

NSW MINERALS COUNCIL

SUBMISSION TO THE

INQUIRY INTO THE IMPACT OF COMPETITION POLICY REFORMS

ON

RURAL AND REGIONAL AUSTRALIA

NOVEMBER 1998

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Summary

This submission may be summarised as follows

- the NSW Minerals Council supports the aims of National Competition Policy
- National Competition Policy is not being applied to rail in NSW as quickly as it should be
- the NSW coal industry, which represents a major part of Australia's largest export industry, is being handicapped by this lack of progress
 - the international competitiveness of the industry is impaired
 - the industry is smaller than, or not as robust as, or both, it should be
- because the coal industry is being handicapped
 - jobs in coal mining are being lost, or lost at a greater rate than would otherwise be the case
 - this is having a negative effect on those regional and rural economies where coal mining is carried out, such as in the Hunter Valley
 - this is contributing to social dislocation in these communities
- quicker and more faithful implementation of National Competition Policy to the NSW rail system would have a beneficial effect on
 - international competitiveness of the NSW coal mining industry
 - employment in the NSW coal mining industry
 - the regional economies of coal mining districts
 - economic and social impacts in those districts of the consequences of change in other areas of the economy

The NSW Minerals Council

The NSW Minerals Council welcomes this opportunity to make a submission to the Inquiry by the Productivity Commission into the Impact of Competition Policy Reforms on Rural and Regional Australia. The submission has been prepared by the Hunter Rail Access Task Force (HRATF). The NSW Minerals Council formed the HRATF in September 1995. Its members are drawn from nearly all the coal users of the Hunter rail network.

The role of the HRATF is to represent coal users of the Hunter rail system in the development and implementation of National Competition Policy to rail access. Specifically, its functions are to

- input to Government and its agencies regarding policy issues, the access regime and regulatory structure
- negotiate with the access provider the operations protocols (and related matters such as infrastructure management arrangements) applying to Hunter coal haulage
- input to regulatory agencies on the access regime

Members of the HRATF represent a significant user of the NSW rail network. Coal accounts for over 80% of total intrastate freight tonnage moved on NSW railways. Hunter Valley mines account for most of this.

NSW coal industry

Coal represents by far Australia's largest export earner, with exports valued at \$9.6 billion in 1997/98. A strong coal industry is vital to Australia's continued well-being. The annex to this submission describes the industry and highlights its major role in the Australian and NSW economies. As at 30 June 1998 the coal industry provided direct employment for 11,695 persons in NSW. Of these, 8,363 were employed in the region served by the Hunter rail network. These numbers are respectively 2,656 and 1,492 lower than for 30 June 1997. Many more people are employed indirectly, for example in upstream industries and in the raiing of coal to port. The coal industry represents over 2% of NSW's GDP and is the State's greatest export earner.

If the industry is to continue in this role it needs to maintain its international competitiveness. This means it must continue to strive to lower its costs to remain competitive against other coal exporting countries. These competitors are continuing to provide fierce competition to the Australian coal industry through one or more of geological, geographical and labour cost advantages and through currency devaluations.

Impact of National Competition Policy on the Australian Coal Industry.

Rail freight comprises from 15% to 30% of export coal f.o.b. costs. It is therefore a key component in maintaining the international competitiveness of the coal industry.

NSW coal mines in general, and most Hunter Valley coal mines in particular, are required by the conditions of their mining lease or development applications to use rail to transport their

product to port for export. In the past, the rail service provider, State Rail Authority, used its monopoly position to impose monopoly rents on rail freight charges on coal exporters. These were often used to cross-subsidise other rail operations. Consequently the NSW coal industry has not been as large or as profitable as it might have been. In the 6 years from 1991/92 to 1996/97 operating profit before interest and tax of the NSW coal industry averaged only 4.2% of asset value¹. Net profit return on shareholders funds in the same period averaged only 5.0%.

In addition the rail industry, because it was not exposed to competition for carrying coal, was not as efficient in this aspect of its operations as it might have been. Reports from the Industry Commission^{2, 3} and the Bureau of Industry Economics⁴ have clearly demonstrated this.

The NSW Minerals Council and the coal industry welcomed the introduction of National Competition Policy. It was expected that this would provide the opportunity for Government to help to remove the constraints imposed on Australia's major export industry by an inefficient and overpriced monopoly rail service. It was expected it would lead to removal of cross-subsidies, removal of monopoly rent and improved efficiency in rail operation. Political leaders encouraged this optimism through their statements at the time. A key outcome of these developments should have been an improvement in the industry's competitiveness, more certainty and confidence in the industry, greater security for its workforce and a stronger Australian economy.

Impact of competition policy reforms on the NSW rail industry

The NSW Minerals Council has described in some detail progress in rail reform in NSW as it affects the Council's members, in a submission to the Productivity Commission's Inquiry into Progress in Rail Reform⁵. The following is a summary of relevant developments.

Steps have been made to apply National Competition Policy to the NSW rail network. The NSW Government has implemented some reforms which are welcome but which go only part way to applying National Competition Policy. These reforms are

- splitting of the former State Rail Authority into four separate entities as from 1st July 1996
- introduction of a phaseout of the acknowledged monopoly rent component of rail access charges for coal haulage
- establishment of the NSW Rail Access Regime (the Regime) on 21st August 1996

¹ Copers & Lybrand *Annual Coal Industry Survey* carried out for the NSW Minerals Council and the NSW Coal Association 1991/92 to 1996/96

² Industry Commission *Rail Transport* Report No. 13 21 August 1991

³ Industry Commission *Draft Report on the Australian Black Coal Industry* April 1998

⁴ Bureau of Industry Economics *International Benchmarking Rail Freight 1995* Report 95/22 December 1995

⁵ NSW Minerals Council *Progress in Rail Reform for Coal Transport in NSW* Submission to the Productivity Commission Inquiry into Progress in Rail Reform 6 October 1998

A major flaw in the NSW Government's rail reforms is that the Regime does not comply with the Competition Principles Agreement. Consequently in February 1997 Specialized Container Transport, a road/rail transport operator, sought a recommendation from the National Competition Council (NCC) that the Sydney-Broken Hill rail service be declared. This was followed in April 1997 by an application from the NSW Minerals Council that the Hunter Railway Line Service be declared.

The NCC recommended to the NSW Premier that he declare both the services for which a declaration was sought. The Premier did not respond to the recommendation and is deemed to have not declared the services. It is inherent in the recommendation of the NCC that the Regime was considered by the NCC to not comply with the Competition Principles Agreement. That is, the Regime does not apply National Competition Policy. The Premier's decision did not challenge this conclusion.

On 12th June 1997 the NCC received a direct application from the NSW Government to consider the effectiveness of the Regime and to recommend to the Commonwealth Treasurer that he certify the Regime as "effective" under the terms of the *Trade Practices Act 1974* (Cth). The Issues Paper published by the NCC stated that the NCC aimed to forward its recommendation to the Treasurer by 25th August 1997. As at November 1998 there has been no recommendation to the Treasurer, because the NCC is not yet satisfied that the Regime, even after incorporating many amendments proposed by the NSW Government, would comply with the Competition Principles Agreement.

Extensive fundamental amendments are required before the Regime could be certified. The NCC issued a Draft Recommendation in April 1998 but this still did not clearly define a regime that could be recommended for certification. The process of certification has been further delayed by the referral to the Independent Pricing and Regulatory Tribunal of NSW of issues in the Regime that have not been adequately addressed by NSW in their proposals to the NCC.

In the meantime, the Hunter coal industry is having to seek application of National Competition Policy to the Hunter Railway Line Service through an appeal to the Australian Competition Tribunal. That appeal is being contested by Rail Access Corporation (RAC), the NSW Government-owned rail infrastructure owner.

The appeal was delayed by an application by RAC to the Federal Court to have the appeal struck out through the application of a clause of the *Competition Policy Reform Act 1995* (Cth) which imposes a moratorium on the application of the Act to government coal carrying services. In a judgment handed down on 9th October 1998 the Court dismissed the application, thereby opening the way for the NSW Minerals Council's appeal to resume.

In summary, the NSW Government has implemented a regime for third party access to rail infrastructure which does not comply with National Competition Policy. The Government shows no sense of urgency in devising a regime which does comply and is actively resisting initiatives by the coal industry which would allow it access to arbitration based on principles in the Competition Principles Agreement. This has been emphasised by recent reports by the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform⁶ and by the Industry Commission⁷ which have been critical of the slow rate of progress in implementing rail reform.

Export Competitor Cost Comparison

The importance of reducing export coal supply costs at every possible point is indicated by Table 1, which shows representative export f.o.b. and import cif costs for steam coal (1996 US\$/t) prepared each year by IEA Coal Research in London. Table 1 contains data for the range of costs for mines in Queensland, the US (Wyoming), Western Canada, Transvaal and Kalimantan (Indonesia) as well as NSW. These coal producing regions are the Hunter region's main competitors in international thermal coal markets in the Asian region. Cerrejon (Colombia) costs are also included to illustrate NSW coal's poor competitive position in the European market.

Devaluation of the Australian \$ since 1996 will not have improved NSW's competitive position, except in relation to the USA, because the currencies of its other main competitors have also devalued relative to the US\$. In some cases these devaluations are greater than that of the Australian \$. Indonesia is a notable example.

Table 1 shows that the range of costs for coal delivered to Japan from NSW underground and surface mines is higher than all its major competitors in this market (which is NSW's largest). Current NSW market share is definitely at risk in these circumstances, and prospects for increasing it are clearly diminished whilst undue premiums are added to the cost of essential services like rail freight.

Location is important in these comparisons, given the ocean shipping costs involved; however, it is clear that a reduction in rail costs of even \$1 per tonne could be a very significant factor in the competitiveness of individual mines and incremental output at particular mines.

New Export Development Encouraged by Lower Costs

The NSW Minerals Council estimated in 1995 that the introduction of efficient rail access and haulage may reduce coal rail charges in the Hunter Region by up to \$3/tonne (relative to 1994/95 rates). While some of this reduction has been achieved, there is still room for improvement by the implementation of the Competition Principles Agreement to rail access in NSW.

⁶ House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform, *The Role of Rail in the National Transport Network* 12th August 1998

⁷ Industry Commission *Draft Report on the Australian Black Coal Industry* April 1998

Based on supply elasticities estimated by ABARE,⁸ a \$3 per tonne average reduction in rail freight costs would induce an increase in coal production of some 6 million tonnes a year, involving an investment of around \$500 million in coal mining and additional investments throughout the 'coal supply chain'. New mines would be created, some involving new participants in the industry, and the enhanced competitiveness of existing mines would induce them to step up output and compete more aggressively in export markets.

Failure to apply principles in the Competition Principles Agreement has cost jobs in the NSW coal industry

Since July 1996, when the NSW rail system was reorganised with the stated intention of implementing National Competition Policy, there have been around 3,000 redundancies announced in the NSW coal industry. Of these, over 2,200 have been in mines served by rail and over 1,500 in the region served by the Hunter rail network. Table 2 attached shows announced redundancies since July 1996 in mines that use rail to transport export coal to port. Table 3 shows that net job losses in the NSW coal industry in the same period have totalled 2,537.

While it is not possible to assign all these job losses to the failure to establish a rail access regime that complies with National Competition Policy, failure to comply has meant that rail access charges are higher than they otherwise would have been. Ultimately, mines close or reduce production and manpower because the cost of production is higher than sales revenue. The unnecessarily high cost of rail transport is a contributing factor to costs. Had rail access charges been at the level they should have been at under National Competition Policy, there is no doubt that many of those job losses would not have occurred, or would at least have been deferred.

Economic and social impacts on regional and rural Australia

Coal mining in NSW is carried out almost entirely in rural or regional areas. These are mainly the Hunter Valley, the Lithgow district and the Illawarra. Any reduction in coal mining employment will therefore have its greatest economic impact, both direct and indirect, on these areas. Social dislocation follows if those who lose their jobs can find no alternative employment, or if they have to move their place of residence to find employment.

Consequently, the unnecessary delay being experienced by rail users in NSW in having the benefit of the Competition Principles Agreement applied to access to the State's railways is costing jobs in the coal mining and export industry and causing unwarranted distress in regional and rural areas, such as the Hunter Valley.

Because the coal industry is Australia's major exporter and a key component of exports, action or lack of action which penalise the coal industry also penalise the Australian economy as a whole.

⁸ ABARE Technical Paper 91.1 'Supply Response in the Australia Black Coal Industry', January 1991.

TABLE 1
INDICATIVE EXPORT COSTS FOR THERMAL COAL
(1996 US\$/t)

	Mine Operating Cost	Mine Mouth Price	FOB Total Cost	<u>Japan</u>		<u>Europe</u>	
				Ocean Transp. Cost	CIF Total Cost	Ocean Transp. Cost	CIF Total Cost
Australia							
New South Wales							
<i>Underground</i>	16.0 - 29.0	18.7 - 32.5	30.0 - 43.8	4.3 - 12.0	36.5 - 50.3	7.2 - 14.3	39.3 - 53.1
<i>Surface</i>	20.0 - 30.0	22.9 - 34.0	34.2 - 45.3	4.3 - 12.0	40.7 - 51.8	7.2 - 14.3	43.5 - 54.6
<i>Queensland Surface</i>	11.0 - 27.0	18.9 - 30.2	31.5 - 42.8	4.0 - 8.3	36.9 - 48.2	6.8 - 10.1	40.0 - 51.3
United States							
<i>Powder River Basin Surface (via West Coast)</i>	3.0 - 12.0	4.0 - 13.5	24.0 - 33.0	5.0 - 9.0	31.3 - 40.3		
<i>North Appalachia Underground</i>	16.5 - 26.5	17.6 - 27.8	32.4 - 42.6	10.3 - 13.0	44.3 - 54.5	4.4 - 6.2	37.7 - 47.9
Western Canada							
<i>Surface</i>	18.5 - 23.0	20.0 - 25.0	36.0 - 45.5	4.5 - 10.7	41.9 - 51.4	8.8 - 14.1	46.8 - 56.3
South Africa (Transvaal)							
<i>Surface</i>	15.0 - 22.0	18.6 - 26.5	28.1 - 36.0	5.4 - 11.5	34.6 - 42.5	5.0 - 7.0	33.9 - 41.8
Indonesia (Kalimantan)							
<i>Surface</i>	10.0 - 25.0	20.0 - 36.3	28.0 - 44.3	3.5 - 8.0	32.2 - 48.5	7.0 - 11.0	35.6 - 51.9
Colombia (Cerrejon Region)							
<i>Surface</i>	20.0 - 30.0	29.2 - 37.3	31.7 - 39.8			4.7 - 7.6	37.8 - 46.0

Source: IEA Coal Research, London

TABLE 2**REDUNDANCIES IN THE NSW COAL INDUSTRY SINCE JULY 1996****IN MINES SERVED BY RAIL**

<u>Mine</u>	<u>Date</u>	<u>Number of Retrenchments</u>
Ellalong	October 1996	105
Chain Valley	October 1996	73
Metropolitan	October 1996	137
Muswellbrook No 2	April 1997	51
Teralba	June 1997	126
Baal Bone	July 1997	70
Pelton/Ellalong	September 1997	99
Mt Thorley	November 1997	229
Clarence	November 1997	150
Drayton	January 1998	174
Clarence	February 1998	173
Tahmoor	February 1998	50
Vickery	May 1998	50
West Wallsend	May 1998	67
Pelton/Ellalong	May 1998	80
Cumnock Open Cut	July 1998	46
Gretley	July 1998	80
Tahmoor	July 1998	60
Gunnedah	August 1998	60
Metropolitan	August 1998	105
Hunter Valley No 1	August/September 1998	170
Wambo Underground & Open Cut	September 1998	119
Total		<u>2,274</u>

Source: Australian Coal Report, newspaper reports

TABLE 3**EMPLOYMENT AT NSW COAL MINES AND PREP PLANTS**

as at end June

<u>Mine</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>
Singleton-North West			
Cumnock Open Cut	94	90	46
Cumnock No 1	174	193	170
Dartbrook	301	314	286
Drayton	421	458	290
Howick	309	382	340
Hunter Valley No 1	572	538	449
Mount Owen	97	265	192
Mt Thorley	549	654	401
Muswellbrook	197	148	146
Others	<u>3,166</u>	<u>3,316</u>	<u>3,118</u>
Total	5,880	6,358	5,438
West			
Baal Bone	294	304	216
Clarence	328	338	15
Others	<u>1,270</u>	<u>1,245</u>	<u>1,306</u>
Total	1,892	1,887	1,537
Newcastle			
Bloomfield	121	107	100
Gretley	172	196	143
Pelton/Ellalong	339	230	15
Teralba	297	185	179
West Wallsend	291	301	239
Others	<u>2,075</u>	<u>2,014</u>	<u>1,749</u>
Total	3,295	3,033	2,425
South			
Metropolitan	257	117	144
Tahmoor	359	363	313
Others	<u>2,549</u>	<u>2,593</u>	<u>1,838</u>
Total	3,165	3,073	2,295
Total New South Wales	<u>14,232</u>	<u>14,351</u>	<u>11,695</u>

Source: NSW Department of Mineral Resources / Joint Coal Board

SIGNIFICANCE OF THE COAL INDUSTRY
TO THE NATIONAL AND NSW ECONOMIES

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SIGNIFICANCE OF THE COAL INDUSTRY **TO THE NATIONAL AND NSW ECONOMIES**

Overview

In this Annex, the NSW Minerals Council demonstrates that the coal industry is of vital significance to the economies of Australia and NSW. Black coal is Australia's largest commodity export. NSW contributes around 40% of those exports. Hunter Region coal mines, producing principally thermal coals, have in recent years contributed the lion's share of the annual turnover of the NSW coal industry of more than \$4 billion, which itself represents nearly half of the annual turnover of the Australian black coal industry. The direct contribution of the Hunter Region coal industry to national GDP approaches 0.5 percent. Counting ancillary activities, the Hunter Region coal industry's national contribution would be much more.

Hunter Region Coal in Perspective

The Hunter Region is one of the nation's most significant regions particularly on account of its pre-eminent position in international coal trade. That trade is founded not only on the region's resource base, but also on the rail network that enables coal to be moved to the port of Newcastle.

World hard coal demand is about 3.6 billion tonnes. However, most of that demand is satisfied by indigenous production. In 1996, world hard coal trade totalled some 479 million tonnes (Mt) of which about 440Mt was seaborne coal¹. Australia was the biggest exporter (140Mt) well ahead of the United States (83Mt) and South Africa (60Mt). Coal is Australia's largest single commodity export, with exports in 1996/97 valued at \$7.9 billion.

NSW coal exports in 1996/97 were valued at \$3.4 billion; over 80% of these exports were from the region served by the Hunter Railway Line. NSW exports of Australian-produced merchandise in 1992-93 totalled \$13.4 billion, which was 34% of the Australian total. In that year coal accounted for \$3.1 billion, or 24%, of the NSW total.

Coal production from the Hunter Region (the Newcastle Coalfield, the Hunter Coalfield and other areas served by the Hunter Railway Line — the Gunnedah Basin and part of the Western Coalfield at Ulan), amounted to over 75Mt in 1996/97, of which 56.1Mt was exported through the Port of Newcastle. In 1996/97, therefore, the Hunter Region contributed nearly 12% of world coal trade, and over 38% of Australia's coal exports.

In 1996/97 the 24 open cut mines in the Hunter Region produced 51.9Mt of coal and the 24 underground mines 23.7Mt. At 30 June 1997 the NSW coal industry employed directly 14,351 people, with the Hunter Region mines employing over 9,850 of these. Indirect employment in mine services, rail and port services, consulting, administration and other categories adds significantly to these figures. By 30 June 1998, however, direct employment

¹ Export basis; source *Coal Information 1996*, International Energy Agency, Paris, July 1997.

in the NSW coal industry had fallen to 11,695 with 8,363 of these being employed in Hunter Region mines.

An analysis of the NSW black coal industry in 1990/91 showed that it ranked 17th out of 113 industry categories as measured by value added. It contributed 2.0% of the state's GDP, while the black coal industry nationally contributed 1.4% of Australia's GDP. More recent data would ascribe greater significance to coal because the industry has grown more rapidly since then than the economy generally.

Major associated industries that benefit from the black coal industry include railways and ports, electricity generation and metals smelting. As well as the direct benefit they obtain from the Hunter coal industry, electricity generation and metals smelting benefit indirectly. This arises from the impact that the export sector of the black coal industry has on the efficiency of the domestic coal industry. Without this large export industry, the whole structure of the coal industry would be different — it would be much smaller and less efficient. In many mines export activities complement supply to domestic markets, making the product in both cases more suitable to the respective markets, and supply more efficient. Without exports there would be an adverse impact on the cost of electricity for domestic consumption and on large export industries such as metals smelting (e.g. aluminium, iron and steel).

Australia's international comparative advantage is heavily concentrated — and best demonstrated — in the mining, energy and resources sectors and closely related industries which process resource-based products. Black coal is fundamental to that advantage, providing a major contribution to exports itself and as a key to the competitiveness of industries dependent on coal or coal-based electricity.

Without black coal, Australia's economy would be weakened; the Australian dollar would be less strong; Australians would not be able to afford the quantity of imports we currently buy; and the size of Australia's services industries, as well as the economy overall, would be smaller. Wage rates and incomes in Australia would be lower. These effects would be most pronounced in the two black coal producing states, Queensland and NSW. In those States, the effect would be most pronounced in the rural and regional areas where coal mining is carried out.

The coal industry served by the Hunter rail network makes a major contribution to the NSW and Australian economy. As the only acceptable means of transporting most of the Hunter region's coal to port, the Hunter rail network is of national significance.

The following sections describe the scale of Hunter Region and Australian coal exports and their importance to Australia's economy, the structure and economic parameters of the NSW coal industry, and show that the coal industry is of great importance to NSW and Australia.

Coal Trade

Coal is Australia's largest single commodity export, ahead of grains and oilseeds, petroleum, aluminium, iron and steel, gold and wool. Figures for the values of Australian commodity exports in 1996/97 are detailed in Table A1 below. Not only is coal clearly the largest commodity export, but related industries which use coal and coal-generated electricity, like aluminium and iron and steel, are also leading exporters.

Table A1
Value of Australian Commodity Exports (fob), 1996/97

<u>Commodity Group</u>	<u>\$M</u>	<u>Includes</u>	<u>\$M</u>
Coal	7,932	Coking coal	4,814
		Steaming coal	3,118
Grains & oilseeds	6,353	Wheat	4,346
Petroleum	5,706	Crude oil	2,119
		Refined petroleum	1,147
		LNG	1,537
Aluminium	4,796	Alumina	2,604
		Aluminium metal	2,088
Iron and Steel	4,539	Iron ore & pellets	3,155
		Iron and steel	1,384
Gold	4,205		
Wool	3,744	Greasy wool	2,188
		Semi processed wool	1,292
Meat and live sheep	3,302	Beef & veal	2,071
Industrial crops	3,222	Sugar	1,546
Dairy products	1,781	Cheese	476
Fisheries products	1,305	Lobster	453
Forest products	1,094	Woodchips	518
Other metals & minerals	9,427	Nickel	1,072
		Copper	1,007
		Zinc	844
		Titanium	715
		Diamonds	568
Other farm exports	3,459		

Source: ABARE *Australian Commodities, March Quarter, 1998*

In terms of its contribution to the balancing of Australia's trade account, the coal industry is the most notable. One way to express the minimum task of the 'export industries' is the need for them to generate sufficient net export income to pay for the imports of manufactures demanded by Australian consumers and businesses. In that task in 1992-93, for example, the contributions were as indicated in Table A2.

Table A2
Merchandise Exports Offsetting Australia's Imports of Manufactures

	<u>Per cent of Imports of Manufactures</u>
Manufacturing (exports)	66.6
Metallic minerals (net exports)	8.8
Coal (net exports)	13.4
Oil and gas (net exports)	1.3
Other minerals (net exports)	0.1
Agriculture, etc (net exports)	9.7
Other industries	<u>2.0</u>
	101.9

Note: Manufacturing exports are mostly processed agricultural products and processed minerals and metals, many of which rely for their international competitiveness on low cost energy supplies.

Source: ABS *Foreign Trade Australia, Merchandise Exports and Imports*, Cat. No. 5410.0 and *Special Inquiry Report No. 257 of 25/10/95*

In this context, the contribution of the coal industry is demonstrably significant, particularly when much of manufacturing exports originates from industries like metals smelting and food processing which are energy intensive and have strong linkages to coal.

At the State level, NSW exports of Australian-produced merchandise in 1992-93 totalled \$13,246 million, which was 22 per cent of the Australian total.² Coal accounted for \$3,159 million, or 24 per cent of the State total. Coal is not only the State's most important single export, it also represents nearly a quarter of the total. This is significant.

NSW coals, especially in the Hunter Valley, are mostly suited to use as thermal coals — for combustion in power stations and industrial boilers. Coal qualities range from medium to high ash, low sulphur thermal coals (used for cement manufacture and domestic power generation), to medium to low ash high energy coals (which provide thermal coal for the export market).

NSW also produces coking coals for iron making and other metallurgical purposes. These range from high quality hard coking coal mined in the Southern Coalfield to the somewhat less valuable soft and semi-soft coking coals which are produced in the Hunter Region.

Some Hunter Region and other NSW thermal coals are of such quality as to have secured metallurgical markets as 'pulverised coal injection' (PCI) coals, now used as a heat and supplementary carbon source in blast furnaces. Use of PCI coals by the world steel industry is increasing, at the expense of higher quality coking coals traditionally used in that industry.

With well located reserves of quality coals in a full range of coal types, NSW coal companies have built an industry of world ranking. NSW production of saleable coal in 1996/97 amounted to 99 million tonnes. Most, as shown in Table A3 below, is exported.

² ABS *Foreign Trade Australia, Merchandise Exports and Imports*, Cat. No. 5410.0 and special inquiry report No 257 of 25/10/95.

Table A3
Production and Disposition of Saleable Coal, NSW, 1996/97
(million tonnes)

	<u>Thermal</u>	<u>Coking</u>	<u>Total</u>
Production	n/a	n/a	99.483
Sales			
Export	44.008	23.447	67.455
Domestic	25.033	6.995	32.028

Source: Joint Coal Board

Remaining coal resources in the State are very large and can support continued growth in exports as well as meeting domestic requirements. Recoverable reserves for the State are estimated at about 11 billion tonnes, or 100 years' supply at current production rates. However, expanding urban areas and restrictions placed on mining in national parks (which have also been expanded substantially) do represent increasingly stringent constraints. Also, as the reserves of the best quality coal located close to the ports are produced, the industry is being obliged, increasingly, to move further afield — mostly to the Hunter Region and, in particular, to the Upper Hunter Valley area.

As indicated in Table A3, about 33 per cent of NSW coal output is delivered to domestic markets. The breakdown of domestic consumption is shown in Table A4 below.

Table A4
Domestic Consumption, NSW Coal Industry, 1996/97
(million tonnes)

	<u>Thermal</u>	<u>Coking</u>
Electricity generation	23.534	—
Industrial markets	0.676	0.321
Steel industry	—	5.157

Source: Joint Coal Board

The dominant focus of the industry, however, is exports — and this will continue to be the case. In 1996/97, NSW exported coal to over twenty countries with most, as Table 4.5 shows, going to the major import markets of North Asia. Japan accounted for about 56 per cent of the State's coal exports, with Korea, 17 per cent, and Taiwan, 13 per cent, the next most important export markets. Exports have doubled over the past 12 years.

While NSW producers have a natural advantage in supplying coal to local power stations and steelworks, they enjoy no such advantages in international markets. Australia became the world's biggest coal exporter around a decade ago and has surged further ahead of its nearest rivals since then. But much of this growth has come from Queensland. While NSW thermal coal exports increased by 17 million tonnes per annum over the ten years 1983-84 to 1993-94, Queensland's thermal coal exports increased by 20 million tonnes per annum. In this period,

Table A5
Export Sales, NSW Coal Industry, 1996/97
(thousand tonnes)

<u>Country</u>	<u>Thermal</u>	<u>Coking</u>	<u>Total</u>
Japan	21,908	15,685	37,793
Korea, Rep of	8,384	3,134	11,518
Taiwan	7,169	1,808	8,977
China	1,206	35	1,241
India	172	1,025	1,197
United Kingdom	548	507	1,055
Chile	919	—	919
Israel	543	—	543
Pakistan	—	486	486
Netherlands	447	—	447
Argentina	—	443	443
Philippines	432	—	432
Belgium-Luxembourg	379	—	379
Malaysia	316	—	316
Italy	—	251	251
Portugal	244	—	244
France	242	—	242
New Caledonia	142	—	142
Sweden	129	—	129
Hong Kong	126	—	126
Brazil	—	73	73
Turkey	44	—	44
TOTAL	<u>44.008</u>	<u>23.447</u>	<u>67.455</u>

Source: Joint Coal Board

Queensland overtook NSW as the leading State exporter of coal overall — though NSW remains in front for thermal coal exports.

The strength of the Queensland coal industry's export performance is attributable, in part, to that State's large and readily accessible resources of high quality coking coal which has been much in demand by the steel industry in all continents. This advantage will continue to favour Queensland because competition amongst hard coking coal suppliers, while intense, is limited to a few sources, principally Queensland, western Canada, eastern USA and the NSW South Coast (where mining is underground, difficult and relatively expensive).

The competitive situation in thermal coal markets and related metallurgical coal markets (PCI coal and, to a lesser extent, semi-soft coking coal³) is completely different. There are a number of emerging competitors which have well located resources of (sometimes higher) quality thermal coals and relatively low cost structures. These emerging competitors include Indonesia (where many Australian-based coal companies now operate), Colombia, China and

³ These markets are related because of substitutability on the supply side.

the western states of the USA. All have gained significant market share from Australia in recent years. In addition, Australia's biggest competitor in thermal coal markets, South Africa, is possibly on the cusp of a new phase of development following its move to majority government. Margins in the export thermal coal market for most producers are very small; many do not recover a reasonable return on their investment; and there are few reasons to expect this to change. Competition will continue to be intense and only the lowest cost producers will prosper.

The main reason for optimism in the coal industry is the strong growth in thermal coal market demand and the confident projections that this will continue, at least for the medium term, notwithstanding economic difficulties in Asia.

However, there is no contradiction between the rather bearish assessment of future profitability for thermal coal producers and the relatively bullish outlook for the quantity of coal that will be demanded. Mines with the best resources, the best management, technology and persistent commitment to innovation (ie those able to continue to reduce costs) will do well in this market, but those higher on a cost curve that is progressively shifting to the right⁴ will continue to struggle and, ultimately, will not survive.

The NSW Coal Industry

The Australian coal industry, which provides about 11% of the nation's export income, is of fundamental importance to the Australian economy. It is, by extension, even more significant in the economies of the two States which comprise the export industry: NSW and Queensland. The scale of the industry in the two States is similar: in 1996/97 NSW produced 99Mt of saleable coal while Queensland produced 107Mt. In-situ resources are also broadly similar, with about 34 billion tonnes of raw coal in situ in each State.

As pointed out earlier in this Annex, the Hunter Region contributes around 12% of world coal trade and 38% of Australia's coal exports. While separate data on the impact of coal mining on the economy of the Hunter Region is not available, the impact is obviously very large indeed.

The Hunter rail network services the dominant region of coal industry operations in NSW. Its importance nationally is inextricably linked to the significance of the industry it serves. The following sections provide information on many of the standard economic indicators, emphasising the dominance of the Hunter Region in NSW's coal industry; also included are some notes of pertinent modelling work which provides insights into an Australian economy with a smaller export coal industry.

These insights are demonstrative not only of the importance of the industry for the national economy and the welfare of all Australian citizens, and citizens of coal mining regions in particular, but also of the importance of ensuring that access to the key rail infrastructure is provided in the most efficient manner possible.

⁴ This is an economist's expression relating to a supply diagram in which quantity offered is related to price. It says that, over time, the quantity offered at any nominated price will increase.

Establishments, Assets, Funds Employed

In the year ending 30 June 1997, according to data from the Department of Mineral Resources and the Joint Coal Board (JCB), the coal industry in NSW consisted of 68 operating mines, 24 open cut mines which produced 52.1Mt of saleable coal in 1996/97, and 44 underground mines which produced 47.4Mt. Of these, 24 open cut and 24 underground mines were in the region served by the Hunter Railway Line, producing 51.9Mt and 23.7Mt respectively.

Assets employed in the NSW industry are valued at over \$6 billion.⁵ Companies operating in the industry range in size from small enterprises to the world's largest. There is substantial Australian ownership in the industry through CRA, BHP, Government-owned mines and smaller companies. Funds employed in the NSW industry amount to about \$4.5 billion. At the end of 1996/97, according to the annual financial survey conducted by Coopers & Lybrand for the NSW Minerals Council⁶ about 75 per cent of that figure would be shareholders' funds and the balance, borrowings.

The 16 respondents to the NSW Minerals Council survey (representing 70 per cent of NSW coal production) reported an expenditure on mining assets of \$669 million for 1996/97.

Turnover

The most authoritative depiction of the coal industry in NSW, in terms of economic statistics, is given in the Australian Bureau of Statistics' publication *Mining Industry Australia, 1992-93* published in August 1994 (ABS Catalogue No 8402.0).

In 1992/93 the industry in NSW had a turnover of \$4.182 billion, some 45 per cent of the coal industry's \$9.259 billion turnover nationally. Of the NSW turnover, mines in the district serviced by the Hunter Railway Line contributed around 75%. To provide some perspective to the national figure, the turnover of department stores (ANZSIC Code 5210) is comparable (\$9.830 billion in 1991-92). National turnover of beverages (ASIC Code 218, encompassing soft drinks, cordials, beer, wine, brandy and other alcoholic drinks) is recorded as \$5.489 billion in 1991-92.

Basic iron and steel (ASIC Code 294) had a national turnover of \$9.543 billion and motor vehicles (ASIC Code 3231) turned over \$7.254 billion in 1991-92. In these terms, the coal industry is of national economic significance. The part of the industry serviced by the Hunter Railway Line is a large component of this, and complements the other parts of the industry by providing a range of coals qualities not available elsewhere.

The ABS *Mining in Australia* publication also shows, amongst other things, what the coal industry's revenue comprises and what coal industry turnover is spent on. For the year 1992-93, the industry's receipts (equals turnover) in NSW comprised the following:

⁵ ABS figures for 1992-93 show \$14.9 billion for the total Australian coal industry, suggesting about \$6.7 billion for New South Wales if assets are split in the same proportion as value added. The NSW Minerals Council survey for 1993-94 reported assets employed in coal exploration and mining at \$4.9 billion employed by the 19 respondents who represented some 74 per cent of the industry's production.

⁶ New South Wales Minerals Council 1996/97 Coal Industry Survey; survey data prepared by Coopers and Lybrand.

Table A6
Composition of Receipts, NSW Coal Industry, 1992-93
\$ million

Sales produced by the industry	3,989.4
Other sales (disposals)	154.2
Service income	16.9
Rent, leasing and hiring income	7.6
Government subsidies	0.6
Capital work done for own use	<u>13.1</u>
<i>Turnover</i>	<u>4,181.7</u>

Source: ABS

Nearly all of the industry's revenue is sourced, of course, from sales of coal. Some details of these sales were provided in Tables A4 and A5.

Value Added

Value added is a national accounting concept used to measure an industry's contribution to national income. It is the difference between the value of an industry's output and the cost of outside purchases of goods and services (including a portion of its fixed capital) used up in the process of production. The sum of value added across all activities is the well-known indicator of economic activity, gross domestic product (GDP), which is measured at market prices or factor cost (the same thing less indirect taxes net of any rebates or subsidies). In 1992-93 the coal industry in NSW contributed \$2.372 billion of value added (in a national contribution by the industry of \$5.273 billion).

By ABS definitions, value added is the remainder after its 'purchases and selected expenses' and any increase in stocks are deducted from turnover — see Table A7 below:

Table A7
Broad Derivation of Value Added, NSW Coal Industry, 1992-93
\$ million

Turnover	4,181.7
less: increase in stocks	<u>9.4</u>
	4,172.3
less: purchases and selected expenses	<u>1,800.7</u>
Value added	<u>2,371.7</u>

Source: ABS

In comparison with Australia's GDP of \$380 billion in 1992-93,⁷ the mining industry's contribution, at 4.5 per cent, may appear to be small and the coal industry's part (about 35 per cent of mining) smaller. However, the ratios need to be seen in the context of other industries' contributions. Table A8 overleaf shows that few industries make a bigger contribution than

⁷ At average 1989-90 prices. Source: ABS.

Table A8
GDP (i.e. Value Added) at Market Prices, by Selected Industries, 1990-91

	<u>NSW</u> \$ million	<u>Australia</u>	<u>Ranking in NSW</u> <u>amongst 113</u> <u>industry categories</u>
<u>Resources</u>			
Black coal	2,398	5,210	17
Brown coal, oil and gas	0	4,560	106
Ferrous metal ores	1	1,606	105
Non-ferrous metal ores	339	3,399	54
<u>Agriculture, Forestry</u>			
Pastoral zone	354	1,155	51
Wheat-sheep zone	2,285	6,064	18
High rainfall zone	713	2,523	35
Northern beef	0	847	109
Milk cattle & pigs	368	1,806	49
Other farming	863	3,568	32
Forestry & Logging	221	773	69
<u>Manufacturing</u>			
Fertilisers & basic chemicals	561	1,602	40
Pharmaceuticals	438	662	47
Glass & glass products	176	492	73
Cement & concrete	347	1,137	52
Basic iron & steel	1,516	2,694	23
Non-ferrous metals	972	3,267	27
Motor vehicles	329	2,756	57
Household appliances	283	752	62
<u>Services</u>			
Electricity	2,998	7,865	12
Water, sewerage, drainage	1,369	4,035	25
Residential building	2,917	8,381	13
Construction nec	6,502	18,998	6
Wholesale trade	8,651	25,403	2
Retail trade	7,032	20,341	4
Road transport	3,973	10,747	9
Railway transport	967	2,549	28
Air transport	1,540	3,579	22
Communication	2,720	7,829	14
Banking	3,047	8,813	11
Insurance	1,289	3,802	26
Business services nec	7,107	20,777	3
Ownership of dwellings	10,564	30,373	1
Public administration	4,310	10,752	8
Defence	1,800	4,243	19
Health	6,694	19,344	5
Education, libraries	6,016	17,424	7
Welfare services	3,189	9,316	10
Restaurants, hotels, clubs	2,442	7,029	16
not included above	<u>27,163</u>	<u>89,848</u>	
Total (all industries)	<u>121,716</u>	<u>361,557</u>	

Source: Industry Commission 1986-87 data updated by ACIL

coal and many, often regarded as significant, are much less so. The coal industry is of even greater significance in Queensland and NSW, the two states accounting for 97 per cent of the industry's national turnover (and 95 per cent of its value added).

Table A8 summarises data compiled and published by ACIL Economics and Policy Pty Ltd. The data were sourced from an Industry Commission input:output file for 1986-87, updated by ACIL using total GDP weights. If more up-to-date input:output data were available they would ascribe greater significance to coal because the industry has grown faster than the economy generally. The table shows black coal to be the 17th ranked industry in NSW of 113 industry categories as measured by value added. It contributed 2.0 per cent of State GDP, and 1.4 per cent of Australia's.

If a 2 per cent contribution to State GDP does not impress, it is well to recognise that black coal's contribution is larger than any of the resources, agriculture or manufacturing industries separately identified in these tables. All the industries that make a larger contribution to the State economy are listed in the services sector, including: ownership of dwellings (ranked 1), wholesale trade (2), business services (3), retail trade (4), health (5), construction (6), education (7), public administration (8), road transport (9) and welfare services (10).

Whether citizens' consumption of these services (and hence the level of their economic activity) would be sustainable without basic industries like mining, agriculture and manufacturing, is a valid question. Before the development of modern national accounting techniques in the late-nineteenth century, and certainly until the late-eighteenth century, it was common to regard only agriculture, mining and (later) manufacturing, as 'productive' sectors. Centrally planned economies persisted until recent times with that approach in a so-called 'material product' system of national accounts which excluded services. Although these views have been discredited, properly, there is no doubt that national welfare is increased by activity in the traded goods sector where international comparative advantage can be tested and gains made from associated trade.

How Important is the Coal Industry to Australia?

Australia's international comparative advantage is heavily concentrated — and best demonstrated — in the mining, energy, and resources sectors and closely related industries which process resource-based products. Black coal is fundamental to that advantage, providing a major contribution to exports itself and as a key to the competitiveness of industries dependent on coal or coal-based electricity.

Without black coal, Australia's comparative advantage would be weakened; the Australian dollar would be less strong; Australians would not be able to afford the quantity of imports we currently buy; and the size of Australia's services industries, as well as the economy overall, would be smaller. Wage rates and incomes in Australia would be lower. And these effects would be most pronounced in the two black coal producing states, Queensland and NSW. If, as has been authoritatively stated, minerals are the "bedrock of the Western Australian economy"⁸, coal surely is a key foundation of the economies of the two black coal states.

⁸ John Brunner, *Minerals in Western Australia, Bedrock of the Economy*, the Chamber of Mines and Energy of WA, May 1992. Mr Brunner is the former Chief Economist of BHP.

These assertions cannot be tested quantitatively because they address the extreme case: Australia without any coal production. But it is a proposition deserving of consideration. One could postulate what Saudi Arabia or Kuwait would be like without oil. The answer, unquestionably, is: very different (and considerably poorer). The extreme proposition of Australia, and NSW, being unable to exploit the immense advantage of an endowment of low cost, conveniently located coal resources, is not completely remote from the Arabian Gulf analogy.

Although the extreme case can only be speculated about, it is possible to quantify estimates of the impact on the Australian economy of constraining the coal industry in particular ways. These quantifications are usefully undertaken using computable general equilibrium (CGE) models of the national economy (like ORANI, which is the best-known of the models of the Australian economy) or, preferably, when examining the flow-through impacts of a major traded commodity like coal, using CGE trade models of the world economy. All these models are built up from input-output tables, showing the inter-linkages between industries and activities in the economies concerned.

While no such modelling has been undertaken in relation to coal production in the Hunter Region, a considerable amount of work has been done on issues which provide relevant insights. Notable amongst these is climate change policy and the socio-economic impacts of carbon taxes, or similar instruments, levied in Australia or in other countries. CGE modelling undertaken in recent years by the Australian Bureau of Agricultural and Resource Economics (ABARE), the Industry Commission, the Tasman Institute, ACIL and Swan Consultants has shown that carbon taxes that would be required to curtail OECD carbon dioxide emissions to 1990 levels would have the effect of lowering Australian black coal production in the order of 25-30 per cent below 'business as usual' projections some 10-15 years hence.

It is difficult to generalise these results in shorthand form, but the impact of such reductions in coal output is simulated to be between a quarter of a percentage point of Australia's GDP and probably no more than one and a quarter percentage points. While these may seem to some to be relatively small figures, they indicate that a reduction in coal output of between a quarter and a third would represent an absolute cost to Australia's annual income of some \$1 to \$4 billion. That is equivalent to about 12 to 45 per cent of the GDP of Tasmania. By these yardsticks, the coal industry is of economic significance to Australia; by extension, the coal industry of the Hunter Region, which is critically dependent upon the Hunter rail network, is of commensurate national significance.

Other considerations which should not be lost sight of are that the coal industry has been — and is relied on to continue to be — a major 'engine of growth' in the national, state and regional economy and that, contrary to concerns about the variability of coal (and minerals and farm) income, coal production is so highly export-oriented that it can serve to protect — and has protected — the economy from otherwise more severe domestic recessions.

Upstream and Downstream Linkages

There are important upstream and downstream linkages to NSW, and in particular Hunter Region, coal production. This section outlines some of those which are additional to the sale of coal in the export market.

The ABS census of mining operations, reported in *Mining Industry Australia*, records purchases and selected expenses by the NSW coal industry in 1992-93. Purchases of materials, components, electricity and fuels, outward freight, repairs and maintenance involve very substantial amounts, as do payments to contractors (see Table A9 below).

Table A9
Coal Industry Purchases and Selected Expenses, NSW, 1992-93
\$ million

Purchases	
Materials, components, etc	396.8
Electricity and fuels	153.3
Goods for resale	133.9
Rent, leasing and hiring expenses	34.3
Outward freight and cartage	616.4
Motor vehicle expenses	4.8
Repairs and maintenance	331.2
Payment for contract, sub-contract and commission work	<u>129.8</u>
	<u>1800.7</u>

Source: ABS

Railways and Ports

The importance of the coal industry to the railways in NSW (and the railways to the coal industry) is amply illustrated by the fact that much of the expenditure of \$616 M on 'outward freight and cartage' is spent on rail freight. Indeed, just as the railways represent the biggest expense for coal miners, the coal industry is Rail Access Corporation's most important non-urban customer, if not its most important customer. The coal industry is also FreightCorp's most important customer. In other words, the railway industry in NSW, its employees and its many suppliers in manufacturing and service industries, are ultimately reliant on the coal industry for much of their livelihood or business.

'Outward freight and cartage' also encompasses expenditure on ship loading and port services. The coal industry is by far the biggest user of NSW ports, operating major shiploaders at Newcastle and Port Kembla. These are very substantial enterprises in their own right and are important to the economies of Newcastle and Wollongong.

Importance of Competitive Domestic Coal Prices

Maintaining internationally competitive coal and electricity prices is important if investment in energy intensive industries is to continue to be attracted to Australia. This investment is important to prospects for Australian incomes and jobs because, if it is directed elsewhere, export growth will have to come from industries which have fewer natural advantages.

What holds with imperative for aluminium, steel and other energy intensive industries holds, in lesser degrees, for practically all primary and manufacturing industries. Electricity is an all-pervasive input and its price does affect firms' and industries' competitiveness at the margin. If electricity prices rise, for example, on account of rising costs of coal supply, the entire economy will be disadvantaged.