



Economic contribution of Glencore Australia

06 July 2021

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Ernst & Young was engaged on the instructions of Glencore Australia Holdings Pty Limited (“Glencore”) to perform an economic contribution study of its operations to the Australian economy (“Project”), in accordance with the Engagement Agreement dated 26 September 2020.

The results of Ernst & Young’s work, including the assumptions and qualifications made in preparing the report, are set out in Ernst & Young’s report dated 06 July 2021 (“Report”). The Report should be read in its entirety including the release notice, the applicable scope of the work, annexures and any limitations. A reference to the Report includes any part of the Report. No further work has been undertaken by Ernst & Young since the date of the Report to update it.

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Our conclusions are based, in part, on the assumptions stated and on information provided by Glencore and other information sources used during the course of the engagement. The modelled outcomes are contingent on the collection of assumptions as provided by Glencore and no consideration of other market events, announcements or other changing circumstances are reflected in this Report. Neither Ernst & Young nor any member or employee thereof undertakes responsibility in any way whatsoever to any person in respect of errors in this Report arising from incorrect information provided by Glencore or other information sources used.

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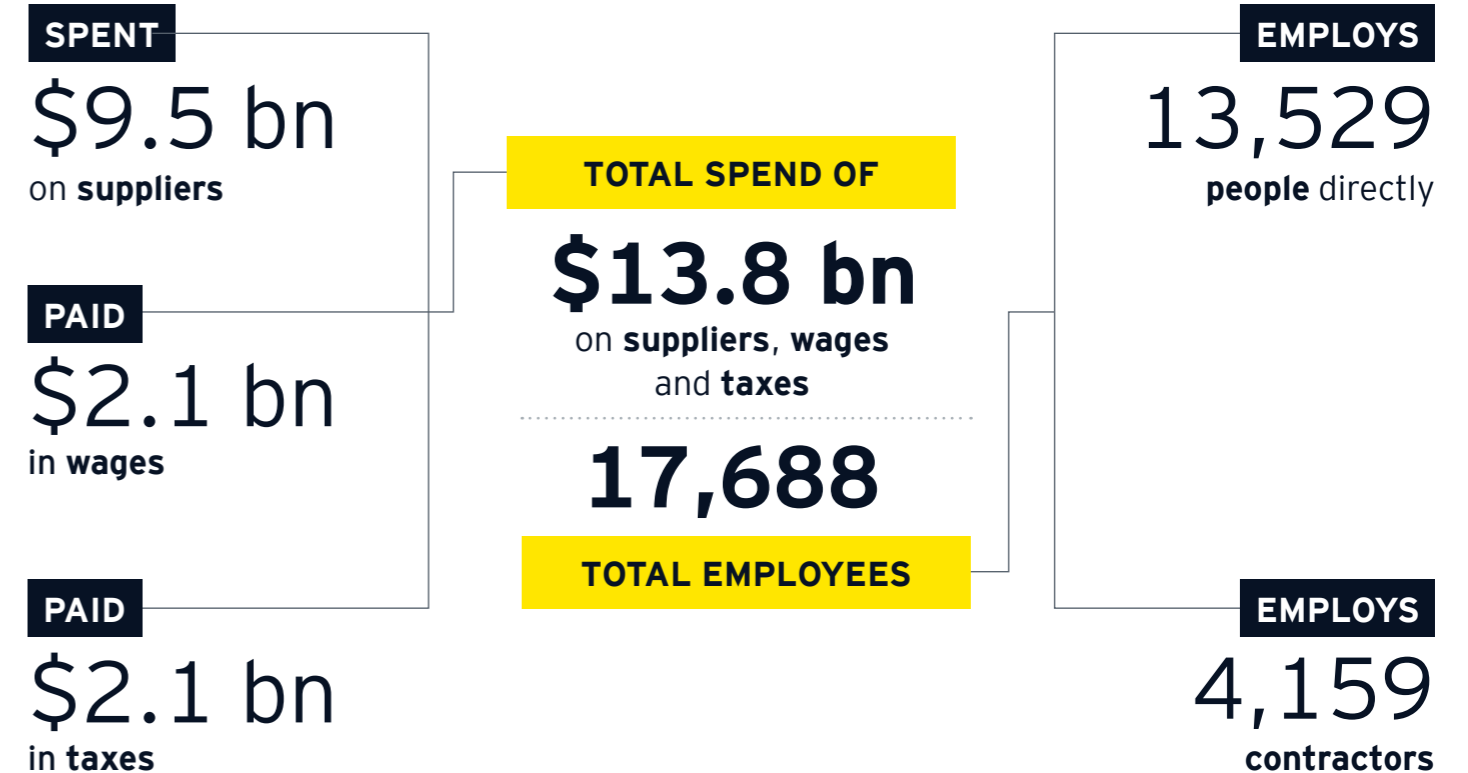
EXECUTIVE SUMMARY

Glencore is one of Australia's most **diversified** mining companies, and has been in Australia for more than **20 years**.*

* Source; <https://www.glencore.com.au/who-we-are/our-history>

Today, Glencore operates **25 mines** locally, producing **coal, copper, zinc, nickel and cobalt**.

Glencore's spend and Australian operations in 2020¹



1 The data includes 100% of all Glencore managed operations and 100% of the HVO Joint Venture of which Glencore is a 49% participant, with the exception of federal income tax where the data includes Glencore payments only



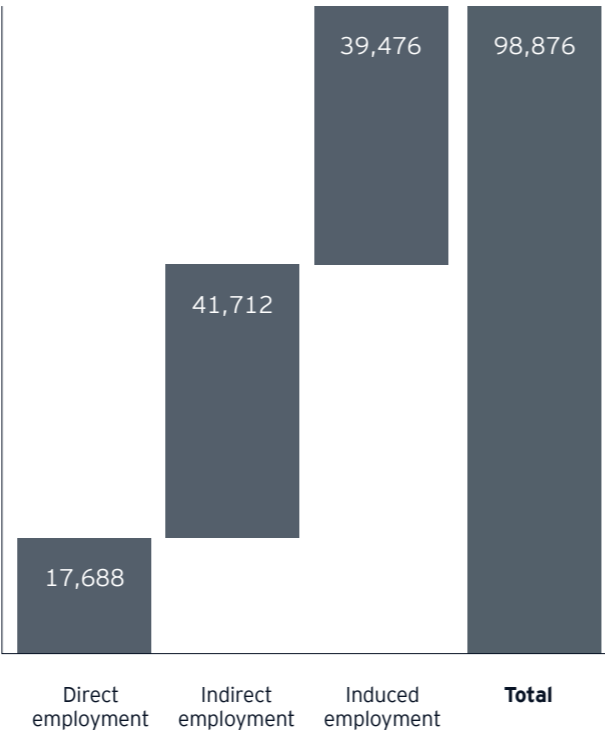
Glencore's economic contribution to Australia

Glencore's spend and operations have been used to estimate its total economic contribution to the Australian economy in 2020

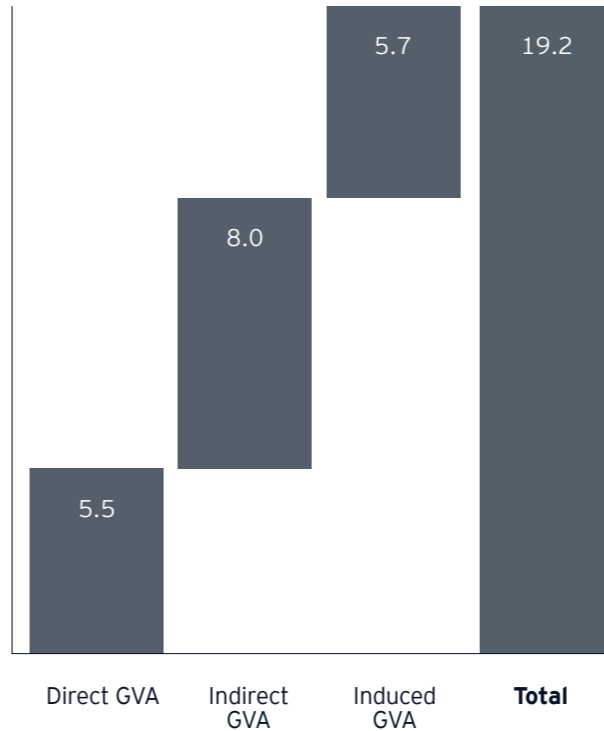
Economic contribution is estimated using input-output modelling, which calculates how Glencore's activities affect the broader Australian economy².

This is measured using Gross Value Added, which is an indicator of the goods and services generated in Australia.

Glencore's contribution to Australian Jobs



Glencore's contribution to Australian GVA



Glencore's economic contribution is estimated by adding the direct and flow-on (indirect plus induced) effects of Glencore's activities.

In total, Glencore helped to support approximately **98,876 jobs** and contributed **\$19.2 billion** to the Australian economy in 2020.

² The primary data source for this study (i.e. the input-output data used to construct the IO model) is given by the Australian Bureau of Statistics (ABS Australian National Accounts: Input-Output Tables - 2016-17). A detailed explanation of the methodology can be found in the annexure.

Location of Glencore's operations

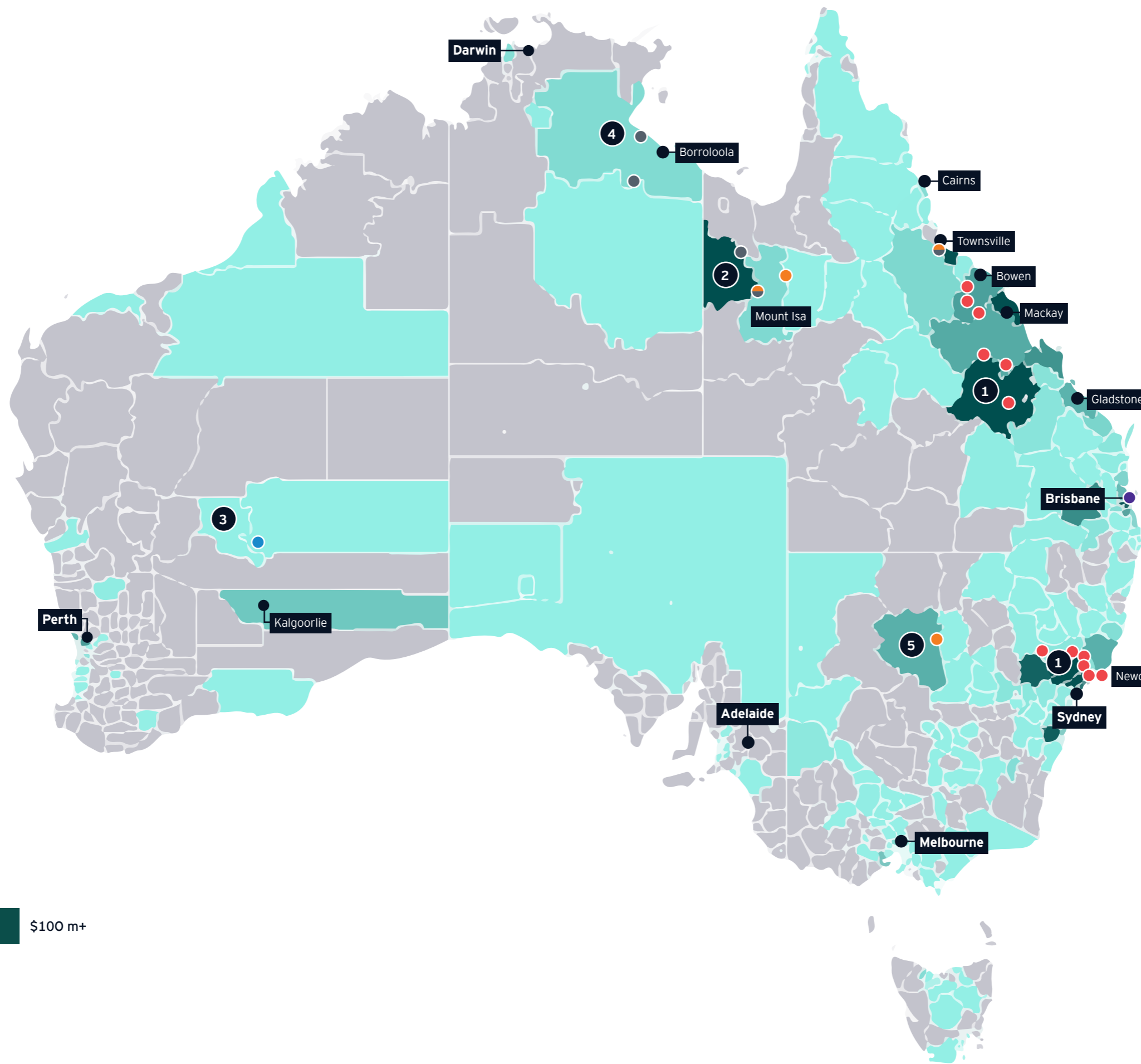
Metals and minerals

- Copper
- Zinc
- Nickel and Cobalt
- Technology

Energy products

- Coal

Glencore operates 25 mines in Australia, producing coal, copper, nickel, cobalt, zinc, lead, gold and silver. The company also operates metals processing operations in Queensland



Glencore's operations

- 1** Coal operations in NSW and Queensland
- 2** Queensland Metals, producing copper, zinc, lead, silver and gold
- 3** Murrin Murrin Operations, producing nickel and cobalt
- 4** McArthur River Mine, producing zinc, lead and silver
- 5** CSA Mine, producing copper and silver

4
states and territories

7,889
local suppliers

Suppliers in
278
LGAs

Scale: Glencore's supplier spend per LGA in 2020





2 INTRODUCTION AND OVERVIEW OF OUR APPROACH



- ▶ Glencore is seeking to understand the total contribution (i.e. direct, indirect and induced) of its operations to the Australian economy in 2020. For the purpose of this study an input-output (IO) modelling framework has been used, which measures the economic contribution of Glencore's operations in terms of a range of key economic variables, including jobs and Gross Value Added (GVA), for which we have labelled as economic contribution in this report³.
- ▶ Input-Output modelling produces estimates of the direct and flow-on (indirect and induced) effects of economic activity for a particular industry or firm. This analysis encompasses:
 - ▶ The most visible economic contributions such as direct industry output and direct employment; and
 - ▶ The secondary contributions that are based on economic activity of other industries, such as the output or employment of an upstream supplier resulting, in part, from Glencore's demand for that industry's products and services.
- ▶ We collected detailed data on Glencore's operations in 2020 (in AUD\$), covering a range of areas, including:
 - ▶ Supplier spend for each of Glencore's operations, broken down by supplier, and the location of each supplier by post code;
 - ▶ Number of full time employees and contractors at each mine, including the residential postcode of each worker and associated wages paid in 2020;
 - ▶ Community contributions by operation to each organisation, by postcode;
 - ▶ Local council payments and the nature of the payment (rates, etc.);
 - ▶ Taxes and royalties by operation; and
 - ▶ Revenue.
- ▶ We mapped suppliers to their respective ANZSIC classifications based on the nature of their services to Glencore and from post code to Local Government Area (LGA), state and federal electorates.
- ▶ Further details of our approach are found in the Annexures.

³ Gross Value Added is a measure the value of goods and services produced in an economy, and can be seen as similar to Gross Domestic Product (GDP)





3
GLENCORE'S
AUSTRALIAN
OPERATIONS

Overview of Glencore's operations in Australia

- ▶ Glencore is one of Australia's most diversified mining companies, and has been in Australia for more than 20 years.
- ▶ Today, Glencore operates 25 mines locally, producing coal, copper, zinc, nickel and cobalt.
- ▶ While coal is a core part of its operations, decarbonising the future requires significant metal supply growth and Glencore is a major producer of metals for the future such as copper, nickel, zinc and cobalt. Increasing supply of these metals will be vital in our energy transition.
- ▶ Mines are located in New South Wales, Queensland, Western Australia and in the Northern Territory.
- ▶ Importantly, Glencore saw no material disruptions to its operations as a result of COVID 19 - a vast majority of the suppliers were able to continue and its workforce was able to continue to operate across its facilities in Australia.

Glencore's direct impact in 2020

Spent

\$2.1 billion
on **taxes** and **royalties**

Paid

\$2.1 billion
in **wages**

Spent

\$9.5 billion
on **suppliers**

Total spend of

\$13.8 billion
on **suppliers, wages** and **taxes**

Employs

13,529
people directly

and

4,159
contractors

Supports

7,889
suppliers

Metals of the future⁴

- ▶ Glencore is Australia's largest producer of energy transition metals.
- ▶ Increasing supply of these metals will be vital in our energy transition.

	1 Copper	2 Cobalt	3 Nickel	4 Zinc
Transition application	<ul style="list-style-type: none"> ▶ Batteries ▶ Solar power ▶ Wind power ▶ Mobility ▶ Electronics ▶ Grid 	<ul style="list-style-type: none"> ▶ Electronics & connected society ▶ EV & ESS batteries 	<ul style="list-style-type: none"> ▶ Electronics & connected society ▶ EV & ESS batteries ▶ Renewable power 	<ul style="list-style-type: none"> ▶ Batteries ▶ Solar power ▶ Wind power ▶ Mobility
Glencore Australian Production	185 Kt	2.9 Kt	36.4 Kt	634 Kt
Glencore Australia Operations	<ul style="list-style-type: none"> ▶ Mount Isa Mines ▶ CSA Mine 	Murrin Murrin Operations	Murrin Murrin Operations	<ul style="list-style-type: none"> ▶ Mount Isa Mines ▶ McArthur River Mine
Global supply	22.8 Mt	125 Kt	2.48 Mt	13.8 Mt

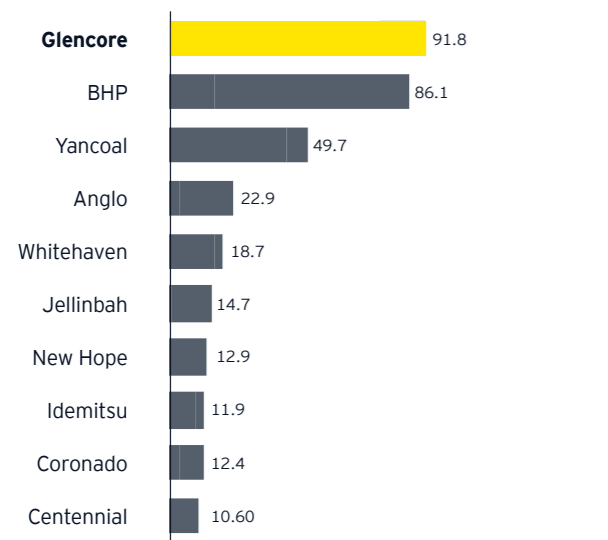


⁴ Source: Glencore 2020 Preliminary results

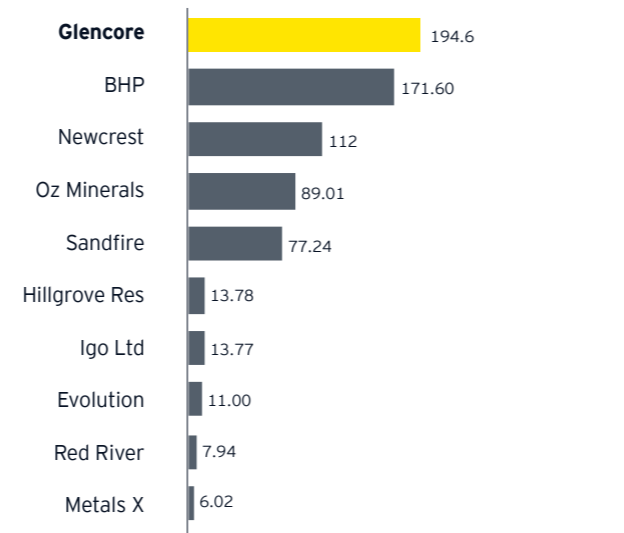
Australian commodity production by company⁵

The analysis below shows that Glencore is Australia's largest or second-largest producer of coal, copper, cobalt, nickel, zinc, lead and silver.

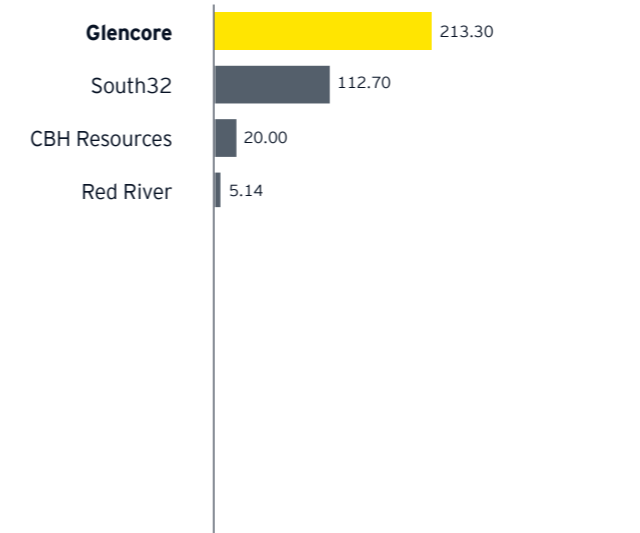
Coal (million tonnes)



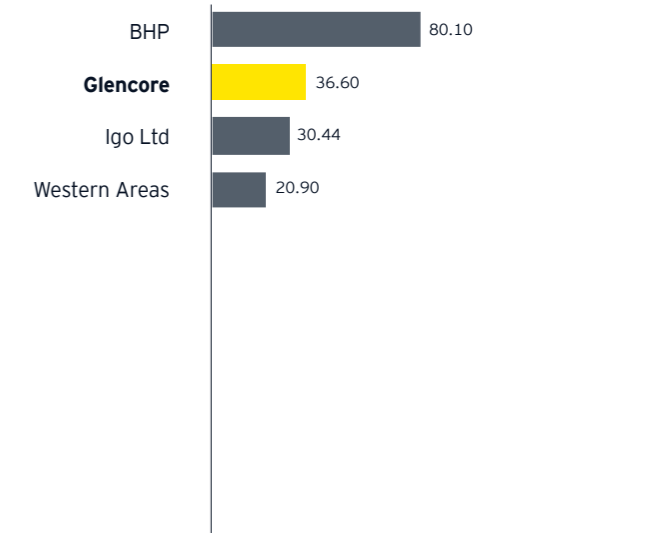
Copper (kilotonnes)



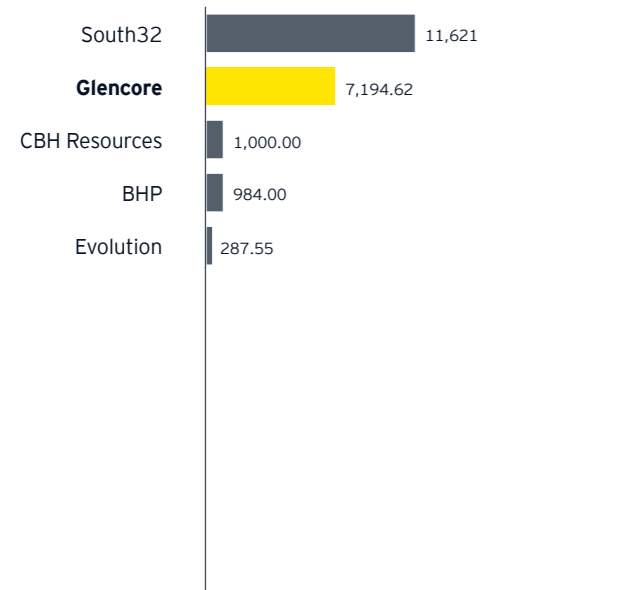
Lead (kilotonnes)



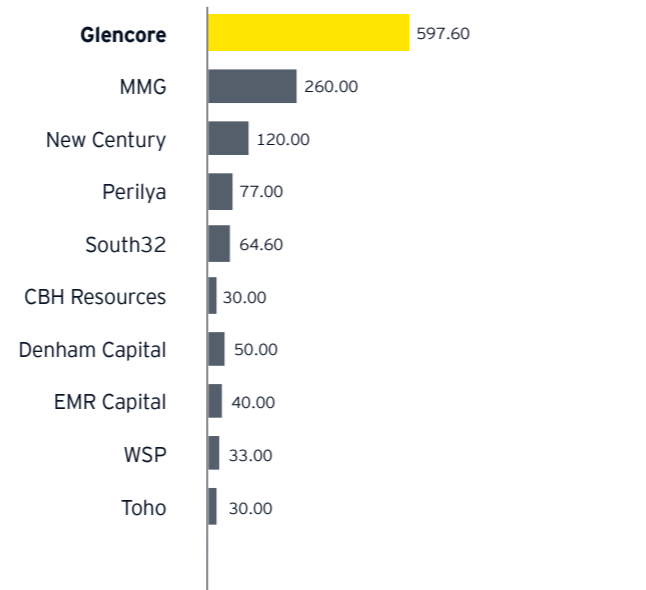
Nickel (kilotonnes)



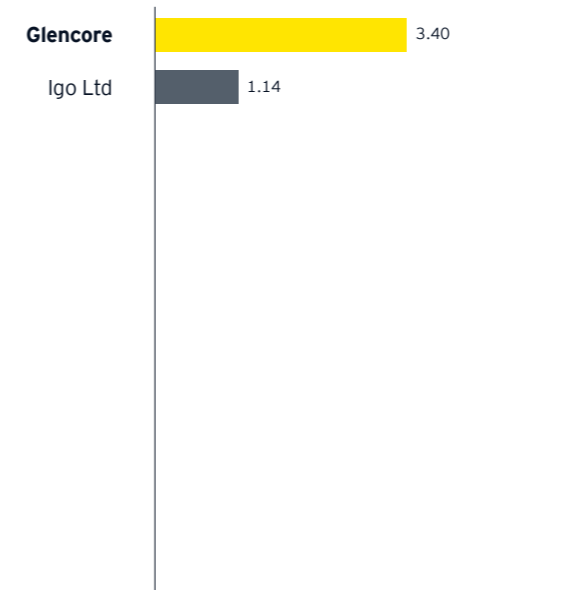
Silver (kilo ounces)



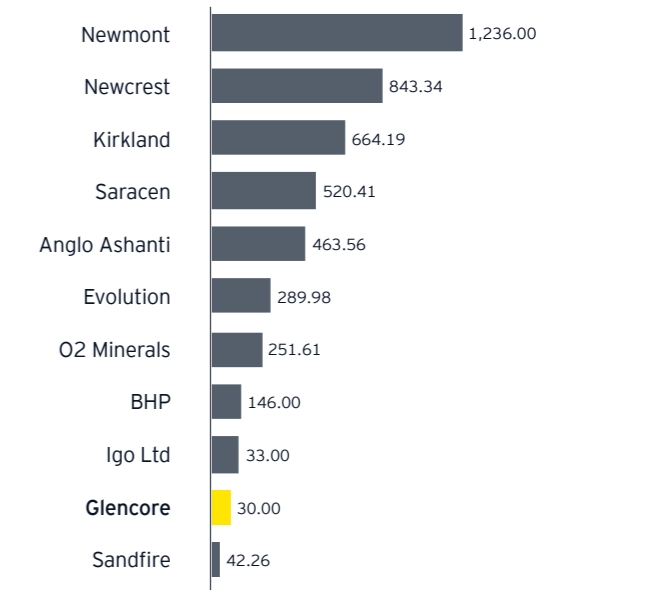
Zinc (kilotonnes)



Cobalt (kilotonnes)



Gold (kilo ounces)



⁵ Source: Glencore, based on publicly available company annual reports covering 2019/2020 calendar/fiscal years. Glencore numbers are for the 2019 fiscal year.

Categorisation of Glencore's Australian supplier spend in 2020 (\$m)⁶

Mining and exploration support services	1,836
Rail transport	1,285
Transport services and storage	964
Wholesale trade	656
Basic chemical manufacturing	527
Electricity generation	505
Road transport	479
Specialised and other machinery and equipment manufacturing	446
Employment, travel agency and other administrative services	430
Heavy and civil engineering construction	381

The development and operation of a mine requires inputs from many sectors in Australia. Our analysis of the top **350 suppliers** identified over **40 industries** providing goods and services to Glencore.

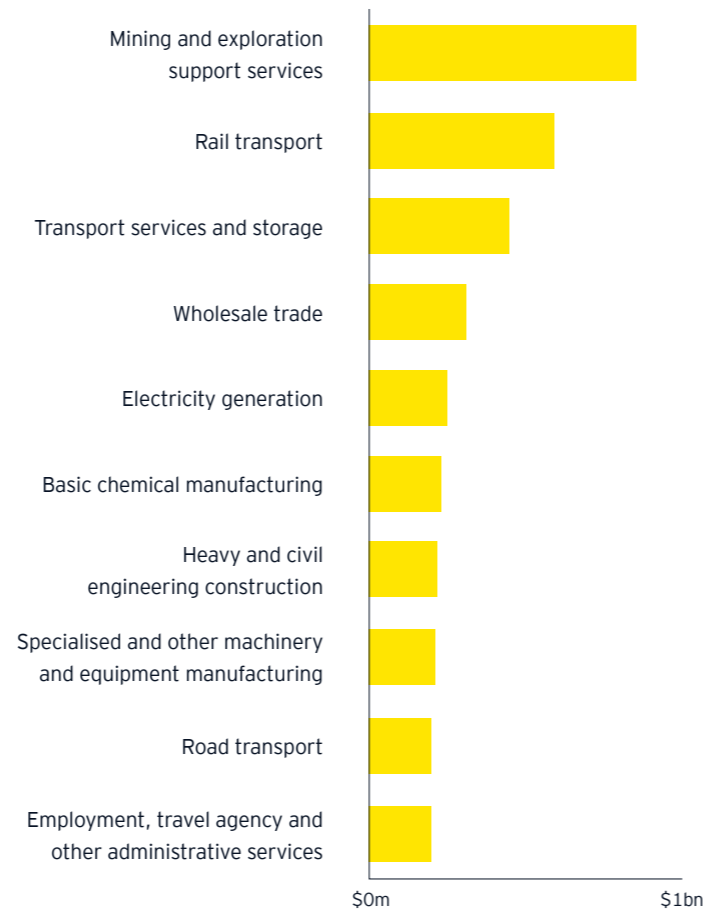
⁶ Source: EY analysis based on information supplied by Glencore



Glencore's suppliers are spread across the nation

Glencore procured goods and services from **7,889 suppliers**, spread across **278 LGAs** in all 8 states and territories

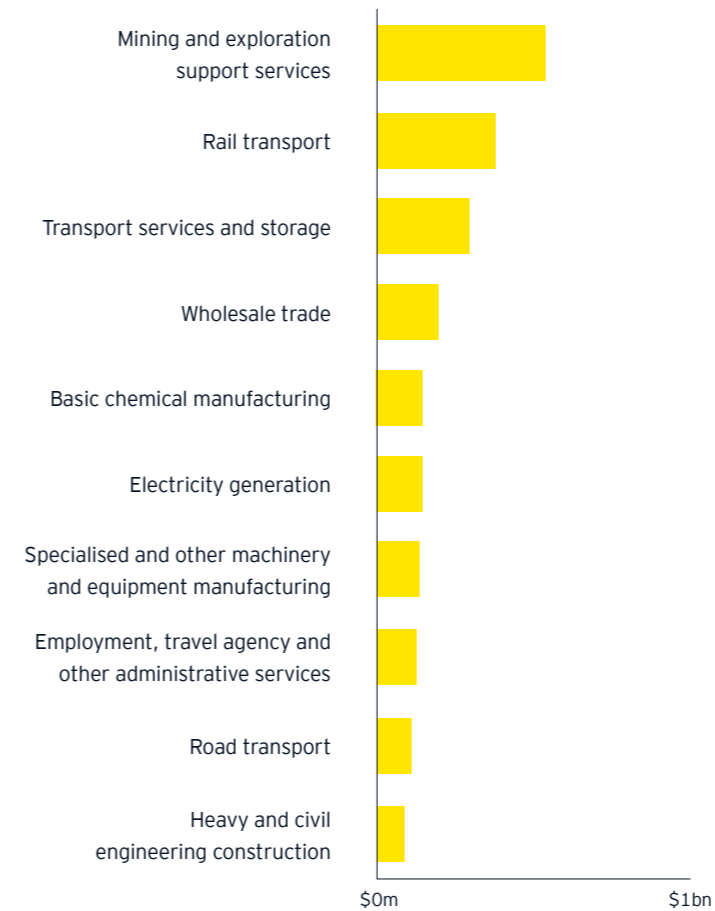
Supplier spend by sector in Queensland (\$m)⁷



50%

of Glencore's total supplier spend is in Queensland

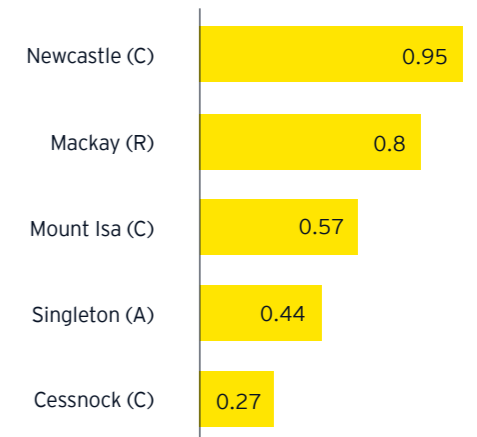
Supplier spend by sector in NSW (\$m)⁷



30%

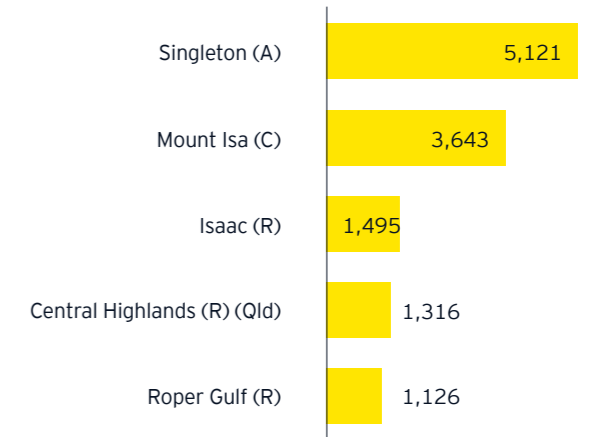
of Glencore's total supplier spend is in New South Wales

Top-5 LGAs by supplier spend (\$bn)⁷



The figures above exclude metropolitan Local Government Areas.

Top-5 LGAs by direct employment⁷

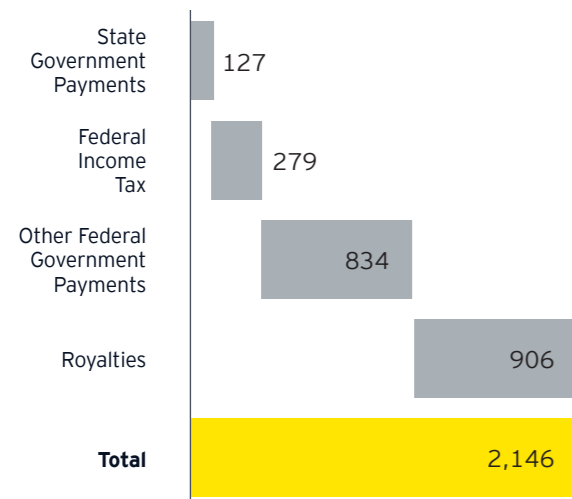


⁷ Source: EY analysis based on information supplied by Glencore. Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation.

Taxes and royalties

- ▶ Since 2008, Glencore's Australian operations have paid more than **\$19 billion in taxes and royalties in Australia, of which \$3.8 billion was corporate income tax.**
- ▶ Mining royalties are generally calculated and paid as a percentage of revenue per unit (tonne, ounce) of product sold. Glencore's revenue is driven by the price of its core commodities: coal, copper, nickel and zinc.

Taxes and royalties paid for calendar year 2020 (\$m)⁸



Source: EY analysis based on information supplied by Glencore

Local Council Payments

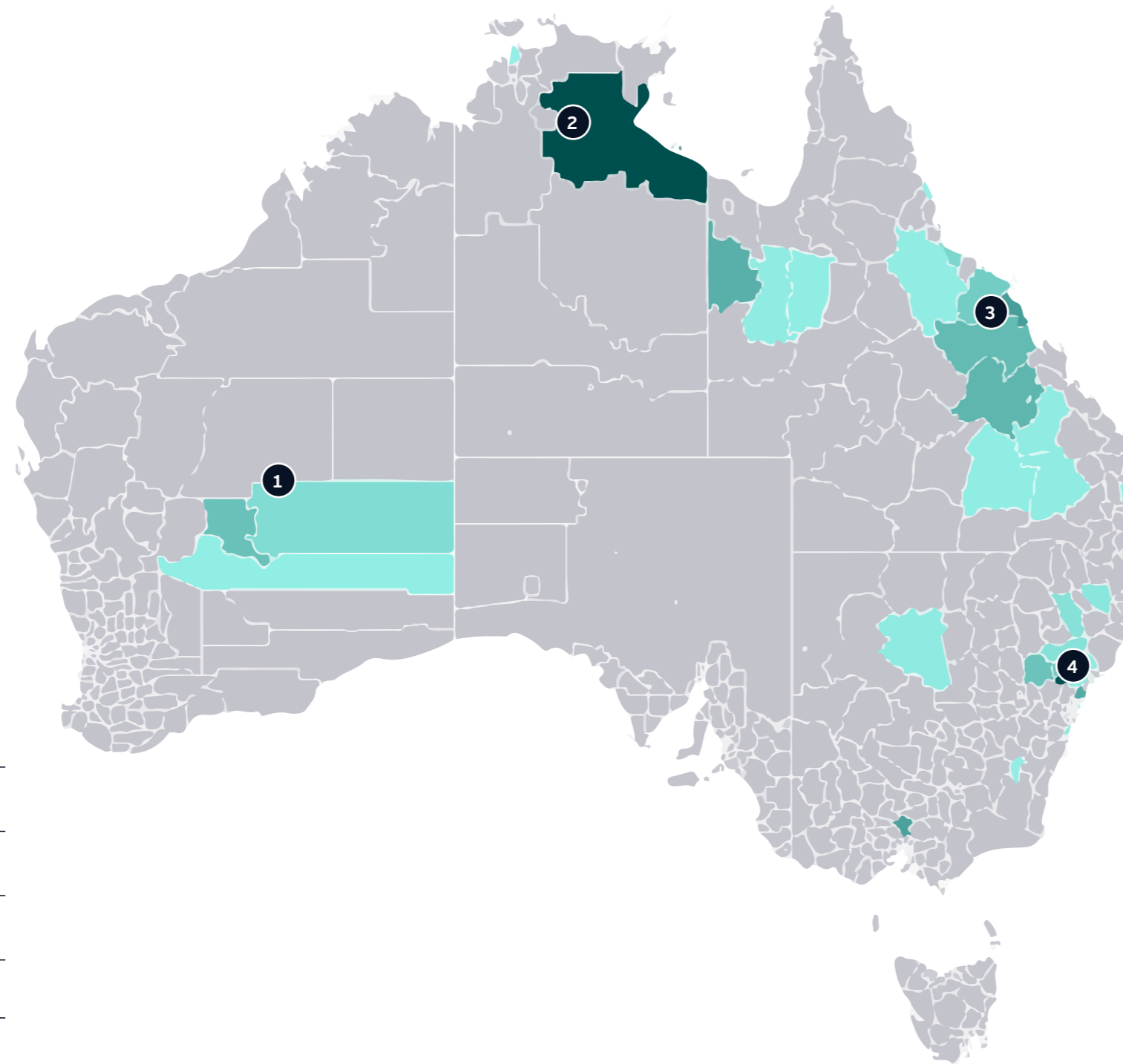
- ▶ Glencore paid **\$43.8 million** to local councils in 2020, with the geographic distribution of these shown below.
- ▶ Glencore made payments to **25 local councils** across Australia in 2020.



⁸ Other Federal government payments exclude income taxes. These figures represent Glencore's managed operations including 100% of the non-controlled GS Coal Pty Limited business of which Glencore is manager and a 50% shareholder. It includes 100% of the HVO joint Venture of which Glencore is a 49% participant.

Supporting local communities

In 2020, Glencore contributed **\$11 million in community payments**



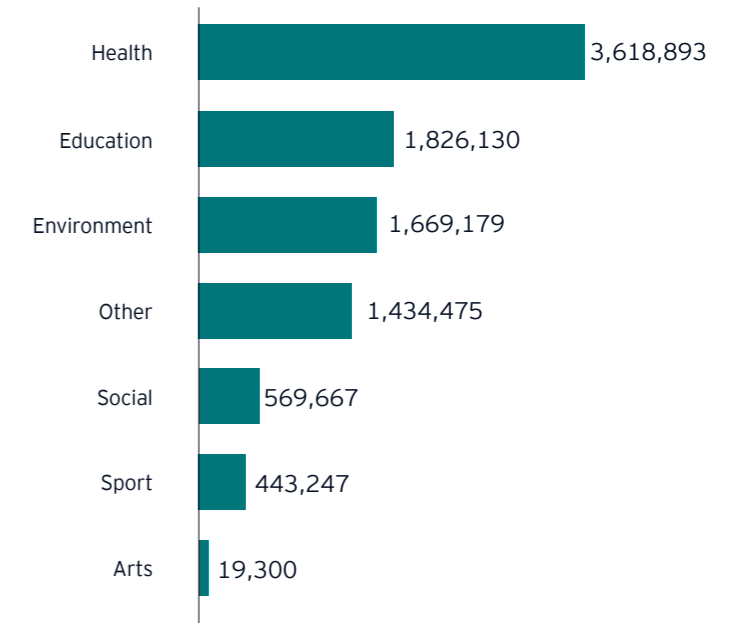
Distribution of community spend in Australia⁹

- 1 \$404k total community spend in Laverton and Leonora
- 2 \$2.5m total community spend in Roper Gulf
- 3 \$510k total community spend in Mackay region
- 4 \$1.0m total community spend in Singleton

Scale: Glencore's supplier spend per LGA in 2020



Community supplier spend by category in 2020 (\$)



Every year Glencore supports local communities via a combination of partnerships, sponsorships, funding and voluntary employee contributions.

⁹ Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore

Community investment case study



The McArthur River Mine Community Benefits Trust (CBT) is a unique partnership between Glencore's McArthur River Mine (MRM), the Northern Territory Government and the local community.

The Trust was established in 2007 for the life of the MRM zinc-lead mine, located 730 kilometres south-east of Darwin and 65 kilometres from Borroloola.

MRM contributes \$1.3 million every year in funding to the CBT and the Trust has invested more than \$17 million into about 100 programs in areas that include health, education and cultural heritage.

Projects funded in Borroloola and the wider Gulf region include \$1 million for the construction of a crèche, \$1.2million towards the funding of a new bridge over Rocky Creek, \$1.5 million to build a sporting facility, about to begin construction, and several hundred thousand dollars to the sea rangers.

One of the unique projects funded this year has been the Four Clans Artwork - a collaborative artwork produced by the Gudanji, Garrwa, Mara and Yanyuwa language groups who own the country in and around Borroloola.

The MRM CBT has an independent Board and local community form the majority of its Directors, including a representative from each clan or language group.





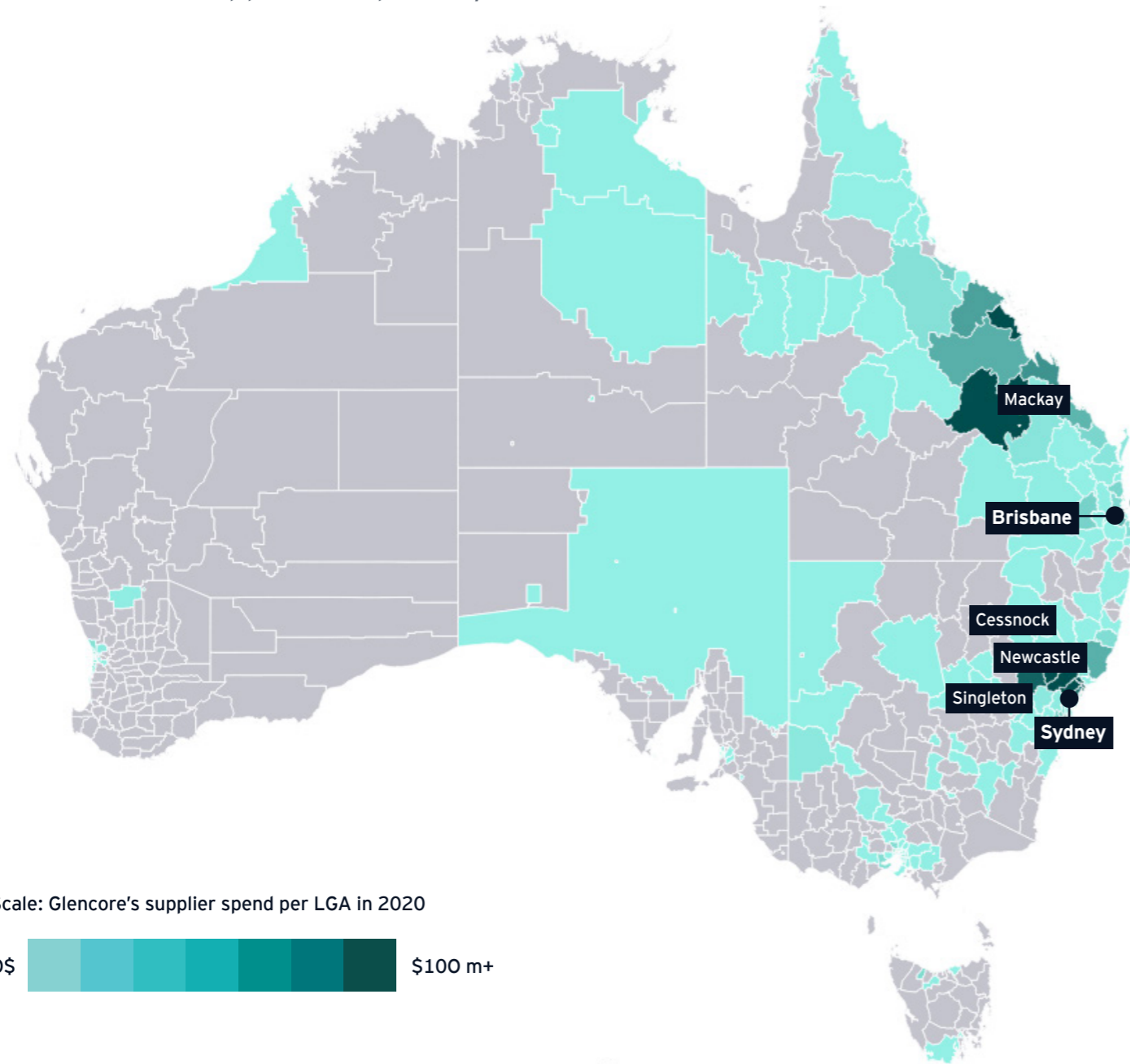
4
CONTRIBUTION
OF EACH OF
GLENCORE'S
COMMODITY
BUSINESS UNITS

Coal

Operations: Collinsville, Newlands, Hail Creek, Clermont, Oaky Creek, Rolleston, Ulan West, Ulan Underground, Mangoola, Liddell, Glendell, Mount Owen, Ravensworth, Integra, United Wambo, Bulga, Hunter Valley Operations*

* Glencore owns a 49% stake in Hunter Valley Operations

Glencore Coal supplier footprint by LGA



Produced

99 million tonnes
of coal

Taxes and royalties

\$1.04 billion

Employs

7,210
people

and

2,647
contractors

Paid

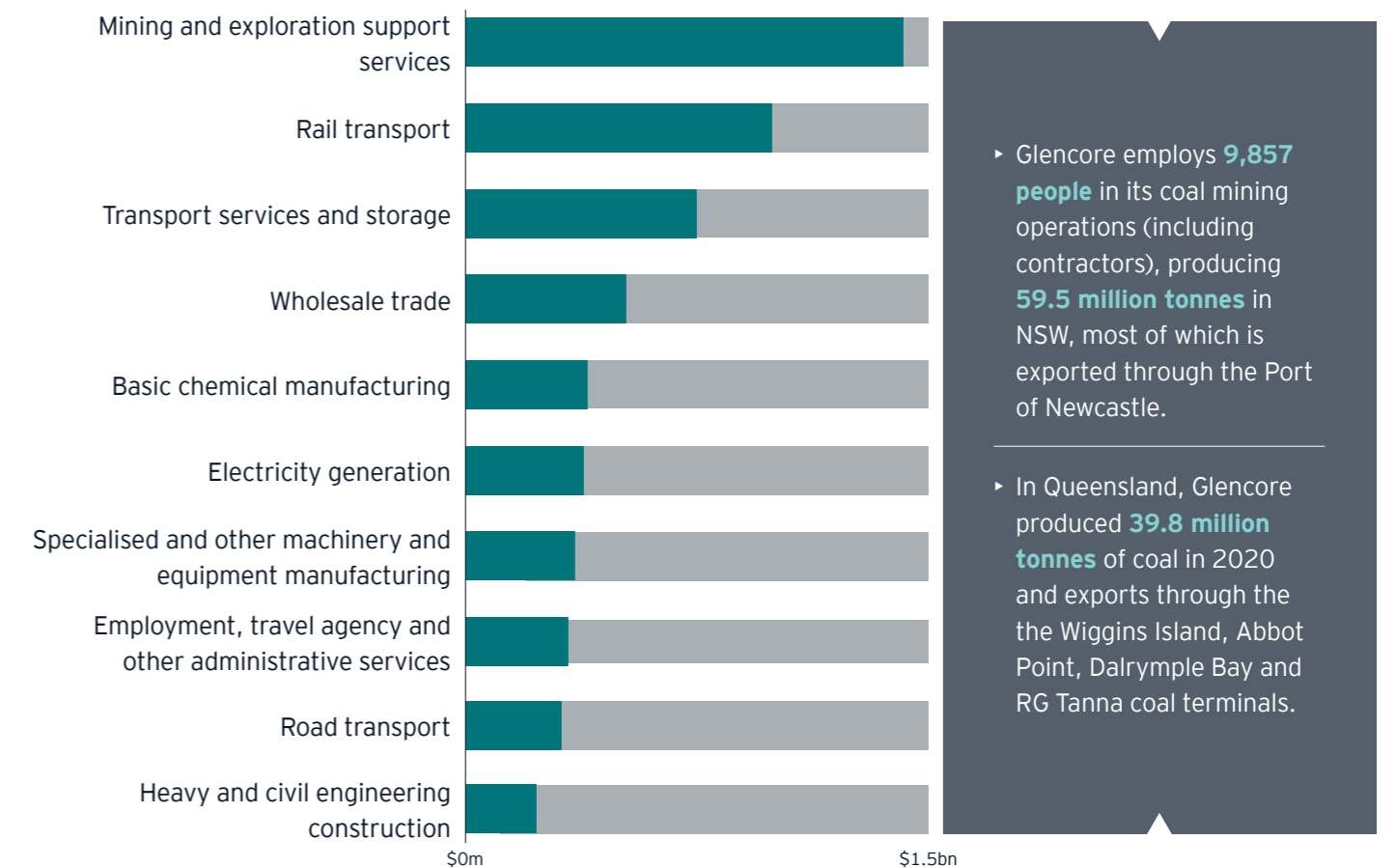
\$1.22 billion
in wages

Spent

\$6.6 billion
on suppliers



Glencore coal supplier spend (\$m) – Top 10 industries¹⁰



▶ Glencore employs **9,857 people** in its coal mining operations (including contractors), producing **59.5 million tonnes** in NSW, most of which is exported through the Port of Newcastle.

▶ In Queensland, Glencore produced **39.8 million tonnes** of coal in 2020 and exports through the the Wiggins Island, Abbot Point, Dalrymple Bay and RG Tanna coal terminals.

¹⁰ Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore (Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation).

Queensland Metals

Operations: Mount Isa Mines, Ernest Henry Mining, Lady Loretta Mine, Copper, Zinc and Lead processing operations at Mount Isa and Townsville.

Produced

219,023 tonnes of copper*
354,200 tonnes of zinc

* Includes purchased concentrates

Paid

\$527 million on wages

Taxes and royalties

\$207 million

Spent

\$1.6 billion on suppliers

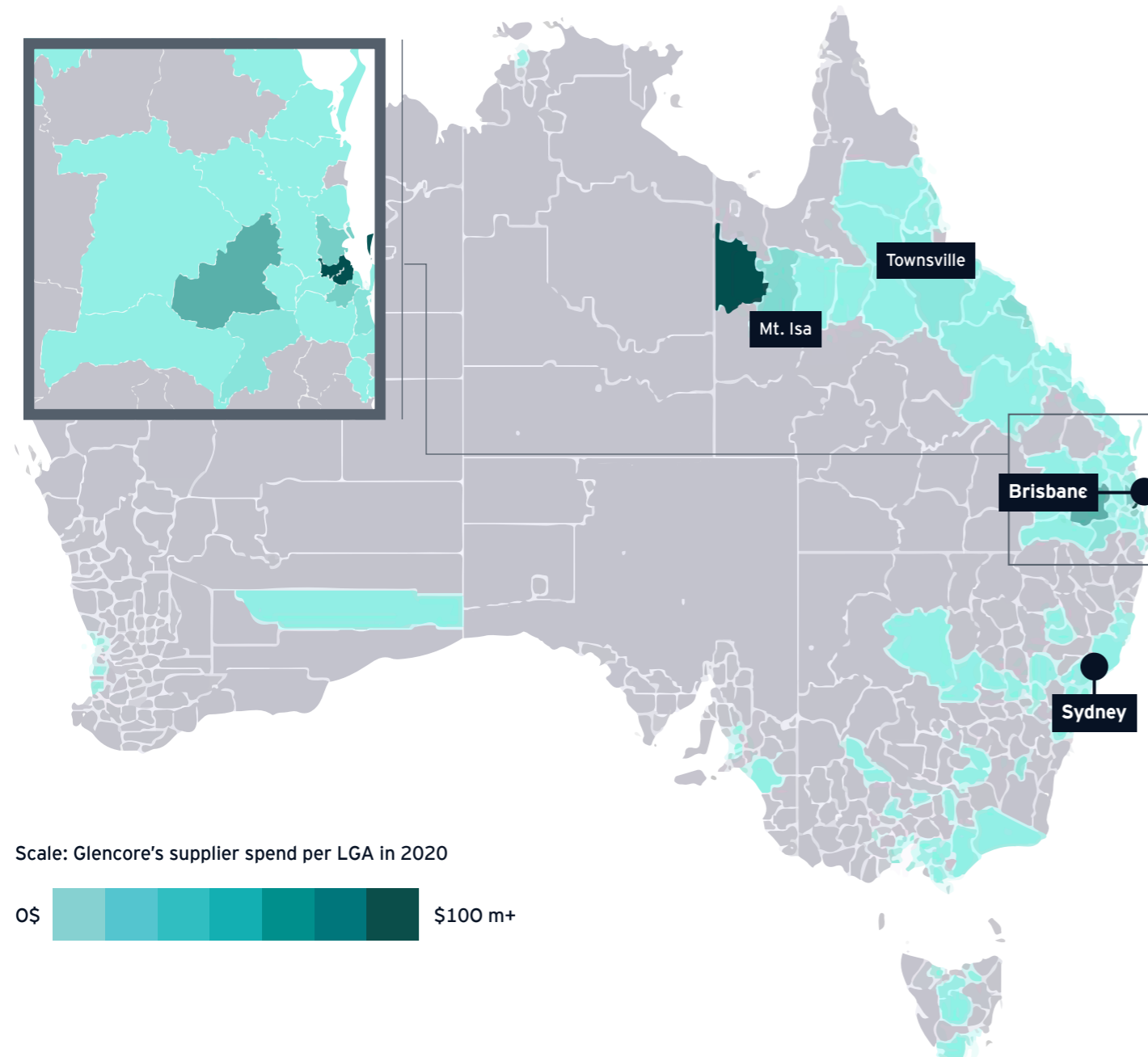
Employs

4,261 people

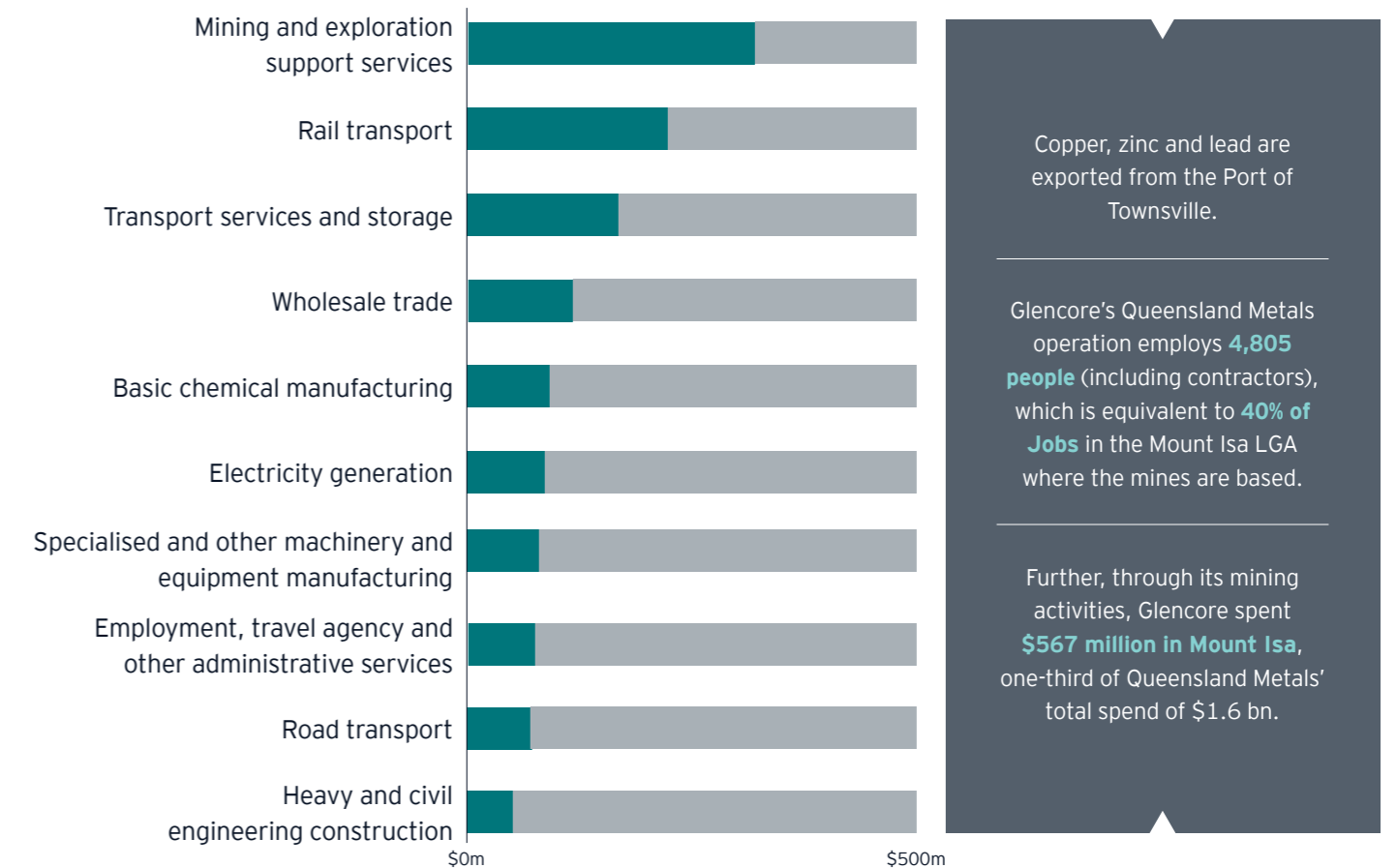
and

544 contractors

Queensland Metals supplier footprint by LGA



Queensland Metals supplier spend (\$m) - Top 10 industries¹¹



¹¹ Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore (Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation).

McArthur River Mine (MRM)

Produced

279,323 tonnes
of zinc

Taxes and royalties

\$11 million

Employs

537 people

and

589 contractors

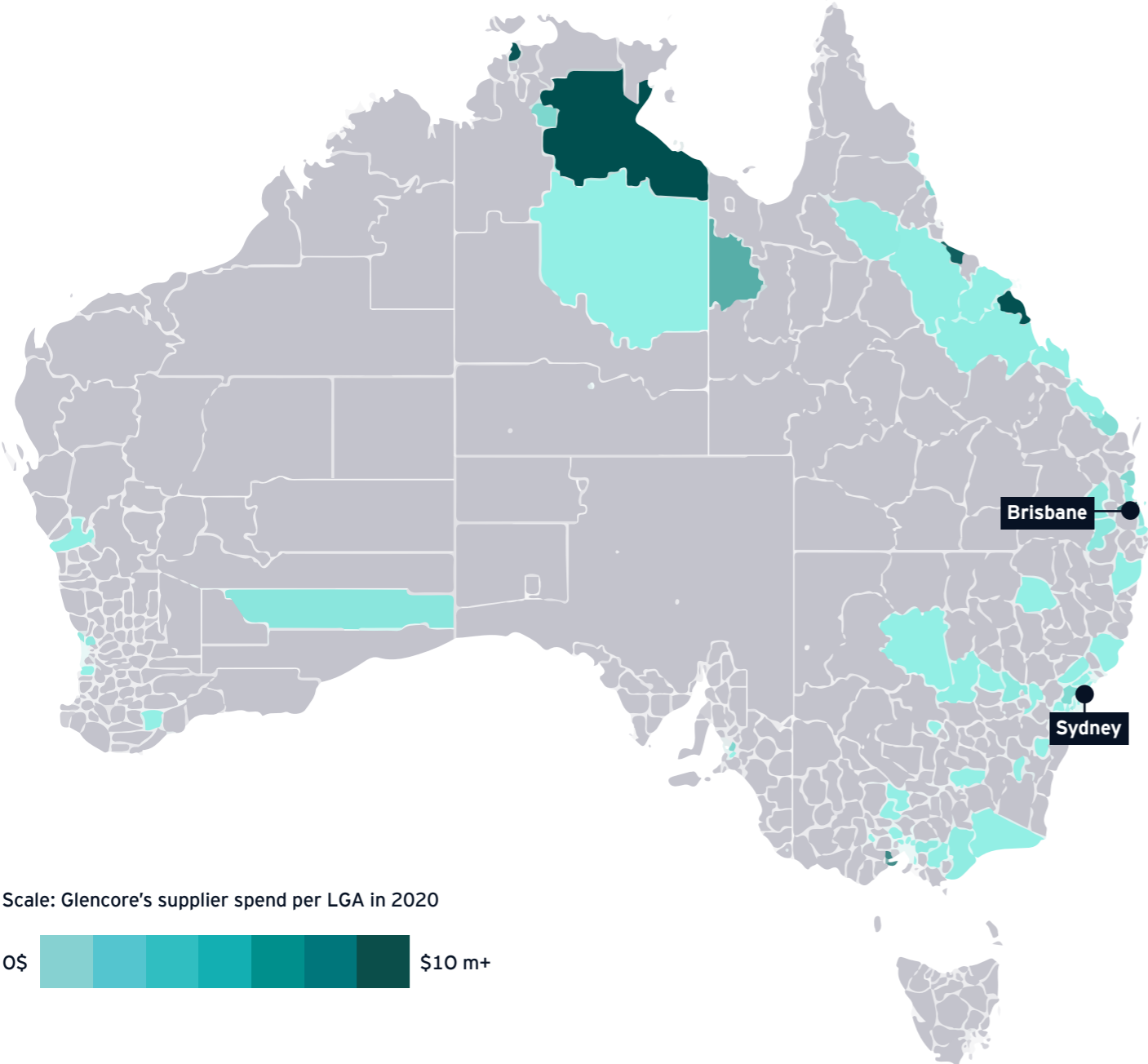
Paid

\$60 million
on wages

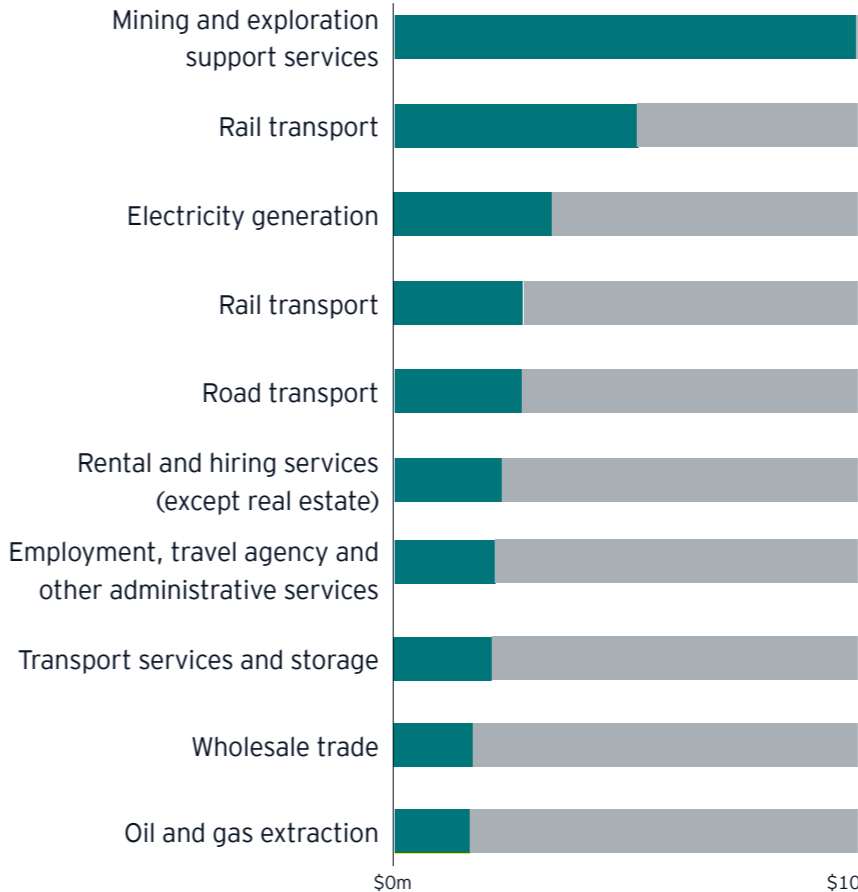
Spent

\$428 million
on suppliers

MRM supplier footprint by LGA



McArthur River Mine supplier spend (\$m) - Top 10 industries¹²



The McArthur River Mine represents Glencore's presence in the Northern Territory, producing zinc, lead and silver concentrates and exporting through the Bing Bong loading facility in the Gulf of Carpentaria.

The supplier footprint spans across **898 local businesses**, located in 142 LGAs.

Glencore's MRM operation employs 1,126 people (including contractors) which is equal to **40% of jobs** in Roper Gulf region, where the mine is based.

¹² Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore (Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation).

Murrin Murrin Operations

Produced
40,838 tonnes
of nickel and
3,256 tonnes
of cobalt

Taxes and royalties
**\$47
million**

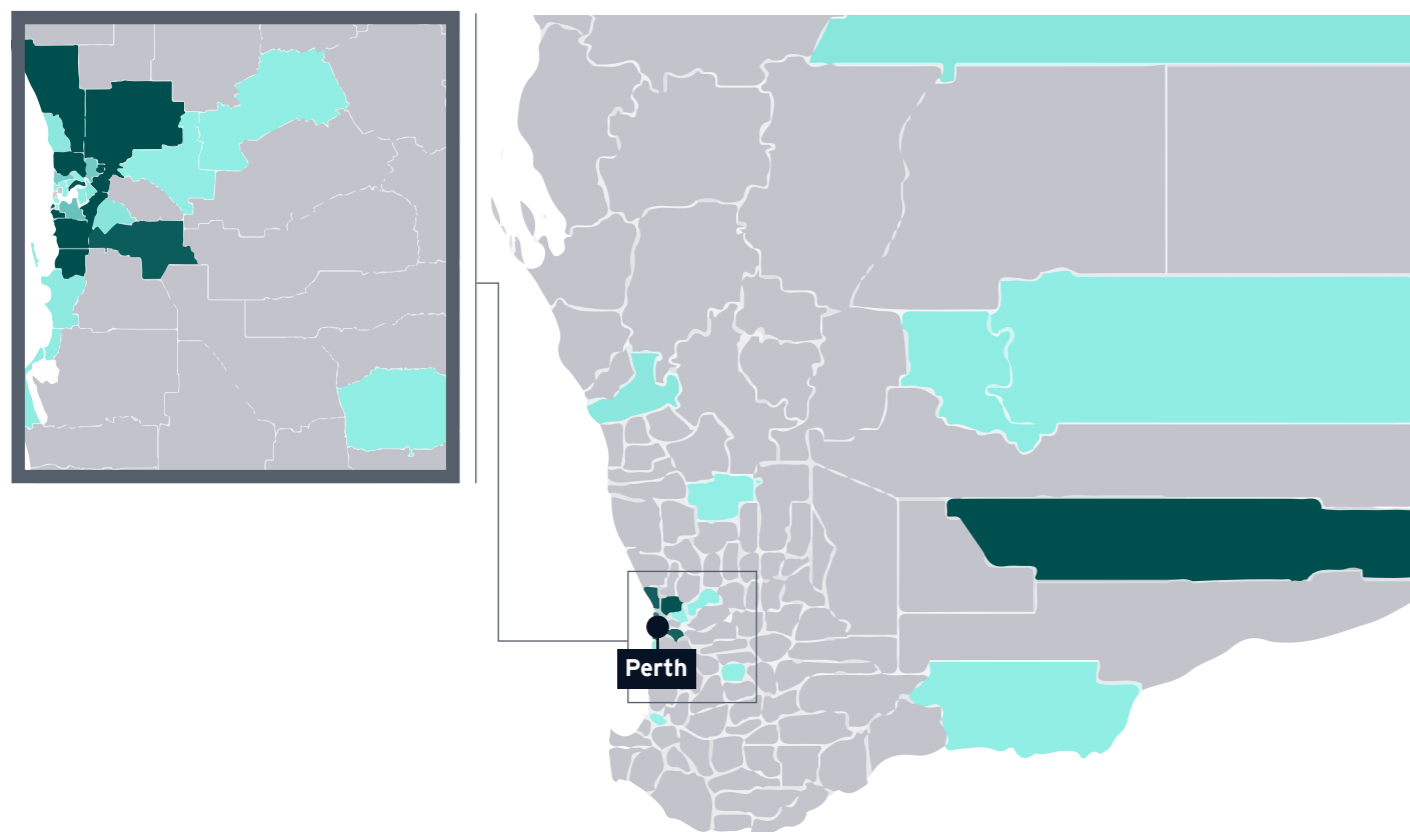
Employs
776
people
and

Paid
**\$120
million**
on wages

Spent
**\$512
million**
on suppliers

323
contractors

Murrin Murrin supplier footprint by LGA



Scale: Glencore's supplier spend per LGA in 2020

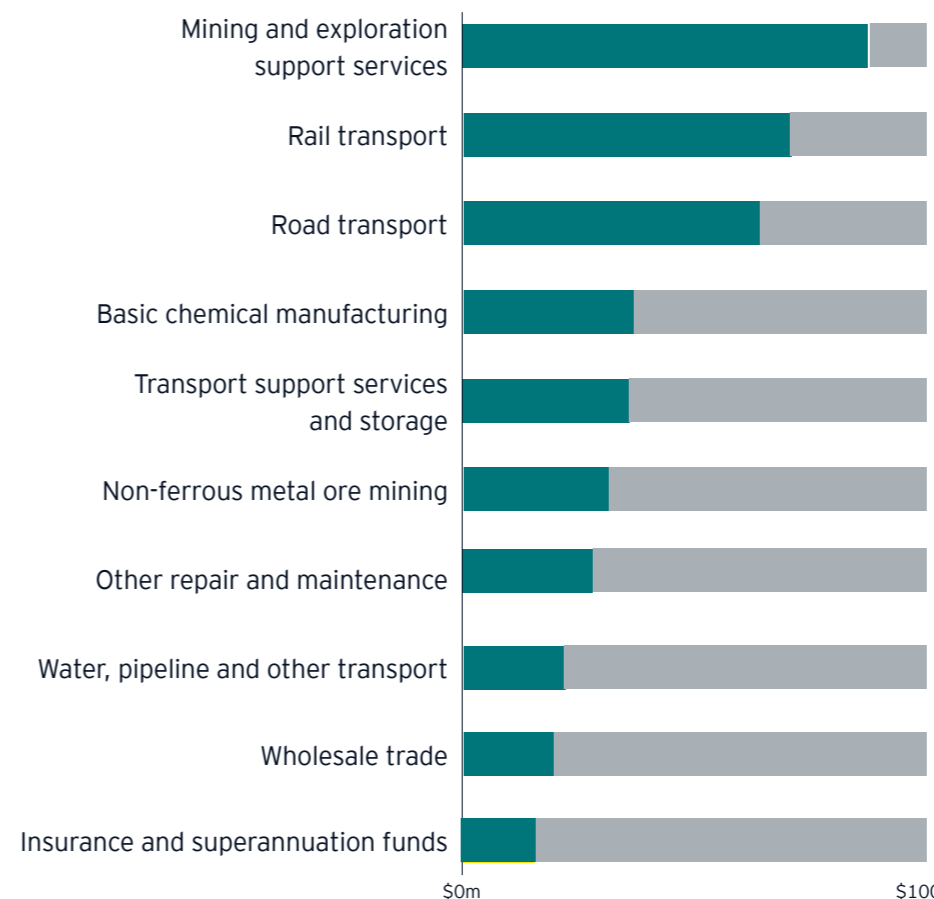


Murrin Murrin Operations total economic contribution (direct + flow on GVA) to the Australian economy in 2020

\$965 million
economic contribution

5,425
jobs

Murrin Murrin supplier spend (\$m) – Top 10 industries¹³



Mining is the largest contributor to output in Western Australia.

Glencore runs a fully integrated open cut mine and a Nickel and Cobalt processing plant. The Nickel and Cobalt is exported through Kwinana, south of Perth.

Glencore's Murrin Murrin operation employs **1,099 people** (including contractors), which is over **50% of the jobs** in the Laverton and Leonora LGAs, where the mine is based.

¹³ Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore (Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation).

CSA Mine

Produced
172,169
dmt
of copper concentrate

Taxes and royalties
\$20
million

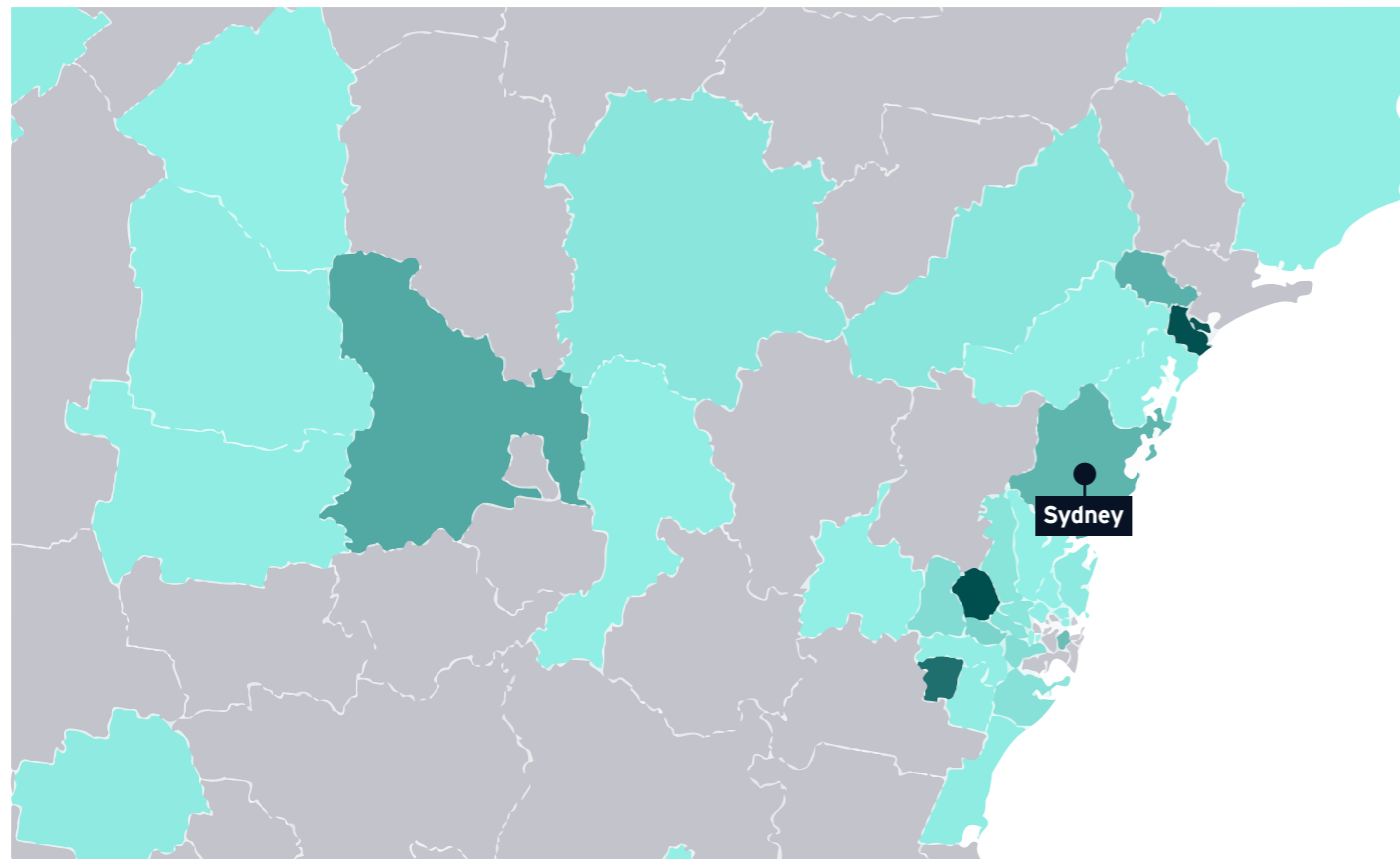
Employs
470
people
and

Paid
\$52
million
on wages

Spent
\$236
million
on suppliers

27
contractors

CSA supplier footprint by LGA



Scale: Glencore's supplier spend per LGA in 2020

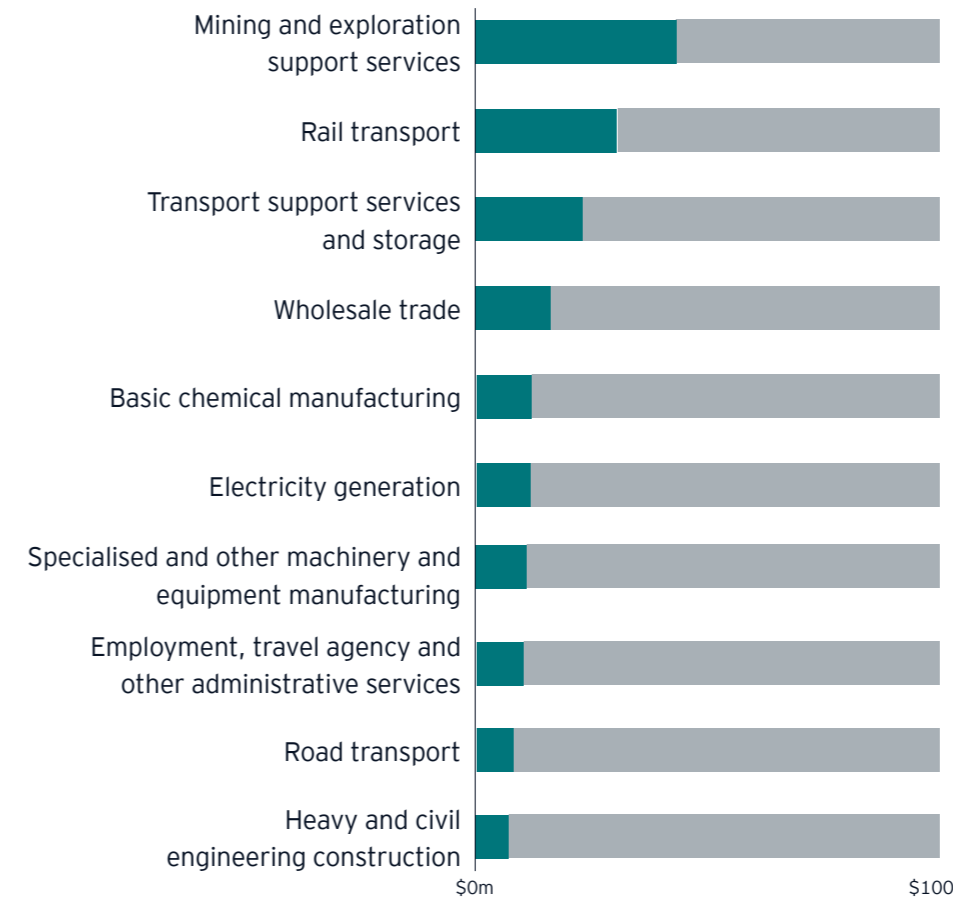


Glencore's CSA Mine total economic contribution (direct + flow on GVA) to the Australian economy in 2020

\$421 million
economic contribution

2,449
jobs

CSA Mine supplier spend (\$m) – Top 10 industries¹⁴



Copper from the mine is exported via the Port of Newcastle

Glencore's CSA Mine in NSW produces approximately **50,000 tonnes** of copper each year.

Glencore's CSA operation employs 497 people (including contractors) which is equivalent to **20% of Jobs** in the Cobar LGA where the mines are based.

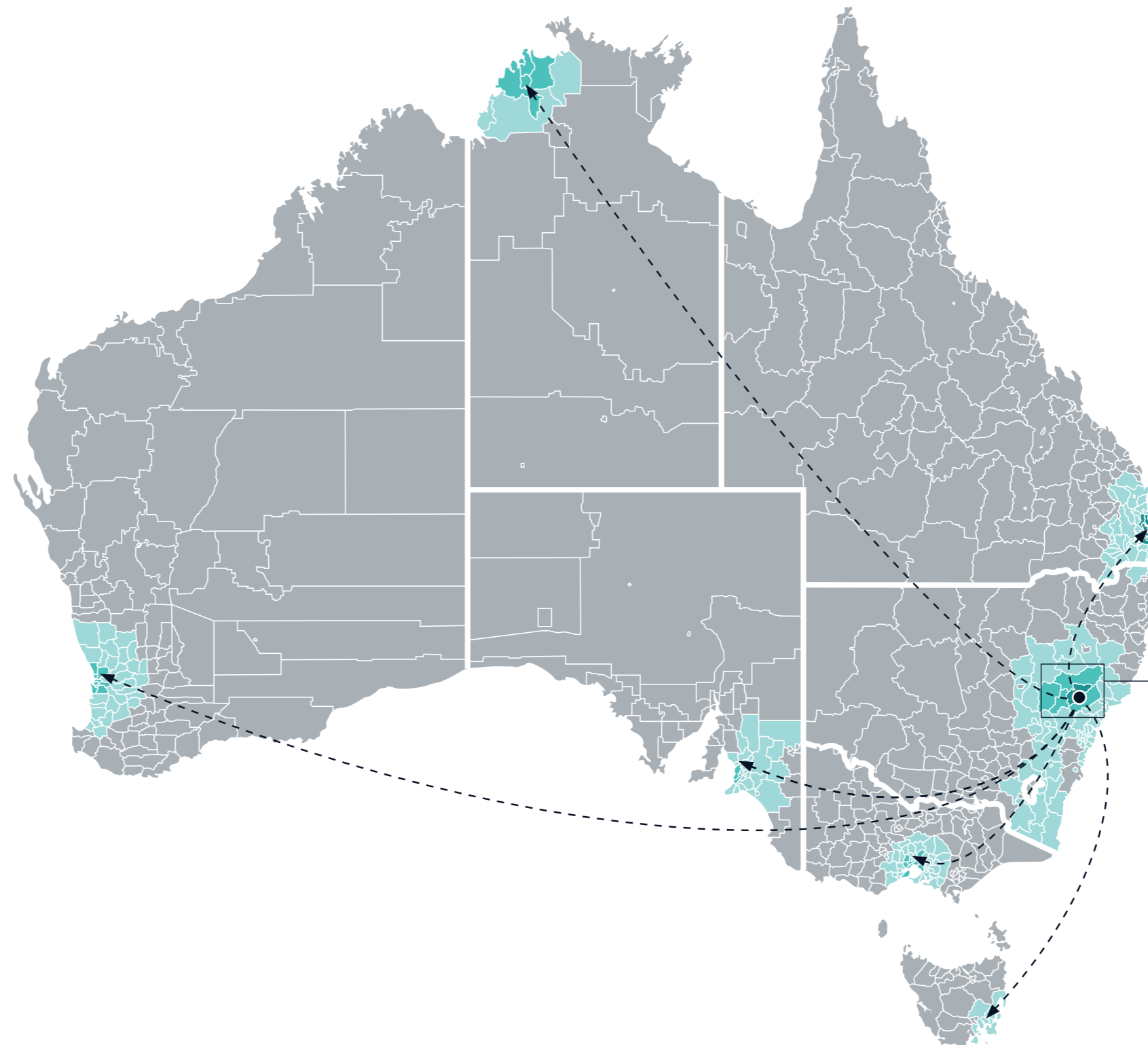
¹⁴ Source: Glencore 2020 Corporate Profile Australia and EY analysis based on information supplied by Glencore (Sector categories in accordance with Australian Bureau of Statistics (ABS) categorisation).



■ ANNEXURES

Our approach

- ▶ We collected detailed data on Glencore's operations in 2020 (in AUD \$), covering a range of areas, including:
 - ▶ Supplier spend for each of Glencore's operations, broken down by supplier, and the location of each supplier by post code;
 - ▶ Number of full time employees and contractors at each mine, including the residential locations of each worker and associated wages paid in 2020;
 - ▶ Community contributions by operation to each organisation, by postcode;
 - ▶ Local council payments and the nature of the payment (rates, etc.);
 - ▶ Taxes and royalties by operation; and
 - ▶ Revenue.
- ▶ We mapped suppliers to their respective ANZSIC classifications based on the nature of their services to Glencore and from post code to Local Government Area (LGA);
- ▶ We used our in-house regional IO tables to calculate the multiplier impacts at an LGA level.
- ▶ The multipliers at an LGA level are a representation of the impact within these regions only. We then account for the remaining inter-regional trade of goods and services spend in the rest of Australia to and from each LGA through national multipliers.
- ▶ Accordingly, we have calculated both the local impact, and accounted for the additional flow-on effects of Glencore's spend across Australia.
- ▶ The estimation of the out of region (LGA) impacts is based on a gravity model, which measures economic flows across Australia through the combination of the distance between economic centres and the relative size of economic activity in different regions.
- ▶ This means that the out-of-region trade with suppliers from an area (such as Muswellbrook, as shown below) is estimated to gravitate towards regions that are closer and have higher economic activity.



Glencore operates the Mangoola mine in Wybong, adjacent to the Muswellbrook LGA.

The spend to each supplier is captured and LGA multipliers by sector calculated on the basis of this spend.

Additional supply chain impacts outside of the Muswellbrook LGA through the rest of Australia are accounted for to build up the national multiplier.

Summary of methodology and limitations

► **Input-output modelling** - Input-output (IO) modelling calculates how the impacts created by activity in one industry affect the broader economy through established intra- and inter-industry relationships. Our IO modelling estimates the interdependence between Glencore and the rest of the economy using economic multipliers. Economic multipliers are one way to estimate the total economy-wide contribution of direct and indirect economic activity for a particular industry. The fundamental multipliers used for this study are described below.

Direct effects	Production-induced indirect effects	Consumption induced effects
Direct output of the industry (i.e. revenue); direct employment, etc.	The additional contribution generated by an industry purchasing inputs from other industries	Consumption induced contribution generated by the additional wages and salaries paid to workers in other industries

- **Direct effects** - measure the initial requirements for an extra dollar worth of output for a given industry. The direct effect on the output of an industry is a one-dollar change in output to meet a one-dollar difference in final demand. Associated with this direct effect is a (direct) difference in GDP, employment, income, etc. The direct effects were estimated using information captured directly from Glencore.
- The following approach was used to estimate the direct economic contribution:
 - We collected detailed data on Glencore's operations in 2020, covering a range of areas (in AUD \$), including:
 - Supplier spend for each of Glencore's operations, broken down by supplier, and the location of each supplier by post code;
 - Number of full time employees and contractors at each mine, including the locations of each worker and associated wages paid in 2020;
 - Community contributions by operation to each organisation, by postcode;
 - Local council payments and the nature of the payment (rates, etc.);
 - Taxes and royalties by operation; and
 - Revenue;
 - **Production-induced indirect effects** - measure the changes due to inter-industry purchases as they respond to the demands of the directly affected industries. This includes the chain-reaction of output up and down the production supply chain.
 - **Consumption induced effects** - measure the changes due to the spend on goods and services by the workers that are employed in the industries supported by these inter-industry purchases. This includes changes in output up the production supply chain as a result of the spend by employees.

- The production-induced indirect effects and the consumption induced effects were estimated using IO modelling. The main data requirements for IO modelling are input-output tables that give an estimate of the total output for a particular industry, as well as all of the interactions between industries within a given economic region. Our primary data source for this study (i.e. the input-output data used to construct the IO model) is given by the Australian Bureau of Statistics (ABS Australian National Accounts: Input-Output Tables - 2016-17).
- **Limitations of Input-output modelling** - There are some limitations in the application of IO modelling and analysis, as the use of fixed multipliers implies that the structure of the economy remains unchanged by economic events. IO modelling also applies no supply-side constraints on the availability of inputs, such as labour, capital / equipment and land. While IO is a common form of economic modelling, there are factors that must be considered in interpreting the results, including:
 - The approach assumes fixed production coefficients and constant returns to scale. This means that no matter how much is produced, the per-unit cost of required inputs remains the same;
 - IO assumes unlimited availability of production inputs such as labour, capital / equipment and land (i.e. there is a lack of supply-side constraints);
 - The approach does not account for price changes that may result from increased competition for scarce resources;
 - The analysis is built on a static picture of the economy that does not consider dynamic adjustments that may occur as a result of potential future shocks;
 - The effect of technology on productivity / production efficiency improvements is not considered;
 - The method considers average effects, rather than marginal effects, meaning that IO models do not take into account economies of scale, unused capacity or technological change.

Abbreviations

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
bn	billion
Capex	Capital expenditure
dmt	dry metric tonne
FTE	Full time equivalent
GDP	Gross Domestic Product
GVA	Gross Value Added
Kt	Kiloton
LGA	Local Government Area
m	million
Mt	megatonne
NSW	New South Wales
IO	Input-Output
Opex	Operating expenditure

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