TARANAKI VTM PROJECT

RESPONSES ON BEHALF OF TRANS-TASMAN RESOURCES LIMITED TO REQUEST FOR INFORMATION IN MINUTE 20 OF THE EXPERT PANEL

13 November 2025

A. SET-UP STAGE/CAPEX

1. Page xv of the TTR Application states that the Project will deliver "much needed infrastructure investment in Taranaki and Whanganui". Please provide more detail on the infrastructure that you are investing in and why it is needed.

Response from Siecap/TTR: Beyond its direct economic contributions, the project will stimulate critical upgrades and expansion of regional infrastructure — including port facilities, transport networks, and supporting services. In this context, transport networks refer to the coastal shipping systems that enable the efficient movement of materials, equipment, and personnel between the project site, regional ports and supporting industrial areas.

2. The TTR Application has a sub-heading "Port of Taranaki and Whanganui Port Upgrades". Please clarify the nature of these upgrades, and who is paying for them.

Response from Siecap/TTR: Whanganui Port has been identified as a potential operational base for the geotechnical drilling and grade control survey vessel (GSV) and associated project support services. This would require targeted upgrades, including improved berthing and mooring facilities, expanded laydown and staging areas for specialised marine equipment, and the installation of new utilities and support infrastructure to service vessels and crews. These enhancements would not only meet the immediate logistical needs of the TTR project but assist Whanganui Port as a centre for marine operations, research, and coastal industry.

Port Taranaki has the potential to serve as the primary service vessel base for offshore operations, such as the AHT, with the other support vessels similar in scale and function to the support provided to the oil and gas floating production, storage, and offloading (FPSO) facilities that operated off the Taranaki coast. This will necessitate a review of the upgrades potentially required to berthing facilities, fuel and supply handling systems, maintenance and storage areas, and coordination hubs to support the project's marine logistics. Such enhancements will strengthen the port's capability to manage complex offshore service operations, reinforcing its role as a key strategic asset for New Zealand's blue economy.

TTR has identified in Section 14.1 of the PFS that there is a CAPEX component required for the potential Whanganui based support vessel and necessary upgrades.

3. The TTR Application makes one reference to a pilot plant (assumed to be a vanadium recovery pilot plant). It references this in expenditure that has already

occurred to date. The NZIER report lists the pilot plant as a component of the $55m of capital expenditure. Please confirm that the $55m does not include any sunk costs, or if it does, please provide an amended total with sunk costs excluded.

Response from Siecap/TTR: This excludes any sunk costs. Refer to the PFS on the Capital Expenditure.

4. **While operational expenditure is expressed as an annual average, it is not clear what period the capex expenditure ($55m) is spent over. Please provide a breakdown of capex by year and provide GDP and employment impacts attributable to that capex as an annual average for that period.**

Response from Siecap/TTR: The $55M is at the project Definitive Feasibility Stage and setup stage. This is the period from the project kickoff to commencement of offshore operations, expected to be up to 2 -3 years.

5. **Please clarify what the $10.86m of central government expenditure is during the capex (set-up) phase.**

Response from Siecap/TTR: The NZ$10.86M relates to the costs associated with consenting, approvals and mining permit retention.

6. **Please explain how income tax credits (20% of the cost of new assets) associated with $1bn of capital investment, depreciation of those assets and offsetting of historical and on-going exploration and development costs may affect stated corporate tax projections.**

Response from Siecap/TTR: The PFS discounted cash flow model (DCF) has applied end of life (EOL) straight line (SL) depreciation over seven years for the NZ$1bn capital investment with no offset for historical exploration and development costs applied. This has resulted in: No corporate tax payable in year 1; $5.4m in year 2; $53.5m year 3; $54.1m year 4; $54.8m year 5; $55.4m in year 6; $56.1m in year 7 and then $78.5m per year from year 7 to end of mine life.

The application of 20% income tax credits on new asset costs would reduce taxable income and enhance early post-tax cash flows, while depreciation and the offset of exploration and development costs would further lower taxable income in the initial years. However, they do not alter any of the existing financial model inputs or assumptions. Final treatment of this would be confirmed during the Bankable Feasibility Study (BFS) once the capital structure and tax parameters are finalised.

B. TTR DIRECT EMPLOYMENT

7. **The application documents include several different figures for direct employment by TTR if the project goes ahead. Please confirm if the figures in the NZIER report are the figures that should be relied on?**

Response from Siecap/TTR: The NZIER report uses the correct employment figures.

8. **The Application suggests that direct employees will be required for the majority of the requested 35-year consent term. Given that majority of the direct employment is crew of the IMV and FSO, will that component of employment be closely tied to the extraction period?**

   Response from Siecap/TTR: Yes, the majority of the employment will be offshore operational, related to the mining activities.

9. **Please provide a breakdown of direct TTR employment by category (e.g. HQ, IMV/FSO crew, Admin support, training and logistics facility, bunkering etc.) and year (i.e. years 1-35) so that the Panel can understand how employment changes over the term of the consents.**

   Response from Siecap/TTR: A breakdown of marine personnel is provided in Appendix 19.5 of the PFS. Employment of non-marine personnel will include include 6 related to bunkering, 35 related to general and administration and 35 related to head office.

10. **There are some discrepancies between reports describing where TTR staff are expected to come from/live. Please provide your best estimate of how many staff will reside in South Taranaki/Whanganui Districts (local), New Plymouth/Stratford Districts (Rest of Region), and Rest of New Zealand. This should take into account staff that may move to these locations for the duration of their employment but should also recognize the duration of the shifts for offshore boat crew and the effect this may have on where staff may be prepared to travel from. If appropriate (given uncertainty), provide some different scenarios of employment by location.**

    Response from Siecap/TTR: Section 9.1 of the PFS highlights the offshore personnel overview. There would be no restrictions on where crew reside in NZ. Previous Oil and Gas staffing has approx 54% as Taranaki residents. However the project proposes the Hawera training facility to provide local opportunities to train and be employed by TTR. See also the response to question 18 below.

11. **The Social Impact Report uses some very old data (e.g. 2006 census). The employment descriptions in that report do not match information now contained in the TTR application. For example, the Social Impact report expects FIFO/DIDO staff, including from Wellington.**

    (a) **What weight should the Panel give to the Social Impact Report, particularly in relation to employment assessment?**

    Response from Siecap/TTR: The employment assessment in the Social Impact Assessment is accurate in respect of the offshore operations. The main difference is that it was planned to have a Wellington Head Office, which is now proposed to be in New Plymouth.

(b) Are there any specific sections of that report that the Panel should give more or less weight to?

Response from Siecap/TTR: The Social Impact assessment is still relevant, and that is why it has not been updated. One factor to consider is the reduction of higher paid employees in the offshore oil and gas industry.

(c) Why has the source of 'specialist labour' changed between when the Social Impact Report was prepared and the current applications (i.e. to become focused within or near the region). If the project has not materially changed and the locations of relevant experienced labour in New Zealand have not changed, how is TTR now able to obtain sufficient specialist labour from within or near the region?

Response from Siecap/TTR: Refer to RFI Point 12 Response

12. Is the proposed training facility in Hawera a permanent facility, or is it short-term, aimed at assisting with the initial recruitment drive?

Response from Siecap/TTR: The proposed training facility in Hāwera is initially intended to support the start-up phase of operations, focusing on the recruitment, induction, and upskilling of personnel required for the project's commencement. However, the longer-term vision is for the facility to become a centre of excellence for ongoing training and workforce development. It would continue to provide specialised courses and certifications for the offshore and extractive industries, supporting both operational readiness and sustained workforce capability in the region. This approach ensures that the investment made in the training infrastructure delivers enduring benefits beyond the initial recruitment drive, helping to build local expertise and resilience in these industries.

13. Please provide some comment on how feasible it will be to secure and/or train sufficient specialist crew for the IMV/FSO in the time frame needed? What is the contingency if recruitment of an indicative 173 crew is taking longer?

Response from Siecap/TTR: Securing and training the specialist crew required for the IMV/FSO is feasible within the project timeframe, provided a structured recruitment and training plan is implemented early. Many of the roles, particularly industrial and technical positions, require only STCW Basic Safety certification combined with company-specific or equipment-specific training, which can typically be completed within 4–10 weeks. Key operational and marine positions will require certified officers and engineers, for which experienced personnel are available in the regional and international labour market, though lead times may be longer. To mitigate the risk of delays in assembling the indicative 173-person crew, a contingency plan will be implemented that includes prioritising critical roles, utilising phased mobilisation, engaging experienced contractors or short-term secondees, and overlapping training with early crew induction to ensure vessel readiness is not compromised.

14. Under qualified economic benefits, the Application states that the Project has the potential to "offset the lower than average household incomes currently experienced in the local and wider areas" (page 128). How does this statement reconcile with the level of TTR staff anticipated at the local and regional level (relative to total employment), and the roles of those staff? Is the shift in household incomes at the local and regional level attributable the Project likely to be a negligible, minor, or a significant shift in your view?

Response from Siecap/TTR: Based on the PFS (Table 26) and the NZIER assessment, the Project's direct labour costs are approximately NZ$53 million per year, representing a substantial injection of high-value wages into the local and regional economy. Although the total number of TTR staff is small relative to overall regional employment, the roles are well-paid, technical positions that are significantly above the current average household income in South Taranaki and Whanganui. As a result, the Project would have a locally significant uplift in household incomes for the communities where many employees are likely to live and spend their earnings, and a moderate but meaningful regional effect once indirect and induced economic activity is taken into account.

C. OPERATIONAL STAGE/OPEX

15. It appears that the total cost of intermediate fuel oil is run through the IO model. Please explain why the wholesale margin only has not been used in the model. If this was in error, please provide updated results (undiscounted and discounted, including as amended by any other changes arising from this RFI).

NZIER's response: As explained in the NZIER EIA report, the economic impact of the Project's mining operation estimated by the IO modelling approach captures the benefits only from the level of operational and economic activities within the current structure of the local, regional and national economies. That is, the IO analysis is underpinned by the level of activities and the structure of the economy, not the prices of inputs like the IFO 380 fuel used for bunkering. Therefore, our IO modelling only includes the operational activity involved in fuel bunkering (the six FTEs employed by New Zealand-based third-party bunker fuel supplier and the associated expenditure). The impact of the cost of IFO fuel is recognised only through our analysis of the Project's contribution to royalties and tax to the Crown.

16. Please confirm what OPEX in Table 7 relates to wages and salaries paid by TTR to its employees and what component supports goods/services purchased from independent businesses. Please set out in a table (expanding on Table 7).

Response from Siecap/TTR: All of the labour costs included in the OPEX are for wages and salaries that will be paid by TTR to its employees – per Table 26 of the PFS.

17. If wages and salaries have been run through the model as if they were expenditure on businesses in each sector, please comment on whether this inflates economic impacts of that wage and salary expenditure by capturing all business costs (intermediate inputs etc.) of those sectors.

NZIER's response: Wages are not used as an input into the model. Business expenditure is increased based on TTRL's estimates of what resources are required to produce their required inputs. In short, expenditure for cost of production is treated as output for each of the inputting industries.

Estimating income multipliers would show how income is impacted from the production of additional resources. We do not include income multipliers in this analysis as it was inconsistent with previous work from Martin Jenkins.

Please note all sub-regional, and regional location quotients (i.e. how effective the industry is) are calculated based on the waged and salaried employees for each ANZSIC group, building into IO industries based on publicly available concordances from Stats NZ's Input-Output tables.

18. **Please confirm if the direct employment results in the IO model outputs include TTR's employment in each locality or is additional.**

NZIER's response: Several of the direct employment values have been provided by TTRL at a sub-regional, regional and national level. Where this is not available, the IO multipliers estimate on the average required waged and salaried employment per unit output. So the results include TTR's employment estimates, and are not additional.

Industry	Number of jobs		
	South Taranaki/ Whanganui	Taranaki region/Whanganui	New Zealand
Exploration and other mining support services	52	173	173
Basic material wholesaling	0	6	6
Other transport	14	50	50
Scientific, architectural and technical Services	4	4	4
Legal and accounting services	7	35	35
Advertising, market research and management services	0	35	35
Total	**77**	**303**	**303**

19. **Please confirm if the modelling assumes that indirect and induced impacts arising from the direct expenditure occur in the same locality as the direct spending, or is the model multi-regional and accounts for expenditure that occurs throughout New Zealand (e.g., households spend locally, regionally and in the rest of New Zealand, including when travelling domestically and businesses purchase insurance or electricity from business that are not based in the region etc.).**

NZIER's response: Yes, each region is treated as a separate economy – so increasing expenditure at the sub-region will only affect the sub-region.

20. **Sensitivity testing of export revenue and royalty payments: NZIER shows only one variable changed at a time. Please calculate a worst and best case scenario for revenue, royalty and corporate tax contributions when the variables are applied in combination. Include any commentary for those scenarios that you think is relevant.**

NZIER's response: As requested, NZIER has undertaken additional sensitivity testing of export revenue, royalty payments and corporate tax contribution when the worst-case and best-case values of NZD/USD exchange rate, iron ore price and IFO 380 price are applied in combination, based on the minimum and maximum values in the historic data series presented in Figure 1, Figure 2 and Figure 3 of the NZIER EIA report). The table below list the values applied to the worst case, most likely case (i.e. the results presented in the NZIER EIA report) and the best case scenarios:

	Worst case	Most likely case	Best case
NZD/USD exchange rate	US$0.76	US$0.58	US$0.57
Iron ore price (US$ per metric ton)	$41	US$90	US$216
IFO 380 price (US$ per tonne)	$680	US$462	US$349

We calculated the per annum results for each scenario as below:

	Worst case	Most likely case	Best case
Annual export earnings (NZD $million)	$375	$854	$1,804
Annual royalty payments (NZD $million)	$7 - $11	$36 - $54	$132 - $150
Annual corporate tax contribution (NZD $million)	$0 (the start-up phase) - $29	$91 to $136	$333 to $379

Using a discount rate at 8 percent, we calculate the 20-year NPVs of each scenario's export earnings, royalty payments and corporate tax as below:

	Worst case	Most likely case	Best case
Export earnings (NZD $million)	$3,678	$8,389	$17,715
Royalty payments (NZD $million)	$91	$443	$1,386
Corporate tax contribution (NZD $million)	$132	$1,117	$3,492

The primary factor resulting in this large variability in the sensitivity testing results above is the high volatility in iron ore prices. This is consistent with the findings in the NZIER report, which had illustrated that export earnings, royalty payments and corporate tax contribution from the Project are more sensitive to volatility in iron ore prices than to the exchange rate or price of IFO 380.

21. **NZIER provides contextual analysis of the scale of TTR's modelled annual export value relative to other commodity exports. Please explain how increasing New Zealand's exports contributes to economic wellbeing (i.e. is a benefit) over and above benefits derived from GDP and employment impacts already modelled?**

NZIER's response: The economic impacts modelled by the IO approach reflect the expenditure and labour required in New Zealand to carry out the activities for the Project, and from those, the flow-on impact on the supporting industries and the wider economy. Therefore, the inputs into our IO modelling only includes direct expenditure and employment of those activities and estimates how they flow through to the supporting industries and broader economic activity at the local, regional and national levels.

The increased export earnings estimated in section 4 of the NZIER EIA report are based on export revenue generated from the Project's mining extraction output, which are directly affected by the price and the exchange rate at which the outputs produced are traded in the global markets. Those export earnings are **in addition** to the benefits estimated by the IO model.

In New Zealand's strategic context, export earnings from the Project will contribute to New Zealand's export growth and lift New Zealand's export portfolio. In supporting the Government's broader goal of doubling New Zealand's value of exports in January 2025, the Government (MBIE) has released a *Minerals Strategy for New Zealand to 2040,* with the goal to double New Zealand's value mineral exports to $3 billion per annum by 2035. The estimated export earnings of $854 million per annum from the Project will be a sizeable contribution to this goal.

Increasing export earnings from the Project will help industry diversification in the regional and national economies, which supports economic development and resilience to external shocks. Growth in minerals export will also help attract investment

into infrastructure and technologies for the mining and other related industries, which will support long-term economic development.

22. **Mr Thompson (Siecap) states in response to Ms Cooper that concerns around the cost and feasibility of vanadium and titanium processing is irrelevant as the processing and recovery costs for vanadium and titanium are "entirely out of scope". While we understand that any downstream processing will not be in New Zealand or form part of the consent applications in New Zealand, please provide additional explanation on how the revenue from (and royalties for) vanadium is assured from year 1 of extraction onwards (as assumed by NZIER).**

Response from Siecap/TTR: Revenue and royalties can be secured from year one through binding offtake agreements. These contracts define pricing, ownership, and payment obligations, while royalties are calculated and collected in accordance with the Crown Minerals Act.

Binding offtake agreements for vanadium and titanomagnetite projects demonstrate that revenue can be secured from the outset of production. There are multiple examples globally and include Neometals' agreement with Glencore, TNG Limited's life-of-mine agreements with DKSH (TiO2) and WOOJIN for Mount Peake V_2O_5, These agreements typically define pricing, volumes, and quality specifications, providing both producers and offtakers with certainty over revenue flows and enabling enforceable royalty payments, even where downstream processing occurs offshore.

23. **Please provide further explanation as to why the potential revenue from TiO2 is not included in the export revenue, royalty and tax calculations. If it was included, how would this change the economic contributions from corporate tax and royalties under NZIER's modelling assumptions?**

Response from Siecap/TTR: The selling price is incorporated within the contracted Vanadium and Titanium processing plant, meaning that all downstream processing costs—including construction CAPEX and operational OPEX—are effectively covered by the processor, who accounts for TiO_2 as a total credit and the Vandium as a 50% credit. Consequently, these costs do not need to be included in the project's DCF, as the financial model only captures the net cash flows accruing to the New Zealand operation from the sale of vanadium and titanomagnetite to the contracted plant.

24. **Can NZIER please address the Parliamentary Commissioner for the Environment's comment that only direct GDP and employment impacts should be used at the national level?"**

NZIER's response: We noted the Parliamentary Commissioner's comment that the regional IO model used in the NZIER EIA overestimates the economic impact at the national level as the approach does not account for resource constraints and price impacts. We had also acknowledged the limitations with the IO model in the NZIER EIA report.

The Parliamentary Commissioner suggested that CGE modelling would provide a more accurate estimate of the Project's economic impact at the national level given it accounts for those limitations, and the estimated national-level impacts from CGE modelling would be much closer to the national-level direct impacts. In the absence of undertaking CGE modelling, the Parliamentary Commissioner recommended using only direct GDP and employment impacts at the national level to avoid overestimation.

We acknowledge the approach recommended by the PCE is a conservative approach. However, this approach would not be fit for purpose for the scope of NZIER's EIA. The objective of the EIA is to assess how operational and economic activities of the Project will flow through to the supporting industries, and in turn what they mean for broader economic activity at the local, regional and national levels.

The approach recommended by the PCE assumes the Project's economic impact at the national level will only be the marginal impact of the Project's activities directly involved in its mining operation and not include the 'flow through' effects as are provided for in the NZEIR EIA.

25. Please quantify the net increase in labour productivity at a regional and national level from the Project, guided by the approach set out by the Parliamentary Commission for the Environment's comment. Specifically, please consider if the mining sector employment is limited to those on the two vessels (170 FTES as used by the commentor) or includes all direct employees of TTR (or some figure in between). Please set out any limitations, assumptions and implications for those calculations.

NZIER's response: To quantify the full net increase in labour productivity at the regional and national level from the Project, we consider it most appropriate to include all direct employment by TTR, excluding the six FTEs for bunkering employed by TTR's third-party bunker fuel supplier based in New Plymouth. This gives a total of 297 direct FTEs.

Assuming that all direct FTEs employed by TTR will be in the Taranaki/ Whanganui region, and applying the average GDP per filled job of $377,446 as provided in the Parliamentary Commissioner submission, the direct FTEs employed by TTR in the region would generate an additional GDP of $112 million per annum in 2024-dollar value. Applying an 8 percent discount rate, we calculate the 20-year NPV of the Project's cumulative GDP contribution from its labour productivity impact as $1.1 billion. Under this approach, all direct employment by the Project will occur in the region, so the national-level impact would be the same as the regional-level impact.

Given the scope of NZIER's EIA, we do not consider the approach recommended by the Parliamentary Commissioner fit for purpose. While it is conservative, it ignores the flow-on impact on the supporting industries and in turn the impact on broader economic activity. The approach recommended by PCE assumes the regional and national-level impacts will only be the marginal value-add from the Project's direct employment.

26. Please quantify the one-off release of carbon from the mining operations using the approach recommended by the Parliamentary Commissioner for the Environment

in their comment. This should be on an annual basis taking into account the seabed area mined per annum. Please show results as an annual average, and cumulatively without and with the appropriate environmental discounting. We note that the relevance of this matter is being considered in the legal hearing. This request is made in the event that it is determined to be relevant.

NZIER's response: We cannot quantify this potential environmental impact economically in the absence of an estimate of the amount of carbon that will be released. No such estimate is presently available and we are advised by TTR that it is not feasible to derive such an estimate within the current time-frames.

27. **What storage capacity is there between the IMV and FSO to account for export shipping delays (which are becoming increasingly problematic for export logistics in New Zealand)? Would shipping delays close to the time that the FSOi s full require a halt in extraction? Have shipping delays been factored into the 71% active mining assumptions each year?**

Response from Siecap/TTR: The hoppers on the IMV are sized to hold approximately 32,000 tonnes, providing sufficient buffer capacity while the FSO, which holds around 60,000 tonnes of concentrate, sails to offload and returns to the IMV. This storage arrangement allows for normal shipping cycle continuity, as detailed in Section 9 of the PFS. The Cape-sized bulk carriers would operate under a dedicated shipping charter rather than spot or voyage charters, thereby minimising exposure to the higher delay risks typically associated with spot market logistics.

In the event of extended shipping delays beyond the standard turnaround cycle, production rates may be temporarily adjusted to align with available storage capacity. However, such occurrences are not expected to materially impact operations, as the 71% active mining availability assumption already incorporates allowances for potential shipping and logistical delays.

D. LIMITATIONS OF IO MODELLING

28. **While the limitations of IO modelling are well set out, and NZIER maintains that the model is fit for purpose, please address the potential implications of those limitations on the results of the modelling.**

As set out in the report there are several key caveats with using IO multipliers. These are:

- Fixed Technical Coefficients – this means the proportions of inputs required to produce outputs are constant. As a result, changes in technology or substitutions possible are ignored
- No price or supply constraints – the model operates on a 'quantity basis and doesn't account for changes in prices or supply constraints. Employment and capital is considered abundant and doesn't get reallocated from other areas
- Static framework – the model is at a single point in time and doesn't show dynamic effects of capital accumulation

- Homogeneity of industry – each industry is assumed equal productivity; it doesn't capture that firms within the same industry may be more or less productive.

While acknowledging these limitations, we consider the IO modelling approach is fit for purpose for capturing how the Project's operational and economic activities will flow through to the supporting industries and broader economy. Given most of the Project's direct expenditure and employment in New Zealand will be in the region, we consider the implications of those limitations of the IO model on our estimated impacts are small.