



Tomingley Gold Extension Project

Economic Assessment

Part 12

Major Project Application No. PA 09_0155



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Economic Assessment

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COMMONLY USED ACRONYMS

ABS	Australian Bureau of Statistics
AIS	Agricultural Impact Statement
GM	Gross Margin (Revenue less variable costs)
CBA	Cost Benefit Analysis
LEA	Local Effects Analysis
LOM	Life of Mine period – 2024 to 2031
NPV	Net Present Value (future cash flow over time, discounted to present value by use of a discount rate – taken as 7%)
FTE	Full Time Equivalent – the number of employment positions, with part-time positions aggregated to represent the equivalent number of full-time positions
TGO	Tomingley Gold Operations

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EXECUTIVE SUMMARY

The Project represents the extension of the existing Tomingley Gold Operations located immediately to the south of Tomingley, NSW and would involve the extraction of 9.8 million tonnes of gold-bearing ore. This ore is expected to deliver 590,000 oz. of gold, with a total value of \$1,413.6 million, over the period 2024 to 2031. While it is possible that mining activity could be continued beyond 2031, any extension would be dependent on performance achieved in the initial period. Rehabilitation operations are expected to be completed by 2035. For the purposes of this economic assessment, no mining operations beyond 2031 have been considered, and so the results reported here should be considered conservative.

Capital expenditure of \$115 million would be made for development of the Project, of which 80% is expected to be spent in NSW. In addition, the Applicant has already spent \$19.6 million on the purchase of nine properties which would potentially be affected by the Project, with this revenue all accruing to local landowners. Estimates of capital expenditure include the costs associated with relocation of a section of the Newell Highway, which would be required in order to develop the Project. This would add 399 metres to travel distance for all users of the Newell Highway.

Total operating activities (including processing costs) between 2022 and 2031 would require expenditure of \$788 million – with 80% being spent in NSW (and 50% within the local region). An average of 179 FTE positions would be required to operate the Project – these positions include the continuation of existing employment levels at Tomingley Gold Operations, which would otherwise cease in 2025, in the absence of the Project, as gold resources at the existing mine are gradually exhausted. A total of \$258.26 million would be added to household incomes (before tax), with average wages paid being \$144,078 per year per FTE employee.

Two different methodologies have been used to prepare this assessment of the potential economic impacts of the Project. A **Cost-Benefit Analysis** has indicated that the net benefits accruing to the State of NSW can be valued at \$633.17 million, as a result of a discounted cash flow of net benefits using a discount rate of 7%. This result includes the costs of negative externalities imposed by the Project in terms of loss of agricultural production (as agricultural land is used for the mine site) and reduced transport efficiencies (due to increased travel time on the relocated Newell Highway). Details on the impacts of the Project on agricultural production have been drawn from the AIS prepared for this Project, and details of transport efficiency impacts are drawn from the Transport Impact Statement prepared.

A **Local Effects Assessment** has compared the economic dimensions of the Project with the baseline socio-economic conditions prevailing in the local area, and has concluded that the Project would make a significant addition to employment opportunities, and thus to levels of household income, as well as to regional output values and revenues to the public sector. The Project is entirely consistent with regional development goals identified for the region by the State of NSW and relevant Local Government.

Approximately \$40 million per year would be spent on non-labour operational expenses within the region, and thus add to the level of demand for regional businesses providing relevant goods and services. The Project would also provide an addition of \$176.7 million **per year** (average over the period 2024 to 2031) to the value of regional output – this can be compared to a gross annual value of output for the entire agricultural sector of Narromine Local Government Area (LGA) of \$210 million (NSC, 2018). The Project will also provide additional

income to the public sector via taxes, royalties, rates, and other charges. Local Government (Narromine Shire Council) would receive an additional \$17.4 million over the period 2022 to 2031 – with 70% of this total consisting of grant funding from the State under the 'Resources for Regions' program, paid to local governments considered to be impacted by mining. As the current Tomingley Gold Operations is the only mining operation within this Shire this funding would not be received in the absence of the Project. The State Government would receive a total of \$70.06 million over the LOM period, of which the most significant component is \$43.8 million paid as royalties for the extraction of gold. The Australian Government would benefit by around \$201.32 million over this eight year period, in the form of corporate tax paid by the Applicant, together with personal income tax paid by Project employees.

The Project has therefore been assessed as potentially providing benefits to the State community as a whole of approximately \$633.17 million. It would also add significantly to the level of economic activity within the local area. In the absence of the Project, the social and economic health of the surrounding districts would be substantially reduced. Without the Project, processing operations at the TGO site would only continue until current resources are exhausted.

The key results of the economic assessment that has been conducted are summarised in **Table 1**. Further information on the derivation of these indicators is presented in this report.

Table 1
Executive Summary of Economic Impacts

Indicator of Impact	Total over period 2022-2031
Capital expenditure (excl. land purchases)	\$115.1 million
Total value gold produced	\$1,413.6 million
NPV benefits to the State (at 7% discount rate)	\$633.17 million
Operating costs	\$788 million
FTE employment positions	179 (average per year 2022-2031)
Average wages paid per employee	\$144,078
Local non-labour average annual spend	\$40 million
Increase annual gross value of regional output	\$176.7 million
Additional revenue for Narromine Shire	\$17.4 million
Additional revenue for NSW Government	\$70.056 million
Additional revenue for Australian Government	\$201.32 million

It is noted that this assessment is based on confidential information provided by the Applicant throughout preparation of this report and was current as of December 2021. The Applicant is continually updating the financial model for the Project and a revised analysis may be provided if required.

1. INTRODUCTION

This *Economic Impact Assessment* (EIA) report has been prepared by Diana Gibbs & Partners (owned by Extip Pty Limited) on behalf of Tomingley Gold Operations Pty Ltd (the Applicant) to describe the potential economic impacts of the proposed Tomingley Gold Extension Project (the Project). The Project is located immediately to the south of the village of Tomingley in central western NSW (**Figure 1**). The Project is located within the Narromine Local Government Area on land zoned RU1 – Primary Production and SP2 – Infrastructure under the *Narromine Local Environment Plan 2011*.

The Applicant is the operator of Tomingley Gold Operations (TGO), and is a subsidiary company of Alkane Resources Ltd (Alkane). Alkane is an Australian, publicly listed mining and exploration company which has been in existence since 1969. Alkane has a long-term involvement and ongoing commitment to the Central West of New South Wales and has substantial investment in the people and resources of the region. Alkane developed and operated the Peak Hill Gold Mine on the outskirts of Peak Hill from 1996 to 2005 and has now largely rehabilitated that site.

Alkane also developed TGO, as well as discovering and successfully obtaining all required approvals for the Dubbo Project (SSD-5251), located at Toongi, approximately 25km south of Dubbo. That project is now held by Australian Strategic Materials Limited which demerged from Alkane in July 2020.

The Project, which would require total capital expenditure of \$115 million, is classified as State Significant Development. As a result, the application for development consent is made under Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Capital Investment Value associated with the Project (as reported elsewhere in the EIS) is calculated differently from the capex value used in this economic assessment.

The incremental economic impacts of the Project have been assessed via:

- Cost-Benefit Analysis, which identifies and quantifies benefits accruing to the State of NSW as an entity, via an assessment of economic efficiency; and
- Local Effects Analysis, which assesses the distribution of economic impact on the local area, via an assessment of economic equity (i.e., the distribution of economic impacts).

It is noted that this assessment is based on confidential information provided by the Applicant throughout preparation of this report and was current as of December 2021. The Applicant is continually updating the financial model for the Project and a revised analysis may be provided if required.

The EIA described in this report has been conducted in close coordination with the social impact assessment. This has ensured that socio-economic issues have been adequately addressed where relevant.

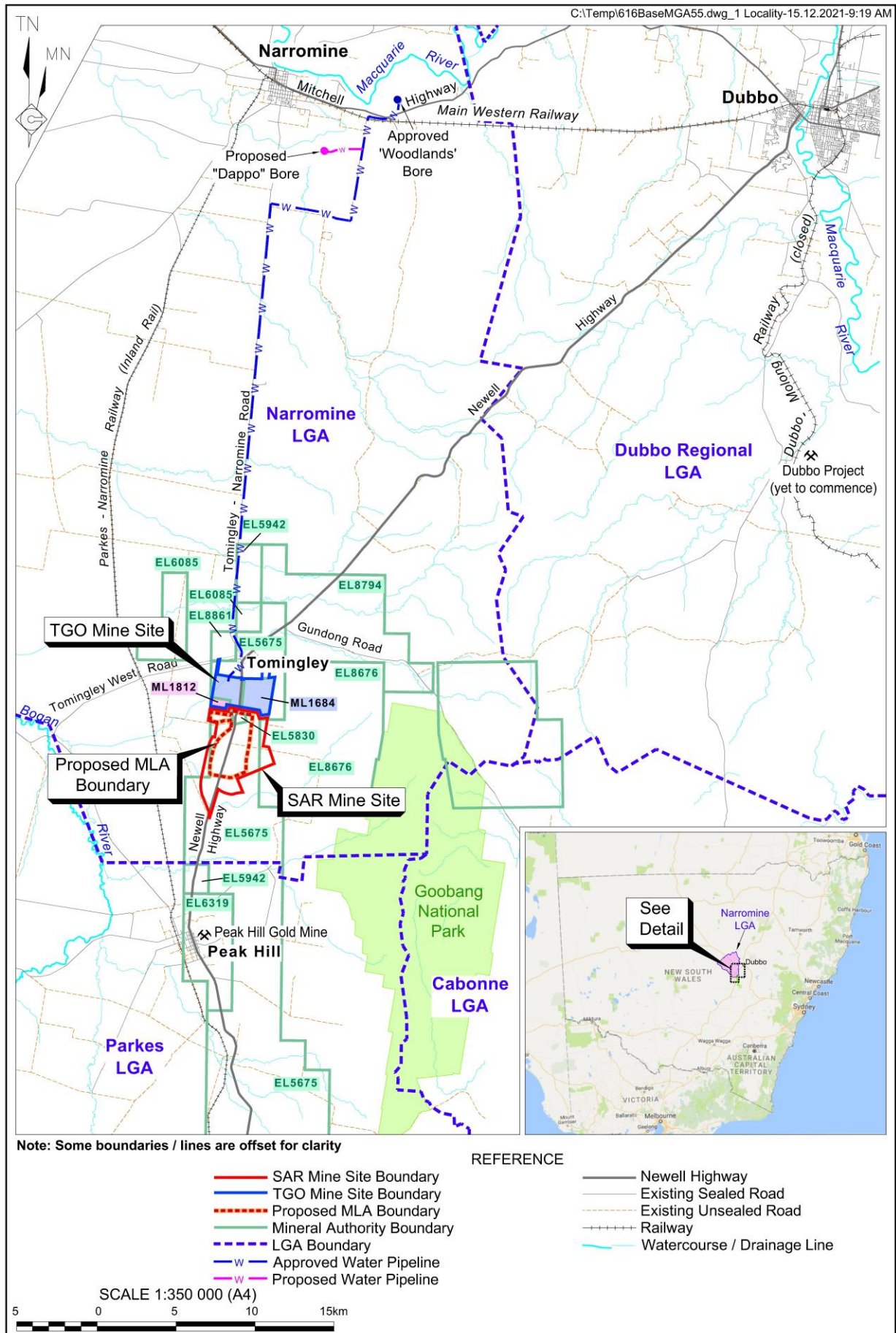
1.1 LEGISLATIVE CONTEXT AND GUIDELINES

This *Economic Assessment* has been carried out in accordance with the following.

- The Secretary's Environmental Assessment Requirements (SEARs) for the Project (see Section 1.3).
- Clause 7(1)(f) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* which requires environmental impact statements to provide "the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations..."
 - Note to Clause 7(1)(f) states that "A cost benefit analysis may be submitted or referred to in the reasons justifying the carrying out of the development, activity or infrastructure."
- Section 4.15 of the EP&A Act which requires the following two matters to be taken into consideration by the consent authority in determining a development application.
 - The public interest (taken as the collective public interest of households in NSW).
 - The likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.

The following standards, guidelines and policies have also been considered in the preparation of this EIA:

- NSW Government (2015) *Guideline for the economic assessment of mining and coal seam gas proposals*;
- NSW Government (2018) *Technical Notes supporting the Guidelines for Economic Assessment of Mining and Coal Seam Gas Proposals*; and
- NSW Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis*.



1.2 REPORT OUTLINE

This report consists of a description of the Project and its economic features, followed by an assessment of the economic impacts that the Project would have on the local area, the surrounding region, and on the State of NSW.

Section 2 provides a description of the Project, and the significance of the gold resource on which the Project is based. Section 3 describes the approaches used for the assessment of the economic impacts of the Project. Section 4 describes the Cost-Benefit Analysis (CBA) prepared, while Section 5 then provides the Local Effects Analysis (LEA). Conclusions drawn from this assessment of the potential impacts of the Project on the State and regional/local economies are then presented in Section 6.

The assessment of economic impact has been made via two methodologies:

- An assessment of net benefits accruing to the State of NSW, via the development of a cost-benefit model that identifies, and then compares, the various elements of costs and benefits that would be experienced by the NSW economy as a result of the Project's operations.
- An assessment of the local economic impacts, via an analysis of the local economy and the quantification of the impacts that the project's activities can be expected to have on that economy.

1.3 COVERAGE OF SEARS AND OTHER AGENCY REQUIREMENTS

The details contained in the SEARs issued on 22 July 2021 have been examined, to ensure that all aspects relating to the requirements for economic assessment have been included (**Table 2**). In addition, the various submissions made by NSW Government agencies during the process of compiling the SEARs have also been examined. These submissions raised the need to consider externalities such as the impacts caused by the relocation of the Newell Highway.

Table 2

Coverage of SEARs and other Government Agency Requirements Relevant to Economics

Page 1 of 3

Summarised or Paraphrased Relevant Requirement	Relevant Section(s)
Coverage of Secretary's Environmental Assessment Requirements in the EIS	
The EIS must address the following specific issues with the level of assessment of likely impacts proportionate to the significance of, or degree, of impact on, the issue, within the context of the project location and the surrounding environment and having regard to applicable NSW Government policies and guidelines, including:	
<ul style="list-style-type: none"> the likely economic impacts of the development, paying particular attention to: <ul style="list-style-type: none"> the significance of the resource; 	2.2
<ul style="list-style-type: none"> economic benefits of the Project for the State and region; 	4 and 5
<ul style="list-style-type: none"> the demand for the provision of local infrastructure and services; and 	5.3
<ul style="list-style-type: none"> a Planning Agreement in relation to the demand for the provision of local infrastructure and services. 	5.5

Table 2 (Cont'd)
Coverage of SEARs and other Government Agency Requirements Relevant to Economics

Page 2 of 3

Summary or Paraphrased Relevant Requirement		Relevant Section(s)
Coverage of Issues Identified by Other Government Agencies for Consideration in the EIS		
Biodiversity, Conservation and Science Directorate 06/07/2021	The EIS must assess the impacts on the proposed development on flood behaviour, including: k. Any impacts the development may have on the social and economic costs to the community as a consequence of flooding.	NA
Mining, Exploration and Geoscience 07/07/2021	The Applicant is to supply evidence that the resource extraction is sustainable and maximised. Such evidence will include: b) A description of how the proposed mine plan and extraction method maximises resource recovery. Specify why the mine design has been chosen (noting other resource, design, commercial/economic constraints) and why this is the best outcome; detailing the options considered in arriving at the final landform design.	Provided separately to MEG
	d) List all economic, environmental, geological, geotechnical and other constraints to the recovery of the resource/reserve impacting the Project.	EIS generally
	Project Economics and Target Market The Applicant is to supply an assessment of project economics including:	Provided separately to MEG
	a. Price forecasts by product type used by the Applicant. MEG requires these forecasts to analyse the Applicant's calculations of royalty value and export value.	
	b. Product tonnages split into market segment. These estimates are necessary to arrive at total revenue value and royalty calculations. Include justification for market segment based on quality parameters.	
	c. CAPEX & OPEX necessary for the Project broken down into the various sub-categories and equipment type. Include any changes that the Project will have on existing mine infrastructure and broader ex-mine infrastructure - rail, CHPP etc.	
	d. Estimates of employment generation broken down into direct, indirect, ongoing, construction and contract workers.	
	e. Total royalty generated over the life of the Project.	
	f. Relationship and interaction with other mines. Detailing the Project impacts on the existing mine and surrounding mines.	
	g. Details on derivation/analysis of Run-of-Mine (ROM) production rate; to answer why this the optimum rate.	
	h. Provide project funding source and assurance of ongoing project and operations funding from the Applicant or parent. MEG is seeking the Applicant's commitment to advancing this project.	
	The EIS for a project should clearly identify existing mineral titles, mineral title applications and the final proposed mining lease area(s) for the project site and areas surrounding the proposed project area and address the environmental impacts and management measures for the mining and mining purpose activities as licensed under the Mining Act 1992.	EIS Generally

Table 2 (Cont'd)
Coverage of SEARs and other Government Agency Requirements Relevant to Economics

Page 3 of 3

Summary or Paraphrased Relevant Requirement		Relevant Section(s)
Coverage of Issues Identified by Other Government Agencies for Consideration in the EIS		
Narromine Shire Council	<p>The EIS shall address Council's local strategic plans including the:</p> <ul style="list-style-type: none"> a. Narromine Local Strategic Planning Statement 2020; b. Narromine Agricultural lands Strategy 2013; c. Residential and Large Lot Residential Land Use Strategy 2018; and d. Central West and Orana Regional Plan 2036. <p>Whilst these strategies are not specific to the proposed land use, the application should address the principles that are contained within each document that related generally to:</p> <ul style="list-style-type: none"> d. Economic growth. 	EIS Generally
	<p>Impacts on the social and economic profile of Narromine and Tomingley shall be considered in the EIS as a result of the proposed development. This shall include, but not limited to, the impact the proposal will have on the operation of haulage routes, employment, property values, commissioning and decommissioning of the site and the flow on effects the proposal will have on infrastructure in the locality.</p>	5.4

2. PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Project comprises two components as follows.

- Approved TGO mining operations (**Figure 2**). These activities are undertaken in accordance with development consent MP 09_0155. The approved activities would continue under any new development consent, with MP 09_0155 to be surrendered following receipt of the new development consent and all required approvals for the Project. The approved activities include the following.
 - Extraction of ore and waste rock from four open cuts, with underground mining beneath three of those open cuts.
 - Construction of three out-of-pit waste rock emplacements and one in-pit emplacement.
 - Construction and use of various haul roads, a run-of-mine (ROM) pad and associated stockpiles.
 - Construction and use of a Processing Plant to process up to 1.5 million tonnes per annum (Mtpa).
 - Construction and use of two residue storage facilities comprising Residue Storage Facility 1 (to Stage 9 or a maximum elevation of 286.5m AHD) and Residue Storage Facility 2 (to Stage 2 or a maximum elevation of 272m AHD).
 - Construction and use of ancillary infrastructure.
- The proposed SAR operations and additional or modified TGO operations, including the following (**Figure 2**).
 - Realigned Newell Highway and Kyalite Road and associated intersections with Back Tomingley West Road and McNivens Lane and Kyalite Road overpass.
 - The SAR Open Cut and Underground Mine.
 - Construction of two waste rock emplacements, namely the Caloma and SAR Waste Rock Emplacement and backfilling of the associated open cuts.
 - The SAR Amenity Bund, Haul Road and Services Road between the SAR Open Cut and the Caloma 2 Open Cut.
 - Processing of ore from the SAR deposits using the approved Processing Plant at a maximum rate of 1.75Mtpa.
 - Increased capacity for Residue Storage Facility 2, from Stage 2 to Stage 9, with a maximum elevation of 286m AHD.
 - Associated surface and underground activities and infrastructure.

In addition, the Project would include an extension of the approved mine life, likely from 31 December 2025 to 31 December 2032.

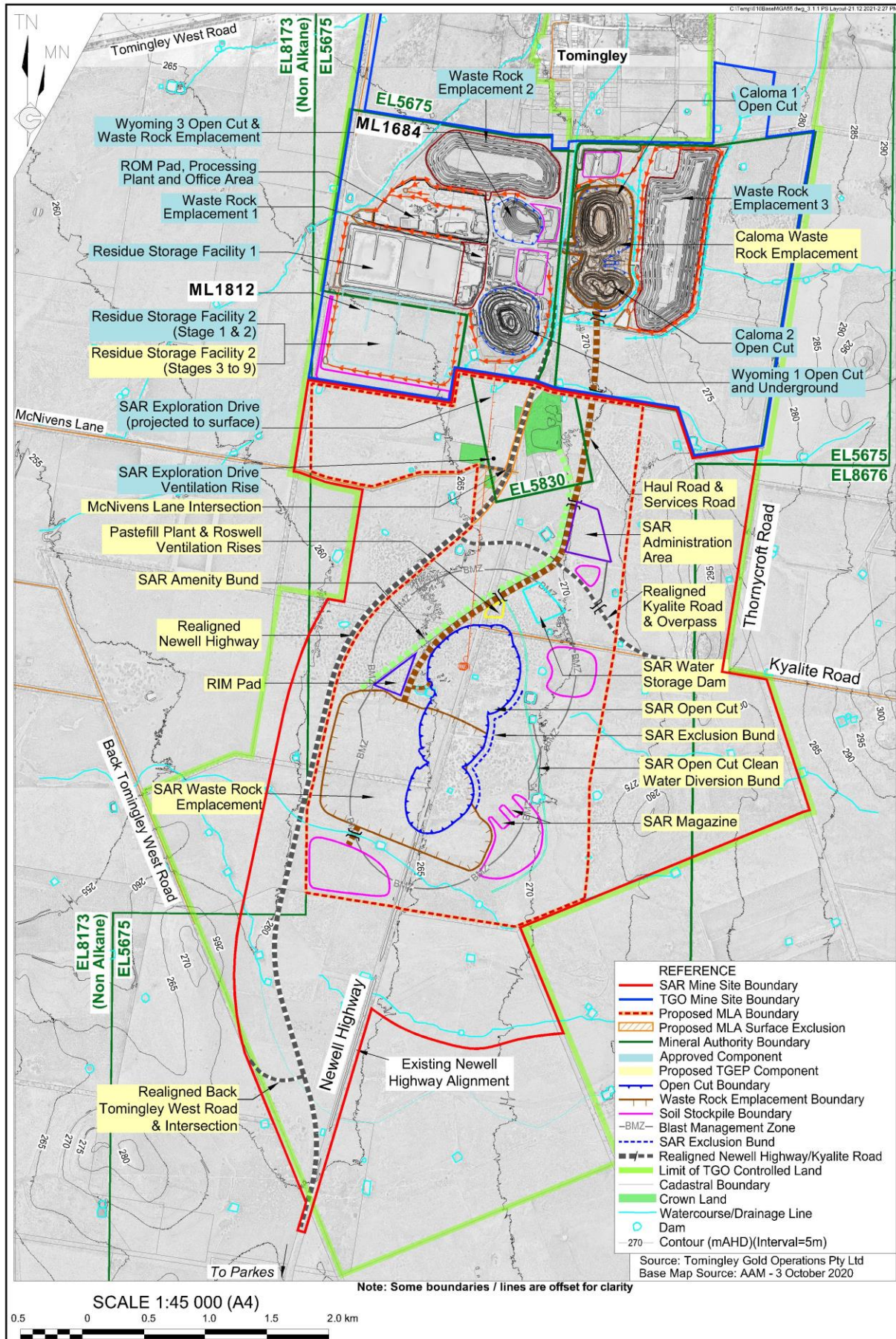


Figure 2 Project Site Layout

In addition, the Project would include an extension of the approved mine life, from 31 December 2025 to 31 December 2032.

Mitigation strategies have been incorporated into the design of the Project to avoid or minimise the environmental impacts of the proposed activities. Some of these measures also relate to the mitigation of economic impacts, including:

- Maximum use of existing infrastructure has been made to limit the potential demand for additional infrastructure to be provided.
- The layout of the Project has been designed to balance disturbance of areas of high biodiversity value with areas of high agricultural productivity.
- An overpass would be constructed on Kyalite Road to ensure that users of that road are able to safely pass over the proposed Haul Road and Services Road.
- A section of the Newell Highway would be reconstructed to the west of the existing alignment, adding 399 metres to the travel distance involved, but incorporating additional safety features and improved flood mitigation structures.

Other management measures are designed to enhance or boost the beneficial economic impact of the Project, such as:

- Employees would continue to be engaged locally on a residential basis, with employees expected to reside in surrounding areas, including Tomingley, Narromine, Peak Hill, Dubbo and Parkes. There is no proposal to engage personnel on a fly-in/fly-out or drive-in/drive-out basis.
- Locally-based service providers and contractors would continue to be preferred, thereby supporting local companies and employers. Management planning for mine operations estimates that 50% of operating expenses would accrue to the local region, with 80% being spent within NSW.
- Contributions would be made to the local, regional, NSW and national community through donations and community contributions, a Planning Agreement with and payment of rates to Narromine Shire Council, and payments of taxes and royalties to the NSW and Commonwealth governments.

2.2 SIGNIFICANCE OF THE RESOURCE

Gold was first discovered at Tomingley in 1879, with the Tomingley Goldfield proclaimed on 19 June 1882 and the village of Tomingley proclaimed on 15 June 1894. A number of underground mining operations were located adjacent to the village and in the McPhail area, 3km south of Tomingley within EL5830 (**Figure 2**). One of these, the Myall United Gold Mine, produced approximately 70 000 ounces of gold over a 30-year period from 1883.

In 2001, the Applicant entered into an agreement with Compass Resources NL in relation to EL 5675 and Golden Cross NL in relation to EL 5830 to earn 100% of both tenements (**Figures 1 and 2**). The Applicant identified the Wyoming 1 deposit in 2001, followed by the Wyoming 3 deposit in 2002, the Caloma 1 deposit in 2006 and the Caloma 2 deposit in 2010. MP09_0155 for the operation of TGO was granted on 24 July 2012.

Gold deposits within the Project Site are interpreted as orogenic gold systems positioned within a major north-south orientated structural zone. In addition to the TGO and SAR deposits, a number of additional exploration targets exist within the SAR Mine Site and the Applicant's Exploration Licence package. These prospects will be the subject of further exploration drilling over the life of the Project and may be the subject of subsequent applications for development consent should that exploration prove successful.

The Applicant has completed a number of Joint Ore Reserve Committee (JORC) compliant resource statements for TGO and SAR. **Table 3** presents an overview of the most recent estimates.

Table 3
Summary of Mineral Resources

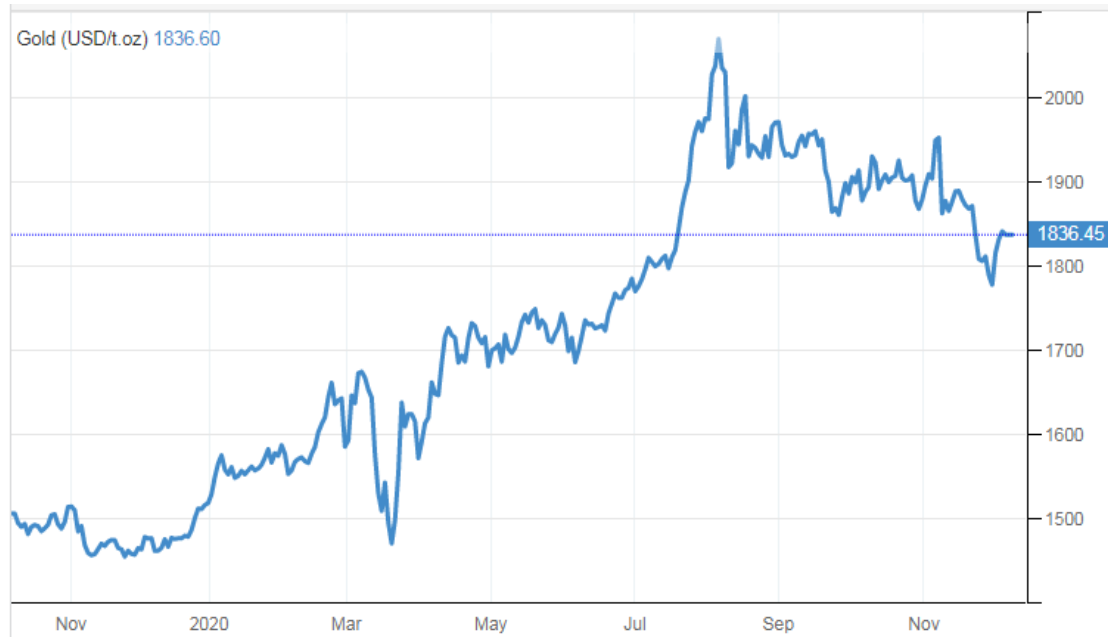
Deposit	Measured		Indicated		Inferred		Total		
	Tonnage (Mt)	Grade (g/t Au)	Tonnage (Mt)	Grade (g/t Au)	Tonnage (Mt)	Grade (g/t Au)	Tonnage (Mt)	Grade (g/t Au)	Total Gold (oz)
Tomingley Gold Operations²									
Open cut	1.653	1.6	2.272	1.6	0.990	1.2	4.915	1.5	238 000
Underground	0.868	2.8	2.328	2.7	1.338	2.2	4.534	2.6	372 000
TGO Total	2.521	1.8	4.600	2.2	2.328	1.5	9.449	1.9	610 000
San Antonio and Roswell³									
Roswell			7.880	2.07	2.190	1.93	10.100	2.04	660 000
San Antonio			5.930	1.82	1.390	1.32	7.320	1.72	406 000
SAR Total			13.800	1.96	3.580	1.69	17.400	1.90	1 066 000
Note 1: A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction (JORC, 2012). A Mineral Resources does not take into account limitations associated with mining of the material and may be considered a "global" estimate of the mineral endowment.									
Source: ASX announcement Resource and Reserve Statements FY21 dated 7 September 2021									

2.3 KEY ASSUMPTIONS

The key assumptions which influence both the CBA and LEA include the following.

- Mine activity would continue at the existing TGO Mine Site – Under the existing development consent for TGO open cut mining would continue to 2023, and underground to at least 2025. The Project would permit TGO underground mining operations (pending exploration success) to continue until 2028. The Project would also permit underground mining at the SAR Mine Site to commence in 2023, and continue (both open cut and underground) to at least 2031. There is potential to continue underground mining to 2033. The analyses conducted have only considered the impacts of mining activity until 2031, and must therefore be considered conservative.
- Alkane has purchased properties located close to (and over) the identified resource, and now hold 2222 ha of land which is currently used primarily for agricultural production. Within this area a mine site of 1817 ha has been identified. The impacts of the potential loss of agricultural production have been assessed in the Agricultural Impact Statement (AIS) prepared for the Project (TGO, 2021), with the quantified impacts being included in the CBA conducted.

- The price of gold has been assumed to average \$US 1,800/oz. over the anticipated production period, with an assumption that the exchange rate for the \$A will average around \$US0.75 over the same period, yielding a gold price in \$A terms of \$2,400/oz. This price is a key assumption in supporting the financial feasibility of the Project. Indeed, expectations for the price of gold will be a key factor in determining the level of future activity in the development of new gold mines. Over recent times, significant volatility has been seen, as illustrated in **Figure 3**.



Source : MinEx Consulting (website)

Figure 3 **October 2020 to December 2021 Price of gold (\$US/oz)**

3. ECONOMIC ASSESSMENT METHODS

The economic impacts that the Project would be expected to have on the local, regional, and State economies has been assessed via use of two quite separate methodologies. Cost-Benefit Analysis (CBA) examines economic efficiency – i.e., it answers the question as to whether the Project represents a better use of the mix of resource required by the Project than alternative uses of those resources. Local Effects Analysis is based on principles of economic equity – i.e., the way in which the benefits of the Project are distributed within relevant communities.

The principles behind each methodology are summarised below. Section 4 then outlines the results of conducting a CBA, while Section 5 reports on the local effects assessment.

3.1 COST BENEFIT ANALYSIS

Cost-Benefit Analysis (CBA) is a recognised and accepted technique for identifying, and then quantifying, the benefits and costs to an entity (such as a State or national economy) of a certain use of resources for which alternative uses exist. This methodology is therefore based on concepts of **economic efficiency** – by providing information that can be used to assess whether the particular use of economic resources will deliver net benefit to the entity involved.

The results of CBA can be used to assist governments to gain some insight into the source of benefits and costs delivered by a project, the magnitude of such costs and benefits, and (via sensitivity testing) the extent to which benefits (and costs) might be different than first estimated. It is a technique that compares the economic environment **with** the project, against the economic environment **without** the project. Using the ‘with and without’ principle means that it is only the **difference** between these two positions that is relevant to CBA. This approach means that a ‘benefit’ is any item which produces a net addition (marginal economic benefit) that would not have eventuated in the absence of the project, and similarly a ‘cost’ is any item which results in a net subtraction (marginal economic cost) that would not have been incurred in the absence of the project.

It is a technique that is used by the World Bank and other international funding and aid agencies, as well as national governments, when trying to understand if a major project delivers net benefits. In NSW, the State Government has provided a “Guide to Cost-Benefit Analysis” (NSW Treasury, 2017) outlining the recommended approach to be used in project evaluation. This document, combined with long experience developing CBA’s for foreign governments and aid projects (many funded by the World Bank) has been used in the preparation of this assessment. The CBA conducted relates to the impact of the Project on the economic welfare of the State of NSW.

However, it is important to note that CBA is not an ‘off the shelf’ model into which numbers can be plugged and which then produces a number which can be used as the basis for a decision. Rather, it is a process of looking at a project in a structured way to reach a conclusion regarding any improvement in economic efficiency offered. Nor is CBA a detailed feasibility study for a project – a cost to the project (for example, capital brought in) in a feasibility study could become a benefit in CBA (as new capital brought in will deliver a net addition to capital available). In addition, the goals of CBA can be met with data at an indicative level, rather than requiring precise values.

The identification and then quantification of costs and benefits associated with the Project for the State of NSW, and the subsequent assessment of net benefits, is presented in Section 4.

3.2 LOCAL EFFECTS ANALYSIS

The Project is concerned with the extraction of a gold resource in the local area. As a result of this prime activity, the Project would also:

- provide new and continued employment opportunities, and thus add to household incomes via wages paid to those employees;
- generate additional demand for local goods and services;
- contribute to the regional gross value of output; and
- make various payments to local government in the region (and to the State of NSW).

All these activities would have an impact of the local economy, and on the welfare of local residents. In order to assess the economic impacts of the Project, it is necessary to first provide an assessment of baseline economic conditions prevailing in the local area. It is then possible to assess the extent to which these baseline conditions would be altered as a result of the project activities.

The Local Effects Analysis then reports on the potential impacts of the Project on these baseline conditions, and can assess the distribution of those changes amongst various sectors of the community.

4. COST BENEFIT ANALYSIS

4.1 INTRODUCTION

A simple CBA model has been constructed in order to provide an economic assessment of the potential impact of the Project on the State of NSW. This model has been developed generally in accordance with the “Guide to Cost-Benefit Analysis” provided by the NSW Government for the use of this methodology (NSW Treasury, 2017). This Guide provides a concise summary of the steps required in conducting a CBA, and also indicates the preference for a 7% discount rate to be used in converting cost and benefit streams over time into a present value (PV).

The basis of this model is the identification of the marginal changes brought about by the ‘with-project’ situation, as compared to the ‘without-project’ situation. It is only the marginal changes that are relevant to this analysis, and not absolutes. For this evaluation, the ‘without-project’ scenario has been taken as:

- The current TGO ceases in 2025, as the resources in the existing mine operations are exhausted.
- Agricultural production on land already purchased by Alkane would continue under current management regimes, with no increase in carrying capacity.
- The gold resources which have been identified in the San Antonio and Roswell sites would remain in the ground.

The ‘with-project’ scenario is as described in Section 2.1 and the EIS. The model assesses the identified costs and benefits as a cash flow summary over the relevant period of time. Using a discount rate of 7%, these annual estimates are then reported in Net Present Value (NPV) terms. Data was provided by the Applicant, from confidential financial feasibility modelling of the Project, to enable various costs and benefits to be assessed for this analysis. It should be noted that this confidential data represents mine planning as at 30 July 2020, provided for use in this EIA in August 2021. While some physical details of operational planning may have changed since then, it is not considered likely that the base financial data used in the feasibility assessment would have altered in any significant manner. Other data (relating to externalities) were obtained from relevant specialist reports (as listed in Section 4.3).

4.2 IDENTIFICATION OF PROJECT BENEFITS

The Project is focussed on the delivery of processed gold, extracted from ore located in the local area. However, the value of this gold (while significant) cannot in itself be directly considered a ‘benefit’ to the State of NSW, as the gold sold is the property of the Applicant and thus of its shareholders. NSW would benefit from the value of the gold delivered via royalties that would be paid to the State Government, and via net returns paid to the proportion of Alkane’s shareholding that is resident in NSW. The total value of the gold is considered in the LEA, as this value would represent an addition to the value of regional output.

The Project has been assessed as delivering the following benefits to the State of NSW.

- New capital which is brought into the State, which will provide benefits in terms of the share of total capital costs spent in NSW. This benefit item also includes the purchase of land by the Applicant, with landowners receiving payment that in all cases exceeded current market value.
- Net returns delivered to the proportion of the Applicant's parent company's shareholding that is resident in NSW. The share register of Alkane indicates that 8.2% of shareholding is resident in NSW.
- The share of annual operating expenses that would be spent in NSW. Wages paid to employees are included in this item. Operating expenses involved in on-going activity at TGO, that would otherwise cease in the absence of the Project, are included.
- Various taxes and other charges levied on project activities by both the State and local governments. Other taxes are paid to the Australian Government, and it has been assumed that NSW would benefit from these payments to the extent that a portion would be returned to NSW in line with the State's share of the Australian population (taken as 32% as set out in the NSW Treasury Guide to CBA (NSW, 2017)). These payments are summarised in the following **Table 4**.

Table 4
Payments made by the Applicant which deliver Benefits to Local and State Government

Payments to local government	Mining rates Agricultural rates Planning Agreement payments
Payment to NSW State government	Royalties on gold Payroll tax Land tax Stamp duties
Benefit received as a result of payments made to the Australian Government	Personal tax paid by employees Corporate tax paid by Applicant

4.3 IDENTIFICATION OF PROJECT COSTS

While there are a number of economic 'flows' both into, and from, the State of NSW, the CBA for the Project is concerned only with **net** effects. The CBA model developed for this EIA has also examined some of the costs that the Project would impose on the State of NSW.

4.3.1 Assessment of Externalities

Externalities refer to situations when the effect of production or consumption of goods and services imposes costs or benefits on others which are not reflected in the prices charged for the goods and services being provided. An externality is therefore a cost (or benefit) caused by a producer that is not financially incurred (or received) by that producer. An externality can be positive or negative and can stem from either the production or consumption of a good or service. The costs and benefits can be both private—to an individual or an organization—or social, meaning it can affect society as a whole.

There may be other impacts of the Project that would deliver **unpriced** impacts, such as loss of habitat, noise, visual impacts, etc. These are not considered as externalities in the context of this economic assessment, as they do not have an impact on other goods and services being delivered. However, various other costs that could result from the Project are addressed in Section 4.3.1.3.

It is anticipated that the Project would be considered to result in two principle negative externalities:

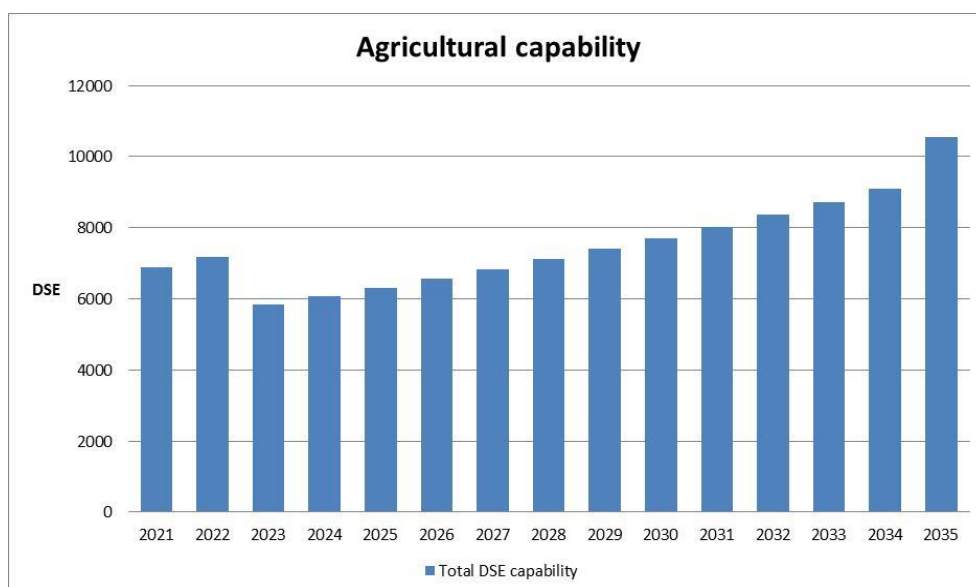
- A loss of agricultural production that would otherwise be provided by the area of land to be occupied by the Project Site.
- A loss of transport efficiency for users of the Newell Highway, as a result of the increased travel distance (and therefore time) imposed by the proposed realignment of the Newell Highway which would result in an additional 410 metres of travel distance and 13 seconds of travel time.

The impacts of both these externalities have been included in the costs identified in the CBA model prepared for this EIA. The source of data for the quantification of both these externalities has been the relevant specialist reports (*Agricultural Impact Statement* (AIS) (TGO, 2021) and *Integrated Transport Assessment* (ITA) (Constructive Solutions, 2021)).

4.3.1.1 Agricultural Productivity

Surface disturbances within the Project Site would likely result in a net loss of agricultural land. Of the approximately 2,222ha of agricultural land controlled by Alkane in the vicinity of the Project Site, approximately 475 ha would be taken out of agricultural production between 2023 and 2031. Rehabilitation would then deliver 209 ha of this area back to a condition capable of agricultural use.

At the same time, careful management of the land remaining in production would increase the carrying capacity of this area so that higher production could be delivered. **Figure 4** indicates the initial loss in carrying capacity over the period 2021 to 2035 – measured in terms of dry sheep equivalent (DSE)/ha available over the area remaining for agricultural production – followed by a gradual increase as productivity is improved, with a final increase as a result of rehabilitation of some areas previously used for mining operations after 2035

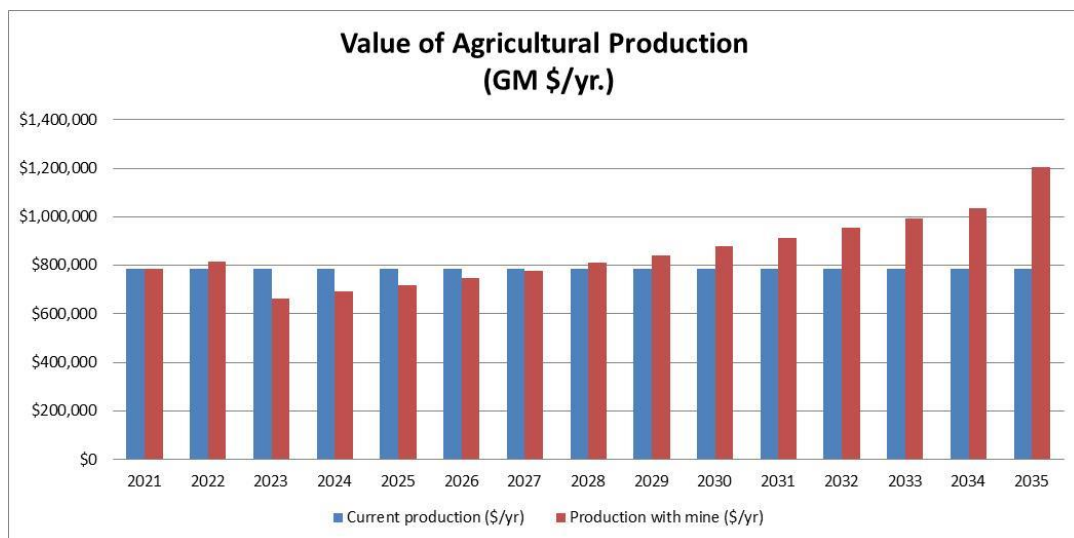


Source : TGO (2021)

Figure 4 Changes in Productive Capability of Land as a result of the Project

The data in Figure 4 represent the total carrying capacity of the site, measured in terms of DSE's, over the period from 2021 (before the expected commencement date of the Project) to 2035 (after rehabilitation works are expected to be completed). All information has been sourced from the AIS for the Project (TGO, 2021), which provides further details on the relevant calculations. The AIS assesses that while there would be a loss of productive capacity in earlier years, production would exceed current levels as a result of improved land (pasture) management which would result in a higher carrying capacity.

The overall predicted impact of these changes on the value of agricultural production within land controlled by the Applicant is indicated in **Figure 5**. The net (difference) between the value of production before mining, and the value to be achieved during and after mining would be negative in earlier years, but positive in later years.



Source : TGO (2021)

Figure 5 Annual Agricultural Production (gross margin per year)

4.3.1.2 Transport Efficiency

The Project would likely result in a loss of transport efficiency delivered by the Newell Highway, as a result of increasing the overall length required to be travelled (and thus increased travel time) over the new alignment of the Highway. Details of the calculation of this externality are provided by Constructive Solutions Pty Limited, which include assumptions as to current traffic flows on the relevant stretch of the Newell Highway, and likely future increases in such flows. Assumptions on road user costs per vehicle-hour are then used to assess increases in total road user cost that would be caused by the additional travel distance involved in the relocated Highway.

These costs are assessed as \$0.966 million in the first year of travel on the new alignment, rising to \$1.094 million per year after 25 years. This is assumed as the period of time over which the new alignment would be used, before further remedial work might be required.

It is noted that other benefits would be delivered to road users, which have not been included as offsets to the increased travel costs. These additional benefits which would result from the design parameters used in the construction of the new Highway alignment include:

- flood protection for a 0.1% Annual Exceedance Probability (AEP) rainfall event. The existing Highway floods every 3 to 4 years (25% to 33% AEP); and

- additional safety features, including wire-rope protection on the centre line and elsewhere, replacement of three existing intersections with intersections with dedicated turning lanes, removal of four farm driveways in the 110km/hr zone and removal of roadside advertising signs.

As a result of these design improvements, it is likely that road-users would derive greater amenity from use of the realigned Newell Highway. Local residents would also have improved amenity as a result of the reduced risk of collision with vehicles entering (at low speeds) on to a road with a 110 kph speed limits, from the local road network. Notwithstanding the above, the indirect economic impacts that would result from these safety and amenity benefits have not been included in this EIA.

4.3.1.3 Other Economic Costs Imposed

Unpriced costs such as noise and visual pollution have been considered in other specialist reports, and have not been considered in the quantified impact assessment presented in the EIA as there would be very little difference from the impacts created by use of the current Highway alignment.

The following presents a qualitative summary of the indirect economic costs of the Project.

- impacts on **surface water** and **groundwater** – access to water would be accounted for by the purchase of Water Access Licenses, and such costs have been included in the total assessed for development costs for the Project.
- impacts on **air quality** and on **noise/vibration** – the Applicant has already purchased or negotiated agreements with a number of potentially impacted properties, and the costs associated with these purchases and related negotiated agreements have been included with development costs.
- Impacts on **ecology** and **biodiversity** – there could be some loss of values associated with the Project. The costs of offsetting these impacts (assessed in other specialist reports) have been included in development costs.
- Impacts on **Aboriginal** and **historic heritage** – other studies have assessed that no material impacts would result on these values as a result of the Project.
- Impacts on **visual amenity** – various measures designed to mitigate the visual impact of the Project have been included in development costs. No material residual impact on visual amenity is considered likely.
- Impacts on costs of providing **public infrastructure** – any impacts on the provision of public infrastructure are considered to be covered by the Planning Agreement with Narromine Shire Council, and have been included in operational costs.

4.4 CBA MODEL RESULTS

Section 4.2 has described the benefit items which have been assessed via the CBA model, and Section 4.3 has described the cost items. The way in which these items have been quantified is presented in this section, with the results obtained described for each of the identified benefit (and cost) items.

4.4.1 Returns to NSW via shareholding

Confidential data provided by the Applicant (sourced from the feasibility study conducted for the Project), indicates the anticipated stream of net cash inflows after tax. This could be assumed to represent the net returns to Alkane, represented by shareholders. The share registry indicates the volume of shares that are held by NSW residents. Applying this percentage of shareholding to the annual anticipated net cash inflows has been used to represent the potential revenue accruing to NSW residents as a result of returns to shareholding. The present value (at 7% discount rate) of this benefit item, over the period 2022 to 2031, is **\$18.15 million**.

4.4.2 Capital Expenditure in NSW

Confidential data provided by the Applicant (sourced from the feasibility study conducted for the Project), indicates the anticipated capital expenditure for the Project totals \$115 million, spread over the period 2022 to 2025. It is further estimated by the Applicant that 80% of this total would be spent on goods and services sourced from NSW operators. In addition, the Applicant has already spent \$19.6 million on the purchase of those properties which would be impacted by the Project.

It is anticipated that around 60% of Project-related costs could be raised via loans, and for the purposes of this analysis it has been assumed that 100% of this debt financing would be sourced from within NSW, and that an average interest rate of 3.5% would be charged on the loan, which would be repaid in equal instalments over the period 2024 to 2031. The interest, charged annually on the remaining outstanding loan balance, has been added to total capital expenditure in the model.

A total of \$122.5 million would therefore accrue to NSW residents via capital expenditure between 2021 (as land purchases have already been completed) and 2025, which delivers a PV of **\$100.58 million** at 7% discount rate. This total excludes the potential costs of rehabilitation of the Project Site.

4.4.3 Operating Expenditure in NSW

Operating expenses would be incurred for the operation of both the open-cut and underground components of the project, as well as for the processing of the ore produced from these mining operations. Confidential data provided by the Applicant (sourced from the feasibility study conducted for the Project), indicates the anticipated total operating expenses for the Project would be \$788 million between 2023 and 2031. It is also estimated that 80% of mine-related operating expenses, and 100% of ore processing costs, would involve the provision of goods and services sourced within NSW. Applying these percentages to the anticipated stream of operating costs over the observed period in the model has delivered a PV of **\$432.31 million** from the operating expenditure associated with the Project.

4.4.4 NSW Public Receipts

Confidential data provided by the Applicant (sourced from the feasibility study conducted for the Project), indicates the levels of anticipated payments made by the Project to the State government in the form of various taxes and charges. These payments include:

- Royalties - The extraction of gold from resources in NSW requires the payment of royalties to the State, charged at the rate of 3.1% of the revenue from the sale of gold from the Project. The Project would extract a total of 589,000 oz. of gold between 2024 and 2031, which would be sold at an average price of \$US1,800/oz, which (based on an assumed exchange rate of \$A0.75/\$US) equates to a total revenue of \$A1,414 million. Revenue has been assessed on an annual basis over the period 2024 to 2031, with a total of \$43.8 million being paid in royalties as a result.
- Payroll tax - The Applicant has estimated that a total of \$258.26 million in additional wages would be paid between 2022 and 2031, which would attract of total of \$14.08 million in payroll tax payable to the NSW Government.
- Land tax - The Applicant has estimated that the Project would attract a total of \$145,000/year in land tax, payable to the NSW Government, over the period 2023 to 2031. This would result in a total payment of \$1.3 million in land tax over this period.
- Stamp duty - The purchase of properties in the vicinity of the Project Site has already attracted a payment of \$854,000 in stamp duty levied by the State.
- Rehabilitation bond - While the costs of rehabilitation are unknown at this stage, a bond is payable to the NSW Government (in advance) to ensure that rehabilitation takes place. The Applicant has indicated that they expect that a rehabilitation bond of \$10 million would be levied, with 50% to be paid in 2023, and the balance in 2031. For the purposes of the CBA, the sum that would be paid to the Government of NSW has been included. Actual rehabilitation costs would be borne by the Applicant, and would not provide a benefit stream to the Government in the same way as the bond is paid.

Summing these five payments, and then discounting the annual stream of payments over the period 2021 to 2031, delivers a PV of **\$90.94 million** for the total payments that would be made to the NSW Government by the Project.

The relative contributions of each of these forms of payment to the NSW Government are indicated in **Figure 6**.

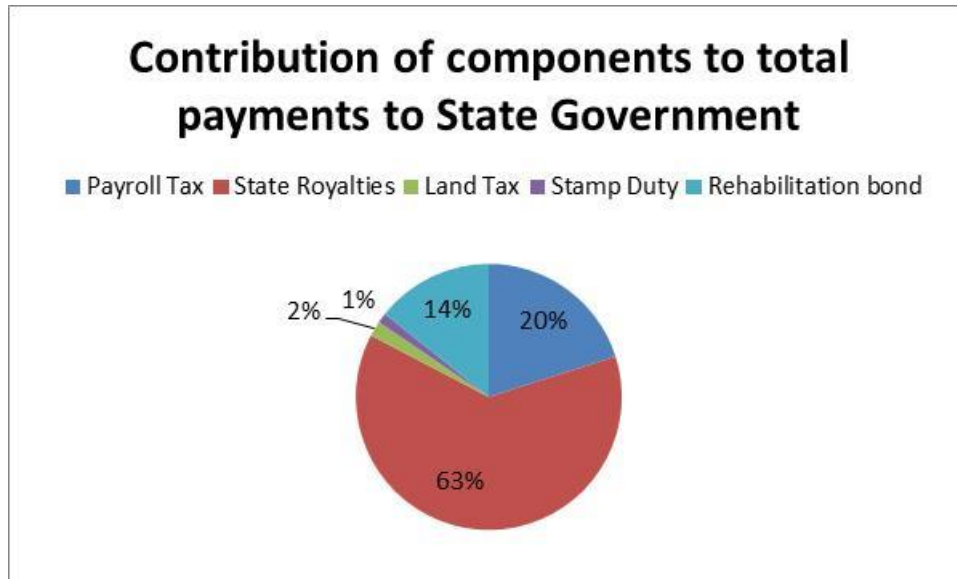


Figure 6 Cash Payments to State Government

It is clear that the payment of royalties, levied on the revenue obtained from the sale of gold extracted by the Project, is by far the largest form of cash flows obtained by the State of NSW.

4.4.5 Agricultural Production Externality

The Applicant has purchased several properties that include areas of land in the vicinity of and within the Project Site. These properties are all currently used for agricultural production, and Section 4.3 has summarised the costs that the Project will impose on the community of NSW, in form of agricultural production that would be lost from the area of land subsumed into the SAR Mine Site.

The average annual gross margin (revenue less variable costs) delivered from the current use of the land, operated as agricultural enterprises, has been assessed at \$784,100. This estimate has been arrived at as described in Table 5.

Table 5
Estimate of Value of Agricultural Production from Land Under Current Use

	Cropping	Livestock	Nil production	Total
Area (ha)	1,089 (49%) ¹	1,067 (48%)	67 (3%)	2,222
Gross margin (\$/ha)	359.55 ²	368.13 ³	-	
Gross margin/yr.	\$391,471	\$392,633	-	\$784,104
¹ Allocation of land to current enterprises gained from interviews with landholders				
² NSW DPI Livestock Production Budgets, Merino ewes (20 micron) with Terminal Sires, October 2019				
³ NSW DPI Crop Production Budgets, NW NSW, Dryland wheat, Winter 2012.				

Using these data delivers an average value of agricultural production (in terms of gross margin derived) of \$352.9/ha over the 2 222 ha of the properties, which would provide a total annual value of production (again in terms of gross margin) of \$784,104. In the absence of the Project, it can be assumed that agricultural production would continue at this rate. Over the life of the mine (to 2031), this production would have a PV of \$5.88 million.

However, the potential impact of the Project cannot simply be assessed in terms of this loss, for three reasons:

- Not all the land would be excluded from agricultural production as a result of mining activities, as only 475 ha would be involved with the Project and associated activities such as the relocation of roads.
- Active management of the land owned by the Applicant would be undertaken. Information sourced from the AIS (TGO, 2021) already prepared by the Applicant indicates that:
 - only livestock activities would be pursued on the land owned by the Applicant, with no cropping to be undertaken; and
 - active management (via pasture improvement) would lift the carrying capacity of the land over time, increasing to a maximum of 6 DSE/ha (from a current capacity of 3.1).
- Rehabilitation activities following cessation of mining activity would return 209 ha to agricultural use as Land and Soil Capability Class 4 land and 136ha as Land and Soil Capability Class 6 land. For the purposes of this assessment, the 136ha of land to be returned to Class 6, namely the rehabilitated SAR Waste Rock Emplacement, has been assumed to have no agricultural production post-mining. In reality, this land would be subjected to managed grazing.

As a result, 266 ha (of the total area purchased of 2 222 ha purchased) would be permanently removed from agricultural production as a result of the Project – 11.97%. As a result of the active management applied to the area, the overall carrying capacity of the area will be increased, despite the permanent loss of this portion – as illustrated in **Figure 4**.

Based on the areas deemed to be available for production, and the anticipated increases in carrying capacity that would be delivered by active management, over the period from 2021 to 2035 (so that the addition of rehabilitated areas to total production can be included), the total value of agricultural production potentially derived from the site would:

- Increase initially as active management improves carrying capacity, and before any land area is required for mining activity
- Decline in 2023 as preparations for mining, including road relocations, commence
- Start to recover thereafter due to increased carrying capacity.

As indicated in **Figure 7**, by 2027 the value of agricultural production, despite the loss of 475 ha due to the Project, from the properties would have returned to the 2021 levels. Total production would then continue to increase, as carrying capacity would gradually increase (by 5% per annum) reaching a maximum level of 6 DSE/ha by 2035, at which time rehabilitated land would also be returned to agricultural production.

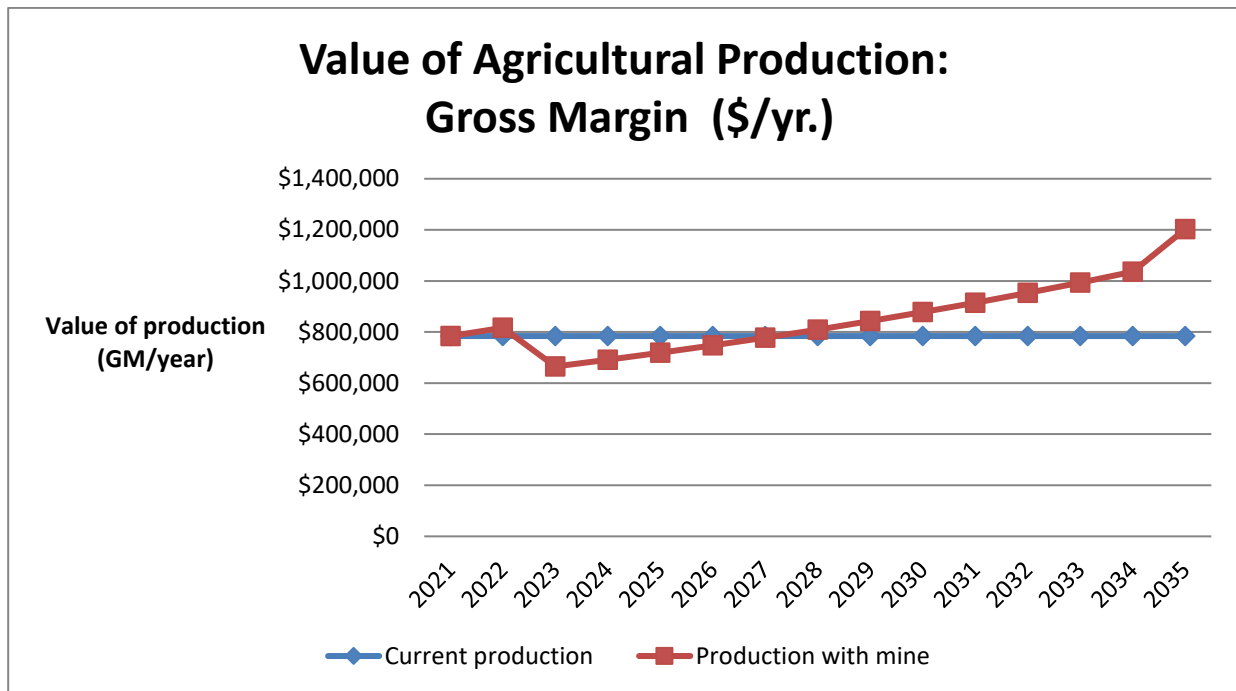


Figure 7 Value of agricultural production, in terms of Gross Margin/year

The loss of agricultural production in earlier years is therefore more than compensated for in later years. This result delivers a positive PV for this externality of **\$1.62 million** over the period from 2023 to 2048, and a PV of \$0.35 million (both at 7%) from 2021 to 2035. The reason for selecting the longer period (as used for all the calculation of the PV for all the benefit and cost items) is to be consistent with the transport cost externalities described in the following section.

4.4.6 Transport efficiency externality

Section 4.3 has described the externality that would be imposed by the Project as a result of transport efficiency losses. These efficiency losses would result from the relocation of a portion of the Newell Highway, required because of the desired location of the Project mine site. This relocation would result in an increase of 410 metres in travel distance and 13 seconds increased travel time over the new alignment of the Highway. Details of the calculation of this externality were provided Constructive Solutions Pty Limited, which include assumptions as to current traffic flows on the relevant stretch of the Newell Highway, and likely future increases in such flows. Assumptions on road user costs per vehicle-hour are then used to assess increases in total road user cost that would be caused by the additional travel distance involved in the relocated Highway.

These costs are assessed as \$0.966 million in the first year of travel on the new alignment, rising to \$1.094 million per year after 25 years – i.e. to 2048. This is assumed as the period of time over which the new alignment would be used, before further remedial work might be required. The PV of these transport externality costs, at 7%, is assessed as \$-10.44 million.

It is noted that some changes would also be made to local roads (mainly Kyalite Road) that could impact on local usage of these links. However, given the very low volume of traffic on these roads, transport efficiency associated with these roads has not been assessed.

4.4.7 Overall Results of CBA

The CBA compared the identified cost streams over the period 2021 (representing land purchases already made) to 2048 (to include transport efficiency costs that would persist until the relocated Newell Highway section reaches the end of its design 'life'), with the identified benefit streams over the same period. It is noted that most of the benefit items would cease at the projected cessation of mining after 2031.

These cash flows were then discounted back to a present value, using a discount rate of 7% as recommended by the NSW Guide.

Table 6 presents the Present Value (PV) delivered by the CBA model for each of the identified benefit and cost items described in Sections 4.2 and 4.3.

Table 6
Present Value of Benefit and Cost Items

	Present Value of cash flow over Project life (\$million)
Benefit Items	
Returns to NSW shareholding	18.15
Capex spent in NSW	100.58
Opex spent in NSW	432.31
NSW public receipts	90.94
Cost Items	
Externalities	-8.82
NET PRESENT VALUE TO NSW	633.17

The actual incidence of net benefits in each year of the Project (2021 to 2031) is indicated in **Figure 8**. The Project is assessed as delivering a **net addition of \$633.17 million**, in NPV terms (at 7% discount rate) over the life of the project, to the State of NSW.

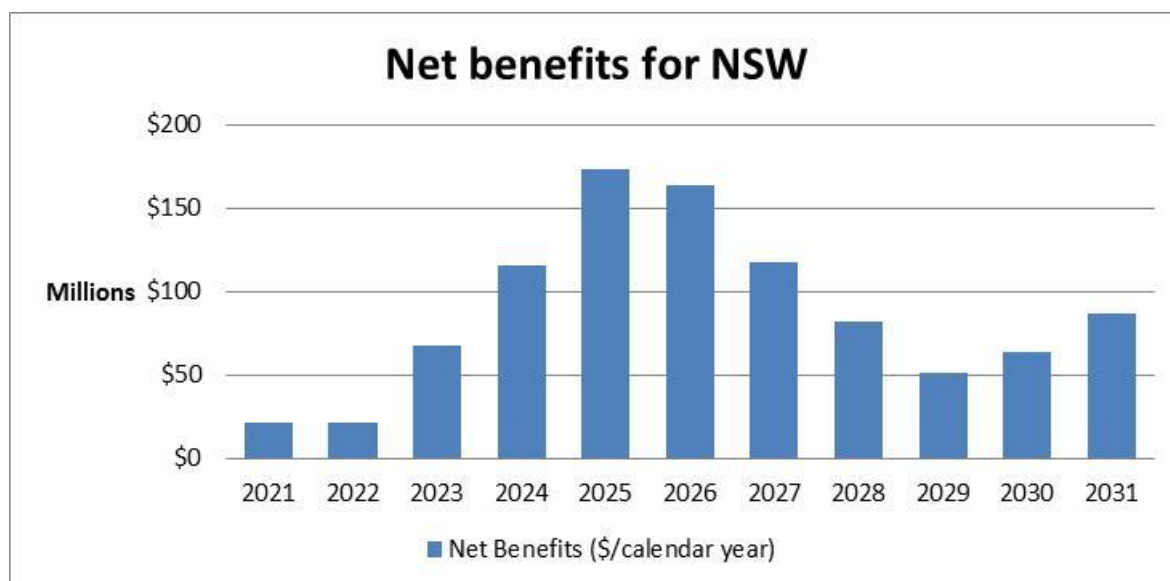


Figure 8 Annual Incidence of Net Benefits Delivered by the Project for NSW

The Project is therefore considered to deliver a potential net benefit to the State of NSW, which can be valued in terms of a **NPV of \$633.17 million**. The Project can thus be considered as representing a worthwhile and economically efficient use of the resources employed.

4.5 SENSITIVITY ANALYSIS

It is important to identify the key variables used in the CBA model, which could cause the results to change, and even suggest that (under certain conditions) the Project would not deliver net benefits to the State. A process of sensitivity analysis has therefore been conducted, to identify the variables to which the CBA results are sensitive, and the magnitude of such sensitivities.

4.5.1 Discount Rate

A discount rate of 7% has been used in the base case CBA, in line with recommendations contained in the *NSW Guide to Cost-Benefit Analysis* (NSW, 2017). **Figure 9** indicates that if a higher discount rate of 10% were to be applied, then the net benefits (as a NPV figure) would be \$540 million. Conversely, a lower discount rate of 5% would result in a NPV figure of \$708 million. The results are therefore not particularly sensitive to assumptions made regarding the discount rate, and the Project would remain beneficial, in CBA terms, to the State of NSW at higher rates.

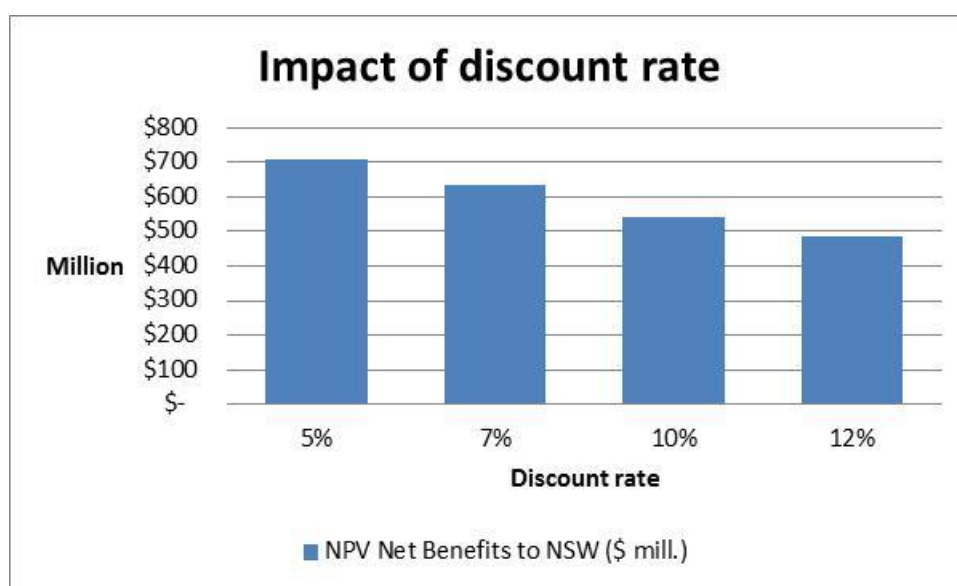


Figure 9 Sensitivity of Results to Discount Rate Assumption

4.5.2 Price of Gold

Global gold prices are generally quoted in terms of \$US/oz. The price assumed for the value of gold would have a major impact on the feasibility of the Project, from the viewpoint of the Applicant, as it would strongly influence the revenues available. The effective price of gold in \$A terms will also be influenced by assumptions regarding the exchange rate between the \$US and the \$A.

However, the revenues (sales of gold) produced by the Project are not, *per se*, relevant in a CBA – it is the way in which resources are used to generate that revenue that is important. Returns to shareholders are of course related to revenues received (net after all costs are deducted), but this benefit item is not significant for the Project, as only 8.2% of shareholding of Alkane is resident in NSW.

The lack of significance of the gold price assumption is clearly demonstrated in **Figure 10**. Even if gold prices were to increase from the level of \$A2,400/oz, as assumed in the model, to \$A3,200/oz (a 33% increase), the CBA results would only increase by \$9 million. Conversely, a drop in price to \$A1,600/oz (a 33% decrease) would result in the CBA results declining by just \$9 million in NPV terms. However, a decline in gold prices could certainly act to make the Project unviable, in which case none of the identified benefits potentially accruing to NSW as described in this CBA would occur. This CBA is not a surrogate for a project feasibility study, as the purpose of the CBA is to identify net benefits available for the State of NSW, and not to assess returns to the Applicant.

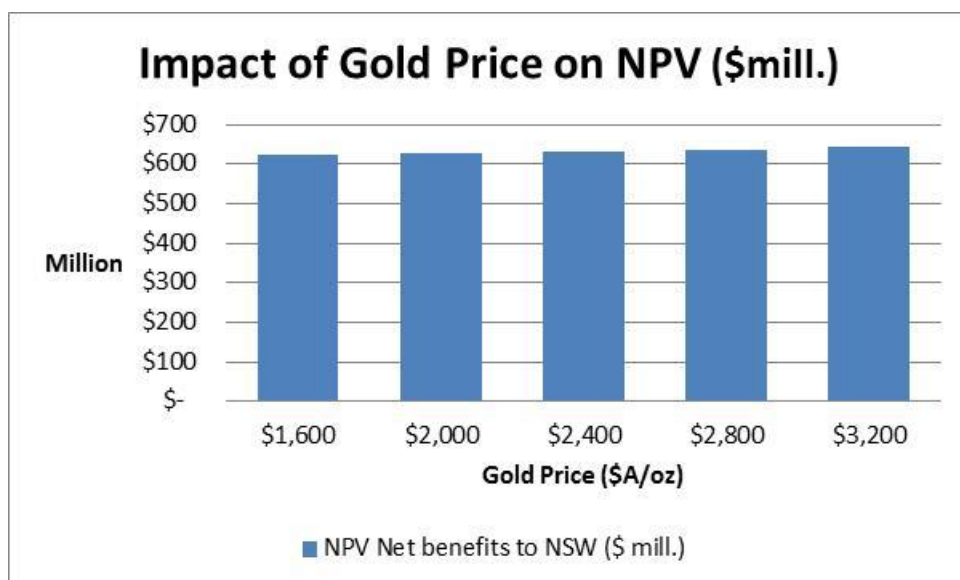


Figure 10 Sensitivity of Results to Gold Price Assumption

4.5.3 Royalty Rate

All gold resources developed in NSW are considered to be owned by the State, and not by the landowner under which the ore body is situated. The Project would therefore pay royalties to the NSW Government at a level calculated by applying a rate of 3.1% to the value of gold sales. While royalty rates would contribute over 70% of all cash payments made directly to the NSW Government by the Project, these payments are less than 1/3 of **all** flows of public sector revenues to the State, which include payments made to local Government, and the share of payments made to the Australian Government which then flow back to the State. The PV of all NSW 'public sector' receipts is \$90.94 million (Table 5 in Section 4.4), which is just 13% of the PV of total benefits accruing to the State of NSW of \$633.17 million (NPV of \$641.99million, after deducting the net externality costs of \$8.82 million).

The overall NPV delivered by the Project is not particularly sensitive to the level set for this single item. As indicated in **Figure 11**, an increase from 3.1% to 3.5% would only add \$3.5 million to the NPV of benefits delivered to the State. Similarly, a decrease from 3.1% to 2.9 % would only reduce \$1.7 million from the NPV of benefits delivered to the State.

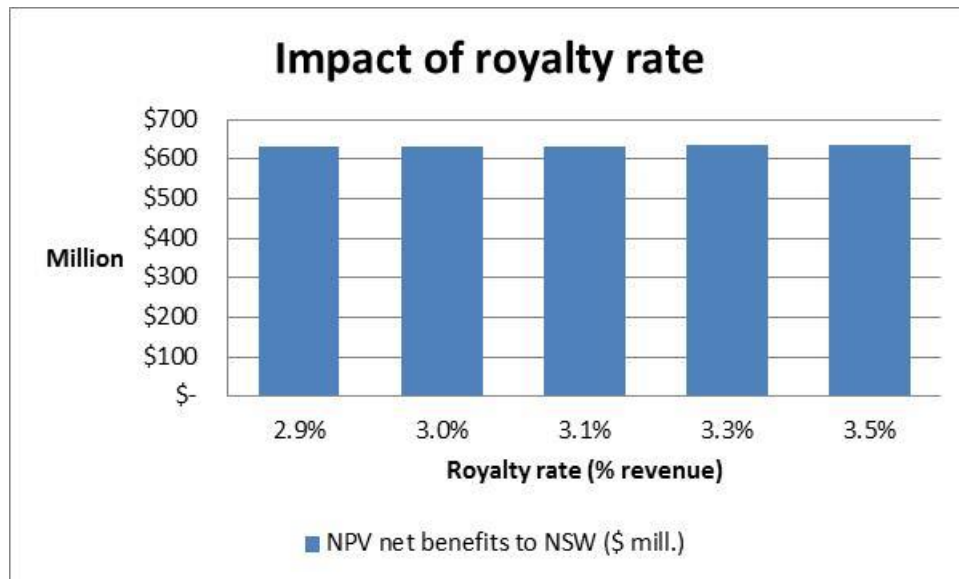


Figure 11 Sensitivity of Results to Royalty Rate Assumption

4.5.4 Proportion of Operating Costs (OPEX) Spent in NSW

The CBA model has assumed (based on information from the Applicant) that 80% of all operating costs incurred would be spent on the supply of goods and services (including labour) from within NSW. This flow represents the largest single source of net benefits to the State of NSW, as assessed by the CBA model (68%), as set out in Table 5 in Section 4.4.7.

Sensitivity testing has revealed that if 100% of operating costs were to be spent in NSW (an increase of 25%), the overall net returns delivered to the State by the Project would increase from \$633.17 million to \$712.1 million – an increase of 12.4%. Similarly, if only 60% of operating costs were to be spent in NSW (a decrease of 25%), the overall net returns delivered to the State by the Project would decrease from \$633.17 million to \$554.2 million – decrease of 12.5%.

As indicated in **Figure 12**, the NPV result obtained from the CBA model is more sensitive to this assumption than to any of the other variables tested. If more of the planned operating expenditure were to be spent on goods and services provided from within NSW, the net benefits of the Project would be higher.

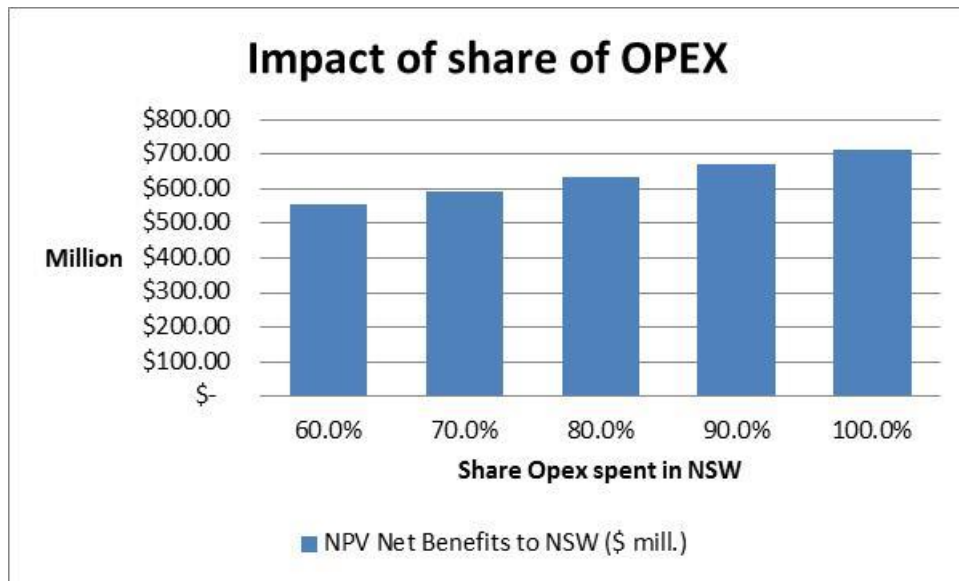


Figure 12 Sensitivity of Results to Assumption on Share of Operating Costs

The assessment conducted has concluded that the Project would deliver a significant net benefit for the community of NSW, with \$633.17 million resulting as the NPV, from the changes occasioned by the Project.

The sensitivity testing conducted suggests that the impact that the Project would have on the State of NSW is robust to changes in key variables other than the assumption relating to the proportion of operating expenses that would be spent in NSW.

5. LOCAL EFFECTS ANALYSIS

In terms of the assessment of local economic impact, the Project is considered to have two components:

- the existing Tomingley Gold Operations (TGO); and
- the proposed SAR operations, based on the San Antonio Roswell (SAR) resource to the south of the existing TGO mine.

Construction of TGO commenced in February 2013 with open cut mining commencing in November 2013. Underground mining development from a portal in the Wyoming 1 Open Cut commenced in January 2019, with ore production from stopes commencing in December 2019.

TGO operates up to 365 days per year and 24 hours per day using two 12 hour shifts and processes up to 1Mtpa of gold ore, with approval to process up to 1.5Mtpa of ore. A total of 212 personnel were employed at the Mine in May 2021, with an annualised salary and wages expenditure of \$25.0 million. During FY2021/2022 this is expected to increase to 250 personnel employed at the mine, with an annualised salary and wages expenditure of \$29.2 million.

It is anticipated that during the FY2021/2022 between \$4 million and \$5 million will be spent on products and services with local businesses, approximately \$124,000 will be paid to Narromine Shire Council (mostly in the form of the existing Planning Agreement, but also including other rates and charges levied by local government) and approximately \$3 million will be paid to the State of NSW in royalties.

The Project would deliver additional volumes of gold-bearing ore to the processing plant that has already been developed to support the existing TGO operation, and would therefore support ongoing activities at the TGO Mine Site. In the absence of the Project, activities at the current TGO operation would cease once the economically viable resources on which the TGO activity is based are eventually exhausted, assumed to be 31 December 2025.

5.1 THE LOCAL AREA AFFECTED

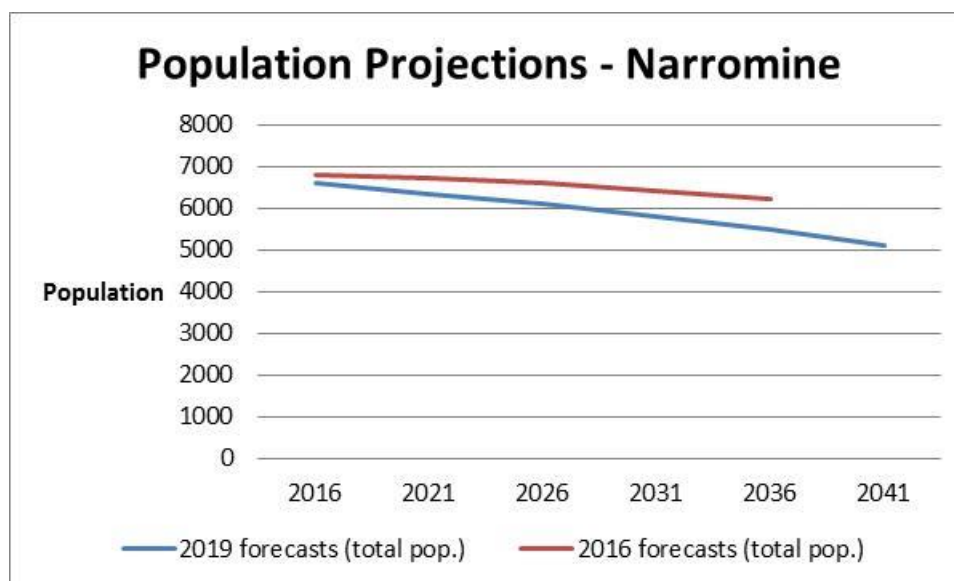
The existing TGO Mine Site is located adjacent to the village of Tomingley (within the Narromine LGA), which is located approximately 38 kms south of Narromine and 50 kms south west of Dubbo. The Project Site would cover an area between Tomingley and Peak Hill (within the Parkes LGA) which is located approximately 7.5 kms to the south of the Project Site. The communities of the LGA's within which Tomingley and Peak Hill are located (Narromine LGA and Parkes LGA respectively) are considered as representing the **local area** in terms of the economic impact of the Project. As only limited data is available at the town and village level, socio-economic data available for the Shires of Narromine and Parkes have been used to describe the **local area** affected by the Project.

5.1.1 Population

At the most recent Census for which data is available (ABS, 2016), the population of Tomingley was 306, and that of Peak Hill was 1,106. Estimates prepared since then indicate the population of Peak Hill (and the surrounding district) as 1,315 in 2020 (profile.id.com.au/parkes). No estimates have been made of more recent population totals for Tomingley.

Population forecasts (NSW Department of Planning, 2019) are available at an LGA level, and indicate that the populations of both Narromine LGA and Parkes LGA are expected to decline over the next 21 years. **Figures 13** and **14** illustrate these latest forecasts, and also the forecasts prepared by NSW Planning in 2016, for comparison purposes. However, these forecasts are based on actuarial studies of births and deaths, and do not account for the impact of new developments which could cause unexpected inward-migration or reduced outward-migration.

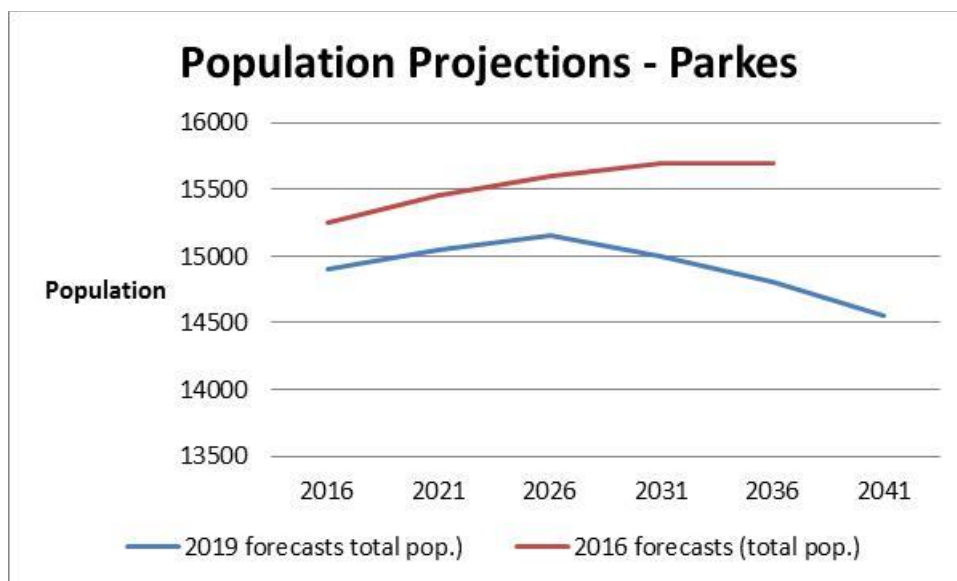
In the latest (2019) NSW Government forecasts of population (NSW 2019), the population of Narromine LGA is forecast to decline from 6,600 in 2016 to 5,500 by 2036 – i.e. a decline of 17% (see **Figure 13**). This is a greater decline than presented in the 2016 forecasts (NSW 2016), when a decline of 8% was expected over the same period. The latest estimates include a further decline of 7 % to a population of just 5,100 in 2041, representing a 23% decline from 2016.



Source : NSW Department of Planning, 2019 and 2016

Figure 13 Population Forecasts, Narromine LGA

The 2019 NSW Government population forecasts (NSW 2019) suggest that the population of Parkes Shire will remain very static, from 14,900 in 2016 to 14,800 by 2036 – i.e. a decrease of 0.7% (see **Figure 14**). This is in contrast to the forecast prepared in 2016 (NSW 2016), when an increase of 3% was expected over the same period. The latest estimates include a further decline of 1.7 % to a population of 14,550 in 2041, representing an overall 2.3% decline from 2016. If the same rate of decline were to be applied to Peak Hill, then the population of this village would be 1,080 by 2041.



Source : NSW Department of Planning, 2019

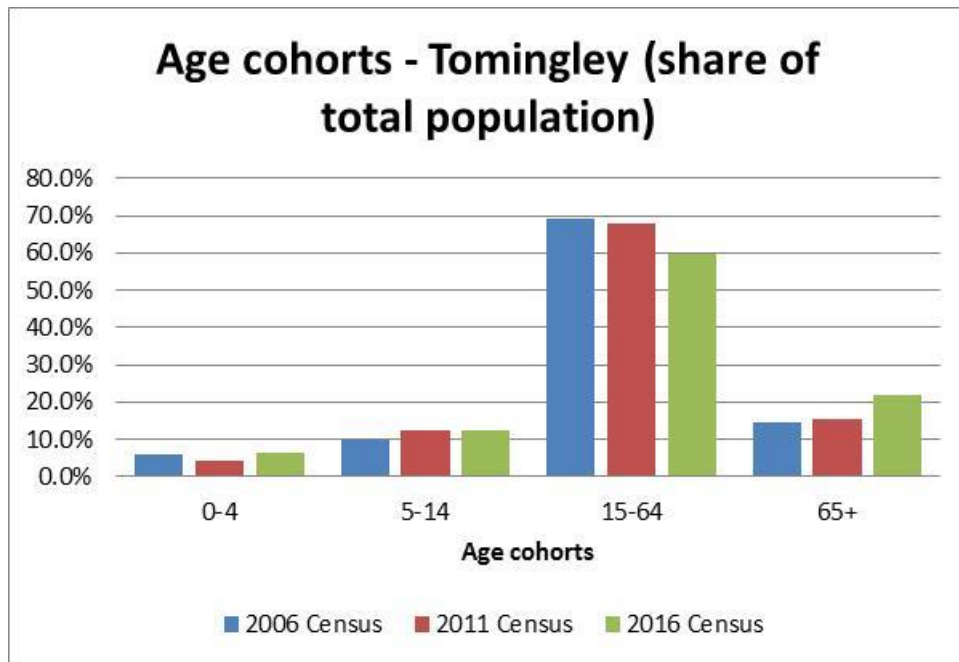
Figure 14 Population Forecasts, Parkes Shire

It is possible that an economic stimulus within the local area, such as the Project, could arrest the population decline that is otherwise expected in these small communities, by offering employment opportunities and additions to household incomes.

5.1.2 Age Structure

Figure 15 indicates that the 'working age' population of Tomingley (population aged 15-64) has fallen over the last 10 years, from nearly 70% in 2006 to just under 60% in 2016. Over the same period, the 'aged' population of Tomingley (population aged 65 and over) has increased.

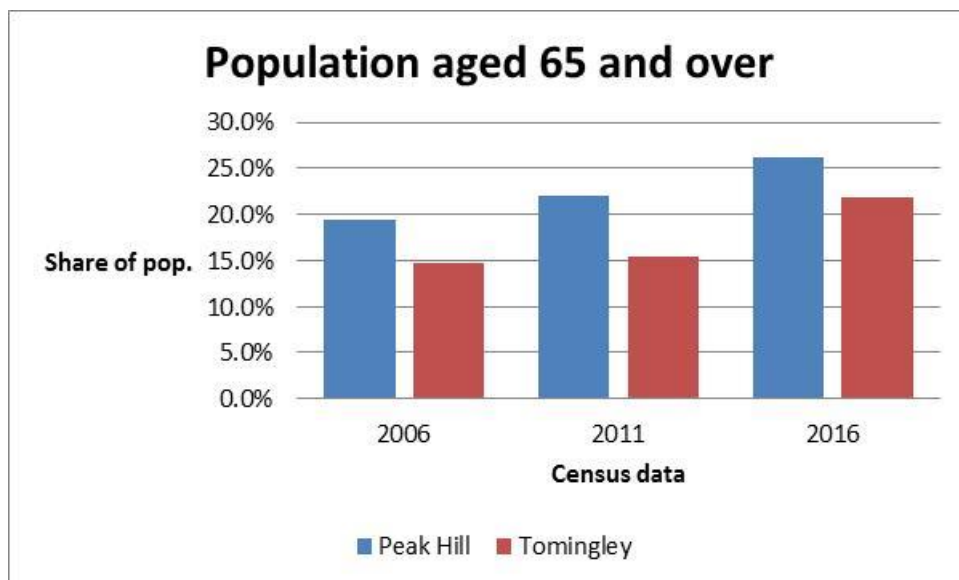
This suggests that the population of Tomingley is becoming increasingly composed of age cohorts who would not be expected to provide part of the labour force for the Project. These issues are examined in greater detail in the *Social Impact Assessment* (Regional Development Company, 2021).



Source : ABS Census of Population and Housing

Figure 15 Age cohorts, Tomingley, over last 10 years of available Census data

Over the past 10 years, the existing population of both Tomingley and Peak Hill has become increasingly 'aged', with the cohort aged 65 and over rising to 26% of the total population in Peak Hill, and 22% in Tomingley – see **Figure 16**.

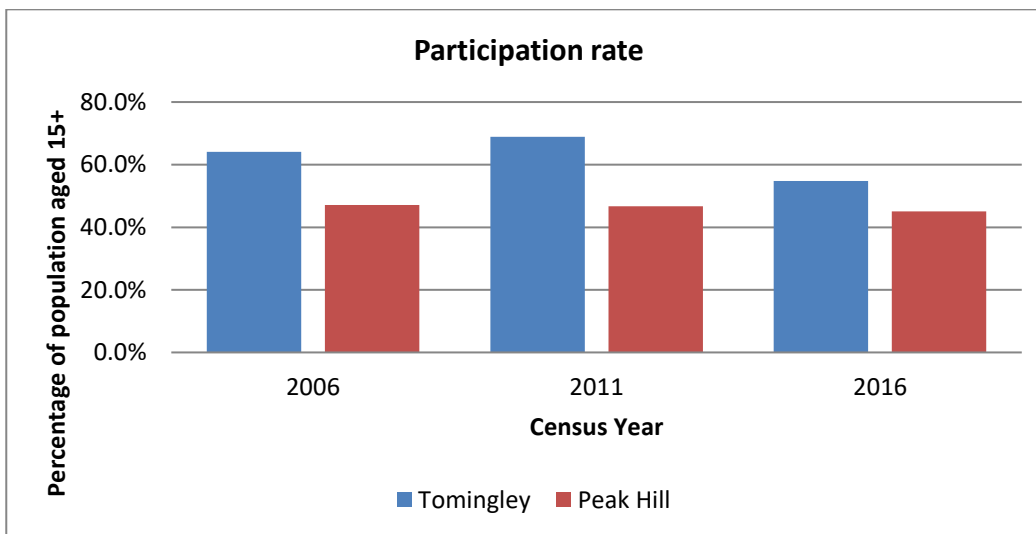


Source : ABS Census of Population and Housing

Figure 16 Aged Population Cohort, Peak Hill and Tomingley (share of total population)

5.1.3 Labour Force and Employment

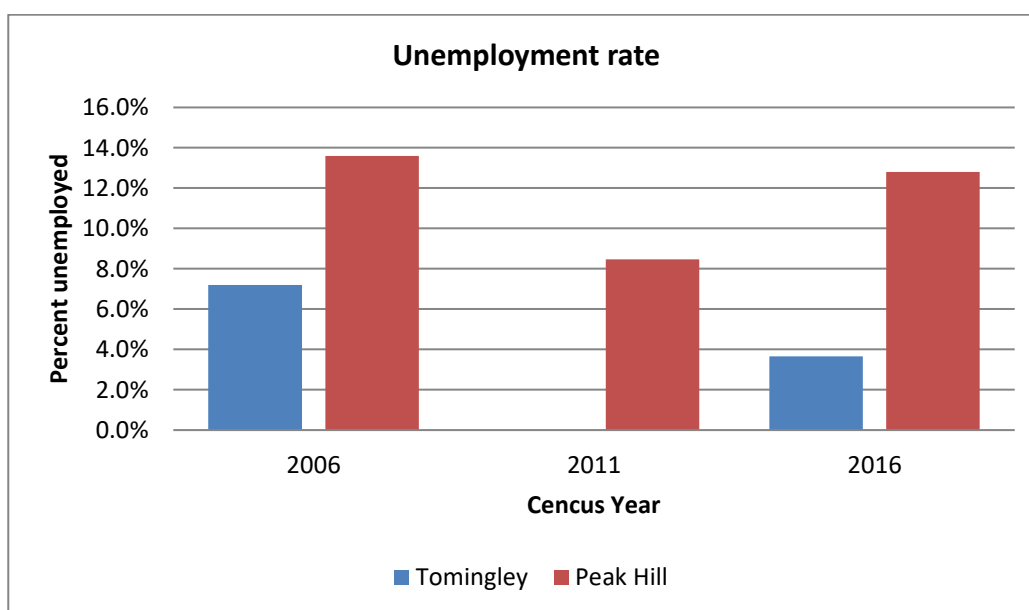
The high proportion of this 'aged' cohort (i.e. those aged 65 and over) could explain the relatively low participation rate (the proportion of the population aged 15 and over that wish to join the labour force, whether employed or not) in both centres, but particularly in Peak Hill (see **Figure 17**), where the participation rate has dropped to just over 40%. This means that of the 'working age' cohort within the Peak Hill population, only just over 40% wish to participate in the labour force and seek employment, with the balance (almost 60%) being considered to be not in the labour force. This feature could have implications for the availability of labour to take up new employment positions offered by the Project.



Source : ABS Census of Population and Housing

Figure 17 Participation Rate, Peak Hill and Tomingley

This has implications for the level of unemployment represented by Census data for both these local centres. In Peak Hill, around 13% of the 'labour force' component of the population considered themselves to be unemployed (see **Figure 18**).

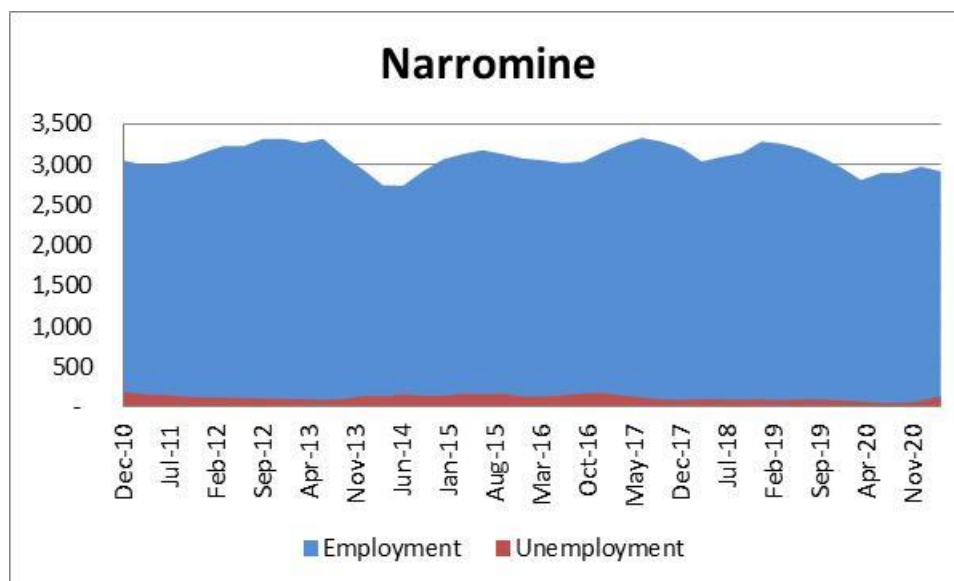


Source : ABS Census of Population and Housing

Figure 18 Unemployment rate, Peak Hill and Tomingley

When combined with the low participation rate, this level suggests that real employment opportunities in Peak Hill are limited. In contrast, Tomingley residents reported a zero rate of unemployment in 2011, and a much lower level than Peak Hill in 2016.

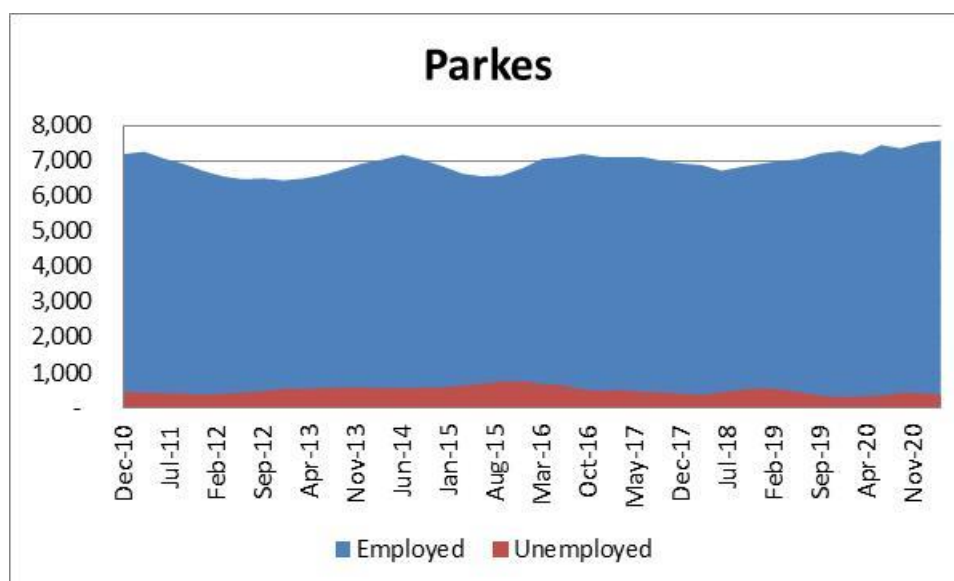
Other annual data are available from the Australian Government (SALM, 2021 and previous), although only at the LGA level, on employment and labour force levels. As indicated in **Figure 19**, the total labour force (sum of those employed and unemployed) has fluctuated over the past 10 years in Narromine LGA, around a level of approximately 3,200.



Source : Department of Industry, Small Area Labour Market data

Figure 19 Unemployment and employment in Narromine LGA (persons)

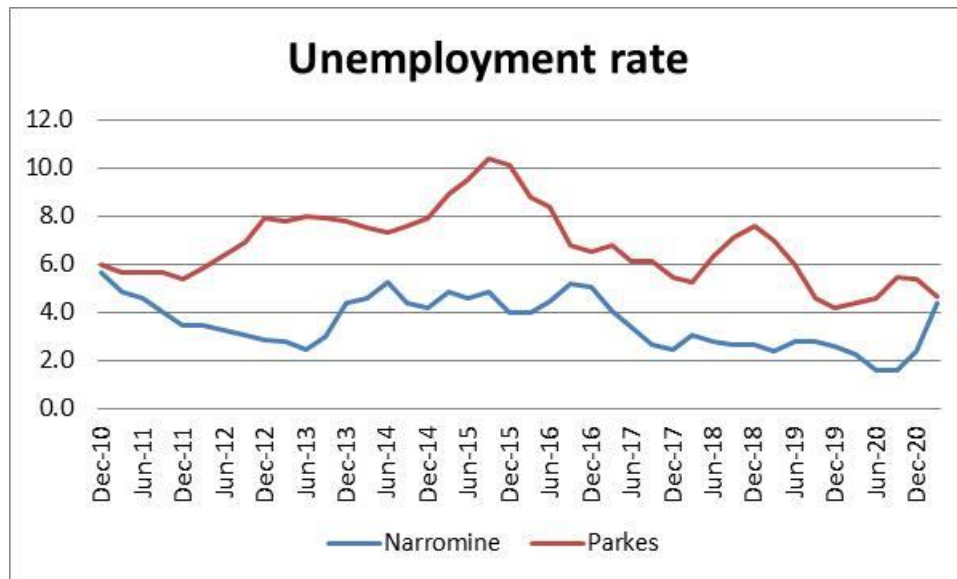
In Parkes Shire, some fluctuation is also apparent (see **Figure 20**), around a level of approximately 6,750



Source : Department of Industry, Small Area Labour Market data

Figure 20 Unemployment and employment in Parkes Shire (persons)

The unemployment rate is often considered to be a good indicator of ‘economic health’ within a population. **Figure 21** illustrates this rate (the proportion of those wishing to have a job – the labour force – but who are not in employment) for Narromine and Parkes LGAs.



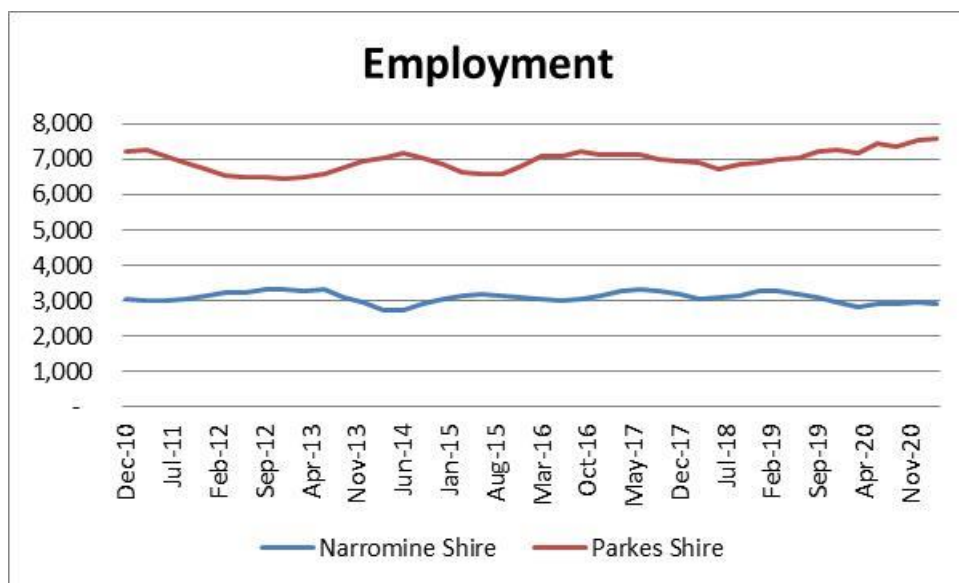
Source : Department of Industry, Small Area Labour Market data

Figure 21 Unemployment rates in Parkes and Narromine LGAs (% of labour force)

It is clear that Parkes LGA has experienced consistently higher rates of unemployment than Narromine LGA. However, despite a peak in late 2015 (of approximately 10% for Parkes LGA, and approximately 5% for Narromine LGA), this rate had been declining until 2020. Increases in the unemployment rate in both LGA’s since then are likely to be associated with the drought that persisted from 2017 to 2020, and then the COVID-19 pandemic from mid-2020. There would appear to have been some recent recovery in the unemployment rate in Parkes LGA but not in Narromine LGA. Both areas experienced a similar unemployment rate of around 4.5% in March 2021.

It should be noted that the unemployment rate is simply an arithmetic construct, being the ratio between two vectors that move independently – the total size of the labour force, and that share of the labour force that cannot find a job. The economic health of a community is perhaps better represented by tracking the number of jobs filled – i.e., the total size of the labour force **less** those that cannot find a job, which is the actual number of employed persons.

As indicated in **Figure 22**, there have been no significant trends, in either direction, in the number of jobs existing in either of these two LGA’s. It is therefore suggested that the more appropriate metric to use in assessing economic wellbeing might be to consider the actual number of jobs existing. By this measure, both Parkes and Narromine LGA’s have been experiencing a fairly static level of ‘health’ – although Parkes LGA would appear to have been adding jobs since mid-2018, while Narromine LGA has been losing jobs since early 2019.

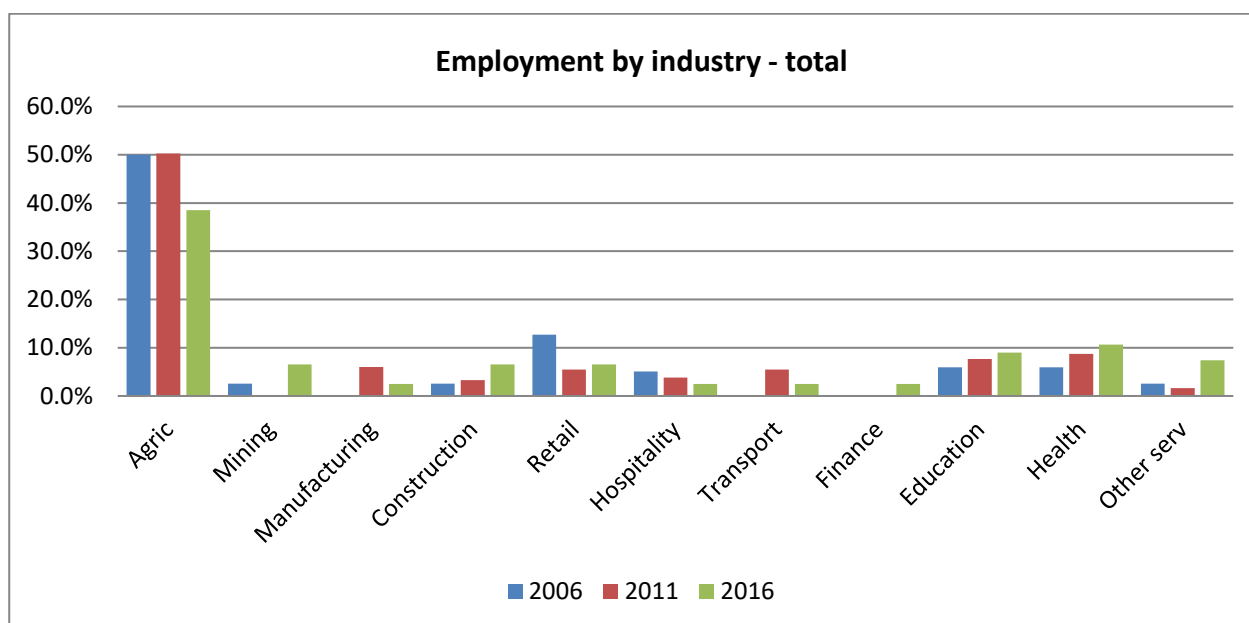


Source : Department of Industry, Small Area Labour Market data

Figure 22 Employment in Parkes and Narromine LGAs (number of jobs)

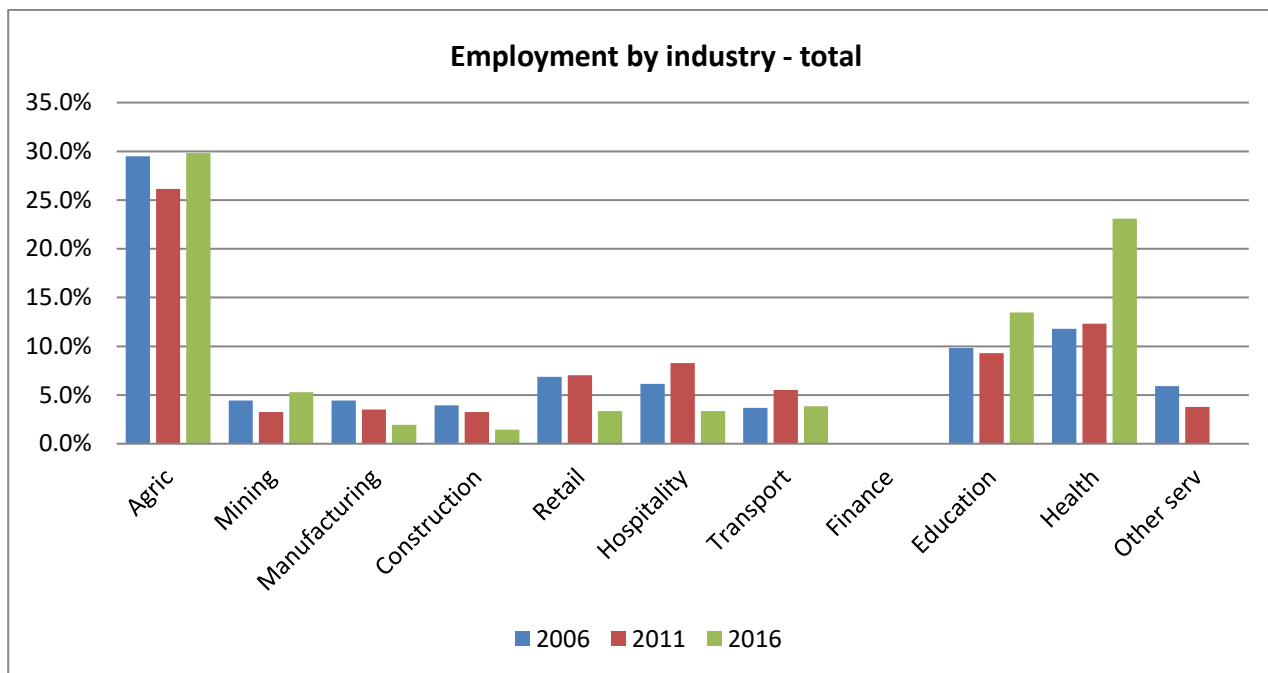
5.1.4 Economic Structure

If the total number of jobs existing in a community indicates a level of economic health, then the role of different sectors in providing that employment can indicate the relative structure of the relevant economy. Data from the most recent ABS Census records (ABS, 2006, 2011, and 2016) are available listing employment by industry sector for Tomingley village (**Figure 23**) and Peak Hill township (**Figure 24**).



Source : ABS Census of Population and Housing

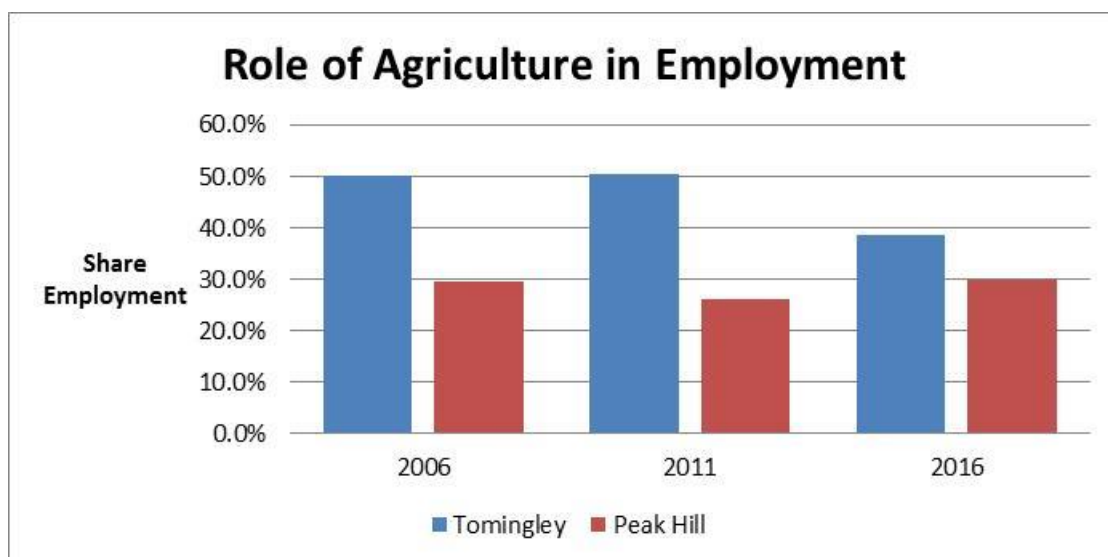
Figure 23 Changes in economic structure, 2006 to 2016, Tomingley (share of employment by industry sector)



Source : ABS Census of Population and Housing

Figure 24 Changes in economic structure, 2006 to 2016, Peak Hill (share of employment by industry sector)

Agriculture is obviously of major importance in the economies of both communities, although this sector has been declining in importance for Tomingley over the period 2011 to 2016. As indicated in **Figure 24**, agriculture still provides nearly 40% of all employment in Tomingley, but has remained steady at just under 30% in Peak Hill

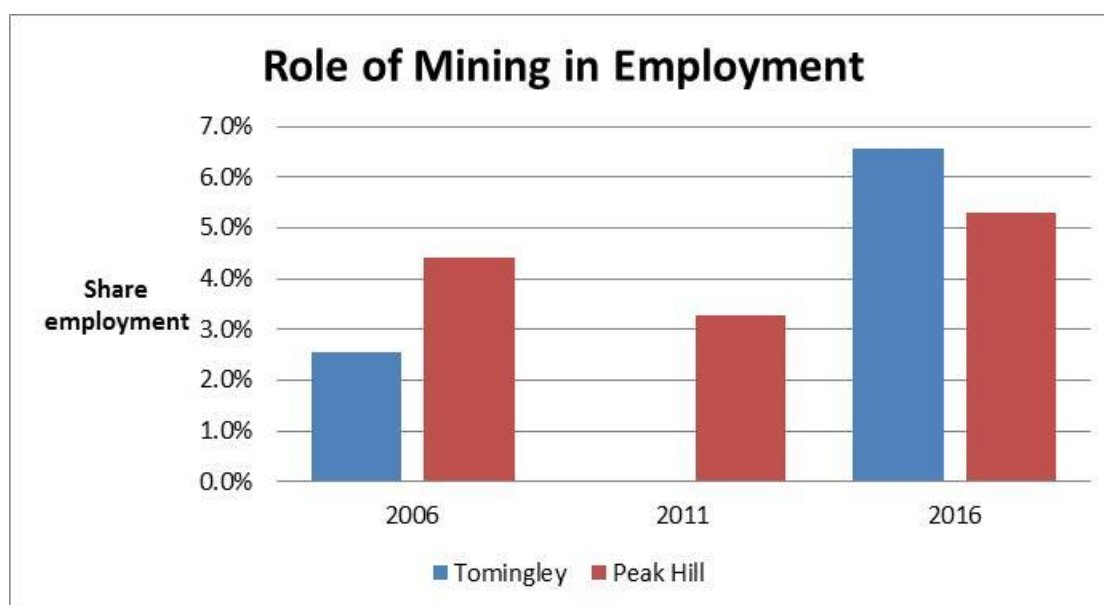


Source : ABS Census of Population and Housing

Figure 25 Agriculture as a source of employment in Tomingley and Peak Hill (share of total employment)

Although demonstrating some fluctuation, the importance of mining within the economy of the local communities has been increasing since 2006. It is noted that mining is not a new activity in this area, as various ore bodies have been exploited in the past (1886-1915, and then again more recently with the operation of the Peak Hill Gold Mine by the Applicant). Comments made by local residents suggest that historically mining has been seen as alternative source of employment for farmers during times of drought.

Figure 26 indicates the proportion of employed positions in the mining sector in both these townships. It should be noted that the Census records employment for residents within the nominated area – so employees at TGO (see Section 5.4.3) reside not only in Tomingley, but also in other localities such as Narromine, Peak Hill, and Dubbo. The Census indicates that in August 2011 there were no mining employees residing in Tomingley – the TGO mine opened in 2013, and so only those miners recorded as residing in Tomingley in 2016 can be expected to be TGO employees.

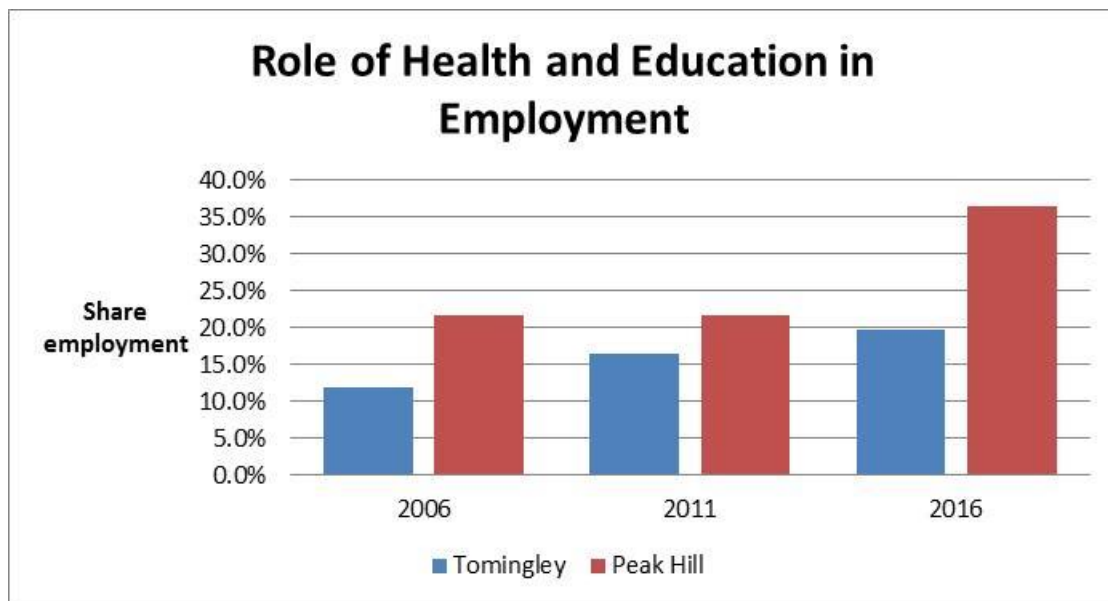


Source : ABS Census of Population and Housing

Figure 26 Mining as a source of employment in Tomingley and Peak Hill

Although still a minor part of the regional economy when compared to agriculture, the role of mining has expanded within the Tomingley economy from 2.5% of employment in 2006 to 6.6% in 2016 - an increase of 160%. This is almost certainly a direct result of the commencement of the TGO construction in 2013 and operations from January 2014.

A clear structural change for the local economy over the ten years between the 2006 and 2016 Census periods has been the increasing role of the health and education sectors within the economy of both Tomingley and Peak Hill (see **Figure 27**).



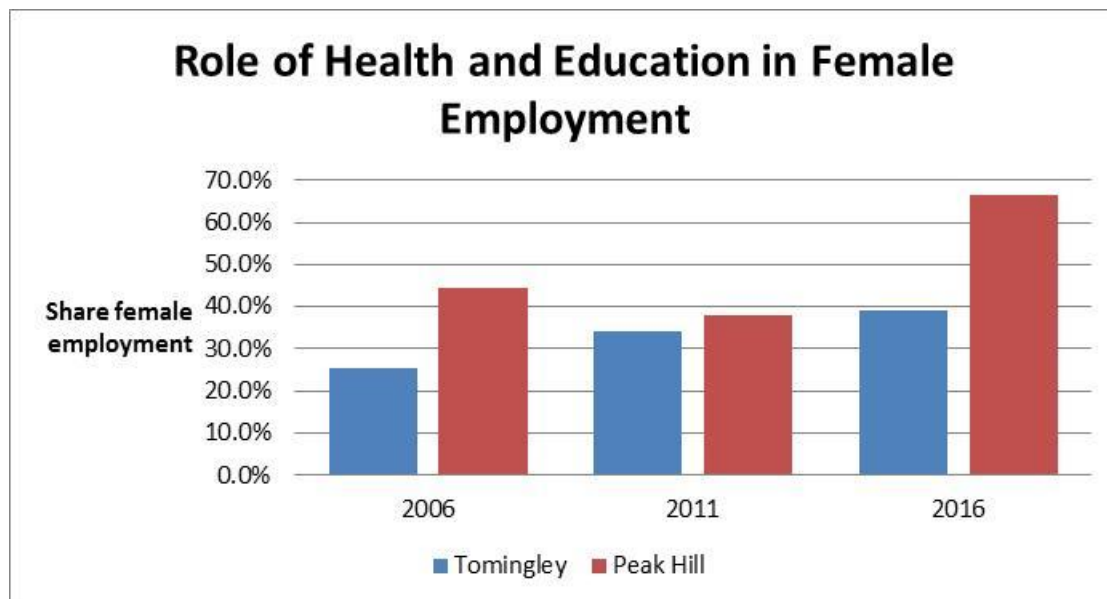
Source : ABS Census of Population and Housing

Figure 27 Health and Education as a source of employment in Tomingley and Peak Hill

The role of this combined sector in the Tomingley economy has increased from around 12% to just under 20%, and in Peak Hill the increase has been from 21.6% in 2006 to 36.5% in 2016. This means that more than one-third of all employment in Peak Hill relates to jobs in health care and social assistance, and education and training. When employment in public administration and safety is added to this total, the result means that 42% of all jobs in Peak Hill are in the social service area. Indeed, despite the strong role of agriculture, just 38% of all employment in Peak Hill are in the productive sectors, and 62% in the service sectors. In Tomingley, the relative roles of these two divisions are reversed, with productive sectors providing 54% of jobs, and the services sectors 46%.

The increasing importance of the combined health and education sector within the economies of both communities has been particularly marked when the employment of women is considered (see **Figure 28**). In 2016, around 66% of all employment for women in Peak Hill was provided by the health and education sectors – a dramatic increase from levels of under 40% just five years earlier in 2011. An increase in jobs for women in this combined sector is also apparent in Tomingley, although at lower levels – from 25% of all jobs for women in 2006 to nearly 40% in 2016.

This is important when considering the economic impact of the Project on the local area, in terms of the distribution of household income between men and women.



Source : ABS Census of Population and Housing

Figure 28 Health and Education as a source of employment for women in Tomingley and Peak Hill

In conclusion, agriculture remains the largest single source of employment for both the local communities, but the structure of the local economy is changing. Jobs in the service sectors are becoming more important, particularly for women.

5.2 REGIONAL DEVELOPMENT PLANS

Growth strategies have been prepared at a regional level by both the NSW State Government, and by Narromine and Parkes Shire Councils.

5.2.2 State Economic Development Goals for the Region

The Project is located within the Central West and Orana Region of NSW. *The Central West and Orana Regional Plan 2036* (the Plan) (NSW DPIE, 2017) sets out the NSW Government's blueprint for the future of the Central West and Orana Regions to 2036. The Plan identifies four goals, and assessment of the Plan suggests that the Project is consistent with each of those goals.

Goal 1 – the most diverse regional economy in NSW

The Plan identifies that agriculture, manufacturing, and mining are the traditional industries of the Central-West and Orana Region. However, health, education and tourism sectors present new opportunities for economic growth. The Project would be consistent with the development goals of the Plan, and would ensure that the identified mineral resources would be developed in a manner that would optimise the economic benefits to the community and State, while minimising environmental and social impacts to the greatest extent practicable.

Goal 2 – A stronger, healthier environment and diverse heritage

The Plan identifies that the Region has some of Australia's most unique ecological systems and that achieving environmentally sustainable development will balance rural and urban compatibility issues. The Project would be consistent with this aim, as it would disturb limited areas of native vegetation, with the nature and scale of that disturbance assessed in accordance with the Biodiversity Assessment Methodology and suitable biodiversity credits retired to offset any residual impacts. The Project would also disturb a limited number of Aboriginal objects. The Applicant has a long history of consulting with the Aboriginal community and developing suitable mechanisms to manage any impacts that may occur as a result.

Goal 3 – Quality freight, transport and infrastructure networks

The Plan identifies that the Central West and Orana region is a major exporter of agricultural, mining and other value-added products, and relies on efficient freight and transport infrastructure. The Project would result in some changes to the alignment of the Newell Highway, with an additional travel distance of 410 metres and travel time of approximately 13 seconds for highway users.

Goal 4 – Dynamic, vibrant and healthy communities

The Plan identifies that Central West and Orana Region is home to some of the most diverse communities in NSW. Population growth will not be evenly distributed, with larger towns such as Orange, Bathurst, Mudgee and Dubbo expected to grow, while the population of other smaller towns and villages is likely to remain relatively stable or in some cases decline. These smaller communities can grow and prosper by leveraging economic opportunities and jobs from an increasing number of value-adding investments. The Project would ensure continued operation of the Mine until at least 2031. This would help support the small villages and towns surrounding the Mine, including Tomingley, Peak Hill and Narromine, and provide additional economic activity in those communities.

5.2.3 Local Regional Development Plans

The Narromine LGA Council has prepared an Economic Development Strategy (the Strategy) (NSC, 2018b), which provides the community vision and aspirations for the future of the Narromine LGA and a long-term framework to guide and influence delivery of that vision. The Strategy lists a number of relevant guiding principles, and analysis of the Strategy suggests that the Project is consistent with each of those principles.

Principle 1 – Vibrant communities

The Project would ensure that the Applicant can continue to offer a range of training and education opportunities for its employees and others consistent with Action 1.3 of the Plan.

Principle 2 – Growing our economy

The Project would ensure continued operation of the Mine until at least 2031. This would be consistent with each of Actions identified under this Principle.

Principle 3 – Protecting and enhancing our environment

The Project would, to the extent practicable, manage and mitigate environmental impacts to ensure that all impacts are consistent with relevant assessment criteria and reasonable community expectations.

5.3 ECONOMIC DIMENSIONS OF THE PROJECT

The Project is an extension to an existing operation – it would not only add new economic activity (employment positions, wages, and new demand for goods and services) for the local area, but would also allow existing economic activity associated with the processing facilities at TGO to be continued for a further 7 years, namely from 1 January 2026 to 31 December 2032.

The area of land required to be purchased in order to allow the Project to proceed has resulted in payment of \$19.6 million to local land-owners in the Tomingley area. While individual purchase prices are confidential, the Applicant recognises that this amount is well in excess of agricultural property market value. From discussions with the vendors, it appears that the purchase payments received will assist in succession planning, retirement, and/or relocation.

The economic dimensions of the Project can be summarised as:

- The Project itself would require additional new capital expenditure of over \$115 million, to be spent over four years (2022 to 2025 inclusive)
- New employment over this period would reach a peak of 363 persons in 2025, with an average of 249 FTE's being required over the period 2024-2031.
- It is estimated by the Applicant that 80% of operating expenditure would deliver a demand for goods and services provided from NSW.

It is anticipated that production from the Project would start to come on stream in 2023 (from the underground component of the Project), with open-cut production starting in 2024. Production could potentially be extended (via underground mining) to the end of 2035. Any extension would be the result of ore deposits being more extensive than initially indicated. To the extent that mine life could be extended in this way, all impact estimates presented in this report will be conservative, as they are based on activity ceasing in 2031.

A total of \$258.26 million would be paid in wages (excluding on-costs) to employees of the Project over the period to 2031. An average of \$25.8 million/year would therefore be added to household incomes over this period, with an average wage of approximately \$144,078/year. This level is considerably higher than the median weekly personal income recorded in Tomingley at the most recent ABS Census (ABS, 2016) of \$512, which equates to an annual wage of \$26,624. In addition, some of the existing 230 positions at the TGO site would be maintained beyond the anticipated end of mining activity by TGO, as a result of processing required for ore produced from the Project,

Operational costs are estimated to total \$788 million over the 10 year 'life' of the Project (2022 to 2031). It is estimated that approximately 50% of these costs would involve a demand for regional goods and services, thus adding approximately \$394 million to local economic activity. Approximately 80% of total operating costs would be spent within the State of NSW.

Based on current gold prices, it is estimated that the total value of production from the Project over the period 2023 to 2031 would be \$1.42 billion. Royalties paid to the State of NSW are estimated at \$43.8million. Details of payment to all levels of Government are outlined in Section 5.5.3. In addition, it is anticipated that the current Planning Agreement with Narromine Shire Council would be extended for the life of the mine to 2032. The Community Fund component of the Planning Agreement supports capacity building in the Narromine LGA, and has resulted in community infrastructure and other services being upgraded for residents of Tomingley.

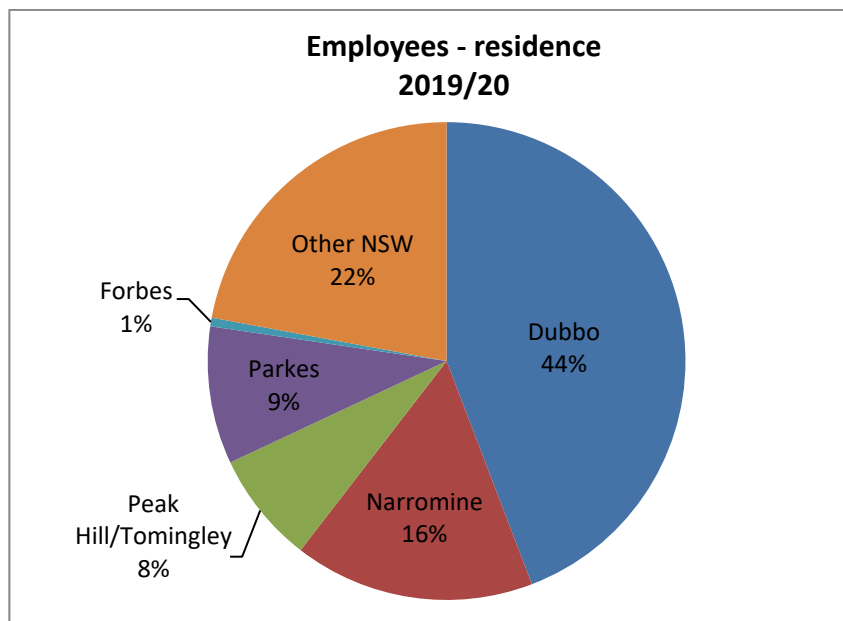
5.4 LOCAL AND REGIONAL ECONOMIC IMPACTS OF THE PROJECT

5.4.2 Employment

The Project would provide an average of 179 FTE jobs/year over the next ten years (2022 to 2031, which period includes construction activity) – mostly operators in the new open cut. Over the post-construction period (2024 to 2031, an average of 249 FTE's will be required by the project. It is likely that most jobs would be provided to local residents, while others may require skills that may not be immediately available from the local population. These new positions are not likely to be filled by those currently unemployed, but may involve existing employed persons being attracted by the relatively high wages being offered by the Project. However, the resultant vacancies created by these moves could offer opportunities for the unemployed. The important feature is that the Project would be creating an average of 179 FTE's per year over the ten years from 2022 to 2031. Of perhaps more significance is the fact that the existing approximately 230 positions at TGO in admin, maintenance, processing and underground will continue to be required, as new production of ore is delivered to the plant.

5.4.3 Residential Location

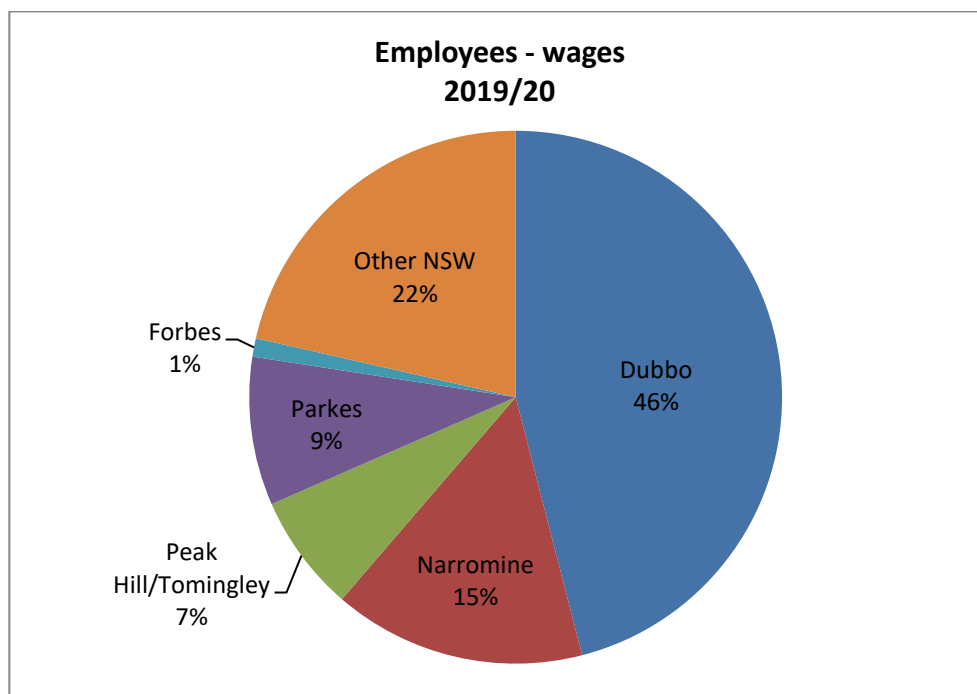
Alkane conducts an annual survey of all its employees, which gathers data (*inter alia*) on residential location choices. As indicated in **Figure 29**, the latest survey suggests that of the employees working at TGO, around 44% live within the Dubbo postcode area. Another 16% live within the Narromine postcode, and 8% reside in Peak Hill and Tomingley. It is expected that the additional employment added by the Project would cause increases in residence in these centres and on surrounding farms.



Source : Alkane survey of employees, 2020

Figure 29 Residential location of Alkane employees

Data is also available on the level of wages paid within various localities (see **Figure 30**). It is expected that the addition of around \$25.8 million in wages paid to those employed by the Project will accrue to local areas in the same proportions.



Source: Alkane survey of employees, 2020

Figure 30 Wages paid to employees within locations

It is noted that a slightly higher share of the total wage bill accrues to Dubbo, than to Narromine or Peak Hill/Tomingley – this suggests that senior TGO staff (receiving higher wage levels) choose to reside in Dubbo rather than in the other two centres.

5.4.4 Regional Output

The Project is estimated to produce around 589,000 oz of gold over the 8 years of operation (2024 to 2031), which would be additional to the volume of gold already produced from the existing TGO at Tomingley. The amount by which the value of regional output would be increased would depend on the actual volume of gold production achieved, but also on the price of gold prevailing over this future period. Assuming that the gold price remains at current levels of around \$US 1,800/oz, and the \$A is valued at around \$US 0.75, then the **average annual** increase in regional output that would result from the Project would be around \$176.7 million, over the period from 2024 to 2031 (inclusive). This figure can be compared to the estimate of the total annual value of agricultural production from Narromine LGA of \$210.7 million (NSC, 2018), and the total annual value of output for the Shire of \$780 million (NSC, 2018). Output from the Project would therefore increase the value of output in the Narromine LGA by 22.7%.

Gold is an attractive investment during periods of political and economic uncertainty. Half of the gold consumption in the world is in jewellery, 40% in investments, and 10% in industry. The biggest producers of gold are China, Australia, United States, South Africa, Russia, Peru and Indonesia. The biggest consumers of gold jewellery are India, China, United States, Turkey, Saudi Arabia, Russia and the UAE.

According to data and comment sourced from the website of industry group MinEx Consulting, (minexconsulting.com) gold prices have risen during 2020 (see **Figure 19**), but are now coming off the peak seen in August. Likely prices into the future will be influenced by a range of factors, such as the relative value of the \$A compared to the \$US, the perception of gold as a 'safe haven' in times of global volatility, stock market activity, interest rates, and the supply of gold relative to demand. Expectations are for prices to hold fairly steady at current levels.

The Project would deliver additional supplies of gold to meet global demand, although most gold analysts recognize that new supply from gold producers is set to decline. The anticipated gold supply deficit is fairly independent of future events, as mine output cannot easily be increased in response to an increase in gold prices. The Project would be one of a limited number of new gold mines being developed in Australia, and there has been a marked decline in exploration, discoveries, and ore grade over the last ten to twenty years.

In March 2021, the Australian Bureau of Statistics released data on exploration spending in NSW, which confirmed a strong final quarter in 2020 and a very strong 2020 overall for NSW exploration activity. The NSW Minerals Council released a summary of this data, stating:

"The ABS figures from the December 2020 quarter show total exploration expenditure in NSW of \$67.7 million, up 7.6% from the September 2020 quarter. This result caps a very strong year for the sector in NSW with a total exploration spend of \$288m in 2020 - the second highest result on record. Strong exploration spending in NSW is being led by increases in exploration activity for copper and base metals, as well as gold.

Exploration expenditure on copper rose 26.4% to \$15.3 million, and base metals expenditure was up almost 30% to \$25.3 million. Gold exploration expenditure also rose by 17.4% to a total of \$27.7 million in the December 2020 quarter"(See www.nswmining.com.au)

Also in March 2021, the NSW Minerals Council delivered its annual member Expenditure Survey, which found that the 28 participating NSWMC member companies directly injected \$1 billion into the Central West's economy in the last financial year, up from \$781m in the previous financial year. The survey results also demonstrated that member companies in the Central West provided 4,946 local mining jobs in 2019-20, an increase of around 700 compared to the previous financial year.

5.5 OTHER ECONOMIC STIMULUS TO REGION

5.5.1 Expenditure by the Project and Employees

The capital costs associated with the Project are estimated at around \$115 million. Around 80% of this amount would be spent within NSW, and so the demand for goods and services in NSW would be increased by a total of \$92 million over the construction phase.

Operating costs for the Project are estimated to total \$788 million, with an average annual wages payment of \$25.8 million/year between 2022 and 2031. Around 50% of total operating expenditure is expected to be spent within the local region – so for the ten years of operation, the Project could provide \$394 million in increased demand for local goods and services. This would be a significant boost to activity levels in all industrial sectors providing the required goods and services.

5.5.2 Purchase of Land by Alkane

In order to develop the Project, Alkane purchased nine properties in the Tomingley district in 2020-21. Two properties were required for a land swap and a third was subdivided as part of a land swap. The Applicant has ultimately ended up with 2,222ha of land. Comprising several different holdings, this land is all currently used for agricultural production. This purchase will deliver a total cash payment to the existing owners of the land of \$19.6million.

The impacts of this change in land use on levels of agricultural activity in the local area are assessed in the AIS which accompanies the EIS. Some land would be permanently lost to agricultural production as a result of mining activity (pits, public roads, and waste rock emplacement), but other areas would continue to be managed as a farming enterprise by the Applicant. This means that land management would be improved, so that agricultural productivity (as measured by carrying capacity) can be raised. The net impact would be an increase in the value of agricultural returns (on a gross margin basis) of around \$418,000 per year, or 53%. Details of the relevant calculations are contained in the AIS.

The total anticipated agricultural production of \$1.2 million per annum, following the cessation of mining and the rehabilitation of part of the Project Site, can be compared to the estimate of the total value of agricultural production from Narromine LGA in 2018 of \$ 210.7 million (NSC, 2018). The Project would therefore potentially add 0.57% to the value of agricultural production in Narromine LGA, rather than subtracting from total production value. This is significant in considering the economic impact of the Project on the region, as mining activity will actually result in an **increase** in agricultural production from Narromine LGA (albeit by a small percentage) rather than a decrease which might be expected as a result of mining activity taking place on land previously used for agricultural production.

5.5.3 Payments to State and Local Governments

In 2019/2020, Alkane paid \$468,700 in rates and other charges, including under the existing Planning Agreement negotiated as part of the original development consent for TGO, **to local Government**. Of this total, 92% was paid to Narromine LGA, the location of the existing TGO Mine Site.

Narromine LGA has also benefitted from the presence of TGO, via grants delivered by the State Government under the 'Resources for Regions' program. The NSW Government has a strong commitment to supporting mining-impacted communities in NSW. Since 2012, Resources for Regions has allocated \$345 million to 149 projects supporting the ongoing prosperity of mining communities in regional NSW. These projects have revitalised towns, upgraded roads and built essential community facilities while improving economic opportunities, local amenity and creating positive social outcomes. Narromine LGA would derived further benefit via the Resources for Regions program should the Project be approved, as the Project would be the only mining project within the LGA and thus make the LGA eligible for this assistance.

Narromine Shire Council met the criteria as 'mining affected' in 2020. Council received \$1.6M in 2020 and is currently applying to Round 8 of the 2021 funding program with an allocated amount of \$2.435M (Source: NSC). This payment is included in the LEA (as being an important benefit to Narromine LGA), but it is not part of the CBA as the source is the NSW Government and so it does not provide a net addition to benefits for the State. Narromine LGA anticipates that they could receive the minimum payment of \$1 million each year into the future, to be spent on community infrastructure such as roads, augmentation of water pressure in town supply systems, upgrades to public playing fields and associated facilities, noise abatement, etc. In addition, some of this funding will be spent on business cases to support the development of industrial infrastructure related to the Inland Rail Project, to implement the Council's Economic Development Strategy.

The Project would also make significant contributions to the State Government, in the form of royalties and various other State taxes such as payroll tax. Royalties paid account for nearly 75% of all payments to the State Government in 2019/20, and will continue to contribute 75% of total payments to the State over the period from 2024 to 2031.

Total payments that would be made to all levels of Government, as a result of the operation of the Project **over 10 years**, are summarised in **Table 7**.

Table 7
Summary of payments to be made to all levels of Government

Payments to	\$ million
Local Government	
Mining rates paid	3.2
Agricultural rates paid	0.1*
Vol Planning Agreement	1.9
Resources for Region	12.3^
NSW State Government	
Royalties	43.8

Payroll tax	14.1
Land tax	1.3
Stamp duty	0.85
Australian Government	
Personal income tax	38.7
Corporate tax	162.6
<p>* Agricultural rates continue to be paid on all land not included in the mine site but will be paid on entire area once mining ceases.</p> <p>^ Based on opinion from Narromine Shire Council that future payments will be received at minimum rate of \$1 million/year, together with amounts applied for under current Round 8 of this program.</p>	

5.6 RELOCATION OF ROAD INFRASTRUCTURE

The SAR Deposit effectively follows the route of the Newell Highway towards Peak Hill. The SAR development plans to have open cut pits located at sites currently occupied by a portion of the Highway, which would be relocated as part of the Project. The realigned portion of the Highway would be constructed according to the latest Austroads freight design guidelines and safety standards.

The length of the new section would be approximately 8 km, adding approximately 410 metres to the existing length of the Highway. Existing overtaking lanes and intersections would be improved and reconstructed on the new section. There would also be improvements made to safety factors, such as flood management (via increased size and numbers of culverts), wire rope lane dividers, channelised intersections with local roads, an overall increase in road width, removal of billboards, and removal of five property driveways. Transport studies conducted for the Project by Constructive Solutions Pty Limited suggest that the average annual **cost** imposed by this addition to travel time would initially be \$0.966 million/yr. The present value of this annual figure, over 25 years (average length of time before new road works could be required) would be \$11.82 million – with assumptions including a traffic growth rate of 0.5% pa, and using a discount rate of 7%.

6. CONCLUSION

The Project involves the extraction of a State-owned resource for the benefit of the residents of the Narromine Local Government Area, the Central West and Orana Regions and the State of NSW as a whole, as well as the Applicant's employees, suppliers and shareholders. The Project would be consistent or compliant with relevant components of the Strategic Plans, Planning Instruments and Policy Documents that have been referred to in this report.

The Project would permit the continued operation of TGO beyond the currently approved end date of 31 December 2025. The Project could also operate beyond the estimated cessation date of 2031, depending on access to additional potential gold resources, so that all assessment of economic benefit presented in this report should be regarded as a minimum level of impact.

The CBA conducted has indicated that the NPV of benefits delivered to the State of NSW is approximately \$633.17 million. The largest single source of these benefits is the 80% of operating expenses associated with the Project that would be spent within the State of NSW. Other benefits are delivered by the addition of \$115 million of capital expenditure, and by the payment of various fees, taxes, and charges directly and indirectly to the NSW Government.

The LEA indicates that the Project would be consistent with development plans for the Central-West Orana region, and would provide jobs and economic stimulus to the local region of Narromine and Parkes LGA's. The village of Tomingley has already experienced employment and household income growth as a result of the TGO, and the Project would continue that impact.

If the Project were not to proceed, then:

- The identified gold resource would not be exploited.
- The local economic development potential for the village of Tomingley, and for Narromine LGA, would not eventuate.
- The wider economic benefits identified in this report for the State of NSW would not be received.

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