Taranaki VTM Report – Economic Review





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Report author(s): Douglas Fairgray

Director

doug@me.co.nz

Mobile: 021 579 786

Maggie Hong Senior Analyst

maggie@me.co.nz

www.me.co.nz

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1 Introduction

1.1 Objective

This Report is a review of the economic impact assessment of the proposed Taranaki VTM Project for iron sand mining in the South Taranaki Bight. The economic impact assessment (EIA) was prepared by NZIER.

1.2 Approach

Market Economics Ltd has examined the EIA, and the Project report prepared by Trans-Tasman Resources (TTR). The Project Report contains a summary of the EIA, which is presented in full as Attachment 2.

We have considered:

- a. the <u>economic impact analysis</u>, which estimates the effect of the iron sand mining operation on local, regional and national economies, measured by standard economic indicators (output, value added/GDP, and employment).
- b. the <u>scope</u> of the EIA, having regard to the range of effects identified in the VTM Project Report. While NZIER's assessment focused on the impacts of VTM expenditure through the economy, the main Report also identifies effects on sedimentation and water quality, coastal processes, benthic ecology, primary productivity, fished species, seabirds, marine mammals, noise, human health (from marine discharge), visual impacts, seascape, natural character, air quality, and existing interests.
- c. whether the Project will deliver <u>significant economic benefits</u> to the region, which is a key matter under Section.22(2)(a)(iv) of the Fast-track Approvals Act 2024, including an assessment of proportionality of effects under Section 85(3) of the Act.

2 Assessment

This section addresses the three matters – the economic impact analysis as undertaken, the scope of that analysis, and whether the Project is likely to deliver significant economic benefits.

2.1 Economic Impact Analysis

The first matter is the economic impact analysis per se.

2.1.1 Standard I-O Approach

The EIA employs a standard input-output (I-O) model, to examine how capital investment and ongoing mining operational expenditure can be expected to flow through the economy.

This methodology quantifies the direct project spending, indirect supply chain effects and flow-on impacts at both regional and national levels.

NZIER's application of the model first identifies direct expenditures by sector and location, then applies appropriate multipliers to estimate indirect (supply-chain) and induced (wage-spending) effects - a sound approach given how economic impacts vary across different sectors and geographic areas.

2.1.2 Direct and Total Impacts

Without detailed sector- and location-specific expenditure data, it is not possible to cross-check the modelled inputs. However, in our view, the estimated capital and operational expenditures appear reasonable and plausible.

The multiplier analysis follows standard practice and is appropriate. The multipliers used to calculate the indirect and induced impacts on the economy are well-founded, and the resulting total impact estimates are reasonable and plausible.

2.1.3 Impacts over time

The EIA does not identify cumulative impacts over time, focusing on the annual impacts in the Proposal's operational phase assuming 20 years of extraction.

2.1.4 Geography

The direct and flow-on effects of the project can be expected to benefit both the Taranaki and Whanganui-Manawatu regions (regional council areas). On that basis, we consider it appropriate to evaluate the combined impacts on the broader Taranaki-Whanganui regions. NZIER's method for estimating this combined regional effect is sound and provides a sufficiently accurate assessment.

2.1.5 Significance in the economy

The EIA does not specifically provide a view as to the significance of the Proposal in the economy. However, it does provide estimates of the economic impact, in relation to the total size of the local and regional economy, and the national economy, and it is a short step to utilise that information¹ to indicate that its annual operation would represent an addition of 0.34% to GDP in the south Taranaki-Whanganui area, and an addition of 0.87% to GDP in the Taranaki-Whanganui region. It would be an addition of 0.07% to New Zealand's GDP.

¹ Table 9 (p12), Table 11(p12), Table 13 (p13).

The Project Report draws on the information in Attachment 2 stating "as it will provide both national and regional benefits by significantly increasing New Zealand's and the Taranaki and Manawatu - Whanganui Regions' Gross Domestic Product ("GDP") and employments numbers "². It does not detail whether the conclusion of "significantly increasing" is based on the dollar values, or the economic impacts as a share of the total GDP in Taranaki-Whanganui, or New Zealand. We have noted the focus on annual impacts, as distinct from a cumulative impact from the additional economic activity occurring each year for 20 years.

We consider that although the GDP impact may appear small in percentage terms, the estimates of an annual contribution of \$221.76m at regional level (around \$4,435m over 20 years, undiscounted), and \$265.24m at national level (around \$5,304m over 20 years, undiscounted) does represent a significant economic impact.

2.1.6 Impact vs Benefit

The Project Report appears to conflate economic impact with economic benefit. The distinction between these terms is important, particularly in the context of the legislative framework for assessing referrals.

Under the Fast-track Approvals Act 2024, Section 22 - Criteria for assessing referral application (s22(1)(a) states that:

s22(1)(a): "the project is an infrastructure or development project that would have significant regional or national benefits;"

and allows the Minister to consider under s22(2)(a)(iv):

"(a) whether the project ... (iv) will deliver significant economic benefits."

We note the clause 22 provisions apply only to referral applications. However, we have drawn on those provisions as guidance here, as they refer to regional and national benefits, and economic benefits, which are an important aspect of project appraisal generally.

In the economic literature, a clear distinction is made between economic impact and economic benefit. Economic impact reflects the gross scale of economic activity generated — such as spending, wages, and output — whereas economic benefit refers to positive outcomes for wellbeing or economic efficiency, such as enhanced employment, productivity gains, or improved access to services.

Importantly, neither economic impacts nor economic benefits are necessarily net of costs. For example, economic impact assessments may report large activity figures (e.g., capital expenditure or job creation), but these do not account for what activity is displaced, whether the resources are used efficiently, or whether they generate lasting gains. Similarly, while benefits such as increased employment or income may be identified, they are not considered net economic benefits unless they exceed the associated costs or opportunity costs.

For example, operating costs and wages are necessary production inputs. While wages contribute to household income, they are not automatically considered economic benefits unless they lead to improved employment outcomes or broader social wellbeing.

On this basis, it is important to make clear distinction between:

- a. the **economic impact** of the proposal, which is what the NZIER report has examined. That is limited to consideration of the proposal as an operating entity in the economy in terms of output, employment and contribution to value added, but does not extend beyond those matters.
- b. The **gross economic benefit** of the project. This is the benefit component arising from the economic impact. This is a lesser value than the economic impact, since not all of that impact equates to actual

² Project Report at p1

benefits for people and the economy. Realising that impact incurs costs in resources and peoples' time and effort.

c. The **net economic benefit**. This is generally the gross economic benefit less the economic costs of the project. That determination of the net benefit, taking relevant matters into account, is a key part of the Panel's work. In this regard, we also note the decision of the Environment Court in the Okura Holdings Ltd appeal (2019) which held that:

In terms of benefits and costs, we find that the **non-market costs of the effects** of the OHL development on the biophysical environment at Okura (including landscapes, avifauna, freshwater and marine ecology) should be taken into account **in the overall economic evaluation** of the proposed development. This approach is consistent with the findings of the Court in the TKC Holdings case referred to in the Council's opening legal submissions.³ (emphasis added).

2.1.7 Caveats

The EIA has been prepared on the basis that the Project will proceed as indicated, and remain in operation for 30 years. It also assumes that the operation is successful in all aspects, particularly the movement and operation of iron sand vessels, and onshore facilities. The EIA Report does not allow for any different outcomes from the project, with the iron sand extraction and export continuing for some 30 years.

In particular, it does not allow for potential costs of any interruptions to the operation, for example through mishap to the dredging/mining equipment, or the vessels themselves. Although it is reasonable to assume that the operation would very likely continue without major mishap throughout the period, it is pertinent to at least indicate a range of magnitude for the effects of a mishap, in the seascape of the South Taranaki Bight, or on the shoreline of the Bight.

The RMA defines effect as any positive or adverse effect (3(a)) and includes any potential effect of low probability which has a high potential impact (3(f)).

In the NZIER Report, there is no mention of adverse effects.

2.1.8 EIA Findings

We consider that the economic impacts of the Proposal reported in the NZIER report are an accurate representation of how the Project can be expected to affect activity in the Taranaki-Whanganui regional economy, and the national economy. This is in terms of the impacts of the estimated Project expenditure.

We note the EIA does not specifically estimate the <u>benefits</u> of the Proposal, although from the estimates of economic impact we consider the benefits would be substantial.

The EIA does not draw information from the Project Report to consider in the economic assessment any effects other than those from the mining operation, including possible adverse effects from the Project.

It does not consider an outcome other than the successful operation of the proposed mining activity occurring without significant mishap which may give rise to adverse effects, including effects on the biophysical environment.

³ Decision No. [2018] NZEnvC 78

2.2 Scope of the EIA

The second matter to be addressed is the scope of the NZIER economic assessment, with regard to the range of effects identified in the VTM Project Report.

The main Project Report identifies that there will be a range of impacts, particular on the marine environment. including the impact on sedimentation and water quality, coastal processes, benthic ecology and primary productivity, fished species, seabirds, marine mammals, noise, human health (from marine discharge), visual, seascape, natural character, air quality, and 'Existing interests'.

The NZIER assessment is limited to the impacts of the expenditure of the VTM project through the economy, which would arise from the mining operation and the associated shipping activity. It does not consider the other effects identified.

2.2.1 Economic Assessment

An important issue is that economics is concerned with the relative benefits and costs, of policies, actions, and so on. An economic assessment typically examines the benefits and costs of relevant matters. It is defined by the nature of the assessment, rather than the subject matter. Accordingly, an economic assessment to examine relative benefits and costs of a Proposal, may encompass environmental, social and cultural aspects, and is not limited to matters which may be monetised, and shown in dollar terms.

This holistic assessment approach is consistent with the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), which provides for the sustainable management of natural resources in the EEZ and continental shelf. Section 10 (Purpose) states that:

"The purpose of this Act is to promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf."

It goes on to define sustainable management as including the obligation to:

"avoid, remedy, or mitigate any adverse effects of activities on the environment."

Under Section 59(2), when considering an application for a marine consent, the decision-maker must have regard to a range of factors, including:

- s 59(2)(a): "any effects on the environment or existing interests of allowing the activity"
- s 59(2)(b): "the effects on the environment or existing interests of other activities undertaken in the area"
- s 59(2)(c): "the effects on the environment or existing interests of other activities that may be undertaken in the area at a later time"
- s 59(2)(d): "the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity"
- s 59(2)(f): "the economic benefit to New Zealand of allowing the activity"
- s 59(2)(h): "the nature of the environment that may be affected by the activity and the significance of those effects

This statutory framework ensures that economic impacts—such as GDP and employment contributions quantified in this assessment—are considered alongside environmental effects, including potential impacts on marine ecosystems, sedimentation processes, and other matters identified in the Project Report.

The 'economy' is holistic in that it encompasses (is encompassed by) the biophysical environment, and social and cultural matters, and all aspects of economic activity (people activity, typically as businesses and households) within it. Accordingly, the extent of an economic assessment of a policy or proposal should encompass the positive and negative effects which are material to an outcome or a decision.

Although an 'economic assessment' is in some instances identified as applying only to business activity or other aspects of people activity, its scope is broader than consideration of just monetary benefits and costs, and it includes social, cultural and environmental effects.

This is important because it means that the positive and negative effects of the VTM on those other matters would normally be part of a broader economic assessment even if not monetised, including because such effects may influence peoples' wellbeing and behaviours and therefore influence economic activity.

One matter is the <u>materiality</u> of those effects, and whether such effects might influence the overall findings of the economic assessment. However, in our view it is important to identify those effects, and set out why they have not been included in the economic assessment.

On that basis, the NZIER economic impact assessment is incomplete. The other effects identified in the Project report are not considered in the NZIER EIA. That would commonly be done through a cost and benefit analysis, or equivalent evaluation framework which would draw the costs and benefits into one place for comparison. This reflects a common approach in project assessment, to examine the nature of the project, identify the likely effects (environmental, social and so on) and undertake specific technical assessments of those effects to understand their significance. The technical/specialist assessment of effects is commonly the first step, with a second step to consider how those effects may be expected to have impact more widely across a community and economy, to consider them individually and in combination, and to evaluate whether or not those effects would likely be material to the community and the economy.

Moreover, the Act sets out a broader framework for assessment in s85 and the matter of Proportionality.

2.3 Significant Economic Benefits

The third matter addressed is the criteria for assessment, and the framework in which that assessment occurs.

The legislation S.22(2)(a)(iv) sets the criteria for assessment, of which the critical question of whether the project will deliver significant economic benefits to the region. It also considers whether (b) referring the project to the fast-track approvals process (i) would facilitate the project, including by enabling it to be processed in a more timely and cost-effective way than under normal processes; and (ii) is unlikely to materially affect the efficient operation of the FastTrack approvals process.

We have examined the likely significance of the proposed project within the regional and national economies, in terms of additional GDP and income, and employment. We have also addressed the question of the extent to which the economic impact may be considered a benefit.

If the sole criterion in S22 were to meet the test of significant economic benefit, the Proposal would do that. The limitation is that in the economic assessment, other effects including adverse effects were not included, and as an economic assessment the EIA is not complete. That conclusion would apply in a standard cost and benefit framework such as RMA s32.

However, the legislation does not have an evaluation framework based on direct comparison of costs and benefits, and instead evaluation occurs according to proportionality.

2.3.1 Proportionality

The Act sets out the evaluation structure in terms of conditions for a panel to decline an approval, in s85, clause 3.

s85 When panel must or may decline approvals.

(3) A panel may decline an approval if, in complying with section 81(2), the panel forms the view that—

(a) there are 1 or more adverse impacts in relation to the approval sought; and

(b) those adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits that the panel has considered under section 81(4), even after taking into account—

(i) any conditions that the panel may set in relation to those adverse impacts; and

(ii) any conditions or modifications that the applicant may agree to or propose to avoid, remedy, mitigate, offset, or compensate for those adverse impacts.

The critical evaluation structure in the Act is in terms of whether "those adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits". s85 is the only evaluation structure in the legislation, and the Act contains no reference to cost and benefit analysis or equivalent. The term "out of proportion" is not defined.

s85 is the replacement structure for cost and benefit analysis. The underlying arithmetic in cost and benefit analysis is whether costs outweigh benefits or *vice versa*, by direct comparison. The criterion in s85 is whether adverse effects and benefits are seen to "be out of proportion".

That structure provides wide scope for interpretation. This means that adverse effects may outweigh regional or national benefits without necessarily providing a rationale to decline an application. While adverse effects may be relatively minor compared to regional or national benefits, decision-makers may still consider whether those effects are acceptable in the context of the affected environment and the purpose of the EEZ Act, including the requirement to avoid, remedy, or mitigate adverse effects where practicable.

The Project Report concludes that "the Project is expected to generate substantial economic benefits whether that is viewed at a regional or national scale. Those benefits (as addressed in Section 5.1 of this IA) are so large that it is in fact the benefits that are out of proportion (i.e. far exceed) the adverse impacts of the Project.⁴"

The nature of s85 is such that it is difficult to challenge what is in effect a qualitative assessment of whether adverse effects are "out of proportion" to benefits.

3 Conclusions

The economic assessment of the Taranaki VTM Project, conducted by NZIER using standard input-output methodology, demonstrates significant potential economic impacts. The analysis appropriately quantifies direct, indirect and induced effects, showing annual contributions of 0.34% to South Taranaki-Whanganui's GDP, 0.87% to the broader Taranaki-Whanganui region, and 0.07% nationally. These translate to substantial absolute benefits (\$222 million regionally and \$265 million annually) with cumulative impacts exceeding \$4.4 billion (regional) and \$5.3 billion (national) over 20 years.

While NZIER's expenditure-focused assessment follows conventional practice and provides credible impact estimates, it does not fully evaluate broader economic benefits (as distinct from impacts) or account for potential adverse environmental/social effects identified in the Project Report. The Proposal meets the legislative threshold for "significant economic benefits" under Section 22(2)(a)(iv) of the Fast-track Approvals Act 2024, but the proportionality assessment under Section 85(3) remains qualitative, lacking quantification of risks like marine ecosystem disruption or operational contingencies.

⁴ Project Report p361