Peer Review: Matakanui Gold FTAA

Report for Otago Regional Council

November, 2025

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Background

Overview

I have been asked by Otago Regional Council to review documents submitted as part of an application under the Fast-Track Approvals Act 2024.

The documents include two reports

1. Bendigo-Ophir Gold Project Socioeconomic Baseline Assessment, dated 3 May 2024 and authored by Rationale; and
2. Economic impacts of the Bendigo-Ophir Gold Project, date October 2025 and authored by Benje Patterson.

Otago Regional Council have specified the peer review be structured to answer two specific questions:

1. Has the applicant utilised a correct/appropriate methodology to determine the economic benefits of the proposal, and are the stated economic benefits likely to be accurate?
2. Do the economic benefits constitute 'significant regional or national benefits', and why?

About the project

The report describes the project in the following manner:

> "The Bendigo-Ophir (BOGP) Gold Project (BOGP or "the Project") is being developed by Santana Minerals Limited (NZ subsidiary Matakanui Gold Ltd) and is in exploration and resource development phase. The Project is located in the Central Otago region in New Zealand, near Cromwell."

Summary

1.a Has the applicant utilised correct/appropriate methodology to determine the economic benefits of the proposal?

- The applicant has used an economic impact assessment. This methodology is consistent with and meets the requirements of the FTAA to assess benefits
- This method differs from a cost benefit analysis that allows for a richer assessment of the net benefits of a project or policy. That might help a panel form a view about the relative costs of adverse effects they may identify. But this is not required by the FTAA.
- Within the economic assessment, the approach is generally reasonable: using the financial information provided by the operation of the mine to construct measures of economic benefits over time.

1.b ..are the stated economic benefits likely to be accurate?"

- There are some important reasons why the stated economic benefits are not accurate and likely to be overstated:
    - Gross National Income is likely to be a better measure of national economic benefits. Impacts measured with GNI will be smaller. How much smaller is difficult to say because GNI is harder to measure than GDP. GNI is also not avaialable at a regional level.
    - The economic impact assessment uses multipliers and input-output tables to complement direct impact measures with indirect and induced impact measures.
- These indirect and induced impacts are uncertain and likely overstate the impacts. However, direct impacts comprise over 80 percent of total impacts.
- The report makes adjustments for inflation, but should discount future national benefits. This reduces estimates of national benefits by a little under 50 percent.
- There are some minor questions about parameter choices that could improve the report and accuracy of estimates.
- Some parameter choices are conservative and understate estimates of benefits by about 25 percent. These include the price of gold and the exchange rate.

2. Do the economic benefits constitute 'significant regional or national benefits'?

- 'Signficant national and regional benefits' is not defined in the FTAA, but implies importance and impacts that can be idenfited as different to the status quo.
- I draw on the economics literature and the use of national signficance in the Infrastructure Priorities Programme and earlier legislation associated with the Oversees Investment Office to help assess regional and national signficance.
- The type of economic benefits asserted in the report – including economic activity, jobs and taxation revenue are reasonable.
- The scale of the activity is consistent with nationally and regionally significant economic benefits.

Question 1: On methodology

"Has the applicant utilised correct/appropriate methodology to determine the economic benefits of the proposal, and are the stated economic benefits likely to be accurate?"

Choice of methodology

Cost-benefit analysis is not required

The applicant has chosen an appropriate methodology. The applicant has used an economic assessment methodology. This is consistent with identifying the economic benefits of the project under the Fast-Track Assessment Act.

There is more than one tool that could be used to make an economic assessment of benefits. For example, cost benefit analysis that compares identified benefits to identified costs, could be used.

The FTAA does not specify a specific tool to identify economic benefits. [1]

It has been argued elsewhere that applicants should use a cost-benefit approach (see the peer review of the Delmore FTAA),[2] but this direction is not contained in the FTAA.

The FTAA is different to the Resource Management Act

The FTAA is different to the Resource Management Act.[3] Section 32 of the RMA sets out a requirement for evaluation reports to assess benefits and costs:

(2) An assessment under subsection (1)(b)(ii) must—

(a) identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions, including the opportunities for—

(i) economic growth that are anticipated to be provided or reduced; and

(ii) employment that are anticipated to be provided or reduced; and

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[1] For example, Auckland Council note: ""The FTAA is silent on whether regional or national economic benefits are to be assessed on a gross or net basis. ,"See Delmore-Decision-Draft-Decision-29-August-2025-Final-version, page 104, available at: https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/11148/Delmore-Decision-Draft-Decision-29-August-2025-Final-version.pdf

[2] Resource Economics 2025. "Delmore Fast Track Approvals Act Application – Review of Economic Analyses", Tim Denne, 13th August 2025, available at: Resource Economics 1 Delmore Fast Track Approvals Act Application – Review of Economic Analyses Tim Denne, 13th August 2025

[3] See Chris Bishop in Committee https://www3.parliament.nz/mi/pb/hansard-debates/rhr/document/HansS_20241210_055680000 Hansard "The Government's view is that the status quo is unacceptable when it comes to speed, when it comes to condition setting, when it comes to environmental protections weighed against the economic interests. So we are disrupting that; we are quite explicit about that."

(b) if practicable, quantify the benefits and costs referred to in paragraph (a); and

(c) assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.

There are no provisions in the FTAA that are equivalent to s32 of the RMA.

There are other mechanisms to deal with adverse impacts

The FTAA says:

(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 FTAA states that adverse impacts need to be considered by the panel. But the panel is free to receive other advice and reports to reach a decision. These need not be encompassed within a single evaluation tool provided by the applicant.

One reason to identify and then separate the impact of costs of economic activities from benefits, is to test if adverse – and typically environmental impacts – can be managed. Assessment of the extent of adverse effects and their potential management can be done separately and compared to benefits or some threshold the panel chooses.[4]

[4] We have in mind a practical threshold while noting there are technical reasons why the benefit from a standard cost-benefit study may not form the optimal threshold. This could be the case when applying a real option framework (such as in Guthrie 2023) or when decisions that are robust to uncertainty (see Manski 2013 for discussion) are required.

Application of methodology

Use of Gross Domestic Product as a metric

The report proceeds by taking information from models of the mine output and the financial value of the mine from Santana. I have not reviewed these models or the likelihood of the output suggested by these models.

The economic activity of the mining operation impacts on labour, capital investment, and profit that are cumulated to estimate the GDP benefits of the mining operation. The report also refers to estimates "that have been supplemented with other economic modelling inputs" that matter for assessing the total impact of the mining operation.

This could be the reference on page 7 of the report that says:

> "Data from Infometrics shows that for every $1 of capital investment spent, there is $0.32 of economic value added (GDP) because of additional demand within the civil infrastructure and engineering sector."

but more explanation is needed to show which data supports the parameter $0.32.

Increasing Gross Domestic Product will often but not always be associated with increases in incomes that make workers better off. Gross Domestic Product records production of goods and services in the New Zealand economy. A better measure is Gross National Income that records changes in the income of New Zealand residents which is closer to the intent of benefits.[5] So Gross Domestic Product might overstate benefits relative to other metrics that provide a closer match to who we might think the benefits should accrue.

However, it should be recognized that Gross National Income is not available at a regional level and in practice it is common for Economic Impact Assessment to use Gross Domestic Product.

Indirect effects

Usefully, the report separates out direct impacts on economic activity from the mining operations indirect effects from procurement of local goods and services, and induced effects.[6]

The report describes indirect effects as:

> "Alongside the GDP directly generated by the BOGP's mining operations and investment, there are also additional indirect multiplier effects that will accrue locally across other industries. Indirect multiplier effects accrue because of the BOGP's procurement of goods and services from other businesses."

[5] More technically, better matches the standing of people we expect to benefit from the specific project. See also https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/gross-domestic-product-GDP

[6] See page 14 of the report.

While the mine will no doubt purchase local goods and services, this uses resources of labour and capital. It is not clear what the opportunity cost is to local firms of meeting this additional demand with labour and capital. To meet this demand resources are diverted from other uses.

It is reasonable to note that these transactions occur and have some benefits. But caution is needed when quantifying their value since given uncertainty over opportunity costs.

The report itself notes the risks of using indirect effects:

> "As with indirect GDP, these additional indirect employment effects with suppliers should be taken as a theoretical maximum."

But it could state this more forcefully and note the uncertainty associated with quantifying indirect effects, particularly when using multipliers, that are not favoured when quantifying benefits. New Zealand Treasury are clear on this point:[7]

> "Proponents of projects often claim that their projects have multiplier effects. They claim that the expenditure on the project provides income for construction workers and for operating and maintenance staff, who will spend their wages and create income for local businesses, which in turn will spend their income and create income for other businesses, etc.
>
> This thinking either assumes that there are significant unemployed resources available, or it ignores the fact that the new activity displaces other activity that would have occurred. Unless there is significant unemployment of people with the requisite skills, it is therefore likely that multiplier effects do not exist."

So, the total economic benefits associated with the mine are overstated by using indirect effects that are uncertain. The direct effects are unaffected by this argument.[8]

Induced effects

The report also includes a third set of benefits based on induced effects. The report states that these induced effects are

> "Induced multiplier effects on employment which occur because direct and indirect workers will need to be provided with goods and services to support their lifestyles (e.g. supermarkets, medical, education, personal services, etc).

These induced effects can exist, but the type of economic analysis assessment conducted by the applicant will likely considerably overstate economic benefits since they rely on a sequence of behavioural assumptions about how markets might use resources to meet additional demand.

These effects are present within Computable General Equilibrium models. But these models track all the important factor prices of labour and capital that might be expected to increase in response to demand, reducing the size of these impacts.

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[7] See New Zealand Treasury 2015.
[8] See also Boardman et al. 2018.

Since the method used does not track these price changes the induced benefits also overstate the total economic benefits associated with the mine but not the direct benefits.

> "Input–Output analysis comes with major limitations and the results are likely to be biased upward. Therefore, we do not recommend the use of Input–Output models for proposals submitted to us."[9]

These induced effects are set out on page 17 of the report that reports total induced employment of 206 jobs. These are likely to be overstated.

In my view, the panel is best to consider the quantified direct benefits, note there may be some indirect effects, but set aside the quantified estimates of both indued and indirect effects.

For reference, I set out one presentation of the direct and indirect effects in Table 1. While setting aside the quantified indirect and induced effects reduces the total size of benefits, this should not be considered a show-stopper for the quantified benefits. Direct benefits are over 80 percent of the total benefits quantified in the report.

Table 1: The panel should ignore the quantitative estimates of indirect effects
Reported benefits, average year

Source	GDP
Direct GDP	$359.7m
Indirect GDP- Otago	$25.1m
Indirect GDP – Rest of NZ	$58.5m
Total Direct + Indirect GDP	$443.2m

Source: Benje Patterson

Accuracy of stated economic benefits

The method within the report uses financial information from the mine's owner to construct measures of economic benefits. The report usefully presents the results in terms of 2025 prices (see table 2 for example).

But since we are assessing future national benefits – and not just the benefits that accrue to the firm – these benefits should be discounted to reflect a preference for outcomes today rather than in the future.

[9] See Infrastructure Australia 2021.

For public good projects, New Zealand Treasury recently recommended using 2 percent and 8 percent for commercial projects to discount future benefits to the value of money today. [10] The approach has critics,[11] but a choice of discount rate is required.[12]

I show outcomes for discount rates of 2 percent, 5 percent and 8 percent in Table 2, noting this is a private sector project and the discount rate reflects the social discount rate that is more likely to be between 2 and 5 percent than 5 and 8 percent.[13]

The results in Table 2 show discounting makes a material difference to reported benefits that without discounting overstate the future national benefits of the project.

Table 2: A discount rate should be applied to the GDP estimates

Year	GDP from operations	GDP from capital investment	Total Direct GDP	2% discount rate	5% discount rate	8% discount rate
Year -2	$0.0m	$15.4m	$15.4m	$15.4m	$15.4m	$15.4m
Year -1	$0.0m	$82.8m	$82.8m	$81.2m	$78.9m	$76.7m
Year 1	$261.0m	$28.1m	$289.1m	$277.9m	$262.2m	$247.9m
Year 2	$472.2 m	$1.8m	$474.0m	$446.7m	$409.5m	$376.3m
Year 3	$494.7m	$1.0m	$495.7m	$458.0m	$407.8m	$364.4m
Year 4	$487.2m	$1.0m	$488.2m	$442.2m	$382.5m	$332.3m
Year 5	$522.2m	$12.5m	$534.7m	$474.8m	$399.0m	$337.0m
Year 6	$466.0m	$15.9m	$481.9m	$419.5m	$342.5m	$281.2m
Year 7	$479.1m	$6.9m	$486.0m	$414.8m	$328.9m	$262.6m
Year 8	$374.0m	$0.7m	$374.7m	$313.5m	$241.5m	$187.4m
Year 9	$465.3m	$0.9m	$466.2m	$382.4m	$286.2m	$215.9m
Year 10	$433.2m	$0.7m	$433.9m	$349.0m	$253.7m	$186.1m
Year 11	$355.9m	$0.6m	$356.5m	$281.1m	$198.5m	$141.6m
Year 12	$427.9m	$0.4m	$428.3m	$331.1m	$227.1m	$157.5m
Year 13	$264.2m	$0.4m	$264.6m	$200.5m	$133.6m	$90.1m
Year 14	$76.2m	$6.2m	$82.4m	$61.2m	$39.6m	$26.0m
Total	$5,579.1m	$175.3m	$5,754.4m	$4,949.3m	$4,007.1m	$3,298.1m

Source: Benje Patterson, left-hand side columns, Sense Partners, right hand side columns

[10] New Zealand Treasury 2024.
[11] See https://newsroom.co.nz/2025/11/04/be-careful-what-you-wish-for-with-cost-benefit-analysis/
[12] A better approach would be to simulate across a range or distribution of alternatives but in practice, this method is not regularly employed, except for the largest projects.
[13] New Zealand Treasury have recently updated their advice on the use of discount rates, see New Zealand Treasury 2024.

Question 2: The question of significant regional or national benefits

"Do the economic benefits constitute 'significant regional or national benefits', and why?"

Concepts of regional and national benefits

A definition of significance is not clearly defined in the Act…

There is no set definition of what constitutes significant regional or national economic benefits within the Fast Track Approval Act.

One definition of significant is: *important or noticeable*.[14] I adopt this definition to assess significance.

This means we might expect significant impacts to be distinguishable by their size, value, impact on price or other key economic features. Such a definition implies that the benefits are noticeably different or easily distinguishable from what would occur in the status quo, that is in the absence of approval of the project application.

The type of regional or national economic benefits is not specified within the Fast Track Approval Act.

One common framework used to assess economic value from natural resources is total economic value (TEV).[15] This spans:

(i) the use value of natural resources, (including direct uses from removable resources like timber and minerals, and indirect uses such as landscape amenity).

(ii) Non-use value, that describes value of the knowledge that something continues to exist (perhaps, the continued existence of endangered species)

(iii) The optional value of using the resource[16]

(iv) Bequest value that preserves value for future generations.

Economic value from the mining activity sits clearly in the direct use of the resource in category (i).

…there are other investment decisions that hang on significance

There are aspects to at least two other areas of decision-making where defining significance matters. Given the absence of a strong definition within the Act, how other decision-makers

[14] Cambridge Dictionary: https://dictionary.cambridge.org/dictionary/english/significant
[15] See New Zealand Treasury 2018.
[16] See Guthrie 2023 for discussion of why options values can matter.

consider significance reveals what might be reasonable approaches to assessing national and regional benefits.

OIO experience suggests a range of metrics are possible…

Until recently, the Overseas Investment Office was required to identify benefits to New Zealanders when approving purchase of sensitive land.

These purchases required a specific benefit test that included:

> "whether the investment will or is likely to result in job opportunities, new technology or business skills, increased exports, or more market competition or efficiency; and
>
> whether there are adequate mechanisms for protecting or enhancing indigenous vegetation and fauna : certain wildlife, and walking access."

Benefits were assessed across range of different metrics, including jobs, efficiency improvement, productivity, growth in exports and increases in access to amenity.[17] A clear path was provided that set out how to consider benefits and the impact on an OIO application (see Figure 1).

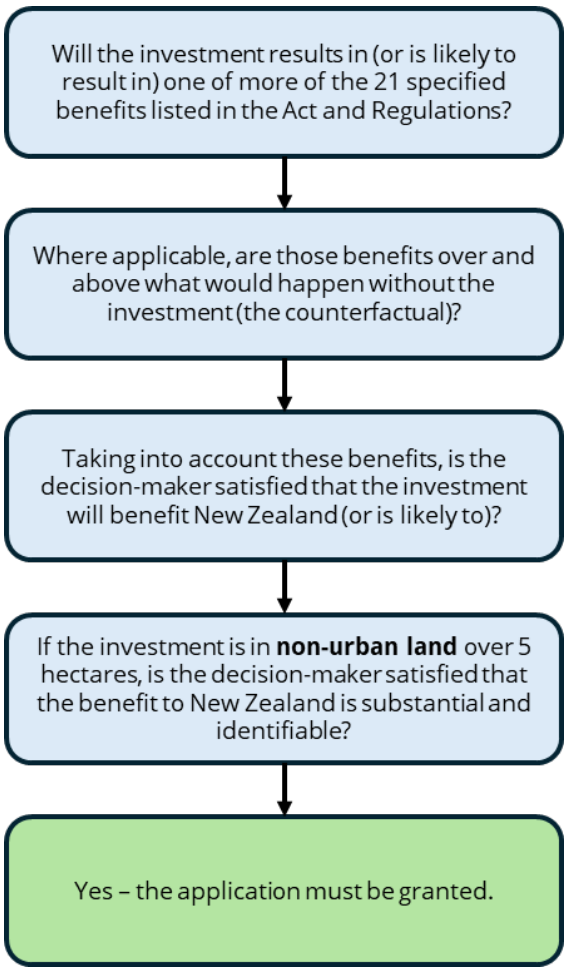
No specific numerical target was formulated for the size of the benefits. Over time, the Bill was updated to simplify the benefit to New Zealand test by implementing the following measures:

- Replacing the 21 factors with 7 broader factors, including economic benefits, benefits to the natural environment, and continued or enhanced access over sensitive land
- Introducing a new factor allowing consideration of any negative impacts on water quality or sustainability for water-bottling investments
- Replacing the current requirement that the benefits of overseas investments in non-urban land greater than 5 hectares must be substantial and identifiable with a 'proportionate approach'. This approach requires that the benefits of the overseas investment must be proportional to the interest being acquired and to the sensitivity of the land.
- Changing the counterfactual from a hypothetical assessment to a before and after test, by requiring benefits to be measured against the current state of the sensitive land.

[17] See Office of the Auditor-General 2018.

Figure 1: Earlier OIO legislation set out a clear path for assessing benefits

Overseas Investment Office benefit assessment flow diagram



Source: Department of Internal Affairs

In practice, this meant a wide range of metrics were presented to support applications to the Overseas Investment Office. For example, Table 3 shows the top 5 types of metrics used to support applications to the Overseas Investment Office in 2016. These span several metrics.

Table 3: Earlier Overseas Investment Office applications used different economic metrics

Part of the Act	Metric	Application	% of Submissions
17(2)(a)(i)	Jobs	47	71%
17(2)(a)(iv)	Added efficiency	43	65%
17(2)(a)(v)	Additional investment for development purposes	32	48%
17(2)(a)(iii)	Increased export receipts	26	39%
17(2)(e)	Walking access	18	27%

Source: Office of the Auditor-General, 2018

So for the Overseas Investment Office, assessing significance did not require a numerical threshold and a range of metrics were used.

Te Waihanga use a broad definition of significance in practice

Te Waihanga help coordinate and plan New Zealand's infrastructure pipeline.[18] The Infrastructure Priorities Programme (IPP) provides structured independent review of infrastructure proposals' readiness for investment. It is designed for unfunded, nationally important infrastructure projects, or initiatives that avoid the need for infrastructure.

Te Waihanga suggested:

> "Projects or proposals will be assessed on whether they are nationally important. Those valued at over $50 million are more likely to fall into this category, and so Te Waihanga would encourage potential applicants to consider this in deciding whether to submit to the IPP."

In June, Te Waihanga, endorsed 17 projects and rejected 31 applications. To qualify for endorsement on their infrastructure priorities pipeline, a project must be able to demonstrate that it is assessed as nationally significant:[19]

> There are several reasons why a proposal may not proceed to endorsement, including because it had insufficient information, *was not infrastructure of national significance*, was withdrawn, or was assessed but not endorsed.[20]

So the infrastructure pipeline provides insights on how others have assessed the significance of many projects and their characteristics.

We list the projects in Table 4. One point is clear. Not all projects that make the Infrastructure Pipeline Priorities list come with a large price tag.[21]

[18] See https://tewaihanga.govt.nz/the-pipeline

[19] See also the Spinoff: https://thespinoff.co.nz/the-bulletin/26-06-2025/the-draft-plan-to-finally-fix-new-zealands-broken-infrastructure

[20] See page 119, New Zealand Infrastructure Commission 2025.

[21] The first IPP round closed in December 2024. Te Waihanga received 48 submissions from central and local government, the private sector, and other entities. The Commission endorsed 17 proposals across a range of sectors, including transport, water and wastewater, telecommunications, prisons, and defence.

Table 4: Projects in the Infrastructure Priorities Pipeline must be nationally significant

The set of infrastructure projects in Te Waihanga's Infrastructure Priorities Pipeline

Organisation	Project Description	Value$ (estimate)
New Zealand Defence Force	Accommodation, Messing and Dining Modernisation Linton Pilot	1 billion plus
	Expanding fibre and broadband	1 billion plus
	Accelerated Capacity Programme: Hawke's Bay Prison Redevelopment	500 million - 1 billion
	Manawatu Regional Freight Ring Road	250-500 million
	Project Waitoa – vaulting and processing infrastructure	250-500 million
	Te Mārua Water Treatment Plant Scheme Expansion Stage 1	250-500 million
	Housing Modernisation Pilot (Manawatu and Burnham)	5-25 millions
	Ohakea Infrastructure Programme - Civils Tranche 2	50-100 million
	Ohakea Infrastructure Programme - Fuels Precinct	50-100 million
	Ohakea Single Living Accommodation	50-100 million
	Waiouru New Housing	50-100 million
	Ohakea Logistics Warehouse/Camp Pack-Up	25-50 million
	Telecommunications Network Resilience	5-25 millions
	Programme - Mass Rapid Transit	5-25 millions
	NZ Underground Asset Register	1-5 million
New Zealand Defence Force	Ohakea Explosives Storage Facility	1-5 million
Hamilton City Council	Ruakura Eastern Transport Corridor	1-5 million
	WC341W – Mori Road raised crossing	<$1 million

Source: Te Waihanga

Narrow definitions of national significance miss key impacts

Relative to the broad take on national significance in Te Waihanga's Infrastructure Priorities Pipeline, international approaches to significant infrastructure appear narrow. For example, in the Infrastructure Australia Act 2008, nationally significant infrastructure includes investment or further investment that will materially improve national productivity**.**

For a proposal to be considered nationally significant, as a guide, Infrastructure Australia suggest it should concern a problem or opportunity that will have more than $30m per annum impact on the economy. However, the definition of significant has since been expanded to consider societal impacts. This includes:

- Network integration, such that the proposal is a key enabler, catalyst of 'first piece' in a transformational programme of work
- Quality of life and if there is a clearly defined social (equity) problem or opportunity that requires addressing.
- Sustainability, such that the proposal will significantly influence the behaviour and sustainability of our communities.
- Resilience, that the proposal significantly improves the ability of communities to anticipate, resist, absorb, recover, transform and thrive in response to shocks.
- Alignment with Government's strategic priorities

These additions reflect the fact that simple rules of thumb – like a $30 million dollar impact on economic productivity – miss many of the reasons why infrastructure is put in place.

Are the economic benefits in this case significant?

There is no set definition of nationally significant benefits. My working definition to assess if the benefits are significant is that benefits should be important and noticeable.

Past use of the term, nationally significant, suggests a range of economic metrics have been used with no set threshold for benefits.

Despite overstating the benefits in parts, the proposed mine delivers benefits across several dimensions. These include:

1. New, substantive employment for local workers
2. The track record of the sector suggests these jobs will be well paid.
3. More modest benefits for firms in the region that are difficult to quantify but provide new opportunities to support mining activity.
4. Substantial contributions to tax revenue that can be used to fund other activities.

In terms of the scale, these are important benefits noticeable at a regional and national scale. They include:

1. An average of 350 workers employed directly by the mine, each year, across the lifespan of the operation.
2. An average salary of $140,000 that is significantly higher than the average in the region.
3. Significant contribution to tax revenue. This is likely to be overstated in the report but might range between $1 billion after discounting and some technical adjustment and the $1.8 billion presented in the report.

Table 5 lays out the contribution to government revenue from the report. ACC payments are also technically levies rather than taxation revenue.

Table 5: The contribution to government revenue is significant

Source	Revenue ($m)
Royalty Payments (gold as crown mineral)	$448m
Corporate taxes: Santana	$1,074m
Corporate taxes: Others*	$82m
Income taxes: PAYE and ACC	$216m
Total government revenue directly generated by BOGP	$1,820m

Source: Benje Patterson

It is reasonable to conclude that these benefits of the proposed mining activity are nationally significant.

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