

Economic impacts of Bowdens proposed silver mine

FINAL REPORT

August 2025





Independent
insight.



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Executive Summary

Background and study area

SGS Economics and Planning Pty Ltd (SGS) was commissioned to prepare economic impact scenarios for the region surrounding the proposed Bowdens Silver Mine. A review of strategic economic development material elicited a number of priorities that have been articulated for the local economy. These include: a more mature and diversified economy, the development of clusters around major local industries, and a particular focus on the development of the visitor economy, especially agri-tourism.

Economic profile

Coal mining is the largest local industry, employing 20 per cent of the workforce and contributing over 60 per cent of Gross Value Added (GVA) in the LGA in 2024. Other major industries include the Visitor Economy, which provides an equivalent share of employment as mining, but less GVA, and Agriculture, Forestry and Fishing, which contributes the second-largest share of GVA. A Location Quotient (LQ) analysis identified all three industries as competitive strengths vis-a-vis the rest of NSW.

It is important to note that the bulk of the local mining industry is engaged in coal mining, which presents a different set of risks to the critical minerals mining proposed at Bowdens' site. Moreover, coal mining is declining globally due to the transition away from carbon-intensive energy generation.

Potential impacts from Bowdens Silver Mine

The most significant negative impacts of the mine on the local economy reflect potential earth, water and air contamination – especially relating to lead – reducing the quality of agricultural products, affecting population health and diminishing Mudgee's reputation as a visitor destination. Positive impacts are expected from additional employment and spending in the local economy; however labour market competition may have detrimental impacts on other employers in the region.

Economic forecasts

Three forecasts of GVA growth in the local economy were developed.

- Under a **no mine** scenario, in which the mine is never developed and the economy grows in line with historical employment growth and industry-specific trends, GVA growth is \$400 million to 2048, or around \$20 million per year.
- Under a **low impact** scenario, where the mine's development is associated with a 10 per cent GVA decline in the local Agriculture and Visitor Economy sectors, and a 0.1 per cent decline in the Mining sector, \$2.6 billion of potential economic benefit is conditioned by \$1 billion of negative impact on the three core sectors. This equates to annual lost turnover of \$60 million for existing businesses in the Agriculture sector, \$95 million for businesses in the Visitor Economy and \$3 million for businesses in the Mining sector.

- Under a **high impact** scenario, a 20 per cent decline in GVA in both the Agriculture and Visitor Economy sectors creates \$2.6 billion of negative economic impacts between 2025 and 2048. This is sufficient to entirely cancel out any potential benefit from the mine to the local economy. This GVA reduction represents lost annual turnover of \$130 million for businesses in the Agriculture sector, \$2.9 million for businesses in the Mining sector and \$200 million in the Visitor Economy, which would seriously compromise their viability. Such declines would jeopardise the diversity, resilience and growth prospects of the local economy and contravene the economic development goals of both the local and state government.

Tables ES1 and ES2 below contain the full results of the modelled impact scenarios.

Table ES1: Lost GVA and turnover for core industries in 'low' impact scenario, 2025-2048

Industry	Lost GVA (\$ million)	Equivalent turnover (\$ million)	Annual equivalent turnover (\$ million)
Agriculture, Forestry and Fishing	\$438	\$1,394	\$60.6
Mining	\$46	\$68	\$2.9
Visitor Economy	\$537	\$2,178	\$94.7
Other industries	\$0	\$0	\$0

Source: SGS Economics & Planning (2025)

Table ES2: Lost GVA and turnover for core industries in 'high' impact scenario, 2025-2048

Industry	Lost GVA (\$ million)	Equivalent turnover (\$ million)	Annual equivalent turnover (\$ million)
Agriculture, Forestry and Fishing	\$1,186	\$3,775	\$130
Mining	\$93	\$139	\$2.9
Visitor Economy	\$1,330	\$5,391	\$204
Other industries	\$0	\$0	\$0

Source: SGS Economics & Planning (2025)

1. Background and study area

1.1 Background and SGS scope of work

SGS Economics and Planning Pty Ltd (SGS) was commissioned by Bingham Catchment Landcare Group (BCLG) to prepare economic impact scenarios for the region surrounding the proposed Bowdens Silver Mine. This mine, if it ultimately proceeds, will be located 2km north-east of Lue in NSW's Central Tablelands.

Having first been approved by the NSW Government via the Independent Planning Commission in 2023, the development approval for Bowdens Silver Mine was later overturned in 2024 by the NSW Supreme Court of Appeal.

SGS was engaged to do the following:

1. Define the local economy (geographically)
2. Describe and profile key sectors of the local economy
3. Estimate the current size of these key local sectors using published statistics
4. Forecast the future size of key local sectors under a 'no mine' scenario
5. Define potential 'high' and 'low' mine impact scenarios
6. Forecast the future size of key local sectors under 'high' and 'low' impact scenarios, and
7. Compare the adverse local economic impacts of the 'high' and 'low' scenarios with Bowdens Silver Mine likely positive local economic impacts.

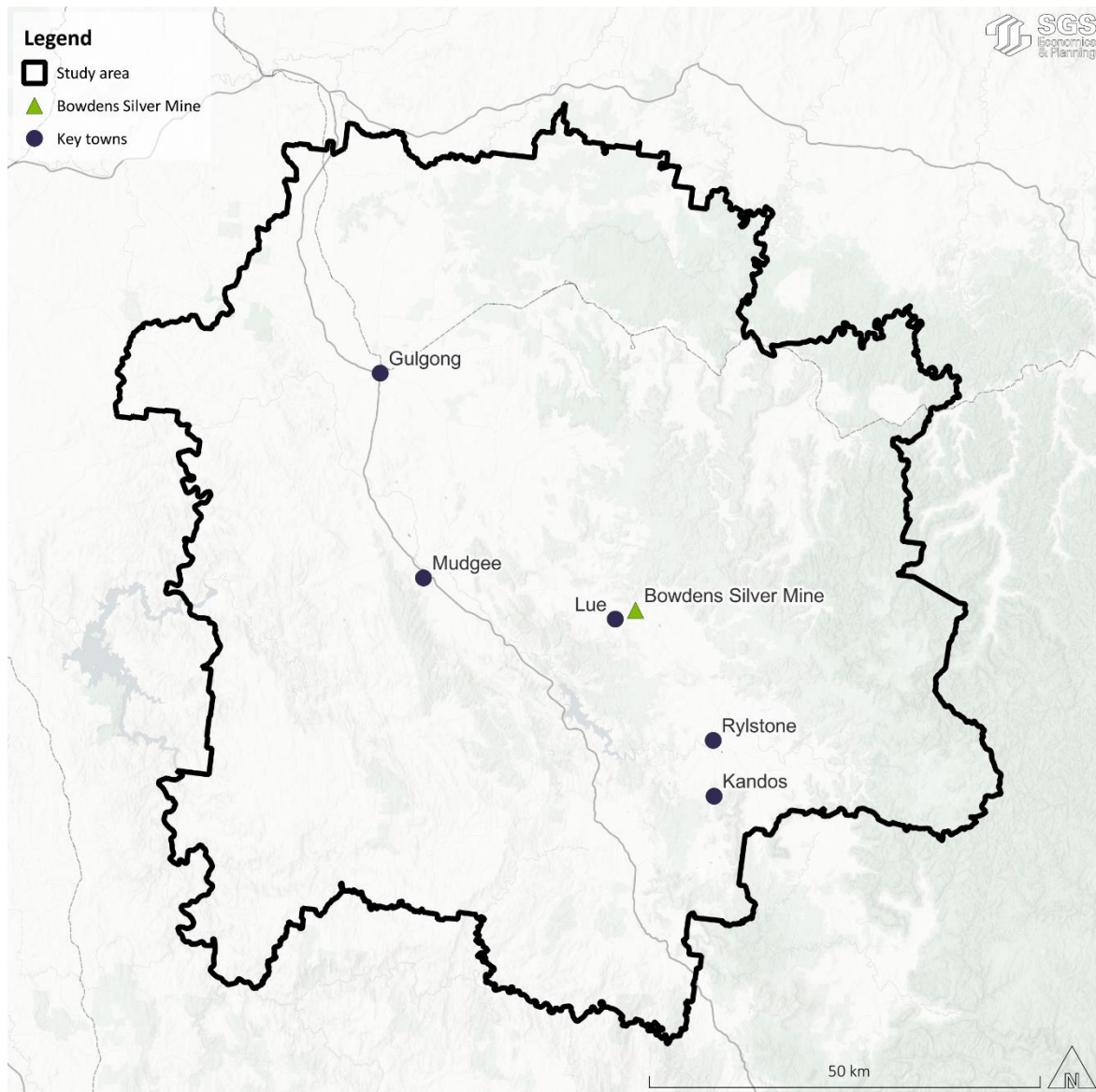
The report is structured as follows:

- **Chapter 1** introduces the study area in terms of the communities that will be affected by Bowdens Silver Mine. It also reviews the economic strategy for the area laid out by Mid-Western Regional Council.
- **Chapter 2** identifies the major industries in the study area in terms of employment and values this employment to determine the 'size' of the local economy.
- **Chapter 3** qualitatively highlights the potential impacts of the mine on the local economy.
- **Chapter 4** contains forecasts of the local economy over the anticipated life of the mine under the 'no mine', 'low' and 'high' impact scenarios.
- **Chapter 5** presents overall conclusions, based on the comparison of impacts forecast under each impact scenario.

1.2 Study area and affected communities

Given that the impacts of the mine will extend beyond the borders of the land owned by Bowdens Silver Pty Ltd, this study evaluates the potential impacts of the mine in the context of the entire Mid-Western Regional Local Government Area (LGA) economy. This study area has been chosen as it includes key populations in close proximity to and downstream of the mine, which could be exposed to impacts on local industries, environments, services and labour markets. These include the key towns of Mudgee, Gulgong, Rylstone, and Kandos, as well as Lue, which is the town closest to the mine site itself. Figure 1 illustrates the location of the mine and key towns within the study area.

Figure 1: Bowdens Silver Mine location and study area



Source: SGS Economics & Planning (2025)

Mid-Western Regional Council strategic objectives

Mid-Western Regional Council's (Council's) vision for the region highlights a focus on worker attraction and developing a diversified economy, as well as capitalising on natural landscapes, viticulture and historic character to support tourism and the visitor economy. More specifically, Council's vision for Mid-Western Regional LGA is to be "a prosperous and diversified economy delivering lifestyle benefits to the community through employment, income and sustainable economic growth".¹

The Regional Economic Development Strategy (EDS) was developed in 2018 in collaboration with the NSW government, and updated in 2023 to highlight progress, capture major changes, and identify strategic opportunities. The updated strategies include for Council to:²

- **Develop a mature and diversified visitor economy:** i.e. Facilitating investment in community infrastructure to support sporting and cultural precinct offerings, and respecting and enhancing the historic character and natural heritage of the region.
- **Grow industry clusters around mining, manufacturing, agriculture and renewable energy:** i.e. Creating a healthy environment for agricultural processing, metals & related manufacturing and mining and agricultural support services, providing quality jobs and products.
- **Capitalise on existing viticulture strengths:** i.e. Providing skills training to grow the workforce and upgrades to infrastructure to improve export capacity and help bring in visitors.
- **Build depth in entrepreneurial and business support:** i.e. Developing an entrepreneurial ecosystem and support for budding entrepreneurs by leveraging government initiatives, to help with retaining and attracting younger people to the region.
- **Invest in housing and population-serving infrastructure and services:** i.e. Identifying short to medium-term actions to improve overall housing supply, including for workers and their families.

Stakeholder consultation as part of the EDS also revealed the community's desire to see greater economic diversification, more investment in attracting and retaining a skilled workforce, and matching labour availability to major projects (particularly to minimise the impact of an influx of workers on housing availability and affordability).

Visitor economy focus: Destination Central West NSW strategic objectives

The visitor economy is a key, growing sector in the region, and is one of the sectors most exposed to any adverse impacts of mining activity. In 2019, the visitor economy in this region supported around 2,254 tourism businesses and attracted just over 5.2 million visitors and 6.3 million visitor nights.³ In 2023, visitors spent \$3000 every minute in the Central West region.⁴

Under the auspices of Destination Central West, which was established to represent and coordinate the growth and development of the Central West visitor economy, the Central West NSW Destination Management Plan sets out a series of strategic objectives for the sector. These objectives reflect

¹ Mid-Western Regional Council (2018) *Mid-Western Regional Council: Regional Economic Development Strategy 2018-2022*. <https://www.midwestern.nsw.gov.au/Business/Invest-in-the-Mid-Western-Region/Economic-Development-Strategy>.

² Mid-Western Regional Council (2023) *Mid-Western Regional Economic Development Strategy – 2023 Update*. <https://www.midwestern.nsw.gov.au/Business/Invest-in-the-Mid-Western-Region/Economic-Development-Strategy>.

³ Destination Central West NSW (2022) *Central West NSW Destination Management Plan*. <https://www.dncw.com.au/>

⁴ Destination Central West (2023) *The Value of Tourism to Central West NSW 2023*, p. 1

current market trends and local priorities, and are intended to align with the NSW Government's NSW Visitor Economy Strategy 2030:

- **Road to Recovery:** Support the Central West NSW visitor economy to recover and be sustainable, capable and resilient.
- **Build the Brand:** Position and promote Central West NSW and its destinations to align to the Feel New brand.
- **Showcase Our Strengths:** Facilitate and enable the development or enhancement of world-class visitor experiences and accommodation.
- **Invest in World Class Events:** Facilitate and enable the development or enhancement of world-class events.
- **Facilitate Growth:** Provide an enabling environment to attract investment in the Central West NSW visitor economy.

Additionally, two major opportunities have been identified that would significantly contribute to enhancing the perception and appeal of the broader region:

- **World-class food, drink and agritourism:** Leveraging the region's significant reputation for its culinary and local produce offering.
- **Regional NSW's premier health and well-being destination:** A significant opportunity for the region is to position itself as the leading health and well-being destination in regional NSW, including eco-well-being.

The size of the visitor economy, as well as other key sectors in the local economy, is outlined in the next section. The potential impacts of the mine on these sectors are also described in Section 3, with forecasts of this impact developed in Chapter 4.

2. Economic profile: how big is the local economy?

2.1 Major industries

There were over 10,000 workers in the Mid-Western Regional LGA in 2021. This increased at an average annual growth rate of 0.29 per cent over the previous five years. Top employing sectors included Mining (19.1%), Health Care and Social Assistance (11.1%) and Visitor Economy (18.9%) sectors (Table 1). This report follows the definition of 'visitor economy' developed by the NSW Government through Destination NSW, and adopted by Mid-Western Regional Council.⁵

Table 1: Employed persons by industry, Mid-Western Regional LGA, 2011-2021

Industry	Workers			Share of total workforce		
	2011	2016	2021	2011	2016	2021
Agriculture, Forestry and Fishing	857	843	785	9.9%	9.1%	7.4%
Mining	1,340	1,685	2,042	15.5%	18.2%	19.1%
Manufacturing	528	395	488	6.1%	4.3%	4.6%
Electricity, Gas, Water and Waste Services	99	88	91	1.1%	1.0%	0.9%
Construction	589	643	806	6.8%	6.9%	7.6%
Wholesale Trade	223	192	234	2.6%	2.1%	2.2%
Transport, Postal and Warehousing	242	222	255	2.8%	2.4%	2.4%
Information Media and Telecommunications	63	68	56	0.7%	0.7%	0.5%
Financial and Insurance Services	104	100	98	1.2%	1.1%	0.9%
Rental, Hiring and Real Estate Services	112	108	146	1.3%	1.2%	1.4%
Professional, Scientific and Technical Services	308	324	380	3.6%	3.5%	3.6%
Administrative and Support Services	165	231	310	1.9%	2.5%	2.9%
Public Administration and Safety	337	394	435	3.9%	4.3%	4.1%
Education and Training	651	711	841	7.5%	7.7%	7.9%
Health Care and Social Assistance	825	921	1,181	9.6%	10.0%	11.1%
Other Services	342	450	430	4.0%	4.9%	4.0%
Visitor Economy	1,841	1,880	2,090	21.2%	19.7%	18.9%
Total	8,697	9,529	11,059	100%	100%	100%

Source: ABS Census of Population and Housing (2011, 2016, 2021) – Counting employed persons, place of work

⁵ 'Visitor Economy' is defined as a summation of ANZSIC 1 digit Retail Trade, Accommodation and Food Services, and Arts and Recreation Services. This recognises that these industries, to a significant extent, underpin the economic contribution of the visitor economy in tourism-dependent economies. Destination Central West NSW (2023) *the Value of Tourism to Central West NSW 2023*, p. 3.

Industries with competitive strengths

A location quotient (LQ) analysis provides insight into the competitive strengths inherent in the economic structure of the LGA. The LQ score for a sector is given by its proportional representation in the municipality divided by its proportional representation in New South Wales, based on employment figures.

An LQ score greater than 1.0 signifies that the sector in question is over-represented in the municipality compared to New South Wales. Over-representation suggests the industry has a comparative (can produce products at a lower cost) or competitive (differentiation from competitors) advantage and is exporting these goods or services to other regions.

Figures 2 and 3 below illustrates the LQ analysis. The vertical axis indicates the LQ score, and the horizontal axis shows the LQ change between 2016 and 2021. Growth indicates a growing comparative advantage in Mid-Western compared to NSW (i.e. the industry has been growing faster in Mid-Western than across NSW). In addition, the quadrants formed in the chart by lines calibrated to an LQ of 1 and an LQ growth rate of 0 per cent per annum (in employment terms) create a framework to judge the strategic value of sectors.

The top right-hand quadrant shows sectors with an existing specialisation or implied competitive advantage, and that advantage is growing (or employment is not falling as quickly as elsewhere). These sectors reflect the LGA's strengths and best future prospects.

The bottom right shows emerging sectors growing in advantage but have yet to reach a comparative advantage in Mid-Western. The top left shows industries with a long-standing local strength, but the advantage is declining. The bottom left quadrant shows industries with no and declining advantage.

A further parameter shown in the chart is the size of each sector by employment numbers, represented by the marker's size. The colours of the markers reflect the core and supporting economies framework.

Given the outsized impact of mining in the local economy, the LQ analysis is presented twice. Figure 2 excludes mining, showing Agriculture, Forestry and Fishing in particular as a regional strength. Figure 3 includes mining, showing the overall size and strength of that sector in Mid-Western Regional LGA.

Overall, most sectors are clustered around the centre line, highlighting that Mid-Western Regional's economy is broadly similar to the rest of NSW. The Administrative and Support Services and Rental, Hiring and Real Estate Services industries are growing relatively quickly, as demonstrated by their placement at the right-hand edge of the figures below, however continue to have relatively small workforces. Three key industries stand out:

- **Mining is shown to be an expanding sector with a traditional strength.** This reflects the role of the mining industry in the region since the Ulan Coal Mine began operations in the early 1920s. Since then, the Wilpinjong Mine and Moolarben Mine have also been developed, and together the three mines have received approvals that will enable them to produce a combined volume of up to 58 million tonnes per annum until 2038.⁶ It is important to note that the bulk of the local mining industry is engaged in coal mining, which presents a different set of risks to the critical minerals mining proposed at Bowdens' site. Moreover, coal mining is declining globally due to the transition

⁶ Mudgee District Environment Group (n.d.) 'History of Coal Mining in the Mid Western Regional LGA'. <https://mdeg.org.au/focus/coal-mining-in-mwrc/>

away from carbon-intensive energy generation; reflected domestically in the planned closure of a number of coal-fired power stations in NSW and Victoria.

- **Agriculture, Forestry and Fishing is an industry with traditional strength but is declining in comparative advantage (in terms of employment).** Agriculture has traditionally played an important role in the economy, with a wide range of agricultural products being locally produced. These include super fine wool, honey, livestock, thoroughbred horses, grapes and other crops.⁷ The region also has over 40 family-owned cellar doors producing wines, schnapps and craft beers. While agriculture may be declining slightly in employment, the value of its output is broadly stable. This also highlights the important counter-cyclical role that the agricultural sector can play, enabling the region to meet stable domestic demand that is relatively insulated from the wider fluctuations expected in sectors such as mining, tourism and recreation.
- Tourism is another key industry in Mid-Western. This is captured in the **Visitor Economy, which is a large, expanding sector in the region.** The region has an average capacity of 4,026 visitors per night, with 711 unique accommodation listings across the LGA.⁸ It also hosts over 80 events and festivals annually which attracts thousands of locals and visitors, and has an established reputation as a food and wine haven, with emerging breweries and distilleries, and award winning tourism destination: Mudgee was recognised by TripAdvisor as a Top 10 worldwide emerging destination for 2021 and was placed in the Top 4 Aussie Towns for 2021 by Wotif.⁹ The positioning statement in the DMP frames the region's competitive advantage as being "a region immersed in nature and rural landscapes, enlivened with arts and culture and brimming with exceptional drink, food and produce to revitalise your senses".¹⁰

⁷ Mid-Western Regional Council (2022) *Economic and Business Profile for the Mid-Western Region*.

<https://choosemudgeeregion.com.au/wp-content/uploads/2024/04/2022-Economic-and-Business-Profile.pdf>

⁸ Mid-Western Regional Council (2024) *Economic and Business Profile for the Mid-Western Region 2024 update*.

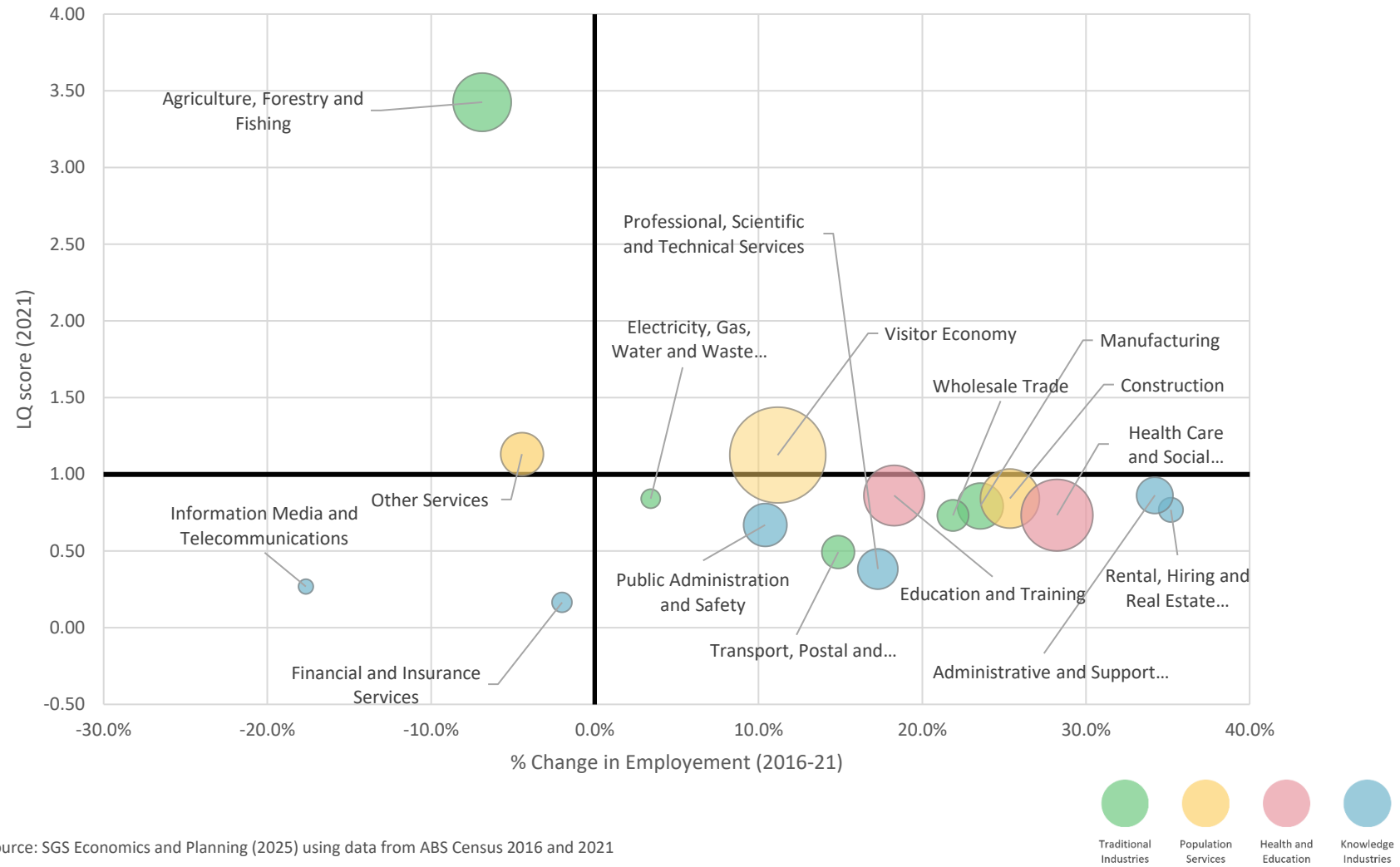
[https://www.midwestern.nsw.gov.au/files/assets/public/v/1/business/2024_economic_and_business_profile_update\[1\].pdf](https://www.midwestern.nsw.gov.au/files/assets/public/v/1/business/2024_economic_and_business_profile_update[1].pdf)

⁹ Mid-Western Regional Council (2022) *Economic and Business Profile for the Mid-Western Region*.

<https://choosemudgeeregion.com.au/wp-content/uploads/2024/04/2022-Economic-and-Business-Profile.pdf>

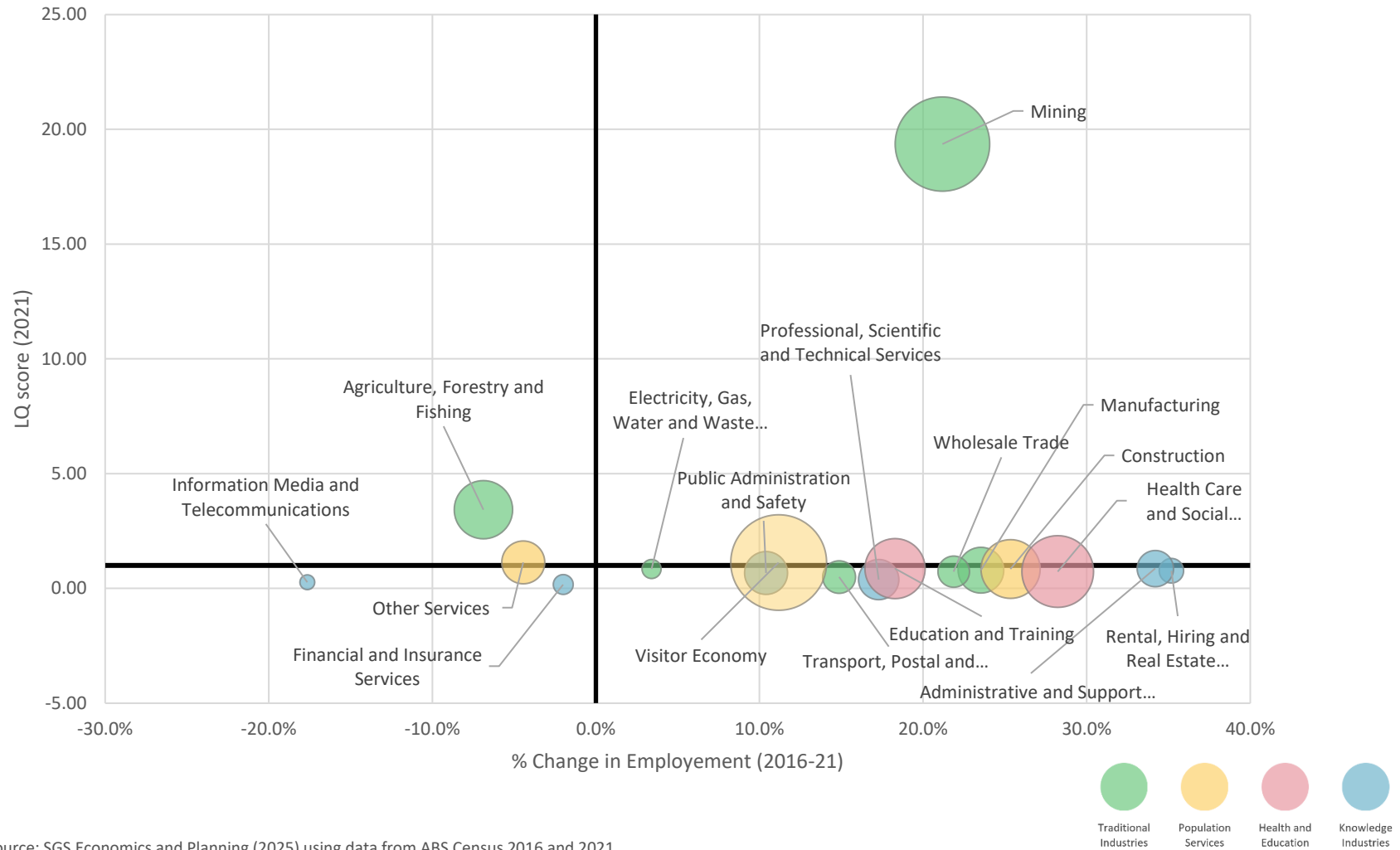
¹⁰ Destination Central West NSW (2022) *Central West NSW Destination Management Plan*. <https://www.dncw.com.au/>

Figure 2: LQ Analysis of the Mid-Western Regional LGA – mining excluded



Source: SGS Economics and Planning (2025) using data from ABS Census 2016 and 2021

Figure 3: LQ Analysis of the Mid Western Regional LGA – mining included



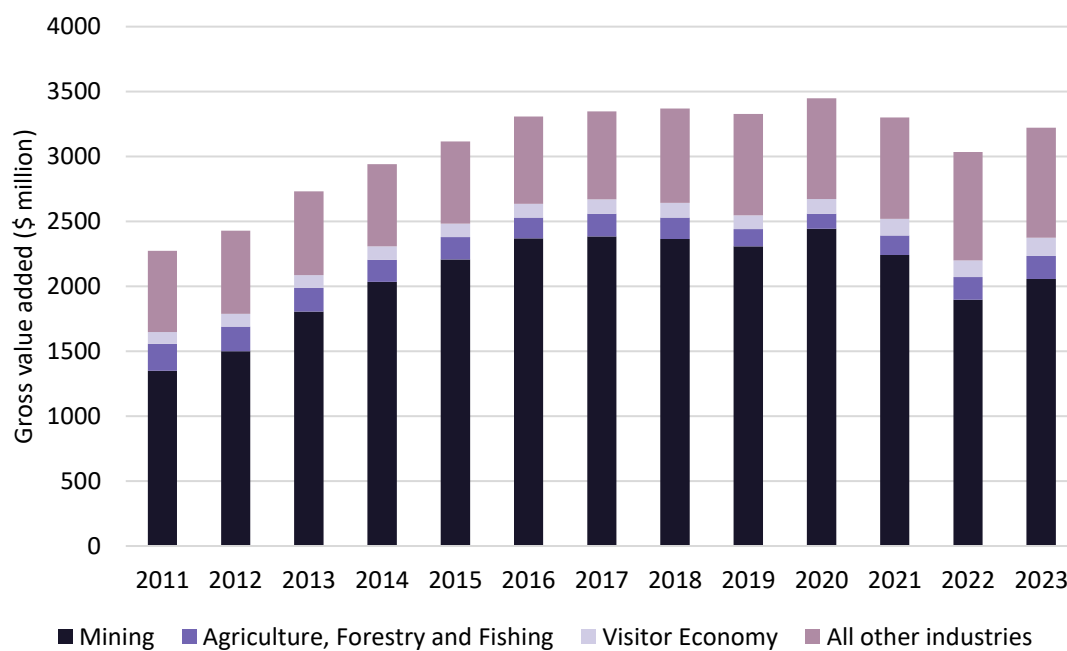
Source: SGS Economics and Planning (2025) using data from ABS Census 2016 and 2021

2.2 Economic value added

Mining accounts for over 60 per cent of Mid-Western's total gross value added (GVA). GVA is an economic productivity metric that provides a dollar value for the amount of goods and services that have been produced in an economy, minus the cost of all inputs and raw materials that are directly attributable to that production. Agriculture, Forestry and Fishing is the next largest industry by GVA, accounting for over 5 per cent of the LGA's GVA in 2023. The Visitor Economy is also significant, comprising a similar share to Agriculture, Forestry and Fishing.

Total GVA grew between 2011 and 2016 as the mining industry expanded, and has since fluctuated slightly between years largely in line with mining output (Figure 4). This illustrates that Mid-Western Regional LGA is highly dependent on coal mining, an industry that is slowing globally, and generally driven by the three core industries. Table 2 provides an overview of the GVA across all industries in Mid-Western.

Figure 4: GVA by top industries (\$ million), Mid-Western Regional LGA, 2011-2023



Source: SGS Economics & Planning (2025)

Table 2: GVA by industry (\$ million), Mid-Western Regional LGA, 2018-2023

Industry	2018	2019	2020	2021	2022	2023
Agriculture, Forestry and Fishing	164.6	133.2	116.0	148.9	175.7	179.3
Mining	2,365.2	2,308.5	2,444.6	2,242.1	1,896.8	2,056.0
Manufacturing	84.1	82.8	87.9	89.6	88.5	91.7
Electricity, Gas, Water and Waste Services	37.4	36.2	33.9	33.6	34.1	34.5
Construction	112.7	124.0	115.5	104.7	113.6	105.2
Wholesale Trade	40.9	57.8	50.5	47.4	62.5	50.8
Transport, Postal and Warehousing	45.8	42.1	43.7	44.3	40.6	53.0
Information Media and Telecommunications	9.6	16.0	11.1	9.8	13.8	14.4
Financial and Insurance Services	15.9	14.9	12.7	11.6	15.4	20.7
Rental, Hiring and Real Estate Services	39.0	43.0	50.1	52.3	64.9	66.5
Professional, Scientific and Technical Services	45.1	46.7	55.1	52.2	56.2	52.9
Administrative and Support Services	59.4	66.8	63.3	79.4	77.5	88.3
Public Administration and Safety	49.1	53.4	59.6	55.9	59.8	59.2
Education and Training	77.0	77.9	77.6	79.4	80.6	82.2
Health Care and Social Assistance	74.5	81.5	83.8	88.2	96.9	97.4
Other Services	36.1	37.9	30.8	33.1	29.5	31.2
Visitor Economy	112.4	105.6	111.8	128.2	127.4	138.8
Total	3,368.8	3,328.4	3,447.9	3,300.7	3,033.9	3,222.3

Source: ABS Census of Population and Housing (2011, 2016, 2021) – Counting employed persons, place of work

3. Potential impacts from Bowdens Silver Mine

The Bowdens Silver Mine is expected to have a range of impacts on various aspects of the local economy.

Agricultural industry

The area around the proposed mine site is predominantly rural agricultural, and much of this would be affected by any contaminated groundwater. The mine site itself is also currently used for livestock grazing, meaning that this agriculture land will have to be cleared to build the mine. It is estimated that during the project life, around 1,498 ha of land currently used for agriculture in the area in and around the mine site would be removed from agricultural production, and around 865 ha of this would be removed permanently.¹¹

In particular, the risk of water and earth contamination is likely to have a major impact on the agriculture sector. As the tailings storage dam at the mine will be built over a major geological fault line above the water table at the headwaters of Lawson Creek, an extreme weather event could compromise the dam and result in contamination of the environment which would have impacts for many centuries to come.¹² This would threaten drinking water sources for residents living nearby as well as water used for producing livestock and crops consumed across the state. The prospects for contaminated dust from mining activity to be dispersed across the local area are also significant.

Any perception of reduced quality of agricultural produce could significantly impact the value and future growth of the sector. This would have spillovers into the local visitor economy, with lower quality perceptions of agricultural produce translating into a decreased capacity to provide 'agri-tourism' experiences; currently a competitive niche and strategic focus area for both the local and NSW Government.

Tourism industry (visitor economy)

The tourism industry is an important part of the Mid-Western economy. Its key sectors, which together comprise the 'visitor economy' in the tables above, account for almost 20 per cent of all jobs in Mid-Western Regional LGA. It is estimated to account for 67 per cent of wages in the accommodation and food services sector and 28 per cent of jobs in the retail sector.¹³

¹¹ Department of Planning and Environment (2022) *Bowdens Silver Project: State Significant Development Assessment SSD 5765*, State Government of New South Wales. <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf>

¹² Running Stream Water Users Association (2023) *Inquiry into Current and Potential Impacts of Gold, Silver, Lead and Zinc Mining on Human Health, Land, Air and Water Quality in New South Wales*.

<https://www.parliament.nsw.gov.au/lcdocs/submissions/81802/0079%20Running%20Stream%20Water%20Users%20Association.pdf>

¹³ Mid-Western Regional Council (2018) *Mid-Western Regional Council: Regional Economic Development Strategy 2018-2022*. <https://www.midwestern.nsw.gov.au/Business/Invest-in-the-Mid-Western-Region/Economic-Development-Strategy>.

Food, wineries, heritage and natural scenery are the major attractions which draw visitors into the Mid-Western region. Mudgee is known for its food and wine festivals and was recognised as the *#1 Food Destination in Australia in 2017* by Booking.com.¹⁴ Increasingly, Mudgee is also attracting wellness tourists who are particularly concerned with sustainability, human health and well-being.¹⁵ Destination Central West also recognises the strength of the “emotional pull” the Central West has, “whereby people are attracted to the place for its beautiful landscapes, heritages towns, nature and to be connected to people (family and friends, producers, businesses and cultural experiences)”.¹⁶

The presence of the mine may threaten the region’s image as a ‘clean and green’ tourist destination due to fears of the risks of lead mining (including lead poisoning and acid toxicity) as well as through amenity impacts, and a loss of sense of place and rural way of life. This may cause tourists to seek alternative holiday destinations. This would result in lower spending by tourists in the local economy, and may consequently affect the quality and quantity of food and beverage outlets, arts and cultural production and recreational activities that rely on large volumes of visitation.

Population health

A key concern if the mine were to go ahead is the risk presented to the local community due to increased dust and lead concentrations in the ambient environment, as there is evidence that even short-term exposures are problematic to human health.¹⁷ High blood lead levels among children living near lead mines are already a significant concern in other parts of Australia. For example, 50 per cent of children in the mining town of Broken Hill have blood lead levels above the National Health and Medical Research Council's draft guidelines,¹⁸ and research has shown that mining operations are responsible for this lead contamination and it is not simply due to higher levels of naturally occurring lead in the ground.¹⁹

This is a particularly acute concern in the Mid-Western Regional LGA due to the presence of Lue Public School only 2.5km from the Bowdens Silver Mine site, potentially exposing children to the polluted dust particles. Poorer population health will have negative impacts on the economy due to the higher medical costs, particularly later in life for the young children exposed to lead, and may also impact the productivity of local workers living or working in areas with poor air quality.

Illustratively, in January 2025, the Broken Hill mine caught fire, causing evacuation of workers and an order for residents to stay indoors to avoid potentially toxic smoke. This illustrates the potential health impacts of critical minerals mining for surrounding communities.²⁰

¹⁴ Mid-Western Regional Council (2022) *Economic and Business Profile for the Mid-Western Region*.

<https://choosemudgeeregion.com.au/wp-content/uploads/2024/04/2022-Economic-and-Business-Profile.pdf>

¹⁵ Flowers, K (2023) *Mid-Western Regional Council Area Visitation and Economy at Risk from Proposed Bowdens Mine Impacts on the Local Tourism Industry*, Decisive Consulting Pty Ltd.

¹⁶ Destination Central West NSW (2022) *Central West NSW Destination Management Plan*. <https://www.dncw.com.au/>

¹⁷ Taylor, M, ‘Talking points for the Bowden’s Mine IPC Hearing’.

¹⁸ Breen, J & von Horschner, C (13 February 2015) ‘NSW Government delivers \$13 million to fight Broken Hill lead levels’, *ABC News*. <https://www.abc.net.au/news/2015-02-13/nsw-government-to-announce-boost-in-funding-for-lead-abatement-/6090146>

¹⁹ Gooch, D (9 May 2017) ‘Broken Hill mining operations contributing to lead contamination, research reveals’, *ABC News*. <https://www.abc.net.au/news/2017-05-09/mining-contributing-to-broken-hill-lead-problem-research-shows/8507160>

²⁰ Ormonde, B. and McConnell, S. (2025) ‘Fire at Broken Hill’s Perilya mine re-ignites, residents warned to avoid ‘possible toxic smoke’, *ABC News*, 12 January, <https://www.abc.net.au/news/2025-01-13/fire-at-broken-hill-perilya-mine-reignites/104813252>

Biodiversity

Although the project has been designed to avoid and minimise the disturbance of native vegetation, approximately 381 ha of native vegetation would need to be cleared. This includes 180 ha of critically endangered Box Gum Woodland ecological community, although some of this is derived grassland only (as the trees have previously been cleared for agricultural activity). Nonetheless, further clearing of vegetation consequently affects the available habitat for local fauna including 14 species that are listed as threatened under the Biodiversity Conservation Act or the Environment Protection and Biodiversity Conservation Act that were also identified in these locations during field surveys for the project.²¹

Not only is having rich biodiversity a key attraction to the amenity and tourism-value of the Mid-Western region, but a functioning ecosystem has broader benefits to humans through the transformations of resources (or environmental assets, including land, water, vegetation and atmosphere) into a flow of essential goods and services such as clean air, water, and food.²² Any compromise to these 'life support' systems could have flow-on impacts for local communities and animals, including livestock.

Cultural

The project is expected to directly impact 25 Aboriginal cultural heritage sites comprising artefact scatters and isolated Aboriginal items, two scarred trees and a rock shelter with potential archaeological deposits. The majority of the identified sites were assessed as being "of low scientific, educational and aesthetic archaeological significance", however "all sites are considered by the Aboriginal parties to be of high cultural significance".²³ Preserving the culture of Indigenous Australians is central to Australia's national heritage, and is a key driver of new products and services in the visitor economy, as increasing numbers of domestic and international travellers seek out cultural experiences.

Local jobs

The project is estimated to directly employ 131 workers during construction and 210 workers during operations, while generating a net production benefit to the Australian economy of \$89 million and to the NSW economy of around \$44 million (present day values).²⁴ However, only thirty per cent of the construction workforce and seventy five per cent of the operational workforce are expected to come from the local area itself.²⁵

A large-scale project in regional areas also poses the risk of diminishing productivity in other industries as workers are pulled away from other jobs to fill the new ones. Mid-Western LGA is potentially at risk

²¹ Department of Planning and Environment (2022) *Bowdens Silver Project: State Significant Development Assessment SSD 5765*, State Government of New South Wales. <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf>

²² Department of the Environment, Water, Heritage and the Arts (2010) *Ecosystem Services: Key Concepts and Applications*, Australian Government. <https://www.agriculture.gov.au/sites/default/files/documents/ecosystem-services.pdf>

²³ Department of Planning and Environment (2022) *Bowdens Silver Project: State Significant Development Assessment SSD 5765*, State Government of New South Wales. <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf>

²⁴ Department of Planning and Environment (2022) *Bowdens Silver Project: State Significant Development Assessment SSD 5765*, State Government of New South Wales. <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf>

²⁵ Gillespie Economics (2020) *Economic Assessment of State Significant Development No. 5765*, p. 71

of this occurring as it currently has a low unemployment rate of 1.8 per cent,²⁶ suggesting there are already labour shortages in the region. As there is likely to be an insufficient number of skilled local workers, many of the jobs for this project are likely to be filled by individuals currently living outside Mid-Western. This poses additional challenges as the additional influx of residents may put pressure on local services and facilities (including housing and health services) and affect the nature and social dynamics of the community.

Accordingly, an analysis that assumes that future employees residing in the area are already employed and that job vacancies created by them leaving their jobs for employment at the mine are unfilled, shows a much lower incremental benefit. Under these conditions, the value of additional wages accruing to workers in the local area is \$1.8 million p.a. during construction and \$6.2 million p.a. during operation, equivalent to 20 and 73 FTE jobs respectively.²⁷ This impact is worth less than 5 per cent of the annual GVA of the local agriculture sector in 2023, according to Table 2.

²⁶ Jobs and Skills Australia (2024) 'Small Area Labour Markets: September Quarter 2024', Australian Government. <https://www.jobsandskills.gov.au/data/small-area-labour-markets>

²⁷ Gillespie Economics 2020, p. 71

4. Economic forecasts

4.1 Forecast methodology

Following the development of the profile of the local economy, we have forecast the local economic growth under three separate scenarios. These are:

- **No mine scenario:** the mine does not go ahead, with the local economy growing in line with broader trends such as population and industry growth.
- **Low impact scenario:** the mine goes ahead, with a minor negative impact on the local economy in line with the effects described in Section 3 above.
- **High impact scenario:** the mine goes ahead, with a major negative impact on the local economy.

In the low and high impact scenarios, the potential impacts of the mine on the local economy are contrasted with the economic impacts modelled by Gillespie Economics as part of the initial assessment of the project as a State Significant Development.²⁸

Our forecasting approach differs between industries. For most industries, we assume that future GVA growth will follow historic employment growth in Mid-Western Regional LGA between 2011 and 2021, found to be 2 per cent.²⁹ For the major driver industries of the local economy, however, which are of particular interest in this study, we assume industry-specific trends. These assumptions are detailed in Table 3 below.

In order to capture the full breadth of impact to these industries, estimates of impact use multipliers taken from the Australian National Input-Output Table and scaled down to Mid-Western LGA using local population, employment and location quotient figures. These multipliers reflect the embeddedness of industries in a broader supply chain, where an amount of positive or negative direct impact to the industry in question can have a greater total impact due to the flow-on impacts on employment, consumption and production amongst related businesses and workers. This methodology is in line with the 'Supplementary local effects analysis' undertaken by Gillespie Economics as part of its initial economic evaluation of the Bowdens mine.³⁰ Unless otherwise stated, estimates of the positive economic impact of the mine are taken from this section of Gillespie Economics' report.

As noted by Gillespie Economics, input-output modelling at small geographies is inherently uncertain, and risks overstating impacts. Nonetheless, it is performed here in order to capture the dense supply chain linkages between industries in small rural economies, and the potential for even small contractions in core sectors to have a material impact on the economic fortunes of villages, towns and regional centres. Moreover, our own analysis uses multipliers constrained by the size of the local labour

²⁸ NSW Government (n.d.) *State Significant Development: Bowdens Silver*, <https://www.planningportal.nsw.gov.au/major-projects/projects/bowdens-silver>

²⁹ ABS Census of Population and Housing (2011, 2016, 2021) – Counting employed persons, place of work

³⁰ Gillespie Economics (2020), pp. 78-92

market, thereby minimising one of the core sources of inaccuracy and over-estimation in input-output modelling.³¹

Table 3: Baseline forecasting assumptions

Industry	Assumption	Reasoning
Agriculture, Forestry and Fishing	0.1% annual GVA growth ³²	Reflecting low productivity growth but steady demand for agricultural output.
Mining	-0.6% annual GVA growth ³³	Reflecting declining global and domestic demand for coal, which is the major export of the local mining sector.
Visitor Economy	3.4% annual GVA growth ³⁴	Reflecting 5 year average annual growth in domestic visitor nights in NSW.

Source: SGS Economics & Planning (2025)

Forecasts are completed for the period 2024-2048. This is aligned with the estimated operating life of the mine as per the State Significant Development application, with 1.5 years of construction, 15.5 years of operations and 7 years of rehabilitation of the site following the cessation of mining activity.

³¹ ABS (2021) *Using I-O tables for analysis: Multipliers*, <https://www.abs.gov.au/statistics/detailed-methodology-information/concepts-sources-methods/australian-system-national-accounts-concepts-sources-and-methods/2020-21/chapter-22-input-output-tables/using-i-o-tables-analysis#multipliers>

³² Department of Agriculture, Fisheries and Forestry (2024) *Australian Farm Productivity – Broadacre and Dairy Estimates*, Table C1 - Climate adjusted broadacre productivity index, All industries, by state, 1977-78 to 2021-22

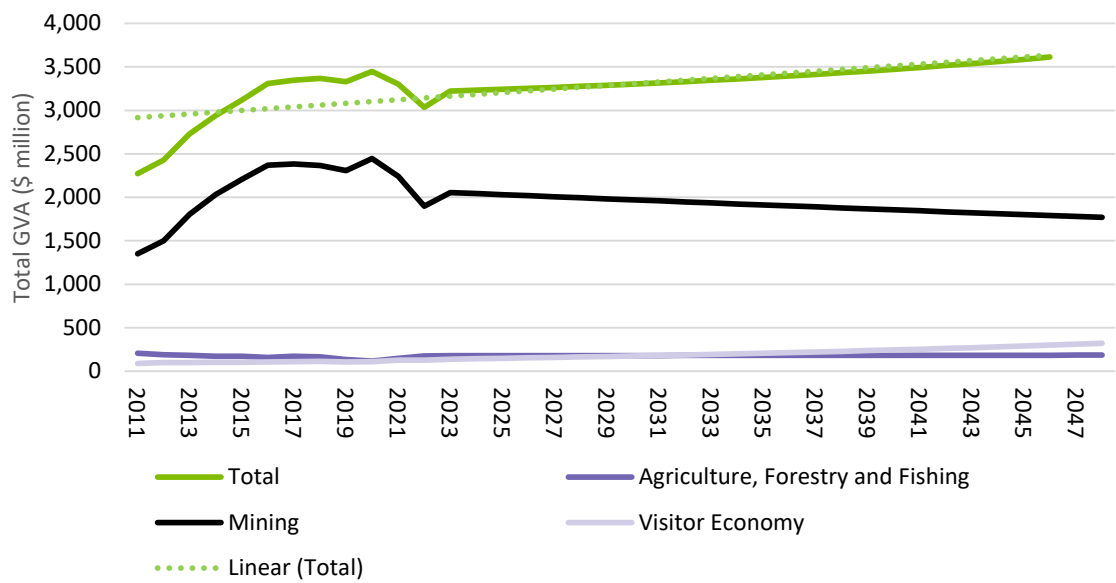
³³ GlobalData (2024) *Australia coal mining to 2030*, https://mine.nridigital.com/mine_australia_feb24/coal-mining-outlook-australia

³⁴ Tourism Research Australia (2024) *Tourism forecasts for Australia*, <https://www.tra.gov.au/en/economic-analysis/tourism-forecasts>

4.2 ‘No mine’ scenario

In a situation where the mine is not developed, and the local economy grows in line with the trends outlined in Table 3; expected GVA growth is \$400 million to 2048, or around \$20 million per year. Growth is largely driven by the Visitor Economy, which grows the fastest of all industries covered by the analysis. However, mining remains the most significant sector in absolute terms, still comprising almost 50 per cent of GVA in Mid-Western Regional LGA in 2048; though down from 63 per cent in 2024 (Figure 4).

Figure 4: Forecast of local economy growth in a ‘no mine’ scenario, 2011-2048



Source: SGS Economics & Planning (2025)

4.3 ‘Low’ impact scenario

Under the ‘low’ impact scenario, the mine has mild negative impacts on the three core industries in Mid-Western Regional LGA. These reflect the effects described in Section 3 and summarised in Table 4 below. In terms of the modelling, these effects are reflected as per Table 5, where they are expressed as percentage deviations from the baseline forecast outlined in Section 4.2.

Table 4: Potential impacts of mine on key sectors in ‘low’ impact scenario

Impacts	Mine impact	Agriculture	Visitor Economy	Mining
Physical site	Lose 1,498 ha of agricultural land	Reduced land for agricultural production		
Pollution	Increased lead concentration in dust, air and water	Contamination would affect quality of output, especially wool	Poorer visitor perception of Mudgee and reduced quality of environment means lower visitation	
Biodiversity	381 ha of habitat cleared, 14 threatened species affected	Reduced biodiversity reduces resilience of crops	Clearing biodiversity reduces local amenity	
Workforce	Employ 131-210 workers, tightening local labour market	Exacerbate shortage of skilled and unskilled on-farm labour		Potential workforce shortages due to competition for labour

Source: SGS Economics & Planning (2025)

Table 5: Modelling assumptions in ‘low’ impact scenario

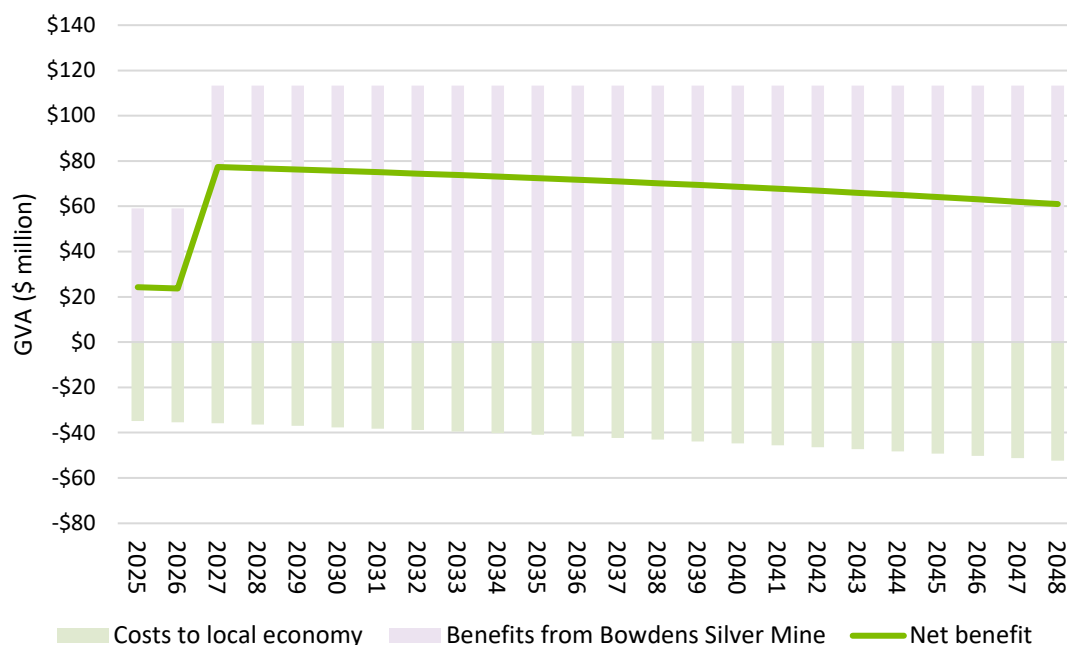
Industry	Assumption	Reasoning
Agriculture, Forestry and Fishing	10% decline in GVA growth relative to baseline	Pollution and workforce impacts
Mining	0.1% decline in GVA growth relative to baseline	Labour market competition
Visitor Economy	10% decline in GVA growth relative to baseline	Damage to perception and experience of Mudgee’s ‘brand’ and the quality of its agri-tourism offerings
Other industries	No impact	It is difficult to determine the likely impacts of the mine on other industries

Source: SGS Economics & Planning (2025)

Figure 5 outlines the results of this forecast. In the ‘low’ impact scenario the mine is projected to generate a net benefit of \$1.5 billion GVA over the 23-year period from 2025-2048, comprising \$2.6 billion of positive spillovers from production, consumption and employment within the local economy, set against \$1 billion of negative impacts on GVA in the three core industries. Net benefit declines over time particularly due to negative impacts on the Visitor Economy, which in the baseline forecasts grows

more quickly than other sectors, reflecting strong recent and expected future growth. Table 6 outlines these impacts for each industry in terms of both GVA and lost turnover.³⁵

Figure 5: Net impact of mine development on the local economy under 'low' impact scenario



Source: SGS Economics & Planning (2025)

Table 6: Lost GVA and turnover for core industries in 'low' impact scenario, 2025-2048

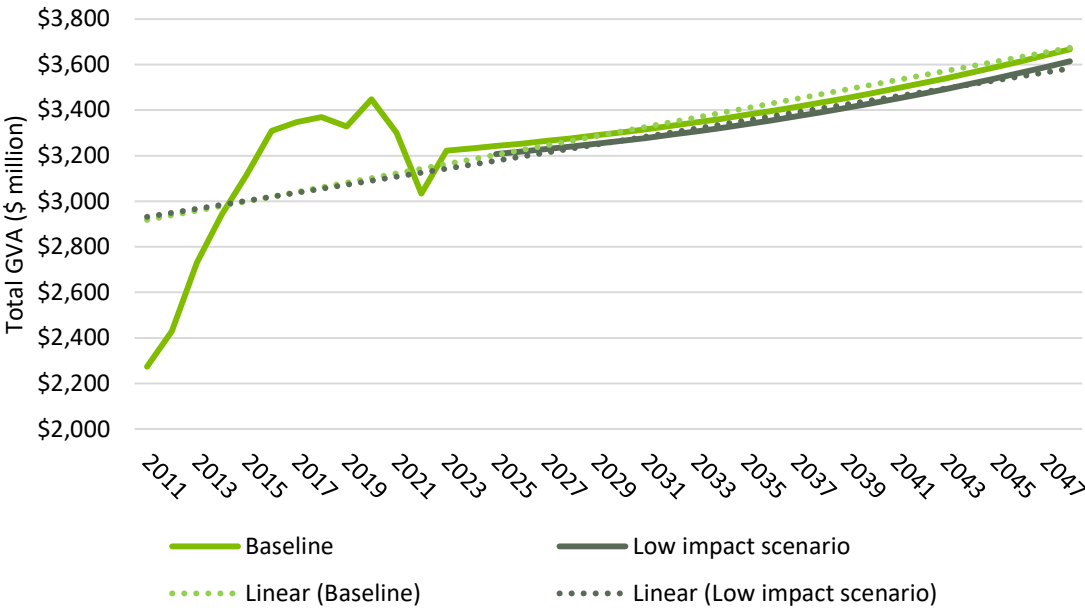
Industry	Lost GVA (\$ million)	Equivalent turnover (\$ million)	Annual equivalent turnover (\$ million)
Agriculture, Forestry and Fishing	\$438	\$1,394	\$60.6
Mining	\$46	\$68	\$2.9
Visitor Economy	\$537	\$2,178	\$94.7
Other industries	\$0	\$0	\$0

Source: SGS Economics & Planning (2025)

When viewed from the perspective of the entire LGA, these impacts may seem relatively minor (Figure 6). However, from the perspective of individual businesses in the affected sectors, such reductions in turnover could be highly significant, and may affect their overall profitability and viability. Especially given these sectors are the core of the local economy, with the Visitor Economy in particular comprising a key growth sector and area of economic diversification for the region, any disruption could structurally affect the economic prospects of the LGA.

³⁵ GVA is converted to turnover by taking the ratio of sales and service income to industry value added from ABS (2024) *Australian Industry*, <https://www.abs.gov.au/statistics/industry/industry-overview/australian-industry/latest-release>

Figure 6: Baseline and 'low' impact scenario compared

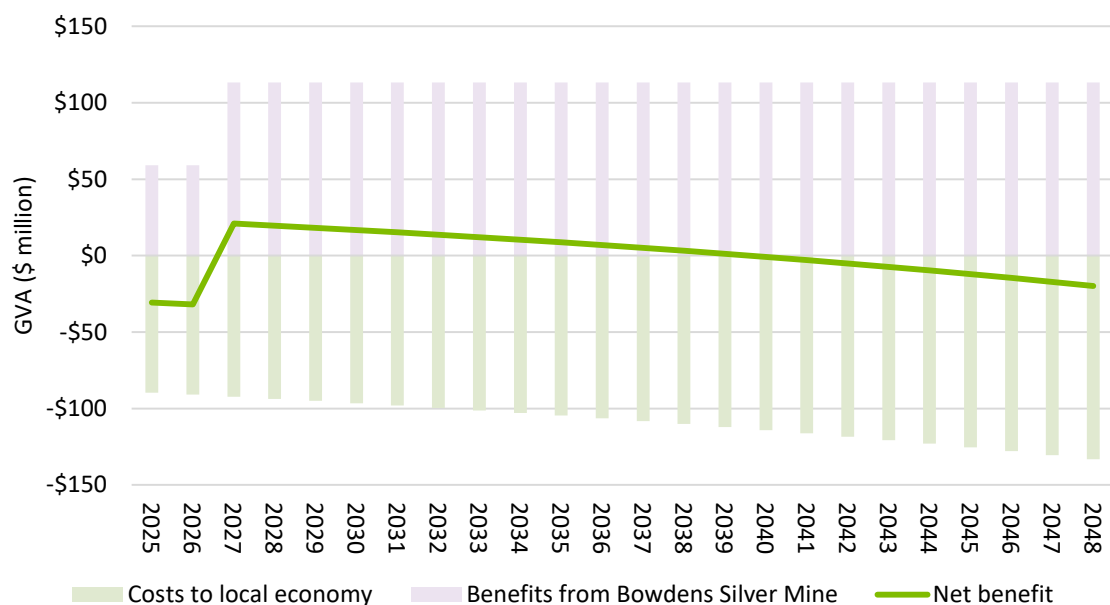


Source: SGS Economics & Planning (2025)

4.4 'High' impact scenario

Compared to the 'low' impact scenario, which models a set of relatively plausible impacts for core sectors affected by the mine, the 'high' scenario attempts to determine the level of impact to each sector that would suffice to overcome any positive impact from the mine. In effect, it seeks to determine the economic 'tipping point', beyond which even the most optimistic estimation of positive economic impacts fails to outweigh the negative impact on core sectors. The balance of positive and negative impacts in this scenario, and the net benefit to the local economy over time, is displayed in Figure 7. As in the 'low' scenario, net benefit falls over time particularly due to lost growth in the Visitor Economy, which would otherwise be outpacing other sectors.

Figure 7: Net impact of mine development on the local economy under 'high' impact scenario



Source: SGS Economics & Planning (2025)

According to our analysis, this 'tipping point' is approximately 20 per cent of GVA in both the Agriculture and Visitor Economy sectors, which, accompanied by a 0.1 per cent decline in Mining sector GVA, would produce a total negative impact of \$2.6 billion between 2025 and 2048. This would suffice to entirely cancel out the positive impact from the mine forecast in Gillespie Economics analysis. This is roughly double the impact to these sectors modelled in the 'low' impact scenario. As outlined in Section 4.1, this estimate considers both the direct and indirect impacts of the mine; direct in terms of production, consumption and employment from the mine itself, and indirect in terms of the impact on broader supply chain linkages within and between affected industries in the local economy. As a result, it should be considered a 'worst case' assessment of any negative impacts and 'best case' assessment of any positive impacts.

In this scenario, the local economy experiences total negative GVA impacts of between \$90 and \$130 million per year, equivalent to average lost annual turnover of \$130 million in the Agriculture sector, \$2.9 million in the Mining sector and \$204 million in the Visitor Economy. These results are outlined in Table 7.

Table 7: Lost GVA and turnover for core industries in ‘high’ impact scenario, 2025-2048

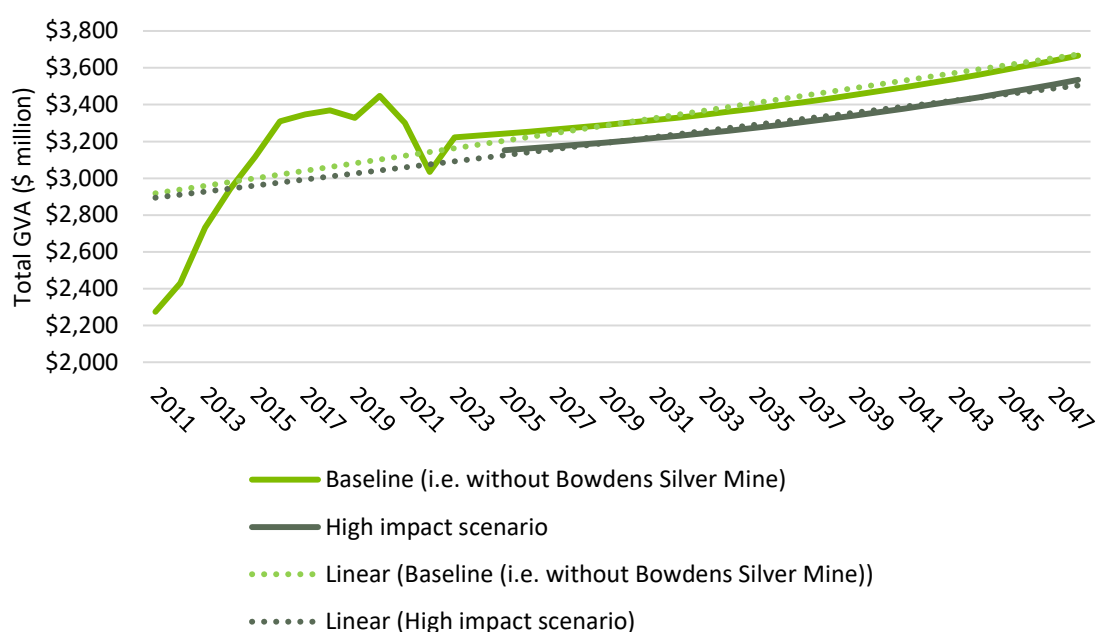
Industry	Lost GVA (\$ million)	Equivalent turnover (\$ million)	Annual equivalent turnover (\$ million)
Agriculture, Forestry and Fishing	\$1,186	\$3,775	\$130
Mining	\$93	\$139	\$2.9
Visitor Economy	\$1,330	\$5,391	\$204
Other industries	\$0	\$0	\$0

Source: SGS Economics & Planning (2025)

These results give rise to a number of different considerations. First, as in the ‘low’ scenario, the negative impacts may seem manageable from the perspective of the entire LGA (Figure 8). This reflects the deliberately narrow scope of the impact scenarios and the underlying strength of the local coal mining sector, which contributes the majority of economic growth and is relatively unaffected by the mine proposal.

However, lost turnover of the degree indicated in Table 7 would in reality decimate the core non-mining sectors of the economy, to the heavy detriment of businesses, communities and workers reliant on these sectors. Moreover, this would run counter to the economic direction outlined by Mid-Western Regional Council, local business organisations and the NSW Government, which is to move toward a more dynamic, resilient and diverse local economy, particularly leveraging synergies between the Agriculture and Visitor Economy sectors, such as agri-tourism. These directions were set out in Section 1.2 of this report.

Figure 8: Baseline and ‘high’ impact scenario compared



Source: SGS Economics & Planning (2025)

Second, this analysis highlights the relative vulnerability of the positive economic impacts of the mine proposal. The eventuation of negative impacts on core sectors of the magnitude indicated in Table 7 is

not impossible, particularly if the mine were to experience a major operational failure or natural disaster. Moreover, the modelled scenario takes no heed of broader impacts, such as those of potential lead pollution on population health, which would permeate almost all sectors of the local economy and reduce the quantity of negative impact on the core modelled sectors required to produce a net negative outcome. This is especially relevant given the acknowledged optimism of the estimates of positive impacts in Gillespie Economics report, against which these results have been compared.

Overall, a positive net impact on the local economy from the mine is not guaranteed. Significant attention should be paid toward the potential negative consequences on core sectors, as well as the broader ramifications of the mine for the diversity, viability and resilience of local businesses.

5. Conclusions

5.1 Defining and valuing the local economy

SGS' profile of the local economy, defined as Mid-Western Regional LGA, found three main industries in terms of employment and value-added. These were:

- Mining, which is the largest on both measures, and reflects the strength of the local coal mining sector. However, this is expected to decline with falling national and international demand for coal.
- Visitor Economy, which employs almost 20 per cent of the local population (the same share as the Mining sector), but produces significantly less value-added. This is amongst the fastest-growing industries in the local economy, and is a key strategic focus for both the local and state government.
- Agriculture, which is a historical strength and stable contributor to value-addition and employment. The region's agricultural landscapes and output is seen as synergistic with the Visitor Economy sector, and agri-tourism is a competitive niche.

5.2 Potential impacts from Bowdens Silver Mine

A review of documentation produced for the assessment of the mine as a State Significant Development elicited a number of potential impacts of the mine on the local economy. These included:

- Water and earth contamination affecting the quality and productivity of the agricultural sector.
- Poorer agricultural resources, combined with reputational damage to Mudgee's 'brand' as a destination, impacting visitation and spending in local tourism, wellness and recreation.
- Risks to the health of the local population, particularly due to the proximity of Lue Public School to the mine site, from potential water, earth and air contamination.
- Greater competition in the local labour market, potentially increasing costs and reducing output for existing employers that already struggle to attract the labour they need.
- Potential positive impacts from greater employment and spending in the local economy; however, these are highly conditional on the capacity of local labour and product market to absorb additional demand without raising prices.

5.3 Modelling impact scenarios

SGS developed a number of forecasts of local economic growth to test potential outcomes from the establishment and operation of the mine. Assessments of impact were undertaken against a baseline scenario where the mine does not go ahead, and the local economy continues to develop in line with broader economic and industry trends.

In a **low** impact scenario, where the negative impacts of the mine are associated with a 10 per cent decline in GVA in the Agriculture and Visitor Economy sectors, and a 1.0 per cent decline in the Mining sector:

- There is a net benefit of \$1.5 billion GVA over the 23-year period from 2025-2048 from increased employment, consumption and purchase of inputs in the local economy.
- However, this comes at the cost of the Agriculture sector foregoing \$400 million GVA, and Visitor Economy sector foregoing \$500 million GVA, across 2025-2048.
- This is equivalent to lost annual turnover of \$60 million and \$95 million respectively for businesses engaged in these sectors.
- Losses of this magnitude would have a significant impact on the size and economic contribution of these sectors, and the resilience of the local economy more broadly.

In a **high** impact scenario, where the negative impacts of the mine are sufficient to cancel out even a highly optimistic assessment of potential benefits:

- The Agriculture and Visitor Economy sectors experience GVA declines of approximately 20 per cent, or \$2.6 billion, between 2025 and 2048.
- This is equivalent to \$130 million lost annual turnover for Agriculture businesses and \$200 million of lost annual turnover for Visitor Economy businesses respectively.
- Losses of this magnitude would likely cripple these sectors, significantly detracting from the ability of the local economy to meet its strategic objectives, as well as the needs of the local population.
- The realisation of a net benefit to the local economy from the mine development cannot be taken for granted.

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