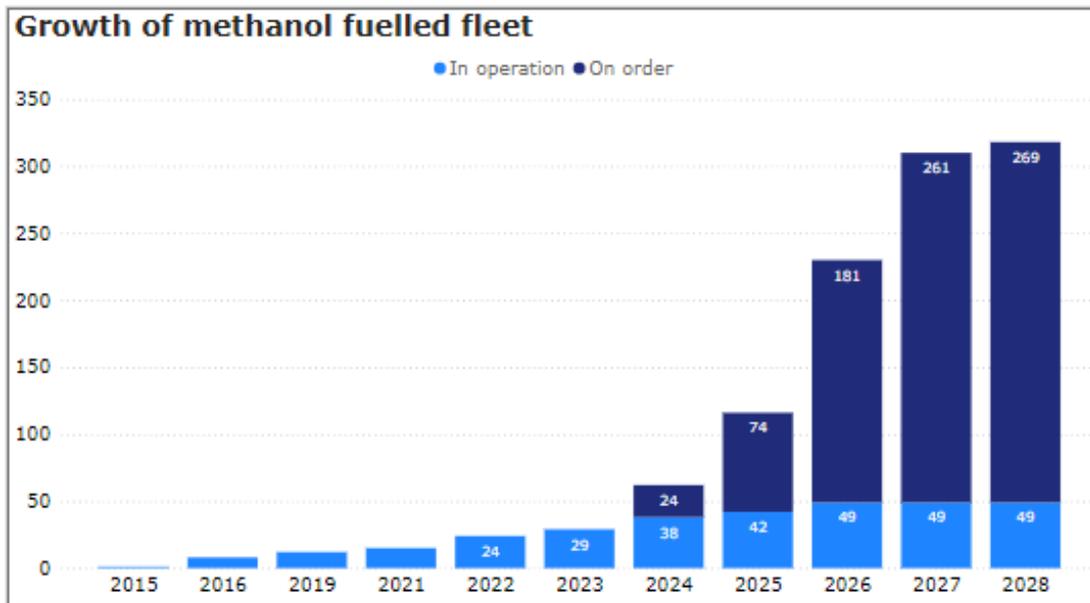
The project will also deliver a host of benefits to Australia:

- A new and future-proof climate-tech industry for the Tamar Valley community in Tasmania providing long term employment opportunities for 150 local full-time employees and at least 250 indirect jobs for the region.
- Initiate development of the hydrogen industry in Tasmania with local skills and expertise to support other projects in the area which has been designated as a national hydrogen hub.
- Provide Tasmanian, Australian and international maritime customers with a safe, sustainable and ultra-clean burning fuel to replace heavy fuel oil and petroleum diesel to run their vessels.
- Provide those Australian mining and agricultural industries which have limited access to a power grid with a simple, energy-dense, liquid substitute fuel for diesel; for use in engines, turbines and fuel cells that are either designed for methanol or can easily be adapted.
- Provide the Australian chemical sector with the opportunity to access their first local source of methanol since 2016 – a source which will also reduce the carbon intensity of their products.
- Avoid over 540,000 tonnes per year of fossil fuel-derived CO₂ emissions which would otherwise have been generated by the use of petroleum and natural gas products.
- Contribute to local fuel security, being the only fuel produced in Tasmania solely from local inputs.
- Enable Tasmania to become one of the largest sources of green methanol for shipping in the Asia Pacific region.

The project will produce renewable hydrogen in two ways:

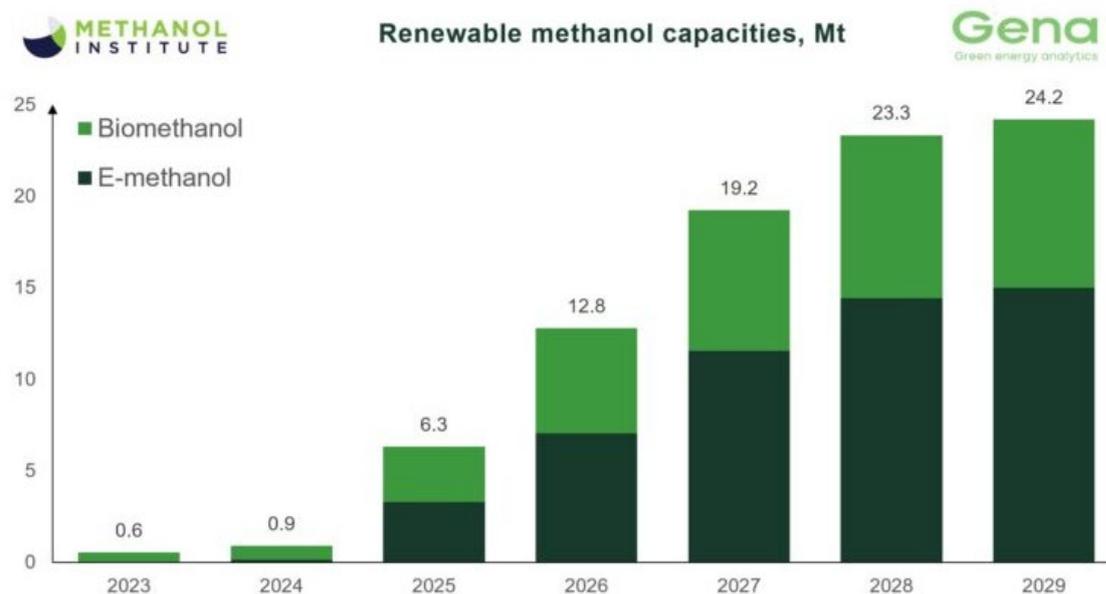
1. The 260MW water electrolysis unit will produce green hydrogen, using newly built renewable power generation.
2. Additionally, the biomass gasification process will produce green hydrogen in conjunction with the biogenic oxides (CO/CO₂) required to produce green methanol.

Some of the excess hydrogen capacity from the electrolysis unit may be supplied to adjoining industries at the Bell Bay Advanced Manufacturing Zone, depending on demand. By contrast, demand for green methanol is already growing strongly, and there are clear offtake opportunities in both the domestic and international markets. One such area is the hard to abate marine transport sector, where bunker fuel and diesel have dominated for much of the last 70+ years. As highlighted in the graph below, there is growing demand for green methanol based on the number of new methanol fuelled ships on order.



Source: International Maritime Organization (IMO)

Green methanol production capacity is growing worldwide in response to this emerging market for green methanol as a low carbon liquid fuel for shipping. Australia is well placed to be a key producer of green methanol, but will require Government incentives such as the HPTI to realise these opportunities.



Source: GENA Solutions, www.genasolutions.com. Note: As of May 2024. Based on announced startup dates.

Summary of Response

- ABEL Energy congratulates the Australian Government on the Hydrogen Production Tax Incentives (HPTI) and is pleased to provide the following stakeholder feedback on the HPTI scheme as set out in the consultation paper released in June 2024.
- ABEL Energy's BBPF project will be able to comply with the proposed HPTI eligibility when considering the hydrogen produced from water electrolysis.
- With HPTI payments ABEL Energy would be able to produce one of the lowest carbon intensity low carbon liquid fuels on par with the world's lowest cost green methanol producers, noting many of these low-cost producers are also recipients of other foreign government production incentives.
- The HPTI will assist the BBPF project attract additional private capital. Sovereign support in the form of production incentives is a low risk and high return way for Government to support early-stage renewable energy projects and supports the unlocking of private capital that can otherwise be reticent to invest at an early stage of a project's development.
- The project will provide economic development and employment in key regional areas across Tasmania for decades to come. In doing so we will create the largest investment in Tasmania since the Hydro Electric Schemes; with up to \$4B in investment, 500+ construction jobs, plus ongoing jobs operating and maintaining the facility with countless downstream small business opportunities.
- ABEL would suggest that additionality be included in the HPTI scheme. Additionality promotes further development of renewables in Australia, the alternative would cannibalise existing renewables, potentially causing increased GHG emissions elsewhere.
- The CO₂ emission from biomass gasification is biogenic¹, therefore does not increase the net amount of atmospheric CO₂. To enable low carbon liquid fuel projects from biogenic sources ABEL recommends that:-
 - biogenic CO₂ emissions be excluded from the proposed emission intensity calculation to support green methanol /e-fuels / SAF developments, where the majority of the carbon is utilised in the product.
 - or alternatively reasonable amounts of biogenic carbon emissions are excluded.
 - or alternatively offsetting biogenic emissions with biogenic carbon sequestration.
 - or alternatively the production gate be defined as the output of hydrogen production and not value-added downstream products.
- Transparency and disclosure requirements should protect intellectual property and commercially sensitive information.
- Pre-production project assistance from other State and Federal programs should not limit eligibility to HPTI. Programs such as ARENA Advancing renewables, Low carbon liquid fuels, regional support packages, hydrogen hubs, green shipping corridors etc. are essential to establishing early hydrogen-based projects.

¹ Biogenic carbon refers to carbon that is captured directly or indirectly (during biomass growth) from the atmosphere. When it is released back into the atmosphere (in combustion for example) it does not result in a net increase in atmospheric carbon, hence is "net zero". Fossil fuels however increase atmospheric carbon as carbon which is permanently sequestered below the ground is released into the atmosphere during combustion.

Responses to proposed Questions

- 1. Please provide any feedback on the impact this incentive may have on your community, facility or industry.**

The HPTI will greatly assist the BBPF project to proceed. The project will provide economic development and employment in key regional areas across Tasmania for decades to come. In doing so we will create the largest investment in Tasmania since the Hydro Electric Schemes; with up to \$4B in investment, 500+ construction jobs, plus ongoing jobs operating and maintaining the facility with countless downstream small business opportunities. This will develop a forward-looking Tasmanian industry, the production of low carbon liquid fuels and the associated industries it supports, such as new build renewable energy. Specifically, the HPTI significantly improves the BBPF project economics, making a commercially viable product. As the carbon intensity of the BBPF product is amongst the lowest in the world the HPTI payment would help close the gap on the cheapest projected cost coming from China

BBPF is the most advanced green methanol project in Australia and assisting this project to pass FID and move to production would also help accelerate other projects through demonstrating commercial operations, providing enhanced investor confidence and kickstarting a low carbon liquid fuels industry.
- 2. Please provide any feedback on the proposed eligibility criteria.**

ABEL supports the majority of proposed eligibility criteria, but would suggest clarifying the emissions intensity threshold (refer Q7), excluding biogenic carbon emissions (refer Q8), and increase the minimum capacity (refer Q9)
- 3. What key factors would need to be accounted for in a definition of an eligible facility for the purposes of the HPTI?**

ABEL agrees with the proposed definition of eligible facility.
- 4. What key factors would need to be accounted for in a definition of Final Investment Decision (FID) for the purposes of the HPTI?**

FID would be defined as a ratified decision by board of directors for the project to proceed, noting that this will be followed by Financial Close (FC) once financing is secured for the project.
- 5. How long do you expect it will take for projects to reach first production following FID?**

The BBPF project is expected to reach commercial operation approximately 3 years after FID
- 6. For foreign investors, do you currently encounter any impediments to investment in projects that would be eligible?**

ABEL is an Australian developer.
- 7. Please provide any feedback on the proposed emissions intensity threshold of 0.6kg of carbon dioxide equivalent up to the production gate.**

BBPF will produce the majority of its required hydrogen from water electrolysis but will also generate a significant quantity from biomass gasification. The biomass gasification will also co-produce biogenic CO and CO₂ which is utilised as a feedstock in the production of green methanol. There are low level CO₂ emissions as part of the gasification / methanol production process. The gasification process also captures carbon as biochar which is stable and will be sequestered for a long term.

ABEL expects the electrolysis-based hydrogen production would easily comply with the 0.6kg of carbon dioxide per kg H₂, when the production gate is defined as the output of electrolysis hydrogen production.

However, if the overall methanol production is included, with methanol export as the production gate, depending on the definition BBPF emissions could exceed the 0.6kg CO₂ per kg H₂ (excluding any offset for biochar). Note that BBPF carbon intensity (CI) rating for the BBPF methanol product is one of the greenest methanol products in the world. At this CI level, BBPF is significantly below the FuelEU 2050 target 22.9 gCO₂e/MJ and the fuels which it replaces at ~90 gCO₂e/MJ. It seems unreasonable that the production process for such a high-quality low emission fuel, may not qualify for the HPTI scheme. Carbon reductions should focus on non-renewable carbon such as fossil fuels.

ABEL recommends in order to support green methanol /e-fuels / SAF developments, that biogenic CO₂ emissions be excluded from the proposed emission intensity calculation (where the majority of the carbon is utilised in the product), or alternatively that battery limits be defined in such that production gate can be defined as the output of electrolysis hydrogen production.

8. Other than electrolysis, what production processes would meet this emissions intensity threshold now or before 2030?

ABEL recommends excluding reasonable amounts of biogenic carbon emissions. The HPTI could also consider offsetting biogenic emissions with biogenic carbon sequestration.

For biomass-based hydrogen routes, the main source of GHG emissions is the CO₂ resulting from the gasification processes. However, differently from natural gas SMR or coal gasification, the CO₂ emission from biomass gasification is biogenic, therefore does not increase the net amount of atmospheric CO₂.

If bio-carbon is included in emissions calculations, it is difficult to see any other feasible alternatives. Any process relying on CCS is still likely to exceed the emissions intensity threshold due to processing emissions.

9. Please provide feedback on the proposed minimum capacity requirement (equivalent to 10 MW electrolyser)?

The minimum capacity of 10MW should be considered as a bare minimum. ABEL would suggest a multiple industrial electrolyser configuration is required so a higher threshold may be more appropriate eg 50MW+

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?

ABEL believes that equivalent hydrogen production would be an appropriate mechanism.

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.

ABEL suggests geographic correlation be included as a requirement of the HPTI scheme.

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.

ABEL would suggest that additionality be included in the HPTI scheme, noting that the development of renewable power for the BBPF project is currently a critical path activity due to the long timeframes of renewable developments in Tasmania. ABEL intends to acquire

additional renewable power for the project, but this may not be fully available from the first commercial operation date (COD). Additionality promotes further development of renewables in Australia, the alternative would cannibalise existing renewables, potentially causing increased GHG emissions elsewhere.

ABEL agrees that time-matched renewables would be an unnecessary burden for early projects often employing commercially unproven / first of a kind technology.

13. Please provide any feedback on the proposed administrative approach.

ABEL Energy are in agreement with the proposed administrative approach for the scheme.

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?

ABEL recommends excluding biogenic carbon emissions, to allow alternative renewable hydrogen production routes i.e. gasification, pyrolysis etc. However, some approaches such as bio-energy power generation should be excluded, where the carbon is not captured or utilised.

For biomass-based hydrogen routes, the main source of GHG emissions is the CO₂ resulting from the processing. However, differently from natural gas SMR or coal gasification, the CO₂ emission from biomass gasification is biogenic, therefore does not increase the net amount of atmospheric CO₂.

15. The Government may legislate the administrative arrangements in subordinate legislation. Please provide any feedback on this proposed approach.

No comment

16. What obligations should be imposed on potential recipients of the HPTI to ensure the community benefit principles are met?

Recipients should be required to ensure community benefit principles are being met and that local communities are benefiting from the projects over the entire lifecycle.

Projects such as ABEL Energy's in Bell Bay, will strongly benefit the local community by providing economic development and employment in a key regional area in Tasmania for decades to come. In doing so we will create the largest investment in Tasmania since the Hydro Electric Schemes; with up to \$4B in investment, 500+ construction jobs, plus ongoing jobs operating and maintaining the facility with countless downstream small business opportunities. This will develop a forward-looking Tasmanian industry, the production of low carbon liquid fuels and the associated industries it supports, such as new build renewable energy.

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)?

No comment

18. Are there any additional objectives that you consider important? What obligations might support these?

No comment

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?

As a matter of principle, transparency and disclosure requirements should protect intellectual property and commercially sensitive information. In a global and local context, organisations who are leading this transition are at risk of losing competitive advantage to competitors and other entities leveraging this information.

- 20. How should entities proposing to claim the HPTI be required to demonstrate compliance with tax obligations?**
No comment
- 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?**
ABEL accepts this as beneficial to report the amount of credit received. Other items disclosed should include actual vs target carbon emissions and hydrogen production.
- 22. Who should the reporting requirements be imposed on? For example, on the recipient entity, or central reporting through a regulator?**
ABEL recommends a regulator centralise reporting, to allow independent verification. Actual carbon emissions and hydrogen production.
- 23. Please provide feedback on the proposed treatment of the interactions between the HPTI and other forms of Commonwealth, State or foreign government support.**
Early projects need support from all levels of Government to proceed. This includes both financial, infrastructure and non-financial support (eg planning approvals etc). HPTI is production-based support whereas other forms of development stage support are also important to help reach production stage, and should not limit the receipt of HPTI.
- 24. How can the HPTI best leverage other types of support? Please provide examples relevant to your project if possible.**
Pre-production projects will need the assistance of State and Federal Governments through the development phases. Programs such as ARENA's Advancing Renewables Program assist the development of early-stage projects. Foundation projects within Hydrogen Hubs also should not be excluded from other support such as HPTI as they are essential to establishing subsequent hydrogen-based projects. BBPF is the cornerstone project in the Bell Bay hydrogen hub.
- 25. What are the key practical considerations with receiving support through the HPTI and the Hydrogen Headstart program simultaneously?**
ABEL recommends projects receiving Hydrogen Headstart should be ineligible for HPTI as Hydrogen Headstart payments are most likely to exceed the HPTI payment of \$2kg. It would seem unnecessary to administer two schemes to one recipient.
- 26. Are there specific interactions with other support programs that should be considered?**
ARENA Advancing renewables, Low carbon liquid fuels, regional support packages, hydrogen hubs, green shipping corridors.