MINING THE AGE OF ENTITLEMENT

STATE GOVERNMENT ASSISTANCE TO THE MINERALS & FOSSIL FUEL SECTOR

JUNE 2014

MICK PEEL, RODERICK CAMPBELL & RICHARD DENNISS

The Australia Institute

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Technical Brief No. 31 June 2014 ISSN 1836-9014

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Level 5, City Walk Centre 131 City Walk Canberra City, ACT 2601 Tel +61 2 6130 0530 Email: mail@tai.org.au Website: www.tai.org.au

Summary

State governments are more usually associated with the provision of health, education and law enforcement than industry assistance. So it might surprise taxpayers to learn that state government assistance for the mineral and fossil fuel industries consumes significant amounts of their money.

Each state provides millions of dollars' worth of assistance to mining industries every year, with the big mining states of Queensland and Western Australia routinely spending over one billion dollars in assistance.

This paper is the first attempt to put a dollar figure on the value of state assistance to the mining industry. It shows that over a six-year period, state governments in Australia spent \$17.6 billion supporting the mineral and fossil fuel industries. Queensland's assistance was by far the largest of all states, totalling \$9.5 billion, followed by Western Australia's at \$6.2 billion.

State government assistance to the mineral and fossil fuel industries appears substantial even when compared to big budget items, such as health, education and law and order. For example, Queensland's expenditure on these industries in 2013-14 is similar to the amount to be spent on disability services and capital expenditure on hospitals. Queensland will spend as much on supporting the mining industry as it does on supporting some of its most vulnerable citizens. Similarly, industry assistance in Western Australia is substantial when compared to police and health, and in New South Wales, it is comparable to other important budget items such as managing the state's national parks and providing accommodation for those with disabilities.

Supporters of Australia's mineral and fossil fuel industries are quick to argue that royalties paid to state governments demonstrate those industries' value and importance. Rarely, however, are these contributions compared with industry assistance. State expenditure on industry assistance makes up a significant proportion of what states receive through royalties, particularly in the big mining states of Queensland and Western Australia. In 2013-14 Queensland is planning on spending \$1.5 billion on industry assistance, almost 60 per cent of what it will receive in royalties.

Mining the state budgets for details on state subsidies to the mineral and fossil fuels industy was a lengthy process. It is not surprising, then, that the scale of state subsidies to some of Australia's biggest, most profitable industries has thus far remained unearthed. This paper details the value of state revenue that would otherwise have been available for increased vital public services – for example, more teachers, nurses and police.

Introduction

We are in the coal business. If you want decent hospitals, schools and police on the beat we all need to understand that. Campbell Newman.¹

[Mining royalties] help to put teachers in classrooms, police officers on in our communities and nurses in our hospital wards; by doing their jobs, New South Wales miners are helping some of the most important people in our community to do theirs. NSW Minerals Council.²

Supporters of the minerals and fossil fuel industries, like Queensland Premier Campbell Newman and the New South Wales Minerals Council, regularly emphasise the money that these industries pay to state governments. Much less is said about the money that state governments pay to assist these industries.

State government assistance to the minerals and fossil fuel industries is considerable. Based on an analysis of state government budget papers, we estimate that a total of almost \$18 billion has been contributed by the taxpayer over the last six budgets.

This assistance takes many forms. Sometimes it is a direct cash payment. For example, the New South Wales government gave multinational coal companies \$10 million in 2009 as an 'assistance package'. Other times it comes in the form of discounted access to services provided by the state and its businesses – Queensland has provided the coal industry with 'concessions' on access to rail services worth over \$1 billion between 2012-13 and 2013-14.

Often assistance comes in the form of infrastructure or projects that wholly or partly benefit the minerals and fossil fuel industries. Sometimes this expenditure brings a financial return, as in the case of Western Australia's hundreds of millions of dollars spent on developing port infrastructure. Sometimes it doesn't – the New South Wales government is unlikely to see any return on its \$76 million expenditure on the Cobbora Coal project.

The aim of this report is to estimate the extent of state government spending on the minerals and fossil fuel industries. While estimates of federal assistance to these industries have been made, no similar research exists for state or local government expenditure.

At the federal level, The Australia Institute publishes an annual study on subsidies of the mining industry, which totalled \$4.5 billion in 2013, up from \$4.0 billion in 2012.³ Other organisations publish estimates of subsidies provided to fossil fuel use and production, which also focus largely on assistance at a federal level.⁴ While many of these publications note the existence and likely scale of state government spending, no estimates have been made.

The main reason for the lack of research quantifying state government spending on the minerals and fossil fuel industries is likely to be the difficulty in extracting relevant spending

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¹ News.com.au (2012) 'Wer'e in the coal business': Campbell newman slams UNESCO Great Barrier Reef warning

² NSW Mining (2013) Helping put teachers in classrooms & nurses in hospitals

³ Grudnoff M (2012) Pouring fuel on the fire: The nature and extent of federal government subsidies to the mining industry; Grudnoff M (2013) Pouring more fuel on the fire: The nature and extent of federal government subsidies by the mining industry.

⁴ ACF (2011) *Drill now, pay later: The growing cost of tax breaks for the oil and gas industry in Australia;* Environment Victoria and Market Forces (2013) *Ending the fossil fuel industry's age of entitlement: An analysis of Australian Government tax measures that encourage fossil fuel use and more pollution;* IMF (2013) *Energy subsidy reform: Lessons and implications.* An exception to this is OECD (2013) *Australia: Inventory of Estimated Budgetary Support and tax Expenditures for Fossil Fuels* which does include some state and territory level analysis, but is not comprehensive.

data from state government sources compared to federal sources. Federal-level sources often present data broken down by industry category, or relate to well-known subsidies such as fuel rebates or fringe benefits tax concessions. State government spending, by contrast, relates to a large range of assistance programs, capital projects and government-owned businesses. Identifying the relevant items is much more labour-intensive. A detailed methodology is provided in Appendix A.

Our estimates are based on the state government budget papers, published by state treasuries each year. Budget papers outline state governments' planned and actual spending on items such as direct payments to industry, favourable tax treatment and infrastructure provision. Relevant items have been identified and categorised in terms of the nature and extent of the assistance provided.

Unlike federal government assistance, much state government spending is on provision of capital assets operated by state-owned enterprises. Some of these assets and enterprises earn a return for the taxpayer at the same time as providing some degree of assistance to the minerals and fossil fuel industries.

This report does not present arguments for or against involvement by state governments in various industries, nor for or against asset sales. All these issues should be considered on their merits by carefully examining the costs and benefits of government expenditure and assistance for industries. We do not estimate the 'net costs' or 'net benefits' to the taxpayer of each of these items – we focus on the spending on such assets and enterprises. This spending reduces the capacity of state governments to spend on other areas such as provision of health, education and transport infrastructure.

As an example, the Queensland government was pleased to sell parts of its rail assets for \$4.6 billion in 2010. While there is debate about the price received and the overall merit of privatising these assets, there is little discussion of the \$3 billion dollars that taxpayers spent on those assets leading up to their sale. That \$3 billion could have been spent on schools or hospitals, which also generate an economic return for Queensland.

Assistance to mineral and fossil fuel industries from local governments is not considered in this report. Local governments are often responsible for funding maintenance of the infrastructure used by these industries. Where these industries are placing an additional cost on this infrastructure without contributing to its maintenance, this constitutes assistance to these industries. An example is the upgrade of the Ulan Road in New South Wales, where coal industry expansion has driven the need for increased maintenance. This cost has fallen largely on local governments – in this case, until pressure from local activists resulted in renegotiation of funding arrangements.⁵

This report provides the first comprehensive attempt to quantify state government assistance to the mineral and fossil fuel industries. The various forms this assistance takes makes the task difficult, particularly because public statements from advocates for the minerals and fossil fuel industries, such as those quoted above, focus exclusively on the benefits they provide and forget to mention that state governments incur significant costs in assisting these industries. These costs are considerable, as our investigation shows.

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⁵ Validakis V (2013) Funding plan for Ulan Road slammed by local council; Stanford L (2013) \$9.5 million for Ulan Road

Value of state subsidies

The magnitude of the total value of state government support for the mineral and fossil fuel industries will surprise many Australians.

Table 1 summarises the total state government support for the minerals and fossil fuel industries identified from the state budget papers. It shows that in the six years from 2008-09 to 2013-14 state governments in Australia spent \$17.6 billion on direct support to these industries.

Table 1: State budget minerals and fossil fuel expenditures and concessions by state and year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Queensland	2,932.7	1,525.8	1,362.9	831.1	1,398.9	1,489.6	9,541.1
Western Australia	1,011.8	1,140.6	831.4	890.9	949.5	1,391.4	6,215.5
New South Wales	235.3	166.1	97.6	157.3	80.1	136.4	872.8
Northern Territory	54.1	75.0	60.5	67.4	62.0	87.6	406.7
South Australia	20.0	35.6	44.4	65.1	80.6	70.6	316.2
Victoria	22.0	31.6	35.3	38.9	42.5	35.5	205.7
Tasmania	5.1	4.5	7.1	10.8	9.3	17.3	54.1
Total	4,281.2	2,979.2	2,439.2	2,061.5	2,622.8	3,228.3	17,612.1

Source: State and Territory Budget Papers.

Spread of subsidies by industry segment

The most heavily assisted industry segment was the coal transport sector, which received nearly \$8 billion worth of expenditure, as shown in Figure 1 below:

Coal transport \$7,937 Multiple \$3,219 Mining (other than coal) \$2,187 Gas processing Coal mining \$938 Gas consumption \$800 Minerals processing \$651 Coal consumption \$385 Petroleum consumption \$87 Gas extraction \$44 \$-\$1,000 \$2,000 \$3,000 \$4,000 \$5,000 \$6,000 \$7,000 \$8,000 \$9,000 **Nominal AUD, millions**

Figure 1: Total spending by industry segment

Note: Totals do not add to those in Table 1 due to rounding.

The vast bulk of coal transport expenditure and concessions came from Queensland – more than \$7.6 billion – with some \$333 million in New South Wales. Expenditure that benefited multiple categories was largely found in Western Australia, due to the prevalence of common infrastructure used by both the mining and gas industry segments, particularly ports. Mining (other than coal) expenditure came mainly from WA, which spent \$1.4 billion over the 2008-09 to 2013-14 period. South Australia also accounted for \$274 million of assistance to mining (other than coal) – the bulk of its contribution to minerals and fossil fuel industries. Gas processing expenditure was centred on Western Australia, which spent \$743 million, although the Northern Territory also contributed to this, funding a total of \$359 million, the majority of its industry assistance.

Assistance to the minerals processing sector was worth just over \$1 billion over the assessment period. Queensland and WA spent over \$100 million on assistance to minerals processing industries, largely through infrastructure provision. Tasmania's \$17 million expenditure on minerals processing accounts for a substantial part of its identified assistance to minerals and fossil fuel industries. Coal mining assistance is centred in the major coal mining states of Queensland (\$561 million) and New South Wales (\$204 million). Gas consumption assistance is largest in Western Australia (\$625 million), relating mainly to gasfired electricity generation. Queensland also spent \$177 million on items categorised as relating to gas consumption.

Most items identified as benefiting the minerals and fossil fuel industries were categorised as being wholly dedicated to these industries. Smaller sums were categorised as being primarily for minerals and fossil fuel industries, but with some benefits for other stakeholders, or being just partly for the benefit of these industries, as shown in Figure 2 below:

Wholly \$9,389

Primarily \$4,450

Partly \$3,768

\$- \$2,000 \$4,000 \$6,000 \$8,000 \$10,000

Nominal AUD, millions

Figure 2: Expenditure by level of dedication to minerals and fossil fuel industries

Note: totals do not add to those in Table 1 due to rounding.

A total of \$6.4 billion dollars of wholly dedicated expenditure came from Queensland and \$2.0 billion from Western Australia. Primarily dedicated expenditure also comes mainly from Western Australia – \$2.0 billion – and Queensland, \$1.8 billion. This represents 32 per cent of Western Australia expenditure, but only 19 per cent of Queensland's. Partly dedicated expenditure similarly has the largest sums from Western Australia, \$2.2 billion and Queensland, \$1.3 billion. This represents 36 per cent of Western Australia's expenditure on these industries and only 14 per cent of Queensland's, as shown in Figure 3 below:



Figure 3: Levels of industry dedication: Queensland and Western Australia

This demonstrates that the major expenditure in Queensland is on rail infrastructure wholly dedicated to the coal industry, while Western Australia's expenditure is largely on ports and roads, which service a more diverse range of stakeholders.

In New South Wales, 60 per cent of expenditure is on items primarily dedicated to the minerals and fossil fuel industries. This is a high percentage relative to other states, and reflects the categorisation of major port infrastructure as primarily rather than wholly, due to small levels of agricultural shipping at the major coal port, Newcastle. This is the major feature of Figure 4 below:

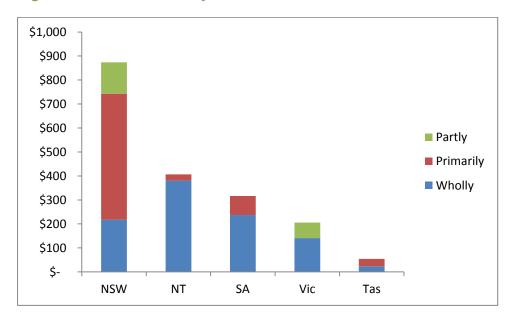


Figure 4: Levels of industry dedication: Other states

No expenditure in the Northern Territory, South Australia or Tasmania was categorised as only *partly* attributable to minerals and fossil fuel industries. Victoria had no expenditure categorised as *primarily* dedicated to these industries, but 32 per cent considered *partly* attributable. This reflects investment in water infrastructure, which partly benefits longestablished coal mining and coal-fired power generation operations.

In the following sections these results are further analysed and discussed by state and by the nature of the assistance.

Which states subsidise the most

Assistance for the minerals and fossil fuel industries represents significant amounts of money for state governments. As the quotes from Queensland Premier Campbell Newman and the New South Wales Minerals Council in our introduction indicate, state governments are more usually associated with provision of health, education and law and order services than with industry assistance. In this section we examine the levels of assistance shown to these sectors in each state in comparison with other items in the budget papers. This comparison places our findings in the wider context of state government finances.

Queensland

Queensland was, consistently, the state that provided the most assistance to the mineral and fossil fuel industries through the period of analysis. Its expenditure on these industries budgeted for 2013-14 compares to amounts budgeted for disability services and for capital expenditure on hospitals, as shown in Figure 5 below:

\$2,000 \$1,746 \$1,800 \$1,489 \$1,600 \$1,431 \$1,400 AUD, millions \$1,200 \$1,000 \$800 \$600 \$400 \$200 \$-Minerals and fossil Capital expenditure Disability services fuel assistance on health

Figure 5: Queensland 2013-14 budget, minerals and fossil fuel assistance in context

Sources: Queensland Budget Papers 2013-14, Budget Paper 5, p4, Queensland Budget Papers 2013-14, Budget Paper 3, ch3, p73.

Another way to consider the size of assistance to the minerals and fossil fuel industries is in comparison with the royalties that they pay to state governments. In 2013-14 the Queensland government is budgeting to spend \$1,489 million on industry assistance. This is almost 60 per cent of the \$2,604 they are anticipating receiving in royalties, as shown in Figure 6 below:

\$3,000 \$2,500 \$2,000 \$1,500 \$1,000 \$500 \$-Royalties Minerals and fossil fuel assistance

Figure 6: Queensland 2013-14 budget, minerals and fossil fuel assistance and royalties

Source: Queensland Budget Papers 2013-14, Budget Paper 2, ch 3, p72.

The comparison with royalty levels shows that mineral and fossil fuel industry assistance is substantial compared to the most direct benefits that those industries pay back to the Queensland government. The two sums are not directly equivalent as industry costs and benefits and one cannot be subtracted from the other to produce a net benefit calculation.

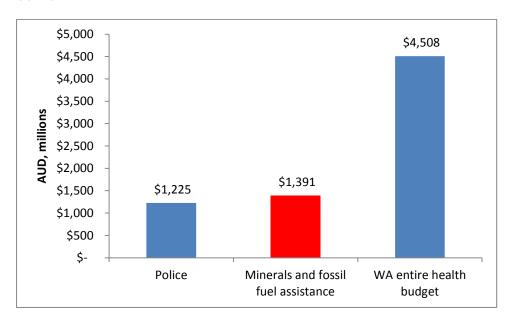
Royalties alone do not account for a range of other payments that would be required for such a calculation and assistance includes items that would need investigation beyond the scope of this report for inclusion in formal cost-benefit analysis. These data are provided for context only, and this should be taken into account for each of the state assessments that follow.

The comparison is made here to make the point that the Queensland government spends a large amount on the minerals and fossil fuel industries even when compared to royalties – the most easily assessed measure of the benefits it derives from these industries.

Western Australia

WA has the largest minerals and fossil fuel industry, along with a smaller population than the eastern states. With a large industry and a smaller population to service, the assistance paid to these industries is substantial even when compared to some of the major budget items such as police and health, as shown in Figure 7 below:

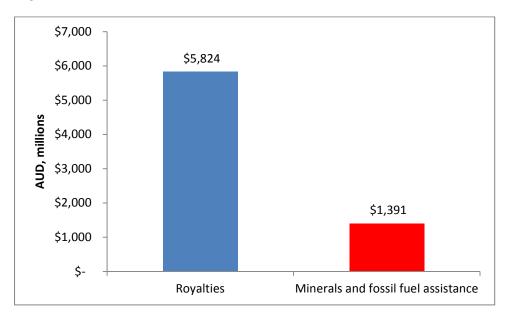
Figure 7: West Australian 2013-14 budget, minerals and fossil fuel assistance in context



Sources: WA Budget Papers 2013-14, Budget Paper 2, Ch 3, vol 1, p17 and p5.

As Western Australia has a large resource sector and relatively small government, royalties make up a greater proportion of government revenue in Western Australia than any other state. Royalties of \$5.8 billion will make up 14 per cent of the state's \$42 billion dollar budget. Even compared to this, however, assistance to the minerals and fossil fuel sector is substantial compared to royalties, as shown in Figure 8Figure 8 below:

Figure 8: West Australian 2013-14 budget, minerals and fossil fuel assistance and royalties

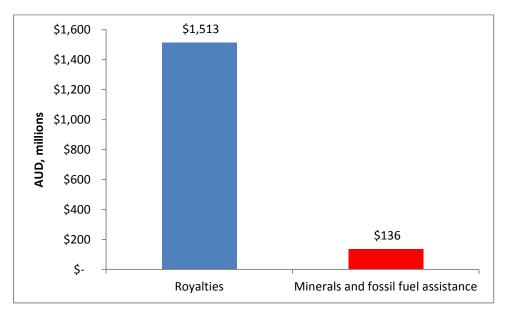


Source: WA Budget Papers 2013-14, Budget Paper 3, Table 14 Royalty Income, p107

New South Wales

With a much larger population, the context of New South Wales' budgeted \$136 million assistance for these industries is quite different. In New South Wales, royalties are a relatively insignificant source of income for the government, making up only two per cent of revenue. As its mineral and fossil fuel industries are generally well established, assistance to them is small in comparison to royalty income, as shown in Figure 9 below:

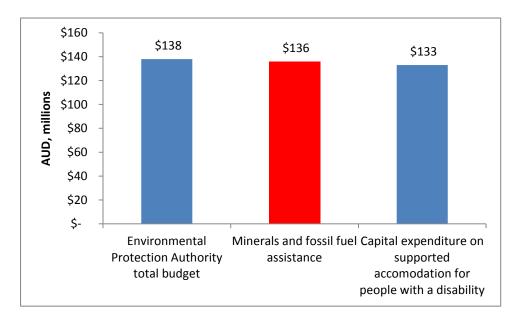
Figure 9: New South Wales 2013-14 budget, minerals and fossil fuel assistance and royalties



Source: NSW Treasury (2013) NSW Budget Papers 2013-14, Chapter 6, General Government Revenue

With the much larger population and services it entails, minerals and fossil fuel industry assistance is far smaller than the entire health budget, unlike Western Australia, discussed above. Industry assistance is, however, comparable to other important items of the state government budget – such as the state's Environmental Protection Authority and capital expenditure on supported accommodation for people with disabilities, as shown in Figure 10 below:

Figure 10: New South Wales 2013-14 budget, minerals and fossil fuel assistance in context

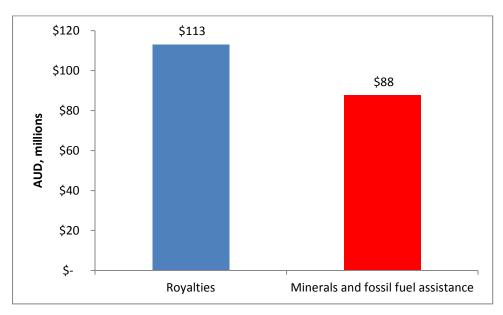


Sources: NSW Budget Papers 2013-14, Budget Paper 3, Ch 4, p4-8, Budget Paper 3, Ch 7, p7-24

Northern Territory

Like Western Australia, the Northern Territory has a small population and a relatively large minerals and fossil fuel sector. With industry assistance at higher levels, through capital investment in ports for gas exports, this assistance is almost 80 per cent as large as royalty revenue, as shown in Figure 11 below:

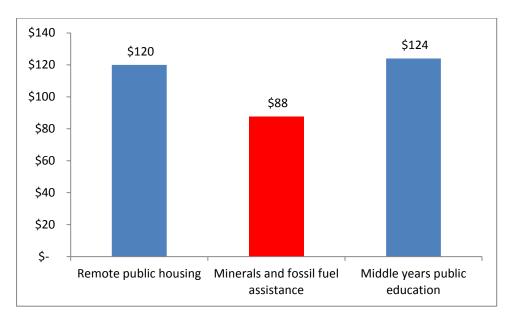
Figure 11: Northern Territory 2013-14 budget, minerals and fossil fuel assistance and royalties



Source: NT Budget Papers 2013-14, Budget Paper 2, p26

The Northern Territory government has budgeted to spend a similar amount on minerals and fossil fuel industry assistance as it has on remote public housing and on middle-years education, as shown in Figure 12 below:

Figure 12: Northern Territory 2013-14 budget, minerals and fossil fuel assistance in context



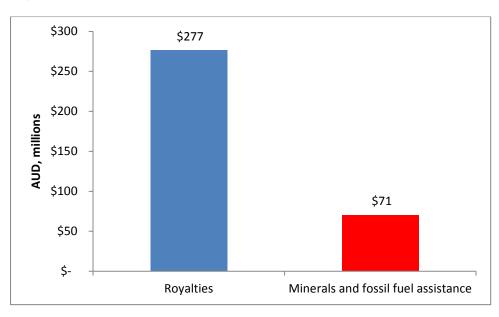
Source: NT Budget Papers 2013-14, Budget Paper 3, p189 and p201

South Australia

South Australia has a more mature minerals and fossil fuel industry and lower levels of industry assistance than the Northern Territory. Industry assistance is considerably lower

than royalty revenue, not reaching the high proportions found in the Northern Territory, as shown in Figure 13 below:

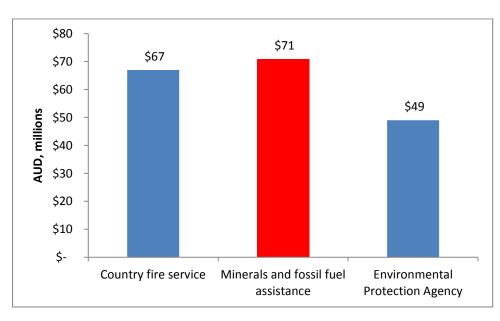
Figure 13: South Australian 2013-14 budget, minerals and fossil fuel assistance and royalties



Source: South Australia Budget Papers 2013-14, Budget Paper 3, p63

South Australia's spending on its minerals and fossil fuel industry is at similar levels to its spending on its country fire service and its Environmental Protection Agency, as shown in Figure 14 below:

Figure 14: South Australian 2013-14 budget, minerals and fossil fuel assistance in context



Source: SA Budget Papers 2013-14, Budget Paper 4, vol 2, p69 and 138

Victoria

Victoria's assistance to the minerals and fossil fuel industry, particularly through its subsidisation of carbon capture and storage research, is almost equal in value to the amount Victoria receives from mining royalties, as shown in Figure 15 below:

\$48 \$50 \$45 \$40 \$36 \$35 AUD, millions \$30 \$25 \$20 \$15 \$10 \$5 \$-Minerals and fossil fuel assistance Royalties

Figure 15: Victorian 2013-14 budget, minerals and fossil fuel assistance and royalties

Source: Victorian Budget Papers 2013-14, Budget Paper no 5, p181

Victoria's mineral royalties are likely to be the lowest in Australia. Victoria's general royalty rate is at 2.75 per cent of market values, far lower than in other states. Some minerals are treated more generously still – gold is exempt from royalties, a policy which costs Victorians more than \$4 million per year. This cost is not included in our analysis.

Coal royalties are charged on the basis of energy content, resulting in royalties of around \$0.50 per tonne, easily the lowest in Australia. The 2013-14 Victorian budget papers estimate royalties of \$48.5 million, the lowest of any state.

As a result, Victoria's assistance to the minerals and fossil fuel industries is almost as large as the royalties it receives. If the full costs of assistance could be broken out from the \$188 million budget of the Department of State Development, Business and Innovation's Energy and Resources section, assistance would almost certainly be greater than royalties.

Victoria's relatively large population and small minerals and fossil fuel industry means that many items in the budget are greater than this assistance. For context, the Victorian government spends more on industry assistance for the minerals and fossil fuel industries than it does on programs for aboriginal health, or home and community care, as shown in Figure 16 below:

Economists at Large (2012) *Undermined or overburdened?*



http://www.energyandresources.vic.gov.au/ data/assets/word doc/0007/19897/MRSDA-Review-TDP4-FINAL---Royalties.doc

\$40 \$36 \$33 \$35 \$30 AUD, millions \$25 \$20 \$15 \$15 \$10 \$5 \$-Improving health for Minerals and fossil fuel Aging - Home and **Aboriginal Victorians** assistance community care

Figure 16: Victorian 2013-14 budget, minerals and fossil fuel assistance in context

Source: Victoria Budget Papers 2013-14, Budget Paper 3, ch 1, p16

Tasmania

Tasmania's assistance for the minerals and fossil fuel sector is understated in our estimates, as they do not include the cost of subsidised electricity to the island's smelters. Even so, they amount to around one third of the value of mineral royalties paid to the state, as shown in Figure 17 below:

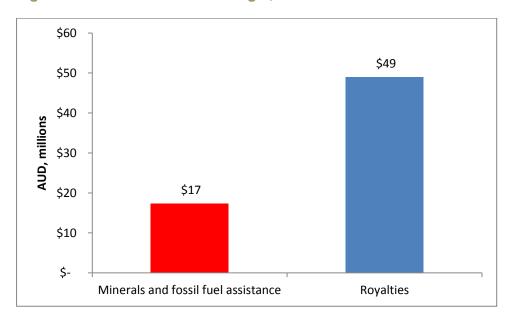


Figure 17: Tasmania 2013-14 budget, minerals and fossil fuel assistance and royalties

Source: Tasmanian Budget Papers 2013-14, Budget Paper 1, p4.25

This assistance compares with the budget for the state government's tourism department and with the budget for capital expenditure in education facilities, as shown in Figure 18 below:

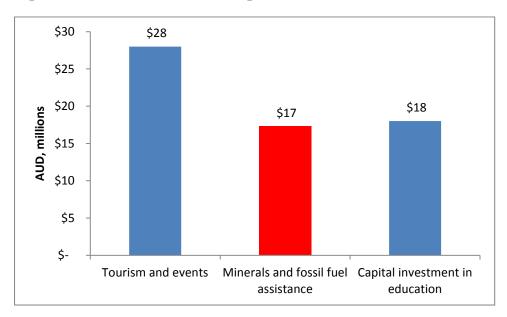


Figure 18: Tasmania 2013-14 budget, minerals and fossil fuel assistance in context

Source: Tasmanian Budget Papers 2013-14, Budget Paper 2, volume 1, p2.6 and p3.16

Conclusion

State government budget papers show that the minerals and fossil fuel industries in Australia receive billions of dollars of assistance from state governments. Supporters of Australia's minerals and fossil fuel industries are quick to point to their contribution to state government revenue as a demonstration of their industries' value and importance. They often link their royalty payments to state governments with the provision of important state-run services such as hospitals, schools, police and roads. Rarely, however, are these contributions compared to the assistance the minerals and fossil fuel industries, in turn, receive.

This paper is the first attempt to provide a quantitative estimate of the assistance state governments provide to the minerals and fossil fuel industries. All states provide millions of dollars' worth of assistance to these industries every year — the big mining states of Queensland and Western Australia routinely spend more than \$1 billion on assisting these industries.

Queensland's assistance is by far the largest of all states, totalling \$9.5 billion over the 2008-09 to 2013-14 analysis period. The largest items in our analysis relate to the provision of railway infrastructure for the coal industry and discounted access to the state's railways. The 2013-14 budgeted assistance of \$1.5 billion is around the same amount Queensland has budgeted to spend on disability services and in capital expenditure on health infrastructure.

Western Australia spent \$6.2 billion over the analysis period, particularly on roads and port infrastructure, which mainly benefits the mining and gas industries. Industry development funds also directly channel funding into assisting these industries. Western Australia's 2013-14 budgeted assistance of \$1.4 billion is more than the state has budgeted to spend on police and represents nearly one third of the entire West Australian health budget.

The assistance New South Wales gave to these industries amounted to \$872 million over the analysis period, particularly on port infrastructure, which primarily benefits the coal industry as well as on so-called 'clean coal' research. In 2013-14, the New South Wales budget papers contain \$136 million of measures that will assist the minerals and fossil fuel industries – more than the amount spent on accommodation for people with disabilities and only \$2

million less than the \$138 million to be spent on the Environmental Protection Authority – the agency which enforces environmental regulation of the mining and fossil fuel sector.

The Northern Territory's assistance to the minerals and fossil fuel industries totalled \$406 million over the analysis period, particularly on port infrastructure for the gas and mining industries, along with generous industry development funds. In the 2013-14 budget year, industry assistance will be nearly as much as the state will receive in royalties. It will cost around the same amount as other budget items such as housing for remote communities and expenses on middle-years public education.

South Australia's budget papers show that more than \$316 million was budgeted for industry assistance over this period. Major items funded included industry assistance funds, capital works and the rehabilitation of a toxic mine site. In the 2013-14 budget year, assistance worth \$71 million has been budgeted – similar amounts to the state's country fire service and environmental protection agency.

Victoria's assistance to the minerals and fossil fuel industries mainly relates to heavily subsidised research into 'clean coal'. We estimate this assistance at \$206 million between 2008-09 and 2013-14. This is considerably more than Victoria spends on improving health for aboriginal Victorians and more than it spends on its home and community care program.

Tasmanian budget papers outline \$54 million worth of assistance to its minerals and fossil fuel sector over this period, relating to industry promotion and capital works, although the largest subsidy – cheap electricity for smelters – is not outlined in budget papers. Tasmania spends similar amounts on capital works relating to education and only slightly more on tourism and events.

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Appendix A – Methodology

The data for this paper comes from the state and territory budget papers over the period 2008-09 to 2013-14. Budget papers are prepared by state treasury departments each year and contain details of most government transactions, although some are confidential and specific details are not always disclosed. All budget papers are readily available on state government websites.

State government budget papers are divided into several parts. While there are some differences over time and between states, all are presented in a broadly similar format and structure. For example, the Queensland government's most recent budget is divided into:

- Budget Paper 1 The budget speech by the state treasurer, which provides an overview of the budget.
- **Budget Paper 2** Strategy and Outlook, which discusses the government's fiscal and economic strategy and wider economic conditions.
- **Budget Paper 3** Capital Statement, which presents proposed capital outlays for the year ahead.
- **Budget Paper 4** Budget measures, record of the government's expenses and revenues over the past year, broken down by government portfolio.
- **Budget Paper 5** Service Delivery Statements, which outlines the planned services and resources that each department will use through the year as well as outlining adjustments to the budget of the year before.
- Concession statement Information on the costs of tax breaks and price concessions provided by the government
- **Appropriation Bills** The relevant bills, for which assent is needed to officially approve the operation of the budget.

The Queensland data used in this paper comes predominantly from Budget Papers 2 and 3 (Strategy and Outlook and the Capital Statement), as well as significant items in the Concession Statement. Other jurisdictions tend to combine some of the sections above into fewer separate documents. For example, New South Wales publishes only five budget papers in total, with its Budget Paper 2 – Budget Statement containing broadly equivalent information to Queensland's Budget Papers 2 and 4 above. The New South Wales assessment of concessions and tax expenditures is included in an appendix.

Once the relevant sections of each state's budget papers are known, it is then necessary to identify the relevant items which relate to the minerals and fossil fuel industries.

Identifying relevant expenditure

Identifying which items of state government expenditure are relevant to the minerals and fossil fuel industries is simple for some items, as their title immediately suggests their intended beneficiaries. For example in New South Wales the 'Clean Coal Fund' and 'Assistance package for the Western and Gunnedah Coalfields' are obviously measures associated with the coal mining industry, as shown in Figures A1 and A2 below, which are snapshots taken from the New South Wales budget papers.

Figure A1: Identifying relevant expenditure - New South Wales Clean Coal Fund

DEPARTMENT OF INDUSTRY AND INVESTMENT SERVICE GROUP STATEMENTS (CONT) Mineral Resources and Mine Safety (cont) -2009-10-Budget Revised Budget \$000 \$000 \$000 Financial Indicators: Total Expenses Excluding Losses 68,142 84,452 83,671 Total expenses include the following: Employee related 32,424 42,363 38,076 40,405 21,500 Other operating expenses: 31,147 28,441 16.500 10.000 Clean Coal Fund Coal compensation expense 8,720 1,950 Other expenses 1,909 10,622

Total Retained Revenue

NET COST OF SERVICES

CAPITAL EXPENDITURE

Source: 'Clean Coal Fund' – 2010-11 NSW Budget Paper 3: Budget Estimates; Portfolio of Industry and Investment; Service Group Statements – Mineral Resources and Mine Safety (p. 7.28)

56,524

27,879

2.936

51,123

32,465

3.284

52,218

14,604

2.936

Figure A2: Identifying relevant expenditure – Assistance package for the Western and Gunnedah Coalfields

ERVICE GROUP STATEMENTS (CONT))		
nvestment Attraction and Industry De	velopment	(cont)	
	200	9-10	2010-11
	Budget \$000	Revised \$000	Budget \$000
Financial Indicators:			
Total Expenses Excluding Losses	87,789	84,739	129,838
Total expenses include the following:			
Employee related	13,340	14,131	16,162
Other operating expenses	4,405	5,675	3,781
Grants and subsidies:	21,568	21,568	18,375
New South Wales Film and			
Television Office grant	13,824	13,824	8,416
Other expenses:	48,084	42,973	91,095
Assistance to industries	22,148	23,683	35,727
Assistance package for the Western		10.000	The second second
and Gunnedah Coalfields	10,000	10,000	10,000
Major Investment Attraction Scheme	10,000	4,000	40,000
Total Retained Revenue	1,150	2,406	1,687
NET COST OF SERVICES	86,639	82,333	128,151

DEDARTMENT OF INDUSTRY AND INVESTMENT

Source: 'Assistance package for the Western and Gunnedah Coalfields' – 2010-11 NSW Budget Paper 3: Budget Estimates; Portfolio of Industry and Investment; Service Group Statements – Mineral Resources and Mine Safety (p. 7.32)

Other items of relevant expenditure require further investigation as their titles do not necessarily relate to the minerals and fossil fuel industries. This is particularly the case for the infrastructure projects that these industries rely on, such as railways, ports and water supply. For example, the 'Goonyella-Abbot Point rail expansion' in Queensland and the

'Geraldton Port Authority' in Western Australia are not obviously expenditure on the coal and iron ore industries, but further investigation reveals that they are in fact dedicated to these industries. Snapshots from the Queensland and Western Australian budget papers relating to these items are shown in Figures A3 and A4 below:

Figure A3: Identifying relevant expenditure – Goonyella-Abbot Point rail expansion

D	Statistical Division		Expenditure to	Budget 2010-11	Pos 2010-1
Project		\$'000	30-06-10 \$'000	\$'000	\$'00'
QR LIMITED					
Property, Plant and Equipment					
QR Network					

Source: 'Goonyella-Abbot Point rail expansion' – 2010-11 Queensland Budget Paper 3: Capital Statement; Portfolio of Transport and Main Roads – QR Limited (p. 122)

Figure A4: Identifying relevant expenditure – Geraldton Port Authority

GERALDTON PORT AUTHORITY								
ASSET INVESTMENT PROGRAM								
The Authority is progressing with Oakajee Stage 1 and for 2013-14 includes planned expenditure of \$3.8 million for further development of the Port's masterplan, due diligence, detail design, land use planning, port simulation studies and security planning.								
An amount of \$2.3 million will be spent to upgrade the information technology (IT) software to facilitate ship navigation in the harbour and an additional \$1.3 million will be spent to purchase a Pilot Boat to meet the demand of expected increased ship arrivals due to expected increase in throughput. Funding of \$5 million has been allocated to minor works, which in 2013-14 will be applied to upgrading the Port's services and civil infrastructure, security, environmental systems and equipment replacement.								
						upgrading	the Port's	
	nmental sy Estimated	Estimated Expenditure	equipment 2012-13 Estimated			2015-16 Forward Estimate \$'000	2016-17 Forward Estimate \$'000	
	Estimated Total Cost \$'000	Estimated Expenditure to 30-6-13	2012-13 Estimated Expenditure	2013-14 Estimated Expenditure	2014-15 Forward Estimate	2015-16 Forward Estimate	2016-17 Forward Estimate	

Source: 'Geraldton Port Authority – 2013-14 WA Budget Paper 2, Vol 1: Budget Statements (p. 417)

Identifying relevant expenditures is greatly assisted by a working knowledge of the minerals and fossil fuel industry in each state. Projects such as Goonyella-Abbot Point Rail project and Geraldton Port Authority's Oakajee Port project are regularly in the news and are well known to industry watchers and can be easily identified.

Further, these industries are often focused in particular geographical regions of each state – Abbot Point is near Bowen, the hub of the Queensland coal industry and Geraldton services Western Australia's Mid-West iron ore sector. For researchers familiar with these areas, relevant projects can be identified by checking news archives, company websites, annual reports and through personal communication.

While the New South Wales Clean Coal fund and coalfield assistance packages are clearly examples of payments to a particular industry, the Goonyella-Abbot Point rail project and

Geraldton Port Authority investment program show some of the subtleties of state government spending on the minerals and fossil fuel industries. The Goonyella-Abbot Point rail project is assistance in the form of provision of capital infrastructure, wholly devoted to the Queensland coal industry. The Geraldton Port Authority's Oakajee Project relates to a proposed new iron ore port, while expenditure on other parts of its investment program, such as the new pilot boat, benefits not only the minerals industry, but also some agricultural users.

As state government spending on the minerals and fossil fuels industries takes many forms, we have categorised each expenditure item to enable further analysis.

Categorising expenditure

Items from the budget papers identified as being expenditure relevant to the minerals and fossil fuel industries were then categorised according to industry segment and level of dedication to these industries.

Industry Segment

All items of expenditure identified as being related to the mineral and fossil fuel industries are categorised as being related to a particular industry segment, one of:

- Coal transport
- Coal consumption
- Coal mining
- Gas consumption
- Gas extraction
- Gas processing
- Minerals processing
- Mining (other than coal)
- Petroleum processing
- Petroleum use
- Multiple

Expenditure categorised as 'multiple' either provides support to several categories, or relates to broad industry development. An example of this is Western Australia's 'Port Hedland Port Authority (Capital works)'. This 'controlled grant' of \$22 million was used to upgrade infrastructure for iron ore shipments and construction of facilities associated with gas processing. Figure A5 below shows the item listed in the 2010-11 West Australian budget papers:

Figure A5: Example of item categorised as 'multiple' – Port Headland Port Authority (Capital Works)

122					Treasury	and Finance	e - continue
	2008-09 Actual (a)	2009-10 Budget	2009-10 Estimated Actual	2010-11 Budget Estimate	2011-12 Forward Estimate	2012-13 Forward Estimate	2013-14 Forward Estimate
S	\$1000	000°2	\$'000	\$1000	000%	\$1000	0007
CAPITAL							
Item 118 Capital Appropriation	190,470	39,190	55,370	96,627	58,344	2,739	-
Government Equity Contributions							
Item 119 – Armadale Redevelopment	1000	110000	1000000000				
Authorityltem 120 - Department of Corrective	5,900	6,000	2,660	6,600	3,340	(4)	03
Services (i)	-8	53,000	16,095	69,050	90,300	100,946	97,554
Item 121 - Electricity Generation		700000000000000000000000000000000000000	T MATERIAL TO		10000000		
Corporation (Verve Energy) Item 122 – Electricity Networks	120	83,277	82,233	165,508	15,700	50,000	
Corporation (Western Power)	6,651	651	651	809	5,636	5,000	5.000
Item 123 – Forest Products Commission	16,200	1,200	1,270	70	3,030	5,500	5,00
Item 124 - Fremantle Port Authority	212	210	209	3,104	2,000		
tem 125 - Port Hedland Port Authority	12/038	21,000	21.000	750	1.500	_	
Item 126 - Royalties for Regions	64,900	329,600	305,836	363,299	476,712	486,129	539,665
tem 127 – WA Health ®	86,969	169,977	163,410	186,407	205,743	154,480	177,24
tem 128 - Water Corporation of Western							,
Australia	-	7,730	7,730	8,280	8,860	9,490	5,080
Broome Port Authority	350	·	2	200.00	10 IL		
Regional Power Corporation (Horizon	2000000	500					
Power)	lejour His	10,612	3,514	-	_	-	
Rottnest Island Authority	7,623	-	(1)(1)(1)(1)		_	(4)	

'Port Hedland Port Authority (Capital works)' – 2010-11 WA Budget Paper 2, Vol 1: Budget Statements; Portfolio of Treasury and Finance – Administered Capital Contributions (p. 122)

Items categorised as relating to multiple sectors relate only to other sectors of the minerals and fossil fuel industries. Expenditure items were also assessed as to whether they are wholly dedicated to these industries, or if they also provide benefits to other industries not related to the minerals and fossil fuel sector.

Level of dedication

Each item of expenditure is categorised by its level of dedication to the minerals and fossil fuels industries. Each item was assessed as being wholly, primarily or only partly dedicated to these industries.

Items considered wholly dedicated to these industries are undertaken for a singular and specific role to support the development, extraction, processing or transport of mineral and fossil fuel commodities. For example, the Clean Coal Fund, Assistance package for the Western and Gunnedah Coalfields and the Goonyella-Abbot Point' rail expansion projects discussed above are all considered wholly dedicated to these industries. They consist of direct assistance to industry in the first two instances, or provision of infrastructure used exclusively by the coal industry in the latter.

Where an expenditure item is largely aimed at assisting the operation, development, extraction, processing or transport of mineral and fossil fuel commodities, but where there are substantial material benefits to other users of infrastructure, these items have been categorised as *primarily* dedicated to these industries. The Port Hedland Port Authority (Capital works) and Geraldton Port Authority-Pilot vessel discussed above are both examples of infrastructure primarily aimed at benefiting the minerals and fossil fuel industries, which also provide benefits to other stakeholders.

Where an expenditure program is categorised as 'partly' dedicated to the mineral and resources industries, the minerals and fossil fuel industries receive a tangible economic benefit from spending, but this benefit is not the primary aim of the project, or it is not clear which stakeholders receive the primary benefit. Network infrastructure programs often come under this category, such as electricity, water and rail networks. In these networks, minerals and fossil fuel industries are major users of networks, but there are other residential or agricultural users.

Examples of expenditure categorised as partly dedicated to the minerals and fossil fuel industries are the Port of Wyndham feasibility works and Ord River pipeline and hydroelectricity network projects, in northern Western Australia. These projects will deliver benefits to the agricultural sector and the minerals and fossil fuel industries, including base metal operations, diamond mining and nickel concentrate shipments. While a tangible benefit to these projects is clear, exactly how these benefits will be shared with agricultural and other stakeholders is not clear from available sources.

Where minerals and fossil fuel industries benefit from spending on network infrastructure, but these benefits are incidental, they have been omitted from the analysis. While all users of network infrastructure benefit from an upgrade of the network, where spending is only benefiting these industries as users in a peripheral way, it was not included in our assessment.

Examples of projects that would benefit the minerals and fossil fuel industries, but were omitted from the analysis are water infrastructure projects in the Barwon region near Geelong in Victoria such as the Anglesea Borefield Project and Black Rock Recycled Water Plant. Minerals processing and petroleum-refining industries are major users of water in the area and will benefit from investment in the whole water network, but residential and agricultural users are the primary beneficiaries.

Further notes on methodology

Having methodology based on budget papers' reported items can result in sources of understatement in our data. This is particularly the case with government departments. Other technical issues are also discussed below.

Budget paper methodology and sources of understatement

It is important to note that by taking data strictly from state budget papers, this methodology is likely to deliver an underestimate of relevant state government expenditure. This is because not all relevant expenditure is identifiable in the budget papers, even with considerable further investigation. Often the way budget papers are structured means that spending that is clearly aimed at benefiting the minerals and fossil fuel industries is not readily identifiable.

For example, Victoria's Department of Primary Industries hosted Clean Coal Victoria for most of the analysis period. Clean Coal Victoria aims to "develop strategic plans to manage Victoria's lignite resource". However, as the Victorian budget papers include Clean Coal Victoria's budget within a larger item of 'Primary Industries Policy', this expenditure cannot be identified and our analysis is likely to understate expenditure on this program. See the Victoria section for more details.

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⁸ Energy and Earth Resources, (n.d.) Government has a role

Treatment of government departments and programs

Clean Coal Victoria is a government program clearly devoted to promoting the minerals and fossil fuel industries and its budget has been included in our analysis. Other government departments relate to administering and regulating these industries – for example, in Victoria the state Environmental Protection Agency has considerable involvement in monitoring and enforcing environmental regulations – but they have been excluded from our analysis. Expenditure relating to monitoring and enforcement is not included because this relates to regulation of the state's environmental assets, rather than promotion of industry and undertaking functions that directly benefit industry.

Considerable grey area can exist in such departments. For example, the New South Wales Department of Trade and Investment, Regional Infrastructure and Services section, Energy and Resources program carries out many functions that promote and assist the state's coal industry, but also engages in functions relating to safety and environmental performance. Departments with substantial crossover between regulation and promotion have been entirely excluded from our assessment.

A good example of these different functions is in the Tasmanian Department of Infrastructure, Energy and Resources's Mineral Resources Management and Administration Output Group. This Group has two sections. The Minerals Exploration and Land Management section focuses on:¹⁰

- improving the quality and quantity of geoscience information, including the development of a revised three dimensional geological model of the state, with a view to encouraging mineral exploration
- promoting Tasmania nationally and internationally through targeted and strategic marketing.

As this section aims mainly to encourage and promote, it is included in our analysis. The other section, Tenement Management of the Exploration and Minerals Industry has not been included as it focuses on:¹¹

- · administering legal titles for mining tenements
- managing royalty regimes and collecting fees and rentals.

These two sections are separate items in the Tasmanian budget papers, enabling their separate treatment. Had they not been reported as separate line items, expenditure on both would have been omitted.

Technical considerations

Budget paper line items are reported as different amounts depending on the year. In most instances the item will be 'budgeted' for the coming financial year and an 'estimated actual' figure is posted for the previous financial year. These categories can be seen in Figure 5 above, where the Port Headland Port Authority's capital spending is reported as budgeted and estimated actual for the beginning and ending financial years. In some places final 'actual' figures and future 'forward estimates' are provided, as in Figure 5. Our estimates are based on estimated actual figures aside from the current financial year, where we have included budgeted figures.

The full list of individual projects and programs included in this analysis is included as an Appendix C.

¹¹ Tasmanian Budget Papers 2009-10, Budget Paper 2, Volume 1, Chapter 6, p6.15



⁹ See NSW Budget Papers 2013-14, Budget paper 3, Chapter 8, p8-9 for further description.

Tasmanian Budget Papers 2009-10, Budget Paper 2, Volume 1, Chapter 6, p6.14

Appendix B - Details of selected subsidies by state

This appendix provides a greater level of detail on the assistance provided by each state to the minerals and fossil fuel industries. Assistance is broken down by year through the analysis period, by level of dedication and by industry segment. The key themes and projects of each state are discussed in greater detail.

Queensland

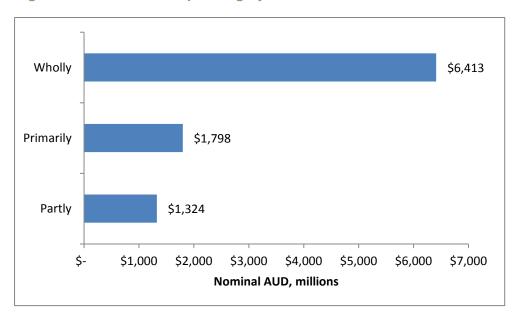
Queensland's assistance to the mineral and fossil fuel industries is, by far, the largest of any state, with a total of more than \$9.5 billion spent between 2008-09 and 2013-14, accounting for over 50 per cent of all state government assistance to these industries.

Table B1: Queensland expenditure by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Queensland	2,932.7	1,525.8	1,362.9	831.1	1,398.9	1,489.6	9,541.1

Queensland's spending has primarily been directed at projects wholly related to these industries, rather than shared with other users, as shown in Figure B1 below:

Figure B1: Queensland spending by level of dedication



The vast bulk of these have been to the coal transport sector, as shown in Figure B2 below:

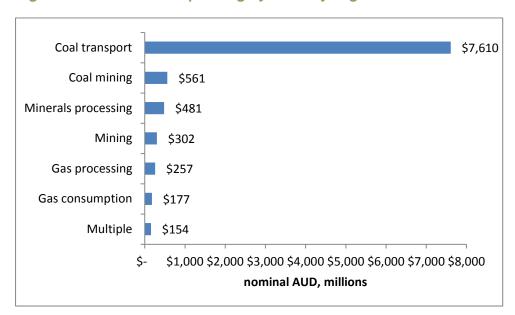


Figure B2: Queensland spending by industry segment

Queensland – key themes and projects

The vast bulk of Queensland's assistance to the minerals and fossil fuel industry relates to the transport of coal, by rail and at coal ports. Our analysis finds that \$4.6 billion dollars was spent in the period of analysis on wholly-devoted, new capital expenditure for coal transport – mainly railways and ports. Some of these assets were privatised during this period, with little discussion of this expenditure. Many of these projects are outlined in the Queensland Government's Coal Plan and its Galilee Basin Development strategy.¹²

Queensland's most recent budget papers take a different approach to earlier papers and those of other states in reporting government concessions. These differences affect mainly rail infrastructure, but also other aspects of assistance for minerals and fossil fuel industries.

Rail infrastructure

Over \$3.7 billion was spent on the rail network and rolling stock between 2008-09 and 2013-14. Some of these projects involved expenditures of hundreds of millions of dollars, such as the Goonyella-Abbot Point Expansion and the Jilalan Rail Yard upgrade.

The Queensland Government spent \$831 million on the Goonyella-Abbot Point Expansion, mainly between 2010 and 2012. The project, located in Central Queensland's Bowen Basin is often referred to as the 'missing link' project, as it connected two coal railway systems. It enables coal mines that were previously only able to ship coal out of Hay Point, near Mackay, to rail coal to Abbot Point near Bowen.

The Jilalan Rail Yard near Mackay coordinates train and wagon configuration and queuing and links the Bowen Basin coal mines to the port terminals of Hay Point and Dalrymple Bay. It was built in the 1970s and received a major upgrade between 2008 and 2010 at a cost to the Queensland government of \$485.6 million.

Our analysis shows there was investment in 44 other capital projects for rail infrastructure and rolling stock, mainly early in the 2008-09 to 2013-14 analysis period. Much of this was in the lead up to the privatisation of Queensland rail assets.

¹² Queensland DIP (2010) Coal Plan 2030; Queensland Government (2013) Galilee Basin Development Strategy



Privatisation of Queensland Rail

In 2010 the Queensland Government separated QR National (coal and freight haulage) from QR Limited (passenger and network infrastructure services). The former was privatised through stock market listing in November that year. The sale of 66 per cent of the Queensland government's stake raised \$4.6 billion for the government, a price that was well received by some in the media at the time. In 2012 the Liberal National Party administration then reduced the government's ownership stake from around 34 per cent to 16 per cent for around \$1.5 billion. The sale of QR national was widely criticised by economists as representing poor value for money for Queensland taxpayers. QR National was rebranded as Aurizon in December 2012, which had stock market valuation of \$10.9 billion at time of writing.

While a full assessment of the sale estimating the loss to taxpayers associated with the privatisation or QR National is beyond the scope of this project, our results suggest that Queensland taxpayers spent around \$3 billion on capital investment in the years leading up to the privatisation. Major capital projects during this period included the Missing Link and Jilalan projects mentioned above, the procurement of 1,190 New VCA 106T coal wagons worth \$156 million and many other smaller expenditure items listed in the appendix.

Port Projects

The Queensland Government spent over \$2.6 billion dollars on port projects during the analysis period. Major projects included the RG Tanna Coal Terminal Expansion and several expansions of the Abbot Point coal port.

The RG Tanna Coal Terminal is one of the terminals at the Port of Gladstone in Central Queensland. The Queensland government spent \$780 million on expanding the RG Tanna Coal Terminal (RGTCT) through the analysis period, through the government-owned Gladstone Port Corporation.

The Abbot Point Coal Terminal is owned by the government-owned North Queensland Bulk Ports Corporation (NQBPC) and is Australia's most northernmost coal port. The port's X25 expansion from 21 to 25 million tonnes of coal per year was completed in June 2009. The recent X50 expansion has doubled the terminal's previous capacity to 50 million tonnes per year of coal at a cost to the state budget of \$724.1 million. This accounts for most of the \$1.0 billion the Queensland government has spent during the analysis period on expanding Abbot Point.

There are plans for the further expansion of the Abbot Point coal port through three new terminals, referred to as T0, T2 and T3. NQBPC spent \$23.6 million in preliminary spending on T2 and T3 between 2011-12 and the current budget year. Terminal 0 and Terminal 3 are primarily designed to provide port capacity for the opening up of coal mining in the Galilee Basin.

Galilee Basin

A significant amount of Queensland government expenditure on minerals and fossil fuel industries is aimed at facilitating the development of the Galilee Basin's coal reserves. The

14 Wiggins J, Cranston M and Thompson S (2012) Newman's bags \$400m in QR sale

¹³ Lannin S (2010) QR National float surprises market

¹⁵ Quiggin J (2009) Economists statement on Queensland asset sales; Quiggin J (2010) Bad politics makes bad policy: the case of Queensland's asset sales program

Galilee Basin has large coal deposits, but is located hundreds of kilometres further west and transport requirements have made development economically unviable.

Estimating the assistance already provided to would-be miners in the Galilee is difficult, but further assistance is on offer. Recent undertakings to waive royalties for Galilee Basin miners will further subsidise the development of those deposits and the Abbot Point terminal. 16,17 Consideration of this subsidy is not included in this report.

Concessions in the Queensland Budget Papers

Concessions provide a discount or subsidy for users of particular services, such as discounted public transport for students and senior citizens or discounts on utilities to low income households. Queensland's 2013-14 budget papers adopt a:18

more comprehensive reporting and assessment of the level of Government concessions, and their contribution towards Government priorities, as recommended in the Final Report of the Independent Commission of Audit.

This more comprehensive approach includes not just concessions on the usual charges that users would pay, but also incorporates the full cost to government of providing these services and the difference between what users pay and the cost to government. The Budget Papers provide the example of public transport: 19

Previously, the public transport concession was costed on the basis of where fares for the aged, disabled or low income individuals were less than the standard adult fare. However, this measure does not capture the full subsidy that is provided to public transport users. On average, in 2013-14 it is estimated that the prices passengers pay for public transport in South East Queensland will cover some 26 per cent of the cost of providing the service.

By incorporating the full cost to government of providing public transport, the new concession statement estimates public transport concessions at over \$1 billion, compared to the former estimate of around \$70 million.²⁰

This change introduces new items into the concession statement that relate to the minerals and fossil fuel industries, which also use government services at less than their full cost. The concessions relevant to the minerals and fossil fuel industries are detailed in Table B2 below:

Table B2: Queensland Concessions Statement items relevant to minerals and fossil fuel industries (\$m)

Direct concessions	2012-13	2013-14
Rail Network and Infrastructure Funding	503.7	546.9
Gladstone Power Station subsidies (a)	233.6	233.6

¹⁶ Heber A (2013) Discount mining royalties on the table for Galilee miners

See Queensland Government (2012) State Budget 2012-13 Appendix B - Concessions Statement, pp175, estimate obtained by adding Rail Concession Scheme to Other Transport Concessions.



¹⁷ Queensland Government (2013) 'Ministerial Media Statements' *Plan to develop Galilee Basin unveiled* Premier Campbell Newman and Deputy Premier, Minister for State Development, Infrastructure and Planning Jeff Seeney, 7 November, 2013

18 Queensland Government (2013) State Budget 2013-14 Concessions Statement, pp1.

¹⁹ Queensland Government (2013) State Budget 2013-14 Concessions Statement, pp1.

Gladstone Port charges concessions	44.7	47.3
Gladstone Port lease concessions	3.5	3.4
NQ Bulk Ports lease concessions	1.5	1.5
Mining industry training subsidy	0.3	3.0
Queensland concession payments for mining industry activity	787.3	835.7

Source: Queensland State Budget Papers 2012-13 and 2013-14. Estimate provided in 2012-13 Budget Paper 2.

The largest relevant item in the Queensland Concession Statement relates to rail network and infrastructure funding. It seems likely that this relates almost wholly to the coal industry, as concessions relating to public transport and agricultural freight are covered in other lines of the concession statement. However, we have categorised these items as only partly related to the minerals and fossil fuel industries as the explanation later in the concession statement includes other users, as shown in Figure B3 below:

Figure B3: Minerals and fossil fuel industry related rail concessions in Queensland budget papers

	2012-13 \$ million	2013-14 \$ million
Rail Network and Infrastructure Funding	503.7	546.9

This contract arrangement provides funding to ensure that the State supported rail network is safe, reliable and fit for purpose. The contract also provides funding to Queensland Rail to support major capital projects and related asset strategies. The funding provided via this contract directly benefits customers of the State supported rail network, including both freight and passengers. Without this funding, rail access charges (including public transport fares) would be significantly higher for all users of the rail network.

Source: Queensland State Budget 2013-14 'Concessions Statement', p29

As these concessions have only been reported in the most recent budget papers, values for the rest of the analysis period are unavailable. This is likely to be a source of considerable underestimation in our estimates for all states. If other states adopt a similar approach to Queensland, identification of state government assistance to minerals and fossil fuel industries may become easier.

Western Australia

In terms of physical volume of mineral production, Western Australia is the country's biggest mining state and it also spends large amounts of money assisting the minerals and fossil fuel industries. Annual expenditures have been mainly steady over the analysis period, as shown in Table B3 below:

Table B3: WA expenditures by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Western Australia	1,011.8	1,140.6	831.4	890.9	949.5	1,391.4	6,215.5

Western Australia's iron ore and gas industries are large in scale and well known. Other minerals are exported and coal is mined for domestic power generation. Western Australia therefore has a greater proportion of multi-user infrastructure relative to Queensland. Much of the West Australian government's assistance of these industries is on items that are categorised as 'partly' or 'primarily' dedicated to these industries. Even so, nearly \$2 billion has been directed to projects wholly devoted to the mineral and fossil fuel industries, particularly gas industry expansion, as shown in Figure B4 below.

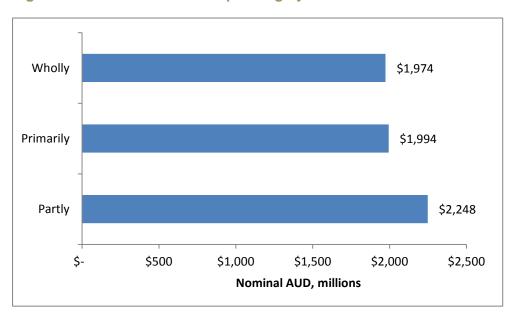


Figure B4: Western Australia spending by level of dedication

As Western Australia is host to many different segments of the minerals and fossil fuel industries, much spending has been categorised as benefiting multiple sectors, as shown in Figure B5 below:

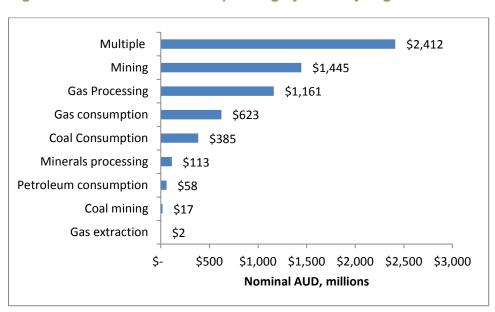


Figure B5: Western Australia spending by industry segment

WA Key themes and projects

Much of the West Australian government's assistance of the minerals and fossil fuel industries is found in the budget papers under very general-sounding line items, particularly 'Infrastructure for State Development' and 'Industry Development and Investment Facilitation'. The former relates primarily to road infrastructure provision, while the latter benefits a range of projects, primarily in the minerals and fossil fuel industries. State-owned port and electricity generation businesses also account for hundreds of millions of dollars of spending through the analysis period.

Roads

The largest item identified as spending relevant to the minerals and fossil fuel industries in the West Australian budget papers is a line item entitled 'Infrastructure for State Development', administered by the Commissioner for Main Roads in the Transport Department. Between 2008-09 and 2013-14 this item accounted for \$1.6 billion. The stated objective of the program is:

... to expand the road network in accordance with Government transport and land use strategies that will facilitate the economic and regional development of the State.21

This spending does not relate to existing road network maintenance, roads aimed for community benefit, works to reduce urban congestion, road safety or traffic management. These are covered in other budget items.

The projects funded under the Infrastructure for State Development umbrella, which are outlined in the budget papers, mainly relate to the minerals and fossil fuel industries. Examples include:²²

- Works on the Esperance Port access road Esperance Port is the southern hemisphere's largest exporter of nickel concentrate²³
- Port Headland road upgrades Port Headland exported over 280 million tonnes of iron ore in 2012-13²⁴
- Bunbury Port Access and Outer Ring roads Bunbury Port exports mainly alumina and other mineral products as well as woodchips.²⁵

Ascertaining to what extent other stakeholders also benefit from these projects is difficult. Due to this uncertainty we have categorised this spending as 'partly' devoted to 'multiple' industry categories.

Industry Development and Investment Facilitation funding

The second largest item in the West Australian budget papers identified as relevant to the minerals and fossil fuel industries is administered by the Department of State Development. Entitled 'Industry Development and Investment Facilitation', this item accounted for \$411

²¹ Government of Western Australia (2009) Western Australia 2009-10 Budget, Budget Paper No 2, vol 2:

Transport pp.426

These examples are listed in Government of Western Australia (2013) 2013-14 Budget Statements, Budget Paper No 2, Volume 1, Chapter 3, pp. 388.

23 Esperance Ports Sea and Land, About Esperance Ports Sea and Land

Port Headland Port Authority, 2012-13 Cargo Statistics and Port Information

²⁵ Bunbury Port Authority website

million over the analysis period. Projects that received assistance under this item are overwhelmingly related to the minerals and fossil fuel industries. Examples include:²⁶

- Chevron Wheatstone project, a large liquefied natural gas project.²⁷
- Perdaman Fertilisers project, a proposal to build a fertiliser plant using brown coal as a feedstock.²⁸
- Anketell multi-user port, a port proposal to export iron ore from the Pilbara.

As some other industries benefit from parts of this expenditure, it has been categorised as 'primarily' related to 'multiple' industry sectors.

Ports

In addition to the port projects mentioned above, West Australian government-owned port corporations have spent large amounts on capital works during the analysis period. According to the budget papers, we estimate this capital expenditure at \$764 million, outlined in Table B4 below:

Table B4: WA port authority capital works

Port Authority	\$ million
Dampier	85.0
Esperance	94.5
Fremantle	123.7
Geraldton	70.5
Port Hedland	389.8
Total	763.5

At time of writing, the Oakajee Port proposal north of Geraldon was attracting media attention due to controversial claims that sufficient finances had been raised to proceed with the long-proposed iron ore port. While the project looks unlikely to proceed at this stage, through the analysis period the West Australian government spent \$44 million on various expenses relating to the proposal. The government is anticipating spending much more, however, maintaining a \$339 million 'special purpose account' for the project, as shown in Figure B6 below:

 $^{^{26}}$ These examples from WA State budget papers 2011-12, budget paper 2, volume 1, p116.

²⁷ Chevron Australia, Wheatstone Project

²⁸ Perdaman Industries, *Collie Urea Manufacturing*

²⁹ Government of Western Australia, Anketell Port and Strategic Industrial Area Fact Sheet

³⁰ See for example Validakis V (2014) \$6 billion Oakajee port and rail funding partner revealed

Figure B6: Oakajee Port Special Purpose Account

Treasury - continued 335

	2011-12 Actual \$'000	2012-13 Budget \$'000	2012-13 Estimated Actual \$'000	2013-14 Budget Estimate \$'000	2014-15 Forward Estimate \$'000	2015-16 Forward Estimate \$'000	2016-17 Forward Estimate \$'000
Item 137 – Royalties for Regions ^(g) Item 138 – WA Health ^(p)	510,950 18,879	563,058 60,146	563,058 35,941	803,647 51,772	733,045 32,416	829,636 25,247	681,087 67,296
Item 139 – Water Corporation of Western Australia	-	9,490	9,490	5,080	-	-	-
Electricity Generation Corporation (Verve Energy) Western Australian Land Authority	31,321	24,464	24,464	-	-	-	40,000
Other							
Item 140 - Fiona Stanley Hospital Construction Account Item 141 - New Children's Hospital	-	125,000	125,000	15,000	6,500	-	
Account Item 142 – New Perth Stadium Account	505,000	70,000 100,000	70,000 100,000	182,000 15,000	330,000 135,000	69,500 430,000	490,000
Oakajee Port Special Purpose Account Perry Lakes Trust Account	2,775	2,086	1,000	-	-	339,000	
Western Australian Future Fund (9)	-	-	-	-	-	-	69,100

Source: WA Budget papers 2013-14, budget paper number 2, volume 1, p335

This expenditure is still in the forward estimates of the budget, so it has not been included in our analysis. The \$44 million already spent has been categorised as wholly dedicated to the mining industry.

Electricity generation

Through the analysis period, most of Western Australia's electricity was generated by the state-owned Verve Energy. Verve invested heavily in fossil fuel energy through this time, spending \$1 billion on new and retro-fitting capital assets. In the current budget:³¹

An allocation of \$287.3 million has been made for works on Verve Energy's fossil fuel plant portfolio and supporting infrastructure.

While Verve's sustainable energy investment consists of:

An allocation of \$2.1 million ... mainly for a power station upgrade at Denham.

This is shown in more detail in Figure B7 below:

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³¹ WA State Budget Papers 2013-14, Budget paper 2, ch3, vol2, p751, http://www.treasury.wa.gov.au/cms/uploadedFiles/State_Budget/Budget_2013_14/bp2_chpt_3v2.pdf?n=1372

Figure B7: WA Verve Energy Asset Investment Program

751

VERVE ENERGY

ASSET INVESTMENT PROGRAM

The primary functions of Verve Energy are to generate and supply electricity in the South West Interconnected System (SWIS) region. It currently owns a portfolio of thermal generating stations and gas turbines utilising coal, gas and liquids as fuel sources, as well as interests in wind farms and photovoltaic generating systems. In addition, Verve Energy has Power Purchase Agreements with a number of independent power producers.

Over the Budget and forward estimates period Verve Energy will spend \$289.4 million on its Asset Investment Program.

Generation

An allocation of \$287.3 million has been made for works on Verve Energy's fossil fuel plant portfolio and supporting infrastructure. Major items within this total include:

- \$128.8 million at Muja CD Power Station for various works to support reliability, efficiency and environmental targets.
 Major works include: \$19.6 million at Stages C and D to accommodate two shifting and low load requirements including the installation of modern governor systems; \$5.5 million for a precipitator performance upgrade at Stages C and D; \$5.5 million for a condensate polisher plant upgrade at Stage C; and \$5 million for generator stator rewinds at Stage C that are nearing the end of their technical life;
- \$48.1 million to improve gas turbine reliability and security of supply. Key works include: \$22 million for strategic spares at the Cockburn Gas Turbine; \$9.5 million for the installation of a bypass stack and other works on the Worsley Gas Turbine; and \$6.5 million for a speedtronics upgrade on the Pinjar Gas Turbines; and
- \$36 million provision for boiler repairs and other works at Muja AB Power Station pending review and final government decision.

Sustainable Energy

An allocation of \$2.1 million has been made, mainly for a power station upgrade at Denham.

Source: WA State Budget Papers 2013-14, Budget Paper 2, ch3, vol 2, p 751,

Note that in 2013 Verve merged with state-owned energy retailer, Synergy. The merged body is now called Synergy.

New South Wales

New South Wales is a major coal producer. The state also has several smelters and mineral processing operations. There are also proposals to develop gas production in the state. As shown in Table B5 below, the New South Wales government has spent \$872 million on capital and administered assistance to the selected industries over the 2008-09 to 2013-14 budget period.

Table B5: New South Wales state expenditures by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
New South Wales	235.3	166.1	97.6	157.3	80.1	136.4	872.8

The bulk of New South Wales spending on these industries has been categorised as 'primarily' dedicated to their assistance, as shown in Figure B8 below:



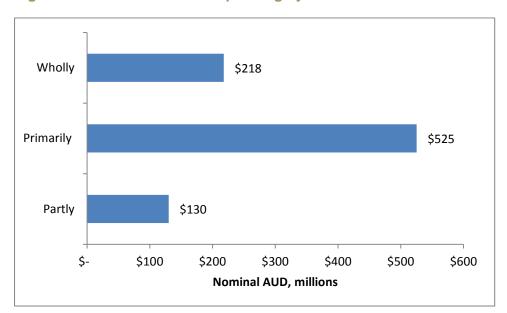


Figure B8: New South Wales spending by level of dedication

Around half of the 'primarily' dedicated expenditure relates to capital expenditures by the Port of Newcastle Corporation – \$228 million. Although 95 per cent of the port's cargo is coal, this expenditure was categorised as 'primarily' because small quantities of non-minerals and non-fossil fuel commodities also pass through the port.³²

Coal-related industry segments dominate assistance to the minerals and fossil fuel industries in New South Wales. Coal transport is the largest, as shown in Figure B9 below, again relating to capital expenditure on Newcastle Port as well as some rail-related projects:

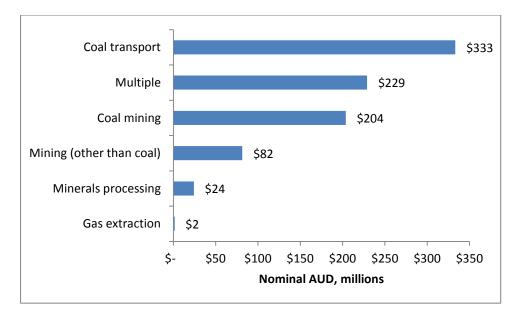


Figure B9: New South Wales spending by industry segment

Coal transport is also heavily present in the 'multiple' category. Of this, \$229 million is capital expenditure by the Port Kembla Port Corporation, where coal exports account for around half of the tonnage moving through the port. Coal mining assistance consists mainly of subsidies

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³² Newcastle Port Corporation, *Trade Statistics*

for 'clean coal' research, funding the state-owned Cobbora Coal project and direct assistance to mines in the Gunnedah and Western Coalfields.

New South Wales - Key themes and projects

Ports

Much state government spending assisting the minerals and fossil fuel industries through the analysis period was capital expenditure on ports in Newcastle and Port Kembla near Wollongong.

Port Kembla was privatised in 2013 for a price of \$760 million.³³ The price received for the privatisation was well received in the media, but there was little discussion of the amount of money that had been put into the port in the years leading up to the sale. It is beyond the scope of this paper to assess the net gain or loss to the stakeholders of this transaction, but New South Wales taxpayers should be aware of the considerable capital expenditure that has gone into the port – \$229 million during the analysis period alone.

More recently the Port of Newcastle has been privatised for \$1.75 billion. Similarly, while the deal is being described as 'momentous' by the New South Wales government, there is no discussion of the \$228 million in capital spending over the last six budget periods.³⁴

'Clean coal' research

Through the analysis period, the New South Wales government has spent \$87.5 million on the Clean Coal Fund, later renamed Coal Innovation New South Wales. The budget papers repeatedly state that this is a \$100 million project, although only \$87.5 million is evident from the budget papers. The difference may be explained through the government's funding of the Australian Coal Association Low Emissions Technologies project relating to the Delta Carbon Capture and Storage project. It is not clear from the budget papers to what extent this project is funded by government or from the Clean Coal Fund, as shown in Figure B10 below:

TAI

Nicholls S (2013) Port leases garner \$5 billion windfall for state government
 Wiggins J (2014) Port of Newcastle leased to Hastings in \$1.75 billion deal

Figure B10: Coal funding in New South Wales state budget 2010-11

Mineral Resources and Mine Safety

Significant 2009-10 achievements and developments are:

- managing the Government's four-year, \$100 million Clean Coal Fund supported by the Clean Coal Council
- implementing a joint funding agreement with the Australian Government and ACALET Ltd for the Delta Carbon Capture and Storage project, valued at \$28.3 million
- continuing the Government's support for increased mineral and petroleum exploration under the New Frontiers initiative, and the awarding of exploration licences for a number of coal release areas and
- implementing the Government's jobs stimulus package for the Western and Gunnedah coalfields.

Budget Estimates 2010-11

7 - 7

Source: NSW 2010-11 Budget Paper 3, Industry and Investment Cluster, p7-7

Confusingly, elsewhere in the same budget paper we are told of:35

\$21.5 million for the development of clean coal technology through the Clean Coal Fund, including through a carbon capture and storage demonstration project.

Our analysis includes both items found in the budget paper, which may result some double counting.

Any double counting on this front would, however, be easily outweighed by the loss to the New South Wales government relating to the treatment of the Coal Research Levy. This levy for \$0.05 per tonne of coal mined is fully deductable from royalties that coal miners pay to the New South Wales government for the rights to mine the state's coal. This deduction is effectively a subsidy of millions of dollars per year from the New South Wales government to the Australian Coal Association Research Program. 36 Other royalty deductions relate to:

- Coal processing expenses
- Mine subsidence levy
- Mines rescue levy
- Commonwealth levy for long service leave
- Insurance
- Bad debts

 $^{^{35}}$ 2010-11 budget paper 3, Industry and Investment Cluster, p7-14 36 Australian Coal Association Low Emmissions Technology website

All these levies are a cost to New South Wales taxpayers because they result in less royalties being collected. Estimating how much these deductions cost is beyond the scope of this paper and no figures are included in our analysis.³⁷ Many of these deductions were signed into law by corrupt former mining minister, Ian Macdonald, on 31 December 2008.³⁸

Cobbora Coal Project

The Cobbora Coal project is a New South Wales state government-owned coal project, the only government-owned coal project in New South Wales. The project was originally proposed to supply below-market-price coal to state-owned power generation assets. It had the endorsement of corrupt former minister, Ian Macdonald:

"This is about future [coal-] power generation for this State ... we are preparing for the future and make no apologies for doing so" 39

The economic rationale for the project has always been under question, however, and New South Wales Treasury recently stated:

The final feasibility study for the Cobbora coal mine has confirmed that around \$1.5 billion of capital expenditure is required to develop the Cobbora coal mine until it produces first coal. Forecast cash flows are insufficient to cover subsequent capital and operating expenditure over the life of the mine. The total loss to the Government, if arrangements are unchanged, would be in excess of \$1.5 billion.⁴⁰

This certain economic loss has caused the New South Wales government to withdraw from the original proposal to own and operate the mine, but it is still persisting with efforts to have the project approved for potential sale or lease. Through the analysis period, \$76 million was spent on the project's feasibility studies. Ongoing operating losses of the Cobbora Holding Company are not included in our analysis as they do not appear in identifiable form in the budget papers and our analysis is limited to examining spending on capital investments of government-owned businesses rather than ongoing operations. It is worth noting, however, that the Cobbora Holding Company runs at an annual loss of around \$6 million.⁴¹

Gunnedah and Western Coalfields subsidies

In 2009, followed lobbying from the New South Wales Minerals Council and the Construction, Forestry, Mining and Energy Union, \$20 million dollars was budgeted for direct payments to coal mine operators in the Gunnedah and Western Coalfields. Most of this subsidy seems to have gone to Centennial Coal. 42 The project had the strong endorsement of corrupt former mining minister, Ian Macdonald:

As a result of the current prices, some otherwise viable mines have become marginal propositions and thereby threaten the security of jobs in these regional areas. Now more than ever it is essential to sustain our important mining industry, which provides thousands of jobs to rural communities.⁴³

³⁷ NSW DII (2008) NSW Coal Mining Guidelines for Royalty Compliance

³⁸ Macdonald I (2008) Mining Act 1992 – determination under section 283 (5)

³⁹ Daily Liberal, *Cobbora mine to light up NSW* (2009)

⁴⁰ NSW Treasury (2013) NSW Budget Papers 2013-14, Chapter 9: Public p11

⁴¹ NSW Auditor General (2012) Report to Parliament, Volume 4, Cobbora Holding Company Pty Limited

⁴² Cubby B and Moore M (2009) Coal group to reap millions from budget

⁴³ NSW Legislative Assembly (2009) Hansard, Questions Without Notice: Mining Infrastructure and Jobs

As shown in Figure B11 below, \$20 million over two years was budgeted for this program. However, in the 2011-12 budget papers no reference is made estimated actual spending so our analysis includes only the \$10 million definitely spent.

Figure B11: Assistance Package for the Western and Gunnedah Coalfields

DEPARTMENT OF INDUSTRY AND INVESTMENT

SERVICE GROUP STATEMENTS (CONT)

Investment Attraction and Industry Development (cont)

	2009-10		2010-11
	Sudget \$000	Revised \$000	Sudget \$000
Financial Indicators:			
Total Expenses Excluding Losses	87,789	84,739	129,838
Total expenses include the following:			
Employee related	13,340	14,131	16,162
Other operating expenses	4,405	5,675	3,781
Grants and subsidies:	21,568	21,568	18,375
New South Wales Film and			
Television Office grant	13,824	13,824	8,416
Other expenses:	48,084	42,973	91,095
Assistance to industries	22,148	23,683	35,727
Assistance package for the Western	40.000	10.000	100000000000000000000000000000000000000
and Gunnedah Coalfields	10,000	10,000	10,000
Major Investment Attraction Scheme	10,000	4,000	40,000
Total Retained Revenue	1,150	2,406	1,687
NET COST OF SERVICES	86,639	82,333	128,151
CAPITAL EXPENDITURE	179	179	113

Source: NSW Budget Papers 2010-11, Budget Paper 3, Chapter 7, Industry Cluster, p7-32

Northern Territory

The Northern Territory has a range of mining and mineral processing operations. The major factor behind the increase in mining-related capital expenditure over the period is major gas projects in the Arafura Sea. Through this period the Northern Territory government has spent over \$400 million on the minerals and fossil fuel industries, as shown in Table B6 below.

Table B6: NT government minerals and fossil fuel expenditures by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Northern Territory	54.1	75.0	60.5	67.4	62.0	87.6	406.7

Most of the Northern Territory government's expenditure on minerals and fossil fuel industries relates to port development and an industry assistance program. The vast majority of this expenditure has been categorised as wholly dedicated to these industries, with the gas processing industry the major recipient, as shown in Figure B12 and Figure B13 below:

Figure B12: Northern Territory spending by level of dedication

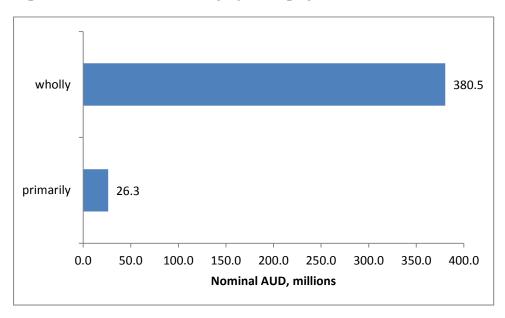
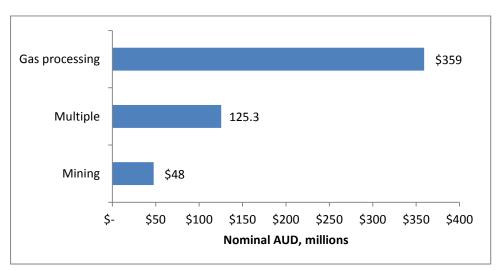


Figure B13: Northern Territory spending by industry segment



Northern Territory - Key themes and projects

Resource Industry Development

The Northern Territory government's Resource Industry Development program aims for the:44

Provision of quality services, information and advice to national and international stakeholders to support exploration and development of the Territory's mineral and energy resources.

It consists of a geological survey division and more general industry development section. Over the analysis period, budget papers outline \$125 million spent on this program. An example from the 2013-14 Budget, which shows \$11.7 million budgeted for the current year is shown in Figure B14 below:

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⁴⁴ NT 2013-14 Budget Paper number 3, p238

Figure B14: Northern Territory Resource Industry Development

Output Group: Resource Industry Development

Outcome: Provision of quality services, information and advice to national and international stakeholders to support exploration and development of the Territory's mineral and energy

Output Group/Output	2012-13 Mini Budget	2012-13 Estimate	2013-14 Budget
	\$000	\$000	\$000
Resource Industry Development	9 862	10 620	11 686
Northern Territory Geological Survey	8 799	9 074	10 756
Industry Development	1 063	1 546	930

Key Variations

The increase for the Northern Territory Geological Survey output mainly relates to additional funding to support geoscience exploration programs.

The decrease for the Industry Development output mainly relates to one-off revenue in 2012-13 for the Australia China Minerals Investment Summit to be held in Darwin and the completion of the Renewable Remote Power Generation Program in 2012-13.

Northern Territory Geological Survey

Collection, distribution and marketing of geological information and products.

Key Deliverables	2012-13 Mini Budget	Estimate	2013-14 Budget
New geospatial data sets and publications distributed to clients ¹			6 000
Geoscientific data products developed or updated ¹			65
Industry delegates at Annual Geoscience Exploration Seminar	230	210	210
Target rating for geological database in FIAS ²	10 th	12 th	10 th
Information and product request responses within five days ³	90%	90%	90%
Products and industry reports distributed online ⁴		47%	50%

- 1 Revised measure; not comparable to previous years.
- 2 Fraser Institute Annual Survey (FIAS) assists governments to reform business environments via investment generation through a range of services including client satisfaction measures.

Agreed timeframes amended to five days.
 New measure reflecting revised business practices.

Department of Mines and Energy

Industry Development

Promotion activities to attract investment into greenfields exploration, and minerals and energy projects.

Key Deliverables	2012-13 Mini Budget	2012-13 Estimate	2013-14 Budget
Overseas investment attraction missions and seminars	4	2	2
International investment attraction events held domestically	2	2	2
New prospective international investment introductions made for NT projects ¹			150

1 New measure.

Source: 2013-14 Budget Paper 3 (pp. 238-9)

It is important to note that this program is separate from the Northern Territory's Resource Industry Management group, which administers the industry-monitoring regulations and environmental compliance. The activities of this group have not been included in the analysis as their activities relate to management of the minerals and fossil fuel industries rather than assistance through provision of services and promotion.

Port and related infrastructure

Through the analysis period, \$238 million was spent on capital works relating to port facilities by the Darwin Port Corporation and the Land Development Corporation. These works mainly aim to facilitate the export of gas and some mineral products. Examples include:

- Marine Supply Base to service the offshore oil and gas industry forecast to cost over \$100m, the project is still under construction, with \$83 million already spent
- East Arm bulk load facility, which connects iron ore storages via 2.5 kilometre conveyor to loading facilities the project cost \$40.9 million over the 2008-09 to 2011-12 budget periods.

South Australia

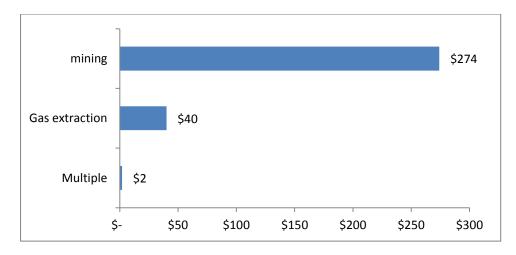
South Australia hosts a range of minerals and fossil fuel projects. Some of the best known include the Olympic Dam mine owned by BHP Billiton, which produces copper, gold, silver and uranium and the Moomba gas fields, owned by Santos. South Australia's government provided over \$300 million of assistance to the minerals and fossil fuel industries during the analysis period, as shown in Table B7 below:

Table B7: South Australian government expenditure by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
South Australia	20.0	35.6	44.4	65.1	80.6	70.6	316.2

The bulk of expenditures on minerals and fossil fuel industries in the South Australian budget papers are directed at the mining (other than coal) sector, with some also aimed at developing gas extraction. Most of these are wholly directed at these industries, as shown in Figure B15 and Figure B16 below:

Figure B15: South Australia spending by industry segment



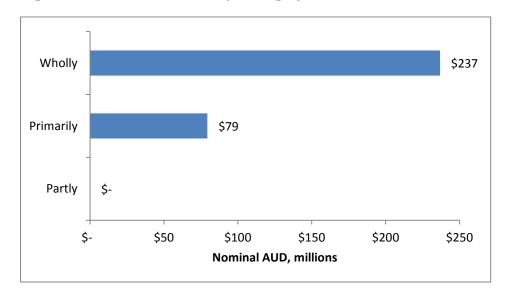


Figure B16: South Australia spending by level of dedication

South Australia - Key themes and projects

Unlike most other states, much of South Australia's spending on the minerals and fossil fuel industries identified in the budget papers is on administered programs rather than capital investment. The state government has programs dedicated to assisting both minerals and energy sectors. Items of capital investment relate to roads and ports. Another item relates to ongoing cleanup costs for the abandoned Brukunga Mine.

Minerals and Energy Resources Programs

Two programs administered under South Australia's Department for Manufacturing, Innovation, Trade, Resources and Energy are devoted to assisting the minerals and fossil fuel industries. Referred to in budget papers as the Mineral Resources program and the Energy Resources program, they aim to assist these industries rather than to regulate and monitor them, so they have been included in our analysis. Over the analysis period they received funding of \$189 million (minerals) and \$37 million (energy). Some of their recent achievements are outlined in Figure B17 and Figure B18 below. Note that PACE stands for Plan for Accelerating Exploration.

Figure B17: Highlights of South Australia's Mineral Resources program

Highlights 2012-13

- South Australia's mineral exploration expenditure for the 2012 calendar year was \$311.6 million, substantially exceeding South Australia's Strategic Plan Target of \$200 million per annum.
- Delivered PACE 2020 year three outcomes with the full implementation of PACE Exploration, PACE Mining, PACE Energy and PACE Global programs, including initiating round seven of PACE Discovery Drilling with industry and the launch of online tracking for Exploration Licence Applications through the South Australian Resources Information Geoserver (SARIG 2020).
- Contributed to the continued growth of South Australia's mining industry through dedicated case management of approvals for:
 - a retention lease for the Carrapateena copper-gold project
 - new mining operations at Arrium's Iron Monarch iron ore mine
 - the major project approval for stage 1 of the Centrex Metals Port Spencer bulk minerals export port development
 - the \$200 million expansion of Arrium's port facilities at Whyalla, increasing capacity from 6 million tons per annum to 13 million tons per annum.
- Endorsed recommendations of the Resources Energy Sector Infrastructure Council (RESIC) and progressed the development of the infrastructure channel.
- Significant involvement in the delivery of consultation reports for three regional mining and infrastructure plans underpinned by the 2011 RESIC Infrastructure Demand Study.
- Commenced a major targeted geoscience survey program around the Woomera Prohibited Area that will stimulate the next generation of world-class mine discoveries.

Source: South Australia 2013-14 Budget Agency Statements, Vol 3. Manufacturing, Innovation, Trade, Resources and Energy – Program 2 Mineral Resources p. 116

Figure B18: Highlights of South Australia's Energy Resources program

Highlights 2012-13

- Published the Roadmap for Unconventional Gas in South Australia.
- Conducted a roundtable workshop to bolster the implementation of recommendations in the Roadmap for Unconventional Gas in South Australia.
- Led the development of leading practice national regulatory frameworks to get leverage for petroleum, geothermal and gas storage projects in South Australia.
- Offered acreage in the Otway and Cooper-Eromanga Basins for competitive work program bids.

- Sustained national leadership in geothermal energy investment by facilitating Geodynamics' and Petratherm's Renewable Energy Demonstration Program projects.
- Updated and remade Petroleum and Geothermal Energy Regulations 2013.

Targets 2013-14

- Implement recommendations in the Roadmap for Unconventional Gas.
- Ensure efficient regulation administration, including co-regulatory agencies.
- Lead the development of leading practice national regulatory frameworks for unconventional gas
 to get leverage for South Australian projects.

Source: South Australia 2013-14 Budget Agency Statements, Vol 3. Manufacturing, Innovation, Trade, Resources and Energy – Program 2 Mineral Resources p. 118-119.

Capital works

The main capital works identified as relevant to the minerals and fossil fuel industries in the South Australian budget papers are the Port Bonython Jetty Refurbishment and an upgrade of the Port Augusta to Olympic Dam road.

Port Bonython is near Whyalla, at the northern end of Spencer Gulf, and services mainly gas projects, with refurbishments aimed at also assisting minerals projects. Over the analysis period, budget papers list \$23.9 million of expenditure on the project.

Over the analysis period \$19 million was allocated to upgrade the road connection between Port Augusta and the Olympic Dam mine. This is would primarily benefit the mine operators as the project currently requires about one million tonnes of supplies to be transported every year, a load moved primarily by road. There are also proposals to expand the Olympic Dam operation, although these have recently been postponed pending technological breakthrough. Any further expansion would further increase the need for road transport and use of this road infrastructure.

Brukunga mine remediation

The Brukunga mine in the Adelaide Hills mined pyrite minerals from 1955 to 1972. Since then the site has been contaminating local water resources due to poor closure practices.⁴⁷

Ongoing state expenditure at the site of the Brukunga pyrite mine east of Adelaide has totalled \$21.1 million over the period – with further remedial works on weir construction and control of acid seepage expected to continue into the future. The state's current expenditure program for the site has an estimated total cost of \$17.1 million and runs into the 2014-15 budget year, as shown in Figure B19 below:

⁴⁷ Department of Manufacturing, Innovation, Trade, Resources and Energy, *Brukunga mine site*

⁴⁵ BHP Billiton, Olympic Dam Expansion EIS: Materials Handling and Transport

⁴⁶ Heber A (2013) Olympic Dam expansion too much of a challenge for BHP

Figure B19: Brukunga mine in South Australia budget papers

·	Expected completion	Proposed expenditure 2013-14	Estimated total cost
	20	\$000	\$000
Department for Manufacturing, Innovation, Trade, Resources and Energy	100	92 92	
Existing Projects			
Brukunga Mine	Jun Qtr 2015	13 662	17 074
The construction of weirs above and below the mine site to divert the creek and increase the capacity of the treatment plant has been completed. The next stage of work will focus on long-term control of acid seepage from the rock dumps and progressive rehabilitation of the mine site.			

Source: SA Budget Papers 2013-14, Budget Paper 5 Capital Investment Statement, Chapter 2, p36.

Victoria

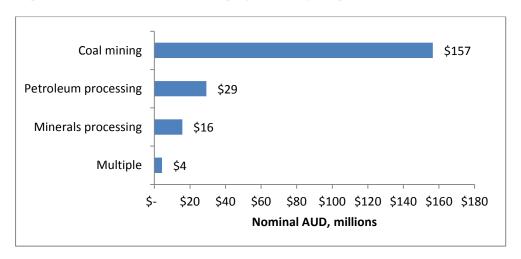
Victoria's mining operations are primarily directed at domestic power generation – the state's mineral processing industries have been facing challenges in recent years. The state is investing heavily in efforts to develop carbon capture and storage due to its large deposits and heavy use of carbon-intensive brown coal. State assistance to the minerals and fossil fuel industries runs into the tens of millions of dollars each year, as shown in Table B8 below:

Table B8: Victorian assistance by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Victoria	22.0	31.6	35.3	38.9	42.5	35.5	205.7

Victoria exports relatively few products from its minerals and fossil fuel sectors. Relative to other states, there has been little need for capital investment in railways, roads and ports. Instead, the Victorian government channels most of its assistance through carbon capture and storage programs, which have been categorised as assisting the coal mining industry and account for the bulk of expenditure shown in Figure B20 below:

Figure B20: Victorian spending by industry segment



Some products, such as refined petroleum or aluminium, are unearthed in other areas and further refined in Victoria. These sectors have faced challenges in recent years as overseas competitors have emerged and the Australian dollar has been high. One of the major items identified as being relevant to the minerals and fossil fuel industries is the construction of a water recycling plant for the Shell refinery near Geelong. This \$29 million project accounts for all of the assistance to the petroleum processing sector in the above table, and the bulk of the 'partly' dedicated category shown in Figure B21 below:

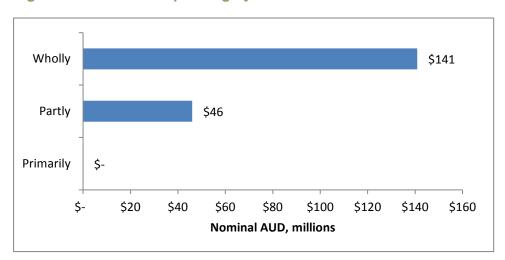


Figure B21: Victorian spending by level of dedication

Victoria – key themes and projects

Most of Victoria's assistance to the minerals and fossil fuel industries relates to administered programs to promote 'clean coal'. Our estimates are almost certain to understate Victoria's assistance to these industries, because much of the expenditure cannot be clearly identified from the budget papers. For example, the Department of State Development, Business and Innovation's Energy and Resources section has a budget of \$188 million in 2013-14. The vast bulk of its performance measures relate to the minerals and fossil fuel sector, even though it also has responsibility for renewable energy programs.⁴⁸

As Victoria has little in the way of railway, road or port spending related to the minerals and fossil fuel industries, most capital spending is on water-related infrastructure.

Clean Coal

The Victorian government budgeted at least \$135 million to subsidise clean coal research over the assessment period. Most of this money was allocated to subsidising research and the development of carbon capture and storage. Despite more than \$100 million and six years, the main project is still in the very early stages of development according to its webpage, last updated in February 2014:

CarbonNet is at feasibility and commercial definition stage. During this stage CarbonNet is continuing evaluation of potential storage sites with the aim of selecting one or two sites for high grade detailed mapping to determine the optimum locations for the safe, long term storage of CO2.⁴⁹

⁴⁹ Department of State Development, Business and Innovation, Why we need the CarbonNet Project

⁴⁸ See Victorian budget papers 2013-14, budget paper 3, p234-237.

In addition to this project, the Victorian government funds Clean Coal Victoria, budgeted at around \$2.5 million per year, and has contributed \$45 million to the Advanced Lignite Demonstration Program. It also runs Brown Coal Innovation Australia and the coal-oriented Energy technology Innovation Strategy. ⁵⁰ Establishing exactly how much was spent on these projects, and in what years, is difficult – for the bulk of the analysis period they were administered by the Department of Primary Industries and reported as part of the 'Primary Industries Policy' line item and not recorded separately from other policies, as shown in Figure B22 below:

Figure B22: Victorian 'clean coal' funding in Department of Primary Industries

(\$ million)

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	2010-11	2010-11	2011-12	Variation (a)
	Budget	Revised	Budget	%
Primary Industries Policy (b)	66.9	63.9	83.9	25.4
Regulation and Compliance (c)	116.2	155.2	111.3	-4.2
Strategic and Applied Scientific Research (d)(e)	208.1	227.5	254.0	22.1
Sustainable Practice Change ^(f)	119.7	125.4	81.5	-31.9
Total (g)	510.9	572.0	530.7	3.9

Source: Department of Primary Industries

Notes:

(a) Variation between 2010-11 Budget and 2011-12 Budget.

(b) The 2011-12 output cost is higher than the 2010-11 output cost due to additional funding received for Carbon Net to explore the development of an integrated network to capture and transport carbon to storage sites.

Source: Victorian 2011-12 Budget Papers, Budget Paper 3, chapter 1, p295

Note the footnote (b), in Figure B22, which applies to Primary Industries Policy, reproduced below for clarity:

The 2011-12 output cost is higher than the 2010-11 output cost due to additional funding received for CarbonNet to explore the development of an integrated network to capture and transport carbon to storage sites

From 2013-14 responsibility for these programs has been moved to the Department of State Development, Business and Innovation, which has begun reporting some of these items separately.

The Victorian government has been considerably more generous to funding 'clean coal' than it has been in funding renewable energy, which received only \$74 million over this period, as shown in Figure B23 below:

⁵⁰ Department of State Development, Business and Innovation, *Government has a role*



Figure B23: Victorian 2008-09 budget sustainable energy and 'clean coal'

Leading on sustainable energy technologies

Achieving the Victorian Government's objective to reduce greenhouse gas emissions by 60 per cent of 2000 levels by 2050 will require more than just cuts to current fossil fuel emission levels. It will also require the development of a range of low emission sustainable energy technologies. The 2008-09 Budget provides \$74 million over six years, aimed at stimulating new sustainable energy technologies. The key initiative provides \$72 million over six years to support large scale, pre-commercialisation demonstration of sustainable energy technologies, such as solar energy storage, biofuels, biomass conversion, geothermal energy efficiency and clean distributed energy.

Funding has also been provided for an enhanced Sustainable Transport Energy policy capability and to explore options for promoting the uptake of low emission transport fuels and vehicles in Victoria.

Positioning Victoria as a Carbon Capture and Storage leader

Victoria's brown coal resources in the Latrobe Valley are amongst the largest in the world and produce around 85 per cent of the electricity used by Victorians every year. To ensure that Victoria is able to reduce emissions in a carbon constrained environment, the 2008-09 Budget commits \$132 million over six years to the development of Carbon Capture and Storage (CCS) technologies and for coal related industries. The initiatives will drive innovation in technology, practice and skills development and deliver significant investment in the state's energy regions. Specific initiatives include:

Source: Victorian Budget Papers 2008-09, Budget Paper 3, Chapter 1, p28

Water infrastructure

Water projects identified in the budget papers as relating to the minerals and fossil fuel industries consist of a large project near Geelong, the Geelong-Shell Water Recycling Project and a series of smaller projects in the Latrobe Valley which relate to the area's coal mines and power plants.

Between 2009-10 and 2012-13 the Victorian government, through Barwon Water, spent \$29.2 on the Geelong-Shell Water Recycling Project. The project will supply the Shell refinery with 1,817 megalitres of water per year, reducing its need to use domestic water supply. The project will also provide water for community use. Shell and the Australian government also contributed to the project.⁵¹

A series of small water infrastructure projects and upgrades in the Latrobe Valley were classified as partly benefiting the coal mining industry in that region. As these projects are major users of water in the Latrobe Valley, they benefit from upgrades to network infrastructure. The value of these projects in the budget papers was \$20.0 million over the analysis period.

⁵¹ Department of the Environment, Geelong-Shell Water Recycling Project (also known as the Northern Water Plant)

Mining the age of entitlement

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Tasmania

Tasmania has a number of operating mines and there have been recent proposals to begin new projects, including in environmentally sensitive areas such as the Tarkine in the northwest of the island. The state also has a long-established minerals processing industry, with several smelters operating, particularly around Bell Bay near Launceston. These operations benefit from discounted electricity from the state-owned Hydro Tasmania, but this discount is not easily identified in the budget papers. Other measures which are outlined in the budget papers as assisting the minerals and fossil fuel industries are totalled in Table B10 below:

Table B10: Tasmania – expenditure by year (\$ million)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Tasmania	5.1	4.5	7.1	10.8	9.3	17.3	54.1

Most of the relevant expenditure from the Tasmanian budget papers is either wholly or primarily dedicated to the mining industry, with some identified assistance also benefiting the minerals processing sector, as shown in Figures B24 and B25 below:

Figure B24: Tasmania spending by level of dedication

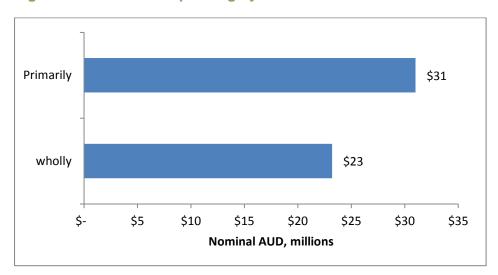
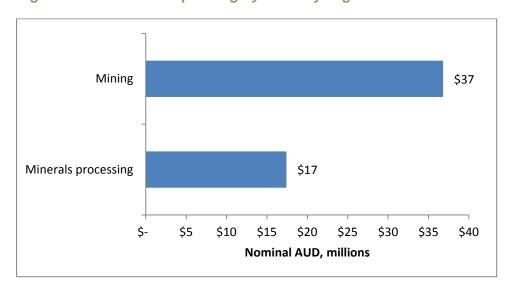


Figure B25: Tasmania spending by industry segment



Tasmania - key themes and projects

Ironically, the key form of assistance to the Tasmanian minerals processing industry is not found in the budget papers, as it relates to the provision of electricity. The budget papers do outline some capital investment and administered programs that directly assist minerals and fossil fuel industries in the state.

Electricity provision

The major subsidy to the minerals and fossil fuel industries in Tasmania is likely to be the provision of electricity to minerals processing operations at prices below market rates by state-owned Hydro Tasmania. In 2002 The Australia Institute estimated the subsidy to the Bell Bay Pacific Aluminium smelter alone at \$15 million per year. ⁵² The other major smelters, BHP's Temco manganese smelter and the Nystar zinc smelter, also receive a subsidy in this way. These major electricity consumers account for nearly half of all Tasmanian consumption and rely on cheap electricity to stay competitive with overseas competitors. ⁵³

Controversy over the prices paid by the major smelters for their electricity is almost a century old and looks set to continue well into the new millennium:⁵⁴

Ever since the debate in 1916 over the price at which the Hydro-Electric Department had contracted to supply the new zinc smelter being constructed by the Electrolytic Zinc Company of Australasia at Risdon, the Tasmanian public has held a keen interest in the relative price of electricity paid by small and large users in Tasmania.

The debate about the "the zinc bargain", as it was known at the time, was arguably the beginning of the ongoing speculation that significant cross-subsidisation exists between different classes of customers. This idea has been fuelled over the intervening years by pricing for large users of electricity that has lacked transparency from the perspective of the general community.

No published information is available in relation to the prices paid by Tasmania's largest commercial and industrial users of electricity.

Budget papers contain no indication as to the level of subsidy provided by Hydro Tasmania to industrial users and no figure is included in our analysis.

Capital and administered expenses

Major capital items included in the analysis relate to infrastructure provision in the Bell Bay area (\$18 million) and road construction on the West Coast, which will primarily benefit mining operations (\$14 million).

The Tasmanian Department of Infrastructure, Energy and Resources runs Minerals Resources Tasmania. The operating budget of its Minerals Exploration and Land Management Output is included as this program relates to the promotion rather than management of the industry. (See more detailed discussion on this body in the Methodology section.) The budget for this program was \$22 million during the analysis period.

⁵⁴ Electricity Industry Panel (2011) p64

⁵² Turton H (2002) The Aluminium Smelting Industry: Structure, market power, subsidies and greenhouse gas

⁵³ Electricity Industry Panel (2011) Tasmania's Energy Sector – an Overview

Appendix C – Full list of projects and programs

Queensland

QUEENSLAND BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
INFRASTRUCTURE AND PLANNING			
Targinie Precinct (Gladstone Infrastructure Corridor)	Gas processing	Primarily	74.5
Stanwell to Gladstone Infrastructure Corridor	Gas processing	Primarily	9.5
Materials Transport and Services Corridor	Gas processing	Wholly	19.5
Callide to Gladstone LNG Corridor	Gas processing	Wholly	32.0
Abbot Point State Development Area (Land)	Coal transport	Primarily	19.5
Abbot Point State Development Area (service infrastructure)	Coal transport	Primarily	11.5
Abbot Point Indigenous Land Use Agreement	Coal transport	Primarily	3.9
Gladstone State Development Area (land)	Gas processing	Primarily	11.0
Gladstone State Development Area (service infrastructure)	Gas processing	Primarily	63.0
Surat Basin Rail Land Acquisition	Coal transport	Wholly	14.6
Aurukun Barge Landing	Mining	Primarily	1.3
Curtis Island LNG Water Pipeline Project (Gladstone Water Board)	Gas processing	Primarily	47.6
MINES AND ENERGY			
Abandoned Mines	Mining	Wholly	7.5
Mining Tenure 'Streamlining'	Mining	Wholly	16.0
Automated Titles System Modification	Mining	Primarily	5.9
Drill Core Facility (Mt Isa)	Mining	Wholly	5.1
Explosives Reserves	Mining	Wholly	1.0
Electricity PNFCs			
Mica Creek Power Station (CS Energy)	Gas consumption	Wholly	116.7
Kunioon Mine (Tarong Energy)	Coal mining	Wholly	133.3
Meandu Mine Project (Tarong Energy)	Coal mining	Wholly	209.9
Mine Void Ash Disposal Project (Tarong Energy)	Coal mining	Wholly	31.4
Glen Wilga Mine Review (Tarong Energy)	Coal mining	Wholly	26.4
Larcom Creek Substaion (Powerlink)	Coal transport	Primarily	74.3
Reinforce Gladstone Electricity Supply (Ergon)	Multiple	Primarily	23.2
Reinforce Goonyella Electricity Supply (Ergon)	Coal transport	Primarily	33.6
Reinforce Bowen Basin Broadlea Elec Supply (Ergon)	Coal transport	Primarily	41.9
Reinforce Boyne Island Electricity Supply (Ergon)	Minerals processing	Primarily	13.7
Moranbah Supply Augmentation (Ergon)	Coal transport	Primarily	11.3
Gladstone Substation Replacement (Powerlink)	Multiple	Primarily	126.3
Collinsville Substation Replacement (Powerlink)	Coal transport	Primarily	32.4
Dalrymple Bay-Hay Point supply (Ergon)	Coal transport	Wholly	60.5
Abbot Point supply (Ergon)	Coal transport	Wholly	32.4
Miles Generator (Qld Gas Co)	Gas consumption	Wholly	34.0
Arrow Energy Generator Connection (CS Energy)	Gas consumption	Wholly	23.6
NATURAL RESOURCES AND WATER			
Nathan Dam - Northern Bowen Basin supply	Coal mining	Partly	55.6



Conners Diver Dam Northern Bowen Pacin supply	Coal mining	Darth	68.2
Connors River Dam - Northern Bowen Basin supply Yarwun Industrial Water Treatment (Gladstone)	Coal mining Multiple	Partly Primarily	3.3
Lake Julius gas electricity distribution lines (Cloncurry)	Gas consumption	Wholly	2.3
Collinsville Pipeline	Coal mining	Partly	1.5
Burdekin-Moranbah Pipeline	Coal mining	Partly	9.6
Eungella Dam Water Pipeline	Coal mining	Partly	0.4
Aldoga Reservoir Site	Multiple	Primarily	1.1
Nathan Dam (Prefeasibility and Business Case)	Coal mining	Partly	10.8
Connors River Dam (Prefeasibility and Business Case)	Coal mining	Partly	10.5
TRANSPORT	Courming	rartiy	10.5
Rail Network			
Jilalan Yard Upgrade	Coal transport	Wholly	485.6
Northern Minerals Provence: Driver activated points	Mining	Wholly	107.0
Dalrymple Bay Coal Terminal 3rd Loop	Coal transport	Wholly	118.8
Broadlea-Mallawa-Wotonga Duplication	Coal transport	Wholly	67.6
Stanwell to Wycarbah Duplication	Coal transport	Wholly	71.5
Mt Isa Line Concrete Relay & works	Mining	Partly	117.2
Goonyella-Abbot Point Expansion (Missing Link Project)	Coal transport	Wholly	830.7
Goonyella-Abbot Point Expansion (Long Lead Time	Coal transport	Wholly	42.1
Items)	•	•	
Callemonda 3rd Spur	Coal transport	Wholly	35.8
Westwood to Wycarbah Duplication	Coal transport	Wholly	30.2
Bolingbroke Electricity Feeder Station	Coal transport	Wholly	29.9
Raglan Electricity Feeder Station	Coal transport	Wholly	52.0
Duaringa Electricity Feeder Station	Coal transport	Wholly	47.4
Wycarbah Electricity Feeder Station	Coal transport	Wholly	47.3
Bluff Electricity Feeder Station	Coal transport	Wholly	45.5
Vermont Spur and Balloon Loop	Coal transport	Wholly	71.8
Coppabella Yard Upgrade	Coal transport	Wholly	7.3
Coppabella-Ingsdon Duplication	Coal transport	Wholly	75.4
Grantleigh to Tunnel Duplication	Coal transport	Wholly	49.0
Moura Line Passing Loops/Turnout Replacements	Coal transport	Wholly	22.6
Moura Link (Prelim Design)	Coal transport	Wholly	20.0
Wiggins Island (Gladstone) Balloon Loop	Coal transport	Wholly	23.0
Central Qld Coal Rail Formation Strengthening	Coal transport	Wholly	19.4
Kinrola Branch Relay (Rolleston)	Coal transport	Wholly	16.6
Mindi Substation	Coal transport	Wholly	18.5
St Lawrence River Bridge Replacement	Coal transport	Wholly	28.9
Harrow Passing Loop (Peak Downs)	Coal transport	Wholly	8.1
Sonoma Balloon Loop	Coal transport	Wholly	2.3
Goonyella System Upgrade (Electrification)	Coal transport	Wholly	11.4
Aldoga to Wiggins Island Upgrade	Coal transport	Wholly	15.8
Banana to Wooderson Track Upgrade	Coal transport	Wholly	14.0
Columboola to Fishermans Island Project (Surat Basin)	Coal transport	Primarily	31.4
Corridor Integrity Strategy & Land Requirements	Coal transport	Primarily	25.9
Rail Network Infrastructure Upgrade	Coal transport	Primarily	181.2

States wide Operation and English Works	Cool two years and	Duimenuile	120.0
Statewide Operating and Enabling Works	Coal transport	Primarily	129.8
Rollingstock Electric Loco Fleet Upgrade (Stages 1&2)	Coal transport	Wholly	202.4
1,190 New Coal Wagons (VCA 106T)	Coal transport	Wholly	155.7
370 New Coal Wagons 106T	Coal transport	Wholly	63.5
Electric Loco Upgrade Program	Coal transport	Wholly	146.2
10 x 4100 Class Diesel Electric Locomotives	Coal transport	Wholly	74.8
15 x 4100 Class Diesel Locomotives	Coal transport	Wholly	95.3
12 & 16 Cylinder Loco Overhauls	Coal transport	Wholly	50.8
4000 Class Loco E Inspection Program	Coal transport	Wholly	25.9
510 VCA Coal Wagons	Coal transport	Wholly	14.8
VNQ Coal Wagon Overhauls	Coal transport	Wholly	4.2
Port Authority PNFCs	Coar transport	vviiony	7.2
RG Tanna Coal Terminal Expansion	Coal transport	Wholly	780.0
RG Tanna Coal Terminal Ongoing Project	Coal transport	Wholly	289.2
RG Tanna Coal Terminal Dust Control	Coal transport	Wholly	6.8
Wiggins Island Feasibility	Coal transport	Wholly	5.0
Gladstone Ports General Projects	Coal transport	Primarily	314.0
Fishermans Landing Project	Coal transport	Wholly	86.8
Barney Point Project	Coal transport	Wholly	19.8
Auckland Point Project	Coal transport	Wholly	21.9
Wiggins Island Project	Coal transport	Wholly	10.0
Abbot Point Expansion X50	Coal transport	Wholly	724.1
Abbot Point Expansion X21	Coal transport	Wholly	20.0
Abbot Point Expansion X25	Coal transport	Wholly	95.0
Abbot Point Expansion SR1 & SR2	Coal transport	Wholly	71.0
Abbot Point Expansion X110 (Prelim)	Coal transport	Wholly	37.5
X230 Masterplan	Coal transport	Wholly	4.0
Abbot Point Terminals 2 & 3	Coal transport	Wholly	23.6
Common User Infrastructure	Coal transport	Primarily	1.6
Louisa Creek Land Acquisition	Coal transport	Primarily	31.3
Hay Point Masterplan and EIS	Coal transport	Wholly	30.7
Abbot Point Port Development	Coal transport	Wholly	28.9
Hay Point Port Development	Coal transport	Wholly	10.2
Weipa Port Development	Mining	Primarily	6.6
Townsville Berth 8 (Xstrata Cannington) Upgrade	Mining	Wholly	34.4
Total estimated value of capital spending 2008-09 to 2013-14 (\$m)			7,918.1
Concessions Statement (2012-13 & 2013-14)			
Rail infrastructure concessions	Coal transport	Partly	1,050.6
Gladstone Power Station subsidies (IPPA)	Minerals processing	Primarily	467.2
Gladstone Port charges concessions	Coal transport	Wholly	92.0
Gladstone Port lease concessions	Coal transport	Wholly	6.9
NQ Bulk Ports lease concessions	Coal transport	Wholly	3.0
Mining industry training subsidy	Coal mining	Wholly	3.3



(4)	_,
Total estimated value of subsidies 2008-09 to 2013-14	9.541.1
(\$m)	9,341.1

Western Australia

WESTERN AUSTRALIA BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
TREASURY&FINANCE/INDUSTRY AND RESOURCES/STATE DEVELOPMENT			
Burrup and Maitland Agreement	Gas extraction	Primarily	2.0
On-Road Diesel Subsidies	Petroleum consumption	Wholly	14.9
Mining Tenement Backlog	Mining	Wholly	3.0
Plan for Accelerating Exploration (PACE) - Exploration Incentive Scheme	Multiple	Wholly	80.0
Ord River Expansion Project	Multiple	Partly	267.7
Ord Expansion Project - Aboriginal Development package	Multiple	Partly	8.9
Oakajee Port and Rail Project	Mining	Wholly	23.8
Kimberley LNG Precinct	Gas processing	Primarily	4.4
Bunbury to Albany Gas Pipeline	Gas consumption	Wholly	2.5
Browse Liquid Natural Gas Precinct Project	Gas processing	Primarily	126.5
Browse LNG Precinct Regional Benefits	Gas processing	Partly	62.8
Browse LNG Precinct Project - Kimberley Land Council Funding	Gas processing	Partly	8.0
Browse LNG Precinct Land Survey Costs	Gas processing	Primarily	8.9
Coal Industry Development	Coal mining	Wholly	17.0
Anketell Multi-User Port and Strategic Industrial Area - New Funding	Mining	Wholly	4.9
Ashburton North Multi-User Port and Strategic Industrial Area	Gas processing	Primarily	7.5
Onslow Critical Infrastructure Package	Gas processing	Primarily	33.9
Accelerating Reinvestment in Western Australian Mine Sites	Mining	Wholly	5.2
Esperance Port Authority - Capital fund	Mining	Partly	2.3
Exploration Incentive Scheme	Mining	Wholly	20.6
Exploration Incentive Scheme Phase 2	Mining	Wholly	0.0
Kimberley Science Strategy Baseline Geochemical and Geophysical Surveys	Mining	Wholly	3.0
Geoscience Information and Advice	Mining	Primarily	264.4
Minerals and Energy Research Institute	Mining	Primarily	4.0
Sustaining Reduction in Mineral Titles Application Processing	Mining	Wholly	1.5
Mining Tenement Refunds	Mining	Wholly	58.5
Dampier Port Authority - Burrup Port Infrastructure- Subsidy	Gas processing	Wholly	9.7
Broome Port Authority - Capital fund	Gas processing	Primarily	1.8
Petroleum (Submerged Lands) Act 1982	Gas processing	Wholly	24.3
Industry Development and Investment Facilitation	Multiple	Primarily	411.7

State Economic Development Policy	Multiple	Primarily	6.5
Browse LNG Precinct Native Title Agreements Implementation Costs	Gas processing	Wholly	2.4
Remuneration for mining on Aboriginal lands	Multiple	Wholly	1.8
Northampton Lead Tailings	Mining	Wholly	1.3
Controlled grants and subsidies	, and the second	,	
Water Corporation - Burrup Water System Subsidy	Gas processing	Primarily	50.9
Western Australian Land Authority - Burrup Service	Gas processing	Primarily	2.1
Corridor - Subsidy	das processing	Fillially	2.1
Pilbara Strategic Infrastructure	Gas processing	Primarily	59.8
Browse LNG Precinct Project	Gas processing	Wholly	26.0
Gorgon Gas Carbon Injection Project	Gas processing	Primarily	0.4
Anketell Multi-User Port	Mining	Wholly	1.1
Australia China Natural Gas Technology Partnership Fund	Gas processing	Primarily	1.3
Port of Wyndham - Capital works	Mining	Partly	13.2
BHP Direct Reduced Iron Pty Ltd Grant	Minerals processing	Wholly	2.5
Oakajee Port and Rail Project	Mining	Wholly	4.9
Fremantle Port Authority - Capital works	Multiple	Primarily	5.5
Port Hedland Port Authority - Capital works	Multiple	Primarily	22.2
Pilbara Infrastructure Australia (State Contribution)	Gas processing	Primarily	16.0
Pilbara Revitalisation Phase 2	Gas processing	Primarily	155.4
Kimberley Regional Development Scheme	Mining	Partly	0.8
Government Co-Funded Exploration Drilling	Mining	Wholly	21.7
Industry Development Financial Assistance	Gas processing	Partly	30.1
Mineral and Petroleum Industry	Gas processing	Primarily	0.4
National Mine Safety Framework Secretariat	Mining	Wholly	0.6
Feasibility Assessment of Outer Harbour at Port Hedland	Mining	Wholly	0.3
North West Shipping	Gas processing	Primarily	51.0
TRANSPORT AND MAIN ROADS			
Ravensthorpe to Hopetoun Road - Reconstruct and Widen (Yabulu Ravensthorpe Nickel Project)	Mining	Wholly	0.3
Coolgardie - Esperance Highway Esperance Port Access	Mining	Primarily	123.0
South Coast Highway - Various Improvement Works (Yabulu Ravensthorpe Nickel Project)	Mining	Primarily	1.2
Esperance Lead/Nickel Clean-Up	Mining	Wholly	14.5
Wyndham Port Facility Upgrade	Mining	Partly	10.4
Oakajee Port and Rail Project	Mining	Wholly	3.9
Kwinana Freeway - Freight Management System	Petroleum consumption	Primarily	0.6
Dampier Highway to Seven Mile Access (Stage 4)	Mining	Primarily	59.5
Infrastructure for State Development	Multiple	Partly	1,592.8
DAMPIER PORT AUTHORITY			
Dampier Cargo Wharf Upgrade	Mining	Wholly	2.1
Improvements to Port Facilities - Burrup Infrastructure	Gas processing	Wholly	55.6
Gangway for Bulk Liquids Berth	Gas processing	Wholly	3.0
Cyclone Shed	Mining	Primarily	1.1



Asset Investment - Port of Ashburton	Gas processing	Wholly	1.0
Minor Works	Multiple	Primarily	22.2
ESPERANCE PORT AUTHORITY		,	
Bulk Storage Facility and Shore Based Crane	Mining	Wholly	25.9
Iron Ore Circuit Upgrade	Mining	Wholly	4.0
Nickel Concentrate Circuit Upgrade	Mining	Wholly	42.2
Rail Refurbishment Works	Mining	Wholly	2.0
Hughes Road Upgrade	Mining	Primarily	4.7
Iron Ore Shed Ventilation Upgrade	Mining	Wholly	0.0
Minor Works	Mining	Primarily	14.7
Pilot vessel	Mining	Primarily	1.0
FREMANTLE PORT AUTHORITY	IVIIIIII	Timany	1.0
Hismelt - Infrastructure for Hismelt - Stage 1 and Other Bulk Users	Minerals processing	Wholly	1.3
Kwinana Bulk Terminal (KBT) - Infrastructure and Equipment Replacement	Minerals processing	Wholly	36.2
Kwinana Bulk Jetty (KBJ)	Petroleum consumption	Wholly	9.6
KBT Civil and Mechanical Assets Upgrade	Minerals processing	Wholly	5.2
Kwinana Bulk Berth No.3 New Tanker Discharge	Petroleum	Wholly	0.5
System	consumption	vviioliy	0.5
KBJ - Export-Import Infrastructure	Petroleum consumption	Wholly	1.1
Export-Import Infrastructure Phase 2	Petroleum consumption	Wholly	0.5
KBJ - Bulk Handling Equipment	Petroleum consumption	Wholly	2.6
KBJ – Truck Loading Facility and Storage Shed Lot 13	Petroleum consumption	Wholly	1.0
KBJ Eport - Import Infrastructure Phase 2	Petroleum consumption	Wholly	1.5
KBJ - Replace Plant	Petroleum consumption	Wholly	0.7
KBJ - Replace/Upgrade Transformer and Switchgear	Petroleum	Wholly	0.0
KBJ - Unloader No. 2 Emergency Unloading Boom	consumption Petroleum	•	
Brake	consumption	Wholly	0.5
Modifications to a Pipeline Manifold Area	Petroleum consumption	Wholly	0.5
Fibre Optic Cabling	Petroleum consumption	Wholly	0.3
Kwinana Bulk Jetty - Fire Fighting Foam System	Petroleum consumption	Wholly	7.0
New Rail Link (Second Spur Line)	Minerals processing	Primarily	0.5
KBT - Undercover Storage	Minerals processing	Wholly	13.4
KBT - Upgrade Rail Infrastructure and Replacement	Minerals processing	Wholly	1.3
KBT - Upgrade of Export Infrastructure	Minerals processing	Wholly	15.0
Upgrade of Conveyor EC03	Minerals processing	Wholly	6.4
Dust Control and Roadworks	Minerals processing	Wholly	1.8
Transport Interchange Facilities	Petroleum consumption	Partly	10.0
Minor Works	Petroleum	Partly	6.8

consumption **GERALDTON PORT AUTHORITY** Berth 5 - Iron Ore Expansion Mining Wholly 33.9 Oakajee Port and Rail Project Mining Wholly 11.6 **Wastewater Treatment Plant** Mining Primarily 2.0 Multipleellaneous Works Mining Primarily 20.5 2.5 Pilot vessel Mining Primarily PORT HEDLAND PORT AUTHORITY Utah Point Berth - Multi-User Panamax Berth 316.8 Mining Wholly Infrastructure - Utah Point Office Building Wholly 1.5 Mining Plant and Equipment - Utah Point Outload Circuit Wholly 1.0 Mining Upgrade 30.0 Maintenance Dredging Mining Wholly 40.5 Minor Works Mining Wholly PEEL DEVELOPMENT COMMISSION **Boddington Mine Expansion** Mining Wholly 8.0 KIMBERLEY DEVELOPMENT COMMISSION Policies, Strategies, Plans and Regional Promotion Multiple Partly 19.6 Industry and Infrastructure Identification Co-Multiple Partly 37.2 ordination and Development Ord Enhancement Scheme Multiple 9.3 Partly PILBARA DEVELOPMENT COMMISSION **Business and Industry Development** Multiple **Primarily** 11.4 Infrastructure and Service Identification and Multiple **Primarily** 24.9 Coordination **Regional Promotion and Information Services** Multiple Primarily 15.1 Pilbara Infrastructure Australia (State Contribution -Multiple Primarily 245.3 capital program) Pilbara Revitalisation Phase 2 Multiple Primarily 47.7 WATER CORPORATION **Boddington Water and Wastewater Schemes** Mining Primarily 5.4 Hopetoun Ravensthorpe Wastewater Treatment Mining Primarily 6.0 Scheme Woodman Point Odour Control (Stage 1 and 2) Minerals processing Partly 28.9 Hopetoun Ravensthorpe Wastewater Treatment Mining Primarily 6.0 Scheme 2 Bulla Bulling (Goldfields) - 15ML Storage Mining **Primarily** 13.2 Goldfields and Agricultural Water Supply - Pipeline Mining **Partly** 9.5 Upgrade Pilbara - Port Hedland Wastewater Treatment Plant 70.0 Mining Partly Relocation Hedland Yule Upgrade Mining Primarily 61.1 Karratha Wastewater Treatment Plant Upgrade Mining **Partly** 60.0 **VERVE ENERGY** 2 x new 100 megawatt high efficiency gas turbines Gas consumption Wholly 285.1 Collie Power Station and Basin Infrastructure Coal consumption Primarily 64.0 Muja Power Station coal contract modifications Coal consumption Wholly 321.4 Cockburn and Pinjar Power Station modifications to Gas consumption Wholly 225.0 improve turbine reliability



Kwinana Power Station	Gas consumption	Wholly	110.3
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			6215.5

New South Wales

NEW SOUTH WALES BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
DEPARTMENT OF TRANSPORT			
Interstate and Hunter Valley Rail Network grant	Coal transport	Primarily	22.8
Thornton Railway Bridge Thornton	Coal transport	Primarily	19.2
Cormorant Road, Industrial Drive to Stockton Bridge	Coal transport	Primarily	1.4
Widening rail underpass - New England Highway, Singleton	Coal transport	Primarily	0.7
DEPARTMENT OF WATER AND ENERGY			
Upper Hunter Air Quality - Dust Monitoring Network	Coal mining	Wholly	2.0
Clean Coal Fund	Coal mining	Wholly	87.5
ACALET Ltd Delta Carbon Capture and Storage project	Coal mining	Wholly	28.3
Assistance package for the Western and Gunnedah Coalfields	Coal mining	Wholly	10.0
Independent review of coal seam gas activities DEPARTMENT OF AGRICULTURE, FORESTS AND FISHERIES	Gas extraction	Wholly	1.5
Mineral Resources Business and Technology System	Mining	Wholly	4.0
Cobbora Coal Mine (feasibility study)	Coal mining	Wholly	76.0
New Frontiers pre-exploration data collection	Mining	Wholly	8.5
State Investment Attraction Scheme and Regional Industries Investment Fund	Mining	Partly	69.0
PNFC CAPITAL EXPENDITURE - PORTS			
Port Kembla			
Port Kembla Port Corporation	Multiple	Primarily	33.6
Port Kembla Port Corporation (Inner Harbour)	Multiple	Primarily	100.0
Port Kembla Port Corporation (Outer Harbour 1st stage)	Multiple	Primarily	15.8
Inner Harbour rail upgrade	Multiple	Primarily	2.7
Inner Harbour load-out facility	Multiple	Primarily	1.0
Outer Harbour rail track renewal	Multiple	Primarily	3.4
Land Purchases Adjacent to Outer Harbour	Multiple	Primarily	9.0
Outer Harbour Stage 1A Dredging and Complete Reclamation	Multiple	Primarily	30.5
Port Kembla new tug berth	Multiple	Primarily	7.0
Tug fleet base	Multiple	Primarily	16.5
Garungaty embankment works	Multiple	Primarily	0.5
Tom Thumb Road bridge upgrade	Multiple	Primarily	0.5
Port Kembla rail improvements and signalling	Multiple	Primarily	1.1
Replacement pilot vessel	Multiple	Primarily	1.2
Replacement Pilot Vessel II	Multiple	Primarily	3.3

Shipping management system	Multiple	Primarily	0.4
Vessel Traffic Centre relocation	Multiple	Primarily	0.3
Rail Turnout Replacements and Renewals/Master plan extensions	Multiple	Primarily	2.2
Newcastle			
Newcastle Port Corporation (Mayfield No. 4 berth)	Coal transport	Primarily	27.6
Newcastle Pilot Station Port Centre	Coal transport	Primarily	3.7
Replacement pilot vessel	Coal transport	Primarily	2.5
Replace Vessel Traffic Information System	Coal transport	Primarily	0.5
Harbour Management System	Coal transport	Primarily	2.0
Strategic land acquisition - Mayfield	Coal transport	Primarily	10.0
Kooragang Island dredging and berth upgrades	Coal transport	Primarily	2.2
Channel berth refurb. Dolphins 3 & 4, deck and roads (Carrington)	Coal transport	Primarily	3.1
Dyke 2 Berth Walkway replacement	Coal transport	Primarily	0.6
Strategic Dredging Approvals for Walsh Point and Mayfield	Coal transport	Primarily	0.6
Electronic records system	Coal transport	Primarily	1.0
Upgrade security system (CCTV)	Coal transport	Primarily	0.3
Rail realignment at Mayfield	Coal transport	Primarily	0.9
Kooragang Island sub-transmission substation	Coal transport	Primarily	35.0
330/132kV Substations and works at Tomago, Williamsdale, Waratah West	Coal transport	Primarily	106.4
Augmentation of supply at Cessnock	Coal transport	Primarily	14.7
Carrington substation reconfiguration	Coal transport	Primarily	1.0
Kooragang fender and gangway landing platform	Coal transport	Primarily	1.9
Enterprise Resource Planning System	Coal transport	Primarily	8.9
Dyke Point Development business case	Coal transport	Primarily	0.4
Floating jetty for operations vessels	Coal transport	Primarily	0.3
Kooragang Island Environmental Management works	Coal transport	Primarily	0.5
Kooragang roads upgrade	Coal transport	Primarily	2.0
West Basin 3 & 4 cathodic protection	Coal transport	Primarily	1.4
Sea dumping permit (Commonwealth approval)	Coal transport	Primarily	0.4
WATER			
Illawarra wastewater strategy (recycled water to industrial customers)	Minerals processing	Primarily	24.3
Kooragang Island recycled water system works	Coal transport	Partly	61.2
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			872.8

Northern Territory

NORTHERN TERRITORY BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
Mines and Energy			
Resource Industry Development	Gas processing	Wholly	125.3
Darwin Port Corporation			
East Arm Wharf - enclose ore conveyor and belt washing	Mining	Wholly	5.4
East Arm Wharf - purpose built wash down area for ore	Mining	Wholly	1.2
Reclamation of land	Gas processing	Wholly	44.7
Upgrading and sealing land	Gas processing	Wholly	15.1
East Arm bulk load facility & new conveyor	Mining	Wholly	40.9
Marine supply base - connect essential services	Gas processing	Wholly	6.0
Marine supply base (oil & gas) - Stage 1 Construction	Gas processing	Wholly	61.4
Marine supply base (oil & gas) - Stage 2 Construction	Gas processing	Wholly	15.4
Land Development Corporation			
Wishart Road Development - industrial land at East Arm	Gas processing	Wholly	21.3
East Arm Marine Precinct Stage 1a	Gas processing	Wholly	0.5
East Arm Marine Precinct land reclamation (Casey Rd Development)	Gas processing	Primarily	8.8
Provision of sewage services	Gas processing	Primarily	17.5
Lands, Planning and Environment			
Middle Arm Industrial Precinct - construction	Gas processing	Wholly	31.7
Blaydin Point site works	Gas processing	Wholly	11.6
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			406.7

South Australia

SOUTH AUSTRALIA BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
Manufacturing, Innovation, Trade, Resources and			
Energy			
Minerals Asset Upgrade and Replacement	Mining	Wholly	0.6
Mineral Resources	Mining	Wholly	189.4
Brukunga Mine - weir construction and control of acid seepage	Mining	Wholly	21.1
Gawler Craton Enhanced Exploration Program (PACE)	Mining	Wholly	5.6
Mining and Petroleum Services Centre of Excellence	multiple	Wholly	2.0
Woomera Geoscience Survey Program	Mining	Wholly	3.8
State Drill Core Library Facility	Mining	Wholly	1.9
Energy Resources	Gas extraction	Primarily	36.5
Olympic Dam Taskforce	Mining	Wholly	8.8
Planning, Transport and Infrastructure			
Port Augusta to Olympic Dam Road — Shoulder sealing	Mining	Primarily	19.0
Port Bonython Jetty Refurbishment	Mining	Primarily	23.9
Environment, Water and Natural Resources			

National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development	Gas extraction	Wholly	3.6
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			316.2

Victoria

VICTORIA BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
DEPARTMENT OF SUSTAINABILITY AND			
ENVIRONMENT Barwon Water – Shell Recycling Project	Petroleum processing	Partly	29.2
Department of State Development, Business and	Petroleum processing	Partiy	29.2
Innovation			
Carbon capture and storage	Coal mining	Wholly	132.0
Clean Coal Victoria	Coal mining	Wholly	2.5
Mine stability	Coal mining	Wholly	2.1
Strengthening our earth resources sector	Multiple	Wholly	4.3
CENTRAL GIPPSLAND REGION WATER CORPORATION			
Moe Waste Water Treatment Plant New ultra violet unit	Coal mining	Partly	0.2
Morwell water – twin six main replacement	Coal mining	Partly	0.1
Major client – pressure reduction and replacement (Morwell)	Coal mining	Partly	2.9
Moe water treatment plant – sludge handling system	Coal mining	Partly	3.3
Moondarra – Replace/repair the PSC pipework through TRC tunnels	Coal mining	Partly	0.2
Regional outfall sewer Maryvale hydraulic balancing covered storage	Coal mining	Partly	0.9
Traralgon waste – Stockdale Road 500mm high density polyethylene	Coal mining	Partly	1.1
Traralgon Sewer Pump Station and rising main for eastern industrial development	Coal mining	Partly	3.1
Yarragon waste – Factory Road Sewer Pump Station	Coal mining	Partly	1.6
Yallourn North Sewerage Pump Station rising main replacement	Coal mining	Partly	0.3
Warragul – Moe water supply interconnect (Water Supply Demand Strategy Action 6)	Coal mining	Partly	6.3
WANNON REGION WATER CORPORATION			
Portland – wastewater treatment plant upgrade	Minerals Processing	Partly	15.7
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			205.7

Tasmania

TASMANIA BUDGET PAPERS	Industry segment	Dedication	Total cost \$m
Infrastructure Projects (Major Initiatives)			
Bell Bay Intermodal Terminal	Minerals processing	Primarily	16.6
West Coast Geosciences Project	Mining	Wholly	1.5
West Coast Roads	Mining	Primarily	13.6
Infrastructure, Energy and Resources			
Mineral Resources Management and Administration	Mining	Wholly	21.7
Bell Bay Main Road improved port access near George Town	Minerals processing	Primarily	0.8
Total estimated value of subsidies 2008-09 to 2013-14 (\$m)			54.1