15 August 2022

Transpower
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RE: NZGP Stage 1 Shortlist Consultation

Introduction

Helios appreciates the opportunity to provide commentary on Transpower's Stage 1 investments as part of the Net Zero Grid Pathways programme.

Helios is developing a portfolio of utility-scale solar projects across New Zealand, with over 1,000MWac of projects actively progressing through the development lifecycle. Helios has considerable experience developing utility solar and wind projects in multiple markets, and considerable experience observing investment processes and decision making.

Helios commend Transpower on the structured and comprehensive approach that brings order and logic to a complex problem with considerable permutations and uncertainty.

Response to Questions in the Consultation Document

Question 1: Do you agree with our staged approach to this major capital investment programme?.

Helios recognise supply and demand options change rapidly and a phased approach can "buy time" to allow the market to develop

Helios recommends that Transpower identifies any "no regrets" investments that might detrimentally affect longer term / enabling / foundation investments, recognising that larger projects have longer lead times.

Question 2: Is our approach to NTS reasonable?

Helios believes that the potential for Non Transmission Services is developing quickly, but current technology and economics are likely to limit the capacity and energy duration requirements likely to be required to meet the operational needs of Transpower. Helios supports continued evaluation of options and a counterfactual to traditional transmission technology options.

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Helios encourages Transpower to continue to identify, via its Transmission Planning Report or by other communication to the market, opportunities for alternatives to Transmission across the grid.

Question 3: Is our reduced list of options for enhancing capacity of the HVDC reasonable?

Helios believes the shortlist options are reasonable. Options B1 and B2 (new asset builds) could have tradeoffs where new generation or demand options are restricted if existing transmission was decommissioned as a result of these options being completed. Helios recommends Transpower improves clarity of options that have dependencies, or where one option obviates another.

Question 4: Is our reduced list of options for enhancing capacity of the CNI 220 kV corridor reasonable?

Helios believes the shortlist options are reasonable and would emphasise the need to expedite enhancements of this corridor for the benefit of the entire grid.

Question 5: Is our reduced list of options for enhancing capacity of the Wairakei Ring reasonable?

Yes.

Question 6. Are our scenario weighting sets reasonable?

Helios supports the allocation of weightings across the five scenarios, and is especially supportive of the downweighting of scenarios that are inconsistent with policy and statutory targets.

Helios notes that in all scenarios, Tiwai is assumed to close at the end of the contracted period in 2024. While Transpower has noted that there is no contractual certainty beyond that point, the smelter has been operational for a considerable period and global aluminium markets, like many commodities, are experiencing considerable change. Furthermore, since the consultation document was prepared market announcements have indicated that the owners of Tiwai are seeking longer term energy supply arrangements.

Given the magnitude of Tiwai load, Helios recommends that Transpower is explicit about the impacts that Tiwai remaining has on options. While the MCP will include a Tiwai sensitivity, Helios believes a 'Tiwai remains' scenario be included to understand relative tradeoffs and prioritisation amongst generation options. For example, given the lead time for new lines a Tiwai remains scenario may indicate that new build options, which are currently exhibiting lower net benefits, be prioritised higher (e.g HVDC to 1400MW and new builds in CNI/Wairakei Ring).

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Question 7: Is our shortlist of HVDC and CNI Options reasonable?

Helios supports the approach to enable a wide range of generation options across a variety of technologies, rather than narrowing the focus to a single generation development pathway.

Based on the clear net benefit of the 1400 MW HVDC option, Helios questions why the 1200 MW option would be considered, much less carried forward.

Helios supports the retention of at least one “New Build” line option. We are mindful that there is considerable lead time until the Phase 1 options are considered, and a new build option (assuming it increases additional capacity through the CNI) acts as a useful counterfactual should a very high demand scenario emerge (e.g Disruptive plus Tiwai remaining).

Question 8: Is our shortlist of Wairakei Ring options reasonable?

As per the above, Helios supports retaining new build options as a counterfactual to tactical options given the lead times new projects necessitate, should capacity needs exceed current estimations.

Question 9: Is our choice of the preferred option reasonable?

The consultation document has undertaken a comprehensive assessment of the multitude of options across the HVDC, CNI and Wairakei Ring. However, in seeking to converge on a preferred option, Option 10 and Option 12 exhibit very similar attributes, and involve materially different upgrade projects, against the preferred weighting set. Option 11, while $35m less than Options 10, or 11, is likely to be within uncertainty bounds given the uncertainties in cost estimation and modelling. Helios recommends it be included, and Transpower should provide more explicit commentary on the benefits and constraints of the various options under a broader market lens (Transpower discussed generation and demand diversity, competition previously in the consultation pack).

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Option Set	*Differentiators*	*Comments*
Option 10 (H2, C1, W1)	*TTU WRK-WKM C line*	*2 years consenting and planning + 3 years build*
Option 11 (H2, C1, W4)	*TTU WRK-WKM C line and replace WRK-WKM A Option D5A*	*2 years consenting and planning + 4 years build*
Option 12 (H2, C1, W7)	*Construct a new WRK-WKM D line*	*2 years consenting and planning + 4 years build*

Based on the minor changes in project delivery, further consideration of Option 11 and in particular Option 12 should be given.

Question 10. Is our conclusion that upgrading existing assets is more economic than bypassing the existing grid reasonable?

Yes. Whilst Helios believe that a long-term replacement plan for significant portions of the existing 110kV grid will be appropriate in the future, Transpower's proposed focus on key strategic upgrades will deliver much-needed capacity sooner and more cost-effectively.

Q11. Do you agree that our choice of preferred option is robust against sensitivity analysis?

See comments above in relation to question 9, and earlier comments regarding Tiwai assumptions.

Conclusion

We trust these comments have been useful for Transpower in preparing shortlisted HVDC, CNI and Wairakei Ring options.

Sincerely

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Director

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