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Attention: Adrian Gebers

Director
Production Tax Incentives Unit, Corporate and International Tax Division
The Treasury
Langton Crescent, Parkes ACT 2600

Via email: HydrogenProductionTaxIncentive@treasury.gov.au

Re: Hydrogen Production Tax Incentive (HPTI) Submissions July 2024

Dear Sir

Ark Energy Corporation Pty Ltd (**Ark Energy**) is supportive of the HPTI and the critical role it will play in stimulating financial investment in hydrogen production. The introduction of the HPTI marks a significant step in Australia's journey to becoming a competitive global renewable hydrogen user and exporter. Ark Energy was established in 2021 as a subsidiary of Korea Zinc Inc. (**Korea Zinc**) to deliver their decarbonisation ambitions. Since its inception, Ark Energy has grown to become a leading Australian renewable energy company, with interests in wind, solar, energy storage and hydrogen projects.

Ark Energy's flagship green energy export project is the Han- Ho-H2 Hub (**Han-Ho**), which aims to export up to 1.8Mtpa of green ammonia from Queensland to Korea by 2030. Han-Ho is unique in that the project spans the entire supply chain, from green energy generation to ammonia production and export. Having recently completed its Feasibility Study, Han-Ho has progressed into the Early Development stage.

In reviewing the consultation paper, Ark Energy is supportive of the incentive amount, eligibility and end use cases, and carbon emissions threshold. Ark Energy's primary concern is the sunset date which could drive a boom-and-bust cycle for local regions and community over the next six years, similar to as experienced by the LNG industry in Queensland.

Recommendation 1: Extension to Incentive Timing

Ark Energy recommends that projects that take FID by 2030, or even earlier, be eligible for the 10 years without a sunset date as this would deliver superior outcomes for Australia's hydrogen industry while ensuring that large projects do not have significant housing and labour strain on local communities. Our technical partners ThyssenKrupp and Aurecon as well as experience with McIntyre Wind Farm show that construction periods for large-scale wind and complex hydrogen plants take five years at a minimum providing that local labour is available.

The labour supply market is forecast to be exceptionally tight over the coming decade. The extensive build out of hydrogen production infrastructure, coupled with renewable energy

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generation, transmission network upgrades, and other significant construction projects like the 2032 Olympics will contribute to a significant labour supply shortfall.

For these reasons, Ark Energy and its international consortium members consider the risk of schedule delay during construction to be material for large scale projects and mitigating that will be key to reducing the cost of hydrogen available for domestic consumers. This risk will also be closely assessed by associated financial institutions and negatively impact financing ability.

Ark Energy suggests changes to the HPTI timing mechanisms such that projects which reach FID prior to 30 June 2030 but experience lengthy construction periods due to their scale, still receive 10 years of HPTI benefits. If a sunset date is required, Ark Energy recommends FY45 given the forecast construction period of five years. While the incentive timing is Ark Energy's primary concern, there are also recommendations around the indexation and ensuring the competitive second round of Hydrogen Headstart is open to all proponents.

Recommendation 2: Indexation of Incentive Payments

Ark Energy recommends indexation to provide consistency with input operating costs (e.g. labour and raw materials), which will be unavoidably impacted by cost inflation over time. Indexation limits downside risk and ensures the HPTI would provide a realisable commercial benefit given the long-term timeframes considered.

Recommendation 3: Open a second round of Hydrogen Headstart

Ark Energy wants to ensure the second round of the Hydrogen Headstart program is open to all proponents including companies that did not submit for round one. The international hydrogen market conditions have changed since the first round was completed, notably South Korea having launched an auction for clean, hydrogen powered electricity generation in May 2024 for up to 6,500GWh of annual production starting in 2028, with plans for further expansion in the future. Australia is well placed to capitalise on this through delivery of large-scale green hydrogen projects including the Han Ho project.

Yours sincerely

Michael Choi

Chief Executive Officer

Ark Energy

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Incentives

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

   The HPTI incentive will be a key enabler for Ark Energy's Han Ho project, in stimulating the growth of the Hydrogen industry, and at a scale that allows for the cost of hydrogen to reduce for domestic consumption to become viable.

   Treasury should consider the impact on local and regional communities given that a strict sunset date will mean high competition for labour and domestic resources in an already tight labour market. The QLD market specifically, is forecast to be additionally challenged due to the 2032 Olympics infrastructure build out competing with roll out of hydrogen production infrastructure and supporting network infrastructure.

   To mitigate, Ark Energy recommends broadening the HPTI timing to include projects that reach FID by 30 June 2030 or earlier, and removal of the sunset date or alternatively extension to FY45.

2. Please provide any feedback on the proposed eligibility criteria.

   Ark Energy is broadly supportive of the proposed eligibility criteria proposed to maximise the eligibility of green hydrogen projects currently in the pipeline. Ark Energy is supportive of the agnostic approach for the end use i.e. offtake, exports or domestic consumption to maximise the available use cases, noting export projects will be a key driver in reducing the cost of hydrogen that makes domestic consumption and decarbonisation achievable.

   Ark Energy encourages incremental financial support for projects that demonstrate additionality (i.e. building new renewable power generation capacity to supply the hydrogen project), within a timeframe after production commences. Additionality is a key lever to decarbonising Australia's National Electricity Market. Additional generation supply also places downward pressure on wholesale electricity prices. Without additionality, issues could arise with the export of limited generation supply to international markets, akin to the issues faced in the Queensland LNG export industry.

   In terms of additional financial support, feedback from Ark Energy's South Korean partners is that green hydrogen will likely be cheaper from America due to the US$3/kg subsidy available, and that the stricter requirements proposed e.g. hourly time matching, and additionality could be lessened following strong industry feedback prior to the introduction into legislation.

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3. What key factors would need to be accounted for in a definition of an eligible facility for the purposes of the HPTI?

   Ark Energy is supportive of facilities being in Australia, capacity threshold and carbon intensity however as mentioned above welcomes revisions to the eligibility timing. Ark Energy believes that projects which reach FID before June 2030 should qualify for the full ten-year period without a sunset date to allow for the construction of complex renewable generation and production plants at scale. FY45.

4. What key factors would need to be accounted for in a definition of Final Investment Decision (FID) for the purposes of the HPTI?

   Ark Energy is supportive of FID defined as Financial Close with equity or debt funding committed or drawn down for the majority of the project commitments, along with substantive construction commencing.

5. How long do you expect it will take for projects to reach first production following FID?

   Ark Energy have performed detailed studies with tier-one engineering and construction firms, and OEMs to understand the construction timeline. Stretch target construction and commissioning schedules for the hydrogen and ammonia assets are four years, realistically five years and with the expected constrained labour market conditions, could extend to six years.

   Our construction experience on SunHQ, a smaller 1MW electrolysis unit in Townsville, has taken 36 months with the 1MW electrolyser taking 30 months to manufacture and is yet to be delivered.

   Ark Energy notes that many large-scale projects are advertising much quicker durations for projects to achieve operations, however, there are no examples of medium or large-scale projects that have been delivered. With experience on construction a small system and large windfarms Ark Energy cautions how quickly these projects can be constructed and the residual impacts on local and regional communities in an already constrained labour market.

6. For foreign investors, do you currently encounter any impediments to investment in projects that would be eligible?

   Large scale projects that produce green hydrogen at scale will likely require investment from international investors or a formation of consortiums to lower risk exposure. The risk of construction extending beyond schedule, particularly in a constrained labour market, represents the largest risk to project investment and bankability.

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Eligible Production

7. Please provide any feedback on the proposed emissions intensity threshold of 0.6kg of carbon dioxide equivalent up to the production gate.

   Ark Energy believes the threshold provides a workable target for projects sourcing renewable energy, providing the GO scheme maintains exclusions of construction emissions.

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

   Ark Energy is only planning to produce hydrogen via renewable energy and electrolysis.

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

   Ark Energy recommends Treasury consider a lower threshold of 1MW given this size system will help deliver bulk hydrogen for domestic refuelling at scale, however, we believe at this scale the project economics are still challenging and export scale will be required to ensure the domestic industry can affordably meet their decarbonisation objectives.

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?

    Ark Energy is aligned with using equivalent MW basis for simplicity of measurement.

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.

    Ark Energy agree renewable generation should be sourced from the same NEM bidding zone. If renewable generation was sourced from a different bidding zone, it may incentive coal to remain in the energy generation mix.

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.

    Ark Energy encourages additional financial support for projects that demonstrate additionality (i.e. building new renewable power generation capacity to supply hydrogen projects), within a specified timeframe (up to five years) after full production commences. Additionality is a key lever to decarbonising Australia's NEM. Additional generation supply

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also places downward pressure on wholesale electricity prices and without additionality there could be issues raised with exporting existing tight generation supply to international markets, like the Queensland LNG industry faced.

Ark Energy recommend annual time matching, hourly-time matching is too onerous and very few projects will be able to meet these requirements which will also unnecessarily increase the cost of hydrogen.

Administration

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

    Ark Energy has no further submissions.

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?

    Ark Energy has no concerns, providing the GO scheme does not change to include construction emissions in which case the emission intensity threshold would need to be re-assessed.

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

    Ark Energy has no further submissions.

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

    Ark Energy agrees that it is appropriate for community benefit obligations to be imposed on potential recipients and recommends that the expectations and deliverables for these are clearly outlined in guidelines. Ark Energy encourages Treasury to consult with industry once the guidelines are drafted to ensure these obligations do not become barriers to investment or introduce additional risks to construction or operation

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)?

    Ark Energy adopts best practice for community benefit sharing provided by various industry guidelines. It also has agreements per ARENA grant funding for SunHQ and will have obligations under the land reservation agreements with Queensland State Government.

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18. Are there any additional objectives that you consider important? What obligations might support these?
Ark Energy does not have any further submissions

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?

Ark Energy recommend considering the commercial sensitivities around pricing and offtake. Specific terms of binding offtake agreements e.g. prices or indexation if applicable, capacity, term and options etc. will be commercially sensitive and confidential and not able to be disclosed.

20. How should entities proposing to claim the HPTI be required to demonstrate compliance with tax obligations?

Ark Energy does not have any further submissions

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?

Information that could continue to help the industry grow, e.g. learnings, community benefit/engagement, etc.

22. Who should the reporting requirements be imposed on? For example, on the recipient entity, or central reporting through a regulator?

Central reporting through a regulator, information should be de-identified but help incentive further investment and learning in the hydrogen industry.

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.

Ark Energy believes it is appropriate for projects to qualify for multiple sources of support, provided they meet each set of criteria.

24. How can the HPTI best leverage other types of support? Please provide examples relevant to your project if possible.

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The HPTI provides a significant advantage for the operational phase of the project. Hydrogen Headstart will help provide a critical inventive for first mover projects in areas where infrastructure does not yet exist. This will be key to unlocking new areas of development for future proponents and ensure a sustainable, diverse and long-term hydrogen industry in Australia that will benefit multiple regional communities.

25. What are the key practical considerations with receiving support through the HPTI and the Hydrogen Headstart program simultaneously?

The proposal for Hydrogen Headstart round one investment is appropriate given the short-listed projects have already bid in with the identified gap. Support received under Hydrogen Headstart round 2 should stack i.e. be additional to each other.

There is still a significant barrier for first mover projects in undeveloped areas due to the cost of new infrastructure required. The development and construction of infrastructure in these areas is a significant burden on early mover projects. Once the infrastructure is funded all subsequent proponent's benefit. The key objective of Headstart round two should be to fund projects that develop new areas that unlock the potential for future proponents.

26. Are there specific interactions with other support programs that should be considered?

As mentioned above, Ark Energy strongly encourages a competitive second round of assessment for projects to qualify for the Hydrogen Headstart program. The international hydrogen industry has significantly developed since the first round of Hydrogen Headstart was shortlisted in December 2023 with multiple countries including Japan and South Korea completing competitive hydrogen auctions to accelerate their decarbonisation efforts. Australia is a well-established trading partner and Ark Energy's Han Ho project is well placed to support through the ongoing delivery of green hydrogen at scale.