

**ELECTRICITY, GAS,
WATER AND SEWERAGE**INDUSTRIES
AUSTRALIA

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- For further information about these and related statistics, contact Jeff Bulger on Adelaide 08 8237 7621, or Client Services in any ABS office as shown on the back cover of this publication.

NOTES

ABOUT THIS PUBLICATION

This publication presents information relating to the electricity, gas, water and sewerage industries. Many of the statistics in this publication have been derived from the Australian Bureau of Statistics (ABS) 1997–98 Census of Electricity and Gas Operations and the 1997–98 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, water and sewerage services, not the whole of these industries. Further explanation is given in the Explanatory Notes, paragraph 5.

Different information is collected from management units and establishments (for details see Explanatory Notes paragraphs 14–19). 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.

This issue includes estimates for industry value added (IVA) which measures the value added by an industry to the intermediate inputs used by the industry. Under new international standards, this measure replaces industry gross product (IGP) in this publication as the measure of an industry's contribution to gross domestic product at the management unit level, commencing with the estimates for 1997–98. It should also be noted that IVA is not the same variable as 'Value added' which is published for electricity and gas at the establishment level in tables 2.15 and 3.14. The composition of 'Value added' has not changed.

Estimates are presented on pages 10, 34 and 56 on the basis of both the previous and new standards. See paragraph 21 of the Explanatory Notes and the Glossary for details of the composition of the relevant variables and for explanations of the differences between the new and previous standards as they apply to estimates in this publication.



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.



REVISIONS

Some of the 1996–97 data has been revised to take account of changes to data which was previously published in the 1996–97 issue of *Electricity, Gas, Water and Sewerage Operations, Australia* (Cat. no. 8226.0) which is now released in alternate years to this publication (Cat. no. 8208.0). Publication 8226.0 provides data from the Census of Electricity and Gas Operations and the Water and Sewerage Survey, whereas publication 8208.0 provides data from these collections as well as data from other ABS collections and external sources.

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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 competitive markets. The impetus for reform was the decision by the Council of Australian Governments (CoAG) to apply the National Competition Policy (NCP).

It is important that users of the data in this publication are aware that structural and corporate reforms limit the comparison of data between years. Users are referred to the information given in each chapter for further explanation.

ELECTRICITY INDUSTRY

Employment, wages and salaries

- Total management unit employment at 30 June 1998 was 34,928 persons, down 5% (or 1,754 persons) on the estimate for 30 June 1997, mainly due to redundancies.
- Wages and salaries dropped nationally by 4% to \$2.1b.

Income and expenditure

- Sales of goods and services at management unit level were valued at \$20.6b.
- Purchases of goods and materials dropped by \$1.7b (18%) to \$7.9b, the main cause being a fall in the price of electricity.
- Trading profit increased by 3%, from \$8.4b to \$8.7b.
- Operating profit before tax at Australian level decreased by 8% (\$211m) to \$2.3b.
- Turnover increased by 2% (\$362m) to \$21.6b.
- The electricity industry contributed \$9.4b in industry value added.

Assets and liabilities

- Total value of assets nationally increased by \$6.5b (10%) to \$74.8b.
- Total liabilities increased by \$5.8b (16%) compared with 1996–97 to \$42.4b.
- Net capital expenditure for the electricity industry rose by 12% (\$233m), mainly due to the expansion of the transmission network.

GAS INDUSTRY

Employment, wages and salaries

- Employment in the gas supply industry (at management unit level) decreased by 35% (1,462 persons) to 2,738, as a consequence of restructuring.
- Wages and salaries decreased by 45%, from \$277m to \$152m.

Income and Expenditure

- Sales of goods and services were valued at \$4.2b, while purchases and selected expenses amounted to \$3.1b (both these measures showed significant increases from the previous year, due mainly to the recording of transactions between parts of organisations which have since been split, due to restructuring).
- Operating profit before tax increased from \$39m to \$660m. This was mainly due to the large increase in sales of goods and services which rose as a result of restructuring.
- Earnings before interest and tax increased from \$257m to \$890m (246%).
- Turnover increased by 55% (\$1.5b) to \$4.3b.
- Industry value added for the gas industry totalled \$1.2b.

Assets and liabilities

- Current assets other than inventories rose by \$886m to \$1.5b (137%).
- Current liabilities increased by \$1.2b to \$1.8b (183%).
- Non-current assets rose by \$792m to \$4.5b (21%).
- Non-current liabilities by \$810m to \$2.9b (39%).
- Net worth in the gas supply industry fell by 19% (\$322m) to \$1.4b.
- Net capital expenditure increased 43% (\$76m) compared with 1996–97 to \$254m.
- Capital expenditure on dwellings, other buildings and structures rose by 69% (\$86m).
- Expenditure on plant, machinery and equipment fell by 30% (\$23m).

WATER AND SEWERAGE INDUSTRIES

Employment, wages and salaries

- Employment in the Australian water and sewerage industry remained stable at around 16,300.
- Wages and salaries increased by 7% (\$50m) to \$772m.

Income and expenditure

- Turnover increased by 1% (\$54m) to \$6.7b.
- Trading profit decreased by 1% (\$35m) to \$3.5b.
- There was a decrease of 5% (\$144m) in earnings before interest and tax to \$2.6b.
- The water and sewerage industry contributed \$3.9b in industry value added.

Assets and liabilities

- Total assets rose by 4% (\$1.9b) to \$49.5b and total liabilities fell by 5% (\$470m) to \$8.5b.
- Net capital expenditure rose by 52% (\$427m) to \$1.3b.

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 transmission, distribution 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 the Council of Australian Governments (CoAG) to apply the National Competition Policy (NCP). Further information on reforms in the electricity industry is contained in the Special Article at the end of this chapter.

Generation

In 1997–98 a total of 176,211 million kWh of electricity was produced nationally, 5% more than the previous year. New South Wales remained the largest generator, representing 35% of national production. The generating capacity of major public electricity companies increased by 1% to 39,383 MW (ESAA 1999).

Installed cogeneration capacity for electricity has almost doubled in the two years to 30 June 1998, from 1,150 MW in June 1996 to 2,084 MW in June 1998. (Cogeneration is the production of useful heat and power from the same energy source.)

Consumption

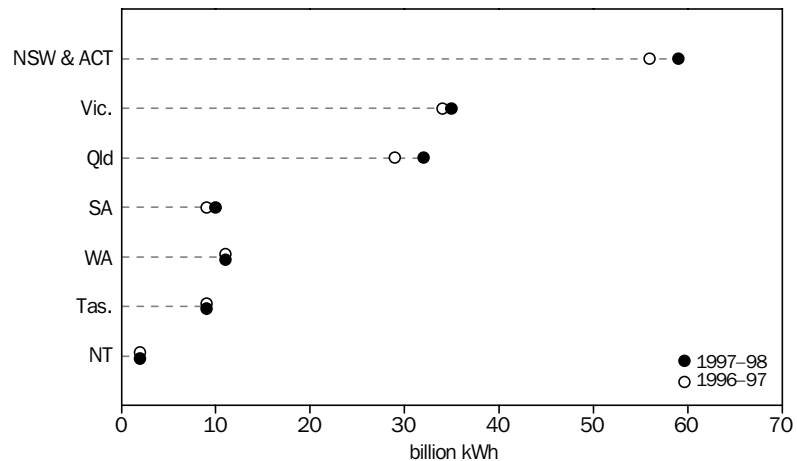
Total electricity consumption in Australia in 1997–98 was estimated to be 157,290 million kWh. At the State level the pattern of electricity consumption reflects the location of major industries and population distribution. In 1997–98 New South Wales and the Australian Capital Territory accounted for 37% of total national electricity consumption, followed by Victoria (22%) and Queensland (20%).

Overall electricity consumption increased by 5.4% in 1997–98; Queensland led the growth with a 12% increase in demand, followed by a 10% increase in the Northern Territory (ESAA 1999).

Non-residential consumption of electricity accounted for 70% of all electricity used in 1997–98. Tasmania recorded the highest consumption level of 184,000 kWh per non-residential customer and South Australia the lowest with 66,100 kWh per non-residential customer.

The residential sector accounted for 30% of national electricity usage in 1997–98. Electricity consumption per residential customer varied across the States. The highest levels were recorded in Tasmania (9,100 kWh) partly because natural gas is not used at all in Tasmania; only town gas and liquefied petroleum gas (LPG) are used. Western Australia recorded the lowest consumption levels of electricity per residential customer, with 4,900 kWh. Average residential consumption per person in 1997–98 was 2,500 kWh. Tasmania again recorded the highest residential consumption per person (4,000 kWh) and Western Australia the lowest consumption (1,800 kWh per person).

CONSUMPTION



Source: ESAA 1998 and ESAA 1999.

MANAGEMENT UNIT PERFORMANCE MEASURES

Industry restructuring and privatisation are again the major issues affecting data for business units in the electricity industry. Electricity supply has traditionally been provided by vertically integrated State government monopolies, which wholly undertook the generation, transmission, distribution, retailing, wholesaling and other activities involved in the supply of electricity. However, governments have been working cooperatively to introduce structural reforms involving the disaggregation of these monopolies into separate businesses. Some horizontal disaggregation has also occurred within the industry, e.g. monopolies have been split into competing units that undertake similar activities. Deregulation allows new firms to enter the market and compete for customers. For further detail on industry restructuring refer to the Special Article at the end of this chapter.

The most apparent change over recent years has been the increase in the number of units, which has risen in 1997-98 by 12, from 58 to 70. The main increases were in New South Wales and Queensland and were mainly a result of industry restructuring. As an example, at 1 July 1997 AUSTA Electric (formerly Queensland Generation Corporation) split into three separate generation corporations plus an engineering corporation. At the same time, the Queensland Generation Corporation itself continued as a transitional corporation. While this created three new generation companies in the electricity industry, the new engineering corporation was classified to another industry sector, i.e. Consultant Engineering Services, since this became its major activity. However, Consultant Engineering Services is outside the scope of the Australian Bureau of Statistics (ABS) Census of Electricity and Gas Operations. Similarly, in some cases, new units that are mainly engaged in network construction, repair and maintenance of electricity transmission/distribution towers or lines and power station buildings are now classified to Non-building construction n.e.c., which is also outside the scope of the Census of Electricity and Gas Operations.

Such changes in classification which result from restructuring, as outlined above, can have an impact on the data presented in this publication. For example, when the disaggregated units are classified to industries outside the scope of the Census, this is likely to reduce the number of employees in the electricity industry.

SUMMARY DETAILS

	1995-96	1996-97	1997-98
Management units at 30 June (no.)	57	58	70
Employment at 30 June (no.)	39 977	36 682	34 928
Wages and salaries (\$m)	2 222	2 164	2 076
Turnover (\$m)	21 127	21 259	21 622
Industry value added (new)(a) (\$m)	n.a.	n.a.	9 350
Industry gross product (old)(a) (\$m)	8 559	8 951	9 135
Net capital expenditure (\$m)	1 592	1 940	2 173

(a) See paragraph 21 of the Explanatory Notes and the Glossary details for explanation of differences between Industry value added and Industry gross product.

Source: ABS (unpub.)b.

At the management unit level activities such as gas or water 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.

Employment, wages and salaries

Employment and wages and salaries have been affected by restructuring. Employment continued to decline and at 30 June 1998 was down 5% over 30 June 1997 (1,754 persons to 34,928). A large proportion of the fall in employment in the electricity industry has been due to redundancies. Wages and salaries have also dropped nationally by 4% (\$87m).

All published States recorded a decrease in employment. In New South Wales employment dropped by 7% (947 persons), in Victoria by 4% (236 persons) and in Queensland by 3% (203 persons).

Income and expenditure

Sales of goods and services nationally increased by \$351m (2%) to \$20.6b in 1997-98. Queensland recorded an increase of \$672m (17%) to \$4.6b, mainly due to the recording of receipts of transmission income after the splitting up of the electricity operations into several new entities. The income was previously a transfer within the one organisation.

A fall in electricity prices affected sales income in some States. New South Wales recorded a drop in sales of \$513m (8%) to \$6.2b, while Victoria recorded a decrease of \$233m (4%) to \$5.6b. Payments for contract, sub-contract and commission work rose by \$1.9b (203%) to \$2.8b, mainly as a consequence of transmission payments between companies.

Income and expenditure *continued*

In 1997–98 purchases of goods and materials dropped by \$1.7b (18%) to \$7.9b, mainly due to a drop in the price of electricity. The main published States showing a decrease were New South Wales and Victoria (down \$802m or 24%, and \$784m or 28%, respectively). These States have been directly affected by the developing National Electricity Market (NEM), lower selling prices of electricity and a large fall in wholesale electricity prices.

In 1997–98 operating profit before tax (OPBT) at the Australian level decreased by 8% (\$211m) to \$2.3b, although trading profit increased by 3% (\$237m). The main contributors to the fall in OPBT were a \$372m (58%) decrease in other income, a \$53m (20%) decrease in capitalised wages and salaries and a \$151m (6%) increase in interest expenses. The increase in sales of goods and services also resulted in an increase in turnover of 2% (\$362m) to \$21.6b.

Assets and liabilities

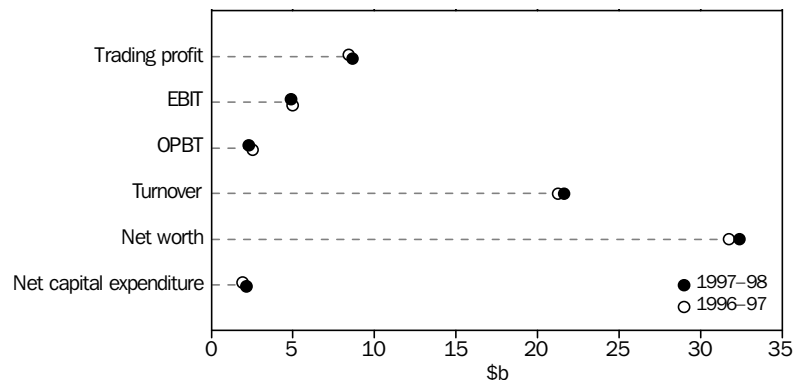
Restructuring has resulted in revaluation of assets, changes to the level of liability of businesses and, in some cases, the sale of assets. In addition, some companies which are buying into the industry are bringing in assets and liabilities which were previously classified to another industry, contributing to a rise in these two items in the electricity industry.

In 1997–98 the total value of assets nationally increased by \$6.5b (10%) to \$74.8b (non-current assets accounted for \$5.2b of the increase). Total liabilities increased by \$5.8b (16%) compared with 1996–97 to \$42.4b. Of this, non-current liabilities have increased by \$6.9b (to \$35.5b in 1997–98) and current liabilities have decreased by \$1.1b to \$6.8b. These changes have resulted in an increase in net worth of 2% (\$654m).

Net capital expenditure

Net capital expenditure for the electricity industry in 1997–98 rose by 12% (\$233m). The main increase comes from a \$225m (28%) rise in expenditure on dwellings, other buildings and structures. The main State contributing to this was Queensland (up \$189m) where the transmission network is expanding.

SELECTED INDICATORS



Source: ABS (unpub.)b.

Performance measures

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 for the electricity industry. While these are a very useful way of presenting summaries of performance, users of these statistics should note the limitations referred to in paragraphs 22–27 of the Explanatory Notes before making any judgments based on these results. In addition, the restructuring of the industry will have affected some comparisons.

The following changes occurred in performance measures in the electricity industry between 1996–97 and 1997–98:

- trading profit margin increased from 41.7% to 42.1%;
- return on funds decreased from 8.2% to 7.2%;
- return on assets decreased from 3.7% to 3.1%;
- the liquidity ratio increased from 0.7 to 1.0 times;
- debt to assets increased from 53.5% to 56.7%; and
- acquisitions to disposals ratio increased from 7.4 to 9.0 times.

ESTABLISHMENT PERFORMANCE MEASURES

The changes outlined for data at management unit level are mirrored in the data at establishment level. The number of units has risen by 13, from 67 to 80, with the main increase being in Queensland and New South Wales (both have 5 more units than in 1996–97). For 1997–98 New South Wales and the Australian Capital Territory have been combined.

SUMMARY DETAILS

	1995–96	1996–97	1997–98
Establishments at 30 June (no.)	67	67	80
Employment at 30 June (no.)	38 176	35 138	33 219
Wages and salaries (\$m)	2 057	2 081	1 958
Turnover (\$m)	21 182	21 306	21 596
Value added (\$m)	9 185	9 538	9 920

Source: ABS (unpub.)b.

Employment, wages and salaries

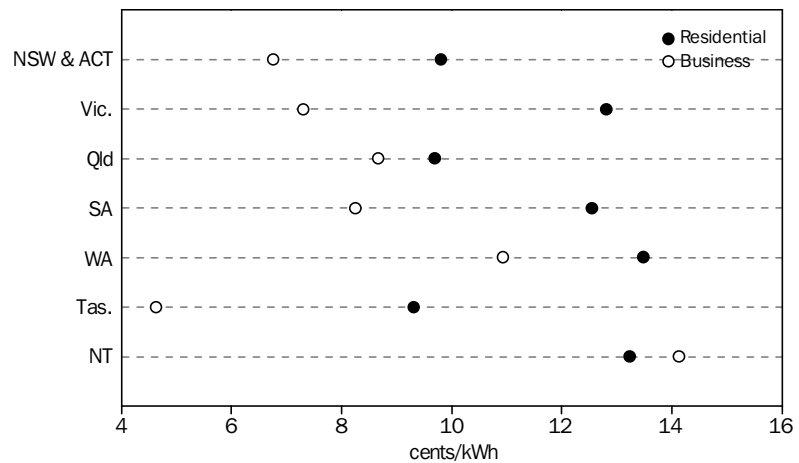
Employment and wages and salaries have been affected by restructuring, with employment continuing to decline. Wages and salaries nationally dropped by 6% (\$123m) compared with 1996–97. Employment also fell by 5% to 33,219 (down 1,919 persons). A large proportion of the fall in employment in the electricity industry has been due to redundancies. Employment was down 7% in Queensland (down 507 to 6,941 persons), down 3% in Victoria (181 persons to 5,700) and also down 3% in Western Australia (98 persons to 3,437). Employees engaged on new construction increased nationally by 316 (10%) to 3,564 persons. The number of such employees in Victoria rose by 389 to 1,000, representing 18% of total employees in that State's electricity industry.

Income and expenditure

In 1997–98 service income in the electricity industry rose by \$1.5b (62%), while payments for contract, sub-contract and commission work increased by \$1.9b (211%). The majority of these increases resulted from the splitting of distribution and retail activities, which led to the creation of transmission costs between companies and transmission income to the service providers. The main published State contributing to the increases was Queensland, where service income rose by \$906m (to \$1.2b).

Sales of electricity at the Australian level dropped by \$1.4b (8%) to \$16.3b, and purchases of electricity fell \$1.8b (27%) to \$4.8b. A fall in the price of electricity caused the value of sales and purchases to fall despite a 5% increase in the amount of electricity generated. Value added at establishment level rose by only 4% for Australia overall, from \$9.5b to \$9.9b.

NOMINAL PRICES PAID BY CUSTOMERS



Source: ESAA 1999.

2.1 ELECTRICITY, Generation(a)

<i>Period</i>	<i>NSW(b)</i> million kWh	<i>Vic.</i> million kWh	<i>Qld</i> million kWh	<i>SA & NT</i> million kWh	<i>WA</i> million kWh	<i>Tas.</i> million kWh	<i>Aust.</i> million kWh
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
1996–97	62 788	35 400	34 779	9 167	16 738	9 543	168 415
1997–98	61 804	40 335	n.p.	n.p.	17 203	9 700	176 211

(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.

(b) The Australian Capital Territory does not generate its own electricity.

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

2.2 ELECTRICITY, Cogeneration(a)—At 30 June 1998

<i>Plant type/fuel type</i>	<i>NSW</i> MW	<i>Qld</i> MW	<i>Vic.</i> MW	<i>SA</i> MW	<i>WA</i> MW	<i>Tas.</i> MW	<i>NT</i> MW	<i>ACT</i> MW	<i>Aust.</i> MW
Steam									
Coal	11.0	70.0	110.0	—	82.5	11.5	—	—	285.0
Natural gas	—	—	66.2	5.0	254.0	—	—	—	325.2
Waste gas	102.3	—	98.5	3.0	—	—	—	—	203.8
Bagasse	15.5	287.3	—	—	—	—	—	—	302.8
Fuel oil	—	—	—	—	—	4.0	105.0	—	109.0
Gas turbine									
Natural gas	168.0	—	78.8	193.5	341.5	—	—	—	781.8
Waste gas	—	—	—	3.5	—	—	—	—	3.5
Diesel	—	4.5	—	—	—	—	—	—	4.5
Reciprocating gas engines									
Natural gas	3.0	26.4	11.0	8.7	2.0	—	—	—	51.1
Waste gas	—	—	13.0	3.9	—	—	—	—	16.9
Total 1998	299.8	388.2	377.5	217.6	680.0	15.5	105.0	—	2 083.6
Total 1996	129.9	231.1	323.1	27.2	310.5	15.5	112.5	—	1 149.8

(a) Greater than 1 MW.

Source: ESAA 1997 and 1999.

2.3 ELECTRICITY, Consumption

	<i>NSW & ACT</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA(a)</i>	<i>Tas.</i>	<i>NT</i>	<i>Aust.</i>
<i>Category</i>	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh	million kWh
Residential	18 315	10 281	9 369	3 693	3 268	1 887	412	47 225
Other	40 398	24 574	22 841	6 246	7 796	7 098	1 113	110 066
Total	58 713	34 855	32 210	9 939	11 064	8 985	1 525	157 291

(a) Excludes consumption of industrial customers who purchased from independent power producers.

Source: ESAA 1999.

2.4 ELECTRICITY, Number of Customers—At 30 June 1998

<i>Category</i>	<i>NSW & ACT</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>Aust.</i>
Residential	2 555 906	1 804 169	1 346 548	630 060	673 571	206 926	54 998	7 272 178
Other	391 107	283 882	185 486	94 471	88 133	38 572	11 128	1 092 779
Total	2 947 013	2 088 051	1 532 034	724 531	761 704	245 498	66 126	8 364 957

Source: ESAA 1999.

2.5 ELECTRICITY, Consumption Per Customer

	NSW & ACT	Vic.	Qld	SA	WA	Tas.	NT	Aust.
Category	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh
Residential	7.2	5.7	7.0	5.9	4.9	9.1	7.5	6.5
Other	103.3	86.6	123.1	66.1	88.5	184.0	100.0	100.7
Total	19.9	16.7	21.0	13.7	14.5	36.6	23.1	18.8

Source: Compiled from data in ESAA 1999.

2.6 ELECTRICITY, Residential Consumption Per Person

	NSW & ACT	Vic.	Qld	SA	WA	Tas.	NT	Aust.
Item	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh	'000 kWh
Consumption per person	2.8	2.2	2.7	2.5	1.8	4.0	2.2	2.5

Source: Compiled from data in ABS 1998 and ESAA 1999.

2.7 ELECTRICITY, Transmission and Distribution System—At 30 June 1998

Item	NSW & ACT(a)	Vic.	Qld	SA	WA	Tas.	NT	Aust.
Overhead lines(b)	256 859	135 001	176 468	69 560	80 075	26 239	5 435	749 637
Underground cables(b)	23 989	8 282	10 874	6 443	6 798	1 655	1 079	59 120
Nominal MVA of transformers installed(c)	85 406	41 092	33 025	15 435	14 459	7 853	1 862	199 132

(a) Includes the Snowy Mountains.

(b) Circuit kilometres.

(c) Excludes generator transformers.

Source: ESAA 1999.

2.8 MANAGEMENT UNITS(a), Employment and Labour Ratios at 30 June

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1997	1998	1997	1998	1997	1998	1997	1998
Management units(a) (no.)	11	16	17	18	16	21	4	3
Employment (no.)	13 118	12 171	6 576	6 340	7 214	7 011	n.p.	n.p.
Persons employed per management unit (no.)	1 192.5	760.7	386.8	352.2	450.9	333.9	n.p.	n.p.
Labour ratios								
Profit to employment (\$'000/employee)	67.8	70.1	67.6	31.4	101.7	95.3	n.p.	n.p.
Industry value added								
To employment (\$'000/employee)	n.a.	229.8	n.a.	404.3	n.a.	242.7	n.a.	n.p.
To selected labour costs (times)	n.a.	3.4	n.a.	5.7	n.a.	4.3	n.a.	n.p.
Selected labour costs								
To employment (\$'000/employee)	71.4	67.8	70.7	71.2	57.3	56.4	n.p.	n.p.

Items	WA.....		TAS.....		NT(b).....		ACT(b).....		AUST.....	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
Management units(a) (no.)	6	8	2	2	1	1	1	1	58	70
Employment (no.)	3 535	3 437	1 689	n.p.	n.p.	811	n.p.	1 112	36 682	34 928
Persons employed per management unit (no.)	589.2	429.6	844.5	n.p.	n.p.	811.0	n.p.	1 112.0	632.4	499.0
Labour ratios										
Profit to employment (\$'000/employee)	46.2	57.6	50.2	n.p.	n.p.	-1.7	n.p.	67.6	68.9	66.3
Industry value added										
To employment (\$'000/employee)	n.a.	240.9	n.a.	n.p.	n.a.	152.2	n.a.	178.4	n.a.	267.7
To selected labour costs (times)	n.a.	3.5	n.a.	n.p.	n.a.	2.7	n.a.	2.8	n.a.	4.1
Selected labour costs										
To employment (\$'000/employee)	62.1	69.0	62.7	n.p.	n.p.	56.0	n.p.	62.9	65.4	65.9

(a) See Explanatory Notes, 'Statistical Units', paragraphs 14–19.

(b) Includes data for water supply and sewerage activities.

Source: ABS (unpub.)b.

2.9 MANAGEMENT UNITS(a), Income and Expenditure

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services(b)	6 708.0	6 195.3	5 814.5	5 581.4	3 945.8	4 617.7	n.p.	n.p.
<i>Less</i>								
Purchases of goods and materials	3 293.3	2 491.4	2 771.9	1 988.3	2 168.9	1 862.6	n.p.	n.p.
Rent, leasing and hiring expenses	6.5	27.1	19.6	31.6	8.6	10.5	n.p.	n.p.
Freight and cartage expenses	1.1	0.8	3.7	1.0	1.2	1.4	n.p.	n.p.
Motor vehicle expenses	26.6	23.4	16.5	14.6	14.5	12.5	n.p.	n.p.
Repair and maintenance expenses	175.5	138.3	96.6	87.4	67.9	66.6	n.p.	n.p.
Payment for contract, subcontract and commission work	280.7	678.9	394.7	747.3	140.6	1 193.9	n.p.	n.p.
Other selected expenses	300.2	378.7	379.1	443.6	176.7	186.0	n.p.	n.p.
<i>Purchases and selected expenses</i>	<i>4 083.9</i>	<i>3 738.6</i>	<i>3 682.1</i>	<i>3 313.8</i>	<i>2 578.4</i>	<i>3 333.5</i>	<i>n.p.</i>	<i>n.p.</i>
<i>Plus</i>								
Opening inventories	337.6	241.1	84.6	76.6	66.0	76.9	n.p.	n.p.
<i>Less</i>								
Closing inventories	241.1	248.1	72.2	64.9	78.5	83.2	n.p.	n.p.
<i>Cost of sales</i>	<i>4 180.4</i>	<i>3 731.6</i>	<i>3 694.5</i>	<i>3 325.5</i>	<i>2 565.9</i>	<i>3 327.2</i>	<i>n.p.</i>	<i>n.p.</i>
<i>Plus</i>								
Capitalised purchases	132.7	111.3	166.3	183.5	176.4	255.4	n.p.	n.p.
Trading profit	2 660.3	2 575.0	2 286.3	2 439.4	1 556.3	1 545.9	n.p.	n.p.
<i>Plus</i>								
Government subsidies	54.0	61.3	1.5	0.1	98.6	93.2	n.p.	n.p.
Interest income	83.9	44.2	171.8	174.8	34.7	33.8	n.p.	n.p.
Other income	309.8	240.3	139.3	-135.6	156.7	121.5	n.p.	n.p.
<i>Less</i>								
Wages and salaries	847.8	757.5	432.9	427.1	373.3	362.6	n.p.	n.p.
Superannuation	68.7	50.6	26.7	20.4	34.4	28.2	n.p.	n.p.
Workers' compensation	20.2	17.6	5.2	4.1	6.0	4.8	n.p.	n.p.
<i>Selected labour costs</i>	<i>936.7</i>	<i>825.7</i>	<i>464.8</i>	<i>451.6</i>	<i>413.7</i>	<i>395.6</i>	<i>n.p.</i>	<i>n.p.</i>
<i>Less</i>								
Depreciation	698.9	683.7	640.7	652.5	483.5	464.6	n.p.	n.p.
Insurance premiums	34.0	20.6	17.3	21.2	3.5	3.4	n.p.	n.p.
Royalties expenses	0.2	—	15.8	13.6	0.3	6.3	n.p.	n.p.
Bad debts	8.7	15.1	7.6	9.8	3.3	3.4	n.p.	n.p.
<i>Plus</i>								
Capitalised wages and salaries	96.2	52.8	59.7	79.3	52.7	35.5	n.p.	n.p.
Earnings before interest and tax	1 525.7	1 428.5	1 512.4	1 409.3	994.7	956.6	n.p.	n.p.
<i>Less</i>								
Interest expenses	635.7	575.7	1 068.0	1 210.1	260.9	288.5	n.p.	n.p.
Operating profit before tax	890.0	852.8	444.4	199.2	733.8	668.1	n.p.	n.p.

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Includes rent, leasing and hiring income.

Source: ABS (unpub.)b.

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

Items	WA.....		TAS.....		NT(b).....		ACT(b).....		AUST.....	
	1996–	1997–	1996–	1997–	1996–	1997–	1996–	1997–	1996–	1997–
	97	98	97	98	97	98	97	98	97	98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services(c)	1 490.4	1 588.0	520.0	n.p.	n.p.	267.8	n.p.	336.1	20 204.5	20 555.3
<i>Less</i>										
Purchases of goods and materials	605.6	592.9	26.4	n.p.	n.p.	135.3	n.p.	n.p.	9 570.4	7 856.2
Rent, leasing and hiring expenses	1.2	10.2	2.2	n.p.	n.p.	5.7	n.p.	n.p.	52.5	97.6
Freight and cartage expenses	59.0	63.1	0.3	n.p.	n.p.	0.2	n.p.	0.5	86.6	106.8
Motor vehicle expenses	6.0	6.1	5.5	n.p.	n.p.	1.3	n.p.	1.1	75.2	68.0
Repair and maintenance expenses	0.7	3.8	—	n.p.	n.p.	24.8	n.p.	2.2	393.5	349.5
Payment for contract, subcontract and commission work	42.3	60.9	21.8	n.p.	n.p.	9.1	n.p.	29.2	918.1	2 781.6
Other selected expenses	61.4	90.6	41.1	n.p.	n.p.	14.5	n.p.	n.p.	1 081.9	1 222.2
<i>Purchases and selected expenses</i>	<i>776.2</i>	<i>827.6</i>	<i>97.3</i>	<i>n.p.</i>	<i>n.p.</i>	<i>190.9</i>	<i>n.p.</i>	<i>149.9</i>	<i>12 178.2</i>	<i>12 481.9</i>
<i>Plus</i>										
Opening inventories	93.8	77.3	12.3	n.p.	n.p.	20.9	n.p.	7.6	700.8	558.4
<i>Less</i>										
Closing inventories	83.7	61.3	11.5	n.p.	n.p.	21.2	n.p.	6.0	562.0	543.3
<i>Cost of sales</i>	<i>786.3</i>	<i>843.6</i>	<i>98.1</i>	<i>n.p.</i>	<i>n.p.</i>	<i>190.6</i>	<i>n.p.</i>	<i>151.5</i>	<i>12 317.0</i>	<i>12 497.0</i>
<i>Plus</i>										
Capitalised purchases	13.1	9.8	16.0	n.p.	n.p.	—	n.p.	—	533.7	600.0
Trading profit	717.2	754.2	437.9	n.p.	n.p.	77.2	n.p.	184.6	8 421.2	8 658.3
<i>Plus</i>										
Government subsidies	40.4	40.9	1.0	n.p.	n.p.	42.6	n.p.	7.9	257.6	255.7
Interest income	9.9	4.7	2.7	n.p.	n.p.	2.8	n.p.	4.7	314.0	285.0
Other income	3.1	4.9	14.2	n.p.	n.p.	5.4	n.p.	7.5	645.0	273.1
<i>Less</i>										
Wages and salaries	208.2	211.0	77.2	n.p.	n.p.	40.3	n.p.	61.1	2 163.5	2 076.1
Superannuation	11.2	23.9	28.4	n.p.	n.p.	4.5	n.p.	7.7	194.2	189.5
Workers' compensation	0.2	2.1	0.3	n.p.	n.p.	0.6	n.p.	1.1	40.1	36.4
<i>Selected labour costs</i>	<i>219.6</i>	<i>237.0</i>	<i>105.9</i>	<i>n.p.</i>	<i>n.p.</i>	<i>45.4</i>	<i>n.p.</i>	<i>69.9</i>	<i>2 397.8</i>	<i>2 302.0</i>
<i>Less</i>										
Depreciation	193.2	144.2	110.3	n.p.	n.p.	52.9	n.p.	49.6	2 398.7	2 341.8
Insurance premiums	15.6	6.1	2.4	n.p.	n.p.	1.6	n.p.	1.9	80.0	61.9
Royalties expenses	—	0.1	—	n.p.	n.p.	—	n.p.	—	18.3	21.7
Bad debts	3.5	3.2	0.9	n.p.	n.p.	0.8	n.p.	1.5	28.7	37.7
<i>Plus</i>										
Capitalised wages and salaries	23.9	17.9	13.9	n.p.	n.p.	—	n.p.	—	263.8	210.6
Earnings before interest and tax	362.6	432.0	250.2	n.p.	n.p.	27.3	n.p.	81.8	4 978.1	4 917.6
<i>Less</i>										
Interest expenses	199.4	233.9	165.4	n.p.	n.p.	28.7	n.p.	6.6	2 451.1	2 602.0
Operating profit before tax	163.2	198.1	84.8	n.p.	n.p.	-1.4	n.p.	75.2	2 527.0	2 315.6

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Includes data for water supply and sewerage activities.

(c) Includes rent, leasing and hiring income.

Source: ABS (unpub.)b.

2.10 MANAGEMENT UNITS(a), Industry Value Added

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services(b)	6 708.0	6 195.3	5 814.5	5 581.4	3 945.8	4 617.7	n.p.	n.p.
Government subsidies	54.0	61.3	1.5	0.1	98.6	93.2	n.p.	n.p.
Capital work done for own use	228.9	164.0	226.0	262.8	229.1	290.8	n.p.	n.p.
Turnover	6 990.9	6 420.6	6 042.0	5 844.3	4 273.5	5 001.7	n.p.	n.p.
<i>Plus</i>								
Closing inventories	241.1	248.1	72.2	64.9	78.5	83.2	n.p.	n.p.
<i>Less</i>								
Opening inventories	337.6	241.1	84.6	76.6	66.0	76.9	n.p.	n.p.
<i>Less</i>								
Capitalised purchases	132.7	111.3	166.3	183.5	176.4	255.4	n.p.	n.p.
<i>Less</i>								
Intermediate input expenses	n.a.	3 519.9	n.a.	3 086.0	n.a.	3 051.1	n.a.	n.p.
Industry value added	n.a.	2 796.4	n.a.	2 563.1	n.a.	1 701.5	n.a.	n.p.

Items	WA.....		TAS.....		NT(c).....		ACT(c).....		AUST.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of goods and services(b)	1 490.4	1 588.0	520.0	n.p.	n.p.	267.8	n.p.	336.1	20 204.5	20 555.3
Government subsidies	40.4	41.0	1.0	n.p.	n.p.	42.6	n.p.	7.9	257.6	255.8
Capital work done for own use	36.9	27.7	29.9	n.p.	n.p.	—	n.p.	—	797.4	810.4
Turnover	1 567.7	1 656.7	550.9	n.p.	n.p.	310.4	n.p.	344.0	21 259.5	21 621.5
<i>Plus</i>										
Closing inventories	83.7	61.3	11.5	n.p.	n.p.	21.2	n.p.	6.0	562.0	543.3
<i>Less</i>										
Opening inventories	93.8	77.3	12.3	n.p.	n.p.	20.9	n.p.	7.6	700.8	558.4
<i>Less</i>										
Capitalised purchases	13.1	9.8	16.0	n.p.	n.p.	—	n.p.	—	533.7	600.0
<i>Less</i>										
Intermediate input expenses	n.a.	802.9	n.a.	n.p.	n.a.	187.3	n.a.	144.0	n.a.	11 656.1
Industry value added	n.a.	828.0	n.a.	n.p.	n.a.	123.4	n.a.	198.4	n.a.	9 350.3

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Includes rent, leasing and hiring income.

(c) Includes data for water supply and sewerage activities.

Source: ABS (unpub)(b).

2.11 MANAGEMENT UNITS(a), Assets and Liabilities

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Assets								
Current assets								
Closing inventories	241.1	248.1	72.2	64.9	78.5	83.2	n.p.	n.p.
Other current assets	1 791.9	1 987.1	1 486.9	1 899.0	1 237.1	2 038.2	n.p.	n.p.
Non-current assets	16 646.3	16 591.4	21 717.6	26 216.0	10 102.2	10 874.8	n.p.	n.p.
<i>Total</i>	<i>18 679.3</i>	<i>18 826.6</i>	<i>23 276.7</i>	<i>28 179.9</i>	<i>11 417.8</i>	<i>12 996.2</i>	<i>n.p.</i>	<i>n.p.</i>
Liabilities								
Current liabilities	2 831.9	2 248.8	1 473.8	2 151.3	1 762.5	1 059.7	n.p.	n.p.
Non-current liabilities	6 354.6	6 963.5	13 897.7	17 598.4	2 797.1	4 812.2	n.p.	n.p.
<i>Total</i>	<i>9 186.5</i>	<i>9 212.3</i>	<i>15 371.5</i>	<i>19 749.7</i>	<i>4 559.6</i>	<i>5 871.9</i>	<i>n.p.</i>	<i>n.p.</i>
Net worth	9 492.8	9 614.3	7 905.2	8 430.2	6 858.2	7 124.3	n.p.	n.p.

Items	WA.....		TAS.....		NT(b).....		ACT(b).....		AUST.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Assets										
Current assets										
Closing inventories	83.7	61.3	11.5	n.p.	n.p.	21.2	n.p.	6.0	562.0	543.3
Other current assets	297.0	229.9	135.0	n.p.	n.p.	93.4	n.p.	77.0	5 353.7	6 703.5
Non-current assets	3 973.0	4 162.8	4 227.6	n.p.	n.p.	977.1	n.p.	1 339.3	62 363.5	67 527.5
<i>Total</i>	<i>4 353.7</i>	<i>4 454.0</i>	<i>4 374.1</i>	<i>n.p.</i>	<i>n.p.</i>	<i>1 091.7</i>	<i>n.p.</i>	<i>1 422.3</i>	<i>68 279.2</i>	<i>74 774.3</i>
Liabilities										
Current liabilities	548.9	341.8	560.6	n.p.	n.p.	73.0	n.p.	59.5	7 902.1	6 848.6
Non-current liabilities	2 856.5	2 986.0	1 399.4	n.p.	n.p.	237.3	n.p.	170.8	28 618.5	35 512.8
<i>Total</i>	<i>3 405.4</i>	<i>3 327.8</i>	<i>1 960.0</i>	<i>n.p.</i>	<i>n.p.</i>	<i>310.3</i>	<i>n.p.</i>	<i>230.3</i>	<i>36 520.6</i>	<i>42 361.4</i>
Net worth	948.3	1 126.2	2 414.1	n.p.	n.p.	781.4	n.p.	1 192.0	31 758.6	32 412.9

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Includes data for water supply and sewerage activities.

Source: ABS (unpub.)b.

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

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Capital expenditure on								
Land	4.7	3.4	13.7	12.3	2.1	1.8	n.p.	n.p.
Dwellings, other buildings and structures	214.2	256.4	168.5	246.7	198.1	387.4	n.p.	n.p.
Plant, machinery and equipment	223.1	234.4	180.2	292.3	218.0	199.8	n.p.	n.p.
<i>Total acquisitions</i>	442.0	494.2	362.4	551.3	418.2	589.0	n.p.	n.p.
Disposal of assets	228.8	156.2	31.9	36.8	19.9	21.4	n.p.	n.p.
Net capital expenditure	213.2	338.0	330.5	514.5	398.3	567.6	n.p.	n.p.

Items	WA.....		TAS.....		NT(c).....		ACT(c).....		AUST.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Capital expenditure on										
Land	16.7	0.6	—	n.p.	n.p.	—	n.p.	—	37.2	18.1
Dwellings, other buildings and structures	55.0	14.7	78.1	n.p.	n.p.	—	n.p.	28.6	814.6	1 039.9
Plant, machinery and equipment	689.6	493.6	21.5	n.p.	n.p.	28.2	n.p.	—	1 390.4	1 387.8
<i>Total acquisitions</i>	761.3	508.9	99.6	n.p.	n.p.	28.2	n.p.	28.6	2 242.2	2 445.8
Disposal of assets	8.7	51.2	3.3	n.p.	n.p.	0.2	n.p.	0.6	302.6	272.8
Net capital expenditure	752.6	457.7	96.3	n.p.	n.p.	28.0	n.p.	28.0	1 939.6	2 173.0

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Includes capital work done for own use.

(c) Includes data for water supply and sewerage activities.

Source: ABS (unpub.)b.

2.13 MANAGEMENT UNITS(a)(b), Selected Performance Measures

Items	NSW.....		VIC.....		QLD.....		SA.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
Turnover								
Asset turnover (times)	0.4	0.3	0.2	0.2	0.3	0.4	n.p.	n.p.
Profitability								
Trading profit margin (%)	39.7	41.6	39.3	43.7	39.4	33.5	n.p.	n.p.
Return on funds (%)	9.6	8.6	6.9	5.4	10.3	8.0	n.p.	n.p.
Return on assets (%)	4.8	4.6	1.9	0.7	6.5	5.2	n.p.	n.p.
Liquidity								
Liquidity ratio (times)	0.6	0.9	1.0	0.9	0.7	1.9	n.p.	n.p.
Current ratio (times)	0.7	1.0	1.1	0.9	0.7	2.0	n.p.	n.p.
Debt								
Interest coverage ratio (times)	2.4	2.5	1.4	1.2	3.8	3.3	n.p.	n.p.
Debt to assets (%)	49.8	49.6	66.2	70.2	40.2	45.5	n.p.	n.p.
Capital expenditure								
Acquisitions to disposals ratio (times)	1.9	3.2	11.4	15.0	21.0	27.5	n.p.	n.p.
Net capital expenditure to assets (%)	1.2	1.8	1.4	1.8	3.5	4.4	n.p.	n.p.

Items	WA.....		TAS.....		NT(c).....		ACT(c).....		AUST.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
Turnover										
Asset turnover (times)	0.3	0.4	0.1	n.p.	n.p.	0.2	n.p.	0.2	0.3	0.3
Profitability										
Trading profit margin (%)	48.1	47.5	84.2	n.p.	n.p.	28.8	n.p.	55.0	41.7	42.1
Return on funds (%)	9.5	10.5	6.6	n.p.	n.p.	2.7	n.p.	6.0	8.2	7.2
Return on assets (%)	3.8	4.5	1.9	n.p.	n.p.	-0.1	n.p.	5.3	3.7	3.1
Liquidity										
Liquidity ratio (times)	0.5	0.7	0.2	n.p.	n.p.	1.3	n.p.	1.3	0.7	1.0
Current ratio (times)	0.7	0.9	0.3	n.p.	n.p.	1.6	n.p.	1.4	0.7	1.1
Debt										
Interest coverage ratio (times)	1.8	1.8	1.5	n.p.	n.p.	1.0	n.p.	12.5	2.0	1.9
Debt to assets (%)	79.8	75.8	44.9	n.p.	n.p.	29.0	n.p.	16.3	53.5	56.7
Capital expenditure										
Acquisitions to disposals ratio (times)	87.7	9.9	29.7	n.p.	n.p.	186.4	n.p.	44.2	7.4	9.0
Net capital expenditure to assets (%)	17.6	10.4	2.2	n.p.	n.p.	2.6	n.p.	2.0	2.8	2.9

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) For 'labour ratios' see table 2.8.

(c) Includes data water supply and sewerage activities.

Source: ABS (unpub.)b.

2.15 ESTABLISHMENT LEVEL(a), Income and Expenditure

Items	NSW(b)	NSW & ACT..	VIC.....	QLD.....	SA.....			
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98		
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	
Sales of electricity(c)	6 147.0	5 434.6	4 295.6	3 833.6	3 655.1	3 366.9	n.p.	n.p.
Sales of gas and gas by-products(c)	—	19.6	—	—	0.9	—	n.p.	n.p.
Sales of other goods(c)	41.6	38.5	13.0	7.2	85.7	76.7	n.p.	n.p.
Service income(d)	575.4	967.6	1 482.3	1 721.0	285.5	1 191.8	n.p.	n.p.
Government subsidies	53.9	64.1	1.2	0.3	101.6	93.6	n.p.	n.p.
Capital work done for own use	232.0	164.0	220.4	252.9	229.4	290.8	n.p.	n.p.
Turnover	7 049.9	6 688.4	6 012.5	5 815.0	4 358.2	5 019.8	n.p.	n.p.
<i>Plus</i>								
Closing inventories	241.4	252.6	67.4	60.2	80.8	83.2	n.p.	n.p.
<i>Less</i>								
Opening inventories	337.8	247.1	79.8	71.8	68.2	76.9	n.p.	n.p.
<i>Less</i>								
Purchases								
Materials, components, containers etc.(e)	195.9	185.8	562.2	545.8	234.3	330.2	n.p.	n.p.
Fuels	825.1	1 593.0	142.1	72.2	437.6	431.1	n.p.	n.p.
Electricity	2 277.2	777.1	2 372.1	1 660.9	1 469.1	1 021.3	n.p.	n.p.
Gas (as a fuel)	6.3	13.8	18.8	9.8	—	—	n.p.	n.p.
Goods for resale(e)	31.6	47.6	0.8	4.4	85.9	77.3	n.p.	n.p.
Rent, leasing and hiring expenses	6.7	27.6	18.8	30.5	9.2	8.5	n.p.	n.p.
Freight and cartage expenses	1.1	1.0	4.0	1.3	1.2	1.4	n.p.	n.p.
Motor vehicle expenses	26.6	24.1	14.6	14.2	14.6	12.3	n.p.	n.p.
Repair and maintenance expenses	178.6	141.6	93.4	68.1	73.2	69.8	n.p.	n.p.
Payment for contract, subcontract and commission work	280.7	705.3	348.4	713.8	150.8	1 194.7	n.p.	n.p.
Subsidy expenses	15.2	24.6	—	—	53.7	0.4	n.p.	n.p.
<i>Purchases and selected expenses</i>	<i>3 845.0</i>	<i>3 541.5</i>	<i>3 575.2</i>	<i>3 121.0</i>	<i>2 529.6</i>	<i>3 147.0</i>	<i>n.p.</i>	<i>n.p.</i>
Value added	3 108.5	3 152.4	2 424.9	2 682.4	1 841.2	1 879.1	n.p.	n.p.

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Only shows data for New South Wales. Data for the Australian Capital Territory for 1996–97 is included in Australian totals only.

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

(d) Includes rent, leasing and hiring income.

(e) 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.....		AUST.....	
	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98	1996– 97	1997– 98
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Sales of electricity(c)	1 453.0	1 554.1	508.4	n.p.	n.p.	299.4	17 688.7	16 329.3
Sales of gas and gas by-products(c)	—	7.3	—	n.p.	n.p.	2.5	5.5	116.2
Sales of other goods(c)	5.9	2.9	—	n.p.	n.p.	—	149.2	145.3
Service income(d)	75.8	71.8	11.6	n.p.	n.p.	1.8	2 448.1	3 971.7
Government subsidies	40.4	41.0	1.0	n.p.	n.p.	31.7	225.0	233.3
Capital work done for own use	36.9	27.7	29.9	n.p.	n.p.	—	789.7	799.8
Turnover	1 612.0	1 704.8	550.9	n.p.	n.p.	335.4	21 306.2	21 595.6
<i>Plus</i>								
Closing inventories	84.7	62.2	11.5	n.p.	n.p.	15.7	537.5	516.5
<i>Less</i>								
Opening inventories	94.7	78.4	12.3	n.p.	n.p.	14.9	679.0	531.7
<i>Less</i>								
<i>Purchases</i>								
Materials, components, containers etc.(e)	17.9	27.0	23.2	n.p.	n.p.	3.3	1 199.2	1 258.5
Fuels	314.5	266.1	3.1	n.p.	n.p.	85.1	1 802.5	1 640.8
Electricity	66.2	70.3	—	n.p.	n.p.	22.9	6 545.9	4 783.6
Gas (as a fuel)	211.7	237.8	—	n.p.	n.p.	82.5	427.2	461.6
Goods for resale(e)	4.9	2.3	—	n.p.	n.p.	—	123.2	185.0
Rent, leasing and hiring expenses	1.2	10.2	2.2	n.p.	n.p.	5.0	49.1	90.9
Freight and cartage expenses	59.0	63.1	0.3	n.p.	n.p.	0.1	66.0	90.9
Motor vehicle expenses	6.0	6.1	5.5	n.p.	n.p.	0.9	71.1	63.3
Repair and maintenance expenses	0.9	4.4	—	n.p.	n.p.	21.9	392.0	324.4
Payment for contract, subcontract and commission work	47.8	66.0	21.8	n.p.	n.p.	5.6	881.1	2 736.6
Subsidy expenses	—	—	—	n.p.	n.p.	0.1	69.0	25.1
<i>Purchases and selected expenses</i>	<i>730.1</i>	<i>753.3</i>	<i>56.1</i>	<i>n.p.</i>	<i>n.p.</i>	<i>227.4</i>	<i>11 626.3</i>	<i>11 660.7</i>
Value added	871.9	935.3	494.0	n.p.	n.p.	108.8	9 538.4	9 919.7

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Only shows data for New South Wales. Data for the Australian Capital Territory for 1996–97 is included in Australian totals only.

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

(d) Includes rent, leasing and hiring income.

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

Source: ABS (unpub.)b.

SPECIAL ARTICLE — ELECTRICITY INDUSTRY REFORMS IN AUSTRALIA

INTRODUCTION

The information in this section has been drawn from the Productivity Commission's Draft Report on the *Impact of Competition Policy Reforms on Rural and Regional Australia*, May 1999. For more information refer to paragraph 13 of the Explanatory Notes for contact details.

BACKGROUND

In Australia, electricity accounts for approximately 18% of final energy consumption. Final energy consumption is the total quantity, in energy units, of primary and derived fuels consumed, less the quantity of derived fuels produced and energy consumed or lost in conversion, transmission and distribution. Electricity also accounts for some 66% of the commercial and 42% of the residential segments of the energy market. The manufacturing sector is the largest user, particularly for non-ferrous metal manufacture and pulp and paper production, both of which are located mainly in regional areas.

Until the late 1980s, the electricity supply industry comprised publicly owned, vertically integrated monopoly suppliers which operated in separate, extensively regulated, State markets. This structure resulted in significant over-staffing and over-investment, inflated electricity costs and prices, and tariffs which did not reflect the cost of supplying different classes of users.

In July 1991, the relevant State governments agreed to establish a National Grid Management Council (NGMC) to encourage and coordinate the most efficient, economic and environmentally sound development of the electricity industry in eastern and southern Australia. Their aim was to deliver cheaper electricity, a more rational use of the nation's resources and to better position Australia in the international market for electricity supply.

The Council of Australian Governments (CoAG—a meeting of Federal, State and Territory governments) announced, in June 1993, a firm commitment to have the necessary structural changes in place to allow the implementation of a competitive electricity market from 1 July 1995. These reforms involved industry restructuring, in particular the separation of generation, transmission and distribution, and the formation of a National Electricity Market (NEM) in the southern and eastern States.

In April 1995, these reforms were reaffirmed and extended under the National Competition Policy (NCP), a set of reforms agreed to by the Commonwealth, State and Territory governments which consists of three intergovernmental agreements:

BACKGROUND *continued*

- the Competition Principles Agreement—which sets out principles for reforming government monopolies, prices oversight of government businesses, reviews of legislation, access to some essential infrastructure facilities and placing government businesses on a competitively neutral footing with each other and private businesses;
- the Conduct Code—which extends Australia's competitive conduct rules to all businesses (unincorporated businesses were previously exempt); and
- the Implementation Agreement—which recommits governments to earlier reforms in gas, electricity, water and road transport. It specifies a program of \$16b in financial grants to State and Territory governments, contingent on implementation of reforms.

PROGRESS OF THE REFORMS

Since the 1991 CoAG agreement there has been unprecedented structural change in the electricity sector, including:

- *New South Wales*—the creation of three competing generation entities, an independent transmission business and the consolidation of distributors into six new distribution utilities;
- *Victoria*—the separation and sale of all major power stations, all five distribution businesses and the transmission utility;
- *Queensland*—the splitting of the major generator into three independent government businesses, the formation of a separate corporation to operate the State's transmission infrastructure, the retention of seven distribution corporations and the creation of three new retail businesses. However, the Government recently announced its decision to reamalgamate the distribution boards under a single Commission;
- *South Australia*—the creation of separate entities responsible for generation, transmission and distribution functions;
- *Western Australia*—the separation of electricity supply from water supply and its establishment as a corporatised business, and the sale of one of the State's power stations;
- *Tasmania*—separation of the State's vertically integrated electricity supplier into three entities responsible for generation and system control, transmission and retail/distribution;
- *Australian Capital Territory*—the structural separation ('ring fencing') of the Territory's electricity distribution and retail activities within the Government-owned water and electricity corporation; and
- *Northern Territory*—'a reduction in commercial electricity tariffs and a broadening of tariff options; improvements in operational efficiency; the removal of regulatory and policy functions from the Power and Water Authority; the development of Territory-based arrangements to progressively open the electricity generation and retail markets to competition; greater private sector involvement in service provision; and consideration of an economic regulatory regime for the electricity, water and sewerage industries' (NT Treasury 1999).

PROGRESS OF THE REFORMS *continued*

Reforms to corporatise or commercialise all government utilities have placed publicly owned electricity suppliers on a more competitively neutral footing with their private sector counterparts. This has also resulted in pricing reforms to better reflect the underlying costs. Significant savings have resulted for business users as electricity providers have sought to recover a higher proportion of system costs from residential users. However, all jurisdictions have established arrangements to ensure that the pace of price restructuring is manageable.

The NEM became fully operational in December 1998 and encompasses 60 entities in New South Wales, Victoria, South Australia, and the Australian Capital Territory. Queensland and Tasmania are expected to participate when the grid connections are completed. The NEM provides for:

- a common wholesale market serving interconnected jurisdictions;
- a single controller despatching generators in the interconnected jurisdictions;
- customer entitlements to purchase electricity either from the spot market or under contract with a supplier of their choice; and
- a market settlement function handling spot and forward trading in the market and the contractual requirements of wholesale customers and generators.

While many submissions to the Productivity Commission Inquiry acknowledged the improvements in efficiency and cost savings, particularly for larger business users, several issues of concern were also raised, including:

- the fact that, in some regions, the provision of current services and/or investments to upgrade facilities would not be viable under purely commercial pricing regimes and may require government intervention as a community service obligation;
- the loss of direct employment opportunities in country areas and increases in connection charges subsuming any gains from lower usage tariffs;
- current network pricing regimes not recognising the proximity of users to generators, leading to inappropriate investment decisions and impeding regional development;
- the absence of arrangements which would permit small users to aggregate their requirements to achieve the size needed to be eligible to negotiate now, rather than later, in the contestable market segment of the NEM;
- excessive regulation eating into the efficiency gains from the reforms;
- implementation of the reforms being too rapid in some regional areas; and
- possible elimination of single phase electricity in some rural areas as a result of regulatory dictate.

IMPACTS OF THE REFORMS

The electricity reforms have already delivered significant benefits to Australia as a whole, including cost efficiencies which have allowed for reductions in usage charges. Many users in country Australia, particularly large business users, have benefited from large price reductions, although smaller users in some areas have experienced price increases. Reductions in over-staffing of the supply sector have had a similarly large impact on both metropolitan and regional areas, while the rationalisation of maintenance depots has caused some regional centres to gain additional jobs at the expense of those in small towns.

Between 1991–92 and 1996–97, average real prices to all customers fell significantly in New South Wales, Queensland, Western Australia and South Australia. In Tasmania and the Australian Capital Territory, prices initially rose, then fell to levels below those in 1991–92. Business price reductions exceeded residential reductions by 24% in South Australia, 13% in New South Wales, 12% in Queensland and 6% in the Australian Capital Territory. However, in Western Australia and Tasmania, residential prices fell almost 8% more than business prices, while in the Northern Territory, price reductions for the two groups were similar. In Queensland, wholesale prices were reported to have fallen by approximately 23% since its internal competitive electricity market commenced.

Declining operating costs in public utilities underlie most of these price reductions. The NCP requirement for independent price regulation has helped to ensure that cost reductions have been passed on to users. Price regulation has also facilitated a realignment of prices across user groups, leading to larger price falls for commercial users in most jurisdictions.

The NEM has intensified price competition, with progressively more business users being able to choose their electricity supplier. Recent studies (Deloitte Touche Tohmatsu 1998 and ACM 1998) indicated that electricity bills for New South Wales and Victorian businesses which have been able to select their own supplier, have on average, fallen by 25–30%. However, in some regional areas, tariffs have increased and in others the savings in usage charges have been offset by higher connection charges, in particular where a full cost recovery policy on asset works for new connections has been adopted. In some cases, this could result in prohibitive upfront costs for new industries and thus could have a significant impact on economic development.

Access to the NEM appears to have been a major contributor to the price benefits already received by mining companies, larger local governments and agriculture-based firms located in regional Australia.

Service quality has become an important source of competitive advantage for electricity suppliers. Two measures of service quality commonly used are the 'average loss of supply per customer' and the 'average outage duration'. Anecdotal evidence in regard to these measures suggests that in some regional areas price benefits from the electricity reforms have been at the expense of lower service quality.

IMPACTS OF THE REFORMS *continued*

As a result of State governments addressing the over-staffing of their electricity utilities, employment in the electricity supply industry fell from over 80,000 in 1985 to approximately 37,000 in 1997. Increased competition, providing incentives for outsourcing of non-core activities, the centralisation of services and the implementation of new technologies, has seen this trend continue. Proportionally, the loss of labour in regional areas is little different to that in urban areas, while in absolute terms, employment losses in urban areas have been higher than in regional areas. Moreover, while the reforms have resulted in the closure of service outlets in some small communities, employment in larger centres which have become 'regional headquarters' has increased. As electricity consumption has increased over this period, labour productivity has improved substantially and has created scope for reductions in costs and prices in regional and urban areas alike.

SUMMARY

The primary benefit of the electricity reforms for Australia as a whole has been the significant reductions in average usage charges, most of which have, to date, accrued to the business sector rather than domestic users. Over time, small businesses and the residential sector are expected to benefit both directly as the contestable market area expands, and indirectly, as cost reductions are passed on to consumers.

ACKNOWLEDGMENT AND INTERNET CONTACTS

The ABS gratefully acknowledges the provision of the information on pages 27–31 by the Productivity Commission. Further general industry data is available from the Electricity Supply Association (ESAA) (<http://www.ozemail.com.au/~esaamelb>). The National Electricity Code is available at the sites of the National Electricity Code Administrator (NECA) and the National Electricity Market Management Company (NEMMCO) (<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>).

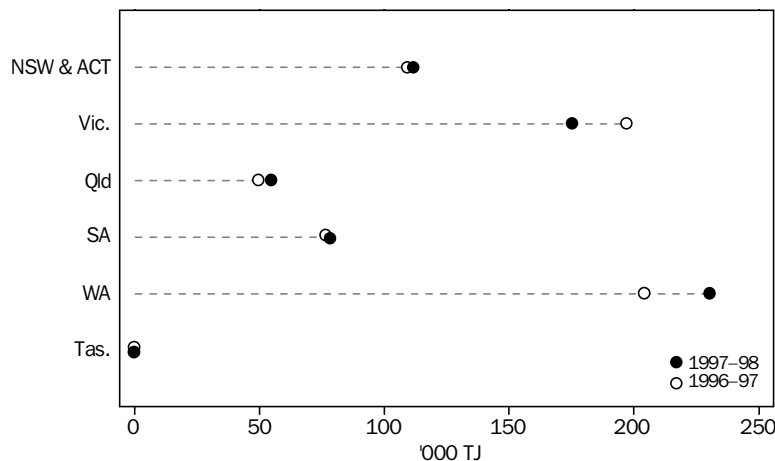
INTRODUCTION

Until relatively recently the Australian gas supply 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 cogeneration. Further information on reforms in the gas industry is contained in the Special Article at the end of this chapter.

Output

In 1997-98, 650,216 TJ of gas was available for issue through mains compared with 636,658 TJ in 1996-97. The amount of gas available rose in all States except Victoria and Tasmania, with the largest increases being in Western Australia (up 13% or 25,944 TJ) and Queensland (up 11% or 5,289 TJ). The increases in these two States resulted from additional providers increasing the supplies available. The amount of gas available in Victoria fell by 11% (21,989 TJ) compared with 1996-97, however, gas demand was higher than usual in 1996-97 due to a particularly cold September quarter. Mains gas ceased to be available in Tasmania in 1997-98.

GAS AVAILABLE FOR ISSUE THROUGH MAINS



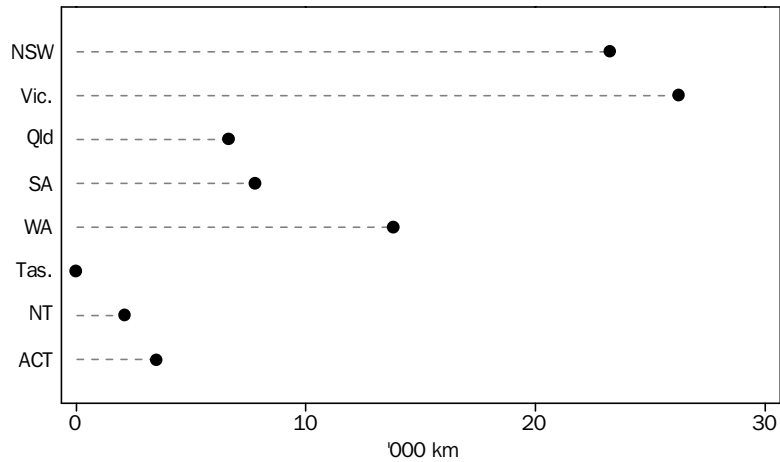
Source: ABS (unpub.).a.

Reticulation

The length of reticulation and transmission lines laid in 1997-98 was 1,898 km, 24% less than in 1996-97.

The national natural gas and reticulation system extended to 83,362 km at June 1998. Victoria and New South Wales had the largest networks with 31% and 28% of the total length of lines, respectively.

RETICULATION AND TRANSMISSION MAINS IN USE

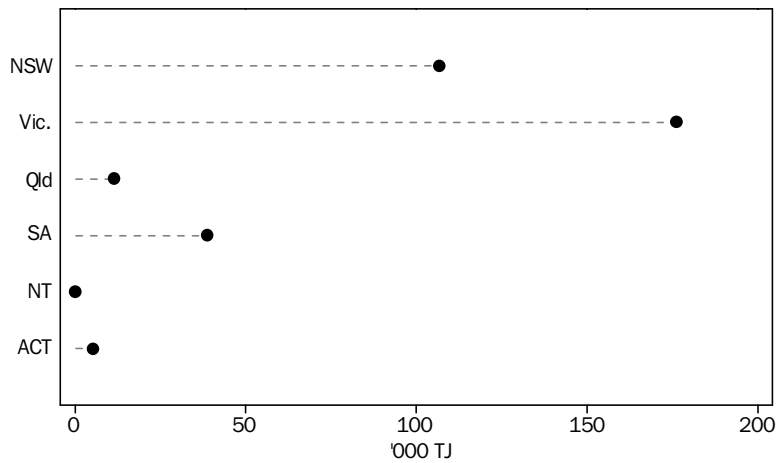


Source: AGA 1999.

Consumption

The total amount of gas sold via utilities (as distinct from direct sales for public electricity generation and some industrial uses) in 1997–98 was 338,414 TJ. Victoria recorded the highest level of sales, with 52% of the total, followed by New South Wales with 32% (figures for Western Australia were not available).

UTILITY SALES(a)



(a) Figures unavailable for Western Australia.

(b) Estimated by the AGA.

Source: AGA 1999.

At the State level, the Australian Capital Territory recorded the highest residential consumption of gas per person, with 9.6 GJ per person followed by South Australia with 5.1 GJ (figures for Victoria and Western Australia were not available).

MANAGEMENT UNIT PERFORMANCE MEASURES

As with the electricity supply industry, reform of the gas supply industry to allow increased competition has been evolving over the past few years. The new gas industry environment has resulted from the separation of gas transmission, distribution and retail businesses combined with the disaggregation and sale of vertically integrated State-owned utilities. This has provided the opportunity for other gas suppliers to enter the market. For further detail on industry restructuring refer to the Special Article at the end of this chapter. Caution should be used in comparisons of data over time.

SUMMARY DETAILS

	1995-96	1996-97	1997-98
Management units at 30 June (no.)	14	10	18
Employment at 30 June (no.)	4 958	4 200	2 738
Wages and salaries (\$m)	287	277	152
Turnover (\$m)	2 748	2 757	4 285
Industry value added (new)(a) (\$m)	n.a.	n.a.	1 156
Industry gross product (old)(a) (\$m)	864	935	1 140
Net capital expenditure (\$m)	220	178	254

(a) See paragraph 21 of the Explanatory Notes and the Glossary details for explanation of differences between Industry value added and Industry gross product.

Source: ABS (unpub.)b.

Restructuring and privatisation are the major issues affecting data for business units in the gas supply industry in 1997-98. The most obvious impact of these changes is an increase in the number of management units, which overall has risen from 10 to 18 as a result of the disaggregation of activities which were previously carried out under one umbrella by State-owned utilities. For example, in Victoria, Gascor split into 10 units during the 1997-98 financial year. In some instances disaggregation has also affected industry classification and has therefore affected data for 1997-98 as units have moved out of the gas supply industry. One obvious effect is a drop in the number of employees. For example, construction, repair and maintenance of gas mains are separately classified to non-building construction n.e.c., while the operation of pipelines for the transport of gas on a fee or contract basis is included in pipeline transport, and the retailing of household gas appliances is classified to domestic appliance retailing, none of which are in the scope of the Collection of Gas Operations.

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 Australian Bureau of Statistics (ABS) maintains confidentiality of the data provided to it, and is unable to release such detailed information.

Employment and wages and salaries

Employment and wages and salaries have been affected by the changes outlined above, with employment continuing to decline. In 1997–98 employment in the gas supply industry dropped 35% compared with 1996–97 (down 1,462 persons to 2,738). Wages and salaries also decreased, down 45% from \$277m to \$152m. Most of the fall was due to restructuring, with units that were previously part of the Gas supply industry (ANZSIC 3620) now reclassified, thereby reducing the number of employees and the amount of wages and salaries being paid in the gas supply industry. However, some genuine redundancies have also occurred.

Income and Expenditure

In 1997–98 sales of goods and services in the gas supply industry rose by 57% (\$1.5b) from \$2.7b to \$4.2b. This increase was mainly due to the changes occurring with restructuring and privatisation which have seen companies devolve their functions under new entities. Some of the new entities are now solely responsible for the distribution of gas through the gas networks or for selling the gas on a contract or commission basis. They predominantly receive transmission income or commission income for sales as their source of revenue from the gas suppliers, while transmission expenses contribute to increased expenses. This has resulted in an increase in income and expenditure within the industry as a whole. Previously, units responsible for the manufacture and supply of gas were also responsible for its distribution and retailing and any income or costs involved with these functions were absorbed within the one company's accounts. Increased transmission and distribution income and service income account for almost all of the rise in the sales of goods and services in 1997–98.

The increase in sales was offset by increases in purchases and selected expenses, which rose by \$1.3b (72%) from \$1.8b to \$3.1b. As a result the overall increase in trading profit for 1997–98 was \$211m (23%). The increase in purchases and selected expenses has predominantly been the result of the external transmission expenses which are now being paid (included in freight and cartage), and sales commission expenses (included in payment for contract, sub-contract and commission work) paid to gas retailing and wholesaling businesses. Freight and cartage expenses increased from \$85m to \$853m (907%) in 1997–98 while payments for contract work increased by \$666m (601%), from \$111m to \$776m.

Operating profit before tax (OPBT) increased from \$39m in 1996–97 to \$660m in 1997–98. It was abnormally low in 1996–97 after a one-off payment made by Gas and Fuel Victoria as settlement of a dispute with Bass Strait gas producers Esso/BHPP over Petroleum Resource Rent Tax. However, OPBT was still significantly higher for 1997–98 compared with 1995–96, when it was \$314m. The rise in OPBT reflects the increase in trading profit (partly as a result of the increase in sales and service income), the increase in other income and the reduction in selected labour costs. Earnings before interest and tax (EBIT) increased from \$257m to \$889m, for the same reasons as explained for OPBT.

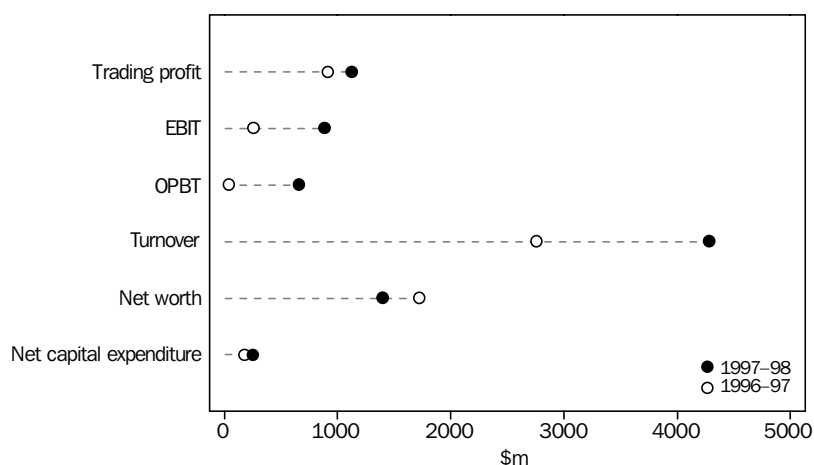
Assets and liabilities

Restructuring has resulted in variations in the way assets are valued, the level of liability of businesses and in some cases the sale of assets. Companies which are buying into the gas supply industry are bringing in their own assets and liabilities, contributing an additional rise in these two items. In 1997–98 other current assets rose by \$886m to \$1.5b (137%) and current liabilities increased by \$1.2b to \$1.8b (183%), while non-current assets rose by \$792m to \$4.5b (21%) and non-current liabilities by \$810m to \$2.9b (39%). In 1997–98 net worth fell by 19% (\$322m) to \$1.4b.

Net capital expenditure

In 1997–98 net capital expenditure increased 43% (\$76m) compared with 1996–97. The main factor contributing to this was the increase in capital expenditure on dwellings, other buildings and structures, which rose by 69% (\$86m).

SELECTED INDICATORS



Source: ABS (unpub.)b.

Performance measures

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 for the gas industry. While these are a very useful way of presenting summaries of performance, users of these statistics should note the limitations referred to in paragraphs 22–27 of the Explanatory Notes before making any judgments 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 1997–98 were:

- trading profit margin decreased from 34% to 27%;
- return on funds increased from 7% to 21%;
- return on assets increased from 1% to 11%;
- debt to assets increased from 62% to 77%; and
- acquisitions to disposals ratio increased from 8.7 times to 30.8 times.

ESTABLISHMENT PERFORMANCE MEASURES

The changes outlined for data at management unit level are mirrored in the data at establishment level. The number of units has increased from 14 to 23, mainly due to restructuring.

SUMMARY DETAILS

	1995-96	1996-97	1997-98
Establishments at 30 June (no.)	17	14	23
Employment at 30 June (no.)	5 482	4 784	3 281
Wages and salaries (\$m)	280	299	171
Turnover (\$m)	2 884	2 942	4 301
Value added (\$m)	1 454	1 483	1 508

Source: ABS (unpub.)b.

Employment, wages and salaries

Employment in the gas supply industry at establishment level at 30 June 1998 was down by 31% (1,503 persons) to 3,281 persons. Wages and salaries also fell, by 43% (\$128m) to \$171m. These decreases are mainly due to establishments being reclassified to industries other than gas supply, as a result of the restructuring in the industry. The number of employees on new construction dropped from 695 to 90. With restructuring they have now been reclassified, mainly to construction industries.

Income and expenditure

Turnover in the gas supply industry in 1997-98 increased by 46%, from \$2.9b to \$4.3b. The main contributor to this was the increase in service income, which rose from \$39m to \$1.5b, again mainly due to the effects of industry reforms (see explanations given for management unit performance). Payments for commission work (to those companies now involved in the retail sale of gas) have increased and transmission expenses are now being recorded by those companies involved in the distribution of gas.

3.1 GAS AVAILABLE FOR ISSUE THROUGH MAINS(a)

Period	NSW & ACT	Vic.	Qld	SA	WA	Tas.	NT	Aust.
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
1993–94	97 318	196 100	31 055	89 382	172 432	56	—	586 343
1994–95	104 881	223 269	33 372	86 121	181 710	52	—	629 405
1995–96	104 141	220 928	32 947	76 175	186 658	41	—	620 890
1996–97	109 284	197 078	49 532	76 495	204 257	12	—	636 658
1997–98	111 665	175 089	54 821	78 440	230 201	—	—	650 216

(a) Gas (including natural gas) available for issue through mains. From September quarter 1996, includes gas production for distribution via natural gas pipelines which service a single user.

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

3.2 NATURAL GAS, Reticulation and Transmission Mains Laid

Period	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	km	km	km	km	km	km	km	km	km
1993–94	1 313	353	168	191	298	—	4	132	2 459
1994–95	966	433	359	248	195	—	327	118	2 646
1995–96	801	271	866	46	850	—	28	197	3 059
1996–97	341	522	479	38	1 048	—	23	33	2 484
1997–98	723	450	260	50	362	—	16	37	1 898

Source: AGA 1999.

3.3 NATURAL GAS, Mains Laid and Mains in Use—At 30 June 1998

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Items	km	km	km	km	km	km	km	km	km
Construction: mains laid(a)									
Reticulation mains									
Low and medium pressure	560	23	76	(b)-99	172	—	—	n.a.	732
High pressure	75	412	22	148	88	—	8	n.a.	753
Transmission—high pressure	88	15	162	1	102	—	8	n.a.	376
<i>Total</i>	723	450	260	50	362	—	16	37	1 898
Total pipeline network(a)									
Reticulation mains									
Low and medium pressure	19 625	9 254	3 893	4 469	9 395	—	—	3 439	50 075
High pressure	1 465	14 736	97	2 083	730	—	60	—	19 171
Transmission—high pressure	2 160	2 259	2 669	1 258	3 691	—	2 029	50	14 116
<i>Total</i>	23 250	26 249	6 659	7 810	13 816	—	2 089	3 489	83 362

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

Reticulation—high pressure > 200 kPa

Transmission—high pressure > 3500 kPa

(b) Removal of mains resulted in net reduction.

Source: AGA 1999.

3.4 NATURAL GAS PRODUCTION AND SALES

Items	NSW(a)	Vic.(a)	Qld	SA	WA	NT	ACT	Aust.
	PJ	PJ	PJ	PJ	PJ	PJ	PJ	PJ
Wellhead production	—	293.8	89.9	159.7	963.8	18.4	—	1 525.6
Use in production(b)	—	35.8	3.1	4.2	77.1	0.1	—	120.2
Reinjected or stored	—	60.7	3.5	-5.5	231.2	—	—	289.9
Net production	—	197.3	83.3	161.0	655.5	18.3	—	1 115.4
LNG exports	—	—	—	—	419.2	—	—	419.2
Net interstate transfer	106.7	—	-31.0	-80.7	—	—	5.3	—
Transmission and reticulation uses, unaccounted for gas and statistical discrepancy(c)	-0.1	6.8	0.6	2.5	1.0	-3.3	0.1	7.7
Available to end users	106.7	190.5	51.7	77.8	235.3	21.6	5.2	688.8
Utility sales								
Residential	16.6	n.p.	1.5	7.7	(d)n.p.	(e)—	2.9	(f)(g)28.7
Commercial and industrial	90.0	n.p.	9.9	31.2	(d)n.p.	(h)0.1	2.2	(f)(g)133.4
<i>Total</i>	<i>106.7</i>	<i>176.3</i>	<i>11.4</i>	<i>38.8</i>	<i>(d)n.p.</i>	<i>(h)0.1</i>	<i>5.2</i>	<i>(g)338.4</i>
Direct sales								
Public electricity generation	—	3.1	1.6	39.0	43.8	17.0	—	104.5
Other industrial	—	11.1	38.7	—	191.5	4.5	—	245.8
<i>Total</i>	<i>—</i>	<i>14.2</i>	<i>40.3</i>	<i>39.0</i>	<i>235.3</i>	<i>21.5</i>	<i>—</i>	<i>350.3</i>
Total sales	106.7	190.5	51.7	77.8	235.3	21.6	5.2	688.8

(a) Figures for Albury, New South Wales were included in 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.

(d) All utility sales volumes for Western Australia were included with direct sales to 'Other industrial'. Of total utility sales in Western Australia, 14% were to residential customers and 86% to commercial and industrial customers.

(e) Less than 50 TJ.

(f) Excludes Victoria.

(g) Excludes Western Australia.

(h) Excludes industrial customers in the Northern Territory.

Source: AGA 1999.

3.5 UTILITY NATURAL GAS OPERATIONS

Items	NSW(a)	Vic.(a)	Qld	SA	WA	Tas.	NT	ACT	Aust.
SALES									
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
Residential	16 610	n.p.	1 495	7 653	n.p.	—	5	2 949	(b)(c)28 712
Commercial and industrial	90 042	n.p.	9 912	31 157	n.p.	—	(d)79	2 232	(b)(c)(d)133 422
Total	106 652	176 280	11 407	38 810	n.p.	—	(d)84	5 181	(c)(d)338 414
CUSTOMERS									
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Residential	728 512	(e)1 384 133	128 936	316 895	388 804	—	404	63 139	3 010 823
Commercial and industrial	25 672	(e)37 486	5 890	8 202	7 522	—	(d)76	1 623	(d)86 471
Total	754 184	(e)1 421 619	134 826	325 097	396 326	—	(d)480	64 762	(d)3 097 294
REVENUE									
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Residential	227.9	(e)860.0	n.p.	n.a.	n.p.	—	—	34.3	n.a.
Commercial and industrial	494.0	(e)315.5	n.p.	n.a.	n.p.	—	(d)1.0	21.0	n.a.
Total	722.0	(e)1 175.2	n.p.	n.a.	316.4	—	(d)1.1	55.3	(d)(f)2 269.1
AVERAGE GAS SALES PER CUSTOMER									
	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ	GJ
Residential	23	n.p.	12	24	n.p.	—	12	47	(b)(c)23
Commercial and industrial	3 507	n.p.	1 683	3 799	n.p.	—	(d)1 039	1 375	(b)(c)(d)3 218
All	141	(e)124	85	119	n.p.	—	(d)175	80	(c)(d)125
AVERAGE REVENUE PER CUSTOMER									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Residential	313	(e)621	n.p.	n.a.	n.p.	—	230	544	n.a.
Commercial and industrial	19 243	(e)8 416	n.p.	n.a.	n.p.	—	(d)13 487	12 937	n.a.
All	957	(e)827	n.p.	n.a.	798	—	(d)2 329	854	(d)(f)733
AVERAGE REVENUE PER UNIT OF SALES									
	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ
Residential	13.72	n.p.	n.p.	n.a.	n.p.	—	18.60	11.64	(g)9.48
Commercial and industrial	5.49	n.p.	n.p.	n.a.	n.p.	—	(d)12.97	9.41	(d)(g)4.88
All	6.77	(e)6.67	n.p.	n.a.	n.p.	—	(d)13.31	10.68	(d)(g)6.46

(a) Sales in Albury, New South Wales were included in Victoria.

(b) Excludes Victoria.

(c) Excludes Western Australia.

(d) Excludes industrial customers in the Northern Territory.

(e) Estimated by AGA.

(f) Excludes Queensland and South Australia.

(g) Excludes South Australia and calculated from all available data which includes that shown as n.p. in the table.

Source: AGA 1999.

3.6 NATURAL 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	2.6	n.p.	0.4	5.1	n.p.	—	0.3	9.6	n.p.

Source: Compiled from data supplied in ABS 1998 and AGA 1999.

3.7 MANAGEMENT UNITS(a), Employment and Labour Ratios—At 30 June

Items	1997	1998
Management units (no.)	10	18
Employment (no.)	4 200	2 738
Persons employed per management unit (no.)	420.0	152.1
Labour ratios		
Profit to employment (\$'000/employee)	9.3	241.0
Industry value added		
To employment (\$'000/employee)	n.a.	422.2
To selected labour costs (times)	n.a.	6.9
Selected labour costs		
To employment (\$'000/employee)	72.4	61.1

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

Source: ABS (unpub.)b.

3.8 MANAGEMENT UNITS(a), Income and Expenditure

	1996-97	1997-98
Items	\$m	\$m
Sales of goods and services(b)	2 685.1	4 206.9
<i>Less</i>		
Purchases of goods and materials	1 075.5	1 072.3
Rent, leasing and hiring expenses	44.3	33.8
Freight and cartage expenses	84.7	853.1
Motor vehicle expenses	12.1	8.6
Repair and maintenance expenses	5.6	14.5
Payment for contract, subcontract and commission work	110.7	776.2
Other selected expenses	485.8	374.0
<i>Purchases and selected expenses</i>	<i>1 818.7</i>	<i>3 132.5</i>
<i>Plus</i>		
Opening inventories	35.5	24.7
<i>Less</i>		
Closing inventories	29.7	11.1
<i>Cost of sales</i>	<i>1 824.5</i>	<i>3 146.1</i>
<i>Plus</i>		
Capitalised purchases	54.6	65.8
Trading profit	915.2	1 126.6
<i>Plus</i>		
Government subsidies	6.6	4.8
Interest income	4.7	17.7
Other income	-195.5	128.8
<i>Less</i>		
Wages and salaries	276.5	151.8
Superannuation	23.7	13.4
Workers' compensation	3.8	2.1
<i>Selected labour costs</i>	<i>304.0</i>	<i>167.3</i>
<i>Less</i>		
Depreciation	166.7	215.3
Insurance premiums	4.4	4.2
Royalties expenses	—	—
Bad debts	9.0	9.1
<i>Plus</i>		
Capitalised wages and salaries	10.1	7.2
Earnings before interest and tax	257.0	889.2
<i>Less</i>		
Interest expenses	217.9	229.4
Operating profit before tax	39.1	659.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

(b) Includes rent, leasing and hiring income.

Source: ABS (unpub.)b.

3.9 MANAGEMENT UNITS(a), Industry Value Added

	1996-97	1997-98
Items	\$m	\$m
Sales of goods and services(b)	2 685.1	4 206.9
Government subsidies	6.6	4.8
Capital work done for own use	64.8	73.1
Turnover	2 756.5	4 284.8
<i>Plus</i>		
Closing inventories	29.7	11.1
<i>Less</i>		
Opening inventories	35.5	24.7
<i>Less</i>		
Capitalised purchases	54.6	65.8
<i>Less</i>		
Intermediate input expenses	n.a.	3 049.5
Industry value added	n.a.	1 155.9

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

(b) Includes rent, leasing and hiring income.

Source: ABS (unpub.)b.

3.10 MANAGEMENT UNITS(a), Assets and Liabilities

	1996-97	1997-98
Items	\$m	\$m
Assets		
Current assets		
Closing inventories	29.7	11.1
Other current assets	646.3	1 532.3
Non-current assets	3 747.8	4 539.4
<i>Total</i>	4 423.8	6 082.8
Liabilities		
Current liabilities	638.7	1 810.2
Non-current liabilities	2 062.2	2 872.0
<i>Total</i>	2 700.9	4 682.2
Net worth	1 722.9	1 400.6

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

Source: ABS (unpub.)b.

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

Items	1996-97 \$m	1997-98 \$m
Capital expenditure on		
Land	1.0	0.2
Dwellings, other buildings and structures	123.4	209.1
Plant, machinery and equipment	76.1	53.0
<i>Total acquisitions</i>	<i>200.5</i>	<i>262.3</i>
Disposal of assets	23.0	8.5
Net capital expenditure	177.5	253.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

(b) Includes capital work done for own use.

Source: ABS (unpub.)b.

3.12 MANAGEMENT UNITS(a)(b), Selected Performance Measures

Items	1996-97	1997-98
Turnover		
Asset turnover (times)	0.6	0.7
Profitability		
Trading profit margin (%)	34.1	26.8
Return on funds (%)	6.8	20.8
Return on assets (%)	0.9	10.9
Liquidity		
Liquidity ratio (times)	1.0	0.8
Current ratio (times)	1.1	0.9
Debt		
Interest coverage ratio (times)	1.2	3.9
Debt to assets (%)	61.5	77.1
Capital expenditure		
Acquisitions to disposals ratio (times)	8.7	30.8
Net capital expenditure to assets (%)	4.0	4.2

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

(b) For 'labour ratios' see table 3.7.

Source: ABS (unpub.)b.

3.13 ESTABLISHMENT LEVEL(a), Employment and Labour Ratios—At 30 June

<i>Items</i>	1997	1998
Establishments(b) (no.)	14	23
Employment		
Males (no.)	3 544	2 424
Females (no.)	1 240	857
Persons (no.)	4 784	3 281
Persons employed per establishment (no.)	341.7	142.7
Employees engaged on new construction (no.)	695	90
Wages and salaries		
All employees (\$m)	299.1	171.0
Employees engaged on new construction (\$m)	23.1	4.0

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Number of gas establishments operating at 30 June 1998 for the States and Territories were:
 New South Wales—4; Victoria—7; Queensland—6; South Australia—2;
 Western Australia—1; Tasmania—0; Northern Territory—1;
 Australian Capital Territory—2.

Source: ABS (unpub.)b.

3.14 ESTABLISHMENT LEVEL(a), Income and Expenditure

Items	1996-97	1997-98
	\$m	\$m
Sales of gas and gas by-products(b)	2 709.3	2 750.6
Sales of electricity(b)	—	4.6
Sales of other goods(b)	115.0	47.7
Service income(c)	38.7	1 474.7
Government subsidies	6.6	4.8
Capital work done for own use	71.9	18.4
Turnover	2 941.5	4 300.8
<i>Plus</i>		
Closing inventories	37.3	18.7
<i>Less</i>		
Opening inventories	43.3	33.3
<i>Less</i>		
Purchases		
Materials, components, containers etc.(d)	84.6	30.9
Fuels	0.1	0.4
Electricity	3.3	4.8
Gas	990.5	1 012.1
Goods for resale(d)	97.9	42.8
Rent, leasing and hiring expenses	45.8	39.1
Freight and cartage expenses	88.4	840.1
Motor vehicle expenses	13.6	9.9
Repair and maintenance expenses	5.7	7.5
Payment for contract, subcontract and commission work	123.1	790.8
<i>Purchases and selected expenses</i>	<i>1 453.0</i>	<i>2 778.4</i>
Value added	1 482.5	1 507.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 14-19.

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

(c) Includes rent, leasing and hiring income.

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

Source: ABS (unpub.)b.

SPECIAL ARTICLE — GAS INDUSTRY REFORMS IN AUSTRALIA

INTRODUCTION

The information in this section has been drawn from the Productivity Commission's Draft Report on the *Impact of Competition Policy Reforms on Rural and Regional Australia*, May 1999. For more information refer to paragraph 13 of the Explanatory Notes for contact details.

BACKGROUND

Natural gas accounts for 18% of Australia's primary energy consumption (energy obtained directly from nature) and is expected to account for around 28% by 2010. It is an important business input and alternative energy source to oil and coal. Major industrial users include the metals, chemicals, glass, brick, cement and electricity generation industries. In addition it is used by almost three million households, primarily in Victoria and New South Wales.

Until recently, the industry was largely State-based, State-regulated and primarily composed of vertically integrated State-owned utilities. In addition, legislation in some States restricted the flow of natural gas both within and between States. These restrictions were generally intended to avoid the risk of future gas shortages, or to ensure that gas was available to underpin industrial development within a State.

Competition in the gas industry was limited because of the dominance of a few producers, the existence of monopoly suppliers, the absence of interconnections between systems and a lack of third party access to gas pipelines. This resulted in costs and prices being well above efficient levels and a lack of investment incentives.

Initiatives such as the attempted privatisation of the Moomba–Sydney pipeline and the removal of the State Energy Commission of Western Australia's monopoly over gas supply, marked the beginnings of the reform process in the late 1980s.

In 1991, a Commonwealth Government strategy paper (DPIE 1991) focussed on the development of free and fair trade and an integrated national pipeline grid, as well as the introduction of access to pipelines on commercially non-discriminating terms.

Subsequent Council of Australian Governments (CoAG) agreements established the following reforms, which were then included in the 1995 National Competition Policy (NCP):

- the removal of all legislative and regulatory constraints to free and fair trade in gas;
- the introduction of a uniform framework for access to gas transmission pipelines;
- the corporatisation of the remaining government owned utilities;
- the structural separation ('ring fencing') of publicly and privately owned vertically integrated transmission and distribution activities; and
- the reform of gas franchise arrangements.

PROGRESS OF THE REFORMS

Since 1995 gas reforms have progressed in three key areas:

- the development of a national access regime—the legislation giving effect to the National Access Code prepared by the Gas Reform Task Force, has been passed in all jurisdictions and all jurisdictions have submitted applications to the National Competition Council for certification of their access regimes;
- the removal of legislative and regulatory barriers to competition—while the original July 1996 deadline for their complete removal was not met, the States and Territories have made significant progress toward removing their legislative and regulatory barriers to free and fair trade. For example, the Western Australian Government is seeking expressions of interest for a second pipeline to be constructed along the western seaboard without any legislative or regulatory barriers, and the South Australian Government has identified a number of instances where the costs of restrictions on competition for the supply of Cooper Basin reserves exceed the benefits; and
- the structural reform of gas facilities and utilities—for instance the Moomba–Adelaide pipeline, the State Gas Pipeline in Queensland and the Dampier–Bunbury transmission pipeline have been privatised, while all government owned gas utilities have been corporatised, sold or prepared for privatisation. Private sector gas utilities in jurisdictions other than South Australia and the Northern Territory have completed 'ring fencing' of their transmission and distribution activities.

There is a fairly widespread perception that gas reforms will generate benefits that significantly outweigh any associated costs, including in regional Australia. However, there are some concerns that the benefits could be reduced by;

- regulatory uncertainty and discretion in the application of the National Gas Access Code, which may add to compliance costs;
- setting the cap on the real rate of return at 7.75% for Victorian gas distributors, which may provide insufficient incentive to improve service quality or increase investment in gas networks; and
- excessive delays in pipeline approval procedures at the State level.

IMPACTS OF THE REFORMS

The reforms are providing significant benefits to many parts of Australia. In urban areas, there have been price reductions, particularly for businesses, and improvements in service quality. In regional areas, the primary benefit has been the stimulus provided to the extension of the gas network and the associated business opportunities.

IMPACTS OF THE REFORMS *continued*

Well over 100 main cities and towns across Australia have been connected to natural gas since 1990. Those areas which have recently gained or should in future gain access to natural gas include:

- the Murray Valley area between Chiltern in Victoria and Deniliquin in New South Wales;
- Mildura and surrounding areas;
- the Bellarine Peninsula to the south of Melbourne;
- Yandina, Nambour, Gympie and Noosa in Queensland; and
- Kalgoorlie–Boulder, Mandurah, Busselton and the northern goldfields (Leonora) in Western Australia.

Improved access to natural gas in country Australia has created opportunities for new activities such as electricity cogeneration and has enabled existing businesses and some households to substitute gas for other energy sources such as electricity and diesel fuels which, in remote areas, are inherently less economic than gas.

In its submission to the Productivity Commission, the Australian Gas Association (AGA) stated that 'natural gas allows enterprises in regional Australia to compete more effectively with businesses located in major urban areas, encouraging the decentralisation of production and distribution' and that the new pipeline proposals, totalling 11,000 kilometres which are currently under consideration, will 'have strong positive regional effects. The pipeline projects identified by the AGA entail investment of around \$6b over the next several years'.

In aggregate terms, real usage charges have fallen, particularly for business users, who have benefited from the re-balancing of charges between businesses and households, and improvements in service delivery. Households have benefited where cost savings from efficiency gains have outweighed the price-raising effects of the re-balancing of charges. For example, NUS International (NUS 1999) reported that gas prices for industrial and residential users fell by an average of 22% Australia-wide between 1994 and 1998. In Western Australia, usage charges for residential users fell by 9% in real terms between 1991–92 and 1996–97, while charges for business users (excluding contracts negotiated by major industrial users) fell by more than 10% over the same period.

In country regions previously connected to the gas network, price reductions have also been evident for industrial and commercial users. For example, in the Pilbara region, usage charges for most large industrial users have fallen since 1995 by more than 50%. In Queensland, as a result of the sale of the State Gas Pipeline, which runs from Wallumbilla to Gladstone, Queensland Alumina Limited reported that 'its gas transportation tariff immediately reduced by around 25% and the tariff pricing principles provide for further incentive pricing as pipeline throughput increases' (Industry Commission 1998). It is expected that State Government approval of access arrangements and licences to build pipelines linking the south west Queensland gas fields with existing markets in south east and central Queensland will further reduce prices.

IMPACTS OF THE REFORMS *continued*

The combined impact of better access and lower prices on the competitiveness of user industries and the investment climate can be seen, for example, in the Pilbara and Goldfields regions in Western Australia. Price falls of more than 50% have encouraged large investments, particularly in the construction of the Pilbara–Goldfields gas pipeline and associated infrastructure, and has enabled reticulation of gas in Kalgoorlie. Access to cheaper energy for mineral production has also cut production costs and provided stimulus to new investment, from the iron ore regions in the north-west to the nickel and gold belt to the north of Kalgoorlie. In the Riverina area of New South Wales, access to natural gas in 1993 increased employment and activity in existing industries, and assisted the establishment of new industries, with many relocating to take advantage of the cheaper energy.

Aggregate reductions in gas prices in the 1990s have been underpinned by strong productivity gains, which have been brought about particularly by the open access arrangements for pipelines and the introduction of competition into some gas markets. The number of customers per employee has more than doubled between 1992 and 1997 and real 'controllable' costs have declined by more than 40%. It is expected that competition pressures, and thus the likelihood of lower prices and/or better services, will increase when all gas markets become fully contestable in July 2002.

The importance of service quality was highlighted by the recent failure of the Longford gas plant. There is some evidence of service quality improvements in Victoria, where, for example, the proportion of calls for assistance answered within 20 seconds increased from 64% to 84% between 1991–92 and 1996–97. Similarly, in Western Australia, AlintaGas' response rate also rose over the same period, while the number of unplanned interruptions to gas supply has fallen since 1994–95.

Loss of employment in the gas industry has been the major adverse effect of the reforms. Between 1992 and 1997, six major gas distributors reduced their workforce by more than 40%. However, most of the losses are likely to have been in metropolitan areas and these would have been offset by;

- increased employment by firms providing services to gas suppliers as a result of contracting out by suppliers;
- increased employment resulting from the expansion of the gas network to country areas; and
- higher employment in user industries which have become more competitive as a result of the falls in gas prices.

SUMMARY

While significant price reductions have been apparent in the gas sector, the major benefit for regional Australia has been the acceleration in the extension of the pipeline network into rural Australia and across State borders.

According to the AGA, in some parts of Australia the reforms will facilitate the evolution of specialist energy retailers who will compete vigorously for market share to the continued benefit of users. Improved access to gas services and lower prices could also give rise to environmental benefits, particularly in electricity generation, where gas could be substituted for fossil fuels in large scale generation plants, and from the increased use of gas-fired cogeneration plants.

CHAPTER 4 WATER AND SEWERAGE INDUSTRY

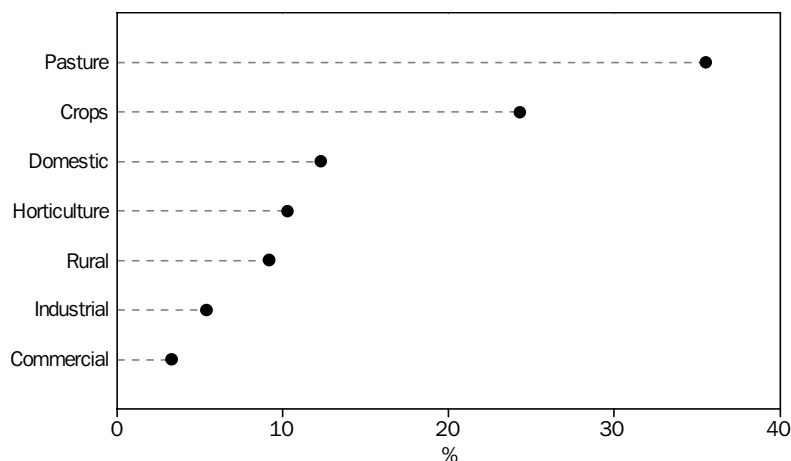
INTRODUCTION

Background information on the Australian water industry and explanation of the reforms which are occurring is contained in the Special Article at the end of this chapter.

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) accounted 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 74% in the area covered by Central Highlands Water in Victoria, to 100% in the area covered by ACTEW Corporation in the Australian Capital Territory (WSAA 1998).

MANAGEMENT UNIT PERFORMANCE MEASURES

The 1997–98 Water and Sewerage Survey collected data at management unit level only (see paragraphs 14–19, 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, wages and salaries

Employment in the Australian water and sewerage industry remained relatively stable in 1997–98, with a decrease of 0.1% (21 persons) compared with 1996–97. However, over the same period there was a 7% increase in wages and salaries (up \$50m to \$772m).

Income and expenditure

Turnover in 1997–98 increased by 1% (\$54m) to \$6.7b, while trading profit decreased by 1% (\$35m) to \$3.5b. Sales were down slightly (\$15m or 0.2%) to \$6.2b and purchases were up 2% (\$50m) to \$2.9b.

There was a decrease of 5% (\$144m) in earnings before interest and tax (EBIT), from \$2.8b to \$2.6b in 1997–98.

In 1997–98 the water and sewerage industry contributed \$3.9b in industry value added.

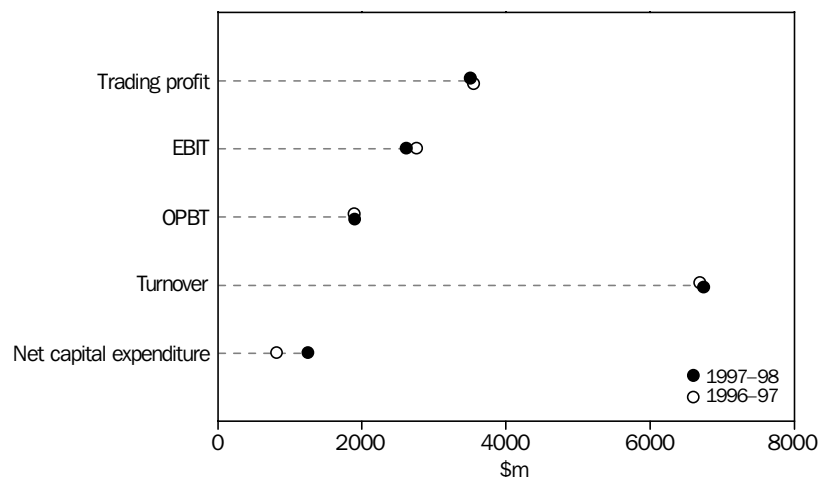
Assets and liabilities

Total assets in the water and sewerage industry rose by 4% (\$1.9b) in 1997–98 to \$49.5b. At the same time, total liabilities fell by 5%, down \$470m to \$8.5b. Net worth therefore rose by 6% (\$2.4b) to \$41.0b.

Net capital expenditure

Acquisitions in 1997–98 totalled \$1.4b, an increase of \$446m (49%) compared with the previous year. Net capital expenditure also rose, by 52% (427m) to \$1.3b.

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—1996–97

State and Territory	AREA IRRIGATED.....				
	Area km ²	Pasture ha	Crops ha	Horticulture ha	Total ha
New South Wales	801 600	346 163	512 137	48 750	907 050
Victoria	227 600	454 734	31 984	59 350	546 068
Queensland	1 727 200	47 748	309 272	46 755	403 775
South Australia	984 000	50 123	13 090	52 265	115 478
Western Australia	2 525 000	10 592	5 106	14 746	30 444
Tasmania	67 800	24 786	9 019	17 934	51 739
Northern Territory	1 346 200	175	252	1 526	1 953
Australian Capital Territory	2 400	42	11	22	75
Australia	7 681 800	934 363	880 871	241 348	2 056 582

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)(b), Summary of Financial Details

Items	1995–96	1996–97	1997–98
Income and expenditure			
Sales of goods and services (\$m)	6 204.2	6 178.4	6 163.3
Purchases and selected expenses (\$m)	2 890.6	2 813.4	2 863.3
Trading profit (\$m)	3 433.2	3 543.9	3 508.9
Selected labour costs (\$m)	969.4	806.0	861.1
Earnings before interest and tax (\$m)	2 338.0	2 764.3	2 620.0
Operating profit before tax (\$m)	1 368.4	1 891.3	1 897.8
Turnover (\$m)	6 449.6	6 688.4	6 742.0
Industry gross product (old)(c) (\$m)	3 539.6	3 886.5	3 883.7
Industry value added (new)(c) (\$m)	n.a.	n.a.	3 892.7
Assets and liabilities			
Total assets	48 469.1	47 573.5	49 516.2
Total liabilities	10 145.9	8 970.9	8 501.3
Net worth	38 323.2	38 602.6	41 014.9
Capital expenditure			
Total acquisitions	993.4	907.9	1 354.2
Net capital expenditure	890.9	824.6	1 251.8

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Excludes data for the Australian Capital Territory and the Northern Territory. See Explanatory Notes paragraph 17.

(c) See paragraph 21 of the Explanatory Notes and the Glossary details for explanation of differences between Industry value added and Industry gross product.

Source: ABS (unpub.)c.

4.6 MANAGEMENT UNITS(a)(b), Employment—At 30 June

Items	1995–96	1996–97	1997–98
Management units (no.)	427	468	549
Employment (no.)	18 474	16 365	16 344
Wages and salaries (\$m)	813	722	772

(a) See Explanatory Notes, 'Statistical units', paragraphs 14–19.

(b) Excludes data for the Australian Capital Territory and the Northern Territory. See Explanatory Notes paragraph 17.

Source: ABS (unpub.)c.

SPECIAL ARTICLE — WATER INDUSTRY REFORMS IN AUSTRALIA

INTRODUCTION

The information in this section has been drawn from the Productivity Commission's Draft Report on the *Impact of Competition Policy Reforms on Rural and Regional Australia*, May 1999. For more information refer to paragraph 13 of the Explanatory Notes for contact details.

BACKGROUND

The water industry in Australia has assets valued at over \$90b in replacement cost terms and it is estimated that \$40b of these assets are in country areas. The irrigation of crops and pastures utilises around 90% of the water supplied to non-metropolitan areas and the provision of water infrastructures has often been used to support regional development in rural and remote Australia.

State laws provide the institutional framework under which water allocation and supply is managed and regulated, principally by public agencies. The Commonwealth Government has a coordinating role through the Council of Australian Governments (CoAG). It is also responsible for environmental issues under international treaties.

Water is scarce in most parts of Australia, but it has often been poorly managed, misused and over-exploited. Reforms to improve pricing structures and the efficiency of service provision commenced in the early 1980s in urban areas. The possibility of adverse social and economic impacts in country areas made change in these areas difficult. In the 1990s, the focus of water management has moved towards improving the economic viability and ecological sustainability of water supply.

In January 1994, the Working Group (1994) which developed the CoAG reforms identified the following problems in the water industry:

- a need to refurbish water assets in rural areas, for which, in general, adequate financial provision had not been made;
- impediments to the transfer of irrigation water from low value broad-acre agriculture to higher value uses in horticulture, crop production and dairying;
- service delivery inefficiencies;
- pricing regimes which often led to over-charging of commercial and industrial users of water services, the over allocation of water (especially for irrigation purposes), environmental degradation and misallocation of investment; and
- a lack of clear definition of the role and responsibilities of government bodies involved in the industry.

Environmental degradation and its associated economic and social costs are particular problems in this sector. Outbreaks of blue-green algae, excessive diversions of natural flows, increasing pollution and rising instream salinity are all taking their toll. Native fish populations, wetlands and streams have been affected. There are salinity problems in many farming areas, such as those in the Murray Darling Basin, and water quality and reliability is at risk in some catchments.

BACKGROUND *continued*

The reform of financial arrangements alone would ignore environmental and social impacts, while over-emphasis on the environment would put the future of rural industries at risk. At the same time, short term exploitation of the resource would undermine the interests of future generations.

In February 1994, the CoAG endorsed a reform framework for the Australian water industry to be implemented progressively through to 2001. The key reforms are:

- *Pricing reform*—consumption based pricing and full cost recovery (including, where practical, a return on the written-down replacement cost of assets); the reduction or elimination of cross-subsidies; and making remaining subsidies transparent—for urban water services by 1998 and rural water supply by 2001;
- *Investment reform*—investment in new rural water supply schemes, or in the extension of existing schemes, to proceed only if an appraisal indicates that it is economically viable and ecologically sustainable;
- *Water trading*—implementation of comprehensive water allocation systems or entitlements, including allocations for the environment, with rights separated from land title, and with trading in allocations or entitlements by 1998 (including interstate trading where feasible);
- *Institutional reform*—the adoption of an integrated water catchment approach, separating the roles of water resource management, standard setting and regulatory enforcement by 1998; and further development of inter-agency performance comparisons.

PROGRESS OF THE REFORMS

Implementation of the CoAG-initiated water reforms is now a formal requirement under the National Competition Policy (NCP). In addition, the coverage of the reforms has been extended to include groundwater supplies (both artesian and sub-artesian) and drinking water quality standards. Subsequent reports on asset valuation, cost recovery, water allocation, groundwater and competitive neutrality issues, have been provided for the Standing Committee on Agriculture and Resource Management and the Agricultural and Resource Management Council of Australia and New Zealand, to provide guidance on specific implementation issues.

For water services supplied to households and businesses in cities and country towns progress in implementing the reforms is well advanced in most States and Territories. Consumption based charging has been progressively introduced and overcharging to commercial and industrial users is being reduced or removed.

PROGRESS OF THE REFORMS *continued*

Institutional reforms have increased the commercial disciplines on, and the accountability of, those entities delivering water and sewerage services. In most jurisdictions, urban water authorities have been corporatised and in some the commercial functions have been separated from policy and regulatory functions. In other jurisdictions, regulatory functions are provided for in legislation. For example, the Office of the Regulator General in Victoria has legislated (non-price) responsibilities with respect to metropolitan Victorian water authorities. Melbourne Water has been broken into four utilities and now acts as the city's water wholesaler, selling to three new companies which in turn retail to customers. The three retailers, Citywest, Southeast and Yarra Valley Water, are corporatised State enterprises but each has outsourced field maintenance to the private sector.

There has also been a significant increase in contracting out by urban water authorities. For example, in 1996, the South Australian Government contracted out the entire management and operation of Adelaide's water supply to United Water.

Similar administrative reforms to improve the efficiency of the authorities delivering bulk water to irrigators have been put in place. Sometimes this has also involved the creation of independent regulatory bodies, such as the Independent Pricing and Regulatory Tribunal of New South Wales, which has legislative responsibility over the pricing of bulk water supplies to rural users.

Progress has been much slower in regard to reform of irrigation pricing, investment appraisal for irrigation projects, environmental water allocations and the trading of water entitlements. In these areas there have been significant differences between States in their interpretation of how and whether the reforms should be implemented. Consequently, jurisdictions are at different stages in, and taking different approaches to, implementing some of the reforms.

A number of concerns have been raised by irrigators regarding the specific content of the rural water reforms and their implementation. They include:

- whether the imposition of both an allowance for depreciation and the payment of an annuity into a sinking fund is an appropriate way to finance infrastructure refurbishment;
- the feasibility, appropriateness and impacts of reflecting transmission losses in irrigation pricing structures;
- that the investment appraisal requirement would seem to virtually preclude investments in some new water infrastructure;
- that water transfers might have significant negative impacts on some communities;
- the lack of secure and clearly specified water property rights and, in the absence of those secure rights, the adverse impact which the activation of sleeper licences (licences which have been issued to persons on land that have access to water, but are not currently using that access) has had on allocations to irrigators under the Murray Darling Basin Commission cap; and
- that the timeframe for implementation is too short given the sensitivity of the reforms, the complexity of their impacts and the need for extensive consultation.

IMPACT OF THE REFORMS

To achieve a more sustainable use of water and more efficient investment in infrastructure, water prices will have to increase for many users. This is in contrast to the electricity and gas sectors where most of the benefits to be gained are in reducing the price of services. As a result of the modest progress in implementing the water reforms, detailed impacts are not yet apparent, again in contrast to the electricity and gas sectors where the reforms are further advanced.

Between 1991–92 and 1996–97, real prices for water services to households and businesses in metropolitan areas fell in New South Wales and Victoria, but rose in other jurisdictions. A study by NUS International (1998) indicated that the realignment of charges to ensure that households pay a more appropriate share of the costs has resulted generally in businesses faring better. The price of water services to commercial users in Sydney and Melbourne fell, on average, by nearly 40% in 1997. In Melbourne, this is primarily due to the restructuring of charges, where the State Government has fully implemented consumption-based pricing and eliminated cross-subsidies between commercial and residential sectors. However, the Victorian Government has indicated that the move to full cost, consumption-based pricing in Melbourne has also resulted in lower bills for 85% of household properties.

Anecdotal information suggests that the pattern of outcomes for water users in country towns may be similar to that in metropolitan areas. For example, the Emerald Shire Council advised that while individual businesses will be better off under the proposed two-part tariff structure to be implemented during 1999, the move away from property-based charges has resulted in higher prices for some domestic users, particularly in large households and those with a lower property value. However, to achieve full cost recovery the Council advised it would need to raise its prices for sewerage by 88% and for water by 41%.

The adverse affects of water pricing reform in country towns in South Australia and Western Australia have been ameliorated to varying degrees by the provision of explicit community service obligations to support the provision of services outside the metropolitan areas at less than full cost. In Victoria, the Hardship Grant Scheme has been extended to rural water users.

Increases in prices for irrigation water have generally been significant as water authorities have sought to implement cost recovery requirements. Also, with the uncertainty surrounding environmental allocations, high security water (being water allocated via a licence for which the entitlement is provided at 100% security, except in exceptional circumstances) in particular, has become more expensive. Anecdotal evidence also indicates that benefits have become evident in some areas in Victoria where water pricing reforms have led to a significant reduction in the irrigation of pasture and an increase in the irrigation of high value horticultural crops. Reforms which facilitate the tradeability of water entitlements will enhance these trends.

IMPACT OF THE REFORMS *continued*

A recent study in the Murray–Darling Basin and the Kerang–Cohuna and the Murrumbidgee Irrigation Area (MIA) districts indicated that higher charges are unlikely to have uniform impacts across agricultural activities or regions. For example, the study found that while an increase in water charges in the MIA in 1995–96 from \$13/ML to \$25/ML, would not have made irrigated rice less profitable than dryland cropping, while in the Kerang–Cohuna region, increasing water charges in 1995–96 from \$17/ML to \$27/ML, would have made irrigated pasture less profitable than dryland pasture.

Institutional reforms in the urban parts of the water sector, and in some rural parts, have improved the efficiency of service delivery. For example, in the wheatbelt area of Western Australia the institutional culture has changed from one of development and service provision to cost efficiency and profit. Reduced costs of service delivery have enabled large price reductions for some users and dampened the level of increase required for others.

As a consequence of these efficiency improvements, there has been a significant reduction in direct employment by water authorities during the 1990s. They have outsourced many of their activities, resulting in many policy and regulatory functions now being performed by organisations external to the water supply industry.

Water quality standards were recently highlighted with the quality problems experienced at Sydney Water Corporation. This incident demonstrated the need for appropriate contract specifications and monitoring. The National Water Quality Management Strategy aims to improve drinking water quality in rural areas to the 1987 World Health Organisation standards. The Victorian Government intends to spend \$1b to ensure that virtually all country towns in Victoria have water which meets all international standards by 2001 and the New South Wales Government has similarly committed funds to upgrade its country town water supply and sewerage treatment works.

SUMMARY

The overall aim of the reforms in the Australian water industry is to establish a market environment which will discourage over-exploitation and misuse of scarce water resources, as well as encourage more efficient investment in water infrastructure and the transfer of water to those who value it most. Its achievement has sometimes required significant increases in prices for water users, particularly irrigators. At the same time, these increases are providing benefits to the environment by improving the efficiency of water services delivery and increasing the incentives to reduce wastage and the need for new dams.

CHAPTER 5

CONCENTRATION STATISTICS

INTRODUCTION

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

Recent restructuring in both the electricity and gas industries has had a significant impact on concentration statistics. The break-up of large State-owned monopolies has reduced the influence of the largest units in terms of contribution to various financial measures.

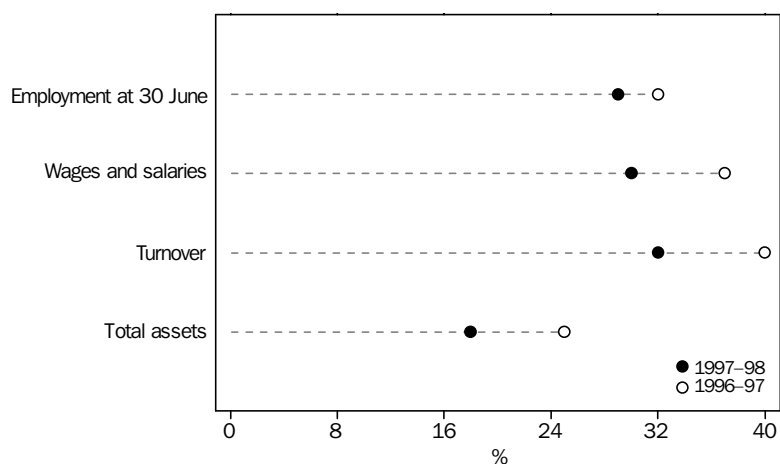
ELECTRICITY INDUSTRY

In 1997-98 the five largest management units (in terms of turnover) in the electricity industry accounted for 32% of all turnover, compared with 34% in 1996-97 and 40% in 1995-96. The top ten units together accounted for 49% of turnover in 1997-98, for 55% in the previous year and 61% in 1995-96. The top fifteen units represented 21% of management units in 1997-98 but 62% of the turnover.

In contrast, the share of turnover held by units outside the top 15 has been increasing, from 27% in 1995-96 to 31% in 1996-97 and 38% in 1997-98.

The largest five management units (or top 7% of all units) accounted for 29% of electricity industry employment and 30% of all wages and salaries in 1997-98, while the top ten units (14% of all units) together accounted for 42% of employment and 44% of wages and salaries. By comparison, the bottom 79% of management units (55 units) accounted for 43% of employment and 43% of wages and salaries in 1997-98.

ELECTRICITY, Contribution of Top Five Management Units to Indicators

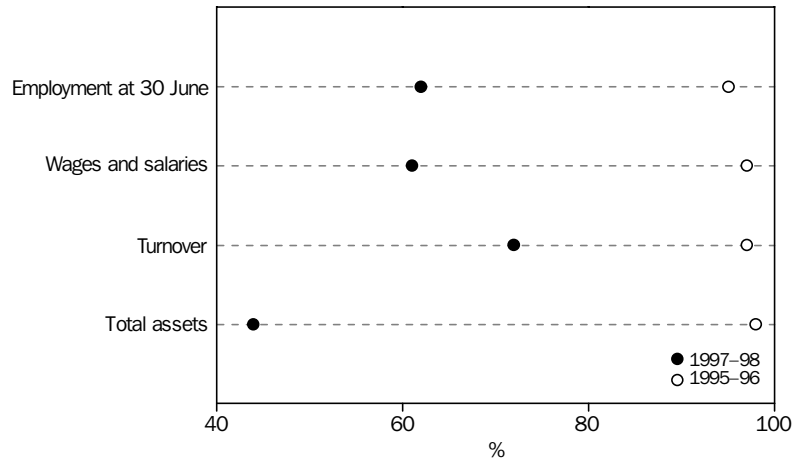


Source: ABS (unpub.)b.

GAS INDUSTRY

In the gas industry, the largest five management units (26% of all units) accounted for 72% of all turnover and 62% of employment in 1997–98. This compares with 97% of turnover and 95% of employment in 1995–96.

GAS, Contribution of Top Five Management Units to Indicators



Source: ABS (unpub.)b.

5.1 SELECTED CONCENTRATION STATISTICS(a)—Electricity Industry

Items	Management units at 30 June.....		Turnover.....		Employment at 30 June.....		Wages and salaries.....		Total assets.....	
	no.	%	\$m	%	no.	%	\$m	%	\$m	%
Management units ranked by contribution to industry in groups of five										
First										
1997–98	5	7	6 893	32	10 174	29	615	30	13 159	18
1996–97	5	9	7 193	34	12 539	34	787	36	16 342	24
1995–96	5	9	8 349	40	12 779	32	813	37	16 474	25
Second										
1997–98	5	7	3 724	17	4 378	13	292	14	13 869	19
1996–97	5	9	4 396	21	5 098	14	320	15	10 881	16
1995–96	5	9	4 470	21	7 329	18	440	20	11 725	18
Third										
1997–98	5	7	2 817	13	5 426	16	279	13	10 013	13
1996–97	5	9	3 137	15	5 177	14	290	13	11 641	17
1995–96	5	9	2 683	13	5 518	14	312	14	12 381	19
Remainder										
1997–98	55	79	8 187	38	14 950	43	891	43	37 733	50
1996–97	43	74	6 532	31	13 868	38	766	35	29 415	43
1995–96	42	74	5 624	27	14 351	36	657	30	25 293	38
Industry total										
1997–98	70	100	21 622	100	34 928	100	2 076	100	74 774	100
1996–97	58	100	21 259	100	36 682	100	2 164	100	68 279	100
1995–96	57	100	21 126	100	39 977	100	2 222	100	65 873	100

(a) See Explanatory Notes, 'Concentration Statistics', paragraphs 28–32.

Source: ABS (unpub.)b.

5.2 SELECTED CONCENTRATION STATISTICS(a)—Gas Industry

Items	Management units at 30 June.....		Turnover.....		Employment at 30 June.....		Wages and salaries.....		Total assets.....	
	no.	%	\$m	%	no.	%	\$m	%	\$m	%
Management units ranked by contribution to industry in categories of five										
First										
1997–98	5	26	3 089	72	1 751	62	94	61	2 665	44
1996–97	5	45	2 711	97	4 122	96	271	97	4 392	98
1995–96	5	38	2 661	97	4 716	95	277	97	3 851	98
Remainder										
1997–98	14	74	1 221	28	1 058	38	60	39	3 450	56
1996–97	6	55	80	3	155	4	9	3	68	2
1995–96	8	62	85	3	234	5	10	3	83	2
Industry total										
1997–98	19	100	4 310	100	2 809	100	155	100	6 115	100
1996–97	11	100	2 791	100	4 277	100	280	100	4 460	100
1995–96	13	100	2 747	100	4 950	100	286	100	3 934	100

(a) See Explanatory Notes, 'Concentration Statistics', paragraphs 28–32.

Source: ABS (unpub.)b.

EXPLANATORY NOTES

INTRODUCTION

1 Many of the statistics in this publication have been derived from the 1997–98 Census of Electricity and Gas Operations and the 1997–98 Water and Sewerage Survey. These collections 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 Australian Bureau of Statistics (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 1996–97 are now final and replace those previously issued in the 1996–97 issue of *Electricity, Gas, Water and Sewerage Operations, Australia* (Cat. no. 8226.0) released on 27 August 1998.

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 (ANZSIC Class 3610); and the manufacture of town gas from coal and/or petroleum, or the mains distribution of town gas, natural gas or liquefied petroleum gas (ANZSIC Class 3620). 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 (ANZSIC Class 4521). 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 (ANZSIC Class 3701: Water Supply, and Class 3702: Sewerage and Drainage Services).

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 (\$7.2m in 1996–97 and \$7.3m in 1997–98). 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.

EXTERNAL SOURCES

8 A range of tables are presented that have been obtained from external sources. Electricity commodity data has been obtained from the Electricity Supply Association (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 the Water Services Association of Australia (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 since 1997 giving details from the Australian Cogeneration Association 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).

EXTERNAL SOURCES *continued*

13 Should the user require further details about tables or information that have been obtained from either ESAA, AGA, AWWA, WSAA or the Productivity Commission, it is recommended that the organisation should be contacted directly. Users may contact them at the following addresses

- ESAA is at Level 11, 74 Castlereagh Street, Sydney, NSW 2000
telephone 02 9233 7222
facsimile 02 9233 7244
- AGA is at Level 3, 7–9 Moore Street, Canberra, ACT 2601
telephone 02 6247 3955
facsimile 02 6249 7402
email canberra@gas.asn.au
- AWWA is at PO Box 388, Artarmon, NSW 1570
telephone 02 9413 1288
- WSAA is at Level 7, 469 Latrobe Street, Melbourne, Vic. 3000
telephone 03 9606 0678
facsimile 03 9606 0376
email info@wsaa.asn.au
- Herb Plunkett, Enquiry Manager, Productivity Commission, PO Box 80, Belconnen, ACT 2616
telephone 02 6240 3251
facsimile 02 6240 3399
email hplunkett@pc.gov.au
- Enquiries or comments on the draft report on the *Impact of Competitive Policy Reforms on Rural and Regional Australia* can be directed to compol@pc.gov.au

STATISTICAL UNITS

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

15 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.

16 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.

STATISTICAL UNITS *continued*

17 This publication presents industry statistics which are compiled differently from activity statistics. Each management unit or establishment 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 the Northern Territory excludes their major water supply companies, since at the management unit level they are classified as part of the electricity industry.

18 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).

19 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

20 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.

COMPARABILITY WITH PREVIOUS STATISTICS

21 Commencing with estimates for 1997–98, under new international standards, contribution to gross domestic product (GDP) by electricity, gas, water and sewerage industries will be measured by the variable 'industry value added' (IVA). Estimates for IVA measure the value added by an industry to the intermediate inputs used by that industry. Under the previous standards, the corresponding contribution to GDP was measured by the variable 'industry gross product' (IGP) at the management unit level. It should be noted that IVA is not the same variable as 'value added' which is published at the establishment level in tables 2.15 and 3.14. The composition of 'value added' has not changed under the new standards. An explanation of the relationship between IVA estimates and IGP estimates can be found in the Glossary.

INDUSTRY PERFORMANCE RATIOS

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 for the electricity and gas industries. 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.

INDUSTRY PERFORMANCE RATIOS *continued*

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.

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.

CONCENTRATION STATISTICS *continued*

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 for the electricity and gas supply industry provided in this publication relate to Australia as a whole. Similar information is not available for States or other regional areas or for the water and sewerage industry.

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

- Management units were ranked in descending order according to the size of their contribution to the total turnover of the industry.
- The ranked management units were brought together into groups of five units, in the following sequence:
 - ◆ largest 5 management units
 - ◆ second largest 5 management units
 - ◆ third largest 5 management units
 - ◆ fourth largest 5 management units
 - ◆ fifth largest 5 management units
 - ◆ remaining management units in the industry.

Each of the groups of five management units comprises statistics of units which were in operation in the industry concerned at any time during the year 1997–98. Only the largest five management units and the remainder is available for the gas supply industry because of the smaller number of units in the industry.

32 For each of the groups 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 percentage of the total for the industry.

RELIABILITY OF ESTIMATES

33 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 (SE), 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 SE 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 SEs.

34 The imprecision due to sampling variability, which is measured by the SE, 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

35 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

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

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)

Electricity, Gas, Water and Sewerage Operations, Australia (Cat. no. 8226.0)

Energy Accounts for Australia (Cat. no. 4604.0)

Environment Protection Expenditure, Australia (Cat. no. 4603.0)

Environmental Issues: People's Views and Practices (Cat. no. 4602.0) includes data on household water conservation practices.

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)

37 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

38 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.

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

SYMBOLS AND ABBREVIATIONS

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

ABS	Australian Bureau of Statistics
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
EBIT	Earnings before interest and tax
ESAA	Electricity Supply Association of Australia
GDP	Gross domestic product
GJ	Gigajoules (10^9)
GL	Gigalitres (10^9)
ha	hectares
IGP	Industry Gross Product
IVA	Industry value added
km	kilometres
kPa	kilopascals
kWh	kilowatt hour = 3,600 kJ
LPG	Liquefied Petroleum Gas
MIA	Murrumbidgee Irrigation Area
ML	megalitres (10^6)
MVA	megavolt amperes
MW	megawatt
n.a.	not available
NCP	National Competition Policy
n.e.c.	not elsewhere classified
NECA	National Electricity Code Administrator
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NGMC	National Grid Management Council
n.p.	Not published
OPBT	Operating profit before tax
PJ	Petajoules (10^{15})
SE	Standard error
TJ	Terajoules (10^{12})
WSAA	Water Services Association of Australia
—	nil or rounded to zero

ROUNDING

41 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).
Capitalised purchases	Goods drawn from inventories for use as fixed tangible assets in capital work done for own use.
Capitalised wages	Capitalised payments for work done by own employees in manufacturing, constructing or installing assets.
Capital work for own use	<p>Work done by the employees or proprietors of a business for use by the business or for rental or lease to other businesses. The main types of work are manufacturing, constructing, installing or repairing assets and development of computer software.</p> <p>Conceptually, this item should also include own account production of literary, entertainment or artistic originals. However, these activities are relatively unimportant for the electricity, gas, water and sewerage industries and have not been measured for these industries.</p>
Cost of sale	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.
Freight and cartage expenses	Excludes cost of delivery by own vehicles and employees, and also excludes overseas freight. For gas supply industry includes transmission expenses. (For electricity industry transmission expenses are included in payment for contract expenses.)
Government subsidies	Includes bounties, subsidies and export grants.
Industry gross product (IGP)	<p>For periods prior to 1997–98, estimates of IGP represented the measure of the contribution by electricity, gas, water and sewerage industries to gross domestic product (GDP). The formula for IGP is as follows:</p> <p>IGP = Sales of goods and services <i>Plus</i> Rent, leasing and hiring income Government subsidies Capital work done for own use Closing stocks <i>Less</i> Opening stocks Purchases and selected expenses.</p> <p>However, commencing with estimates for 1997–98, following the introduction of new international standards for measuring economic variables, IGP has been replaced by the variable 'industry value added' (IVA) for the purpose of measuring industry contribution to GDP.</p> <p>The relationship between IVA estimates and IGP estimates is:</p> <p>IVA <i>Less</i> Computer software expenses not capitalised by the business <i>Less</i> Selected indirect taxes (for the electricity, gas, water and sewerage industries, the main types are fringe benefits tax, payroll tax, land rates and land taxes) <i>Equals</i> IGP</p>
Industry value added (IVA)	<p>IVA represents the value added by an industry to the intermediate inputs used by the industry. Commencing with estimates for 1997–98, IVA has replaced IGP as the measure of the contribution by electricity, gas, water and sewerage industries at management unit level to gross domestic product. At establishment level a different value added measure is compiled, known simply as 'value added'.</p> <p>See the entry for Industry gross product for an explanation of the differences between IVA and IGP and the entry for value added for explanation of its composition.</p>

Industry value added (IVA)	The derivation of IVA is as follows:
<i>continued</i>	Turnover
	<i>Plus</i> Closing inventories
	<i>Less</i> Opening inventories
	<i>Less</i> Capitalised purchases
	<i>Less</i> Intermediate input expenses
	<i>Equals</i> IVA
	However, it should be noted that IVA is not a measure of operating profits before tax. Wages, salaries and most other labour costs are not taken into account in its calculation and nor are most insurance premiums, interest expenses or depreciation and a number of lesser expenses.
Industry value added to employment	The average amount, expressed in thousands of dollars, of industry value added for each employee, working proprietor and working partner i.e. industry value added/employment.
Industry value added to selected labour costs	The average amount of the value of each dollar of value added generated by each dollar input of labour i.e. industry value added/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.
Intermediate inputs	Intermediate inputs consist of materials and certain services which are used up in the production process. Definitions of relevant component items are also included in this glossary. It is calculated as Intermediate input expenses <i>Plus</i> Opening inventories of raw materials, fuels, containers, etc. <i>Less</i> Closing inventories of raw materials, fuels, containers, etc. <i>Equals</i> Intermediate inputs
Intermediate input expenses	Includes two categories of operating expenses: <ul style="list-style-type: none"> ▪ purchases of goods, materials and services used in production; and ▪ expenses related to the sale of goods and administrative expenses. Purchase of goods, materials and services used in production includes: <ul style="list-style-type: none"> ▪ purchases of goods and materials; ▪ motor vehicle expenses, freight and cartage expenses, repair and maintenance expenses; ▪ rent, leasing and hiring expenses (except for finance leases); ▪ payment for contract, subcontract and commission expenses. This category of operating expenses is included in value added produced at mining establishment level.

Intermediate input expenses <i>continued</i>	Expenses related to the sale of goods and administrative expenses. The main expenses in this second group are advertising expenses, audit and accounting expenses, bank fees and charges (except interest), cleaning expenses, environmental protection expenses, intellectual property royalty expenses, legal fees, management fees, paper, printing and stationery expenses, postal and telecommunication expenses, staff training expenses and travelling, accommodation and entertainment expenses.
Inventories—Opening and closing	The value of all inventories (known as 'stocks' in earlier publications) finished goods, work-in-progress, raw materials, fuels, containers, etc. at the beginning and end of the financial year, respectively. Previously called 'opening and closing stocks'.
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 of 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).

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. For electricity industry includes transmission expenses. (For gas supply industry transmission expenses are included in freight and cartage expenses.)
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 goods (e.g. electricity, gas and gas by-products, water and wastewater, electrical or gas appliances) and service income (e.g. transmission and distribution income, repair and service income, contract, subcontract and commission income, delivery charges). Sales are valued net of sales tax, excise and other duties collected on behalf of governments. Rent, leasing and hiring income is also included in sales of goods and services. Estimates of sales of goods and services for establishments also include the value of transfers of electricity or gas and/or other goods to other establishments of the same business. These transfers are valued at commercial value (i.e. the value which would have applied had the establishments concerned not been under common ownership).

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.
Superannuation	Includes all employer contributions to superannuation schemes and any benefits paid by employers operating unfunded schemes.
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. (trading profit/sales of goods and services) x 100
Turnover	Includes all proceeds from operating revenue (i.e. sales, 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. There are some conceptual differences between turnover as provided in this publication and turnover as defined by the new international standards. These differences are explained as part of the definition of the component item 'capital work done for own use'. Full compliance with the new standards would make very little difference to estimates of turnover. Excluded are interest income, income from natural resource royalties, funding by Federal, State or Local Governments for specific capital items, dividends and receipts from sale of fixed tangible assets.
Value added	This item is compiled for establishment level. It includes turnover plus the increase (or less the decrease) in the value of stocks, less purchases and 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
ACM	Australian Chamber of Manufactures
AGA	Australian Gas Association
AWRC	Australian Water Resources Council
AWWA	Australian Water and Wastewater Association
DPIE	Department of Primary Industries and Energy
ESAA	Electricity Supply Association of Australia Ltd
MIA	Murrumbidgee Irrigation Area
NCP	National Competition Policy
NEM	National Electricity Market
NGMC	National Grid Management Council
WSAA	Water Services Association of Australia

Where ABS publications have been cited, in each case only the latest edition used has been cited. Earlier editions are available from any ABS office library and selected other libraries.

Australian Chamber of Manufactures 1998, *Outcomes of the Contestable Market of New South Wales and Victoria, June*.

AgStats (database), ABS, annual updating.

Australian Bureau of Statistics (unpub.)a, Manufacturing Production Survey, 1997–98.

Australian Bureau of Statistics (unpub.)b, Census of Electricity and Gas Operations, 1997–98.

Australian Bureau of Statistics (unpub.)c, Water and Sewerage Survey, 1997–98.

Australian Bureau of Statistics 1994, *Manufacturing Production, Australia: Energy Products, August to October 1994*, Cat. no. 8368.0, ABS, Canberra.

Australian Bureau of Statistics 1998, *Population by Age and Sex, June 1998*, Cat. no. 3201.0, ABS, Canberra.

Australian Chamber of Manufactures 1998, *Outcomes of the Contestable Market of New South Wales and Victoria*, June 1998.

Australian Gas Association 1998, *Gas Distribution and Retailing, Responding to New Opportunities*, Research paper, no. 9, June, AGA, Canberra.

Australian Gas Association 1999, *Gas Statistics Australia*, AGA, Canberra.

Australian Water and Wastewater Association 1996, *The 1996 AWWA Handbook*, AWWA, Sydney.

Australian Water Resources Council 1987, *1985 Review of Australia's Water Resources and Water Use*, AGPS, Canberra.

Delloite Touche Tohmatsu 1998, *Delliotte Electricity Survey*, Melbourne, May 1998.

- Department of Primary Industries and Energy 1991, *A National Strategy for the Natural Gas Industry: A Discussion Paper*, AGPS, Canberra.
- Electricity Supply Association of Australia Ltd 1997, *Electricity Australia 1997*, ESAA, Sydney.
- Electricity Supply Association of Australia Ltd 1998, *Electricity Australia 1998*, ESAA, Sydney.
- Electricity Supply Association of Australia Ltd 1999, *Electricity Australia 1999*, ESAA, Sydney.
- Industry Commission 1998, *Micro Reforms—Impact on Firms: Aluminium Case Studies*, Research paper, AGPS, Canberra.
- Northern Territory Treasury 1999, Budget Papers 1999–00, Budget Paper No. 3, Chapter 9.
- NUS International 1998, 'Australian commercial water prices drop most in western world', *News Release*, 14 December 1998.
- NUS International 1999, 'Australia now among cheapest countries for gas', *News Release*, 11 January 1999.
- Water Services Association of Australia 1997, *Australia's Urban Water Industry: WSAA facts '97*, WSAA, Melbourne.
- Water Services Association of Australia 1998, *Australia's Urban Water Industry: WSAA facts '98*, WSAA, Melbourne.
- Working Group 1994, *Report of the Working Group on Water Resource Policy to the Council of Australian Governments*, Canberra, February 1994.

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