

# NSW Mining Industry Expenditure Impact Survey 2019/20

Prepared for NSW Minerals Council

April 2021





# EXECUTIVE SUMMARY

The New South Wales Minerals Council (NSWMC) analysed the expenditure patterns of 28 NSW exploration and mining companies to determine the economic contribution of the industry throughout NSW in 2019/20. The spending data, which included employee salaries and wages, business purchases, community contributions and local and state government payments, was collected by postcode where it was spent to allow local, regional and state-wide economic benefits to be assessed. This report is an extension of previous annual surveys completed over the last eight years.

## Direct expenditure

The 28 companies surveyed **directly spent an estimated \$14.9 billion in the NSW economy in 2019/20, comprised of:**

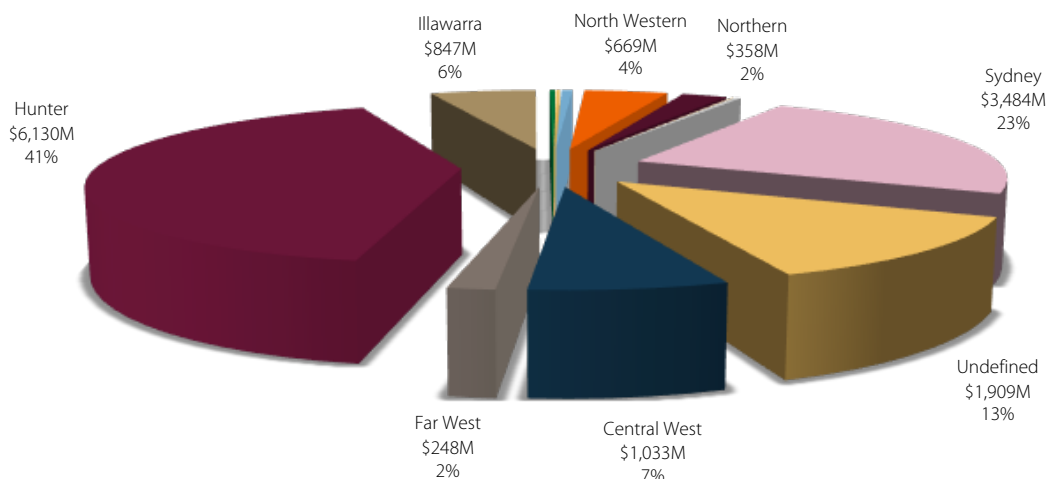
- **Total workforce of 28,780 full-time equivalent workers** (including direct resident employees and contract workers), which represented an annual increase of 11.4%;
- **\$2.7 billion in wages and salaries** to approximately **20,117 full-time equivalent residing direct employees** (not including contractors), representing an average salary level of \$136,094 per annum across the sector;
- **\$10.3 billion in purchases of goods and services from approximately 7,862 local businesses, community contributions and payments to local government** (including rates, developer contributions and other payments); and
- **\$1.9 billion in state government payments** (including royalties, stamp duty, payroll tax and land tax).

In terms of annual trend, total spending in NSW by companies surveyed increased by \$1.2 billion, or 8.6% from the level recorded in 2018/19 (\$13.7 billion). There was also significant annual growth in total direct wages (up 11.6%) and purchases from suppliers (up 15.5%).

The Hunter region recorded the highest direct expenditure in 2019/20, with \$6.1 billion (or 41.1% of the total direct spend across NSW), followed by the Sydney (\$3.5 billion, or 23.3%) and Central West (\$1.0 billion, or 6.9%) regions.

## Direct Stimulus by Region of Companies Surveyed

New South Wales, 2019/20



**Table E1: Direct Impact of Surveyed Companies by Region, 2019/20**

Region	Residing employees	Associated salaries	Total workforce <sup>(b)</sup>	Business purchases & community contributions	No. of businesses	Total direct spending	% of total direct spend, NSW
	(FTEs)	(\$M)	(FTEs)	(\$M)		(\$M)	
Central West	2,901	400.1	4,946	632.8	1,059	1,032.9	6.9%
Far West	475	54.7	887	193.3	145	248.0	1.7%
Hunter	10,096	1,451.9	13,098	4,678.2	3,408	6,130.1	41.1%
Illawarra	1,314	176.6	1,809	670.2	510	846.8	5.7%
Mid-North Coast	64	7.8	64	35.6	39	43.5	0.3%
Murray	30	3.6	36	24.2	51	27.8	0.2%
Murrumbidgee	77	10.8	77	78.3	100	89.0	0.6%
North Western	2,664	295.7	3,397	373.7	756	669.4	4.5%
Northern	1,521	189.0	2,878	169.2	406	358.3	2.4%
Richmond-Tweed	15	1.4	15	14.9	25	16.4	0.1%
South Eastern	137	12.4	137	37.0	116	49.4	0.3%
Sydney	809	132.2	1,408	3,352.2	2,677	3,484.3	23.4%
Unallocated <sup>(a)</sup>	15	1.7	27	6.6		1,908.5	12.8%
<b>Total NSW</b>	<b>20,117</b>	<b>2,737.9</b>	<b>28,780</b>	<b>10,266.1</b>	<b>7,862</b>	<b>14,904.4</b>	<b>100.0%</b>
Rest of Australia	699	86.2	700	5,755.6	2,854	5,841.8	-
<b>Total Australia</b>	<b>20,817</b>	<b>2,824.0</b>	<b>29,480</b>	<b>16,021.8</b>	<b>10,716</b>	<b>20,746.2</b>	<b>-</b>

Note: (a) Includes state government payments. (b) Includes full-time resident direct employees and contract workers by place of operation.



## Indirect and Total Economic Impacts

Economic modelling of the flow-on effects of the surveyed companies' direct expenditure allowed the indirect and total economic impact to be estimated. Across NSW, the total economic impact of the surveyed companies in 2019/20, based on Type II multipliers (i.e. including both indirect industry and consumption-induced effects), amounted to:

- \$35.9 billion in output/turnover (a measure of direct and supply chain purchases from businesses);
- **\$32.3 billion in value added (contribution to Gross State Product), amounting to 5.1% of GSP for NSW in 2019/20**, through \$14.9 billion in direct effects and \$17.4 billion in supply chain and consumption-induced effects;
- \$12.2 billion in income (wages and salaries) paid to direct and indirect workers; and
- **173,060 full time equivalent jobs supported, or 4.2% of total employment in NSW during 2019/20.**

**Table E2: Economic Impact of Companies Surveyed, 2019/20**

	New South Wales	Rest of Australia	Total Australia
<b>Value Added (\$M)</b>			
Direct	14,904	5,842	20,746
% of GSP/GDP	2.4%	0.4%	1.0%
Indirect	11,200	3,843	15,043
Total value added (Type I)	26,104	9,685	35,789
% of GSP/GDP	4.1%	0.7%	1.8%
Consumption-induced	6,166	2,296	8,463
Total value added (Type II)	32,271	11,981	44,252
% of GSP/GDP	5.1%	0.9%	2.2%
<b>Employment (FTEs)</b>			
Direct	20,117	699	20,817
% of total state/national employment	0.5%	0.0%	0.2%
Indirect	95,105	23,049	118,154
Total employment (Type I)	115,222	23,748	138,970
% of total state/national employment	2.8%	0.3%	1.1%
Consumption-induced	57,838	14,561	72,399
Total employment (Type II)	173,060	38,309	211,369
% of total state/national employment	4.2%	0.4%	1.6%
<b>Business spend (incl. community contributions and govt payments) (\$M)</b>			
Direct	12,167	5,756	17,922
Indirect	8,984	4,098	13,082
Total business spend (Type I)	21,151	9,853	31,004
Consumption-induced	12,026	4,316	16,342
Total business spend (Type II)	33,176	14,170	47,346
<b>Wages &amp; salaries (\$M)</b>			
Direct	2,738	86	2,824
Indirect	5,999	1,997	7,996
Total wages & salaries (Type I)	8,737	2,083	10,820
Consumption-induced	3,486	1,057	4,542
Total wages & salaries (Type II)	12,222	3,140	15,362

Note: Consumption-induced impacts seek to measure the change in consumption for all goods and services that arise from an increase in final output from the industry in question. Direct employment and wages relate specifically to **full-time equivalent residing direct employees** (not including contractors).



The direct expenditure of the 28 companies surveyed has the highest overall impact in the Hunter region, with estimated total value added of \$12.9 billion, meaning these companies contributed 27.6% to gross regional product (\$46.8 billion) in 2019/20, although the largest proportional impact occurred in the Far West region, where the direct and indirect effects of the 28 companies surveyed contributed approximately 46.5% to the regional economy. The impact in the Hunter region was significantly higher than other regional economies, the next highest of which was Sydney (\$7.2 billion in value added) and Central West (\$2.3 billion).

**Table E3: Total Economic Impact of Companies Surveyed by Region, 2019/20 (Type II)**

Region	Total output (\$M)	Total estimated value added (\$M)	Gross regional product (\$M)	Total value added as % of GRP
Central West	2,370.9	2,338.0	12,387.9	18.9%
Far West	607.9	567.2	1,219.2	46.5%
Hunter	14,246.0	12,916.8	46,833.8	27.6%
Illawarra	2,194.1	2,037.6	21,221.7	9.6%
Mid-North Coast	111.1	110.0	11,419.2	1.0%
Murray	48.2	45.7	7,150.6	0.6%
Murrumbidgee	141.0	138.9	13,188.2	1.1%
North Western	1,564.7	1,543.2	7,691.6	20.1%
Northern	834.3	821.9	13,141.6	6.3%
Richmond-Tweed	40.8	37.9	12,387.9	0.3%
South Eastern	125.5	124.1	10,725.7	1.2%
Sydney	8,520.2	7,170.1	471,922.6	1.5%
Undefined	5,109.2	4,419.2	-	-
<b>Total NSW</b>	<b>35,913.9</b>	<b>32,270.6</b>	<b>629,290.0</b>	<b>5.1%</b>

Note: Regions are based on 12 former Statistical Divisions in NSW



## Number of Businesses Directly Supported by the Mining Industry

Supplier business details were analysed to determine the total number of businesses supported by survey respondents. Duplicates were removed to the best extent practicable to ensure an accurate estimation of the number of individual businesses supported.

An estimated 7,862 businesses in New South Wales received payments for goods and services supplied to survey respondents during 2019/20, which represented an annual increase of 12.3% over the number of local businesses supported in 2018/19 (7,003). The highest number of businesses was recorded in the Hunter (3,408 businesses) and Sydney (2,677 businesses) regions.

**Table E4: Number of Businesses Supported by Region**

Region	Number of businesses supported
Central West	1,059
Far West	145
Hunter	3,408
Illawarra	510
Mid-North Coast	39
Murray	51
Murrumbidgee	100
North Western	756
Northern	406
Richmond-Tweed	25
South Eastern	116
Sydney	2,677
<b>Total NSW</b>	<b>7,862</b>

Note: The total number of businesses supported for New South Wales is less than the aggregate for all regions due to the removal of duplicates.

## Community Contributions

During 2019/20, survey respondents directly contributed \$8.2 million to 1,143 community groups across New South Wales in a wide range of areas including health, education, environment and the arts.

The largest category of expenditure was Education with \$2.1 million in contributions by survey respondents, followed by Social (\$1.3 million) and Health (\$1.1 million).

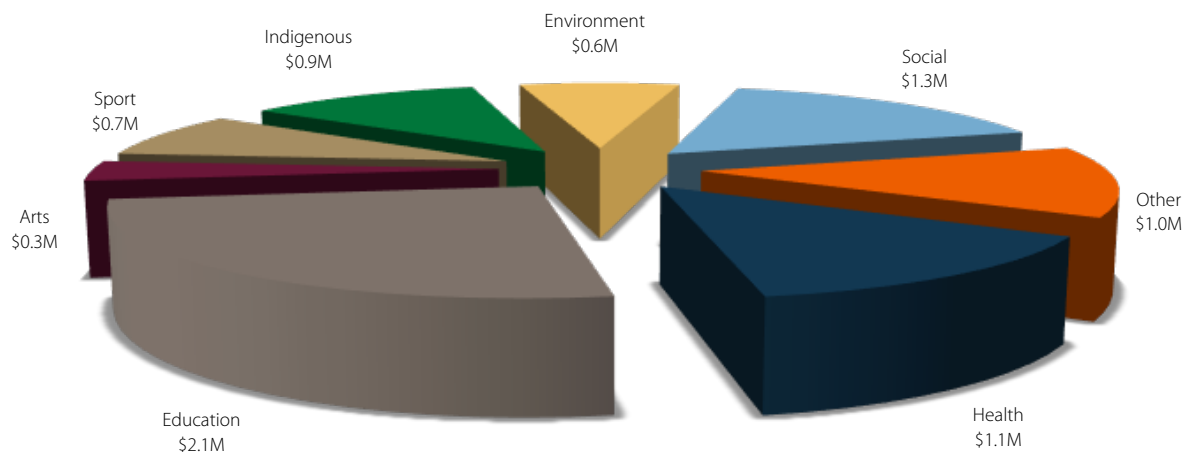
**Table E5: Number of Community Groups Supported by Region**

Region	Number of community groups	Total contributions (\$)
Central West	287	1,699,614
Far West	<5	1,762
Hunter	518	4,103,092
Illawarra	13	266,326
Mid-North Coast	<5	800
Murray	<5	2,169
Murrumbidgee	<5	1,000
North Western	146	759,783
Northern	87	333,508
Richmond-Tweed	<5	n.a.
South Eastern	11	65,001
Sydney	76	922,566
<b>Total NSW</b>	<b>1,143</b>	<b>8,155,666</b>

Note: The total number of community organisations supported for New South Wales is less than the aggregate for all regions due to the removal of duplicates.

## Community Contributions by Category of Expenditure

New South Wales (\$ million), 2019/20



## Local Council Contributions

Mining companies contribute to local councils through the payment of rates, developer contributions agreed as a condition of planning approval, and through other payments such as water rates and payments for specific infrastructure upgrades.

During 2019/20, survey respondents reported direct contributions to local councils totalling \$69.5 million, with Rates (\$46.7 million) comprising the largest proportion of local council payments, followed by Voluntary Planning Agreements (VPA)/developer contributions (\$12.9 million) and Other contributions (\$9.9 million).

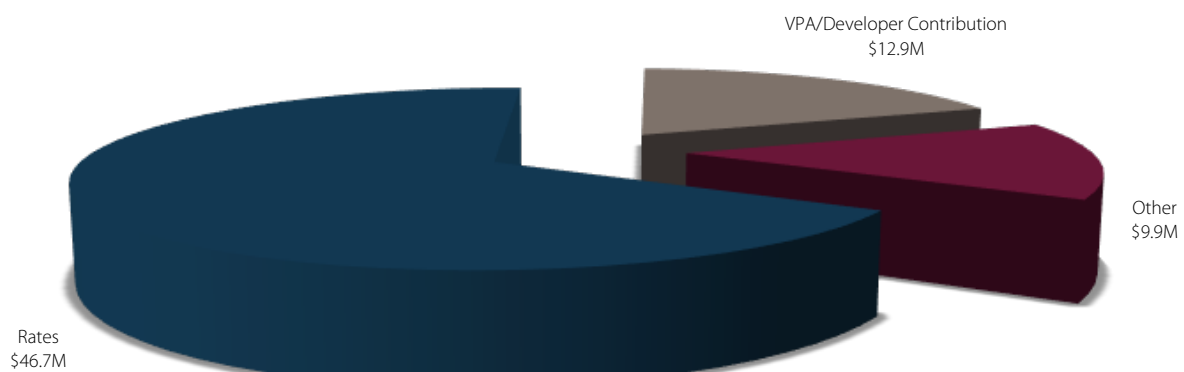
**Table E6: Local Council Contributions by Region**

Region	Rates (\$)	VPA/Developer (\$)	Other (\$)	Total contributions (\$)
Central West	10,491,706	513,573	1,085,345	12,090,624
Far West	1,989,188	0	0	1,989,188
Hunter	19,058,507	5,804,880	1,603,828	26,467,214
Illawarra	950,847	0	0	950,847
Mid-North Coast	4,955	0	0	4,955
Murray	1,490,529	0	28,321	1,518,850
Murrumbidgee	0	0	0	0
North Western	6,971,839	5,377,266	7,112,440	19,461,546
Northern	4,298,108	1,248,041	20,404	5,566,552
Richmond-Tweed	0	0	0	0
South Eastern	1,663	549	0	2,212
Sydney	1,400,298	451	86	1,400,836
<b>Total NSW</b>	<b>46,725,007</b>	<b>12,944,761</b>	<b>9,850,420</b>	<b>69,520,188</b>

Note: The total local government payments for each region may be less than the aggregate of contribution type due to unstated amounts and statistical or rounding errors from the original source.

## Local Council Contributions by Category

New South Wales (\$ million), 2019/20





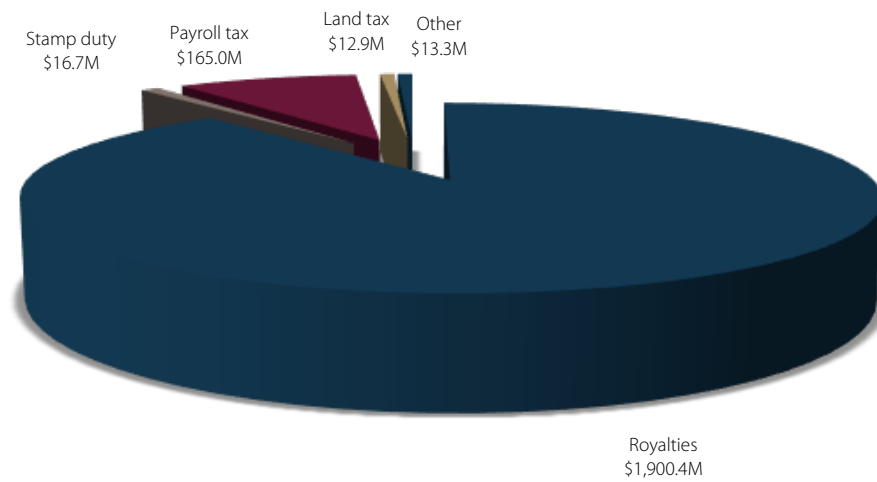


## State Government Payments

During 2019/20, the direct contribution made by companies surveyed in state government payments was approximately \$1.9 billion, comprised of royalties (\$1.7 billion), payroll tax (\$165.0 million), stamp duty (\$16.7 million) and land tax (\$12.9 million).

### State Government Contributions by Category

New South Wales (\$ million), 2019/20





## Comparison to Previous Survey Results

Comparison with results from previous surveys is difficult due to differences in the composition of participating companies. Based on whole-of-survey totals, the direct expenditure in NSW of the companies surveyed in 2019/20 increased by approximately \$1.2 billion, or 8.6% compared to 2018/19, whilst the total number of direct employees grew annually by 1,298 FTEs, or 6.9%.

**Table E7: Comparison of Survey Results**

	Level 2019/20	Level 2018/19	Level 2017/18	Level 2016/17	Level 2015/16	Level 2014/15	Annual % change 2018/19- 2019/20
No. of companies surveyed	28	28	28	26	25	23	0.0%
<b>DIRECT EMPLOYEES</b>							
No. of direct employees (FTEs)	20,117	18,820	16,772	17,061	17,209	17,566	6.9%
No. of apprenticeships and traineeships (FTEs)	298	261	223	247	261	284	14.2%
Total wages/salaries paid (\$M)	2,737.9	2,453.6	2,122.4	2,222.0	2,165.4	2,254.1	11.6%
<b>BUSINESS PURCHASES</b>							
No. of suppliers	7,862	7,003	7,135	6,681	8,078	7,694	12.3%
Total opex spend (\$M)	8,504.6	7,865.5	5,817.6	5,947.2	6,416.6	6,771.0	8.1%
Total capex spend (\$M)	1,683.9	958.6	720.2	526.1	890.8	902.6	75.7%
Total business purchases (\$M)	10,188.5	8,824.1	6,537.7	6,473.3	7,307.4	7,673.6	15.5%
<b>COMMUNITY CONTRIBUTIONS</b>							
No. of community organisations supported	1,143	1,137	980	997	991	1,298	0.5%
Total community contributions (\$M)	8.2	9.5	7.3	6.8	9.9	12.3	-14.5%
<b>LOCAL COUNCIL PAYMENTS</b>							
Total local government payments (\$M)	69.5	95.5	61.2	46.5	58.6	60.6	-27.2%
<b>STATE GOVERNMENT PAYMENTS</b>							
Total state government payments (\$M)	1,900.4	2,337.9	1,996.0	1,700.6	1,290.3	1,323.6	-18.7%
<b>TOTAL SPEND (\$M)</b>	<b>14,904.4</b>	<b>13,720.6</b>	<b>10,724.6</b>	<b>10,449.2</b>	<b>10,831.6</b>	<b>11,324.3</b>	<b>8.6%</b>
<b>TOTAL WORKFORCE (FTEs)</b>	<b>28,780</b>	<b>25,844</b>	<b>25,335</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11.4%</b>



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Prepared by:





# INTRODUCTION

The NSW Minerals Council (NSWMC) commissioned Lawrence Consulting to determine the total direct, indirect and consumption-induced economic benefit to the state economy based on expenditure data provided by 28 exploration and mining companies operating in NSW. This report provides a detailed summary of the level of expenditure into the New South Wales economy by these companies in 2019/20 and the multiplier and consumption-induced effects that are generated by that initial stimulus. The analysis is an update of previous studies completed over the past eight years, available to download at [www.nswmining.com.au](http://www.nswmining.com.au).

While the mining sector<sup>1</sup> makes a significant contribution to the New South Wales and Australian economies, information about the impacts of the sector on regional and metropolitan economies within New South Wales is limited. Impacts on regional and metropolitan areas of New South Wales occur through direct, indirect and consumption-induced effects. There are two key types of direct impacts:

- Wages for direct employment of workforce; and
- Expenditure on business goods and services in local and regional economies.

Business expenditure generates both upstream and downstream ripple effects through the supply chain as local businesses purchase goods and services from other businesses, often through several links in the supply chain. The net effect of subsequent rounds of economic activity in the business supply chain can be categorised as indirect effects. The increased employment generated through the direct effects (resources sector employment) and the indirect effects (business supply chain) generates a number of final consumption-induced effects to support the increased population base.

The focus of this report is to identify the geographical spread of impacts (direct, indirect and consumption-induced) from the mining industry across New South Wales at five geographic scales:

- State (the whole area of New South Wales);
- Regional (represented by 12 former Statistical Divisions in NSW);
- Local (represented by 128 Local Government Areas in NSW);
- State electoral divisions (represented by 93 SEDs in NSW); and
- Commonwealth electoral divisions (represented by 47 CEDs in NSW).

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<sup>1</sup> For these purposes, mining is defined broadly as the ANZSIC industry division and includes mine operation (i.e. operating mines, quarries, or oil and gas wells, as well as mining sites under development) and mining support activities (i.e. businesses that perform mining services on a contract or fee basis, and exploration (except geophysical surveying)).

# METHODOLOGY

## Data Collection

The process was initiated in July 2020 when NSWMC distributed an expenditure survey form to 34 exploration and mining companies, which were asked to disclose total operational spending in 2019/20 in the following categories:

- Employee salaries and wages (by place of residence) for full-time direct employees, along with the number of apprenticeships and traineeships;
- Goods and services expenditure, including payments made to contractors (including identification of the number of contract FTEs employed on-site) as well as other goods and services providers;
- Voluntary community contributions;
- Local government payments, including council rates and infrastructure charges; and
- State government payments, including royalties, stamp duty, payroll tax and land tax.

Of the 34 companies surveyed, 28 returned the survey, representing the majority of the New South Wales mining sector based on current value of production. The data includes both operational expenditure (OPEX) data for current projects and capital expenditure (CAPEX) data from proposed investments currently under development. This data was supplied by the location where the salary was paid (residence of the worker or contractor) and where the community contributions and business expenditures were made by Australia postcode. The companies that provided expenditure data as part of the study are listed in Table 1.

**Table 1: Companies Supplying Expenditure Data**

Aeris Resources	Iluka Resources
Alkane Resources Limited	Kepco Bylong Australia
Aurelia Metals	Mach Energy Australia Pty Ltd
Bengalla Mining Company Pty Ltd	Malabar Coal Limited
BHP Billiton NSW Energy Coal	Newcrest Mining Limited Cadia Valley Operations
Bloomfield Collieries Pty Ltd	Peabody Energy Australia
Centennial Coal Company Limited	Perilya Limited
CleanTeq Holdings Pty Ltd	Regis Resources Limited
CMOC Northparkes	South 32 Illawarra Coal
CSA Copper	Thiess Pty Limited
Evolution Cowal Gold	Tronox Holdings
Glencore Coal (NSW) Pty Ltd	Whitehaven Coal Limited
Heron Resources	Wyong Areas Coal Joint Venture
Idemitsu Australia Resources Pty Ltd	Yancoal Australia

The postcode spend data was then aggregated using geographical concordance files<sup>2</sup> from the Australian Bureau of Statistics and the economic impacts (direct, indirect and consumption-induced impacts) of the survey respondents were analysed at five geographic levels:

- State (the whole area of New South Wales);
- Regional (represented by 12 former Statistical Divisions in NSW);
- Local (represented by 128 Local Government Areas in NSW);
- State electoral divisions (represented by 93 SEDs in NSW); and
- Commonwealth electoral divisions (represented by 47 CEDs in NSW).

<sup>2</sup> <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1259.0.30.001Main+Features1July%202010?OpenDocument>



## Input-Output Modelling

### Background

For this study, input-output (I-O) modelling has been used to estimate the sum of direct, indirect and consumption-induced effects of the companies surveyed on different regions of New South Wales. I-O techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and hence are an appropriate tool for determining the direct, indirect and induced economic impact of economic stimuli.

### Development of I-O Modelling

The I-O technique was developed by Wassily Leontief in the 1930s to describe how impacts in one sector of an economy interacted with other sectors to generate economic changes, with matrix algebra used to perform the complex calculations. More advanced forms of I-O models are computable general equilibrium models, which are used for analysis of larger national economies, but are generally not as applicable for smaller areas. The standard I-O model approach is particularly useful for predicting the impacts of events or projects in an economy, or analysing local or regional level economies (Loveridge 2004).

Outside of the previous analysis of the impact of mining in New South Wales completed in 2011/12 to 2018/19 – and similar studies undertaken by Lawrence Consulting and Central Queensland University in Queensland in recent years on behalf of the Queensland Resources Council, in Western Australia on behalf of the Chamber of Minerals and Energy of Western Australia (CMEWA) and in South Australia on behalf of the South Australia Chamber of Mines and Energy (SACOME) based on the same underlying methodology – there have been several studies applying input-output modelling techniques to analyse the contribution of resources industries to economic growth in different countries and regions. Previous modelling directly relevant to this study was carried out by ACIL Tasman in 2007, and reported by the State of Queensland (Department of Mines and Energy) (2007). In that report, the contribution of the mining and minerals processing sector to the Queensland economy, using 2004-05 data, was estimated with the use of I-O analysis and general equilibrium modelling. More recently, the Reserve Bank of Australia completed a study in 2013 that quantified the links from demand for Australia's natural resources to activity in other domestic industries using input-output tables (Rayner and Bishop, 2013).

Rubin and Solomon (1983) used economic base and regional multiplier analysis to estimate the impacts of coal liquification projects on 27 counties in Indiana and Kentucky in the United States. Stilwell et al. (2000) used the technique to estimate the contribution of the mining industry to South Africa over a 22-year period. Bangsund and Leistritz (2007) estimated the economic contribution of the petroleum industry to the state economy of North Dakota in the United States. Fannin et al. (2008) used community impact models to estimate the economic effects of oil and gas production from deepwater leases on growth on a regional area of Louisiana in the United States. Finally, Leaming (2010) estimated the economic impacts from the copper industry to the Arizona economy in 2009.

I-O models can be used to capture only the indirect impacts that occur through other industry sectors (Type I models), or the indirect plus the consumption-induced effects (Type II models), which have been adopted for the current study. Further, the I-O models used in this study were based on the ABS model of the Australian economy generated from general equilibrium models.

A concept underlying I-O modelling is that an initial economic shock or stimulus can have multiplier effects through a series of successive spending rounds. The size of the economic multiplier in a local or regional area can be summarised in the following way (Jensen and West 2002):

- The extent to which project operators purchase inputs from the local or regional economy. Examples of inputs include wages for labour supplied from the local or regional area, and purchases of goods and services. The more that a project operator sources from the local or regional economy, the more money that is directly injected into the economy; and



- The extent to which money spent in a local or regional economy is retained within that economy. If there is not much opportunity for people receiving income to spend it on goods and services in their local or regional area, then not as much money will be kept in the local or regional area. Larger and more diverse regional economies tend to be better at keeping expenditures in their economy and not 'losing' it to other regions.

To generate predictions, the economic contribution of an industry is applied to the relevant industry sectors of the input-output model of a regional economy. The stimulus from economic activity can be traced through the economy in several different ways:

- The first round effects, or direct effects, are those from the expenditure in purchasing goods and services from other industries;
- The second round effects are those from supplying industries increasing their purchases to meet the additional demand. The second and subsequent rounds of purchasing are termed the indirect effects; and
- The consumption-induced effects identify the increase in economic activity generated to service the additional employment (and population) generated or sustained through the direct and indirect effects.

### **Advantages and Assumptions in I-O Models**

Key advantages of using input-output models are the fineness of detail available at a disaggregated industry level, the relative ease of application, particularly for sub-regional levels, and the ability to model effects in a timely manner (Loveridge 2004). However, care has to be taken in its application and interpretation of results. Key assumptions that underpin the application of I-O models are (Stilwell et al. 2000, Department of Mines and Energy 2007):

- The inputs purchased by each industry are a function of the level of output of that industry. The input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs);
- Each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies that there is only one method used to produce each commodity and that each sector has only a single primary output;
- The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the additivity assumption;
- The system is in equilibrium at given prices. This would not be the case in an economic system subject to external influences;
- In the static input-output model, there are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions. This assumption would come into play depending upon the magnitude of the changes in quantities demanded, brought about through changes in taxation levels; and
- The input-output model is an optimisation model that allocates resources between sectors to their most efficient use.

Type II models involve additional assumptions about fixed relationships between income and consumption patterns. These factors mean that the results of I-O models should generally be treated as the upper bound of estimates, and that care has to be taken in interpreting the results of very large changes in demand or production.



## I-O Model Outcomes

Predictions from I-O models are summarised in terms of multipliers and changes in four key variables:

### *Output*

The output impact measures the increase in gross sales throughout the whole economy by summing all the individual transactions resulting, directly and indirectly, from the economic stimulus.

### *Income*

The income impact measures the additional amount of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the stimulus to the economy.

### *Employment*

The employment impact measures the combined number of existing jobs sustained and new jobs generated by the stimulus, both directly and indirectly, although allocation between these forms of employment is not separately identified.

### *Value Added*

The value added or Gross Regional Product (GRP) impact measures only the net activity at each stage of production. GRP is defined as the addition of consumption, investment and government expenditure, plus exports of goods and services, minus imports of goods and services for a region. The GRP impacts are the preferred measure for the assessment and contribution of a stimulus to the economy.

I-O techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term – particularly at the small area and regional level – and hence are an appropriate tool for determining the direct, indirect and induced economic impacts of the NSW mining sector.

## Construction of the NSW Regional I-O Models

For the derivation of the regional I-O tables based on the Statistical Divisions (SDs) in New South Wales, a variable interference non-survey technique was applied, involving a formalised non-survey method compilation. This allowed data on direct effects of the companies surveyed to be inserted at any stage of the compilation procedure. This approach is based primarily on the Generation of Regional Input-Output Tables (GRIT) technique as developed by Associate Professor Guy West and Professor Rod Jensen of the University of Queensland (Jensen *et.al.*, 1979), a widely used method of constructing local and regional input-output tables in Australia, America and Europe. The procedure utilises cross-industry location quotients (Flegg and Webber 2000) as well as superior data (including expenditure patterns of within the primary company data) for the regionalisation of the national direct requirements matrix (DRM) or at the elements of other final payments and demand, which are at the core of any I-O table.

In summary, the construction of the local and regional I-O models employed the following steps:

- Adjustment to the latest available national I-O table;
- Computation of the regional direct requirement matrix;
- Aggregation of regional sectors (if necessary); and
- Computation of the complete regional I-O table.





All the necessary data for the regionalisation procedure were collected from the Australian Bureau of Statistics as well as other reliable sources for secondary data such as regional household expenditure patterns, income and productivity measures. The latest available national I-O tables were 2017-18, which consisted of 114 sectors of economic activity, at the 4-digit level, compiled following the industry-technology assumption, product-by-product, with total flows and valued at basic values in current prices.

For estimating the regional I-O tables, and especially in the interpretation of results, relevant limitations of the I-O approach (static, linear production function, no substitution or scale economy effects, infinite elasticity of supply) were taken into consideration. Once the I-O models were generated, predictions of impact were estimated for each regional area of interest in New South Wales using the available data on salary and business expenditure.

The predictions of the I-O models for each SD and LGA were estimated in two separate groups. The first group involved the economic impacts of expenditure on business goods and services (business suppliers), while the second involved economic expenditure of the labour force. Each stimulus group was modelled using expenditure coefficients and household consumption patterns applicable for each region, also taking into account the nature of the expenditure (i.e. operating or capital expenditure). The outputs of the models can be classified into First Round and Indirect Effects, representing industry impacts through the business chain, and Final Consumption-Induced effects, which represent the economic activity needed to support the increased workforce from Direct, First Round and Indirect Effects.

The data collection and the methodology applied in this study are notable in three key aspects:

- First, the data collected on actual spending by the resources industry allowed an assessment of impacts by spending in the economy in comparison to the more traditional approach of predicting economic impacts from total revenue changes;
- Second, the collection of primary data by local area allowed a much more accurate assessment of the direct impacts by geographic area than had previously been available; and
- Third, the application of the I-O modelling framework down to the LGA level, when combined with the accuracy of the primary data, meant that relatively accurate models of local impacts from the 28 NSWMC full-member companies surveyed could be generated.

The outcomes of the data collection and modelling approach meant that the assessment of direct, indirect and consumption-induced effects could be expected to be more detailed and accurate at the LGA level than could be achieved with standard applications of general equilibrium models.

# ECONOMIC BENEFITS

## State Impact

### Direct Spending

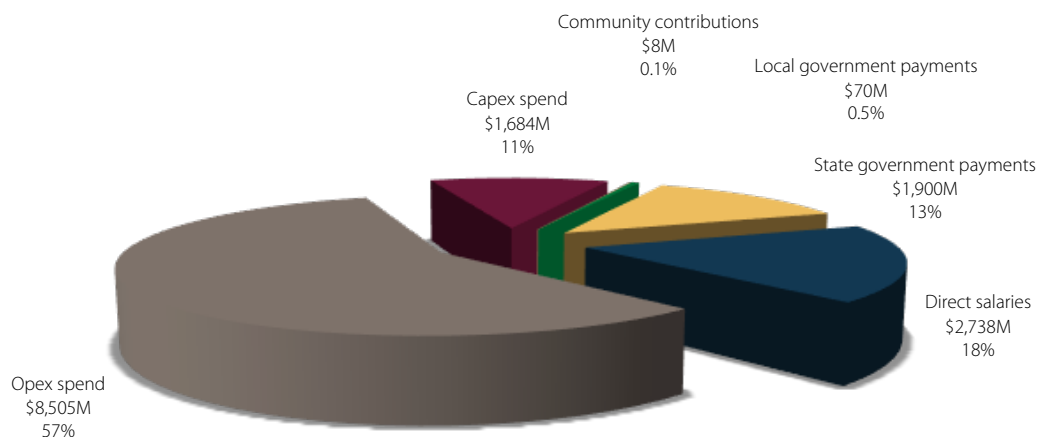
Expenditure data provided by the 28 companies surveyed indicated that these companies **contributed an estimated \$14.9 billion in direct spending to the NSW economy in 2019/20, comprised of:**

- **Total workforce of 28,780 full-time equivalent workers** (including direct resident employees and contract workers), which represented an annual increase of 11.4%;
- **\$2.7 billion in wages and salaries** to approximately **20,117 full-time equivalent residing direct employees** (not including contractors), representing an average salary level of \$136,094 per annum across the sector;
- **\$10.3 billion in purchases of goods and services from approximately 7,862 local businesses, community contributions and payments to local government** (including rates, developer contributions and other payments); and
- **\$1.9 billion in state government payments** (including royalties, stamp duty, payroll tax and land tax).

In terms of annual trend, total spending in NSW by companies surveyed increased by \$1.2 billion, or 8.6% from the level recorded in 2018/19 (\$13.7 billion). There was also significant annual growth in total direct wages (up 11.6%) and purchases from suppliers (up 15.5%).

### Direct Expenditure by Type for Companies Surveyed

New South Wales (\$ million), 2019/20



The direct economic stimulus provided by the 28 mining companies in 2019/20 also extended to other states, with an additional \$5.8 billion in direct spending, which combined with the impact in New South Wales for a total impact of \$20.7 billion for the whole of Australia, comprised of:

- \$2.8 billion in wages and salaries to approximately 20,817 full-time direct residing employees; and
- \$17.9 billion in purchases of goods and services from local businesses, government (state and local) and community contributions.



The total direct spending stimulus to the New South Wales economy by the companies surveyed in 2019/20 can be disaggregated into the following areas:

- \$2.7 billion in wages and salaries to 20,117 direct employees;
- \$8.5 billion in operating expenditure (OPEX);
- \$1.7 billion in capital expenditure (CAPEX);
- \$8.2 million in community contributions;
- \$69.5 million in local government payments; and
- \$1.9 billion in state government payments.

The 28 companies surveyed made payments to 7,862 separate businesses in New South Wales in 2019/20 and a further 2,854 businesses across the rest of Australia for a total number of businesses supported of 10,716.

The companies surveyed supported 1,143 community organisations across New South Wales through voluntary contributions across a number of categories, including: Health (109); Education (279); Arts (45); Sport (230); Indigenous (28); Environment (43); Social (273); and Other (109).

Comparison with results from previous surveys is difficult due to differences in the composition of participating companies. Based on whole-of-survey totals, the direct expenditure in NSW of the companies surveyed in 2019/20 increased by approximately \$1.2 billion, or 8.6% compared to 2018/19, whilst the total number of direct employees grew annually by 1,298 FTEs, or 6.9%.

**Table 2: Comparison of Survey Results**

	Level 2019/20	Level 2018/19	Level 2017/18	Level 2016/17	Level 2015/16	Level 2014/15	Annual % change 2018/19- 2019/20
No. of companies surveyed	28	28	28	26	25	23	0.0%
<b>DIRECT EMPLOYEES</b>							
No. of direct employees (FTEs)	20,117	18,820	16,772	17,061	17,209	17,566	6.9%
No. of apprenticeships and traineeships (FTEs)	298	261	223	247	261	284	14.2%
Total wages/salaries paid (\$M)	2,737.9	2,453.6	2,122.4	2,222.0	2,165.4	2,254.1	11.6%
<b>BUSINESS PURCHASES</b>							
No. of suppliers	7,862	7,003	7,135	6,681	8,078	7,694	12.3%
Total opex spend (\$M)	8,504.6	7,865.5	5,817.6	5,947.2	6,416.6	6,771.0	8.1%
Total capex spend (\$M)	1,683.9	958.6	720.2	526.1	890.8	902.6	75.7%
Total business purchases (\$M)	10,188.5	8,824.1	6,537.7	6,473.3	7,307.4	7,673.6	15.5%
<b>COMMUNITY CONTRIBUTIONS</b>							
No. of community organisations supported	1,143	1,137	980	997	991	1,298	0.5%
Total community contributions (\$M)	8.2	9.5	7.3	6.8	9.9	12.3	-14.5%
<b>LOCAL COUNCIL PAYMENTS</b>							
Total local government payments (\$M)	69.5	95.5	61.2	46.5	58.6	60.6	-27.2%
<b>STATE GOVERNMENT PAYMENTS</b>							
Total state government payments (\$M)	1,900.4	2,337.9	1,996.0	1,700.6	1,290.3	1,323.6	-18.7%
<b>TOTAL SPEND (\$M)</b>	<b>14,904.4</b>	<b>13,720.6</b>	<b>10,724.6</b>	<b>10,449.2</b>	<b>10,831.6</b>	<b>11,324.3</b>	<b>8.6%</b>
<b>TOTAL WORKFORCE (FTEs)</b>	<b>28,780</b>	<b>25,844</b>	<b>25,335</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11.4%</b>



## Indirect and Consumption-Induced Spending

The I-O modelling conducted for this project has estimated the direct and indirect (Type I) and consumption-induced (Type II) effects flowing from the business expenditure, community and government contributions of \$12.2 billion, and the employment expenditure of \$2.7 billion. These impacts have been modelled separately but simultaneously for each region and then aggregated to identify the level of impacts on output, incomes, employment and industry value added in New South Wales. In 2019/20, the \$14.9 billion in direct spending in New South Wales by the 28 companies surveyed supported additional combined supply chain and consumption-induced effects of **152,943 full-time equivalent jobs** and **\$30.5 billion in aggregate spending** (\$9.5 billion in wages and salaries and \$21.0 billion in purchases of goods and services).

**Table 3: Economic Impact of Companies Surveyed, 2019/20**

	New South Wales	Rest of Australia	Total Australia
<b>Value Added (\$M)</b>			
Direct	14,904	5,842	20,746
% of GSP/GDP	2.4%	0.4%	1.0%
Indirect	11,200	3,843	15,043
Total value added (Type I)	26,104	9,685	35,789
% of GSP/GDP	4.1%	0.7%	1.8%
Consumption-induced	6,166	2,296	8,463
Total value added (Type II)	32,271	11,981	44,252
% of GSP/GDP	5.1%	0.9%	2.2%
<b>Employment (FTEs)</b>			
Direct	20,117	699	20,817
% of total state/national employment	0.5%	0.0%	0.2%
Indirect	95,105	23,049	118,154
Total employment (Type I)	115,222	23,748	138,970
% of total state/national employment	2.8%	0.3%	1.1%
Consumption-induced	57,838	14,561	72,399
Total employment (Type II)	173,060	38,309	211,369
% of total state/national employment	4.2%	0.4%	1.6%
<b>Business spend (incl. community contributions and govt payments) (\$M)</b>			
Direct	12,167	5,756	17,922
Indirect	8,984	4,098	13,082
Total business spend (Type I)	21,151	9,853	31,004
Consumption-induced	12,026	4,316	16,342
Total business spend (Type II)	33,176	14,170	47,346
<b>Wages &amp; salaries (\$M)</b>			
Direct	2,738	86	2,824
Indirect	5,999	1,997	7,996
Total wages & salaries (Type I)	8,737	2,083	10,820
Consumption-induced	3,486	1,057	4,542
Total wages & salaries (Type II)	12,222	3,140	15,362

Note: Consumption-induced impacts seek to measure the change in consumption for all goods and services that arise from an increase in final output from the industry in question. Direct employment and wages relate specifically to **full-time equivalent residing direct employees** (not including contractors).

The results of the I-O modelling allow predictions to be made about the total size of impacts from the surveyed companies' direct expenditure on both the New South Wales and Australian economies. For each key measure, the total impact on the economy is the sum of the direct effects from industry, the indirect effects through the business chain, and the consumption-induced effects. The total economic impact (i.e. direct, indirect and induced, or Type II impact) from the surveyed companies to the New South Wales economy in 2019/20 amounted to:



- \$35.9 billion in output/turnover (or purchases from supplying businesses);
- \$32.3 billion in value added (contribution to gross state product);
- \$12.2 billion in income (wages and salaries); and
- 173,060 full-time equivalent jobs.

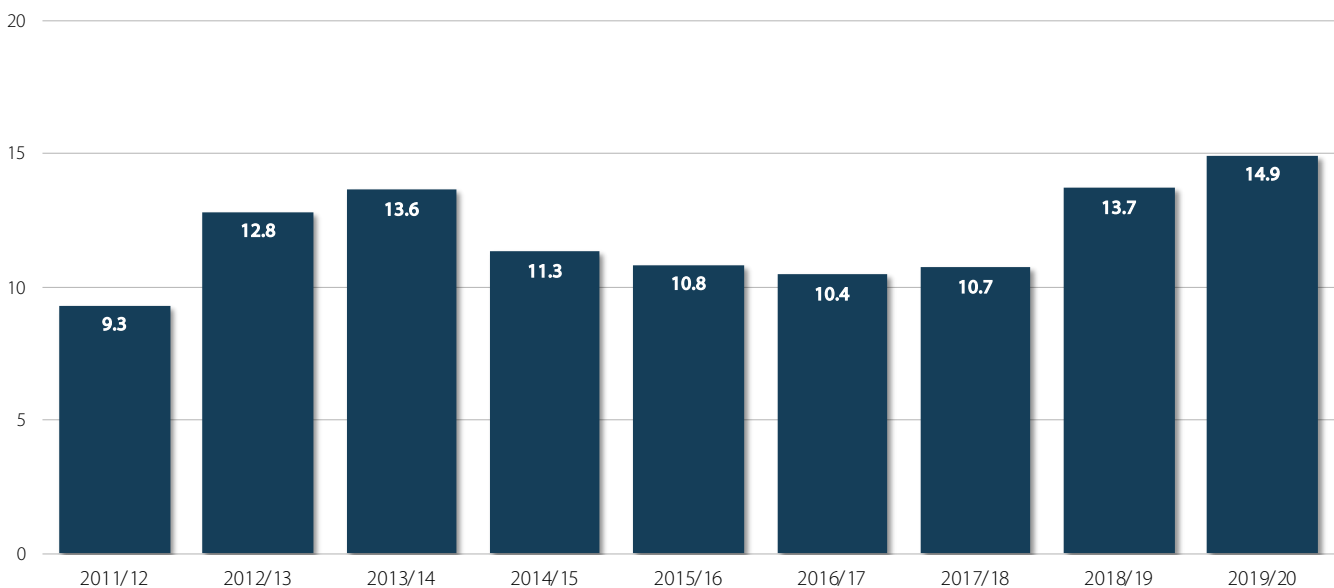
Estimates of the contribution to Gross State Product (GSP) require an estimate of the initial contribution of the industry in terms of direct value added – defined as compensation of employees plus gross operating surplus plus other taxes less subsidies on production – plus the value added effects generated through the business chain and consumption-induced effects. A precise measure of direct value added for the companies surveyed is not available from the data; an estimated value added of \$14.9 billion – equivalent to the sum of input and labour costs, or total direct spending – has instead been adopted.

When business supply and employment effects are considered, the 28 companies surveyed **generated approximately \$32.3 billion in value added** (\$14.9 billion in direct effects, and \$17.4 billion in supply chain and consumption-induced effects) in 2019/20, and **sustained approximately 173,061 jobs** (of which 20,117 were in direct employment and 152,943 in additional employment). This means that the activity generated by these companies **contributed 5.1% of Gross State Product** (\$629.3 billion) **and 4.2% of total employment** (4,108,200 persons) in New South Wales in 2019/20. Under the more conservative Type I scenario (i.e. excluding consumption-induced effects), direct spending by the companies surveyed and flow-on impacts contributed 4.2% to GSP and 2.8% of total state employment.

**Over the past nine years**, the New South Wales minerals and energy sector, as represented through the companies participating in the NSWMC survey, has **generated approximately \$230.8 billion in value added**, including \$107.8 billion in direct spending, and has supported an average workforce of approximately 145,065 jobs per annum.

### Direct Spending by Companies Surveyed

New South Wales (\$ billion)





## Regional Impact

As specified earlier, the postcode expenditure data provided by companies was aggregated using geographical concordances at the regional (SD) and local (LGA) levels. Surveyed companies' direct expenditure, split across salaries, supplier, local government and community contribution spend, varied considerably across regional areas. The level of employment, and direct expenditure on employees and business purchases in 2019/20 is summarised for the 12 major regions in New South Wales in Table 4.

The largest proportion of direct expenditure from the 28 companies surveyed in New South Wales in 2019/20 was in the Hunter region (\$6.1 billion), followed by the Sydney (\$3.5 billion), Central West (\$1.0 billion) and Illawarra (\$846.8 million) regions. With regard to employment, the largest workforce share (i.e. number of direct full-time resident employees and contract workers by place of operation) across New South Wales was also recorded in the Hunter region (13,098 FTEs, or 45.5%), followed by the Central West (4,946 FTEs, or 17.2%), North Western (3,397 FTEs, or 11.8%), Northern (2,878 FTEs, or 10.0%) and Illawarra (1,809 FTEs, or 6.3%).

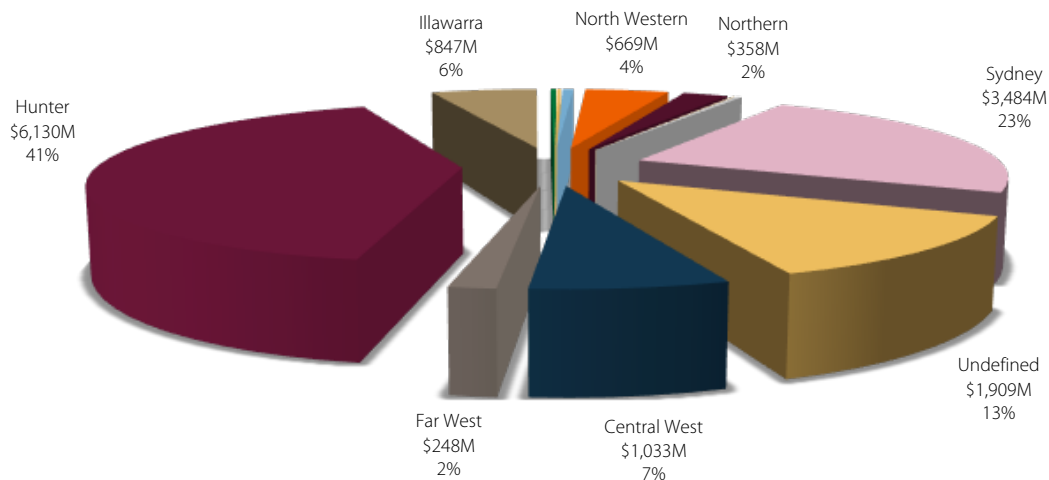
**Table 4: Direct Impact of Surveyed Companies by Region, 2019/20**

Region	Residing employees	Associated salaries	Total workforce <sup>(b)</sup>	Business purchases & community contributions	No. of businesses	Total direct spending	% of total direct spend, NSW
	(FTEs)	(\$M)	(FTEs)	(\$M)		(\$M)	
Central West	2,901	400.1	4,946	632.8	1,059	1,032.9	6.9%
Far West	475	54.7	887	193.3	145	248.0	1.7%
Hunter	10,096	1,451.9	13,098	4,678.2	3,408	6,130.1	41.1%
Illawarra	1,314	176.6	1,809	670.2	510	846.8	5.7%
Mid-North Coast	64	7.8	64	35.6	39	43.5	0.3%
Murray	30	3.6	36	24.2	51	27.8	0.2%
Murrumbidgee	77	10.8	77	78.3	100	89.0	0.6%
North Western	2,664	295.7	3,397	373.7	756	669.4	4.5%
Northern	1,521	189.0	2,878	169.2	406	358.3	2.4%
Richmond-Tweed	15	1.4	15	14.9	25	16.4	0.1%
South Eastern	137	12.4	137	37.0	116	49.4	0.3%
Sydney	809	132.2	1,408	3,352.2	2,677	3,484.3	23.4%
Unallocated <sup>(a)</sup>	15	1.7	27	6.6		1,908.5	12.8%
<b>Total NSW</b>	<b>20,117</b>	<b>2,737.9</b>	<b>28,780</b>	<b>10,266.1</b>	<b>7,862</b>	<b>14,904.4</b>	<b>100.0%</b>

Note: (a) Includes state government payments. (b) Includes full-time resident direct employees and contract workers by place of operation.

## Direct Stimulus by Region of Companies Surveyed

New South Wales, 2019/20



The economic modelling conducted for this project has estimated the indirect and consumption-induced effects flowing from the two key direct impacts on the economy, i.e. those generated by business supply chain expenditure in each SD and those generated by consumption-induced spending in each region. These impacts have been modelled separately but simultaneously for each region and then aggregated to identify the level of impacts on output, incomes, employment and industry value added, the results of which are outlined in Table 5.

**Table 5: Type II Indirect and Consumption-Induced Impacts of Companies Surveyed by Region, 2019/20**

Region	Indirect full-time employees (FTEs)	Associated salaries (\$M)	Supply of goods and services (\$M)	Total indirect value added (\$M)
Central West	16,227	599.6	1,338.0	1,305.2
Far West	3,987	172.6	359.9	319.2
Hunter	65,022	3,873.2	8,115.9	6,786.7
Illawarra	13,271	683.0	1,347.3	1,190.8
Mid-North Coast	831	30.0	67.6	66.5
Murray	225	9.8	20.4	17.9
Murrumbidgee	558	23.3	52.0	49.9
North Western	10,874	402.4	895.3	873.7
Northern	5,772	214.7	476.1	463.6
Richmond-Tweed	236	12.2	24.5	21.6
South Eastern	933	33.9	76.1	74.7
Sydney	22,681	1,831.1	5,035.8	3,685.8
Undefined	12,325	1,598.7	3,200.6	2,510.6
<b>Total NSW</b>	<b>152,943</b>	<b>9,484.5</b>	<b>21,009.5</b>	<b>17,366.3</b>

Table 6 shows that the direct expenditure of the 28 companies surveyed has the highest overall impact in the Hunter region, with estimated total value added of \$12.9 billion, meaning these companies contributed 27.6% to gross regional product (\$46.8 billion) in 2019/20. The impact in the Hunter region was significantly higher than other regional economies, the next highest of which was Sydney (\$7.2 billion in value added) and Central West (\$2.3 billion). The Far West region recorded the highest proportion of GRP contributed by the companies surveyed (46.5%), followed by the Hunter (27.6%), Central West (18.9%), North Western (20.1%) and Illawarra (9.6%) regions.

**Table 6: Total Economic Impact of Companies Surveyed by Region, 2019/20 (Type II)**

Region	Total output (\$M)	Total estimated value added (\$M)	Gross regional product (\$M)	Total value added as % of GRP
Central West	2,370.9	2,338.0	12,387.9	18.9%
Far West	607.9	567.2	1,219.2	46.5%
Hunter	14,246.0	12,916.8	46,833.8	27.6%
Illawarra	2,194.1	2,037.6	21,221.7	9.6%
Mid-North Coast	111.1	110.0	11,419.2	1.0%
Murray	48.2	45.7	7,150.6	0.6%
Murrumbidgee	141.0	138.9	13,188.2	1.1%
North Western	1,564.7	1,543.2	7,691.6	20.1%
Northern	834.3	821.9	13,141.6	6.3%
Richmond-Tweed	40.8	37.9	12,387.9	0.3%
South Eastern	125.5	124.1	10,725.7	1.2%
Sydney	8,520.2	7,170.1	471,922.6	1.5%
Undefined	5,109.2	4,419.2	-	-
<b>Total NSW</b>	<b>35,913.9</b>	<b>32,270.6</b>	<b>629,290.0</b>	<b>5.1%</b>

Note: Regions are based on 12 former Statistical Divisions in NSW

With regard to employment, the companies surveyed again had the highest impact on jobs in the Hunter region, supporting 75,118 FTEs, comprising 20.5% of the total regional workforce. The Sydney (23,490 FTEs), Central West (19,128 FTEs) and Illawarra (14,585 FTEs) regions recorded the next highest number of employees. The Far West region recorded the greatest proportion of total jobs (53.7%) from the impact of the 28 companies surveyed.

**Table 7: Total Employment Impact of Surveyed Companies by Region, 2019/20 (Type II Impact)**

Region	Total direct, indirect and induced employees (FTEs)	Total regional employment (FTEs)	% of total employment
Central West	19,128	96,757	19.8%
Far West	4,462	8,303	53.7%
Hunter	75,118	366,414	20.5%
Illawarra	14,585	207,862	7.0%
Mid-North Coast	895	108,497	0.8%
Murray	255	58,835	0.4%
Murrumbidgee	636	86,137	0.7%
North Western	13,538	55,521	24.4%
Northern	7,294	92,124	7.9%
Richmond-Tweed	251	117,400	0.2%
South Eastern	1,070	116,751	0.9%
Sydney	23,490	2,793,070	0.8%
Undefined	12,340	-	-
<b>Total NSW</b>	<b>173,061</b>	<b>4,108,200</b>	<b>4.2%</b>





## Central West

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$1.0 billion in direct spending (representing 32.2% annual growth) through:

- Total workforce of 4,946 FTEs<sup>3</sup>, including 2,045 contract workers whose place of work was in the region;
- \$400.1 million in wages and salaries to 2,901 direct full-time employees (not including contractors);
- \$619.0 million in purchases of goods and services from 1,059 local businesses (includes contractors);
- \$1.7 million in contributions to 287 community organisations; and
- \$12.1 million in local government payments.

### Indirect contribution

This \$1.0 billion in direct spending generated:

- \$1.3 billion in additional supply chain goods and services purchases; and
- \$599.6 million in wages and salaries associated with 16,227 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$2.0 billion in supplying business purchases;
- \$999.7 million in total wages and salaries paid to workers;
- \$2.3 billion in value added, or 18.9% of total GRP in this region (\$12.4 billion); and
- 19,128 full-time equivalent jobs, or 19.8% of the entire workforce in this region.

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<sup>3</sup> Includes contractor data from a company not previously included in 2018/19 reporting due tot data irregularities, making comparisons with total workforce figure from previous year difficult. The estimated increase in total workforce for the region was approximately 11.6%.



## Far West

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$248.0 million in direct spending (representing 23.2% annual growth) through:

- Total workforce of 887 FTEs, including 411 contract workers whose place of work was in the region;
- \$54.7 million in wages and salaries to 475 direct full-time employees (not including contractors);
- \$191.3 million in purchases of goods and services from 145 local businesses (includes contractors) and contributions to community organisations; and
- \$2.0 million in local government payments.

### Indirect contribution

This \$248.0 million in direct spending generated:

- \$359.9 million in additional supply chain goods and services purchases; and
- \$172.6 million in wages and salaries associated with 3,987 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$551.2 million in supplying business purchases;
- \$227.3 million in total wages and salaries paid to workers;
- \$567.24 million in value added, or 46.5% of total GRP in this region (\$1.2 billion); and
- 4,462 full-time equivalent jobs, or 53.7% of the entire workforce in this region.



## Hunter

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$6.1 billion in direct spending (representing 13.1% annual growth) through:

- Total workforce of 13,098 FTEs, including 3,003 contract workers whose place of work was in the region;
- \$1.5 billion in wages and salaries to 10,096 direct full-time employees (not including contractors);
- \$4.6 billion in purchases of goods and services from 3,408 local businesses (includes contractors);
- \$4.1 million in contributions to 518 community organisations; and
- \$26.5 million in local government payments.

### Indirect contribution

This \$6.1 billion in direct spending generated:

- \$8.1 billion in additional supply chain goods and services purchases; and
- \$3.9 billion in wages and salaries associated with 65,022 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$12.8 billion in supplying business purchases;
- \$5.3 billion in total wages and salaries paid to workers;
- \$12.9 billion in value added, or 27.6% of total GRP in this region (\$46.8 billion); and
- 75,118 full-time equivalent jobs, or 20.5% of the entire workforce in this region.



## Illawarra

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$846.8 million in direct spending (representing 2.1% annual growth) through:

- Total workforce of 1,809 FTEs, including 496 contract workers whose place of work was in the region;
- \$176.6 million in wages and salaries to 1,314 direct full-time employees (not including contractors);
- \$669.2 million in purchases of goods and services from 510 local businesses (includes contractors) and contributions to 13 community organisations; and
- \$1.0 million in local government payments.

### Indirect contribution

This \$846.8 million in direct spending generated:

- \$1.3 billion in additional supply chain goods and services purchases; and
- \$683.0 million in wages and salaries associated with 13,271 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$2.0 billion in supplying business purchases;
- \$859.6 million in total wages and salaries paid to workers;
- \$2.0 billion in value added, or 9.6% of total GRP in this region (\$21.2 billion); and
- 14,585 full-time equivalent jobs, or 7.0% of the entire workforce in this region.



## Mid-North Coast

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$43.5 million in direct spending (representing 115.5% annual growth) through:

- \$7.8 million in wages and salaries to 64 direct full-time employees (not including contractors); and
- \$35.6 million in purchases of goods and services from 39 local businesses (includes contractors), community contributions and local government payments.

### Indirect contribution

This \$43.5 million in direct spending generated:

- \$67.6 million in additional supply chain goods and services purchases; and
- \$30.0 million in wages and salaries associated with 831 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$103.3 million in supplying business purchases;
- \$37.9 million in total wages and salaries paid to workers;
- \$110.0 million in value added, or 1.0% of total GRP in this region (\$11.4 billion); and
- 895 full-time equivalent jobs, or 0.8% of the entire workforce in this region.



## Murray

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$27.8 million in direct spending (representing 301.6% annual growth) through:

- Total workforce of 36 FTEs, including 6 contract workers whose place of work was in the region;
- \$3.6 million in wages and salaries to 30 direct full-time employees (not including contractors); and
- \$22.7 million in purchases of goods and services from 51 local businesses (includes contractors) and contributions to community organisations; and
- \$1.5 million in local government payments.

### Indirect contribution

This \$27.8 million in direct spending generated:

- \$20.4 million in additional supply chain goods and services purchases; and
- \$9.8 million in wages and salaries associated with 225 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$43.1 million in supplying business purchases;
- \$13.4 million in total wages and salaries paid to workers;
- \$45.7 million in value added, or 0.6% of total GRP in this region (\$7.2 billion); and
- 255 full-time equivalent jobs, or 0.4% of the entire workforce in this region.



## **Murrumbidgee**

### **Direct contribution**

In this region during 2019/20, the 28 companies surveyed contributed \$89.0 million in direct spending (representing 335.3% annual growth) through:

- \$10.8 million in wages and salaries to 77 direct full-time employees (not including contractors); and
- \$78.3 million in purchases of goods and services from 100 local businesses (includes contractors), community contributions and local government payments.

### **Indirect contribution**

This \$89.0 million in direct spending generated:

- \$52.0 million in additional supply chain goods and services purchases; and
- \$23.3 million in wages and salaries associated with 558 additional jobs supported in this region.

### **Total contribution**

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$130.2 million in supplying business purchases;
- \$34.1 million in total wages and salaries paid to workers;
- \$138.9 million in value added, or 1.1% of total GRP in this region (\$13.2 billion); and
- 636 full-time equivalent jobs, or 0.7% of the entire workforce in this region.



## North Western

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$669.4 million in direct spending (representing 31.7% annual growth) through:

- Total workforce of 3,397 FTEs, including 733 contract workers whose place of work was in the region;
- \$295.7 million in wages and salaries to 2,664 direct full-time employees (not including contractors);
- \$353.5 million in purchases of goods and services from 756 local businesses (includes contractors);
- \$0.8 million in contributions to 146 community organisations; and
- \$19.5 million in local government payments.

### Indirect contribution

This \$669.4 million in direct spending generated:

- \$895.3 million in additional supply chain goods and services purchases; and
- \$402.4 million in wages and salaries associated with 10,874 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$1.2 billion in supplying business purchases;
- \$698.1 million in total wages and salaries paid to workers;
- \$1.5 billion in value added, or 20.1% of total GRP in this region (\$7.7 billion); and
- 13,538 full-time equivalent jobs, or 24.4% of the entire workforce in this region.





## Northern

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$358.3 million in direct spending (representing 20.0% annual growth) through:

- Total workforce of 2,878 FTEs, including 1,357 contract workers whose place of work was in the region;
- \$189.0 million in wages and salaries to 1,521 direct full-time employees (not including contractors);
- \$163.3 million in purchases of goods and services from 406 local businesses (includes contractors);
- \$0.3 million in contributions to 87 community contributions; and
- \$5.6 million in local government payments.

### Indirect contribution

This \$358.3 million in direct spending generated:

- \$476.1 million in additional supply chain goods and services purchases; and
- \$214.7 million in wages and salaries associated with 5,772 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$639.4 million in supplying business purchases;
- \$403.7 million in total wages and salaries paid to workers;
- \$821.9 million in value added, or 6.3% of total GRP in this region (\$13.1 billion); and
- 7,294 full-time equivalent jobs, or 7.9% of the entire workforce in this region.



## Richmond-Tweed

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$16.4 million in direct spending (representing 134.1% annual growth) through:

- \$1.4 million in wages and salaries to 15 direct full-time employees (not including contractors); and
- \$14.9 million in purchases of goods and services from 25 local businesses (includes contractors), community contributions and local government payments.

### Indirect contribution

This \$16.4 million in direct spending generated:

- \$24.5 million in additional supply chain goods and services purchases; and
- \$12.2 million in wages and salaries associated with 236 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$39.4 million in supplying business purchases;
- \$13.6 million in total wages and salaries paid to workers;
- \$37.9 million in value added, or 0.3% of total GRP in this region (\$12.4 billion); and
- 251 full-time equivalent jobs, or 0.2% of the entire workforce in this region.



## South Eastern

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$49.4 million in direct spending (representing 0.6% annual growth) through:

- \$12.4 million in wages and salaries to 137 direct full-time employees (not including contractors);
- \$37.0 million in purchases of goods and services from 116 local businesses (includes contractors), community contributions and local government payments.

### Indirect contribution

This \$49.4 million in direct spending generated:

- \$76.1 million in additional supply chain goods and services purchases; and
- \$33.9 million in wages and salaries associated with 933 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$113.0 million in supplying business purchases;
- \$46.3 million in total wages and salaries paid to workers;
- \$124.1 million in value added, or 1.2% of total GRP in this region (\$10.7 billion); and
- 1,070 full-time equivalent jobs, or 0.9% of the entire workforce in this region.



## Sydney

### Direct contribution

In this region during 2019/20, the 28 companies surveyed contributed \$3.5 billion in direct spending (representing 7.7% annual growth) through:

- Total workforce of 1,408 FTEs, including 599 contract workers whose place of work was in the region;
- \$132.2 million in wages and salaries to 809 direct full-time employees (not including contractors);
- \$3.3 billion in purchases of goods and services from 2,677 local businesses (includes contractors);
- \$0.9 million in contributions to 76 community organisations; and
- \$1.4 million in local government payments.

### Indirect contribution

This \$3.5 billion in direct spending generated:

- \$5.0 billion in additional supply chain goods and services purchases; and
- \$1.8 billion in wages and salaries associated with 22,681 additional jobs supported in this region.

### Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2019/20 from the 28 companies surveyed amounted to:

- \$8.4 billion in supplying business purchases;
- \$2.0 billion in total wages and salaries paid to workers;
- \$7.2 billion in value added, or 1.5% of total GRP in this region (\$471.9 billion); and
- 23,490 full-time equivalent jobs, or 0.8% of the entire workforce in this region.

## Local Impact

### Direct Spending

Similar to SDs or regions, the expenditure data provided by the 28 companies surveyed was aggregated using geographical concordances at the local government area (LGA) level. As expected, companies' expenditures, split across salaries supplier and community contribution expenditure, varied considerably across LGAs. The level of employment, direct expenditure on employees and business supply chain purchases and community and local government contributions is summarised for the 128 LGAs in New South Wales in Appendix A.

Table 8 shows the distribution of total direct spending (i.e. salaries, business purchases, local council and community contributions) from the surveyed companies across New South Wales to the top 20 expenditure LGAs. Newcastle LGA recorded the largest share of direct expenditure in 2019/20 (\$1.7 billion), followed by Sydney (\$1.7 billion), Maitland (\$1.2 billion), Singleton (\$940.5 million) and Muswellbrook (\$688.8 million).

Total direct residential employment associated with the 28 companies surveyed was greatest in the Hunter Valley region, specifically Singleton LGA (2,232 FTEs), followed by the Maitland (1,719 FTEs), Mid-Western Regional (1,597 FTEs), Cessnock (1,493 FTEs) and Muswellbrook (1,283 FTEs) LGAs.

**Table 8: Direct Impact of Surveyed Companies, Top 20 LGAs by Expenditure, 2019/20**

Local government area	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)
Newcastle (C)	854	128.9	867.5	1,730.3	1,859.2
Sydney (C)	153	36.8	155.9	1,687.7	1,724.4
Maitland (C)	1,719	274.2	1,719.2	972.9	1,247.1
Singleton (A)	2,232	310.2	4,082.6	630.3	940.5
Muswellbrook (A)	1,283	178.0	2,364.6	510.8	688.8
Cessnock (C)	1,493	201.3	1,527.6	360.2	561.5
Wollongong (C)	867	116.8	1,363.2	419.9	536.7
Lake Macquarie (C)	1,243	185.3	1,247.4	317.8	503.1
Orange (C)	673	92.9	1,111.2	363.2	456.2
Parramatta (C)	9	0.6	8.6	435.3	435.8
Mid-Western Regional (A)	1,597	192.8	2,024.1	200.7	393.5
Broken Hill (C)	474	54.6	885.6	193.3	247.9
Wingecarribee (A)	39	5.0	38.5	212.6	217.6
Lithgow (C)	649	99.8	649.0	77.3	177.1
Gunnedah (A)	729	92.5	1,085.6	72.7	165.1
Central Coast (C) (NSW)	219	31.9	224.0	127.4	159.3
Cobar (A)	527	57.5	692.4	77.7	135.2
North Sydney (A)	16	3.7	24.4	123.0	126.6
Upper Hunter Shire (A)	672	92.1	688.7	28.0	120.2
Blacktown (C)	4	0.5	4.4	117.4	117.8

Note: (a) Includes full-time resident direct employees and contract workers by place of operation.

### Indirect and Consumption-Induced Spending

The I-O modelling estimated the indirect and consumption-induced effects flowing from business supply chain expenditure and consumption spending in each LGA. These impacts have been modelled separately and then aggregated to identify the level of Type II impacts on output, incomes, employment and industry value added for each region. The I-O model allowed for spending leakages to imports in both the first and subsequent rounds of economic activity.

Modelling consumption-induced impacts is problematic for smaller shires with limited economic structures because only a subset of goods and services are available. Smaller and specialised mining LGAs tend to have larger expenditure leakages, typically to the nearest large regional centre. To incorporate this into the modelling, a further correction factor based on extensive research of retail expenditure patterns in regional areas conducted by Lawrence Consulting has been applied for LGAs, as shown in Table 9.

**Table 9: Rates of Adjustment for Local Consumption Expenditure by LGA Population Size**

Population of LGA	Rate of consumption expenditure in LGA
0 – 2,000	40%
2,000 – 5,000	46.7%
5,000 – 10,000	53.3%
10,000 – 30,000	73.3%
30,000 – 50,000	80%
50,000 – 100,000	86.7%
Over 100,000	100%

The total economic impact (i.e. both Type I and Type II model scenarios) of the 28 companies' direct spending for each LGA across New South Wales in 2019/20 is contained in Appendix B, with a summary of the top 20 LGAs by Type II value added provided in Table 10. The results show that the 28 surveyed companies' expenditure has the highest overall impact in the Newcastle LGA, with total estimated value added of \$3.9 billion, followed by Sydney (\$3.5 billion), Maitland (\$2.6 billion), Singleton (\$1.8 billion) and Wollongong (\$1.3 billion).

With regard to employment, the surveyed companies had the greatest impact on jobs in the Newcastle LGA, with 19,272 FTEs, followed by the Maitland (14,239 FTEs) and Sydney (11,268 FTEs) LGAs, whilst the regions where the impact of the 28 companies' direct spending accounted for the largest share of employment were Cobar (90.7%), Muswellbrook (89.5%) and Singleton (82.1%).

**Table 10: Total Economic Impact of Surveyed Companies, Top 20 LGAs by Value Added, 2019/20 (Type II Impact)**

Local government area	Total estimated value added (\$M)	% of gross regional product (GRP)	Total employees (FTEs)	% of total employment
Newcastle (C)	3,874.7	24.1%	19,272	21.0%
Sydney (C)	3,540.5	2.4%	11,268	6.9%
Maitland (C)	2,561.1	59.3%	14,239	32.3%
Singleton (A)	1,780.1	38.7%	10,419	82.1%
Wollongong (C)	1,296.1	11.3%	9,335	9.0%
Muswellbrook (A)	1,285.2	54.3%	7,075	89.5%
Cessnock (C)	1,161.9	53.2%	7,322	27.0%
Orange (C)	1,067.5	34.7%	8,290	37.7%
Lake Macquarie (C)	1,040.0	12.3%	6,575	6.4%
Parramatta (C)	893.3	2.8%	2,796	2.0%
Mid-Western Regional (A)	840.4	54.2%	7,155	57.7%
Broken Hill (C)	521.8	47.5%	3,872	51.4%
Wingecarribee (A)	481.2	20.2%	2,884	13.2%
Gunnedah (A)	347.9	45.2%	3,004	48.0%
Central Coast (C) (NSW)	332.1	2.3%	1,315	0.8%
Lithgow (C)	320.8	24.5%	2,417	24.7%
Dubbo Regional (A)	263.7	8.2%	2,153	8.4%
Cobar (A)	257.0	41.9%	2,045	90.7%
North Sydney (A)	254.0	1.6%	833	1.7%
Blacktown (C)	239.6	1.1%	759	0.4%



## CONCLUSION

This report contains the outcomes of two key pieces of analysis. The first is the collection of primary data by the NSW Minerals Council (NSWMC) that identifies the direct impact of 28 exploration and mining companies by local and regional areas in New South Wales. The second is the conduct of I-O modelling that identifies the flow-on effects through the economy at a State, Regional, Local Government Authority and State and Federal electoral boundary levels.

The results of the analysis demonstrate that incomes and expenditures from the 28 companies surveyed are widely distributed across the state generating significant flow-on effects, and that traditional economic techniques understate the true contribution of the mining sector as they do not attribute the output from related sectors such as construction, rail transport, utilities, professional services, manufacturing and contract workers.

The analysis identifies that the 28 companies surveyed contributed an estimated \$14.9 billion in direct spending to the state economy in 2019/20, comprised of:

- **Total workforce of 28,780 full-time equivalent workers** (including direct resident employees and contract workers), which represented an annual increase of 11.4%;
- **\$2.7 billion in wages and salaries** to approximately **20,117 full-time equivalent residing direct employees** (not including contractors), representing an average salary level of \$136,094 per annum across the sector;
- **\$10.3 billion** in purchases of goods and services from approximately 7,862 local businesses, community contributions and payments to local government (including rates, developer contributions and other payments); and
- **\$1.9 billion** in state government payments (including royalties, stamp duty, payroll tax and land tax).

Of the total workforce employed by the 28 companies surveyed, 20,117 were direct full-time employees, or 69.9% of the total workforce – of which 2,261 direct workers, or 10.8% were female – with another 8,663 contract workers (30.1%).

Compared to 2018/19, direct spending in NSW of the companies surveyed in 2019/20 increased by approximately \$1.2 billion, or 8.6%, whilst the total number of employees, both direct and contract workers, grew annually by 11.4%. The economic stimulus provided by the 28 mining companies in 2019/20 also extended to other states, with an additional \$5.8 billion in direct spending, which combined with the impact in New South Wales for a total impact of \$20.7 billion for the whole of Australia, comprised of:

- \$2.8 billion in wages and salaries to approximately 20,817 full-time direct residing employees; and
- \$17.9 billion in purchases of goods and services from local businesses, government (state and local) and community contributions.

The total impact of the \$14.9 billion in direct spending by companies surveyed, measured through supply chain and consumption spending effects, amounted to an estimated 5.1% of Gross State Product and 4.2% of employment in New South Wales in 2019/20. If a more conservative approach excluding consumption-induced effects is adopted, direct spending by the companies surveyed and flow-on impacts would still contribute 4.2% to GSP and 2.8% of total state employment.

**Over the past nine years** during which the annual NSWMC survey of member companies has been conducted, the New South Wales minerals and energy sector has **generated approximately \$230.8 billion in value added**, including \$107.8 billion in direct spending, and has supported an average workforce of approximately 145,065 jobs per annum.

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## APPENDIX A: DIRECT IMPACTS BY LGA

**Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2019/20**

Local government area	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Albury (C)	n.a.	n.a.	n.a.	15.2	15.6	13
Armidale Regional (A)	10	1.1	10.4	2.0	3.1	16
Ballina (A)	n.a.	n.a.	n.a.	1.1	1.4	6
Balranald (A)	n.a.	n.a.	n.a.	2.5	3.0	10
Bathurst Regional (A)	230	33.4	233.1	29.0	62.4	93
Bayside (A)	7	1.1	7.3	32.4	33.5	72
Bega Valley (A)	5	0.3	5.0	n.a.	n.a.	n.a.
Bellingen (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Berrigan (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Blacktown (C)	n.a.	n.a.	n.a.	117.4	117.8	159
Bland (A)	249	44.5	411.1	25.8	70.3	166
Blayney (A)	168	22.7	173.1	9.5	32.1	91
Blue Mountains (C)	71	10.6	71.2	2.2	12.8	26
Bogan (A)	232	20.8	258.1	8.7	29.5	9
Bourke (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Brewarrina (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Broken Hill (C)	474	54.6	885.6	193.3	247.9	145
Burwood (A)	n.a.	n.a.	n.a.	n.a.	n.a.	6
Byron (A)	n.a.	n.a.	n.a.	9.4	9.4	7
Cabonne (A)	130	17.1	185.5	44.0	61.1	41
Camden (A)	35	4.4	35.1	98.2	102.6	34
Campbelltown (C) (NSW)	27	3.1	589.9	75.6	78.7	72
Canada Bay (A)	n.a.	n.a.	n.a.	4.3	4.9	24
Canterbury-Bankstown (A)	8	0.7	7.5	67.0	67.8	90
Carrathool (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Central Coast (C) (NSW)	219	31.9	224.0	127.4	159.3	137
Central Darling (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cessnock (C)	1,493	201.3	1,527.6	360.2	561.5	220
Clarence Valley (A)	22	2.6	21.7	n.a.	3.3	n.a.
Cobar (A)	527	57.5	692.4	77.7	135.2	149
Coffs Harbour (C)	6	0.8	5.9	2.5	3.3	9
Coolamon (A)	6	0.9	5.6	n.a.	1.0	n.a.
Coonamble (A)	6	0.6	20.0	n.a.	1.2	n.a.
Cootamundra-Gundagai (A)	n.a.	n.a.	n.a.	1.3	1.3	n.a.
Cowra (A)	29	3.5	28.5	n.a.	3.8	8
Cumberland (A)	6	0.6	5.6	73.7	74.3	70
Dubbo Regional (A)	244	22.5	316.0	88.1	110.6	225
Dungog (A)	154	21.0	154.2	5.5	26.5	21
Edward River (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Eurobodalla (A)	7	1.0	7.0	n.a.	1.3	n.a.
Fairfield (C)	n.a.	n.a.	n.a.	93.1	93.4	105
Federation (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Forbes (A)	121	15.6	133.3	10.2	25.8	80
Georges River (A)	7	0.5	7.5	3.5	4.1	28
Gilgandra (A)	18	1.8	18.1	n.a.	1.9	n.a.
Glen Innes Severn (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Goulburn Mulwaree (A)	79	5.9	78.9	2.6	8.4	54
Greater Hume Shire (A)	n.a.	n.a.	n.a.	1.2	1.2	n.a.

**Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2019/20**

Local government area	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Griffith (C)	n.a.	n.a.	n.a.	2.1	2.7	15
Gunnedah (A)	729	92.5	1,085.6	72.7	165.1	139
Gwydir (A)	14	1.4	16.2	2.1	3.5	n.a.
Hawkesbury (C)	10	1.1	10.7	5.2	6.3	25
Hay (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hilltops (A)	16	2.0	16.4	3.1	5.1	9
Hornsby (A)	10	1.6	10.1	9.5	11.0	65
Hunters Hill (A)	n.a.	n.a.	n.a.	2.7	5.0	n.a.
Inner West (A)	9	1.4	9.4	9.9	11.3	50
Inverell (A)	9	1.1	9.1	5.7	6.8	n.a.
Junee (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Kempsey (A)	6	0.7	6.0	1.5	2.1	6
Kiama (A)	75	10.6	75.3	2.3	12.9	16
Ku-ring-gai (A)	11	4.0	11.3	9.1	13.1	44
Kyogle (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lachlan (A)	60	8.2	63.4	5.8	14.1	49
Lake Macquarie (C)	1,243	185.3	1,247.4	317.8	503.1	520
Lane Cove (A)	n.a.	n.a.	n.a.	12.4	13.5	25
Leeton (A)	8	1.0	8.0	30.4	31.4	16
Lismore (C)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lithgow (C)	649	99.8	649.0	77.3	177.1	131
Liverpool (C)	8	0.8	7.8	36.7	37.5	34
Liverpool Plains (A)	104	12.2	190.0	5.9	18.1	27
Lockhart (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maitland (C)	1,719	274.2	1,719.2	972.9	1,247.1	584
Mid-Coast (A)	160	20.5	159.8	55.7	76.2	102
Mid-Western Regional (A)	1,597	192.8	2,024.1	200.7	393.5	366
Moree Plains (A)	5	0.6	7.7	n.a.	1.1	n.a.
Mosman (A)	n.a.	n.a.	n.a.	n.a.	n.a.	5
Murray River (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Murrumbidgee (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Muswellbrook (A)	1,283	178.0	2,364.6	510.8	688.8	328
Nambucca (A)	7	0.7	7.0	n.a.	n.a.	n.a.
Narrabri (A)	387	48.0	1,297.1	47.2	95.2	101
Narrandera (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Narromine (A)	67	5.3	66.8	1.9	7.2	16
Newcastle (C)	854	128.9	867.5	1,730.3	1,859.2	889
North Sydney (A)	16	3.7	24.4	123.0	126.6	147
Northern Beaches (A)	16	2.5	16.0	28.6	31.1	116
Oberon (A)	13	1.6	13.2	5.9	7.5	n.a.
Orange (C)	673	92.9	1,111.2	363.2	456.2	238
Parkes (A)	454	44.8	1,811.8	53.3	98.0	133
Parramatta (C)	9	0.6	8.6	435.3	435.8	190
Penrith (C)	13	1.4	13.4	16.0	17.4	50
Port Macquarie-Hastings (A)	21	2.5	21.2	30.5	33.0	18
Port Stephens (A)	287	40.2	286.9	67.1	107.3	83
Queanbeyan-Palerang Regional (A)	14	1.6	13.6	28.3	29.8	30
Randwick (C)	11	2.1	10.8	17.3	19.4	17
Richmond Valley (A)	n.a.	n.a.	n.a.	3.6	3.6	n.a.
Ryde (C)	5	1.2	5.4	108.1	109.3	136
Shellharbour (C)	293	39.1	293.2	12.6	51.6	29

**Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2019/20**

Local government area	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Shoalhaven (C)	39	5.2	39.2	22.7	27.9	23
Singleton (A)	2,232	310.2	4,082.6	630.3	940.5	576
Snowy Monaro Regional (A)	n.a.	n.a.	n.a.	n.a.	1.5	6
Snowy Valleys (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Strathfield (A)	n.a.	n.a.	n.a.	13.6	13.8	17
Sutherland Shire (A)	33	4.1	33.0	17.6	21.8	78
Sydney (C)	153	36.8	155.9	1,687.7	1,724.4	629
Tamworth Regional (A)	250	30.5	249.8	31.0	61.5	109
Temora (A)	12	1.9	11.9	n.a.	2.3	7
Tenterfield (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
The Hills Shire (A)	9	1.1	8.6	52.7	53.8	87
Tweed (A)	7	0.7	7.0	n.a.	n.a.	6
Upper Hunter Shire (A)	672	92.1	688.7	28.0	120.2	86
Upper Lachlan Shire (A)	8	0.5	8.4	n.a.	n.a.	8
Uralla (A)	n.a.	n.a.	n.a.	1.8	2.1	n.a.
Wagga Wagga (C)	29	4.1	29.0	42.8	46.9	46
Walcha (A)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Walgett (A)	14	1.3	24.4	n.a.	1.7	n.a.
Warren (A)	26	2.4	30.8	n.a.	2.7	n.a.
Warrumbungle Shire (A)	40	4.3	56.6	3.2	7.5	13
Waverley (A)	n.a.	n.a.	n.a.	n.a.	1.6	15
Weddin (A)	13	1.8	13.0	n.a.	2.0	n.a.
Wentworth (A)	18	2.1	18.1	4.4	6.4	21
Willoughby (C)	6	0.8	5.9	57.3	58.1	82
Wingecarribee (A)	39	5.0	38.5	212.6	217.6	39
Wollondilly (A)	77	9.0	97.8	12.4	21.4	26
Wollongong (C)	867	116.8	1,363.2	419.9	536.7	403
Woollahra (A)	n.a.	n.a.	n.a.	n.a.	1.5	12
Yass Valley (A)	n.a.	n.a.	n.a.	1.5	2.0	n.a.

Note: Data not published for LGAs with total direct spend of less than \$1 million and/or less than 5 residing employees. (a) Includes full-time resident direct employees and contract workers by place of operation.

## APPENDIX B: TOTAL ECONOMIC IMPACTS BY LGA

**Table B1: Estimated Total Economic Impacts of Spending by Companies Surveyed by LGA (Type II Impact)**

Local government area	Total estimated value added (\$M)	% of gross regional product (GRP)	Total employees (FTEs)	% of total regional employment
Albury (C)	19.8	0.5%	54	0.2%
Armidale Regional (A)	7.5	0.4%	65	0.4%
Ballina (A)	3.2	0.2%	24	0.1%
Balranald (A)	4.0	2.8%	16	1.3%
Bathurst Regional (A)	129.1	4.4%	1,059	4.6%
Bayside (A)	68.9	0.3%	224	0.2%
Bega Valley (A)	n.a.	n.a.	10	0.1%
Bellingen (A)	1.6	0.3%	13	0.3%
Berrigan (A)	n.a.	n.a.	9	0.2%
Blacktown (C)	239.6	1.1%	759	0.4%
Bland (A)	139.9	35.6%	1,119	35.3%
Blayney (A)	55.0	9.7%	450	11.4%
Blue Mountains (C)	28.9	1.2%	173	0.4%
Bogan (A)	51.2	16.5%	502	40.5%
Bourke (A)	n.a.	n.a.	7	0.7%
Brewarrina (A)	n.a.	n.a.	6	0.8%
Broken Hill (C)	521.8	47.5%	3,872	51.4%
Burwood (A)	1.6	0.1%	7	0.0%
Byron (A)	22.5	1.1%	142	0.8%
Cabonne (A)	138.5	18.5%	1,095	14.5%
Camden (A)	209.4	4.4%	702	1.2%
Campbelltown (C)	161.3	2.1%	537	0.6%
Canada Bay (A)	10.0	0.2%	36	0.1%
Canterbury-Bankstown (A)	139.3	0.9%	443	0.3%
Carrathool (A)	n.a.	n.a.	7	0.5%
Central Coast (C)	332.1	2.3%	1,315	0.8%
Central Darling (A)	n.a.	n.a.	n.a.	n.a.
Cessnock (C)	1,161.9	53.2%	7,322	27.0%
Clarence Valley (A)	6.1	0.3%	56	0.3%
Cobar (A)	257.0	41.9%	2,045	90.7%
Coffs Harbour (C)	8.3	0.2%	69	0.2%
Coolamon (A)	1.6	0.7%	12	0.5%
Coonamble (A)	2.5	1.1%	22	1.3%
Cootamundra-Gundagai (A)	1.9	0.3%	7	0.1%
Cowra (A)	6.8	1.0%	67	1.2%
Cumberland (A)	152.0	1.1%	482	0.4%
Dubbo Regional (A)	263.7	8.2%	2,153	8.4%
Dungog (A)	45.6	13.3%	355	7.5%
Edward River (A)	n.a.	n.a.	n.a.	n.a.
Eurobodalla (A)	2.6	0.2%	24	0.2%
Fairfield (C)	190.8	1.9%	600	0.7%
Federation (A)	n.a.	n.a.	n.a.	n.a.
Forbes (A)	52.0	8.2%	448	9.1%
Georges River (A)	8.6	0.1%	35	0.0%
Gilgandra (A)	3.0	1.6%	31	1.6%
Glen Innes Severn (A)	n.a.	n.a.	8	0.2%
Goulburn Mulwaree (A)	17.5	1.0%	192	1.2%
Greater Hume Shire (A)	2.3	0.4%	13	0.2%
Griffith (C)	4.0	0.2%	20	0.1%
Gunnedah (A)	347.9	45.2%	3,004	48.0%
Gwydir (A)	8.0	2.9%	69	2.7%

**Table B1: Estimated Total Economic Impacts of Spending by Companies Surveyed by LGA (Type II Impact)**

Local government area	Total estimated value added (\$M)	% of gross regional product (GRP)	Total employees (FTEs)	% of total regional employment
Hawkesbury (C)	13.1	0.4%	53	0.1%
Hay (A)	n.a.	n.a.	n.a.	n.a.
Hilltops (A)	12.0	1.3%	103	1.2%
Hornsby (A)	23.1	0.4%	85	0.1%
Hunters Hill (A)	10.3	1.3%	35	0.4%
Inner West (A)	23.2	0.2%	85	0.1%
Inverell (A)	16.7	1.7%	133	1.7%
Junee (A)	1.5	0.5%	10	0.3%
Kempsey (A)	4.9	0.4%	41	0.4%
Kiama (A)	30.8	3.6%	286	2.5%
Ku-ring-gai (A)	27.8	0.6%	105	0.2%
Kyogle (A)	n.a.	n.a.	n.a.	n.a.
Lachlan (A)	27.3	7.2%	224	7.4%
Lake Macquarie (C)	1,040.0	12.3%	6,575	6.4%
Lane Cove (A)	27.6	1.0%	90	0.4%
Leeton (A)	46.5	1.5%	175	3.1%
Lismore (C)	2.0	0.1%	16	0.1%
Lithgow (C)	320.8	24.5%	2,417	24.7%
Liverpool (C)	77.4	0.7%	250	0.2%
Liverpool Plains (A)	34.3	6.6%	307	8.3%
Lockhart (A)	n.a.	n.a.	n.a.	n.a.
Maitland (C)	2,561.1	59.3%	14,239	32.3%
Mid-Coast (A)	156.1	4.7%	934	2.8%
Mid-Western Regional (A)	840.4	54.2%	7,155	57.7%
Moree Plains (A)	2.5	0.3%	22	0.3%
Mosman (A)	1.9	0.1%	10	0.1%
Murray River (A)	n.a.	n.a.	8	0.1%
Murrumbidgee (A)	n.a.	n.a.	n.a.	n.a.
Muswellbrook (A)	1,285.2	54.3%	7,075	89.5%
Nambucca (A)	1.7	0.2%	16	0.2%
Narrabri (A)	205.2	7.2%	1,758	25.3%
Narrandera (A)	1.3	0.4%	10	0.3%
Narromine (A)	12.4	1.6%	131	4.4%
Newcastle (C)	3,874.7	24.1%	19,272	21.0%
North Sydney (A)	254.0	1.6%	833	1.7%
Northern Beaches (A)	64.1	0.5%	221	0.2%
Oberon (A)	14.2	3.5%	96	3.4%
Orange (C)	1,067.5	34.7%	8,290	37.7%
Parkes (A)	220.3	25.3%	1,980	27.3%
Parramatta (C)	893.3	2.8%	2,796	2.0%
Penrith (C)	36.0	0.4%	128	0.1%
Port Macquarie-Hastings (A)	86.0	2.5%	684	2.0%
Port Stephens (A)	220.3	5.0%	1,397	4.1%
Queanbeyan-Palerang Regional (A)	78.5	2.9%	623	1.7%
Randwick (C)	40.6	0.5%	140	0.2%
Richmond Valley (A)	7.0	0.6%	35	0.4%
Ryde (C)	223.3	0.9%	707	1.0%
Shellharbour (C)	133.2	5.7%	1,254	3.6%
Shoalhaven (C)	64.1	1.5%	440	1.2%
Singleton (A)	1,780.1	38.7%	10,419	82.1%
Snowy Monaro Regional (A)	3.4	0.3%	28	0.2%
Snowy Valleys (A)	n.a.	n.a.	5	0.1%
Strathfield (A)	28.2	0.4%	90	0.3%
Sutherland Shire (A)	46.1	0.5%	183	0.1%
Sydney (C)	3,540.5	2.4%	11,268	6.9%

**Table B1: Estimated Total Economic Impacts of Spending by Companies Surveyed by LGA (Type II Impact)**

Local government area	Total estimated value added (\$M)	% of gross regional product (GRP)	Total employees (FTEs)	% of total regional employment
Tamworth Regional (A)	141.1	3.7%	1,243	3.9%
Temora (A)	3.7	1.1%	28	0.9%
Tenterfield (A)	n.a.	n.a.	n.a.	n.a.
The Hills Shire (A)	110.5	1.1%	355	0.4%
Tweed (A)	2.3	0.1%	24	0.1%
Upper Hunter Shire (A)	230.3	29.2%	1,838	24.5%
Upper Lachlan Shire (A)	1.5	0.4%	17	0.4%
Uralla (A)	5.5	2.2%	45	1.4%
Wagga Wagga (C)	71.9	1.6%	308	0.9%
Walcha (A)	1.7	0.8%	14	0.8%
Walgett (A)	3.0	1.0%	30	1.3%
Warren (A)	4.4	3.0%	46	3.7%
Warrumbungle Shire (A)	15.6	3.9%	141	3.6%
Waverley (A)	3.5	0.1%	16	0.0%
Weddin (A)	3.1	1.8%	27	1.6%
Wentworth (A)	12.2	2.7%	90	2.7%
Willoughby (C)	118.5	1.0%	379	0.8%
Wingecarribee (A)	481.2	20.2%	2,884	13.2%
Wollondilly (A)	44.8	0.7%	226	0.8%
Wollongong (C)	1,296.1	11.3%	9,335	9.0%
Woollahra (A)	3.2	0.1%	16	0.0%
Yass Valley (A)	4.9	0.8%	39	0.4%

Note: Data not published for LGAs with total value added of less than \$1 million and/or less than 5 total employees.

## APPENDIX C: DIRECT IMPACTS BY STATE ELECTORATE

**Table C1: Direct Impacts of Spending by Companies Surveyed by SED**

State electoral division	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Albury	n.a.	n.a.	n.a.	16.5	17.1	16
Auburn	n.a.	n.a.	n.a.	61.3	61.5	96
Ballina	n.a.	n.a.	n.a.	10.5	10.8	13
Balmain	n.a.	n.a.	n.a.	6.7	7.1	40
Bankstown	n.a.	n.a.	n.a.	39.3	39.4	27
Barwon	1,805	201.8	3,384	343.5	545.3	474
Bathurst	1,163	170.5	1,179	129.2	299.8	342
Baulkham Hills	n.a.	n.a.	n.a.	27.1	27.7	45
Bega	12	1.3	12	0.4	1.7	5
Blacktown	n.a.	n.a.	n.a.	67.7	67.8	59
Blue Mountains	71	10.6	71	1.6	12.2	21
Cabramatta	n.a.	n.a.	n.a.	3.7	3.8	n.a.
Camden	37	4.7	37	98.3	103.1	35
Campbelltown	22	2.5	552	3.3	5.8	19
Canterbury	n.a.	n.a.	n.a.	0.2	0.2	9
Castle Hill	n.a.	n.a.	n.a.	28.0	28.5	42
Cessnock	1,771	239.8	1,908	443.8	683.6	336
Charlestown	366	54.7	366	115.5	170.2	186
Clarence	22	2.6	22	4.3	6.9	6
Coffs Harbour	6	0.8	6	2.5	3.3	9
Coogee	7	1.8	7	1.5	3.3	14
Cootamundra	330	55.5	492	31.8	87.2	199
Cronulla	10	1.2	10	9.8	11.0	40
Davidson	6	1.5	6	12.5	14.0	32
Drummoyne	n.a.	n.a.	n.a.	4.3	4.8	22
Dubbo	1,737	199.3	2,210	274.1	473.4	566
East Hills	n.a.	n.a.	n.a.	17.1	17.4	40
Epping	n.a.	n.a.	n.a.	6.8	7.3	21
Fairfield	n.a.	n.a.	n.a.	65.6	65.6	46
Gosford	18	2.3	18	46.8	49.1	33
Goulburn	108	8.9	108	185.4	194.4	83
Granville	n.a.	n.a.	n.a.	45.2	45.4	24
Hawkesbury	12	1.2	12	5.5	6.7	29
Heathcote	58	6.3	168	8.2	14.4	42
Heffron	10	1.7	10	22.2	24.0	80
Holsworthy	n.a.	n.a.	n.a.	23.7	24.2	20
Hornsby	8	1.2	8	2.7	3.9	42
Keira	426	57.5	460	78.2	135.7	103
Kiama	172	23.4	172	30.2	53.6	37
Kogarah	n.a.	n.a.	n.a.	2.7	2.8	17
Ku-ring-gai	6	2.6	6	4.7	7.3	32
Lake Macquarie	513	77.3	515	131.0	208.3	193
Lakemba	n.a.	n.a.	n.a.	11.0	11.3	15
Lane Cove	6	4.2	6	63.9	68.0	74
Lismore	7	0.6	7	0.6	1.2	n.a.
Liverpool	n.a.	n.a.	n.a.	10.4	10.6	10
Londonderry	n.a.	n.a.	n.a.	5.0	5.4	17
Macquarie Fields	n.a.	n.a.	n.a.	74.7	75.3	58

**Table C1: Direct Impacts of Spending by Companies Surveyed by SED**

State electoral division	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Maitland	1,712	273.3	1,713	973.0	1,246.2	583
Manly	7	1.2	7	1.0	2.2	18
Maroubra	n.a.	n.a.	n.a.	31.3	31.7	36
Miranda	8	1.2	8	4.1	5.3	20
Monaro	17	2.2	17	29.1	31.3	36
Mount Druitt	n.a.	n.a.	n.a.	17.5	17.7	29
Mulgoa	6	0.5	6	10.1	10.6	14
Murray	45	5.5	51	40.3	45.8	68
Myall Lakes	60	8.0	60	40.6	48.6	28
Newcastle	408	66.5	421	1,397.4	1,463.9	655
Newtown	8	1.2	8	9.3	10.4	28
North Shore	18	3.4	26	117.8	121.1	141
Northern Tablelands	45	5.2	50	12.1	17.3	28
Oatley	n.a.	n.a.	n.a.	0.9	1.2	14
Orange	1,379	170.5	3,243	471.0	641.5	493
Oxley	22	2.6	22	25.6	28.2	13
Parramatta	n.a.	n.a.	n.a.	362.0	362.1	94
Penrith	5	0.7	5	2.6	3.3	34
Pittwater	n.a.	n.a.	n.a.	5.6	5.9	47
Port Macquarie	18	2.2	18	7.0	9.2	14
Port Stephens	288	39.9	288	76.9	116.8	91
Prospect	n.a.	n.a.	n.a.	58.7	58.9	79
Riverstone	n.a.	n.a.	n.a.	4.8	5.0	9
Rockdale	5	0.6	5	0.8	1.3	n.a.
Ryde	n.a.	n.a.	n.a.	76.8	77.4	102
Seven Hills	n.a.	n.a.	n.a.	28.8	29.0	67
Shellharbour	320	41.6	321	7.6	49.2	37
South Coast	23	3.0	23	1.9	4.9	10
Strathfield	n.a.	n.a.	n.a.	13.7	14.1	24
Summer Hill	n.a.	n.a.	n.a.	1.1	1.7	12
Swansea	269	41.9	270	9.4	51.3	60
Sydney	144	35.1	147	1,675.2	1,710.3	565
Tamworth	1,010	126.8	1,453	105.2	232.0	254
Terrigal	42	5.6	42	15.7	21.2	21
The Entrance	32	4.5	32	45.7	50.2	41
Tweed	6	0.7	6	0.2	0.9	6
Upper Hunter	4,451	612.9	7,320	1,159.6	1,772.5	1,079
Vaucluse	5	1.0	5	0.7	1.7	13
Wagga Wagga	33	4.4	33	43.2	47.6	50
Wakehurst	5	0.9	5	14.5	15.5	37
Wallsend	438	60.2	438	349.3	409.5	246
Willoughby	8	1.4	8	45.2	46.6	81
Wollondilly	98	11.9	119	44.7	56.6	48
Wollongong	290	41.4	642	334.4	375.9	260
Wyong	89	13.8	92	14.4	28.3	31

Note: Data not published for SEDs with total direct spend of less than \$1 million and/or less than 5 residing employees. (a) Includes full-time resident direct employees and contract workers by place of operation.



## APPENDIX D: DIRECT IMPACTS BY FEDERAL ELECTORATE

**Table D1: Direct Impacts of Spending by Companies Surveyed by CED**

Commonwealth electoral division	Residing employees (FTEs)	Associated salaries (\$M)	Total workforce <sup>(a)</sup> (FTEs)	Business purchases and community contributions (\$M)	Total direct spending (\$M)	No. of businesses directly supported
Banks	8	0.6	8	13.6	14.2	44
Barton	6	0.5	6	3.4	4.0	25
Bennelong	9	1.5	9	109.0	110.5	146
Berowra	12	1.8	12	9.3	11.1	67
Blaxland	n.a.	n.a.	n.a.	72.4	72.7	66
Bradfield	13	4.2	13	12.8	17.0	70
Calare	3,479	462.0	4,412	731.6	1,193.6	975
Chifley	n.a.	n.a.	n.a.	54.7	54.8	61
Cook	19	2.4	19	10.4	12.8	51
Cowper	30	3.7	30	4.9	8.5	22
Cunningham	733	99.8	1,220	409.8	509.6	378
Dobell	126	19.1	129	56.4	75.5	71
Eden-Monaro	29	3.3	29	31.3	34.6	46
Farrer	53	6.6	59	57.0	63.5	85
Fowler	n.a.	n.a.	n.a.	27.9	28.2	20
Gilmore	120	16.6	120	24.3	40.9	40
Grayndler	7	1.1	7	8.5	9.6	43
Greenway	n.a.	n.a.	n.a.	66.9	67.3	100
Hughes	20	2.3	20	12.4	14.7	32
Hume	203	20.1	223	99.8	119.9	119
Hunter	5,276	735.0	8,247	1,340.8	2,075.8	1,274
Kingsford Smith	12	2.2	12	48.9	51.1	82
Lindsay	10	1.2	10	6.4	7.6	44
Lyne	666	100.2	666	188.6	288.7	220
Macarthur	37	4.3	599	114.2	118.5	78
Mackellar	7	1.1	7	23.5	24.6	81
Macquarie	82	11.7	82	7.4	19.0	51
McMahon	6	0.6	6	114.7	115.2	126
Mitchell	6	0.8	6	60.0	60.8	89
Newcastle	1,064	139.5	1,169	76.6	216.1	247
New England	797	121.2	810	1,499.0	1,620.2	811
North Sydney	23	7.1	31	192.0	199.1	237
Page	30	3.5	30	5.9	9.4	14
Parkes	2,838	321.6	4,839	504.9	826.4	845
Parramatta	n.a.	n.a.	n.a.	410.3	410.7	116
Paterson	2,063	309.3	2,064	1,479.6	1,788.9	749
Reid	9	1.0	9	50.0	51.0	112
Richmond	9	0.9	9	10.1	11.0	17
Riverina	935	119.9	2,471	138.2	258.1	459
Robertson	55	7.1	55	66.1	73.3	55
Shortland	671	100.9	672	176.7	277.6	289
Sydney	152	36.6	155	1,688.0	1,724.7	625
Warringah	15	2.5	15	5.7	8.2	44
Watson	n.a.	n.a.	n.a.	12.1	12.4	24
Wentworth	12	2.2	12	1.8	4.0	32
Werriwa	6	0.6	6	18.7	19.3	26
Whitlam	455	59.6	464	209.1	268.7	83

Note: Data not published for CEDs with total direct spend of less than \$1 million and/or less than 5 residing employees. (a) Includes full-time resident direct employees and contract workers by place of operation.