NSW Mining Industry Expenditure Impact Survey 2017/18

Prepared for NSW Minerals Council

February 2019

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 2017/18. 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 six years and includes two additional companies from the survey conducted in 2016/17.

Direct expenditure

The 28 companies surveyed **directly spent an estimated $10.7 billion** in the NSW economy in 2017/18, comprised of:

- **$3.1 billion in wages and salaries** to approximately **24,193 full-time equivalent residing employees** (including contractors); representing an average salary level of $126,539 per annum across the sector;

- **$5.7 billion** in purchases of goods and services from approximately 7,135 local businesses, community contributions and payments to local government (including rates, developer contributions and other payments); and

- **$2.0 billion** in state government payments (including royalties, stamp duty, payroll tax and land tax).

In terms of annual trend, there was an increase in the total workforce of 6.0% over the previous year, whilst total spending in NSW by companies surveyed was 2.6% higher than 2016/17, boosted by a significant increase of 17.3% in royalties paid to the State Government.

The Hunter region recorded the highest direct expenditure in 2017/18, with $4.3 billion (or 40% of the total direct spend across NSW), followed by the Sydney ($2.4 billion, or 22%) and Illawarra ($0.7 billion, or 6%) regions.

Direct Stimulus by Region of Companies Surveyed

New South Wales, 2017/18

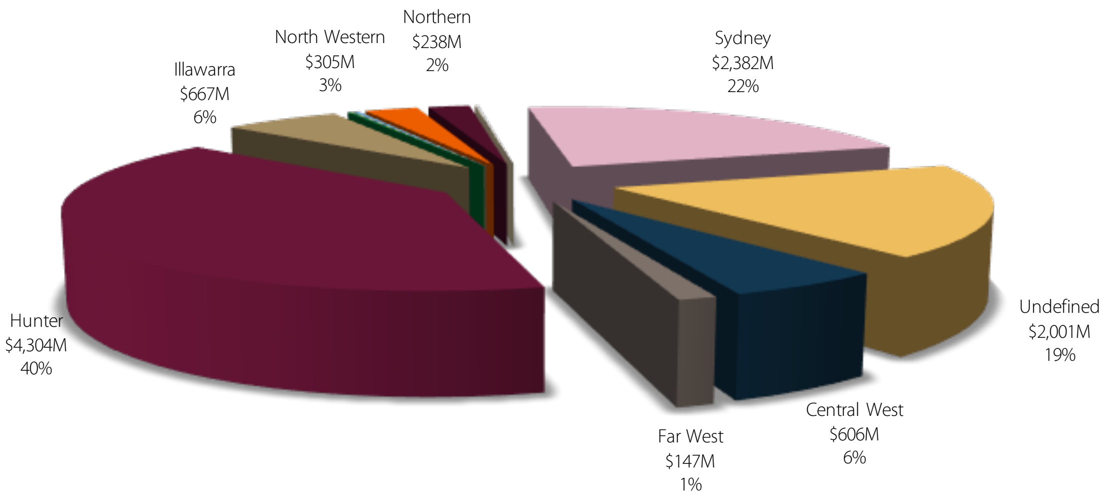


Table E1: Direct Impact of Surveyed Companies by Region, 2017/18

Region	Residing employees	Associated salaries	Business purchases & community contributions	No. of businesses	Total direct spending	% of total direct spend, NSW
	(FTEs)	($M)	($M)		($M)	
Central West	3,378	398.2	207.8	988	606.0	5.7%
Far West	471	53.1	93.9	136	147.0	1.4%
Hunter	14,045	1,621.9	2,682.2	4,168	4,304.1	40.1%
Illawarra	1,513	166.8	499.9	690	666.7	6.2%
Mid-North Coast	31	3.3	14.3	44	17.7	0.2%
Murray	23	2.3	3.3	35	5.5	0.1%
Murrumbidgee	46	4.7	28.8	67	33.5	0.3%
North Western	1,859	187.0	117.8	521	304.8	2.8%
Northern	1,163	137.7	100.6	402	238.3	2.2%
Richmond-Tweed	13	0.8	2.0	20	2.8	0.0%
South Eastern	50	4.9	10.9	54	15.8	0.1%
Sydney	1,587	238.8	2,143.0	3,222	2,381.8	22.2%
Unallocated[(a)]	14	1.6	3.0	0	2,000.7	18.7%
Total NSW	**24,193**	**3,061.4**	**5,667.2**	**7,135**	**10,724.6**	**100.0%**
Balance of Australia	1,717	215.3	3,951.8	1,915	4,167.1	-
Total Australia	25,910	3,276.7	9,619.0	9,050	14,891.8	-

Note: (a) Includes state government payments

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 2017/18, based on Type II multipliers (i.e. including both indirect industry and consumption-induced effects), amounted to:

- $26.2 billion in output/turnover (a measure of direct and supply chain purchases from businesses);
- **$23.4 billion in value added (contribution to Gross State Product), amounting to 3.9% of GSP for NSW in 2017/18**, through $10.7 billion in direct effects and $12.7 billion in supply chain and consumption-induced effects;
- $9.9 billion in income (wages and salaries) paid to direct and indirect workers; and
- **132,192 full time equivalent jobs supported, or 3.4% of total employment in NSW during 2017/18.**

Table E2: Economic Impact of Companies Surveyed, 2017/18

	New South Wales	Rest of Australia	Total Australia
Value Added ($M)			
Direct	10,725	4,167	14,892
% of GSP/GDP	1.8%	0.3%	0.8%
Indirect	8,065	2,797	10,862
Total value added (Type I)	18,790	6,964	25,754
% of GSP/GDP	3.1%	0.6%	1.4%
Consumption-induced	4,631	1,659	6,290
Total value added (Type II)	23,420	8,623	32,044
% of GSP/GDP	3.9%	0.7%	1.7%
Employment (FTEs)			
Direct	16,772	456	17,229
% of total state/national employment	0.4%	0.0%	0.1%
Indirect	66,263	16,797	83,060
Total employment (Type I)	90,456	18,515	108,970
% of total state/national employment	2.3%	0.2%	0.9%
Consumption-induced	41,736	10,522	52,258
Total employment (Type II)	132,192	29,037	161,229
% of total state/national employment	3.4%	0.3%	1.3%
Business spend (incl. community contributions and govt payments) ($M)			
Direct	7,663	3,952	11,615
Indirect	6,394	2,933	9,326
Total business spend (Type I)	14,057	6,885	20,942
Consumption-induced	9,034	3,119	12,154
Total business spend (Type II)	23,091	10,004	33,095
Wages & salaries ($M)			
Direct	3,061	215	3,277
Indirect	4,433	1,443	5,876
Total wages & salaries (Type I)	7,495	1,658	9,153
Consumption-induced	2,665	764	3,428
Total wages & salaries (Type II)	10,159	2,422	12,581

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.

The direct expenditure of the 28 companies surveyed has the highest overall impact in the Hunter region, with estimated total value added of $9.1 billion, meaning these companies contributed 18.1% to gross regional product ($50.6 billion) in 2017/18, although the largest proportional impact occurred in the Far West region, where the direct and indirect effects of the 28 companies surveyed contributed approximately 29.2% to the regional economy. The impact in the Hunter region was significantly higher than other regional economies, the next highest of which was Sydney ($5.0 billion in value added) and Illawarra ($1.7 billion).

Table E3: Total Economic Impact of Companies Surveyed by Region, 2017/18 (Type II)

Region	Total output ($M)	Total estimated value added ($M)	Gross regional product ($M)	Total value added as % of GRP
Central West	1,340	1,316	12,049	10.9%
Far West	415	383	1,314	29.2%
Hunter	10,051	9,135	50,593	18.1%
Illawarra	1,744	1,619	20,530	7.9%
Mid-North Coast	44	43	13,023	0.3%
Murray	15	14	5,396	0.3%
Murrumbidgee	48	47	9,680	0.5%
North Western	682	671	7,907	8.5%
Northern	526	518	12,646	4.1%
Richmond-Tweed	7	7	13,066	0.1%
South Eastern	38	38	11,405	0.3%
Sydney	5,879	4,990	446,803	1.1%
Undefined	5,362	4,638	-	-
Total NSW	**26,153**	**23,420**	**604,414**	**3.9%**

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 7,135 businesses in New South Wales received payments for goods and services supplied to survey respondents during 2017/18, which was 6.8% higher than the number of suppliers recorded in 2016/17 (6,681). The highest number of businesses was recorded in the Hunter (4,168 businesses) and Sydney (3,222 businesses) regions.

Table E4: Number of Businesses Supported by Region

Region	Number of businesses supported
Central West	988
Far West	136
Hunter	4,168
Illawarra	690
Mid-North Coast	44
Murray	35
Murrumbidgee	67
North Western	521
Northern	402
Richmond-Tweed	20
South Eastern	54
Sydney	3,222
Total NSW	**7,135**

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 2017/18, survey respondents directly contributed $7.3 million to 980 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 social with $1.6 million in contributions by survey respondents, followed by education ($1.3 million) and indigenous ($1.0 million).

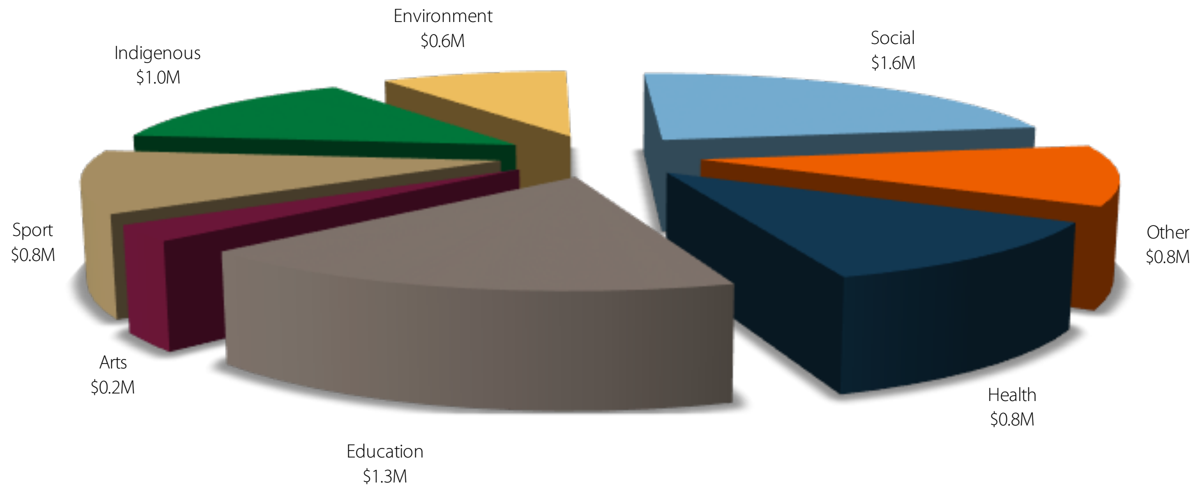
Table E5: Number of Community Groups Supported by Region

Region	Number of community groups	Total contributions ($)
Central West	241	1,173,428
Far West	18	15,448
Hunter	375	3,481,747
Illawarra	24	334,591
Mid-North Coast	n.a.	n.a.
Murray	n.a.	8,018
Murrumbidgee	n.a.	2,746
North Western	129	752,252
Northern	90	591,118
Richmond-Tweed	n.a.	n.a.
South Eastern	n.a.	2,148
Sydney	95	925,418
Total NSW	**980**	**7,287,393**

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), 2017/18



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 2017/18, survey respondents reported direct contributions to local councils totalling $61.2 million – representing a substantial annual increase of 31.6% – with Rates ($39.8 million) comprising the largest proportion of local council payments, followed by Voluntary Planning Agreements (VPA)/developer contributions ($15.1 million) and other contributions ($4.1 million).

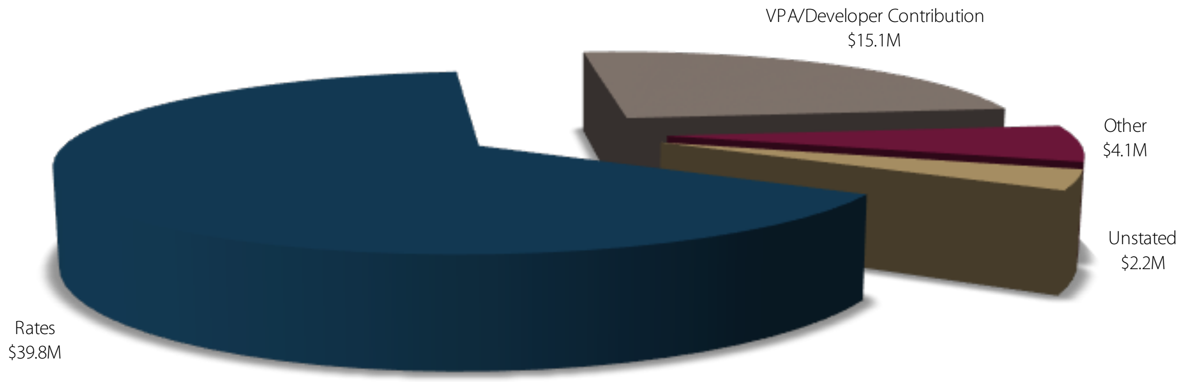
Table E6: Local Council Contributions by Region

Region	Rates ($)	VPA/Developer ($)	Other ($)	Total contributions ($)
Central West	9,298,321	1,333,662	1,291,557	11,923,666
Far West	2,123,366	0	0	2,127,313
Hunter	18,852,087	8,321,350	1,501,824	29,968,509
Illawarra	745,891	0	16	745,906
Mid-North Coast	0	0	0	0
Murray	26,514	0	0	933,201
Murrumbidgee	0	0	0	0
North Western	2,460,862	3,224,856	1,289,561	6,979,937
Northern	4,749,961	2,242,284	200	6,992,445
Richmond-Tweed	0	0	0	0
South Eastern	0	0	0	0
Sydney	1,485,572	830	344	1,486,746
Total NSW	**39,808,223**	**15,122,982**	**4,083,502**	**61,229,152**

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), 2017/18

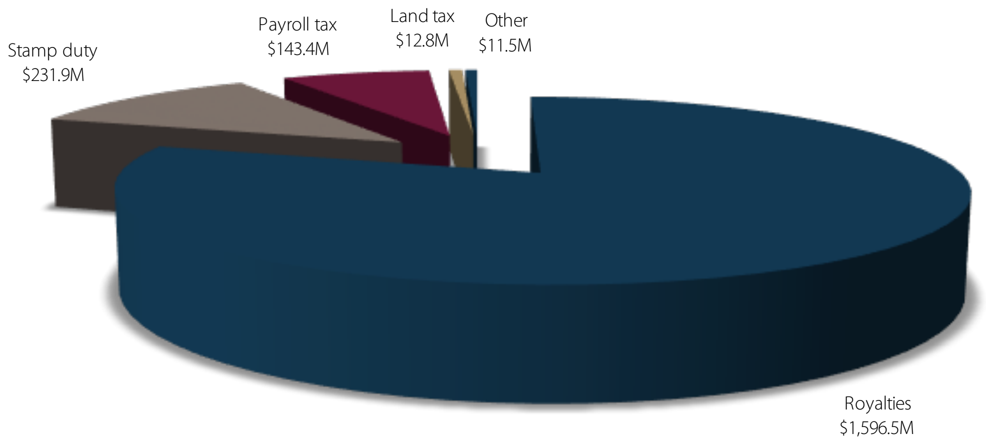


State Government Payments

During 2017/18, the direct contribution made by companies surveyed in state government payments was approximately $2.0 billion, comprised of royalties ($1.6 billion), stamp duty ($231.9 million), payroll tax ($143.4 million) and land tax ($12.8 million).

State Government Contributions by Category

New South Wales ($ million), 2017/18



Comparison to Previous Survey Results

Comparison with results from previous surveys is difficult due to a slight difference in the number of participating companies. Based on whole-of-survey totals, the direct expenditure in NSW of the companies surveyed in 2017/18 increased by approximately $275.4 million, or 2.6% compared to 2016/17, whilst the total number of employees, both direct and contract workers, grew annually by 1,372 FTEs, or 6.0%.

Table E7: Comparison of Survey Results

	Level 2017/18	Level 2016/17	Level 2015/16	Level 2014/15	Level 2013/14	Level 2012/13	Level 2011/12	Annual % change 2016/17-2017/18
No. of companies surveyed	28	26	25	23	22	26	21	7.7%
DIRECT EMPLOYEES								
No. of direct employees (FTEs)	16,772	17,061	17,209	17,566	17,517	19,280	13,418	-1.7%
No. of apprenticeships and traineeships (FTEs)	223	247	261	284	227	418	241	-9.7%
Total wages/salaries paid ($M)	2,122.4	2,222.0	2,165.4	2,254.1	2,351.6	2,567.5	1,627.8	-4.5%
BUSINESS PURCHASES								
No. of suppliers	7,135	6,681	8,078	7,694	8,202	10,547	n.a.	6.8%
OPEX								
No. of contractors (FTEs)	6,744	5,673	3,291	2,931	2,907	3,515	7,524	18.9%
Payments to contractors ($M)	942.1	797.0	1,445.2	1,308.7	1,919.6	1,477.0	1,822.8	18.2%
Other goods and services purchases ($M)	4,875.5	5,150.2	4,971.5	5,462.3	7,058.6	6,950.3	6,067.5	-5.3%
Total opex spend ($M)	5,817.6	5,947.2	6,416.6	6,771.0	8,978.2	8,427.3	7,890.2	-2.2%
CAPEX								
No. of contractors (FTEs)	677	86	490	768	1,108	687	1,116	686.6%
Payments to contractors ($M)	188.1	82.0	252.6	464.4	537.4	351.8	227	129.4%
Other goods and services purchases ($M)	532.1	444.1	638.2	438.3	560.8	1,424.7	764.1	19.8%
Total capex spend ($M)	720.2	526.1	890.8	902.6	1,098.2	1,776.5	991.2	36.9%
Total business purchases ($M)	6,537.7	6,473.3	7,307.4	7,673.6	10,076.0	10,204.0	8,881.0	1.0%
COMMUNITY CONTRIBUTIONS								
No. of community organisations supported	980	997	991	1,298	1,014	912	n.a.	-1.7%
Total community contributions ($M)	7.3	6.8	9.9	12.3	11.2	16.1	8.3	7.2%
LOCAL COUNCIL PAYMENTS								
Total local government payments ($M)	61.2	46.5	58.6	60.6	59.1	41.4	19.1	31.7%
STATE GOVERNMENT PAYMENTS								
Total state government payments ($M)	1,996.0	1,700.6	1,290.3	1,323.6	1,141.6	n.a.	n.a.	17.4%
TOTAL SPEND ($M)	**10,724.6**	**10,449.2**	**10,831.6**	**11,324.3**	**13,639.9**	**12,828.8**	**10,536.6**	**2.6%**
TOTAL EMPLOYMENT (FTEs)	**24,193**	**22,821**	**20,990**	**21,265**	**21,516**	**23,483**	**22,058**	**6.0%**

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Prepared by:

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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 2017/18 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 six years, available to download at www.nswmining.com.au.

While the mining sector[1] 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).

[1] 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 2018 when NSWMC distributed an expenditure survey form to 34 exploration and mining companies, which were asked to disclose total operational spending in 2017/18 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

Alkane Resources Limited	Kepco Bylong Australia
Bengalla Mining Company Pty Ltd	Mach Energy Australia Pty Ltd
BHP Billiton NSW Energy Coal	Malabar Coal Limited
Bloomfield Collieries Pty Ltd	Newcrest Mining Limited Cadia Valley Operations
Centennial Coal Company Limited	Peabody Energy Australia
CleanTeq Holdings Pty Ltd	Perilya Limited
CMOC Northparkes	Regis Resources Limited
Cristal Mining Australia	Shenhua Watermark Coal Pty Ltd
Evolution Cowal Gold	Silver Mines Limited
Glencore Coal (NSW) Pty Ltd	South 32 Illawarra Coal
Gloucester Resources Limited	Thiess Pty Limited
Hume Coal Pty Ltd	Whitehaven Coal Limited
Idemitsu Australia Resources Pty Ltd	Wyong Areas Coal Joint Venture
Iluka Resources	Yancoal Australia

The postcode spend data was then aggregated using geographical concordance files[2] 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).

[2] 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 2016/17 – and similar studies undertaken by Lawrence Consulting and Central Queensland University in Queensland in recent years on behalf of the Queensland Resources Council and in Western Australia on behalf of the Chamber of Minerals and Energy of Western Australia (CMEWA) 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 2015-16, 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 25 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

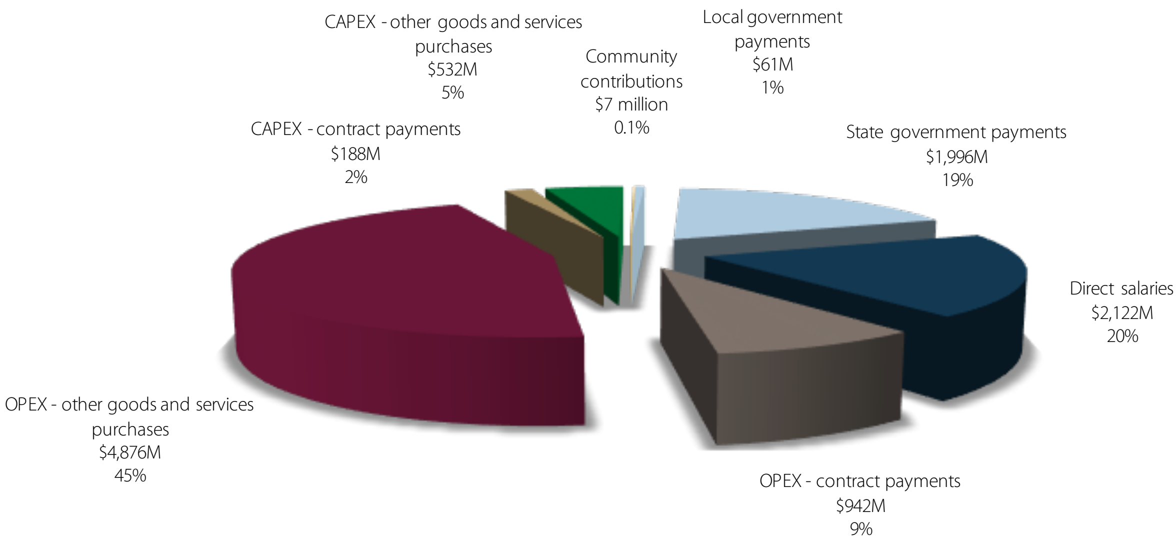
State Impact

Direct Spending

Expenditure data provided by the 28 companies surveyed indicated that these companies **contributed an estimated $10.7 billion** in direct spending to the NSW economy in 2017/18, comprised of:

- **$3.1 billion in wages and salaries** to approximately **24,193 full-time equivalent residing employees** (including contractors); representing an average salary level of $126,539 per annum across the sector;
- **$5.7 billion** in purchases of goods and services from approximately 7,135 local businesses, community contributions and payments to local government (including rates, developer contributions and other payments); and
- **$2.0 billion** in state government payments (including royalties, stamp duty, payroll tax and land tax).

Direct Expenditure by Type for Companies Surveyed
New South Wales ($ million), 2017/18



Further analysis of the workforce employed by the 28 companies surveyed shows that there were 16,772 direct full-time employees, or 69.3% of the total workforce – of which 1,556 direct workers, or 9.3% were female – with another 6,744 contract workers (27.9%) employed for mining operations and 677 FTEs (2.8%) engaged on capital projects.

The direct economic stimulus provided by the 28 mining companies in 2017/18 also extended to other states, with an additional $4.2 billion in direct spending, which combined with the impact in New South Wales for a total impact of $14.9 billion for the whole of Australia, comprised of:

- $3.3 billion in wages and salaries to approximately 25,910 full-time residing employees; and
- $11.6 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 2017/18 can be disaggregated into the following areas:

- $2.1 billion in wages and salaries to 16,772 direct employees;

- $5.8 billion in operating expenditure (OPEX), comprised of:
  - $942.1 million in contract payments (including 6,744 contract workers);
  - $4.9 billion in purchases of other goods and services;

- $720.2 million in capital expenditure (CAPEX), comprised of:
  - $188.1 million in contract payments (including 677 contract workers);
  - $532.1 million in purchases of other goods and services;

- $7.3 million in community contributions;

- $61.2 million in local government payments; and

- $2.0 billion in state government payments.

The 28 companies surveyed made payments to 7,315 separate businesses in New South Wales in 2017/18 and a further 1,915 businesses across the rest of Australia for a total number of businesses supported of 9,050.

The companies surveyed supported 980 community organisations across New South Wales through voluntary contributions across a number of categories, including:

- Health – 76;
- Education – 208;
- Arts – 43;
- Sport – 178;
- Indigenous – 33;
- Environment – 40;
- Social – 213; and
- Other – 187.

Comparison with results from previous surveys is difficult due to a slight difference in the number of participating companies. Based on whole-of-survey totals, the direct expenditure in NSW of the companies surveyed in 2017/18 increased by approximately $275.4 million, or 2.6% compared to 2016/17, whilst the total number of employees, both direct and contract workers, grew annually by 1,372 FTEs, or 6.0%.

Table 2: Comparison of Survey Results

	Level 2017/18	Level 2016/17	Level 2015/16	Level 2014/15	Level 2013/14	Level 2012/13	Level 2011/12	Annual % change 2016/17-2017/18
No. of companies surveyed	28	26	25	23	22	26	21	7.7%
DIRECT EMPLOYEES								
No. of direct employees (FTEs)	16,772	17,061	17,209	17,566	17,517	19,280	13,418	-1.7%
No. of apprenticeships and traineeships (FTEs)	223	247	261	284	227	418	241	-9.7%
Total wages/salaries paid ($M)	2,122.4	2,222.0	2,165.4	2,254.1	2,351.6	2,567.5	1,627.8	-4.5%
BUSINESS PURCHASES								
No. of suppliers	7,135	6,681	8,078	7,694	8,202	10,547	n.a.	6.8%
OPEX								
No. of contractors (FTEs)	6,744	5,673	3,291	2,931	2,907	3,515	7,524	18.9%
Payments to contractors ($M)	942.1	797.0	1,445.2	1,308.7	1,919.6	1,477.0	1,822.8	18.2%
Other goods and services purchases ($M)	4,875.5	5,150.2	4,971.5	5,462.3	7,058.6	6,950.3	6,067.5	-5.3%
Total opex spend ($M)	5,817.6	5,947.2	6,416.6	6,771.0	8,978.2	8,427.3	7,890.2	-2.2%
CAPEX								
No. of contractors (FTEs)	677	86	490	768	1,108	687	1,116	686.6%
Payments to contractors ($M)	188.1	82.0	252.6	464.4	537.4	351.8	227	129.4%
Other goods and services purchases ($M)	532.1	444.1	638.2	438.3	560.8	1,424.7	764.1	19.8%
Total capex spend ($M)	720.2	526.1	890.8	902.6	1,098.2	1,776.5	991.2	36.9%
Total business purchases ($M)	6,537.7	6,473.3	7,307.4	7,673.6	10,076.0	10,204.0	8,881.0	1.0%
COMMUNITY CONTRIBUTIONS								
No. of community organisations supported	980	997	991	1,298	1,014	912	n.a.	-1.7%
Total community contributions ($M)	7.3	6.8	9.9	12.3	11.2	16.1	8.3	7.2%
LOCAL COUNCIL PAYMENTS								
Total local government payments ($M)	61.2	46.5	58.6	60.6	59.1	41.4	19.1	31.7%
STATE GOVERNMENT PAYMENTS								
Total state government payments ($M)	1,996.0	1,700.6	1,290.3	1,323.6	1,141.6	n.a.	n.a.	17.4%
TOTAL SPEND ($M)	**10,724.6**	**10,449.2**	**10,831.6**	**11,324.3**	**13,639.9**	**12,828.8**	**10,536.6**	**2.6%**
TOTAL EMPLOYMENT (FTEs)	**24,193**	**22,821**	**20,990**	**21,265**	**21,516**	**23,483**	**22,058**	**6.0%**

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 $7.7 billion, and the employment expenditure of $3.1 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 2017/18, the $10.7 billion in direct spending in New South Wales by the 28 companies surveyed supported additional combined supply chain and consumption-induced effects of **107,999 full-time equivalent jobs** and **$22.5 billion in aggregate spending** ($7.1 billion in wages and salaries and $15.4 billion in purchases of goods and services).

Table 3: Economic Impact of Companies Surveyed, 2017/18

	New South Wales	Rest of Australia	Total Australia
Value Added ($M)			
Direct	10,725	4,167	14,892
% of GSP/GDP	1.8%	0.3%	0.8%
Indirect	8,065	2,797	10,862
Total value added (Type I)	18,790	6,964	25,754
% of GSP/GDP	3.1%	0.6%	1.4%
Consumption-induced	4,631	1,659	6,290
Total value added (Type II)	23,420	8,623	32,044
% of GSP/GDP	3.9%	0.7%	1.7%
Employment (FTEs)			
Direct	16,772	456	17,229
% of total state/national employment	0.4%	0.0%	0.1%
Indirect	66,263	16,797	83,060
Total employment (Type I)	90,456	18,515	108,970
% of total state/national employment	2.3%	0.2%	0.9%
Consumption-induced	41,736	10,522	52,258
Total employment (Type II)	132,192	29,037	161,229
% of total state/national employment	3.4%	0.3%	1.3%
Business spend (incl. community contributions and govt payments) ($M)			
Direct	7,663	3,952	11,615
Indirect	6,394	2,933	9,326
Total business spend (Type I)	14,057	6,885	20,942
Consumption-induced	9,034	3,119	12,154
Total business spend (Type II)	23,091	10,004	33,095
Wages & salaries ($M)			
Direct	3,061	215	3,277
Indirect	4,433	1,443	5,876
Total wages & salaries (Type I)	7,495	1,658	9,153
Consumption-induced	2,665	764	3,428
Total wages & salaries (Type II)	10,159	2,422	12,581

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.

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 2017/18 amounted to:

- $26.2 billion in output/turnover (or purchases from supplying businesses);
- $23.4 billion in value added (contribution to gross state product);
- $9.9 billion in income (wages and salaries); and
- 132,192 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 $10.7 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 $23.4 billion in value added** ($10.7 billion in direct effects, and $12.7 billion in supply chain and consumption-induced effects) in 2017/18, and **sustained approximately 132,192 jobs** (of which 24,193 were in direct employment and 107,999 in additional employment). This means that the activity generated by these companies **contributed 3.9% of Gross State Product** ($604.4 billion) **and 3.4% of total employment** (3,897,575 persons) in New South Wales in 2017/18. Under the more conservative Type I scenario (i.e. excluding consumption-induced effects), direct spending by the companies surveyed and flow-on impacts contributed 3.1% to GSP and 2.3% of total state employment.

Over the past seven years, the New South Wales minerals and energy sector, as represented through the companies participating in the NSWMC survey, has **generated approximately $168.6 billion in value added**, including $79.1 billion in direct spending, and has supported an average workforce of approximately 139,474 jobs per annum.

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 2017/18 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 2017/18 was in the Hunter region ($4.3 billion), followed by the Sydney ($2.4 billion), Illawarra ($666.7 million) and Central West ($606.0 million) regions. With regard to employment, the largest share of direct full-time resident employees across New South Wales was also recorded in the Hunter region (14,045 FTEs, or 58.1%), followed by the Central West (3,378 FTEs, or 14.0%), North Western (1,859 FTEs, or 7.7%), Sydney (1,587 FTEs, or 6.6%) and Illawarra (1,513 FTEs, or 6.3%).

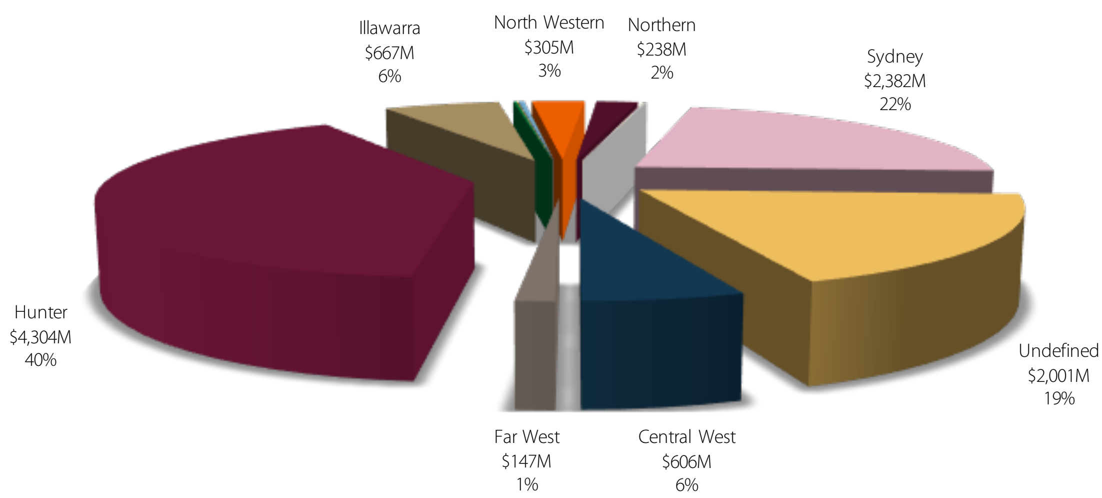
Table 4: Direct Impact of Surveyed Companies by Region, 2017/18

Region	Residing employees	Associated salaries	Business purchases & community contributions	No. of businesses	Total direct spending	% of total direct spend, NSW
	(FTEs)	($M)	($M)		($M)	
Central West	3,378	398.2	207.8	988	606.0	5.7%
Far West	471	53.1	93.9	136	147.0	1.4%
Hunter	14,045	1,621.9	2,682.2	4,168	4,304.1	40.1%
Illawarra	1,513	166.8	499.9	690	666.7	6.2%
Mid-North Coast	31	3.3	14.3	44	17.7	0.2%
Murray	23	2.3	3.3	35	5.5	0.1%
Murrumbidgee	46	4.7	28.8	67	33.5	0.3%
North Western	1,859	187.0	117.8	521	304.8	2.8%
Northern	1,163	137.7	100.6	402	238.3	2.2%
Richmond-Tweed	13	0.8	2.0	20	2.8	0.0%
South Eastern	50	4.9	10.9	54	15.8	0.1%
Sydney	1,587	238.8	2,143.0	3,222	2,381.8	22.2%
Unallocated[(a)]	14	1.6	3.0	0	2,000.7	18.7%
Total NSW	**24,193**	**3,061.4**	**5,667.2**	**7,135**	**10,724.6**	**100.0%**

Note: (a) Includes state government payments

Direct Stimulus by Region of Companies Surveyed

New South Wales, 2017/18



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, 2017/18

Region	Indirect full-time employees (FTEs)	Associated salaries ($M)	Supply of goods and services ($M)	Total indirect value added ($M)
Central West	8,823	333.5	733.7	710.4
Far West	2,995	129.5	267.9	236.3
Hunter	47,662	2,786.2	5,747.1	4,831.3
Illawarra	10,675	549.5	1,077.6	952.7
Mid-North Coast	321	11.6	26.2	25.8
Murray	110	4.8	9.8	8.6
Murrumbidgee	158	6.6	14.8	14.0
North Western	4,546	171.0	377.2	365.9
Northern	3,465	130.4	287.8	279.2
Richmond-Tweed	45	2.3	4.5	4.0
South Eastern	277	10.1	22.7	22.2
Sydney	15,976	1,283.2	3,497.0	2,608.2
Undefined	12,945	1,679.2	3,361.8	2,637.0
Total NSW	**107,999**	**7,097.9**	**15,428.1**	**12,695.7**

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 $9.1 billion, meaning these companies contributed 18.1% to gross regional product ($50.6 billion) in 2017/18. The impact in the Hunter region was significantly higher than other regional economies, the next highest of which was Sydney ($5.0 billion in value added) and Illawarra ($1.6 billion). The Far West region recorded the highest proportion of GRP contributed by the companies surveyed (29.2%), followed by the Hunter (18.1%), Central West (10.9%), North Western (8.5%) and Illawarra (7.9%) regions.

Table 6: Total Economic Impact of Companies Surveyed by Region, 2017/18 (Type II)

Region	Total output ($M)	Total estimated value added ($M)	Gross regional product ($M)	Total value added as % of GRP
Central West	1,339.7	1,316.5	12,048.9	10.9%
Far West	414.9	383.3	1,313.9	29.2%
Hunter	10,051.2	9,135.4	50,592.8	18.1%
Illawarra	1,744.2	1,619.4	20,530.0	7.9%
Mid-North Coast	43.9	43.4	13,022.6	0.3%
Murray	15.3	14.1	5,395.9	0.3%
Murrumbidgee	48.3	47.5	9,680.1	0.5%
North Western	682.0	670.7	7,907.2	8.5%
Northern	526.2	517.6	12,646.0	4.1%
Richmond-Tweed	7.3	6.8	13,066.0	0.1%
South Eastern	38.5	38.0	11,405.3	0.3%
Sydney	5,878.8	4,990.0	446,803.4	1.1%
Undefined	5,362.4	4,637.7	-	-
Total NSW	**26,152.7**	**23,420.4**	**604,414.0**	**3.9%**

With regard to employment, the companies surveyed again had the greatest impact on jobs in the Hunter region, supporting 61,707 FTEs, comprising 17.6% of the total regional workforce. The Sydney (17,563 FTEs), Illawarra (12,187 FTEs) and Central West (12,201 FTEs) regions recorded the next highest number of employees.

Table 7: Total Employment Impact of Surveyed Companies by Region, 2017/18 (Type II Impact)

Region	Total direct, indirect and induced employees (FTEs)	Total regional employment (FTEs)	% of total employment
Central West	12,201	92,119	13.2%
Far West	3,466	8,964	38.7%
Hunter	61,707	350,077	17.6%
Illawarra	12,187	195,390	6.2%
Mid-North Coast	353	115,481	0.3%
Murray	133	45,615	0.3%
Murrumbidgee	203	80,110	0.3%
North Western	6,405	57,297	11.2%
Northern	4,628	80,335	5.8%
Richmond-Tweed	58	110,332	0.1%
South Eastern	328	108,922	0.3%
Sydney	17,563	2,652,305	0.7%
Undefined	12,959	-	-
Total NSW	**132,192**	**3,897,575**	**3.4%**

Central West

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $606 million in direct spending through:

- $398 million in wages and salaries to 3,378 direct full-time employees (including contractors);
- $195 million in purchases of goods and services from 988 local businesses (includes contractors);
- $1.2 million in contributions to 241 community organisations; and
- $11.9 million in local government payments.

Indirect contribution

This $606 million in direct spending generated:

- $734 million in additional supply chain goods and services purchases; and
- $334 million in wages and salaries associated with 8,823 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $928 million in supplying business purchases;
- $732 million in total wages and salaries paid to workers;
- $1.3 billion in value added, or 10.9% of total GRP in this region ($12.0 billion); and
- 12,201 full-time equivalent jobs, or 13.2% of the entire workforce in this region.

Far West

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $147 million in direct spending through:

- $53 million in wages and salaries to 471 direct full-time employees (including contractors);
- $92 million in purchases of goods and services from 136 local businesses (includes contractors) and contributions to 18 community organisations; and
- $2.1 million in local government payments.

Indirect contribution

This $147 million in direct spending generated:

- $268 million in additional supply chain goods and services purchases; and
- $130 million in wages and salaries associated with 2,995 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $360 million in supplying business purchases;
- $183 million in total wages and salaries paid to workers;
- $383 million in value added, or 29.2% of total GRP in this region ($1.3 billion); and
- 3,466 full-time equivalent jobs, or 38.7% of the entire workforce in this region.

Hunter

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $4.3 billion in direct spending through:

- $1.6 billion in wages and salaries to 14,045 direct full-time employees (including contractors);
- $2.6 billion in purchases of goods and services from 4,168 local businesses (includes contractors);
- $3.5 million in contributions to 375 community organisations; and
- $30.0 million in local government payments.

Indirect contribution

This $4.3 billion in direct spending generated:

- $5.7 billion in additional supply chain goods and services purchases; and
- $2.8 billion in wages and salaries associated with 47,662 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $8.4 billion in supplying business purchases;
- $4.4 billion in total wages and salaries paid to workers;
- $9.1 billion in value added, or 18.1% of total GRP in this region ($50.6 billion); and
- 61,707 full-time equivalent jobs, or 17.6% of the entire workforce in this region.

Illawarra

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $667 million in direct spending through:

- $167 million in wages and salaries to 1,513 direct full-time employees (including contractors);
- $499 million in purchases of goods and services from 690 local businesses (includes contractors) and contributions to 24 community organisations; and
- $0.7 million in local government payments.

Indirect contribution

This $667 million in direct spending generated:

- $1.1 billion in additional supply chain goods and services purchases; and
- $550 million in wages and salaries associated with 10,675 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $1.6 billion in supplying business purchases;
- $716 million in total wages and salaries paid to workers;
- $1.6 billion in value added, or 7.9% of total GRP in this region ($20.5 billion); and
- 12,187 full-time equivalent jobs, or 6.2% of the entire workforce in this region.

Mid-North Coast

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $18 million in direct spending through:

- $3 million in wages and salaries to 31 direct full-time employees (including contractors); and
- $14 million in purchases of goods and services from 44 local businesses (includes contractors), community contributions and local government payments.

Indirect contribution

This $18 million in direct spending generated:

- $26 million in additional supply chain goods and services purchases; and
- $12 million in wages and salaries associated with 321 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $41 million in supplying business purchases;
- $15 million in total wages and salaries paid to workers;
- $43 million in value added, or 0.3% of total GRP in this region ($13.0 billion); and
- 353 full-time equivalent jobs, or 0.3% of the entire workforce in this region.

Murray

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $6 million in direct spending through:

- $2 million in wages and salaries to 23 direct full-time employees (including contractors); and
- $3 million in purchases of goods and services from 35 local businesses (includes contractors), community contributions and local government payments.

Indirect contribution

This $6 million in direct spending generated:

- $10 million in additional supply chain goods and services purchases; and
- $5 million in wages and salaries associated with 110 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $12 million in supplying business purchases;
- $7 million in total wages and salaries paid to workers;
- $14 million in value added, or 0.3% of total GRP in this region ($5.4 billion); and
- 133 full-time equivalent jobs, or 0.3% of the entire workforce in this region.

Murrumbidgee

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $33 million in direct spending through:

- $5 million in wages and salaries to 46 direct full-time employees (including contractors); and
- $29 million in purchases of goods and services from 67 local businesses (includes contractors), community contributions and local government payments.

Indirect contribution

This $33 million in direct spending generated:

- $15 million in additional supply chain goods and services purchases; and
- $7 million in wages and salaries associated with 158 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $44 million in supplying business purchases;
- $11 million in total wages and salaries paid to workers;
- $47 million in value added, or 0.5% of total GRP in this region ($9.7 billion); and
- 203 full-time equivalent jobs, or 0.3% of the entire workforce in this region.

North Western

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $305 million in direct spending through:

- $187 million in wages and salaries to 1,859 direct full-time employees (including contractors);
- $110 million in purchases of goods and services from 521 local businesses (includes contractors);
- $0.8 million in contributions to 129 community organisations; and
- $7.0 million in local government payments.

Indirect contribution

This $305 million in direct spending generated:

- $377 million in additional supply chain goods and services purchases; and
- $171 million in wages and salaries associated with 4,546 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $487 million in supplying business purchases;
- $358 million in total wages and salaries paid to workers;
- $671 million in value added, or 8.5% of total GRP in this region ($7.9 billion); and
- 6,405 full-time equivalent jobs, or 11.2% of the entire workforce in this region.

Northern

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $238 million in direct spending through:

- $138 million in wages and salaries to 1,163 direct full-time employees (including contractors);
- $93 million in purchases of goods and services from 402 local businesses (includes contractors);
- $0.6 million in contributions to 90 community contributions; and
- $7.0 million in local government payments.

Indirect contribution

This $238 million in direct spending generated:

- $288 million in additional supply chain goods and services purchases; and
- $130 million in wages and salaries associated with 3,465 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $381 million in supplying business purchases;
- $268 million in total wages and salaries paid to workers;
- $518 million in value added, or 4.1% of total GRP in this region ($12.6 billion); and
- 4,628 full-time equivalent jobs, or 5.8% of the entire workforce in this region.

Richmond-Tweed

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $3 million in direct spending through:

- $1 million in wages and salaries to 13 direct full-time employees (including contractors);
- $2 million in purchases of goods and services from 20 local businesses (includes contractors), community contributions and local government payments.

Indirect contribution

This $3 million in direct spending generated:

- $5 million in additional supply chain goods and services purchases; and
- $2 million in wages and salaries associated with 45 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $7 million in supplying business purchases;
- $3 million in total wages and salaries paid to workers;
- $7 million in value added, or 0.1% of total GRP in this region ($13.1 billion); and
- 58 full-time equivalent jobs, or 0.1% of the entire workforce in this region.

South Eastern

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed \$16 million in direct spending through:

- \$5 million in wages and salaries to 50 direct full-time employees (including contractors);
- \$11 million in purchases of goods and services from 54 local businesses (includes contractors), community contributions and local government payments.

Indirect contribution

This \$16 million in direct spending generated:

- \$23 million in additional supply chain goods and services purchases; and
- \$10 million in wages and salaries associated with 277 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- \$34 million in supplying business purchases;
- \$15 million in total wages and salaries paid to workers;
- \$38 million in value added, or 0.3% of total GRP in this region (\$11.4 billion); and
- 328 full-time equivalent jobs, or 0.3% of the entire workforce in this region.

Sydney

Direct contribution

In this region during 2017/18, the 28 companies surveyed contributed $2.4 billion in direct spending through:

- $239 million in wages and salaries to 1,587 direct full-time employees (including contractors);
- $2.1 billion in purchases of goods and services from 3,222 local businesses (includes contractors);
- $0.9 million in contributions to 95 community organisations; and
- $1.5 million in local government payments.

Indirect contribution

This $2.4 billion in direct spending generated:

- $3.5 billion in additional supply chain goods and services purchases; and
- $1.3 billion in wages and salaries associated with 15,976 additional jobs supported in this region.

Total contribution

The total economic contribution in this region (direct, indirect and induced) during 2017/18 from the 28 companies surveyed amounted to:

- $5.6 billion in supplying business purchases;
- $1.5 billion in total wages and salaries paid to workers;
- $5.0 billion in value added, or 1.1% of total GRP in this region ($446.8 billion); and
- 17,563 full-time equivalent jobs, or 0.7% 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. Sydney LGA recorded the largest share of direct expenditure in 2017/18 ($1.2 billion), followed by Newcastle ($1.1 billion), Maitland ($830 million), Singleton ($781 million) and Cessnock ($453 million).

Direct resident employment and associated salary expenditures were greatest in the Hunter Valley region, specifically Singleton LGA ($401 million and 2,888 FTEs), followed by the Muswellbrook ($229 million and 2,388 FTEs), Maitland ($265 million and 2,374 FTEs), Cessnock ($196 million and 1,816 FTEs) and Mid-Western Regional ($183 million and 1,748 FTEs) LGAs.

Table 8: Direct Impact of Surveyed Companies, Top 20 LGAs by Expenditure, 2017/18

Local government area	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)
Sydney (C)	100	18.0	1,152.3	1,170.3
Newcastle (C)	1,432	155.2	967.9	1,123.1
Maitland (C)	2,374	264.9	565.4	830.3
Singleton (A)	2,888	401.4	379.4	780.8
Cessnock (C)	1,816	196.0	257.1	453.1
Lake Macquarie (C)	1,451	195.3	243.5	438.8
Muswellbrook (A)	2,388	229.4	207.8	437.1
Wollongong (C)	1,019	114.6	291.7	406.4
Mid-Western Regional (A)	1,748	183.2	99.6	282.9
Parramatta (C)	36	5.1	247.1	252.2
Wingecarribee (A)	83	10.8	183.5	194.3
Orange (C)	984	116.5	69.4	185.8
Lithgow (C)	637	100.2	74.2	174.4
Broken Hill (C)	469	53.0	93.9	146.9
Gunnedah (A)	579	71.8	45.3	117.1
Canterbury-Bankstown (A)	14	1.7	105.4	107.1
Central Coast (C) (NSW)	312	43.2	56.9	100.2
Camden (A)	106	13.8	83.9	97.6
Upper Hunter Shire (A)	791	76.4	11.5	87.9
Port Stephens (A)	519	37.0	47.9	84.9

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 2017/18 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 $2.4 billion, followed by Maitland ($1.8 billion), Singleton ($1.5 billion), Sydney ($1.2 billion) and Wollongong ($1.0 billion).

With regard to employment, the surveyed companies again had the greatest impact on jobs in the Newcastle LGA, with 12,960 FTEs, followed by the Maitland (11,349 FTEs) and Singleton (9,684FTEs) LGAs, whilst the regions where the impact of the 28 companies' direct spending accounted for the largest share of employment were Singleton (75.6%), Muswellbrook (74.3%) and Mid-Western Regional (53.0%).

Table 10: Total Economic Impact of Surveyed Companies, Top 20 LGAs by Value Added, 2017/18 (Type II Impact)

Local government area	Total estimated value added ($M)	% of gross regional product (GRP)	Total employees (FTEs)	% of total employment
Newcastle (C)	2,369.5	15.8%	12,960	15.6%
Maitland (C)	1,748.9	42.9%	11,349	28.5%
Singleton (A)	1,449.2	21.6%	9,684	75.6%
Sydney (C)	1,170.3	0.8%	100	0.1%
Wollongong (C)	1,006.7	8.8%	7,777	7.9%
Cessnock (C)	967.0	42.0%	6,927	27.1%
Lake Macquarie (C)	928.9	11.3%	6,385	6.6%
Muswellbrook (A)	808.6	24.1%	6,205	74.3%
Mid-Western Regional (A)	629.9	43.6%	6,064	53.0%
Wingecarribee (A)	437.3	21.5%	2,724	14.0%
Orange (C)	411.7	13.5%	3,793	18.2%
Lithgow (C)	389.0	31.7%	3,306	34.0%
Broken Hill (C)	382.8	34.3%	3,459	43.3%
Parramatta (C)	252.2	1.0%	36	0.0%
Gunnedah (A)	250.9	35.0%	2,238	41.5%
Upper Hunter Shire (A)	190.5	24.6%	1,913	25.6%
Port Stephens (A)	179.2	3.2%	1,468	4.5%
Parkes (A)	141.6	16.3%	1,584	22.8%
Narrabri (A)	122.7	4.4%	1,121	18.3%
Canterbury-Bankstown (A)	107.1	0.7%	14	0.0%

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 $10.7 billion in direct spending to the state economy in 2017/18, comprised of:

- **$3.1 billion in wages and salaries** to approximately **24,193 full-time equivalent residing employees** (including contractors); representing an average salary level of $126,539 per annum across the sector;

- **$5.7 billion** in purchases of goods and services from approximately 7,135 local businesses, community contributions and payments to local government (including rates, developer contributions and other payments); and

- **$2.0 billion** in state government payments (including royalties, stamp duty, payroll tax and land tax).

Of the total workforce employed by the 28 companies surveyed, 16,772 were direct full-time employees, or 69.3% of the total workforce – of which 1,556 direct workers were female – with another 6,744 contract workers (27.9%) employed for mining operations and 677 FTEs (2.8%) engaged on capital projects.

Compared to 2016/17, direct spending in NSW of the companies surveyed in 2017/18 increased by approximately $275.4 million, or 2.6%, whilst the total number of employees, both direct and contract workers, grew annually by 1,372 FTEs, or 6.0%.

The economic stimulus provided by the 28 mining companies in 2017/18 also extended to other states, with an additional $4.2 billion in direct spending, which combined with the impact in New South Wales for a total impact of $14.9 billion for the whole of Australia, comprised of:

- $3.3 billion in wages and salaries to approximately 25,910 full-time residing employees; and

- $11.6 billion in purchases of goods and services from local businesses, government (state and local) and community contributions.

The total impact of the $10.7 billion in direct spending by companies surveyed, measured through supply chain and consumption spending effects, amounted to an estimated 3.9% of Gross State Product and 3.4% of employment in New South Wales in 2017/18. If a more conservative approach excluding consumption-induced effects is adopted, direct spending by the companies surveyed and flow-on impacts would still contribute 3.1% to GSP and 2.3% of total state employment.

Over the past seven years during which the annual NSWMC survey of member companies has been conducted, the New South Wales minerals and energy sector has generated approximately $168.6 billion in value added, including $79.1 billion in direct spending, and has supported an average workforce of approximately 139,474 jobs per annum.

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APPENDIX A: DIRECT IMPACTS BY LGA

Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2017/18

Local government area	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)	No. of businesses directly supported
Albury (C)	n.a.	n.a.	n.a.	n.a.	10
Armidale Regional (A)	10	1.4	2.0	3.4	20
Ballina (A)	n.a.	n.a.	n.a.	n.a.	7
Balranald (A)	n.a.	n.a.	n.a.	n.a.	8
Bathurst Regional (A)	259	31.4	10.8	42.2	87
Bayside (A)	14	1.9	24.9	26.7	103
Bega Valley (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Bellingen (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Berrigan (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Blacktown (C)	36	2.8	46.5	49.3	201
Bland (A)	212	23.2	13.7	36.9	95
Blayney (A)	126	15.4	7.6	22.9	54
Blue Mountains (C)	71	10.8	n.a.	11.5	28
Bogan (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Bourke (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Brewarrina (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Broken Hill (C)	469	53.0	93.9	146.9	136
Burwood (A)	n.a.	n.a.	n.a.	n.a.	7
Byron (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Cabonne (A)	148	17.0	10.6	27.6	37
Camden (A)	106	13.8	83.9	97.6	63
Campbelltown (C) (NSW)	128	13.6	40.2	53.8	92
Canada Bay (A)	5	0.7	3.2	3.9	18
Canterbury-Bankstown (A)	14	1.7	105.4	107.1	108
Carrathool (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Central Coast (C) (NSW)	312	43.2	56.9	100.2	173
Central Darling (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Cessnock (C)	1,816	196.0	257.1	453.1	225
Clarence Valley (A)	n.a.	n.a.	n.a.	1.1	6
Cobar (A)	12	1.1	n.a.	1.3	8
Coffs Harbour (C)	8	0.5	4.5	5.0	12
Coolamon (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Coonamble (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Cootamundra-Gundagai (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Cowra (A)	12	1.5	n.a.	1.6	12
Cumberland (A)	19	2.4	16.4	18.7	78
Dubbo Regional (A)	170	11.6	23.3	34.8	203
Dungog (A)	196	18.2	6.4	24.6	30
Edward River (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Eurobodalla (A)	7	0.6	n.a.	n.a.	n.a.
Fairfield (C)	48	4.3	42.9	47.2	138
Federation (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Forbes (A)	123	9.1	3.6	12.7	58
Georges River (A)	9	1.1	7.1	8.1	28
Gilgandra (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Glen Innes Severn (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Goulburn Mulwaree (A)	10	0.9	1.3	2.2	13
Greater Hume Shire (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Griffith (C)	n.a.	n.a.	2.7	2.9	13

Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2017/18

Local government area	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)	No. of businesses directly supported
Gunnedah (A)	579	71.8	45.3	117.1	158
Gwydir (A)	8	0.8	1.2	1.9	n.a.
Hawkesbury (C)	8	1.1	3.2	4.3	28
Hay (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Hilltops (A)	7	0.8	7.6	8.3	10
Hornsby (A)	13	2.3	5.2	7.5	73
Hunters Hill (A)	n.a.	n.a.	1.3	3.7	6
Inner West (A)	22	3.2	5.5	8.7	49
Inverell (A)	18	1.7	5.4	7.1	n.a.
Junee (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Kempsey (A)	n.a.	n.a.	1.3	1.5	6
Kiama (A)	81	9.1	2.6	11.7	27
Ku-ring-gai (A)	27	8.1	8.7	16.8	37
Kyogle (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Lachlan (A)	39	3.4	1.9	5.3	33
Lake Macquarie (C)	1,451	195.3	243.5	438.8	680
Lane Cove (A)	n.a.	n.a.	6.2	7.8	39
Leeton (A)	n.a.	n.a.	4.5	4.9	11
Lismore (C)	n.a.	n.a.	n.a.	n.a.	n.a.
Lithgow (C)	637	100.2	74.2	174.4	186
Liverpool (C)	12	0.9	32.0	32.9	58
Liverpool Plains (A)	68	7.8	3.6	11.4	31
Lockhart (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Maitland (C)	2,374	264.9	565.4	830.3	773
Mid-Coast (A)	189	22.2	21.4	43.6	59
Mid-Western Regional (A)	1,748	183.2	99.6	282.9	322
Moree Plains (A)	6	0.4	n.a.	n.a.	6
Mosman (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Murray River (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Murrumbidgee (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Muswellbrook (A)	2,388	229.4	207.8	437.1	414
Nambucca (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Narrabri (A)	300	33.5	22.9	56.4	89
Narrandera (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Narromine (A)	16	1.6	n.a.	2.1	11
Newcastle (C)	1,432	155.2	967.9	1,123.1	1,129
North Sydney (A)	29	5.3	39.4	44.7	145
Northern Beaches (A)	41	4.1	12.3	16.4	139
Oberon (A)	37	4.4	n.a.	5.4	6
Orange (C)	984	116.5	69.4	185.8	241
Parkes (A)	665	45.7	21.7	67.4	137
Parramatta (C)	36	5.1	247.1	252.2	212
Penrith (C)	16	1.7	32.5	34.1	61
Port Macquarie-Hastings (A)	9	1.0	8.3	9.3	19
Port Stephens (A)	519	37.0	47.9	84.9	99
Queanbeyan-Palerang Regional (A)	18	1.6	1.9	3.5	18
Randwick (C)	29	2.9	61.1	64.1	24
Richmond Valley (A)	n.a.	n.a.	n.a.	1.0	n.a.
Ryde (C)	132	11.1	52.3	63.5	182
Shellharbour (C)	291	28.8	4.1	32.9	35
Shoalhaven (C)	39	4.1	17.4	21.4	27
Singleton (A)	2,888	401.4	379.4	780.8	660

Table A1: Direct Impacts of Spending by Companies Surveyed by LGA, 2017/18

Local government area	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)	No. of businesses directly supported
Snowy Monaro Regional (A)	n.a.	n.a.	n.a.	n.a.	5
Snowy Valleys (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Strathfield (A)	n.a.	n.a.	5.1	5.2	14
Sutherland Shire (A)	51	6.4	9.3	15.8	115
Sydney (C)	100	18.0	1,152.3	1,170.3	669
Tamworth Regional (A)	168	20.1	18.7	38.7	88
Temora (A)	10	1.0	n.a.	1.4	n.a.
Tenterfield (A)	n.a.	n.a.	n.a.	n.a.	n.a.
The Hills Shire (A)	13	2.2	13.8	16.0	88
Tweed (A)	5	0.5	n.a.	n.a.	n.a.
Upper Hunter Shire (A)	791	76.4	11.5	87.9	99
Upper Lachlan Shire (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Uralla (A)	n.a.	n.a.	1.5	1.7	n.a.
Wagga Wagga (C)	17	1.7	19.9	21.6	29
Walcha (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Walgett (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Warren (A)	n.a.	n.a.	n.a.	n.a.	n.a.
Warrumbungle Shire (A)	29	2.9	2.3	5.3	14
Waverley (A)	8	2.0	n.a.	2.3	10
Weddin (A)	9	0.8	n.a.	n.a.	n.a.
Wentworth (A)	18	1.7	2.7	4.4	12
Willoughby (C)	31	6.2	24.7	30.9	105
Wingecarribee (A)	83	10.8	183.5	194.3	111
Wollondilly (A)	237	23.0	34.5	57.5	111
Wollongong (C)	1,019	114.6	291.7	406.4	490
Woollahra (A)	8	1.7	n.a.	1.9	14
Yass Valley (A)	n.a.	n.a.	n.a.	n.a.	n.a.

Note: Data not published for LGAs with total direct spend of less than $1 million and/or less than 5 residing employees.

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)	1.4	0.1%	13	0.1%
Armidale Regional (A)	7.3	0.4%	59	0.4%
Ballina (A)	1.5	0.1%	12	0.1%
Balranald (A)	n.a.	n.a.	n.a.	n.a.
Bathurst Regional (A)	90.9	3.3%	864	4.0%
Bayside (A)	26.7	0.1%	14	0.0%
Bega Valley (A)	n.a.	n.a.	7	0.0%
Bellingen (A)	n.a.	n.a.	10	0.2%
Berrigan (A)	n.a.	n.a.	n.a.	n.a.
Blacktown (C)	49.3	0.3%	36	0.0%
Bland (A)	81.4	20.9%	765	25.2%
Blayney (A)	46.8	8.1%	420	11.4%
Blue Mountains (C)	11.5	0.4%	71	0.2%
Bogan (A)	n.a.	n.a.	8	0.6%
Bourke (A)	n.a.	n.a.	n.a.	n.a.
Brewarrina (A)	n.a.	n.a.	n.a.	n.a.
Broken Hill (C)	382.8	34.3%	3,459	43.3%
Burwood (A)	n.a.	n.a.	n.a.	n.a.
Byron (A)	n.a.	n.a.	8	0.0%
Cabonne (A)	60.0	7.6%	550	7.7%
Camden (A)	97.6	2.8%	106	0.2%
Campbelltown (C)	53.8	0.8%	128	0.2%
Canada Bay (A)	3.9	0.1%	5	0.0%
Canterbury-Bankstown (A)	107.1	0.7%	14	0.0%
Carrathool (A)	n.a.	n.a.	n.a.	n.a.
Central Coast (C)	100.5	0.7%	313	0.2%
Central Darling (A)	n.a.	n.a.	7	0.7%
Cessnock (C)	967.0	42.0%	6,927	27.1%
Clarence Valley (A)	2.7	0.1%	23	0.1%
Cobar (A)	2.7	0.7%	30	1.2%
Coffs Harbour (C)	11.9	0.3%	94	0.3%
Coolamon (A)	1.2	0.6%	9	0.4%
Coonamble (A)	n.a.	n.a.	n.a.	n.a.
Cootamundra-Gundagai (A)	n.a.	n.a.	n.a.	n.a.
Cowra (A)	3.4	0.5%	34	0.6%
Cumberland (A)	18.7	0.1%	19	0.0%
Dubbo Regional (A)	69.1	2.1%	592	2.3%
Dungog (A)	53.1	16.1%	499	11.2%
Edward River (A)	1.2	0.3%	13	0.4%
Eurobodalla (A)	1.6	0.1%	18	0.1%
Fairfield (C)	47.2	0.5%	48	0.1%
Federation (A)	n.a.	n.a.	n.a.	n.a.
Forbes (A)	27.5	4.5%	307	6.7%
Georges River (A)	8.1	0.1%	9	0.0%
Gilgandra (A)	n.a.	n.a.	n.a.	n.a.
Glen Innes Severn (A)	n.a.	n.a.	n.a.	n.a.
Goulburn Mulwaree (A)	4.1	0.3%	33	0.2%
Greater Hume Shire (A)	n.a.	n.a.	n.a.	n.a.
Griffith (C)	3.6	0.2%	10	0.1%
Gunnedah (A)	250.9	35.0%	2,238	41.5%
Gwydir (A)	4.7	2.1%	43	2.0%

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)	4.3	0.1%	8	0.0%
Hay (A)	n.a.	n.a.	n.a.	n.a.
Hilltops (A)	22.3	2.4%	182	2.2%
Hornsby (A)	7.5	0.1%	13	0.0%
Hunters Hill (A)	3.7	0.5%	n.a.	n.a.
Inner West (A)	8.7	0.1%	22	0.0%
Inverell (A)	16.3	1.9%	132	2.0%
Junee (A)	n.a.	n.a.	n.a.	n.a.
Kempsey (A)	3.5	0.2%	27	0.2%
Kiama (A)	32.4	3.8%	326	3.0%
Ku-ring-gai (A)	16.8	0.4%	27	0.0%
Kyogle (A)	n.a.	n.a.	n.a.	n.a.
Lachlan (A)	11.9	2.8%	121	4.0%
Lake Macquarie (C)	928.9	11.3%	6,385	6.6%
Lane Cove (A)	7.8	0.3%	n.a.	n.a.
Leeton (A)	7.0	1.1%	28	0.5%
Lismore (C)	n.a.	n.a.	7	0.0%
Lithgow (C)	389.0	31.7%	3,306	34.0%
Liverpool (C)	32.9	0.3%	12	0.0%
Liverpool Plains (A)	25.2	4.6%	240	7.5%
Lockhart (A)	n.a.	n.a.	n.a.	n.a.
Maitland (C)	1,748.9	42.9%	11,349	28.5%
Mid-Coast (A)	91.8	2.2%	689	1.8%
Mid-Western Regional (A)	629.9	43.6%	6,064	53.0%
Moree Plains (A)	1.1	0.1%	13	0.2%
Mosman (A)	n.a.	n.a.	n.a.	n.a.
Murray River (A)	n.a.	n.a.	n.a.	n.a.
Murrumbidgee (A)	n.a.	n.a.	n.a.	n.a.
Muswellbrook (A)	808.6	24.1%	6,205	74.3%
Nambucca (A)	n.a.	n.a.	6	0.1%
Narrabri (A)	122.7	4.4%	1,121	18.3%
Narrandera (A)	1.3	0.4%	9	0.3%
Narromine (A)	4.2	0.4%	41	1.3%
Newcastle (C)	2,369.5	15.8%	12,960	15.6%
North Sydney (A)	44.7	0.3%	29	0.1%
Northern Beaches (A)	16.4	0.1%	41	0.0%
Oberon (A)	11.5	3.5%	114	4.1%
Orange (C)	411.7	13.5%	3,793	18.2%
Parkes (A)	141.6	16.3%	1,584	22.8%
Parramatta (C)	252.2	1.0%	36	0.0%
Penrith (C)	34.1	0.4%	16	0.0%
Port Macquarie-Hastings (A)	24.2	0.6%	195	0.5%
Port Stephens (A)	179.2	3.2%	1,468	4.5%
Queanbeyan-Palerang Regional (A)	8.3	0.3%	78	0.2%
Randwick (C)	64.1	0.9%	29	0.0%
Richmond Valley (A)	2.1	0.2%	12	0.1%
Ryde (C)	63.5	0.4%	132	0.2%
Shellharbour (C)	93.1	4.0%	1,007	3.0%
Shoalhaven (C)	50.2	1.3%	359	1.1%
Singleton (A)	1,449.2	21.6%	9,684	75.6%
Snowy Monaro Regional (A)	n.a.	n.a.	10	0.1%
Snowy Valleys (A)	n.a.	n.a.	6	0.1%
Strathfield (A)	5.2	0.1%	n.a.	n.a.
Sutherland Shire (A)	15.8	0.2%	51	0.0%
Sydney (C)	1,170.3	0.8%	100	0.1%

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)	84.7	2.5%	738	2.7%
Temora (A)	2.7	0.9%	24	0.9%
Tenterfield (A)	n.a.	n.a.	n.a.	n.a.
The Hills Shire (A)	16.0	0.2%	13	0.0%
Tweed (A)	1.5	0.0%	17	0.0%
Upper Hunter Shire (A)	190.5	24.6%	1,913	25.6%
Upper Lachlan Shire (A)	n.a.	n.a.	n.a.	n.a.
Uralla (A)	4.5	1.8%	37	1.3%
Wagga Wagga (C)	29.4	0.7%	104	0.3%
Walcha (A)	n.a.	n.a.	n.a.	n.a.
Walgett (A)	1.2	0.4%	13	0.5%
Warren (A)	n.a.	n.a.	5	0.4%
Warrumbungle Shire (A)	12.3	2.5%	117	2.8%
Waverley (A)	2.3	0.1%	8	0.0%
Weddin (A)	1.6	1.0%	19	1.2%
Wentworth (A)	11.0	3.1%	102	3.9%
Willoughby (C)	30.9	0.3%	31	0.1%
Wingecarribee (A)	437.3	21.5%	2,724	14.0%
Wollondilly (A)	59.1	1.0%	245	0.9%
Wollongong (C)	1,006.7	8.8%	7,777	7.9%
Woollahra (A)	1.9	0.0%	8	0.0%
Yass Valley (A)	n.a.	n.a.	n.a.	n.a.

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 (Type II Impact)

State electoral division	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)	No. of businesses directly supported
Albury	n.a.	n.a.	n.a.	n.a.	12
Auburn	10	1.0	20.8	21.8	87
Ballina	n.a.	n.a.	n.a.	1.0	11
Balmain	15	1.8	3.6	5.5	22
Bankstown	n.a.	n.a.	20.6	20.8	34
Barwon	877	97.4	123.7	221.2	287
Bathurst	920	134.1	90.0	224.1	284
Baulkham Hills	6	1.6	10.3	12.0	51
Bega	10	0.8	n.a.	1.1	5
Blacktown	20	1.0	24.3	25.2	92
Blue Mountains	71	10.8	n.a.	11.3	22
Cabramatta	n.a.	n.a.	3.3	3.3	6
Camden	113	14.6	83.9	98.5	65
Campbelltown	37	3.5	3.7	7.1	20
Canterbury	n.a.	n.a.	n.a.	n.a.	n.a.
Castle Hill	6	0.7	4.4	5.0	38
Cessnock	2,158	244.2	298.8	543.0	364
Charlestown	418	53.0	88.5	141.5	257
Clarence	n.a.	n.a.	1.7	2.1	9
Coffs Harbour	8	0.5	4.5	5.0	12
Coogee	10	1.4	n.a.	2.1	16
Cootamundra	256	27.9	22.9	50.8	130
Cronulla	13	1.8	3.7	5.5	54
Davidson	14	3.5	6.1	9.5	31
Drummoyne	n.a.	n.a.	3.2	3.8	18
Dubbo	1,740	174.3	111.6	286.0	483
East Hills	10	1.1	26.8	27.9	58
Epping	8	1.1	1.6	2.7	25
Fairfield	32	2.6	23.3	25.9	64
Gosford	34	4.1	13.2	17.3	38
Goulburn	53	6.1	162.1	168.2	79
Granville	9	1.2	17.8	19.0	28
Hawkesbury	9	1.3	3.3	4.6	31
Heathcote	81	7.3	5.0	12.3	40
Heffron	24	1.5	14.1	15.6	133
Holsworthy	8	0.6	20.8	21.4	35
Hornsby	7	1.2	3.6	4.8	50
Keira	487	56.5	44.3	100.8	133
Kiama	181	18.6	18.8	37.3	50
Kogarah	7	0.7	6.0	6.7	19
Ku-ring-gai	19	5.6	5.0	10.6	28
Lake Macquarie	612	86.3	118.2	204.5	262
Lakemba	n.a.	n.a.	61.5	61.7	12
Lane Cove	46	11.2	26.1	37.3	105
Lismore	6	0.4	n.a.	n.a.	n.a.
Liverpool	n.a.	n.a.	9.1	9.3	17
Londonderry	n.a.	n.a.	2.9	3.3	23
Macquarie Fields	92	11.9	36.7	48.6	77
Maitland	2,367	264.0	565.6	829.6	773

Table C1: Direct Impacts of Spending by Companies Surveyed by SED (Type II Impact)					
State electoral division	**Residing employees (FTEs)**	**Associated salaries ($M)**	**Business purchases and community contributions ($M)**	**Total direct spending ($M)**	**No. of businesses directly supported**
Manly	14	2.2	3.2	5.4	22
Maroubra	17	1.4	77.2	78.6	33
Miranda	14	2.0	2.9	4.9	30
Monaro	21	2.4	1.6	4.0	23
Mount Druitt	n.a.	n.a.	4.0	4.3	35
Mulgoa	8	0.7	9.4	10.1	17
Murray	30	3.0	10.1	13.1	48
Myall Lakes	81	10.6	10.1	20.7	24
Newcastle	906	88.8	777.1	865.9	808
Newtown	9	1.9	3.4	5.3	28
North Shore	30	4.5	37.6	42.0	139
Northern Tablelands	47	4.3	10.4	14.7	35
Oatley	n.a.	n.a.	1.0	1.5	13
Orange	1,921	202.1	91.6	293.8	473
Oxley	12	1.5	6.2	7.7	15
Parramatta	15	1.0	215.6	216.6	109
Penrith	6	0.7	21.1	21.8	35
Pittwater	11	0.2	3.7	3.9	49
Port Macquarie	13	1.1	3.2	4.3	11
Port Stephens	527	37.6	57.8	95.3	111
Prospect	28	3.2	25.4	28.6	109
Riverstone	n.a.	n.a.	2.4	2.7	n.a.
Rockdale	5	1.0	n.a.	1.5	n.a.
Ryde	102	8.3	37.0	45.4	138
Seven Hills	10	1.7	15.4	17.1	75
Shellharbour	342	35.0	5.2	40.2	42
South Coast	23	2.3	n.a.	2.9	8
Strathfield	n.a.	n.a.	2.2	2.6	23
Summer Hill	8	1.1	2.2	3.3	14
Swansea	304	40.9	11.3	52.2	71
Sydney	82	16.2	1,142.9	1,159.1	599
Tamworth	759	93.2	65.4	158.7	254
Terrigal	33	4.0	4.1	8.1	18
The Entrance	61	7.4	14.3	21.7	57
Tweed	n.a.	n.a.	n.a.	n.a.	n.a.
Upper Hunter	6,324	728.8	592.3	1,321.1	1,229
Vaucluse	10	2.7	n.a.	3.0	15
Wagga Wagga	19	1.9	20.1	22.0	30
Wakehurst	12	1.3	3.7	5.0	52
Wallsend	529	61.3	205.0	266.3	324
Willoughby	24	6.1	19.7	25.9	100
Wollondilly	275	34.7	51.3	86.0	158
Wollongong	338	39.1	244.1	283.2	335
Wyong	131	18.3	19.9	38.2	45

Note: Data not published for SEDs with total direct spend of less than $1 million and/or less than 5 residing employees.

APPENDIX D: DIRECT IMPACTS BY FEDERAL ELECTORATE

Table D1: Direct Impacts of Spending by Companies Surveyed by CED (Type II Impact)

Commonwealth electoral division	Residing employees (FTEs)	Associated salaries ($M)	Business purchases and community contributions ($M)	Total direct spending ($M)	No. of businesses directly supported
Banks	14	1.6	20.6	22.2	61
Barton	11	1.6	5.4	7.0	30
Bennelong	138	11.6	53.2	64.8	199
Berowra	14	2.5	5.2	7.7	76
Blaxland	n.a.	n.a.	37.5	37.9	71
Bradfield	33	10.1	10.8	20.9	64
Calare	3,950	483.6	259.3	742.9	942
Chifley	16	1.4	16.1	17.5	85
Cook	19	2.7	3.9	6.6	65
Cowper	19	2.1	6.2	8.3	21
Cunningham	852	97.2	286.3	383.5	469
Dobell	193	25.5	33.5	59.0	101
Eden-Monaro	29	2.7	2.4	5.1	31
Farrer	35	3.5	10.9	14.4	60
Fowler	8	0.7	19.6	20.3	35
Gilmore	127	13.7	19.1	32.8	54
Grayndler	18	2.9	4.9	7.8	37
Greenway	22	1.8	30.9	32.6	119
Hughes	35	3.9	10.0	13.9	60
Hume	349	43.7	99.8	143.5	185
Hunter	7,327	863.6	732.4	1,596.1	1,502
Kingsford Smith	36	4.2	84.9	89.1	117
Lindsay	11	1.2	25.1	26.4	50
Lyne	850	98.3	86.2	184.5	218
Macarthur	155	17.4	73.6	91.0	105
Mackellar	24	1.4	8.0	9.4	92
Macquarie	79	12.0	3.8	15.8	56
McMahon	57	6.1	49.0	55.1	168
Mitchell	10	1.8	17.2	19.0	94
Newcastle	1,339	142.2	859.5	1,001.6	1,021
New England	1,068	121.9	30.1	152.0	247
North Sydney	60	17.8	65.2	82.9	273
Page	10	0.8	2.7	3.5	17
Parkes	1,635	188.8	185.2	374.0	656
Parramatta	27	3.4	232.9	236.3	134
Paterson	3,008	302.9	921.2	1,224.1	974
Reid	18	2.1	17.4	19.5	99
Richmond	9	0.6	n.a.	1.5	14
Riverina	1,061	84.7	67.5	152.2	354
Robertson	65	7.9	18.3	26.2	58
Shortland	789	103.3	128.8	232.1	380
Sydney	99	17.8	1,152.2	1,170.0	666
Warringah	23	3.6	4.6	8.2	54
Watson	n.a.	n.a.	61.9	62.4	17
Wentworth	18	4.0	n.a.	4.6	29
Werriwa	8	0.8	15.3	16.1	39
Whitlam	518	53.7	172.7	226.4	147

Note: Data not published for CEDs with total direct spend of less than $1 million and/or less than 5 residing employees.