



ELECTRICITY, GAS, WATER AND SEWERAGE

INDUSTRIES
AUSTRALIA

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INQUIRIES

- For further information about these and related statistics, contact Helen Shannon on Adelaide (08) 8237 7382, or any ABS office shown on the back cover of this publication.

NOTES

IN THIS ISSUE

This publication presents information relating to the electricity, gas, water and sewerage industries. Information for the water and sewerage industries is published separately for the first time. Data was previously included in the total for electricity, gas and water supply as part of the integrated framework of statistics and was released in *Business Operations and Industry Performance, Australia* (Cat. no. 8140.0).

Many of the statistics in this publication have been derived from the Australian Bureau of Statistics (ABS) 1995–96 Census of Electricity and Gas Operations and the 1995–96 Water and Sewerage Survey. However, while the generation, transmission and distribution of electricity are all covered, it should be noted that the scope of these collections only includes the supply of gas and water, and sewerage services, not the whole of these industries. Further explanation is given in the Explanatory Notes, paragraph 5. In addition, some tables contain information that has been obtained from other ABS collections or sources external to the ABS.

Information for the electricity industry, as well as that for the water and sewerage industry, is available at the State and national level. However, data from the Gas Supply collection, relating to the manufacture and distribution of gas, is available only at the national level since more detailed tables at State level may provide information about individual businesses or organisations. The ABS maintains confidentiality of the data provided to it, and is unable to release such detailed information.

Different information is collected from management units and establishments (see Explanatory Notes for definitions). Statistics collected at the management unit level can contain data about activities normally associated with industries other than electricity, gas, water and sewerage, because of the inclusion of establishments which are part of a management unit but are not predominantly engaged in the electricity, gas, water or sewerage industries (for details see Explanatory Notes, paragraphs 15–20).

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DATA COMPARISONS

Care should be exercised when comparing data across States and over time due to differences in accounting methods and due to industry restructuring which has been occurring at different times in each State.

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REVISIONS

Some of the data published in the 1994–95 issue of this publication have been revised to take account of changes to previously reported data.

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W. McLennan
Australian Statistician

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CHAPTER 1

OVERVIEW

INTRODUCTION

The past few years have seen major changes within certain industries in Australia. Since 1991 governments have been working to encourage economy-wide reform to introduce competition into the activities of government-owned enterprises. The impetus for reform was the decision by the Council of Australian Governments (COAG) to apply the National Competition Policy which arose from the Hilmer report. It is expected that such reforms will lower prices to users, increase customer choice, improve services and encourage more sustainable use of Australia's resources, thereby improving both domestic and national competitiveness.

The reforms have resulted in some major changes in the electricity, gas, and water and sewerage industries, including company restructuring and the privatisation of bodies which were previously government-owned. In addition, the removal of barriers between the gas and electricity industry means that companies traditionally supplying either gas or electricity will, in future, be able to offer both types of energy. At the same time an energy services industry is emerging to take advantage of competition between energy sources by providing customers with integrated, cost effective and energy efficient products and services, including energy audits and energy efficiency advice (*Australian Energy News* 1996, no. 2, p. 14).

It is important that users of the data in this publication are aware that structural and corporate reforms, such as those mentioned above, limit the comparison of data between years. Users are referred to the introduction for each industry for further explanation. Data for 1994-95 for the water and sewerage industries are not available for comparison with 1995-96.

ELECTRICITY INDUSTRY

Turnover

- In 1995-96 turnover of management units decreased by \$231 million (1%) from \$21,209 million in 1994-95 to \$20,978 million.

Industry gross product

- Industry gross product (IGP) (at the management unit level) fell by 5% from \$8,639 million in 1994-95 to \$8,190 million in 1995-96.

Value added

- Value added (measured at the establishment level) decreased by \$12 million (0.1%) from \$9,227 million in 1994-95 to \$9,215 million in 1995-96.

Trading profit

- Total trading profit (at the management unit level) decreased by \$430 million (6%) from \$7,729 million in 1994-95 to \$7,299 million in 1995-96.

Employment

- Total management unit employment at the end of June 1996 decreased by 10%, from 44,425 persons at the end of June 1995 to 40,019 persons.

GAS INDUSTRY

Turnover

- In 1995–96 turnover of management units decreased by \$57 million (2%) from \$2,805 million in 1994–95 to \$2,748 million in 1995–96.

Industry gross product

- IGP (at the management unit level) fell by 2% from \$884 million in 1994–95 to \$864 million in 1995–96.

Value added

- Value added (measured at the establishment level) decreased by \$198 million (12%) from \$1,677 million in 1994–95 to \$1,479 million in 1995–96.

Trading profit

- Total trading profit (at the management unit level) decreased by \$60 million (8%) from \$799 million in 1994–95 to \$739 million in 1995–96.

Employment

- Total management unit employment at the end of June 1996 decreased by 26%, from 6,738 persons to 4,958 persons.

WATER AND SEWERAGE INDUSTRIES

Turnover

- In 1995–96 turnover of management units was \$6,435 million.

Industry gross product

- IGP (at the management unit level) was \$3,521 million in 1995–96.

Trading profit

- Total trading profit (at the management unit level) was \$3,264 million in 1995–96.

Employment

- Total management unit employment the end of June 1996 was 18,500 persons.

INTRODUCTION

In the past few years the Australian electricity industry has been experiencing fundamental change. This mirrors changes which are occurring globally in the electricity supply industry, where competition is replacing traditional monopolies in generation and retailing. Since 1991 governments in Australia have been working to introduce a competitive market for electricity into the southern and eastern States, to be called the National Electricity Market (NEM). Much of the impetus for reform came from a decision by COAG to apply the National Competition Policy.

Generation

In 1995-96 a total of 167,543 million kWh of electricity was produced nationally, compared with 165,063 million kWh in 1994-95, an increase of 1.5%. New South Wales remained the largest generator, representing 37% of national production. (The Australian Capital Territory does not generate its own electricity.) All States, including the Northern Territory, recorded an increase in production, except for South Australia which experienced a strong growth in imports of cheaper power from Victoria. Such interstate exchanges of electricity are set to increase in future with the introduction of the NEM, where customers in one State can buy electricity generated in another State.

Consumption

Total electricity consumption in Australia in 1995-96 was estimated to be 144,291 million kWh, an increase of 2.7% from 1994-95. At the State level the pattern of electricity consumption reflects the location of major industries and population distribution. In 1995-96 New South Wales accounted for 36% of total national electricity consumption, followed by Victoria (23%) and Queensland (19%).

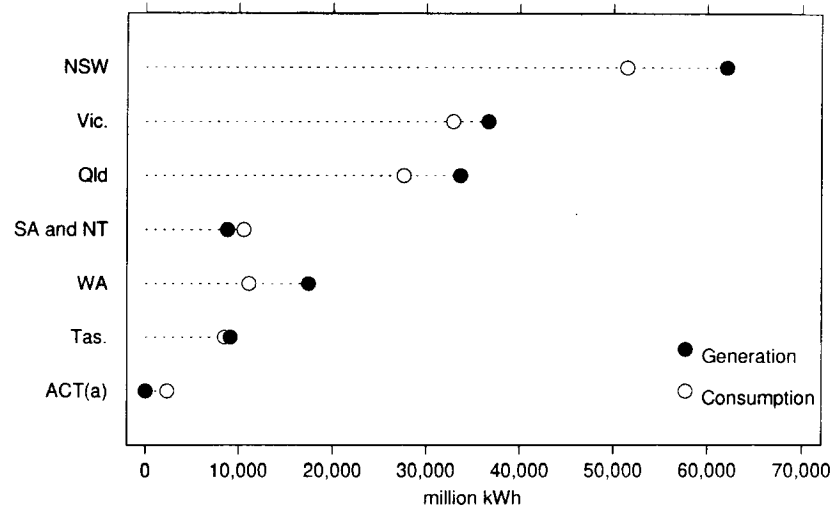
Electricity consumption per customer varied across the States. High levels were recorded in Tasmania (35,000 kWh) and the Northern Territory (22,100 kWh). (This is in part because natural gas is not used at all in Tasmania (only town gas and LPG are used) and is used only to a very small extent in the Northern Territory.) South Australia and Western Australia recorded the lowest consumption levels of electricity per customer with 12,900 kWh and 15,300 kWh respectively.

Non-residential consumption of electricity accounted for 70% of all electricity used in 1995-96. Tasmania recorded the highest consumption level of 162,000 kWh per non-residential customer and South Australia the lowest with 65,300 kWh per customer.

The residential sector accounted for 30% of national electricity usage in 1995-96. Consumption per person was 2,400 kWh. Tasmania recorded the highest residential consumption (3,900 kWh per person) while Western Australia recorded the lowest (1,700 kWh per person).

In 1995-96 up to 9.5% of electricity generated was lost in transmission and distribution.

GENERATION AND CONSUMPTION



(a) ACT does not generate its own electricity.

Source: ABS (unpub.)a and ESAA 1997.

Industry reform and technological change

In order to prepare the electricity industry for the new competitive national market, former State-owned electricity companies are being restructured. Most States have now corporatised their electricity utilities by separating them into different businesses for generation, transmission and distribution. However, utilities still account for 90% of the total installed electricity capacity of approximately 40,000 MW. The Commonwealth Government and State and Territory Governments own 80% of the total capacity (Electricity Supply Association (ESAA) 1997).

The industry reforms will allow private and public generators to compete to provide power to a national pool. High-demand users will then be able to buy electricity direct from the wholesale market, with customers with smaller demand buying through retailers. By the end of June 1996 both Victoria and New South Wales had restructured to allow competition between individual generators. The special article at the end of this chapter (page 32) explains the recent industry reforms in more detail.

Deregulation should provide many opportunities for new technology early in the next century (ESAA 1997). Whilst pulverised coal remains the cheapest fuel technology for large-scale power in Australia, combined-cycle gas turbine technology is challenging this. Environmental concerns and competitive market issues are likely to result in growth in electricity generation from gas, especially the cogeneration (cogen) of heat and power. Gas-fired electricity plant capacity is forecast to treble by the year 2010, most being in cogen. Solar photovoltaic technology is also promising, and current technological developments may enable it to compete commercially with conventional technologies soon after the year 2000. Similar hopes are held for solid oxide (ceramic) fuel cell technology.

Industry reform and technological change *continued*

The reforms occurring in the industry are also expected to improve the commercial viability of cogen. The Australian Cogeneration Association (1995) reports that cogen is growing rapidly in all countries which have embarked upon reforming their energy industries. The basic concept is that when electricity is produced from fossil fuels, heat is also produced (about two-thirds of the fuel's energy) but at conventional power stations this heat energy is wasted. However, with cogen, electricity is produced at a location where heat is also needed and this heat can be used, for example, by local businesses involved in horticulture or for district heating. If cogen were to replace existing thermal power stations it is estimated that 25% of Australia's electricity production could come from cogen, compared to the current 3%.

The deregulation of the electricity supply industry will allow cogenerators to compete by selling all or some of the electricity and heat they produce direct to the market or via buy-back agreements with distributors. The register of the Australian Cogeneration Association currently identifies 1,500 MW of installed cogen capacity in 229 plants across 108 sites and this is set to double with the next decade. Most sites are in the range 1 MW to 10 MW (*Australian Energy News* April 1997, pp. 31-32). A recent example is Edison Mission Energy's operations in Western Australia. Following a contract signed in 1995, the company has been using natural gas combined with waste refinery flare gas from BP's Kwinana Refinery to generate electrical power for the facility's needs of 52 MW, while the remaining 52 MW generated is available to Western Power to supply the Western Australian electricity grid. Excess heat produced is no longer wasted but is used to produce steam which is fed back into the oil refinery process or used to produce additional electricity (*Petroleum Gazette* 1997, vol. 2, pp. 32-33).

Compared with large-scale operations, small-scale cogen (less than about 10 MW) is a virtually untouched market (Dunstan 1997). Potential users include hotels, hospitals, and factories requiring extensive drying. In November 1996 the Sustainable Energy Development Authority (SEDA) in New South Wales launched its \$1 million Cogeneration Investment Program. SEDA believes that up to 300 potential sites exist in New South Wales, with a combined capacity of 400 MW, and that harnessing this energy could reduce the State's energy bill by over \$50 million and reduce greenhouse gas emissions by one million tonnes a year.

MANAGEMENT UNIT PERFORMANCE MEASURES

The effects of some of the industry reforms outlined above, in particular company restructuring and associated changes to charging systems, are reflected in the data presented in this publication. For example, in Victoria a new billing procedure is reflected in an increase in reported purchases and a decrease in outward freight and cartage, while in New South Wales the generation utility was split into three separate generating companies at the same time as distribution supergrids were being formed. The restructuring within the industry has resulted in variations in the way assets are valued, the level of liability of businesses, and in some cases the sale of assets. Hence caution should be exercised when comparing the current value of assets and liabilities over time and between States. Reorganisation in Western Australia has also affected industry classification at the management unit level. Such changes have impacted on the overall number of management and establishment units in the electricity industry as well as employment figures.

SUMMARY DETAILS

	1993-94	1994-95	1995-96
Management units at 30 June (no.)	69	71	57
Employment at end June (no.)	48 089	44 425	40 019
Wages and salaries (\$m)	2 283	2 140	2 203
Turnover (\$m)	22 022	21 209	20 978
IGP (\$m)	9 898	8 639	8 190
Net capital expenditure (\$m)	2 165	1 845	1 600

Source: ABS (unpub.)b.

At the management unit level activities such as gas supply may have previously been incorporated into the management unit electricity data for some organisations. However, at the establishment level these activities have almost always been allocated to the appropriate industry. Variations over time at the establishment level are more directly attributable to the streamlining of operations that often occur during restructuring.

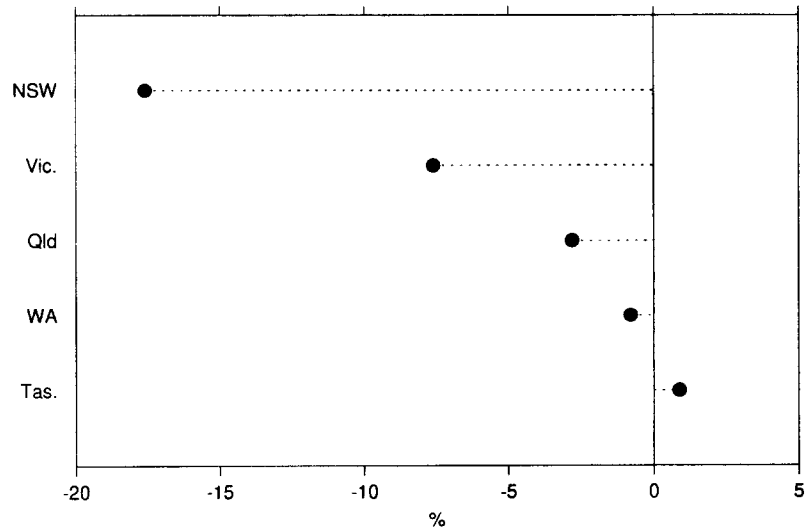
Changes within the industry and the requirement to maintain confidentiality of data (unless a business agrees to its publication) have meant that the ABS has been unable to publish certain State and Territory financial and employment data for 1995-96.

Employment

Total employment in management units classified as part of the electricity industry decreased by 10%, from 44,425 persons at the end of June 1995 to 40,019 persons at the end of June 1996. A large decrease was reported in New South Wales, where employment fell by 18% or 3,106 persons and in Victoria, with a fall of 8% or 586 persons. These falls reflect an overall decrease in the number of management units in the electricity industry. In 1995-96 there were 57 units, 14 fewer than in 1994-95.

The labour ratio of IGP to employment rose from \$194,500 per person in 1994-95 to \$204,600 per person in 1995-96.

EMPLOYMENT—Change from June 1995 to June 1996(a)



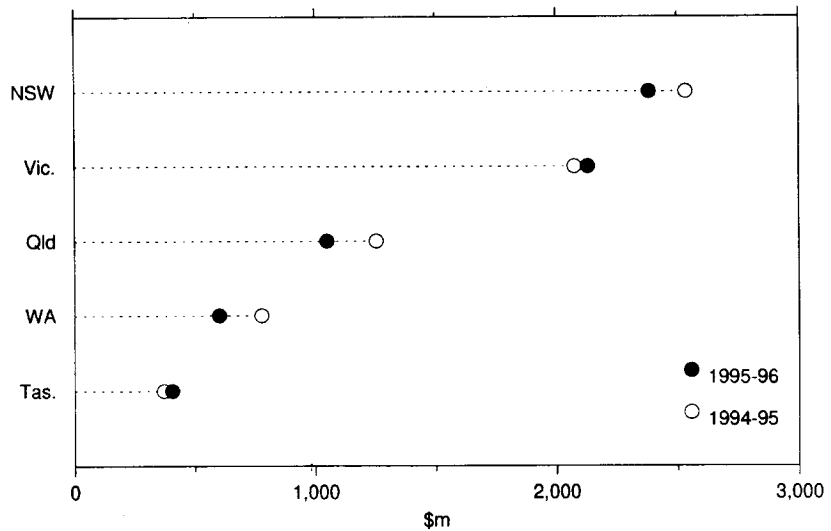
(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

Source: ABS (unpub.)b.

Trading profit

Total trading profit decreased by \$430 million (6%) from \$7,729 million in 1994–95 to \$7,299 million in 1995–96. However, increases were recorded in Victoria and Tasmania, of \$58 million (3%) and \$37 million (10%) respectively. Queensland recorded a large decrease in dollar terms, falling from \$1,252 million to \$1,048 million in 1995–96, a drop of 16%, while Western Australia experienced a large decrease in percentage terms, down 22% from \$776 million to \$603 million in 1995–96.

TRADING PROFIT(a)



(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

Source: ABS (unpub.)b.

Earnings before interest and tax (EBIT)

In 1995-96, national EBIT was \$3,883 million, an increase of \$21 million over 1994-95. Victoria recorded a large increase, rising by \$298 million (23%) to \$1,587 million. New South Wales recorded a large decrease in reported EBIT, falling by \$250 million (26%) to \$728 million in 1995-96.

Operating profit before tax (OPBT)

At the national level OPBT decreased by 2% from \$1,447 million in 1994-95 to \$1,414 million in 1995-96. Victoria recorded an increase of \$113 million (25%) to \$564 million, while New South Wales recorded a large decrease, with OPBT falling from \$326 million in 1994-95 to \$117 million in 1995-96, down 64%.

Turnover

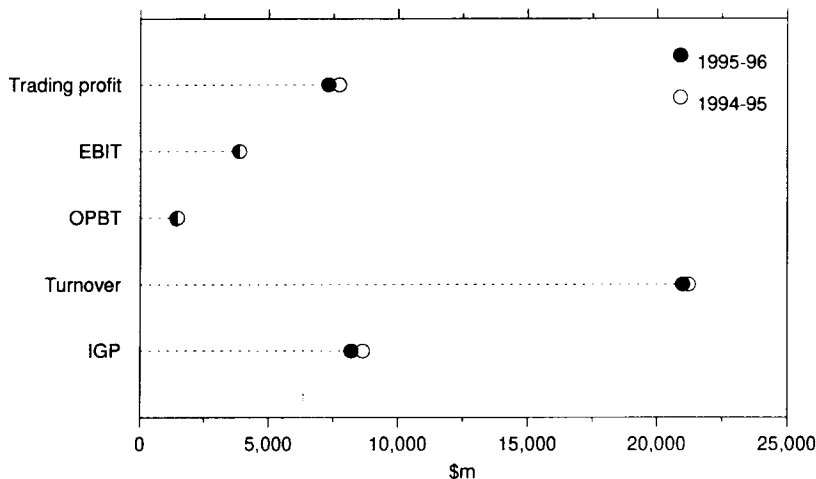
Turnover at the national level decreased by \$231 million (1%) to \$20,978 million in 1995-96. A large drop occurred in Western Australia, where turnover fell by \$228 million (14%) to \$1,367 million. A large increase in turnover was again recorded by Queensland, up \$267 million to \$4,102 million in 1995-96.

Sales of goods and services accounted for \$20,087 million in 1995-96 or 96% of total turnover. The decrease in total turnover is primarily a result of the fall in sales of \$212 million.

Industry gross product

IGP fell by 5% from \$8,639 million in 1994-95 to \$8,190 million in 1995-96. New South Wales recorded a large decrease, falling \$208 million (7%) to \$2,726 million in 1995-96, while in Western Australia IGP fell by \$185 million (22%) to \$643 million, and in Queensland by \$183 million (12%) to \$1,306 million. Victoria recorded a large increase in IGP, up \$63 million (3%) from 1994-95. The overall decrease in national IGP reflects the decline in turnover.

SELECTED INDICATORS

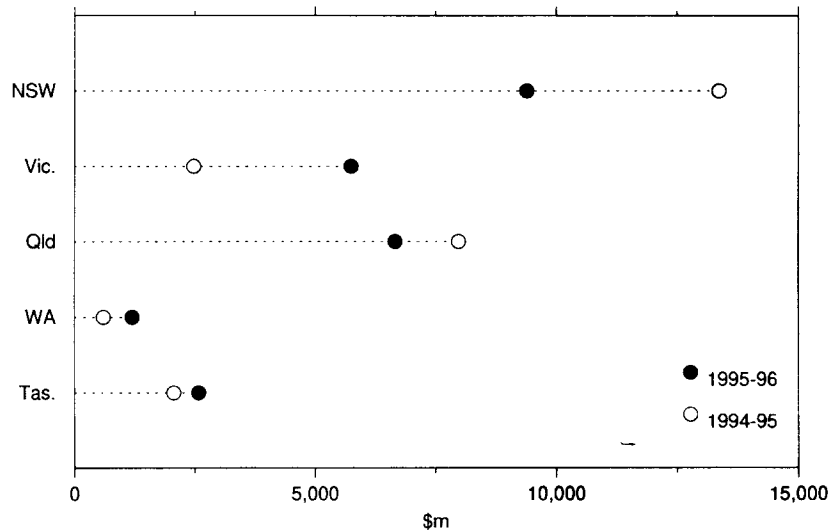


Source: ABS (unpub.)b.

Net worth

Nationally, net worth rose by \$104 million (0.3%) to \$30,269 million in 1995–96. Victoria recorded a large increase, rising by \$3,283 million to \$5,754 million. A large decrease was recorded in New South Wales, where net worth fell from \$13,377 million in 1994–95 to \$9,393 million in 1995–96. Queensland also reported a large decrease, falling from \$7,986 million in 1994–95 to \$6,672 million in 1995–96.

NET WORTH(a)



(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

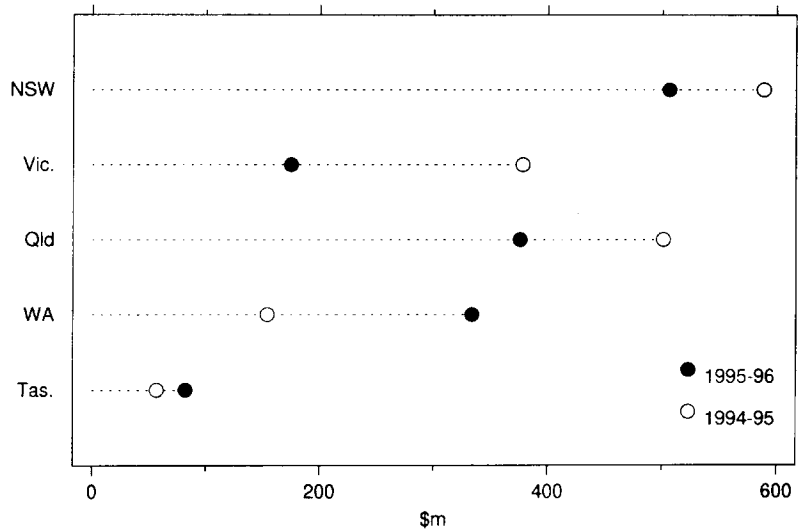
Source: ABS (unpub.)b.

At the national level the increase in net worth reflects the increase in the value of non-current liabilities, up 19% or \$4,273 million, and non-current assets, up 4% or \$2,416 million. These have offset the falls of \$3,666 million (30%) in current liabilities and \$1,581 million (17%) in other current assets.

Net capital expenditure

Total net capital expenditure decreased by 13% from \$1,845 million in 1994–95 to \$1,600 million in 1995–96. A large decrease was reported in Victoria, where net capital expenditure decreased by \$203 million (54%), and in Queensland which experienced a decrease of \$126 million (25%). Western Australia recorded a large increase of \$179 million (116%) rising to \$334 million in 1995–96.

NET CAPITAL EXPENDITURE(a)



(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

Source: ABS (unpub.)b.

Performance measures

While performance measures are a useful way of presenting summaries of performance, users of these statistics should refer to the Explanatory and Technical Notes. In addition, the restructuring of the industry will have affected some comparisons. The following changes occurred in performance measures in the electricity industry between 1994-95 and 1995-96:

- trading profit margin decreased from 38% to 36%;
- acquisition to disposals ratio decreased from 13 times to 2 times;
- debts to assets increased from 54.4% to 54.7%; and
- return on funds decreased from 7.3% to 6.8%.

ESTABLISHMENT PERFORMANCE MEASURES

Employment

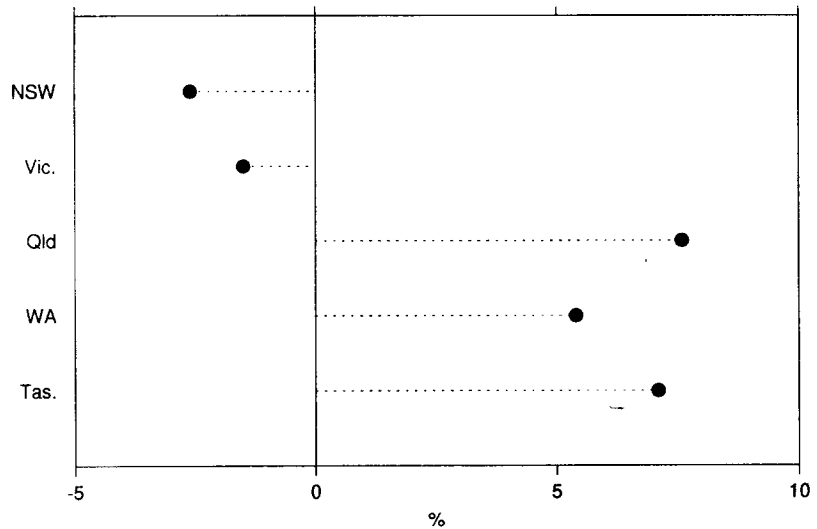
Employment at the establishment level decreased by 10% from 42,452 persons at the end of June 1995 to 38,218 persons at the end of June 1996. New South Wales recorded a large fall in employment, down 18% or 3,113 persons to 14,614, while employment in Victoria fell by 8% to 6,391 persons. The overall number of establishments also fell, by 14, to 67 in 1995-96.

Production and all other employees accounted for 24,187 persons at the end of June 1996, down 16% on the previous year. The number of employees engaged on new construction declined by 24% or 1,301 persons to 4,111 persons in 1995-96. Conversely, the level of administrative, office and sales employees rose by 2% or 225 persons to 14,031 at the end of June 1996.

Turnover

Turnover at the establishment level increased nationally from \$20,926 million in 1994–95 to \$21,053 million in 1995–96, a rise of 1%. New South Wales recorded a large decrease, down \$204 million (3%) to \$7,670 million in 1995–96, while Queensland experienced a large increase, up \$293 million (8%) to \$4,170 million. The major reason for the overall increase was a rise in sales of electricity, which offset a fall in service income.

CHANGE IN TURNOVER—1994–95 and 1995–96(a)



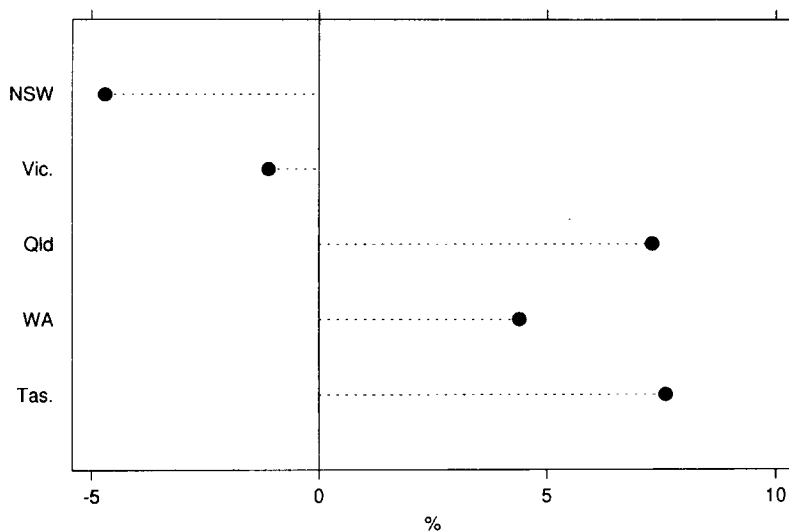
(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

Source: ABS (unpub.)b.

Value added

Value added at establishment level decreased by \$12 million to \$9,215 million in 1995–96. New South Wales reported a large decrease, with a fall of \$151 million (5%) to \$3,050 million in 1995–96. An increase in value added was recorded by Tasmania, up 8% or \$34 million to \$475 million, Queensland, up 7% or \$121 million to \$1,779 million and Western Australia, up \$33 million (4%) to \$789 million.

CHANGE IN VALUE ADDED—1994-95 and 1995-96(a)



(a) Data for South Australia, Northern Territory and Australian Capital Territory is confidential.

Source: ABS (unpub.)b.

2.1 ELECTRICITY, Generation(a)

Period	NSW	Vic.	Qld	SA and NT	WA	Tas.	ACT	Aust.
	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh
1992-93	57 794	37 576	30 404	10 227	15 007	8 864	—	159 872
1993-94	57 792	37 019	31 831	10 560	15 755	8 855	—	161 813
1994-95	60 016	36 043	33 517	10 044	16 756	8 688	—	165 063
1995-96	62 047	36 621	33 618	8 734	17 422	9 100	—	167 543

(a) Statistics relate to generation of electricity within each State and Territory and take no account of interchange between States and Territories. Details for Victoria exclude Victorian entitlements to generation from the Hume Power Station and the Snowy Mountains Hydro-electric Scheme which are both included in New South Wales.

Source: ABS 1994 and ABS (unpub.)a.

2.2 ELECTRICITY, Cogeneration (greater than 1 MW)—30 June 1996

Plant type/fuel type	NSW	Vic.	Qld	SA	WA	ACT	Tas.	NT	Aust.
	MW	MW	MW	MW	MW	MW	MW	MW	MW
Steam									
Coal	72.8	99.0	32.5	—	84.0	—	11.5	—	299.8
Natural gas	—	78.3	—	5.0	226.5	—	—	—	309.8
Waste gas	40.8	50.0	—	—	—	—	—	—	90.8
Bagasse	10.3	—	194.1	—	—	—	—	—	204.4
Fuel oil	—	—	—	—	—	—	4.0	112.5	116.5
Gas turbine									
Natural gas	6.0	78.8	—	15.5	—	—	—	—	100.3
Waste gas	—	—	—	3.5	—	—	—	—	3.5
Diesel	—	—	4.5	—	—	—	—	—	4.5
Reciprocating gas engines									
Natural gas	—	9.5	—	—	—	—	—	—	9.5
Waste gas	—	7.5	—	3.2	—	—	—	—	10.7
Total	129.9	323.1	231.1	27.2	310.5	—	15.5	112.5	1 149.8

Source: ESAA 1997.

2.3 ELECTRICITY, Consumption

Category	NSW million kWh	Vic. million kWh	Qld million kWh	SA million kWh	WA million kWh	Tas. million kWh	NT million kWh	ACT million kWh	Aust. million kWh
Residential(a)	16 470	9 453	7 938	3 384	2 947	1 829	356	1 037	43 414
Commercial	34 680	8 283	19 561	2 273	8 048	764	985	1 211	99 652
Industrial	(b)	14 559	(b)	3 448	(b)	5 840	(b)	(b)	(b)
Traction	(b)	341	(b)	2	—	—	—	—	343
Public lighting	261	246	143	78	80	21	15	39	883
Total	51 411	32 883	27 642	9 184	11 075	8 454	1 357	2 287	144 291

(a) Consumption includes rural customers, some of whom have commercial/industrial premises.

(b) Included in 'Commercial' category.

Source: ESAA 1997.

2.4 ELECTRICITY, Number of Customers—30 June 1996

Category	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Residential	2 401 033	1 763 026	1 262 654	622 292	632 278	200 925	51 252	114 778	7 048 238
Commercial	305 565	180 262	194 580	55 797	91 716	34 391	10 015	11 949	1 011 372
Industrial	(a)	88 296	(a)	31 254	1 284	6 263	(a)	(a)	(a)
Traction	(a)	20	(a)	1	—	—	—	—	21
Public lighting	1 448	3 980	130	1 706	152	239	38	3	7 696
Total	2 708 046	2 035 584	1 457 364	711 050	725 430	241 818	61 305	126 730	8 067 327

(a) Included in 'Commercial' category.

Source: ESAA 1997.

2.5 ELECTRICITY, Consumption Per Customer

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Category	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh
Residential	6.9	5.4	6.3	5.4	4.7	9.1	6.9	9.0	6.2
Commercial	113.5	45.9	100.5	40.7	87.7	22.2	98.4	101.3	98.5
Industrial	(a)	164.9	(a)	110.3	(a)	932.5	(a)	(a)	(a)
Traction	(a)	17 050.0	(a)	2 000.0	—	—	—	—	16 333.3
Public lighting	180.2	61.8	1 100.0	45.7	526.3	87.9	394.7	13 000.0	114.7
All categories	19.0	16.2	19.0	12.9	15.3	35.0	22.1	18.0	17.9

(a) Included in 'Commercial' category.

Source: Compiled from data in ESAA 1997.

2.6 ELECTRICITY, Residential Consumption Per Person

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Item	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh
Consumption per person	2.7	2.1	2.4	2.3	1.7	3.9	2.0	3.4	2.4

Source: Compiled from data in ESAA 1997 and ABS 1997.

2.7 ELECTRICITY, Transmission and Distribution Systems—30 June 1996

<i>Item</i>	<i>NSW(a)</i>	<i>Vic.(b)</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT(c)</i>	<i>ACT</i>	<i>Aust.</i>
Overhead lines(d)	263 564	123 495	171 236	82 059	79 303	26 955	5 043	2 874	754 529
Underground cables(d)	23 696	7 142	8 084	8 363	5 676	1 589	918	2 043	57 512
Nominal MVA of transformers installed(e)	78 458	40 607	31 448	15 413	14 875	6 983	1 793	2 726	192 303

(a) Includes the Snowy Mountains.

(b) Reports on distribution overhead lines from the newly established distributors are substantially lower than the previous records. Changes to valuation methodologies and organisation restructuring have affected the reporting of distribution assets.

(c) Includes privately owned lines used by Power and Water Authority.

(d) Circuit kilometres.

(e) Excludes generator transformers.

Source: ESAA 1997.

2.8 MANAGEMENT UNITS(a), Employment—End of June

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1995	1996	1995	1996	1995	1996	1995	1996
Management units(a) at 30 June (no.)	28	11	16	17	17	17	4	5
Employment at end of June (no.)	17 661	14 555	7 672	7 086	8 221	7 989	3 205	n.p.
Persons employed per management unit (no.)	630.8	1 323.2	479.5	416.8	483.6	469.9	801.3	n.p.
Labour ratios								
Profit to employment (\$'000/employee)	18.5	8.1	58.8	79.6	42.4	55.8	47.3	n.p.
Industry gross product								
To employment (\$'000/employee)	166.1	187.3	286.3	318.9	181.1	163.5	170.4	n.p.
To selected labour costs (times)	3.2	2.6	3.8	4.7	4.3	3.3	3.0	n.p.
Selected labour costs								
To employment (\$'000/employee)	52.5	72.4	75.6	68.1	42.3	50.4	56.7	n.p.

Items	WA.....		TAS.....		NT.....		ACT...		AUST.....	
	1995	1996	1995	1996	1995	1996	1995	1996	1995	1996
Management units(a) at 30 June (no.)	3	3	1	2	1	1	1	1	71	57
Employment at end of June (no.)	3 678	3 647	1 720	1 736	918	n.p.	1 350	n.p.	44 425	40 019
Persons employed per management unit (no.)	1 226.0	1 215.7	1 720.0	868.0	918.0	n.p.	1 350.0	n.p.	625.7	702.1
Labour ratios										
Profit to employment (\$'000/employee)	44.0	24.5	0.2	20.8	-4.9	n.p.	9.2	n.p.	32.6	35.3
Industry gross product										
To employment ('000/employee)	225.0	176.3	230.5	251.0	114.8	n.p.	107.0	n.p.	194.5	204.6
To selected labour costs (times)	4.4	3.7	3.9	4.3	2.5	n.p.	2.0	n.p.	3.5	3.3
Selected labour costs										
To employment ('000/employee)	51.4	47.7	59.1	58.5	46.8	n.p.	53.8	n.p.	55.0	62.3

(a) See Explanatory Notes, 'Statistical Units', paragraphs 15-20.

Source: ABS (unpub.)b.

2.9 MANAGEMENT UNITS(a), Income and Expenditure

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services	7 408.8	7 275.1	5 822.9	5 693.9	3 597.9	3 843.6	899.3	n.p.
<i>Less</i>								
Purchases of goods and materials	3 843.4	3 937.8	2 689.6	2 811.0	1 975.8	2 138.4	176.0	n.p.
Rent, leasing and hiring expenses								
Motor vehicles	0.4	0.3	10.1	7.1	0.1	—	1.4	n.p.
Plant, machinery and other equipment	1.5	1.2	4.1	4.6	0.4	0.1	0.1	n.p.
Land, buildings and other structures	4.8	6.7	5.7	17.7	6.9	7.9	0.9	n.p.
Other rent, leasing and hiring	5.1	3.9	0.1	0.5	0.2	—	—	n.p.
Outward freight and cartage	381.9	256.9	253.6	6.5	1.1	4.4	22.1	n.p.
Motor vehicle expenses	40.8	30.9	13.9	15.1	12.8	14.7	17.3	n.p.
Repair and maintenance expenses	168.6	175.4	96.5	95.9	74.2	54.6	14.6	n.p.
Payment for contract, subcontract and commission work	144.4	82.7	238.7	186.7	54.9	70.3	1.9	n.p.
Other selected expenses	257.1	326.4	474.9	378.8	222.3	507.6	128.1	n.p.
<i>Purchases and selected expenses</i>	4 847.9	4 822.2	3 787.1	3 524.0	2 348.6	2 798.1	362.3	n.p.
<i>Plus</i>								
Opening stocks	430.6	397.4	111.8	148.0	59.7	62.4	67.9	n.p.
<i>Less</i>								
Closing stocks	404.4	328.0	150.6	110.5	62.7	64.7	64.3	n.p.
<i>Cost of sales</i>	4 874.2	4 891.6	3 748.3	3 561.4	2 345.6	2 795.8	365.8	n.p.
Trading profit	2 534.6	2 383.5	2 074.5	2 132.4	1 252.3	1 047.8	533.5	n.p.
<i>Plus</i>								
Rent, leasing and hiring income	16.0	15.7	11.9	13.6	1.5	2.1	1.2	n.p.
Government subsidies	2.8	9.1	0.1	0.1	27.7	47.3	0.3	n.p.
Interest income	82.7	89.9	122.3	135.2	36.2	41.2	4.5	n.p.
Other income	176.9	96.5	250.9	323.9	158.3	503.6	23.1	n.p.
<i>Less</i>								
Wages and salaries	776.4	906.6	532.8	442.4	315.0	368.0	159.1	n.p.
Superannuation	126.1	123.8	34.9	33.3	27.8	28.9	21.1	n.p.
Workers' compensation	24.7	23.6	12.3	6.6	5.0	5.5	1.7	n.p.
<i>Selected labour costs</i>	927.2	1 054.0	579.9	482.4	347.8	402.4	181.8	n.p.
<i>Less</i>								
Depreciation	877.4	782.2	521.1	493.5	427.6	443.7	140.9	n.p.
Insurance premiums	20.7	22.6	19.2	19.1	5.9	4.8	6.8	n.p.
Royalties expenses	—	—	38.0	13.4	—	0.2	2.0	n.p.
Bad debts	10.2	8.1	12.1	9.7	1.6	14.6	3.4	n.p.
Earnings before interest and tax	977.5	727.8	1 289.4	1 587.2	692.9	776.4	227.7	n.p.
<i>Less</i>								
Interest expenses	651.1	610.5	838.4	1 023.5	344.8	330.5	76.1	n.p.
Operating profit before tax	326.4	117.2	451.1	563.7	348.1	445.9	151.5	n.p.

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

Source: ABS (unpub.)b.

2.9 MANAGEMENT UNITS(a), Income and Expenditure *continued*

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services	1 543.2	1 327.1	470.1	502.8	240.7	n.p.	316.4	n.p.	20 299.2	20 087.1
<i>Less</i>										
Purchases of goods and materials	600.2	500.0	28.5	26.0	123.8	n.p.	153.7	n.p.	9 590.9	9 906.3
Rent, leasing and hiring expenses										
Motor vehicles	0.1	—	1.4	0.9	2.8	n.p.	0.1	n.p.	16.3	19.7
Plant, machinery and other equipment	8.9	—	0.7	0.9	1.2	n.p.	1.4	n.p.	18.3	10.4
Land, buildings and other structures	0.1	0.1	0.9	0.9	—	n.p.	0.7	n.p.	20.0	35.8
Other rent, leasing and hiring	—	—	—	—	—	n.p.	—	n.p.	5.4	4.5
Outward freight and cartage	30.0	56.1	0.3	0.3	0.1	n.p.	0.2	n.p.	689.2	343.7
Motor vehicle expenses	6.7	6.1	5.8	5.2	1.1	n.p.	2.1	n.p.	100.4	81.3
Repair and maintenance expenses	2.3	2.0	—	—	19.0	n.p.	0.4	n.p.	375.6	378.9
Payment for contract, subcontract and commission work	3.6	4.1	17.5	22.1	13.4	n.p.	18.3	n.p.	492.7	412.1
Other selected expenses	142.9	140.0	45.3	39.8	14.7	n.p.	18.0	n.p.	1 303.2	1 483.3
<i>Purchases and selected expenses</i>	<i>794.7</i>	<i>708.4</i>	<i>100.4</i>	<i>96.1</i>	<i>176.1</i>	<i>n.p.</i>	<i>194.9</i>	<i>n.p.</i>	<i>12 612.0</i>	<i>12 676.1</i>
<i>Plus</i>										
Opening stocks	82.6	110.8	14.7	13.7	18.7	n.p.	10.9	n.p.	796.8	826.6
<i>Less</i>										
Closing stocks	109.8	95.0	13.7	12.3	21.6	n.p.	11.5	n.p.	838.5	714.4
<i>Cost of sales</i>	<i>767.5</i>	<i>724.2</i>	<i>101.4</i>	<i>97.5</i>	<i>173.2</i>	<i>n.p.</i>	<i>194.3</i>	<i>n.p.</i>	<i>12 570.3</i>	<i>12 788.3</i>
Trading profit	775.8	602.8	368.6	405.4	67.6	n.p.	122.0	n.p.	7 728.9	7 298.8
<i>Plus</i>										
Rent, leasing and hiring income	0.7	—	1.8	1.5	—	n.p.	—	n.p.	33.1	33.9
Government subsidies	9.6	10.5	1.2	1.4	37.8	n.p.	7.7	n.p.	87.3	105.3
Interest income	3.5	4.0	8.0	8.0	1.5	n.p.	3.0	n.p.	261.6	286.1
Other income	12.2	5.7	13.1	12.0	8.8	n.p.	4.2	n.p.	647.6	992.6
<i>Less</i>										
Wages and salaries	180.8	164.4	75.1	72.8	38.0	n.p.	62.5	n.p.	2 139.7	2 202.9
Superannuation	6.1	9.0	24.3	27.3	5.0	n.p.	6.9	n.p.	252.1	246.0
Workers' compensation	2.2	0.7	2.2	1.4	—	n.p.	3.2	n.p.	51.3	43.0
<i>Selected labour costs</i>	<i>189.1</i>	<i>174.1</i>	<i>101.6</i>	<i>101.5</i>	<i>43.0</i>	<i>n.p.</i>	<i>72.7</i>	<i>n.p.</i>	<i>2 443.2</i>	<i>2 491.9</i>
<i>Less</i>										
Depreciation	156.6	131.7	96.7	103.0	51.7	n.p.	41.4	n.p.	2 313.4	2 215.5
Insurance premiums	7.3	6.9	2.8	2.7	2.4	n.p.	1.1	n.p.	66.1	66.5
Royalties expenses	—	—	—	—	—	n.p.	—	n.p.	40.0	15.4
Bad debts	3.3	4.0	2.4	2.6	0.5	n.p.	0.3	n.p.	33.9	44.8
Earnings before interest and tax	445.6	306.4	189.2	218.5	18.1	n.p.	21.5	n.p.	3 861.9	3 882.6
<i>Less</i>										
Interest expenses	283.9	217.0	188.8	182.5	22.6	n.p.	9.1	n.p.	2 414.9	2 468.6
Operating profit before tax	161.7	89.4	0.4	36.1	-4.5	n.p.	12.4	n.p.	1 447.0	1 413.9

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

2.10 MANAGEMENT UNITS(a), Industry Gross Product

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services	7 408.8	7 275.1	5 822.9	5 693.9	3 597.9	3 843.6	899.3	n.p.
Rent, leasing and hiring income	16.0	15.7	11.9	13.6	1.5	2.1	1.2	n.p.
Government subsidies	2.8	9.1	0.1	0.1	27.7	47.3	0.3	n.p.
<i>Plus</i>								
Capital work done for own use	380.0	317.7	109.8	113.5	207.4	208.5	11.2	n.p.
Turnover	7 807.6	7 617.6	5 944.7	5 821.0	3 834.4	4 101.6	912.0	n.p.
<i>Plus</i>								
Closing stocks	404.4	328.0	150.6	110.5	62.7	64.7	64.3	n.p.
<i>Less</i>								
Opening stocks	430.6	397.4	150.6	148.0	59.7	62.4	67.9	n.p.
<i>Less</i>								
Purchases and selected expenses	4 847.9	4 822.2	3 787.1	3 524.0	2 348.6	2 798.1	362.3	n.p.
Industry gross product	2 933.4	2 726.0	2 196.4	2 259.6	1 488.8	1 305.8	546.2	n.p.

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services	1 543.2	1 327.1	470.1	502.8	240.7	n.p.	316.4	n.p.	20 299.2	20 087.1
Rent, leasing and hiring income	0.7	—	1.8	1.5	—	n.p.	—	n.p.	33.1	33.9
Government subsidies	9.6	10.5	1.2	1.4	37.8	n.p.	7.7	n.p.	87.3	105.3
<i>Plus</i>										
Capital work done for own use	41.5	29.4	24.9	27.4	—	n.p.	14.7	n.p.	789.5	751.4
Turnover	1 595.1	1 367.0	497.9	533.1	278.5	n.p.	338.7	n.p.	21 209.0	20 977.8
<i>Plus</i>										
Closing stocks	109.8	95.0	13.7	12.3	21.6	n.p.	11.5	n.p.	838.5	714.4
<i>Less</i>										
Opening stocks	82.6	110.8	14.7	13.7	18.7	n.p.	10.9	n.p.	796.8	826.6
<i>Less</i>										
Purchases and selected expenses	794.7	708.4	100.4	96.1	176.1	n.p.	194.9	n.p.	12 612.0	12 676.1
Industry gross product	827.6	642.8	396.5	435.6	105.3	n.p.	144.4	n.p.	8 638.7	8 189.5

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub)(b).

2.11 MANAGEMENT UNITS(a), Assets and Liabilities

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Assets								
Current assets								
Closing stocks	404.4	328.0	150.6	110.5	62.7	64.7	64.3	n.p.
Other current assets	1 615.5	2 188.6	5 919.9	3 778.1	1 041.2	1 025.3	144.3	n.p.
Non-current assets	19 614.6	17 065.3	12 058.3	17 038.1	11 948.4	10 075.9	2 218.7	n.p.
<i>Total</i>	<i>21 634.5</i>	<i>19 581.9</i>	<i>18 128.8</i>	<i>20 926.7</i>	<i>13 052.3</i>	<i>11 165.9</i>	<i>2 427.4</i>	<i>n.p.</i>
Liabilities								
Current liabilities	2 163.9	2 814.8	8 407.2	4 070.9	923.2	894.5	213.8	n.p.
Non-current liabilities	6 094.0	7 374.3	7 250.4	11 102.1	4 143.5	3 599.7	750.7	n.p.
<i>Total</i>	<i>8 257.9</i>	<i>10 189.1</i>	<i>15 657.6</i>	<i>15 173.0</i>	<i>5 066.7</i>	<i>4 494.2</i>	<i>964.6</i>	<i>n.p.</i>
Net worth	13 376.6	9 392.8	2 471.2	5 753.7	7 985.6	6 671.7	1 462.8	n.p.

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Assets										
Current assets										
Closing stocks	109.8	95.0	13.7	12.3	21.6	n.p.	11.5	n.p.	838.5	714.4
Other current assets	222.0	254.1	201.3	167.2	65.1	n.p.	57.5	n.p.	9 266.9	7 685.8
Non-current assets	2 842.8	3 093.4	3 890.8	4 404.4	1 043.8	n.p.	1 484.1	n.p.	55 101.5	57 517.8
<i>Total</i>	<i>3 174.6</i>	<i>3 442.5</i>	<i>4 105.8</i>	<i>4 583.9</i>	<i>1 130.5</i>	<i>n.p.</i>	<i>1 553.1</i>	<i>n.p.</i>	<i>65 206.9</i>	<i>65 918.1</i>
Liabilities										
Current liabilities	147.6	89.2	426.8	437.8	56.3	n.p.	79.8	n.p.	12 418.5	8 753.0
Non-current liabilities	2 425.5	2 154.7	1 616.4	1 565.4	266.1	n.p.	76.2	n.p.	22 622.9	26 895.8
<i>Total</i>	<i>2 573.1</i>	<i>2 243.9</i>	<i>2 043.3</i>	<i>2 003.2</i>	<i>322.4</i>	<i>n.p.</i>	<i>155.9</i>	<i>n.p.</i>	<i>35 041.4</i>	<i>35 648.8</i>
Net worth	601.5	1 198.5	2 062.5	2 580.6	808.1	n.p.	1 397.2	n.p.	30 165.5	30 269.3

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

2.12 MANAGEMENT UNITS(a), Acquisitions and Disposals of Fixed Tangible Assets(b)

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Capital expenditure on								
Land	5.7	5.6	9.5	0.7	2.1	233.6	0.3	n.p.
Dwellings, other buildings and structures	382.3	268.1	233.9	93.3	217.7	1 191.6	1.7	n.p.
Plant, machinery and equipment	282.0	299.4	156.0	101.5	301.3	1 342.7	80.7	n.p.
<i>Total acquisitions</i>	670.0	573.1	399.4	195.5	521.1	2 767.9	82.6	n.p.
Disposal of assets	81.2	67.6	21.7	20.4	19.9	2 392.4	11.2	n.p.
Net capital expenditure	588.8	505.5	377.7	175.1	501.2	375.5	71.5	n.p.

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Capital expenditure on										
Land	0.9	0.3	—	—	—	n.p.	0.2	n.p.	18.7	240.3
Dwellings, other buildings and structures	58.9	5.6	39.0	57.8	—	n.p.	42.3	n.p.	975.6	1 701.1
Plant, machinery and equipment	102.2	338.5	30.1	27.2	42.9	n.p.	11.6	n.p.	1 006.7	2 187.6
<i>Total acquisitions</i>	161.9	344.3	69.1	85.0	42.9	n.p.	54.0	n.p.	2 001.1	4 129.1
Disposal of assets	7.8	10.8	12.0	3.1	0.1	n.p.	2.0	n.p.	155.8	2 529.1
Net capital expenditure	154.1	333.6	57.2	81.9	42.8	n.p.	52.0	n.p.	1 845.3	1 600.0

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

(b) Includes capital work done for own use.

Source: ABS (unpub.)b.

2.13 MANAGEMENT UNITS(a), Selected Performance Measures

Items	NSW.....		VIC.....		QLD.....		SA.....		
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	
Turnover									
Asset turnover (times)	0.3	0.4	0.3	0.3	0.3	0.3	0.4	n.p.	
Profitability									
Trading profit margin (%)	34.2	32.8	35.6	37.5	34.8	27.3	59.3	n.p.	
Return on funds (%)	5.0	4.3	13.3	9.4	5.7	7.6	10.3	n.p.	
Return on assets (%)	1.5	0.6	2.5	2.7	2.7	4.0	6.4	n.p.	
Liquidity									
Liquidity ratio (times)	0.8	0.8	0.7	0.9	1.1	1.2	0.7	n.p.	
Current ratio (times)	0.9	0.9	0.7	1.0	1.2	1.2	1.0	n.p.	
Debt									
Interest coverage ratio (times)	1.5	1.2	1.5	1.6	2.0	2.4	3.0	n.p.	
Debt to assets (%)	38.9	52.9	87.1	72.9	39.0	40.5	40.8	n.p.	
Capital expenditure									
Acquisitions to disposals ratio (times)	8.3	8.5	18.4	9.6	26.2	1.2	7.4	n.p.	
Net capital expenditure to assets (%)	2.8	2.6	2.1	0.8	3.9	3.4	3.0	n.p.	

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....		
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	
Turnover											
Asset turnover (times)	0.5	0.4	0.1	0.1	0.2	n.p.	0.2	n.p.	0.3	0.3	
Profitability											
Trading profit margin (%)	50.3	45.4	78.4	80.6	28.1	n.p.	38.6	n.p.	38.1	36.3	
Return on funds (%)	14.7	9.1	5.1	5.3	1.7	n.p.	1.5	n.p.	7.3	6.8	
Return on assets (%)	5.3	2.7	—	0.8	-0.4	n.p.	0.8	n.p.	2.3	2.2	
Liquidity											
Liquidity ratio (times)	1.5	2.9	0.5	0.4	1.2	n.p.	0.7	n.p.	0.8	0.9	
Current ratio (times)	2.3	3.9	0.5	0.4	1.5	n.p.	0.9	n.p.	0.8	1.0	
Debt											
Interest coverage ratio (times)	1.6	1.4	1.0	1.2	0.8	n.p.	2.4	n.p.	1.6	1.6	
Debt to assets (%)	84.0	67.0	49.9	43.8	29.1	n.p.	10.1	n.p.	54.4	54.7	
Capital expenditure											
Acquisitions to disposals ratio (times)	20.7	31.9	5.8	27.8	456.6	n.p.	26.5	n.p.	12.8	1.6	
Net capital expenditure to assets (%)	5.0	10.0	1.4	1.8	3.9	n.p.	3.4	n.p.	2.9	2.5	

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

2.14 ESTABLISHMENT LEVEL(a), Employment—End of June

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1995	1996	1995	1996	1995	1996	1995	1996
Establishments(a) at 30 June (no.)	29	12	19	21	19	19	5	5
Employment at end of June								
Males (no.)	15 457	12 589	6 239	5 780	6 920	6 858	2 542	n.p.
Females (no.)	2 270	2 025	677	611	1 397	1 320	264	n.p.
Persons (no.)	17 727	14 614	6 916	6 391	8 317	8 178	2 806	n.p.
Persons employed per establishment (no.)	611.3	1 217.8	364.0	304.3	437.7	430.4	561.2	n.p.
Employment type								
Administrative, office and sales (no.)	4 489	4 528	2 671	2 453	3 077	3 152	667	n.p.
Production and all other employees (no.)	13 238	10 086	4 245	3 938	5 240	5 026	2 139	n.p.
Employees engaged on new construction (no.)	2 319	1 504	967	1 085	1 529	985	13	n.p.
Wages and salaries								
All employees (\$m)	780.7	872.3	468.1	366.4	323.5	356.1	127.9	n.p.
Employees engaged on new construction (\$m)	83.5	95.0	51.3	175.1	46.8	26.6	0.7	n.p.

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1995	1996	1995	1996	1995	1996	1995	1996	1995	1996
Establishments at 30 June (no.)	4	4	1	2	3	3	1	1	81	67
Employment at end of June										
Males (no.)	3 302	3 276	1 498	1 482	443	n.p.	606	n.p.	37 007	33 161
Females (no.)	376	371	222	254	106	n.p.	133	n.p.	5 445	5 057
Persons (no.)	3 678	3 647	1 720	1 736	549	n.p.	739	n.p.	42 452	38 218
Persons employed per establishment (no.)	919.5	911.8	1 720.0	868.0	183.0	n.p.	739.0	n.p.	524.1	570.4
Employment type										
Administrative, office and sales (no.)	1 764	2 334	605	608	274	n.p.	259	n.p.	13 806	14 031
Production and all other employees (no.)	1 914	1 313	1 115	1 128	275	n.p.	480	n.p.	28 646	24 187
Employees engaged on new construction (no.)	7	13	381	148	26	n.p.	170	n.p.	5 412	4 111
Wages and salaries										
All employees (\$m)	169.6	164.4	75.1	72.8	24.3	n.p.	35.8	n.p.	2 005.0	2 004.3
Employees engaged on new construction (\$m)	0.1	0.3	4.7	6.5	1.1	n.p.	7.1	n.p.	195.4	319.6

(a) See Explanatory Notes, 'Statistical Units', paragraphs 15–20.

Source: ABS (unpub.)b.

2.15 ESTABLISHMENT LEVEL(a), Income and Expenditure

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of electricity(b)	6 978.1	6 857.5	5 292.9	5 358.6	3 361.8	3 566.1	889.0	n.p.
Sales of other goods(b)	60.7	43.1	6.2	6.3	58.4	89.6	3.9	n.p.
Service income	431.7	423.6	500.2	339.7	219.3	255.3	9.0	n.p.
Rent, leasing and hiring income	16.1	15.8	10.0	12.9	1.3	1.8	0.1	n.p.
Government subsidies	2.8	9.1	2.5	0.1	29.1	48.8	0.3	n.p.
<i>Plus</i>								
Capital work done for own use	384.4	321.1	105.3	111.2	207.4	208.5	11.2	n.p.
Turnover	7 873.8	7 670.2	5 917.1	5 828.7	3 877.3	4 170.2	913.6	n.p.
<i>Plus</i>								
Closing stocks	404.5	328.2	151.7	111.2	65.1	67.0	53.9	n.p.
<i>Less</i>								
Opening stocks	430.8	397.5	112.7	148.7	62.2	64.8	65.0	n.p.
<i>Less</i>								
Purchases								n.p.
Materials, components, containers etc.(b)(c)	338.2	264.2	492.0	557.2	235.1	240.4	97.6	n.p.
Fuels	761.1	1 011.9	81.7	107.5	384.4	434.0	1.8	n.p.
Electricity	2 748.6	2 680.3	2 354.9	2 389.9	1 325.7	1 362.9	37.0	n.p.
Gas (as a fuel)	6.3	6.1	68.6	109.2	—	60.3	124.9	n.p.
Goods for resale(b)	38.2	21.6	—	5.0	65.3	90.9	—	n.p.
Rent, leasing and hiring expenses								n.p.
Motor vehicles	0.4	0.3	8.8	5.8	0.3	0.3	0.3	n.p.
Plant, machinery and other equipment	1.5	1.4	4.0	3.4	0.8	0.5	0.3	n.p.
Land, buildings and other structures	4.8	6.7	5.7	17.3	6.6	7.4	0.9	n.p.
Other rent, leasing and hiring	5.1	3.9	0.1	0.4	0.2	—	—	n.p.
Outward freight and cartage	381.9	256.9	255.6	9.0	1.1	4.4	21.9	n.p.
Motor vehicle expenses	40.8	31.0	12.7	14.2	12.8	14.8	14.9	n.p.
Repair and maintenance expenses	171.5	178.7	63.6	88.5	78.6	59.3	12.3	n.p.
Payment for contract, subcontract and commission work	144.4	82.7	226.9	127.8	59.4	79.7	0.9	n.p.
Subsidy expenses	4.1	5.5	—	—	51.6	38.6	1.9	n.p.
Purchases and selected expenses	4 646.8	4 551.3	3 574.6	3 435.0	2 221.8	2 393.5	314.7	n.p.
Value added	3 200.7	3 049.6	2 381.4	2 356.2	1 658.4	1 778.9	587.7	n.p.

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

(b) Includes transfers out to other establishments of the same management unit where appropriate.

(c) Includes transfers in from other establishments of the same management unit where appropriate.

Source: ABS (unpub.)b.

2.15 ESTABLISHMENT LEVEL(a), Income and Expenditure *continued*

Items	WA.....		TAS.....		NT.....		ACT.....		AUST.....	
	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96	1994- 95	1995- 96
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of electricity(b)	1 255.1	1 316.3	461.8	493.6	264.3	n.p.	222.9	n.p.	18 725.8	18 965.2
Sales of other goods(b)	—	—	—	—	0.7	n.p.	0.1	n.p.	130.1	141.1
Service income	16.1	28.7	8.3	9.2	4.4	n.p.	11.5	n.p.	1 200.5	1 082.8
Rent, leasing and hiring income	0.7	—	1.8	1.5	—	n.p.	—	n.p.	30.0	32.1
Government subsidies	3.6	10.5	1.2	1.4	19.2	n.p.	—	n.p.	58.8	84.2
<i>Plus</i>										
Capital work done for own use	38.3	29.4	24.9	27.4	—	n.p.	9.2	n.p.	780.7	747.5
Turnover	1 313.8	1 385.0	497.9	533.1	288.6	n.p.	243.7	n.p.	20 925.9	21 052.9
<i>Plus</i>										
Closing stocks	109.8	95.9	13.7	12.3	13.1	n.p.	6.9	n.p.	818.5	697.1
<i>Less</i>										
Opening stocks	78.8	111.4	14.7	13.7	13.5	n.p.	6.6	n.p.	784.4	808.6
<i>Less</i>										
Purchases						n.p.		n.p.		
Materials, components, containers etc.(b)(c)	131.7	6.0	26.4	23.0	3.3	n.p.	9.4	n.p.	1 333.6	1 233.1
Fuels	240.2	301.9	1.9	3.0	68.0	n.p.	—	n.p.	1 539.0	1 932.3
Electricity	42.6	39.9	0.1	—	0.1	n.p.	136.5	n.p.	6 645.4	6 661.8
Gas (as a fuel)	123.0	160.2	—	—	66.7	n.p.	0.1	n.p.	389.6	519.9
Goods for resale(b)	—	—	—	—	0.2	n.p.	0.1	n.p.	103.9	140.3
Rent, leasing and hiring expenses						n.p.		n.p.		
Motor vehicles	0.1	—	1.4	0.9	1.2	n.p.	0.1	n.p.	12.5	16.4
Plant, machinery and other equipment	8.2	—	0.7	0.9	0.4	n.p.	0.8	n.p.	16.7	8.8
Land, buildings and other structures	0.1	0.1	0.9	0.9	—	n.p.	0.4	n.p.	19.4	34.2
Other rent, leasing and hiring	—	—	—	—	0.4	n.p.	—	n.p.	5.9	4.4
Outward freight and cartage	30.0	56.1	0.3	0.3	0.1	n.p.	0.1	n.p.	690.9	327.0
Motor vehicle expenses	6.1	6.1	5.8	5.2	0.5	n.p.	1.2	n.p.	94.9	77.2
Repair and maintenance expenses	2.3	2.0	—	—	14.5	n.p.	0.2	n.p.	343.0	374.4
Payment for contract, subcontract and commission work	4.7	7.8	17.5	22.1	12.1	n.p.	10.1	n.p.	475.9	352.6
Subsidy expenses	—	—	—	—	5.1	n.p.	—	n.p.	62.7	44.2
Purchases and selected expenses	588.9	580.2	55.0	56.3	172.6	n.p.	158.9	n.p.	11 733.3	11 726.6
Value added	755.9	789.2	441.8	475.4	115.6	n.p.	85.1	n.p.	9 226.7	9 214.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

(b) Includes transfers out to other establishments of the same management unit where appropriate.

(c) Includes transfers in from other establishments of the same management unit where appropriate.

Source: ABS (unpub.)b.

SPECIAL ARTICLE — SUMMARY OF ELECTRICITY REFORMS IN AUSTRALIA

The information in this section has been reproduced from the paper *Summary of Electricity Reforms in Australia* by the Electricity Reform Branch, Department of Primary Industries and Energy, February 1998.

INDUSTRY OVERVIEW

Under Australia's federal system of government, electricity supply has traditionally been provided by vertically integrated, publicly owned State utilities. The State Governments have been heavily involved in operational and planning activities, including the setting of tariff structures. There is some indirect Commonwealth involvement, exercised mainly through State borrowing limits, taxation, foreign ownership and environmental controls. The Commonwealth's only direct involvement in the industry is the generation of electricity from the Snowy Mountains Hydro-electric Scheme under an arrangement with the States of Victoria and New South Wales. Legislation has been passed in the three Parliaments but corporatisation will not proceed until Governments have agreed future water arrangements for the Scheme, after a water inquiry.

Australia has installed generating capacity of 38,300 MW, producing around 165,000 GWh annually. Coal-fired power stations provide 82% of generation, with peak and intermediate power provided mainly by hydro-electricity and gas. Nuclear power is not used for electricity generation. Over the last decade electricity use increased by some 3.3% per year. Over the next decade the electricity growth rate is forecast at 2% per year. The energy fuel mix is expected to change, with natural gas increasing its share from the current 9% to 21% by the year 2010 because the industry has not operated on an integrated national basis. Until recent years the grid connections between States have been relatively weak or non-existent.

At present only New South Wales, Victoria, South Australia and the Australian Capital Territory are interconnected. Agreement has been reached for the building of an interconnection between New South Wales and Queensland. Interconnections between Victoria and Tasmania, and a direct link between the New South Wales and South Australian systems, are under investigation.

COMPETITIVE MARKET REFORMS

In 1991 governments agreed to work cooperatively to introduce a competitive electricity market in southern and eastern Australia. The reforms will lead to more efficient and sustainable use of energy resources and Australia's domestic and international performance will benefit. The potential benefits of competition reforms in Australia's electricity industries have been estimated at around \$5 billion per year.

COMPETITIVE MARKET REFORMS *continued*

In April 1995 COAG agreed to adopt broad-ranging national competition policy reforms which will encourage competition in government business enterprises. As part of the agreement the Commonwealth will provide financial assistance payments to the States and Territories totalling \$4.2 billion over the period to 2005–06. The payments are conditional, in part, on satisfactory progress in reforming the electricity supply industry.

The new arrangements for the Australian electricity supply industry are based on the separation of industry sectors to allow for competition at the generation and retail levels. Responsibility for the regulation of generation, transmission, system control and the wholesale market is shifting from the States to the national level. The reforms also facilitate opportunities for increased levels of private sector participation in the industry.

NATIONAL MARKET DESIGN

The competitive national market and trading arrangements were developed by the former National Grid Management Council, an inter-governmental advisory body, in consultation with industry, stakeholders and the public.

One of the primary aims of the national reforms is to create an environment which offers the customer the freedom of choice to negotiate the purchase of electricity at the best available price and level of service. This is being achieved through an emphasis on trading mechanisms that promote active competition, are non-discriminatory, and allow for wide-ranging spot and contract instruments to meet varied customer needs.

Measures being pursued to achieve the competitive national market include:

- separating transmission from other activities;
- non-discriminatory access to the interconnected networks;
- customer's choice of supplier;
- cost reflective transmission pricing;
- merit order dispatch, and interstate sourcing, of generation;
- non-discriminatory access for new industry participants; and
- uniform regulation based on an industry code of conduct.

All electricity will be physically accounted for through the spot market with centralised competitive merit order dispatch of generation. Electricity consumers will be able to enter into a range of financial arrangements to manage the risk of exposure to spot prices. Some may choose to opt out of the wholesale market altogether and rely instead on competitively offered retail arrangements.

It is recognised that the transmission network will retain monopoly characteristics. Therefore, prices for connection to and use of the network are to be transparent, cost reflective and non-discriminatory to facilitate market competition and provide appropriate signals for future investment decisions.

NATIONAL MARKET DESIGN *continued*

The NEM will be subject to a mix of national and State-based regulation which includes a national regulator and industry code of conduct. To the extent that reforms will increase the level of competition in the generation and retail sectors, the need for regulation will decline. The Australian Competition and Consumer Commission (ACCC) will be responsible for market conduct and pricing oversight according to national competition law. Franchise customer pricing, environmental matters, distribution network pricing, distribution and retail licence conditions, and health and safety will remain State-based.

Market operations (market rules, network connection and access, operation, system control and security, network pricing principles, and metering) will be covered by a mandatory industry code of conduct (National Electricity Code). The Code was approved by the ACCC in December 1997.

Two institutional bodies have been established:

- the National Electricity Market Management Company (NEMMCO) is assuming responsibility for the day-to-day management of the security of the power system; national merit order dispatch of generation and controllable load; operation of the spot market and settlements system; and facilitation of forward trading markets; and
- the National Electricity Code Administrator (NECA) will monitor and report compliance with the Code; enforce the Code; resolve disputes through the Code; and manage change to the Code.

COMMENCEMENT OF THE NATIONAL ELECTRICITY MARKET

The NEM is being introduced progressively with the aim of achieving full competition by 2002.

The first stage of the NEM commenced on 4 May 1997. This has linked the New South Wales, Australian Capital Territory and Victorian wholesale markets under existing State Code arrangements. The Code arrangements are being progressively harmonised to enable national dispatch, inter-regional price hedging, trade across State borders and continuation of existing Snowy entitlements. The operation has been largely trouble free and favourably received by participants. (South Australia initially is a customer in the Victorian market.)

By end March 1998 full implementation of the market arrangements as specified in the National Electricity Code is expected. South Australian generators will become full market participants at that time.

The NEM operation systems are currently being trialed in Queensland, in effect as a pilot for the NEM. Queensland is expected to be a full participant in the interconnected market by 2001.

COMMENCEMENT OF THE NATIONAL ELECTRICITY MARKET *continued*

Competition is to be increased with the progressive lowering of the electricity consumption threshold which determines the eligibility of customers to participate in the market. From July 1997 sites in New South Wales and Victoria using more than 750 MWh per year became contestable. Under a fully integrated NEM all customers will have the freedom to choose their electricity supplier. It is proposed that the NEM will expand to incorporate Queensland and Tasmania following grid interconnection.

STATE REFORMS

In recent years, the Australian electricity industry has undergone significant State government-based reforms which have resulted in marked increases in efficiency. For example, the average overall price of electricity fell 15% in real terms between 1991 and 1996; service quality levels have improved; and returns to Governments have increased due to continued improvements in labour productivity.

In the context of the national reform agenda, the basic structure of the electricity supply industry varies greatly from State to State and this has contributed to the complexity of the national reform process. Significant structural reforms are being implemented and competitive generation and distribution sectors have emerged.

Victoria has effectively completed its structural reforms, having separated vertically and horizontally its generation and distribution activities. A wholesale market was introduced in late 1994. All five State-owned distribution utilities, four of the generation utilities and the transmission utility have been privatised. The Victorian Government is seeking to sell its remaining hydro-electric and natural gas-based generation utilities.

New South Wales has separated transmission, generation and distribution businesses, with generation split into three competing government-owned utilities, and the number of distribution businesses rationalised from 25 to 6 corporations. A competitive wholesale electricity market was introduced in May 1996. A proposal by the New South Wales Premier and Treasurer for the complete privatisation of the New South Wales electricity supply industry put forward in late 1997, has not been endorsed.

Queensland established a new industry structure from 1 July 1997 comprising three new generation corporations, an engineering services business and three new retailers, along with the existing transmission corporation and seven distribution corporations as government-owned corporation. A State-based competitive market modelled on the National Market System, with the objective of joining the interconnected national market by 2001 commenced in 1998. Queensland is presently acting as a trial for the National Market System. Agreement on a route corridor for the electricity grid interconnection between Queensland and New South Wales was announced in June 1997.

In South Australia a generation corporation was established as an independent government business enterprise from January 1997 and renamed Optima Energy in June 1997. Transmission and distribution functions are the responsibility of the separate State-owned electricity utility ETSA Corporation. The New South Wales and South Australian Governments are investigating the feasibility of a direct interconnection of their electricity grids.

STATE REFORMS *continued*

Tasmania, Western Australia and the Australian Capital Territory have moved to corporatise their electricity utilities, including the disaggregation of the different electricity activities and the separation of regulatory functions from the utilities. In April 1997 Tasmania indicated that it would seek to introduce retail competition in electricity as soon as practicable, sell the Hydro-Electric Corporation's distribution and retail business and pursue the construction by the private sector of the Basslink grid interconnection with Victoria. In 1995, the Western Australian Government established the State-owned Western Power Corporation. Reform initiatives include staged open access to Western Power's transmission and distribution systems by independent power producers and electricity consumers. The Australian Capital Territory's electricity distribution authority is a government-owned corporation (ACTEW Corporation). Competition in electricity retailing in the Australian Capital Territory was introduced in December 1997.

ACKNOWLEDGMENT AND INTERNET CONTACTS

The assistance of the Electricity Supply Association of Australia (ESAA) is acknowledged in providing relevant industry data. Further general industry data is available from ESAA (<http://www.ozemail.com.au/~esaamelb>). The National Electricity Code is available at the NECA and NEMMCO sites (<http://electricity.net.au>). Information on the Victorian, New South Wales and NEM arrangements can also be accessed via Victorian Power Exchange (<http://electricity.net.au/vpx.html>) and the New South Wales market operator, TransGrid (<http://www.tg.nsw.gov.au>). Over 160 tables giving national summary data for a wide range of subjects is available at the ABS site (<http://www.abs.gov.au>).

The ABS gratefully acknowledges the provision of the information on pages 31–35 by the Department of Primary Industries and Energy. Any enquiries about this article should be directed to Susan Wishart on Canberra (02) 6272 4556.

INTRODUCTION

Until relatively recently the Australian gas distribution industry was largely State-based and State-regulated with little interstate trade, while most of the main companies involved were State-owned utilities. However, over the last few years major changes have occurred as a result of the gas reform process. At the same time a period of growth has resulted from new gas finds and expanded reserves, fuel switching and an increased demand for gas use in power generation and cogen.

In 1994 COAG agreed to remove barriers to the free trade of gas within and across government boundaries by 1 July 1996 in order to create a national gas market (*Australian Energy News* December 1996, no. 2, pp. 7–14). The main aim was to encourage competition, enabling consumers and producers to trade in gas within and between any State and Territory. The Commonwealth Government supports gas market reform as a means by which to increase the choice available to energy users and to improve Australia's greenhouse and environmental performance by increasing gas use to replace fossil fuel use, since gas generally has a lower carbon content. The industry has continued to work towards its strategic objective for natural gas to provide 20% of Australia's primary energy requirements by the year 2000; at June 1995 it provided 18.2%, compared with a world average of 23%. The growth to 18.2% has already meant a reduction of up to 1.5 million tonnes of carbon dioxide emissions from Australian energy users (AGA 1996). However, the share of natural gas in primary energy consumption declined to 17.6% in 1995–96, following a fall in the amount of gas consumed in power generation (AGA 1997). Gas is being increasingly used along with electricity, substituting for petroleum products. Nationally about one-third of all gas is currently used for electricity generation. Reforms in the electricity industry, which are opening up access to the national electricity grid, are expected to raise inter-fuel competition and further increase future demand for natural gas.

A major step towards achieving a national gas market was the dismantling of the previously State-based, State-regulated gas industry. Several of the former State-owned utilities have now been corporatised while other parts of the industry have been privatised. In Victoria, for example, the State Government began splitting the Gas and Fuel Corporation during 1994–95, with a view to possible privatisation. Distribution and marketing are now handled as separate businesses from Victoria's pipeline transmission operations.

Another major objective is the establishment of a national gas transmission network. Most gas users are currently supplied by a single pipeline from a gas production basin in their home State. However, this will change as interstate connections and new long-distance pipelines are set up and the reticulation networks are expanded. All government-owned high pressure transmission pipelines have now either been sold or

INTRODUCTION *continued*

are in the process of being sold and the Natural Gas Pipelines Access Act will allow third party access to gas transmission pipelines. The completion of the Ballera to Wallumbilla pipeline in 1996 effectively connected the New South Wales, South Australia and Queensland markets and proposals are already being considered to connect Victoria and New South Wales.

Gas supply generally is expected to increase following significant capital investment, especially in new pipeline projects. The Goldfields Gas Pipeline to Kalgoorlie in Western Australia and the south-west Queensland to Brisbane pipeline are major examples of this. This trend is set to continue in future with the construction of a \$200 million gas pipeline to Mt Isa, with gas to be available by April 1998. Also planned is a \$1.3 billion intercontinental link between Papua New Guinea's Pandora gas field and North Queensland (*Oil & Gas Gazette* 1996, vol. 1, no. 58, p. 29).

Considerable investment is also being made in waste-to-energy products, such as Coal-Seam Methane (CSM) and landfill gas. Use of these can reduce greenhouse emissions at the same time as providing new fuel sources, reducing the need for imports. Methane gas was formerly known and used as 'town gas' (*Australian Financial Review* 4 August 1997, p. 14). It is said to be more than 20 times more potent a greenhouse gas than carbon dioxide (*Australian Energy News* April 1997, no. 2, pp. 18–19). Australia has been estimated to have the world's fifth largest reserves of CSM (*Petroleum Gazette* 1995, vol. 30, no. 4, p. 5) and Queensland has much greater estimated reserves of CSM than of conventional natural gas (*Oil & Gas Gazette* 1996/97, vol. 1, no. 64, p. 15).

Although Australia still trails behind the rest of the world in adopting CSM as a major energy source, exploration has increased significantly since international CSM producers and major utilities entered the scene (*Oil & Gas Gazette* 1997, vol. 1, no. 65, p. 41). More than twenty companies are now involved in CSM exploration in Australia. The main developments to date have been carried out by petroleum companies in Queensland and by coal companies in New South Wales. In 1995–96 CSM accounted for 14% of Queensland's total petroleum exploration expenditure (\$2.9 million) and 38% of total drilling expenditure (\$28.9 million) (Dept. of Mines & Energy, Queensland 1997). In 1996, 42 CSM wells were drilled in Australia, compared with 32 in 1995 (AGA 1997). The first long-term commercial deal to supply CSM was signed in Queensland in April 1996 (*Petroleum Gazette* 1996, vol. 31, no. 2, p. 38). Several coal mines in New South Wales currently use methane drained from coal seams to generate electricity and to use as a heating and transport fuel on site, with some of the electricity produced being fed into the grid (*Petroleum Gazette* 1995, vol. 30, no. 4, pp. 4–11). The Methane Energy Project at BHP's Appin and Tower Collieries is the world's largest CSM project (*Australian Financial Review* 4 August 1997, p. 14). The engines involved currently consume 161,000 tonnes of methane per year, reducing greenhouse emissions at the sites by 50% and Australia's output of greenhouse gases by 0.5%, while the combined capacity of 94 MW supplies a local distributor with sufficient electricity to supply 60,000 homes (BHP 1997). Gas from landfill sites is also being increasingly used to fire power plants. As landfill decomposes it eventually produces a gas which is 40–70% methane.

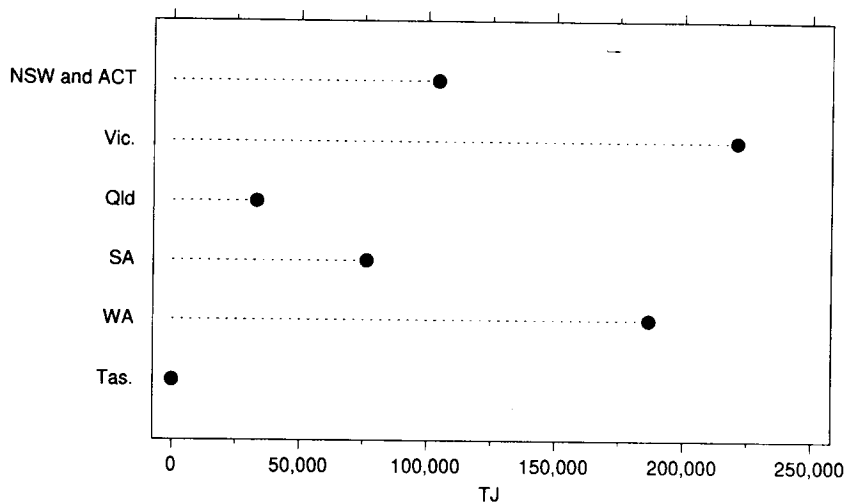
INTRODUCTION *continued*

One of the fastest growing areas for the natural gas industry is cogen: the production of useful heat and electricity from the same energy source. Cogenerated power is often used on-site. For example, waste refinery flare gas which was previously burned off can now be used in conjunction with natural gas as a main fuel to generate electricity for a facility's power needs, while any excess can be sold to a retailer to be fed into the national grid. The introduction to the chapter on Electricity contains more information about cogen in Australia (page 9).

Output

In 1995–96, 620,889 TJ of gas was available for issue through mains compared with 629,406 TJ in 1994–95, a decrease of 1% (these figures exclude gas production for distribution via pipelines servicing a single user). Production fell in all States except Western Australia, with the largest decrease (12%) occurring in South Australia. In South Australia output from higher cost gas generators was reduced in favour of low priced electricity imports from Victoria (ESAA 1997).

GAS AVAILABLE FOR ISSUE THROUGH MAINS



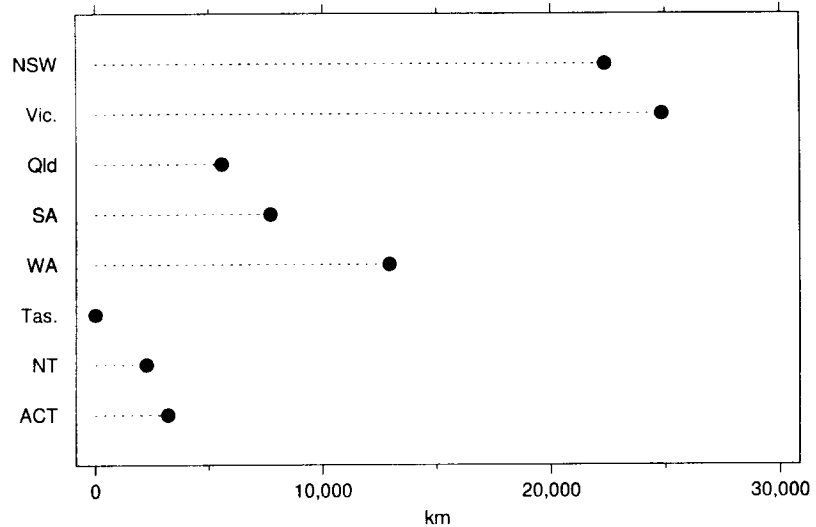
Source: ABS (unpub.)a.

Reticulation

The length of reticulation and transmission lines laid in 1995–96 was 3,059 km, 16% more than the 2,647 km laid in 1994–95.

The national natural gas and reticulation system extended to 78,864 km in 1995–96. Victoria and New South Wales had the largest networks with 32% and 28% of the total length of lines, respectively.

RETICULATION AND TRANSMISSION MAINS IN USE

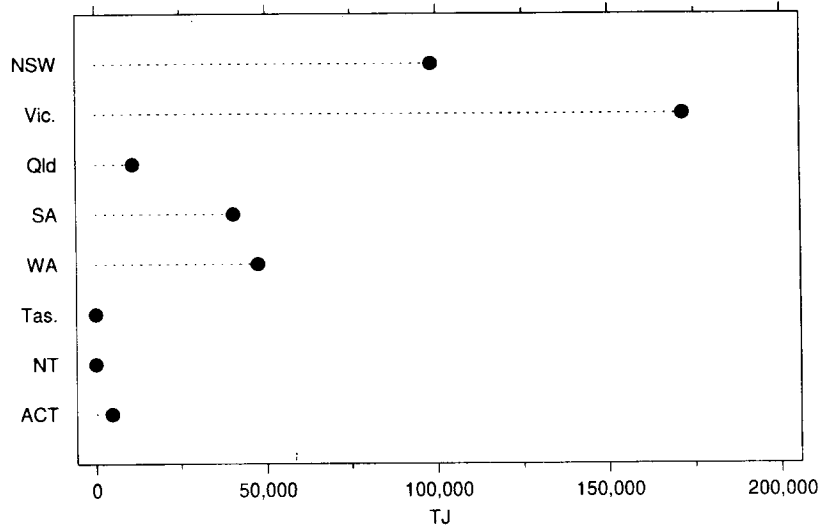


Source: AGA 1997.

Consumption

The total amount of gas sold via utilities (as distinct from direct sales for public electricity generation and some industrial uses) in 1995-96 was 374,035 TJ, an increase over 1994-95. With the exception of Victoria and Queensland, all States recorded an increase in utility gas sales over 1994-95. National sales revenue for utility operations increased by 3% over 1994-95 to \$2,427 million. Utility sales to industrial customers comprised 58% of total utility sales (excluding Western Australia, for which figures are not available). Sales to residential customers represented 31% of the total.

UTILITY SALES

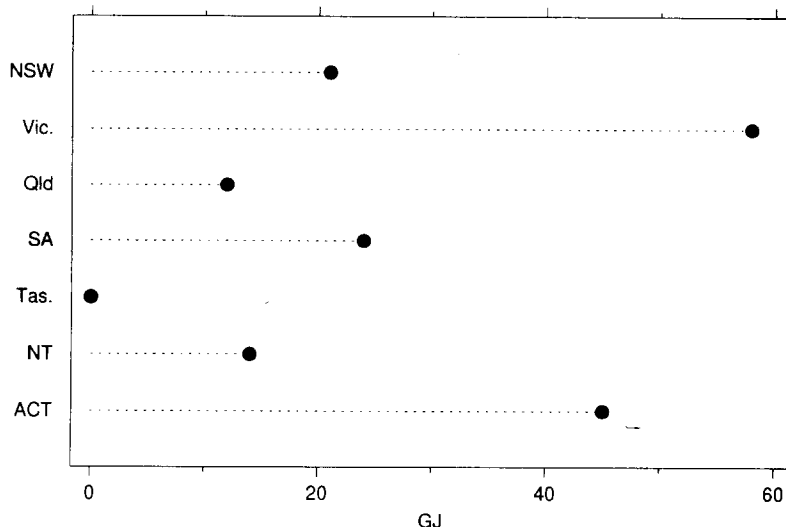


Source: AGA 1997.

Consumption *continued*

At the State level, Victoria accounted for 46% of total utility gas sales in 1995–96, the same percentage as in 1994–95. Victoria also recorded the highest residential consumption of gas per customer (58 GJ) of all the States (excluding Western Australia for which residential sales figures are no longer available). The next highest users were in the Australian Capital Territory, with 45 GJ per person.

CONSUMPTION PER RESIDENTIAL CUSTOMER



Source: AGA 1997.

Direct (non-utility) sales of natural gas, for public electricity generation and some industrial uses, accounted for 41% of total sales in 1995–96. However, direct sales had been increasing from 27% in 1992 up to 43% in 1994–95. The drop in 1995–96 was due to a fall in gas used for public electricity generation. In 1995–96 this accounted for 19% of all gas sold nationally.

Industrial customers in New South Wales accounted for 78% of total gas sales in that State, while industrial customers accounted for 76% of total gas consumed in Queensland.

MANAGEMENT UNIT PERFORMANCE MEASURES

The reforms which are occurring in the gas industry, in particular company restructuring, disaggregation and privatisation, have resulted in different accounting processes and methods. This affects the way in which the data have been reported and accounts for some of the difference in figures between 1994–95 and 1995–96. Caution should be used in comparisons of data over time.

SUMMARY DETAILS

	1993-94	1994-95	1995-96
Management units at 30 June (no.)	24	17	14
Employment at end June (no.)	7 074	6 738	4 958
Wages and salaries (\$m)	300	298	287
Turnover (\$m)	2 437	2 805	2 748
IGP (\$m)	878	884	864
Net capital expenditure (\$m)	241	216	220

Source: ABS (unpub.)b.

Employment

At the management unit level total employment decreased by 26% from 6,738 persons at the end of June 1995 to 4,958 persons at the end of June 1996. The number of management units also decreased from 17 in 1994-95 to 14 in 1995-96.

The ratio of selected labour costs to employment rose from \$48,200 per employee in 1994-95 to \$63,200 per employee in 1995-96.

The ratio of IGP to employment rose from \$131,200 per employee in 1994-95 to \$174,200 per employee in 1995-96.

Trading profit

Total trading profit in 1995-96 was \$739 million, a decrease of \$60 million, or 8%, on the 1994-95 figure. Income from sales of goods and services decreased by \$97 million (4%) to \$2,623 million. This was a result of a change in accounting processes, as well as restructuring. There was also a decrease in purchases and selected expenses of \$37 million, and an increase of \$41 million in payments for contract, subcontract and commission work to \$70 million in 1995-96.

Earnings before interest and tax

EBIT decreased by 16%, from \$370 million in 1994-95 to \$310 million in 1995-96. This was partly due to a \$24 million increase in the cost of depreciation and bad debts. However, the cost of wages and salaries in 1995-96 fell by \$11 million, reflecting a decrease in the total workforce.

Operating profit before tax

OPBT fell from \$317 million in 1994-95 to \$198 million in 1995-96, a decrease of 38%.

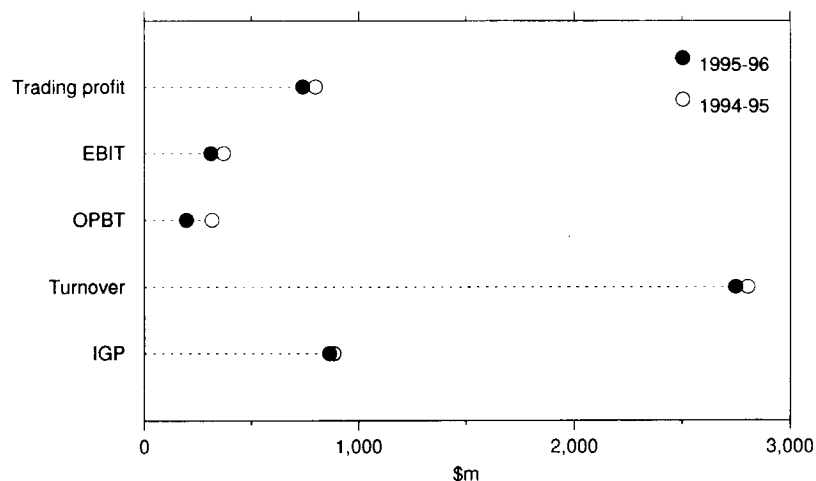
Turnover

Turnover decreased by \$57 million, from \$2,805 million in 1994-95 to \$2,748 million in 1995-96. The fall of \$97 million in the sales of goods and services over 1994-95 was offset by an increase of \$35 million on capital work done for own use.

Industry gross product

IGP decreased by \$20 million (2%) from \$884 million in 1994-95 to \$864 million in 1995-96. Purchases and selected expenses also fell, by 2% to \$1,877 million in 1995-96.

SELECTED INDICATORS



Source: ABS (unpub.)b.

Net worth

Net worth increased by \$634 million (53%) from \$1,207 million in 1994–95 to \$1,841 million in 1995–96. This rise resulted primarily from an increase of \$700 million in the value of non-current assets.

Net capital expenditure

Total net capital expenditure increased by \$5 million (2%) to \$220 million in 1995–96. The increase was related to a rise of \$16 million in expenditure on dwellings, other buildings and structures set against a rise of \$13 million in income from the disposal of assets.

Performance measures

While performance measures are a very useful way of presenting summaries of performance, users of these statistics should refer to the Explanatory and Technical Notes before making any judgements based on these results. In addition, the restructuring of the industry affects some comparisons. Some of the main features for performance measures in the gas industry in 1995–96 were:

- trading profit margin decreased from 29% to 28%;
- acquisition to disposals ratio decreased from 16 times to 9 times;
- debts to assets decreased from 63% to 54%;
- return on funds decreased from 15% to 10%; and
- return on assets decreased from 11% to 5%.

ESTABLISHMENT PERFORMANCE MEASURES

Employment

At the establishment level total employment decreased by 2,027 persons (29%) from 7,094 persons at the end of June 1995 to 5,067 persons at the end of June 1996. The number of establishments also decreased from 23 in 1994-95 to 18 in 1995-96.

Administrative, office and sales employees represented 51% of the total number of employees in 1995-96, compared with 56% in 1994-95. The number of employees engaged on new construction rose from 310 in 1994-95 to 979 in 1995-96, an increase of 216%.

Turnover

Turnover at the establishment level decreased \$450 million (14%) from \$3,336 million in 1994-95 to \$2,886 million in 1995-96. The main reason for the decrease was a \$342 million (11%) drop in the value of sales of gas and gas by-products to \$2,653 million in 1995-96.

Value added

Value added at establishment level decreased by \$198 million (12%) from \$1,677 million in 1994-95 to \$1,479 million in 1995-96.

3.1 GAS AVAILABILITY(a)

GAS AVAILABLE FOR ISSUE THROUGH MAINS.....

Period	NSW and ACT	Vic.	Qld	SA	WA	Tas.	NT	Aust.
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
1991-92	95 299	202 699	27 634	78 210	149 534	63	—	553 438
1992-93	96 215	207 131	26 746	83 000	155 667	61	—	568 820
1993-94	97 318	196 100	31 055	89 382	172 432	56	—	587 013
1994-95	104 881	223 269	33 372	86 121	181 710	52	—	629 406
1995-96	104 141	220 928	32 947	76 175	186 658	41	—	620 889

(a) Excludes gas production for distribution via natural gas pipelines which service a single user.

Source: ABS 1994 and ABS (unpub.)a.

3.2 NATURAL GAS, Kilometres of Mains Laid

RETICULATION AND TRANSMISSION LINES(a).....

Period	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	km	km	km	km	km	km	km	km	km
1991-92	637	270	91	93	193	—	—	(b)	1 284
1992-93	794	541	105	131	260	—	1	(b)	1 832
1993-94	1 313	353	168	191	298	—	4	132	2 458
1994-95	966	433	359	248	195	—	327	118	2 647
1995-96	801	271	866	46	850	—	28	197	3 059

(a) Includes pipeliners and utilities distributing natural gas.

(b) Prior to 1993-94 Australian Capital Territory is included with New South Wales.

Source: AGA 1997.

3.3 NATURAL GAS, Mains Laid and Mains in Use

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Items	km	km	km	km	km	km	km	km	km
Construction: mains laid year ended 30 June 1996(a)									
Reticulation mains									
Low and medium pressure	515	15	109	(b)-49	185	—	4	171	950
High pressure	(c)-50	256	1	91	33	—	4	26	361
Transmission — high pressure	336	—	756	4	632	—	20	—	1 748
<i>Total</i>	<i>801</i>	<i>271</i>	<i>866</i>	<i>46</i>	<i>850</i>	<i>—</i>	<i>28</i>	<i>197</i>	<i>3 059</i>
Total pipeline network in use at 30 June 1996(a)									
Reticulation mains									
Low and medium pressure	18 727	9 261	3 320	3 371	9 025	—	4	3 009	46 717
High pressure	1 588	13 413	122	2 952	561	—	20	210	18 865
Transmission — high pressure	2 042	2 168	2 119	1 380	3 337	—	2 237	—	13 282
<i>Total</i>	<i>22 357</i>	<i>24 842</i>	<i>5 561</i>	<i>7 703</i>	<i>12 923</i>	<i>—</i>	<i>2 260</i>	<i>3 219</i>	<i>78 864</i>

(a) Reticulation — low and medium pressure < 200 kPa

Reticulation — high pressure > 200 kPa

Transmission — high pressure > 3500 kPa

(b) Low pressure mains were replaced with high pressure mains.

(c) Removal of mains resulted in net reduction.

Source: AGA 1997.

3.4 NATURAL GAS PRODUCTION AND SALES

Items	NSW(a)	Vic.(a)	Qld	SA	WA	NT	ACT(a)	Aust.
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
Wellhead production	—	265.2	60.7	170.4	775.9	16.4	—	1 288.7
Use in production(b)	—	19.7	4.0	8.6	97.3	0.3	—	129.9
Reinjected or stored	—	24.7	—	—	80.9	—	—	105.6
Net production	—	220.7	56.7	161.9	597.8	16.1	—	1 053.2
LNG exports	—	—	—	—	404.3	—	—	404.3
Net interstate transfer	101.0	-2.8	-17.3	-85.8	—	—	4.8	—
Transmission and reticulation uses, unaccounted for gas and statistical discrepancy(c)	2.6	3.8	1.4	1.2	3.0	-0.3	—	11.5
Available to end users	98.4	214.2	38.1	74.9	190.5	16.4	4.8	637.3
Utility sales								
Residential	14.5	76.4	1.5	7.3	n.p.	—	2.4	..
Commercial	6.9	21.5	1.2	2.0	n.p.	0.1	2.3	..
Industrial	77.0	73.7	8.3	31.1	n.p.	—	0.1	..
Total	98.4	171.7	11.0	40.4	47.6	0.1	4.8	374.0
Direct sales								
Public electricity generation	—	30.2	—	34.5	42.7	16.3	—	123.7
Other industrial	—	12.4	27.1	—	100.1	—	—	139.6
Total	—	42.5	27.1	34.5	142.8	16.3	—	263.3
Total sales	98.4	214.2	38.1	74.9	190.5	16.4	4.8	637.3

(a) New South Wales excludes Australian Capital Territory but includes Albury; in issues prior to 1993–94 Australian Capital Territory was included in New South Wales and Albury was included with Victoria.

(b) Estimated as a residual after deducting from production gas sold, includes gas used in oil and condensate processing.

(c) This component is estimated and may include gas used as fuel for pipeline compressors, utilities' own use, reforming losses and unaccounted for gas. It also may include statistical discrepancies between reported producer and end-user sales.

Source: AGA 1997.

3.5 UTILITY NATURAL GAS OPERATIONS

Items	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
SALES									
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
Residential	14 469	76 444	1 496	7 314	n.p.	—	2	2 448	..
Commercial	6 932	21 497	1 196	2 032	n.p.	—	70	2 295	..
Industrial	77 011	73 726	8 324	31 085	n.p.	—	—	70	..
Total	98 412	171 667	11 016	40 431	47 624	—	72	4 813	374 035
CUSTOMERS									
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Residential	676 656	1 308 341	120 714	309 073	357 309	—	138	54 545	2 826 776
Commercial	22 460	36 886	3 922	6 781	6 485	—	54	1 387	77 975
Industrial	1 827	4 187	544	1 284	236	—	—	41	8 119
Total	700 943	1 349 414	125 180	317 138	364 030	—	192	55 973	2 912 870
REVENUE									
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Residential	186.8	699.2	27.8	97.8	n.p.	—	—	26.5	..
Commercial	70.5	135.8	15.2	17.8	n.p.	—	0.9	21.0	..
Industrial	399.7	273.7	60.1	116.4	n.p.	—	—	0.6	..
Total	657.1	1 108.7	103.1	232.0	277.0	—	0.9	48.1	2 426.9
AVERAGE GAS SALES PER CUSTOMER									
	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ
Residential	21	58	12	24	n.p.	—	14	45	..
Commercial	309	583	305	300	n.p.	—	1 296	1 655	..
Industrial	42 152	17 608	15 302	24 210	n.p.	—	..	1 707	..
All	140	127	88	127	131	—	375	86	128
AVERAGE REVENUE PER CUSTOMER									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Residential	276	534	231	316	n.p.	—	283	485	..
Commercial	3 140	3 681	3 865	2 628	n.p.	—	16 667	15 170	..
Industrial	218 788	65 367	110 529	90 650	n.p.	—	..	13 951	..
All	937	822	824	731	761	—	4 891	859	833
AVERAGE REVENUE PER UNIT OF SALES									
	\$G/J	\$G/J	\$G/J	\$G/J	\$G/J	\$G/J	\$G/J	\$G/J	\$G/J
Residential	12.91	9.15	18.60	13.37	n.p.	—	19.50	10.82	..
Commercial	10.18	6.32	12.67	8.77	n.p.	—	12.86	9.17	..
Industrial	5.19	3.71	7.22	3.74	n.p.	—	..	8.17	..
All	6.68	6.46	9.36	5.74	5.82	—	13.04	9.99	6.49

Source: AGA 1997.

3.6 GAS, Residential Consumption Per Person

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Item	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ
Consumption per person	2.3	16.8	0.4	5.0	n.p.	—	0.1	7.9	n.p.

Source: Compiled from data supplied in AGA 1997 and ABS 1997.

3.7 MANAGEMENT UNITS(a), Employment—End of June

Items	1995	1996
Management units at 30 June (no.)	17	14
Employment at end of June (no.)	6 738	4 958
Persons employed per management unit (no.)	396.4	354.1
Labour ratios		
Profit to employment (\$'000/employee)	47.0	39.9
Industry gross product		
To employment (\$'000/employee)	131.2	174.2
To selected labour costs (times)	2.7	2.8
Selected labour costs		
To employment (\$'000/employee)	48.2	63.2

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

Source: ABS (unpub.)b.

3.8 MANAGEMENT UNITS(a), Income and Expenditure

Items	1994-95	1995-96
	\$m	\$m
Sales of goods and services	2 719.9	2 623.1
Less		
Purchases of goods and materials	1 224.4	1 131.8
Rent, leasing and hiring expenses		
Motor vehicles	3.2	4.5
Plant, machinery and other equipment	13.6	7.8
Land, buildings and other structures	19.7	18.2
Other rent, leasing and hiring	0.2	1.4
Outward freight and cartage	42.6	75.4
Motor vehicle expenses	19.9	17.8
Repair and maintenance expenses	14.8	6.8
Payment for contract, subcontract and commission work	29.5	70.1
Other selected expenses	545.8	542.9
<i>Purchases and selected expenses</i>	<i>1 913.6</i>	<i>1 876.8</i>
Plus		
Opening stocks	53.1	45.2
Less		
Closing stocks	45.8	37.5
<i>Cost of sales</i>	<i>1 920.9</i>	<i>1 884.5</i>
Trading profit	798.9	738.6
Plus		
Rent, leasing and hiring income	1.7	2.4
Government subsidies	2.1	6.0
Interest income	2.2	3.3
Other income	16.1	23.4
Less		
Wages and salaries	298.0	286.6
Superannuation	20.7	22.7
Workers' compensation	5.9	4.3
<i>Selected labour costs</i>	<i>324.5</i>	<i>313.5</i>
Less		
Depreciation	117.8	138.1
Insurance premiums	6.5	6.5
Royalties expenses	0.1	0.1
Bad debts	2.1	5.9
Earnings before interest and tax	370.0	309.6
Less		
Interest expenses	53.4	111.9
Operating profit before tax	316.6	197.7

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

3.9 MANAGEMENT UNITS(a), Industry Gross Product

Items	1994-95	1995-96
	\$m	\$m
Sales of goods and services	2 719.9	2 623.1
Rent, leasing and hiring income	1.7	2.4
Government subsidies	2.1	6.0
<i>Plus</i>		
Capital work done for own use	81.4	116.5
Turnover	2 805.0	2 747.9
<i>Plus</i>		
Closing stocks	45.8	37.5
<i>Less</i>		
Opening stocks	53.1	45.2
<i>Less</i>		
Purchases and selected expenses	1 913.6	1 876.8
Industry gross product	884.1	863.5

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

3.10 MANAGEMENT UNITS(a), Assets and Liabilities

Items	1994-95	1995-96
	\$m	\$m
Assets		
Current assets		
Closing stocks	45.8	37.5
Other current assets	474.4	520.0
Non-current assets	2 677.5	3 377.2
<i>Total</i>	3 197.7	3 934.7
Liabilities		
Current liabilities	694.1	675.1
Non-current liabilities	1 296.1	1 418.5
<i>Total</i>	1 990.3	2 093.5
Net worth	1 207.4	1 841.2

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

3.11 MANAGEMENT UNITS(a), Acquisitions and Disposals of Fixed Tangible Assets(b)

Items	1994-95	1995-96
	\$m	\$m
Capital expenditure on		
Land	0.3	0.3
Dwellings, other buildings and structures	105.8	121.4
Plant, machinery and equipment	123.6	125.1
<i>Total acquisitions</i>	229.7	246.8
Disposal of assets	14.1	26.7
Net capital expenditure	215.6	220.1

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

(b) Includes capital work done for own use.

Source: ABS (unpub.)b.

3.12 MANAGEMENT UNITS(a), Selected Performance Measures

Items	1994-95	1995-96
Turnover		
Asset turnover (times)	0.9	0.7
Profitability		
Trading profit margin (%)	29.4	28.2
Return on funds (%)	14.8	9.5
Return on assets (%)	10.1	5.1
Liquidity		
Liquidity ratio (times)	0.7	0.8
Current ratio (times)	0.8	0.8
Debt		
Interest coverage ratio (times)	6.9	2.8
Debt to assets (%)	63.1	53.7
Capital expenditure		
Acquisitions to disposals ratio (times)	16.3	9.3
Net capital expenditure to assets (%)	6.8	5.7

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

Source: ABS (unpub.)b.

3.13 ESTABLISHMENT LEVEL(a), Employment—end of June

<i>Items</i>	1995	1996
Establishments(b) at 30 June (no.)		
	23	18
Employment at end of June		
Males (no.)	5 542	3 988
Females (no.)	1 552	1 079
Persons (no.)	7 094	5 067
Persons employed per establishment (no.)		
	308.4	281.5
Employment type		
Administrative, office and sales (no.)	3 955	2 593
Production and all other employees (no.)	3 139	2 474
Employees engaged on new construction (no.)	310	979
Wages and salaries		
All employees (\$m)	297.5	256.0
Employees engaged on new construction (\$m)	10.8	16.0

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

(b) Number of gas establishments operating at 30 June 1996 for the States and Territories were

New South Wales — 7; Victoria — 1; Queensland — 5; South Australia — 1;

Western Australia — 1; Tasmania — 1; Northern Territory — 1;

Australian Capital Territory — 1.

Source: ABS (unpub.)b.

3.14 ESTABLISHMENT LEVEL(a), Income and Expenditure

Items	1994-95	1995-96
	\$m	\$m
Sales of gas and gas by-products(b)	2 994.4	2 652.5
Sales of other goods(b)	146.5	78.0
Service income	76.0	44.8
Rent, leasing and hiring income	2.7	1.8
Government subsidies	8.1	6.0
<i>Plus</i>		
Capital work done for own use	108.2	102.4
Turnover	3 335.8	2 885.5
<i>Plus</i>		
Closing stocks	48.3	45.1
<i>Less</i>		
Opening stocks	58.7	54.2
<i>Less</i>		
<i>Purchases</i>		
Materials, components, containers etc.(c)	239.7	245.0
Fuels	1.8	4.9
Electricity	6.3	3.0
Gas	1 142.6	906.6
Goods for resale(c)	103.4	70.2
Rent, leasing and hiring expenses		
Motor vehicles	3.6	3.8
Plant, machinery and other equipment	14.3	1.0
Land, buildings and other structures	20.7	16.3
Other rent, leasing and hiring	—	0.7
Outward freight and cartage	48.6	79.0
Motor vehicle expenses	18.4	17.6
Repair and maintenance expenses	18.0	6.3
Payment for contract, subcontract and commission work	31.4	43.1
<i>Purchases and selected expenses</i>	<i>1 648.7</i>	<i>1 397.6</i>
Value added	1 676.7	1 478.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 15-20.

(b) Includes transfers out to other establishments of the same management unit where appropriate.

(c) Includes transfers in from other establishments of the same management unit where appropriate.

Source: ABS (unpub.)b.

CHAPTER 4

WATER AND SEWERAGE INDUSTRY

INTRODUCTION

The information in this Introduction is based predominantly on the Water Services Association of Australia's (WSAA) 1997 publication *The Australian Urban Water Industry: WSAA facts 1996*. See paragraph 14 of the Explanatory Notes for contact details of WSAA.

The Australian water industry is currently undergoing substantial change. Government moves to increase competition, along with commercial pressures from both within Australia and from international businesses, have resulted in moves towards the commercialisation, corporatisation and structural reform of water businesses nationwide. The industry is also increasingly becoming part of the international market for water services.

At present all urban water businesses are publicly owned and are accountable to State and local governments. However, in all States the regulatory functions are being separated from the water businesses. For example, on 1 January 1995 Melbourne's water industry was separated into five businesses in order to create competition. The new structure is part of the State government's reform of Victoria's government business enterprises which aims to revitalise the service to customers and to overcome debt and inefficiencies. As a result of the changes the Melbourne metropolitan area now has one wholesaler which handles the bulk storage, transfer and treatment of water, while three retail companies cover reticulation services. At the same time, there has been a progressive reduction in the number of Victoria's non-metropolitan urban water authorities since the 1980s, such that by February 1995 a new geographic structure had been more or less completed with eighteen authorities replacing the previous eighty.

Pricing reform is continuing to progress and is resulting in the deferral of considerable capital works. Approximately 50% of all urban water revenue is now derived from usage (per kilolitre) charges. Such pricing reforms, together with demand management programs and community education, have had a significant impact on customer behaviour. Average volume of water supplied per property across Australia has fallen by 19% between 1990-91 and 1995-96. Improved water supply catchment management has also brought substantial cost savings for some businesses. As far as improving environmental outcomes, the ongoing debates on wastewater effluent discharge requirements are now moving away from uniform and/or process definitions towards site specific environmental outcomes and the management of stormwater is also increasing in significance and public awareness to the extent that several large water corporations now offer stormwater services.

Ecological sustainability presents significant challenges for the water and sewerage industry. Demand management and water use initiatives have reduced water use and have thereby slowed capital investment and the need to gain access to new water sources, but these changes have also reduced operating income from the established customer base. Improved water catchment management has brought significant

INTRODUCTION *continued*

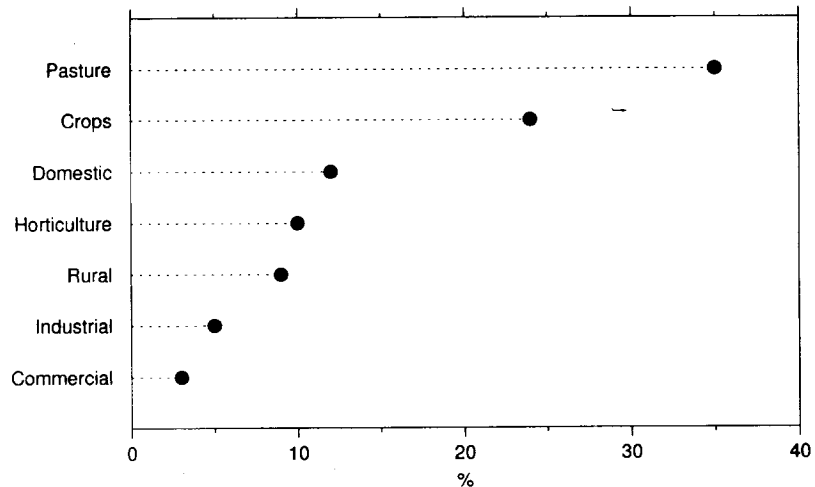
environmental benefits as well as substantial cost savings for businesses. At the same time, however, other businesses have suffered from poor catchment management which has led to significant treatment costs and loss of potential harvesting volume.

'User-pays' systems are being increasingly introduced within the water and sewerage industry. They have resulted in a new sewerage rating system which includes a component to reflect the proportion of water used for sewerage purposes.

Water use

Although the majority of water consumers are in urban areas, the majority of water consumed in Australia is used in agriculture. In 1985, 92% of the population was urban, however, urban uses (domestic, industrial and commercial) account for only 21% of total mean annual water use. Irrigation (pasture, crops and horticulture) accounted for 70% (AWRC 1987).

MEAN ANNUAL WATER USE(a)—1985



(a) Includes water from both reticulated and self-extracted sources.

Source: AWRC 1987.

Within the urban areas, a large proportion of water is used for gardens. For example, a Melbourne survey showed that 34% of domestic water was used on the garden (WSAA 1997). However, variability in the climate can affect water supply and water use from year to year. Water use can also be lower than average if there has been higher than average rainfall or if water use restrictions have been put in place.

Sewerage services

The percentage of the Australian urban population connected to sewerage services varies from 75% in the urban service area covered by the Power & Water Authority in the Northern Territory and 76% in the area covered by Coliban Region Water Authority in Victoria, to 100% in the area covered by ACTEW Corporation in the Australian Capital Territory (WSAA 1997).

MANAGEMENT UNIT PERFORMANCE MEASURES

The 1995–96 Water and Sewerage Survey collected data at management unit level only (see paragraphs 15–20, Explanatory Notes). This means that data collected for the Australian Capital Territory and Northern Territory excludes their major water supply companies, since at the management unit level they are part of businesses classified as being in the electricity industry.

Employment

A total of 18,500 persons were employed in 1995–96 in the 427 management units classified as part of the water and sewerage industry.

Trading profit

Total trading profit for the water and sewerage industry for 1995–96 at the management unit level was \$3,264 million. Income from sales of goods and services was \$6,178 million, while purchases and selected expenses accounted for \$2,916 million.

Earnings before interest and tax

EBIT in 1995–96 was \$2,172 million.

Operating profit before tax

In 1995–96 OPBT for the water and sewerage industry was \$1,203 million.

Turnover

Total national turnover in 1995–96 was \$6,435 million.

Industry gross product

In 1995–96 IGP was \$3,521 million.

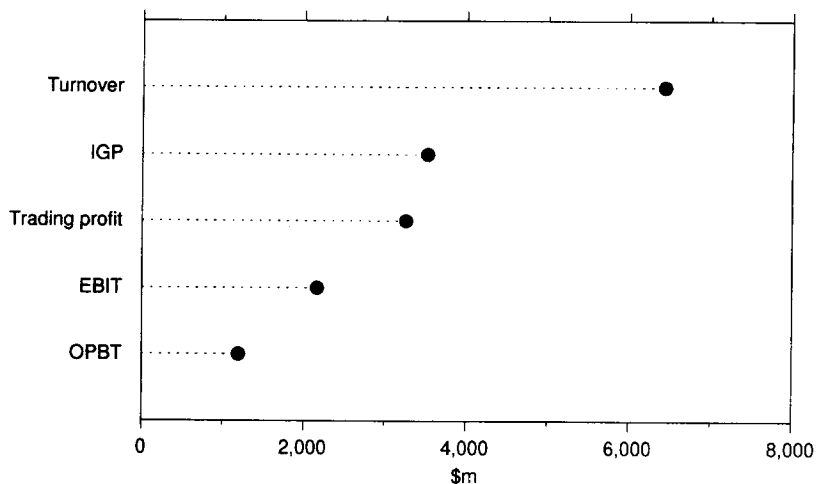
Net worth

Net worth in 1995–96 for the water and sewerage industry was \$37,847 million. Total industry assets were \$47,774 million and total liabilities were \$9,927 million.

Net capital expenditure

Net capital expenditure was \$736 million in 1995–96 for the industry.

SELECTED INDICATORS



Source: ABS (unpub.)c.

4.1 WATER, Physical Statistics—1993–94(a)

Category	Consumption.....		Estimated
	ML	%	length of mains km
Metropolitan	1 835 620	14	72 373
Non-metropolitan	1 278 349	9	88 613
Irrigation	10 430 832	77	26 677
Total	13 544 801	100	187 663

(a) Metropolitan figures are from the 1993–94 financial year;
non-metropolitan and irrigation figures are from 1991–92.

Source: AWWA 1996.

4.2 WATER, Mean Annual Water Use(a)—1985

State and Territory	IRRIGATION.....				URBAN AND INDUSTRIAL.....					
	Pasture	Crops	Horticulture	Total	Domestic	Industrial	Commercial	Total	Rural	Total
	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
New South Wales	2 030	2 240	639	4 910	509	269	175	953	391	6 250
Victoria	2 400	168	385	2 960	436	142	93	671	289	3 920
Queensland	98	988	112	1 200	384	195	49	628	503	2 330
South Australia	418	25	280	722	158	45	40	243	70	1 040
Western Australia	186	65	87	338	242	101	105	447	49	834
Tasmania	46	47	4	97	33	23	10	66	11	174
Northern Territory	1	9	—	11	30	16	10	55	28	94
Australia	5 180	3 550	1 510	10 200	1 790	790	481	3 060	1 340	14 600

(a) Includes water from both reticulated and self-extracted sources

Source: AWRC 1987.

4.3 WATER, Area Irrigated—1993–94

AREA IRRIGATED.....

State and Territory	Area	Pasture	Crops	Horticulture	Total
	km ²	ha	ha	ha	ha
New South Wales	801 600	634 662	460 382	50 122	1 145 167
Victoria	227 600	555 586	35 526	54 902	646 014
Queensland	1 727 200	69 802	286 481	52 292	408 875
South Australia	984 000	52 688	10 872	48 615	112 177
Western Australia	2 525 000	14 487	4 225	12 972	31 685
Tasmania	67 800	32 999	8 690	19 405	61 093
Northern Territory	1 346 200	1 323	634	1 335	3 291
Australian Capital Territory	2 400	70	47	33	150
Australia	7 682 300	1 361 617	806 855	239 980	2 408 452

Source: AgStats (database), ABS.

4.4 SEWERAGE, Physical Statistics—1993–94(a)

Category	Sewage volume (estimated total flow).....		Estimated length of mains km
	ML	%	
Metropolitan	1 179 486	71	64 634
Non-metropolitan	492 567	29	41 775
Total	1 672 053	100	106 409

(a) Metropolitan figures are from the 1993–94 financial year;
non-metropolitan and irrigation figures are from 1991–92.

Source: AWWA 1996.

4.5 MANAGEMENT UNITS(a), Summary of Financial Details

Items	\$m
Income and expenditure	
Sales of goods and services	6 178.4
Purchases and selected expenses	2 915.7
Trading profit	3 264.2
Selected labour costs	977.6
Earnings before interest and tax	2 172.4
Operating profit before tax	1 202.9
Turnover	6 435.0
Industry gross product	3 520.8
Assets and liabilities	
Total assets	47 773.9
Total liabilities	9 927.1
Net worth	37 846.8
Capital expenditure	
Total acquisitions	838.7
Net capital expenditure	736.2

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

Source: ABS (unpub.)c.

4.6 MANAGEMENT UNITS(a), Employment—End of June 1996

Items	no.
Management units at 30 June	427
Employment at end of June	18 500

(a) See Explanatory Notes, 'Statistical units', paragraphs 15–20.

Source: ABS (unpub.)c.

CHAPTER 5

CONCENTRATION STATISTICS

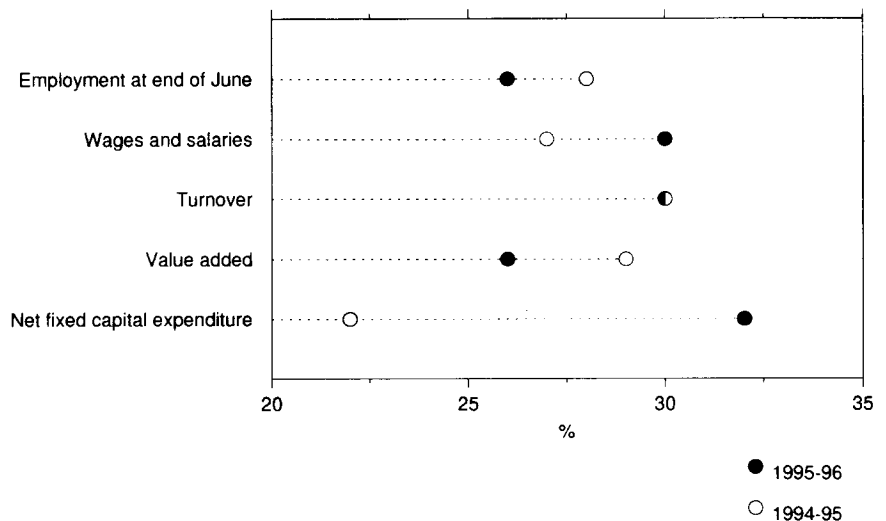
This chapter provides concentration statistics for the electricity and gas industries combined. Concentration statistics for the water and sewerage industries are not available.

In 1995-96 the four largest management units (in terms of turnover) in the electricity and gas industries accounted for 30% of all turnover, while the top eight management units together accounted for 49%. This compares with 30% and 46% respectively in 1994-95.

The largest four management units (5% of management units) accounted for 26% of industry employment. The top 24 units (30%) accounted for 74% of employment and the bottom 70% of management units (56 units) accounted for the remaining 26% of employment.

The eight largest units accounted for 50% of all wages and salaries paid in the electricity and gas industry in 1995-96 (43% in 1994-95) and 49% of value added (47% in 1994-95).

CONTRIBUTION OF TOP FOUR MANAGEMENT UNITS TO INDICATORS



Source: ABS (unpub.)b.

5.1 SELECTED CONCENTRATION STATISTICS(a)(b)

Items	Management units at 30 June.....		Establishments at 30 June.....		Employment at end of June.....		Wages and salaries.....	
	no.	%	no.	%	no.	%	\$m	%
Management units ranked by contribution to industry in categories of four								
First	4	5	4	5	11 348	26	674.1	30
Second	4	5	5	6	7 361	17	451.3	20
Third	4	5	5	6	3 760	9	196.7	9
Fourth	4	5	4	5	3 675	8	176.0	8
Fifth	4	5	5	6	3 692	9	180.9	8
Sixth	4	5	4	5	2 313	5	97.2	4
Remainder	56	70	58	68	11 136	26	484.2	21
Industry total	80	100	85	100	43 285	100	2 260.3	100

Items	Turnover.....		Value added.....		Fixed capital expenditure less disposals.....	
	\$m	%	\$m	%	\$m	%
Management units ranked by contribution to industry in categories of four						
First	7 065.2	30	2 769.5	26	606.3	32
Second	4 496.2	19	2 481.3	23	323.4	17
Third	3 096.4	13	901.0	8	61.0	3
Fourth	2 214.0	9	1 308.1	12	166.5	9
Fifth	1 573.2	7	988.4	9	146.4	8
Sixth	1 279.0	5	473.1	4	79.6	4
Remainder	4 214.4	18	1 772.3	17	523.5	27
Industry total	23 938.4	100	10 693.6	100	1 906.8	100

(a) See Explanatory Notes, 'Concentration Statistics', paragraphs 28–33.

(b) Note that the number of management units is greater in this table than the total of number of management units in previous tables. This is due to the inclusion of establishments in this table which belong to management units which are classified to industries other than electricity and gas.

Source: ABS (unpub.)b.

EXPLANATORY NOTES

INTRODUCTION

- 1** Many of the statistics in this publication have been derived from the 1995-96 Census of Electricity and Gas Operations and the 1995-96 Water and Sewerage Survey. The census and survey aim to meet the demands of users who require annual financial statistics which can be related to other industry sectors in Australia on a consistent basis. In addition, some tables contain statistical information that has been obtained from other ABS collections or sources external to the ABS.
- 2** The collection of electricity, gas, water and sewerage data is conducted as a component of the ABS integrated economic statistics system. Data from each industry sector conform to the same basic conceptual standards, allowing comparative analysis between and across different industry sectors.
- 3** The findings for 1994-95 are now final and replace those previously issued in the 1994-95 issue of this publication (Cat. no. 8208.0) released on 11 July 1997. The previous issue of this publication (1994-95) was entitled *Electricity and Gas Operations, Australia*. The title has now been changed to reflect the inclusion of data on the water and sewerage industries.

SCOPE

- 4** The 1993 edition of the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (Cat. no. 1292.0) has been used to classify management units (and establishments) included in the Census of Electricity and Gas Operations and the Water and Sewerage Survey.
- 5** The Census of Electricity and Gas Operations covers those management units and establishments mainly engaged in the generation, transmission or distribution of electricity; the manufacture of town gas from coal and/or petroleum, or the mains distribution of town gas, natural gas or liquefied petroleum gas. Note that management units and establishments mainly engaged in the distribution of liquefied petroleum gas in bulk or in containers are classified to petroleum product wholesaling. The Water and Sewerage Survey covers those management units mainly engaged in the storage, purification or supply of water, or the operation of sewerage or drainage systems, including sewage treatment plants.
- 6** Electricity generation is sometimes undertaken within a location mainly engaged in other activities (e.g. a manufacturing establishment) solely, or in part, to provide power for those activities. Statistics relating to electricity generation in this situation are not treated as part of the electricity industry and therefore are not included in this publication, unless sales or transfers out of electricity exceed a specific value (\$7.0 million in 1994-95 and \$7.2 million in 1995-96). The statistics do include details relating to separate locations of a management unit mainly engaged in producing electricity for use by other locations of the management unit (e.g. for use by a separately located manufacturing establishment).

SCOPE *continued*

7 Prior to recent industry reforms, the electricity industry was largely vertically integrated i.e. the activities of generation, transmission and distribution of electricity were conducted within a single management unit. With restructuring, these activities are more often conducted by separate management units. This has resulted in increases to some data items e.g. the sale of electricity may be recorded by both generator and distributor resulting in double counting.

EXTERNAL SOURCES

8 A range of tables are presented that have been obtained from external sources. Electricity commodity data has been obtained from the ESAA whilst similar information for gas has been obtained from the Australian Gas Association (AGA). Some basic physical statistics for water and sewerage have been obtained from the Australian Water and Wastewater Association (AWWA) and, for the urban water industry, from WSAA.

9 The ESAA publishes data that has been assembled by the State Regulatory Authorities in Australia. The tables cover the public supply of electricity, but do not cover the supply by private organisations primarily for their own use. Consequently significant generation for some mining, manufacturing and commercial organisations is excluded from the statistics. However, a new table has been published by the ESAA in 1997 giving details for cogenerated electricity.

10 The tables are presented for the year ended 30 June (or at 30 June) which is the financial year of the main supply authorities.

11 The supply authorities throughout Australia operate under legislation passed by the various State Governments, relating to the generation and distribution of electricity. Accordingly, the organisation of electricity distribution varies from State to State and separate accounting systems and supply practices have developed.

12 The AGA collects utility data from distributors of reticulated natural gas. Information relating to revenue, number and nature of customers and characteristics of reticulation systems are among the data items collected. The definition of customer type varies across States, however, residential customers are defined as those units purchasing gas at the domestic tariff rate. Industrial customers include those units that are involved in manufacturing, processing or mining. The commercial category incorporates all other types of business (e.g. shops, restaurants, hospitals).

13 Prior to 1993–94 the regional boundaries used in AGA tables did not completely equate to geographical boundaries. For this reason, prior to 1993–94, data for the Australian Capital Territory was included in the New South Wales figures and data for Albury was included in Victoria.

14 Should the user require further details about tables that have been obtained from either ESAA, AGA, AWWA or WSAA, it is recommended that the organisation should be contacted directly. The Water Services Association is at Level 7, 469 Latrobe Street, Melbourne, Vic. 3000, telephone: (03) 9606 0678, facsimile: (03) 9606 0376, email: info@wsaa.asn.au.

STATISTICAL UNITS

15 This publication presents industry statistics which are compiled differently from activity statistics. Each management or establishment unit is classified to a single industry irrespective of any diversity of activities undertaken. The industry allocated is the one which provides the main source of income. This means that a management unit which derives most of its income from electricity generation activities would have all operations included in the aggregates and ratios for the electricity industry group, even if significant secondary activities (e.g. water supply, coal mining, retailing) were undertaken. For example, the water and sewerage data collected for the Australian Capital Territory and Northern Territory excludes their major water supply companies, since at the management unit level they are classified as part of the electricity industry.

16 The basic units for which statistics are reported in ABS integrated industry collections are the management unit and the establishment.

17 The management unit is the highest-level unit within a business, having regard to industry homogeneity requirements, for which accounts are maintained; in nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a division or line of business. A management unit is recognised where separate and comprehensive accounts are compiled for it.

18 The establishment is the smallest accounting unit of a business, within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data including data enabling value added to be calculated. In general an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory and classified to a single industry. The majority of establishments operate at one location only.

19 The differences in definition of management unit and establishment often result in different values being obtained for certain data items. For example, employment at the establishment level only includes those employees that are involved in that industry whilst employment at the management unit level includes all employees of that business unit. This often includes employees who would be included in a different industry at the establishment level (e.g. retail sales staff, head office staff).

20 Separately located administrative offices and ancillary units such as storage premises, laboratories and producers' sales branches continue to have their activities included with electricity or gas activities unless these ancillaries constitute a separate accounting unit, in which case they are defined as a separate establishment.

REFERENCE PERIOD

21 The period covered by the collection is in general the 12 months ended 30 June. Where businesses are unable to supply information on this basis, the substitute accounting period is used for data other than that relating to employment.

INDUSTRY PERFORMANCE MEASURES

22 A range of performance measures, usually referred to as 'ratios', can be produced from the data available from profit and loss statements and balance sheets of businesses. This publication presents only a selection of these. While these are a very useful way of presenting summaries of performance, users of these statistics should note the limitations referred to below before making any judgments based on these results. Comment from analysts on the need for, and use of, these or other measures would be welcomed by the ABS.

23 Users should take particular note of the following limitations in respect of the ratios presented in this publication.

24 The usefulness of the ratios for analytical purposes depends on how they are calculated. Comparison between industries on a total industry basis may be best served by the estimates presented herein, i.e. based on industry estimates for numerators and denominators. Users should be aware that assessment of individual business performance based on comparisons with industry estimates may be misleading for other reasons. There may be circumstances peculiar to the business in question which should be taken into account. For example, is it undertaking a program of expansion, contraction, diversification or amalgamation during the period under review? Analysis of movements in performance indicators of the business and industry over a number of years would be more appropriate.

25 Differences in accounting policy and practices across businesses and industries and changes over time lead to some inconsistencies in the data input to these estimates. While much of the accounting process is subject to standards, there is still a great deal of flexibility left to managers in the accounting policy and practices they adopt. For example, acceptable methods of asset valuation include historical cost, replacement cost and current market value. The timing of asset revaluations also varies considerably across businesses. The way profit is measured is affected by management policy on such things as depreciation rates, bad debt provisions and write-off and goodwill write-off. The varying degree to which businesses decide to consolidate their accounts may affect the quality of the ratios calculated. In general, the effect of consolidation is to 'net out' some of the transactions between related business units and this may distort some ratios.

26 Finally, use of a single ratio in any analysis is to be avoided because it could be misleading. Often the interpretation of one ratio is influenced by the value of others. The above limitations are not meant to imply that analysis based on ratios should be avoided. However, they should be borne in mind when making any commentary or decisions based on these types of statistics.

INDUSTRY PERFORMANCE MEASURES *continued*

- 27** The ratios presented in this publication are categorised as follows:
- turnover ratios indicate the efficiency of selling activities (including the sale of services as well as goods);
 - profitability ratios measure rates of profit on sales, funds and assets;
 - liquidity ratios measure the ability of businesses to meet short-term financial obligations, i.e. how quickly can it convert selected assets into cash;
 - debt ratios indicate the extent to which debt is used as an alternative to financing through equity and the ability of businesses to meet the cost of such financing;
 - labour ratios measure the relative profitability and costs of labour; and
 - capital expenditure ratios indicate the ability and extent to which businesses invest in capital assets.

A further explanation of each ratio can be found in the Glossary.

CONCENTRATION STATISTICS

28 Industry concentration statistics are concerned with providing measures of the extent to which a few management units predominate in individual industries. They are a useful aid in assessing the degree of competition existing among management units engaged in an industry.

29 These statistics provide measures of concentration in industries as a whole and therefore are not measures of concentration in the market for commodities or activities.

30 The concentration statistics provided in this publication relate to Australia as a whole. Similar information is not available for States or other regional areas.

31 The following steps outline the method used to calculate concentration ratios for each industry:

- Establishments engaged in an industry and belonging to the same management unit were brought together and the data reported for them were aggregated. In this way it was possible to identify the contribution to industry totals by establishments operating under common ownership or control.
- Management units were ranked in descending order according to the size of the contribution of their establishments to the total turnover of the industry.
- The ranked management units were brought together into categories of four units, in the following sequence:
 - ◆ largest 4 management units
 - ◆ second largest 4 management units
 - ◆ third largest 4 management units
 - ◆ fourth largest 4 management units
 - ◆ fifth largest 4 management units
 - ◆ remaining management units owning or controlling establishments in the industry.

Each of the five categories of four management units comprises statistics of units which were in operation in the industry concerned at any time during the year 1995-96.

CONCENTRATION STATISTICS *continued*

32 For each of the categories the contribution of the category to the total for the industry was determined for each of the data items. The contribution is shown in the tables as an absolute amount and as a proportion of the total for the industry.

33 Categories of four management units were chosen to conform with international practice and will therefore facilitate comparison of concentration patterns in Australian industries with patterns in other countries.

RELIABILITY OF ESTIMATES

34 Data presented in this publication for ANZSIC Division D, Subdivision 37 (Water Supply, Sewerage and Drainage Services) are based on information collected from a sample of businesses and are, therefore, subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all businesses in the population. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because the data were obtained from only a sample of units. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the data had been obtained from all units, and about 19 chances in 20 that the difference will be less than two standard errors.

35 The standard error can also be expressed as a percentage of the estimate, and is known as the relative standard error. Estimates highlighted with an * indicate they are subject to sampling variability between 25% and 50%. Those estimates highlighted with ** are subject to sampling variability greater than 50%. Detailed estimates of relative standard errors can be made available upon request.

36 The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of inadequacies in available sources from which the population frame was compiled, imperfections in reporting from providers, errors made in collection such as recording and coding data, and errors made in processing data. Inaccuracies of this kind are referred to collectively as non-sampling error and they may occur in any enumeration, whether it be a census or a sample survey. Every effort is made to reduce non-sampling error to a minimum by careful design of questionnaires, editing processes, and efficient operating procedures.

GENERAL ACKNOWLEDGMENT

37 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

RELATED PUBLICATIONS AND AVAILABILITY OF UNPUBLISHED STATISTICS

Related publications

38 Users may also wish to refer to the following publications:

Actual and Expected Private Mineral Exploration, Australia (Cat. no. 8412.0)

Agricultural Industries, Financial Statistics, Australia (Cat. no. 7507.0)

Australian Mining Industry (Cat. no. 8414.0) 1993–94 and 1994–95

Australians and the Environment (Cat. no. 4601.0) contains information on renewable energy, stormwater and sewage, and greenhouse gas emissions.

Australia's Environment: Issues and Facts (Cat. no. 4140.0) includes sections on greenhouse gas emission controls, sources and occurrences as well as Australia's natural resources, water and energy.

Business Operations and Industry Performance, Australia (Cat. no. 8140.0)

Energy Accounts for Australia (Cat. no. 4604.0)

Environment Protection Expenditure (Cat. no. 4603.0)

Household Expenditure Survey, Australia: Summary of Results

(Cat. no. 6530.0) includes expenditure on fuel and power, and on water and sewerage rates.

Manufacturing Industry, Australia (Cat. no. 8221.0)

Manufacturing Production, Australia (Cat. no. 8301.0) (quarterly) which includes details of the production (quantity) of important manufactured commodities (including electricity and gas) — issued approximately four weeks after the month to which it relates.

Mining, Electricity and Gas Operations, Australia, Preliminary

(Cat. no. 8401.0)

Sales of Goods and Services by Businesses involved in Water Related Activity in South Australia (Cat. no. 1352.4)

39 Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (Cat. no. 1101.0). The ABS also issues, on Tuesdays and Fridays, a *Release Advice* (Cat. no. 1105.0) which lists publications to be released in the next few days. The Catalogue and Release Advice are available from any ABS office.

Unpublished statistics

40 The statistics presented in this publication represent only a portion of the information which is available from the Census of Electricity and Gas Operations and the Water and Sewerage Survey. Unpublished information can generally be made available on request, subject to quality and confidentiality guidelines associated with the release of such data. The charges for these services vary according to the time required to extract, tabulate and evaluate the data.

41 Inquiries should be made to the officer named in the Inquiries section at the front of this publication.

SYMBOLS AND ABBREVIATIONS

42 The following symbols and abbreviations are used in this publication:

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
AGA	Australian Gas Association
ANZSIC	Australian and New Zealand Standard Industrial Classification
AWWA	Australian Water and Wastewater Association
billion	thousand million
COAG	Council of Australian Governments
cogen	Cogeneration
CSM	Coal-seam methane gas
EBIT	Earnings before interest and tax
ESAA	Electricity Supply Association of Australia
GJ	Gigajoules (10^9)
GL	Gigalitres (10^9)
GWh	Gigawatt hours (10^9)
ha	hectares
IGP	Industry Gross Product
km	kilometres
kPa	kilopascals
kWh	kilowatt hour = 3,600 kJ
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
ML	megalitres (10^6)
MVA	megavolt amperes
MW	megawatt
MWh	megawatt hours
n.p.	Not published
NECA	National Electricity Code Administrator
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
OPBT	Operating profit before tax
SEDA	Sustainable Economic Development Authority
TJ	Terajoules (10^{12})
WSAA	Water Services Association of Australia
..	not applicable
—	nil or rounded to zero

ROUNDING

43 Where figures have been rounded, discrepancies may occur between the sum of component items and the total.

GLOSSARY

As the data presented in this publication have been compiled from the standard financial accounts of businesses, the definition of each reported item aligns closely with that adopted in standard business accounting practice. In those instances where more than one standard or definition is available, the following paragraphs indicate which one has been chosen.

Acquisitions to disposals	The number of times that dollars spent on acquiring assets exceed dollars received for disposal of assets i.e. Total acquisitions/Total disposals.
Asset turnover ratio	A measure of the number of times the value of sales exceeds the value of assets i.e. Sales of goods and services/Total assets.
Bad debts	Represents the amount of bad debts written off net of bad debts previously written off but recovered.
Capital expenditure	Includes all capitalised costs and progress payments made to contractors for capital work on land, dwellings, buildings and structures, and plant, machinery and equipment (both new and second-hand).
Capital work for own use	Work that is done by the employees of the business for its own use or for rental or lease purposes. This value should include the wages of the employees as well as materials withdrawn from stock.
Cost of sales	The sum of purchases, selected expenses and opening stocks minus closing stocks.
Current assets	Refers to the value of closing trading stock (i.e. at the end of the financial year) plus the value of other current assets such as cash, short-term deposits, prepayments and short-term loans to employees.
Current liabilities	The book value of current liabilities at the end of the financial year. This includes provisions for taxation, leave, claims, trade creditors, other accounts payable and bank overdrafts.
Current ratio	The number of times current assets exceed current liabilities i.e. Current assets/Current liabilities.
Debt to assets	The percentage of assets financed by debt as opposed to equity i.e. (Total liabilities/Total assets) x 100.
Depreciation	Includes depreciation allowed on buildings and other fixed tangible assets.
Disposal of assets	Includes the proceeds from the sale of land, dwellings, buildings, plant, machinery and equipment.
Earnings before interest and tax (EBIT)	A measure of profit prior to the deduction of interest expenses and income tax.
Employment	Includes working proprietors, working partners, permanent, part-time, temporary and casual employees, employees on paid leave and managerial and executive employees working for the business during the last pay period ending in June.

Establishments at 30 June	Refers to the number of establishments in operation at 30 June.
Government subsidies	Includes bounties, subsidies and export grants.
Industry gross product (IGP)	A measure of the unduplicated gross product of a business derived by subtracting from the gross output of the business its intermediate consumption of goods and services. The formula for IGP is as follows: $\text{IGP} = \begin{array}{l} \text{Sales of goods and services} \\ \text{Plus} \quad \text{Rent, leasing and hiring income} \\ \quad \quad \text{Government subsidies} \\ \quad \quad \text{Capital work done for own use} \\ \quad \quad \text{Closing stocks} \\ \text{Less} \quad \text{Opening stocks} \\ \quad \quad \text{Purchases and selected expenses.} \end{array}$
Industry gross product to employment	The average amount, expressed in thousands of dollars, of industry gross product for each employee, working proprietor and working partner i.e. Industry gross product/Employment.
Industry gross product to selected labour costs	The average amount of the value of each dollar of gross product generated by each dollar input of labour i.e. Industry gross product/Selected labour costs.
Insurance premiums	Includes premiums for fire, general, accident, optional third-party and comprehensive motor vehicle insurance.
Interest coverage	The number of times that businesses can meet their interest expenses from their earnings before interest i.e. Earnings before interest and Tax interest expenses.
Interest expenses	Includes interest paid on loans from banks, finance companies, insurance companies and related companies.
Interest income	Includes interest received from bank accounts, loans and finance leases, and earnings on discounted bills.
Liquidity ratio	The number of times current assets other than stocks exceed current liabilities i.e. (Current assets – Closing stocks)/Current liabilities.
Management units at 30 June	Refers to the number of management units in operation at 30 June.
Motor vehicle expenses	Includes expenditure on registration fees, compulsory third-party insurance, fuel and repairs.
Natural gas	Includes commercial quality sales gas, ethane, methane, and plant and field use of non-commercial quality gas.
Net capital expenditure	The difference between total acquisitions and disposals of assets.
Net capital expenditure to assets	The percentage of the total book value of assets spent on net capital expenditure i.e. (Net capital expenditure/Total assets) x 100.
Net worth	Total assets minus total liabilities and is equal to the interest of shareholders or other owners in the assets of the business.
Non-current assets	The book value of non-current assets at the end of the financial year. This includes plant and machinery needed for normal operations, capitalised interest, property and goodwill.

Non-current liabilities	The book value of non-current liabilities at the end of the financial year. This includes bank loans, debentures and unsecured notes.
Operating profit before tax (OPBT)	A measure of profit before extraordinary items are brought to account and prior to the deduction of income tax and appropriations to owners (e.g. dividends paid).
Other income	Includes royalty income, dividends, net profit (or loss) on the sale of fixed tangible assets and net profit (or loss) on foreign exchange. It excludes extraordinary profits or losses such as those associated with the sale of a segment of the business or goodwill revaluations.
Other selected expenses	Includes expenditure on management fees/charges paid to related and unrelated businesses, office supplies and printing costs, telephone and postage charges, travelling and entertainment expenses, accounting and legal services, advertising costs, payroll tax, fringe benefits tax, land tax, rates and subsidy expenses (i.e. amounts paid to electricity subsidy funds).
Outward freight and cartage	Excludes the cost of delivery by own vehicles and employees.
Payment for contract, subcontract and commission expenses	Includes payments to other businesses and self-employed persons for work done or sales made on a contract or commission basis. Payments to persons paid by commission without a retainer are also included.
Profit to employment	The average amount, expressed in thousands of dollars, of operating profit before tax contributed by each employee, working proprietor and working partner i.e. Operating profit before tax/Employment.
Purchases of goods and materials	Includes purchases of materials, components, containers, packaging, fuels, electricity and water, and purchases of other goods for resale.
Rent, leasing and hiring expenses for land, buildings and other structures	Includes rent paid for land, premises, shops, warehouses etc.
Rent, leasing and hiring expenses for motor vehicles	Excludes expenses for off-road motor vehicles and finance lease payments.
Rent, leasing and hiring expenses for plant, machinery and other equipment	Includes hiring of equipment without an operator.
Rent, leasing and hiring income	Includes proceeds from the rent, lease or hiring of land, buildings, machinery, vehicles and equipment.
Repair and maintenance expenses	Excludes the repair and maintenance costs of motor vehicles and the wages and salaries paid to own employees.
Return on assets	Derived by expressing operating profit before tax as a percentage of the total book value of assets i.e. (Operating profit before tax/Total assets) x 100.
Return on funds	Derived by expressing earnings before interest and tax as a percentage of the total of shareholders funds and non-current liabilities i.e. Earnings before interest and tax/(Net worth + Non-current liabilities) x 100.

Royalties expenses	Includes any payments made for the use of rights, information or material owned by another company or person.
Sales of goods and services	Includes revenue from the sale of electricity (or gas and gas by-products), other goods (e.g. electrical or gas appliances, waste materials, sales of trade-ins) and service income (e.g. repair and service income, contract, subcontract and commission income, installation charges). Note that at the establishment level Sales of goods and services includes the value of any transfers out of electricity (or gas) and/or other goods for resale. These transfers are valued, for statistical purposes, at prices commensurate with the prices which would have been received or paid if the establishments concerned had been under separate ownership i.e. at commercial selling price.
Selected labour costs	The sum of wages and salaries, superannuation and workers' compensation. Wages and salaries include gross wages and salaries and amounts paid as severance, termination and redundancy payments to permanent, temporary, casual and part-time employees. Superannuation includes all employer contributions to superannuation schemes and any benefits paid by employers operating unfunded schemes. Workers' compensation includes premiums and any other costs incurred by the employer, not reimbursed by an insurance company.
Selected labour costs to employment	The average amount, expressed in thousands of dollars, of selected labour costs incurred by business (including wages, salaries, superannuation, workers' compensation premiums) for each employee, working proprietor and working partner i.e. Selected labour costs/Employment.
Stocks — Opening and closing	The value of all stocks of finished goods, work-in-progress, raw materials, fuels, containers, etc. at the beginning and end of the financial year, respectively.
Superannuation	Includes all employer contributions to superannuation schemes and any benefits paid by employers operating unfunded schemes.
Traction	Electricity supplies for light electric railway or tram operations.
Trading profit	A measure of profit directly attributable to trading in goods and services. It is derived by subtracting the cost of sales from the value of sales of goods and services.
Trading profit margin	Derived by expressing total trading profit as a percentage of total sales of goods and services i.e. $(\text{Trading profit}/\text{Sales of goods and services}) \times 100$
Turnover	Includes all proceeds from operating revenue (i.e. sales, transfers out for establishment data, service income, rent, leasing and hiring income and government subsidies) plus the value of capital work done for own use, or for rental or lease.
Value added	A measure of the production attributable to each industry. Its derivation is the same as Industry gross product except that it does not take into account other selected expenses.

Wages and salaries Refers to payments made to all permanent, part-time, casual and temporary employees on the payroll during the financial year. Such payments include severance, termination and redundancy payments, overtime earnings, penalty payments and shift allowances, all paid leave, leave loadings and bonuses.

Workers' compensation Includes premiums and any other costs incurred by the employer not reimbursed by an insurance company.

LIST OF REFERENCES

ABS	Australian Bureau of Statistics
AGA	Australian Gas Association
AWRC	Australian Water Resources Council
AWWA	Australian Water and Wastewater Association
ESAA	Electricity Supply Association of Australia Ltd
WSAA	Water Services Association of Australia

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