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2006–07 TO 2007-08

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ALTERNATIVE VIEW OF ELECTRICITY AND GAS SUPPLY ACTIVITY AUSTRALIA

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For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070.

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ABOUT THIS PUBLICATION

This publication presents information based on an alternative view of electricity supply and gas supply activity in Australia for the reference years 2006-07 to 2007-08.

Estimates are provided for:

- Electricity supply, including generation, transmission, distribution, and on-selling activities;
- Gas supply, including extraction, pipeline transport and distribution (including wholesaling and retail) activities.

The alternative view of electricity supply and gas supply presented in this publication are not industry estimates and data contained in *Australian Industry, 2007-08* (cat. no. 8155.0) are the official estimates. Alternative view estimates complement, rather than replace, existing ANZSIC-based electricity and gas industry statistics.

The estimates presented are derived from the Australian Bureau of Statistics' (ABS) Economic Activity Survey (EAS) and the Energy Supply Survey (ESS) (as part of the 2007-08 Annual Integrated Collection (AIC)). The data presented is based on the *Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC)*.

The methodology for the alternative view presented in this publication is based on *Research Paper: Developing an Alternative View of Electricity and Gas Supply Activity in Australia* (cat. no. 4647.0.55.001), released by the Australian Bureau of Statistics on 26 February 2008.

INFORMATION AVAILABLE ON-LINE

This publication is available free on-line. A PDF publication is also available free on-line. Further information on the ABS and its products and services is available on the ABS website.

Brian Pink
Australian Statistician

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ABBREVIATIONS

$b	billion (thousand million) dollars
$m	million dollars
ABN	Australian Business Number
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
AIC	Annual Integrated Collection
ANZSIC	Australian and New Zealand Standard Industrial Classification
ATO	Australian Taxation Office
Aust.	Australia
COAG	Council of Australian Governments
EAS	Economic Activity Survey
ESS	Energy Supply Survey
FRC	full retail contestability
GWh	gigawatt hour
IVA	industry value added
no.	number
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company Limited
NEMO	National Energy Market Operator
PJ	petajoule
TAU	type of activity unit

CHAPTER 1 OVERVIEW

INTRODUCTION

A diverse range of electricity and gas business activity has emerged from the de-regulation of the 1990's. The publicly-owned monopolies were commercialised and disaggregated into separate smaller businesses. New businesses entered the energy market and existing businesses diversified - with some electricity suppliers entering the gas supply market and some gas suppliers entering the electricity market. Technical Note 1 provides more detail on recent electricity and gas market reforms.

This publication provides insight into the impact of recent reforms on business structure and activity. Estimates are provided for total electricity supply and total gas supply (with gas supply defined as the alternative view of gas supply; ANZSIC 2006 codes 0700, 5021 and 2700). These are further broken down by type of business with:

Electricity supply estimates provided for:

- Businesses engaged in electricity supply (but not gas supply)
- Businesses engaged in supplying both electricity and gas.

Gas supply estimates provided for:

- Businesses engaged in gas supply (but not electricity supply)
- Businesses engaged in supplying both gas and electricity.

Estimates are presented of the key economic, financial and physical measures associated with the supply of electricity and gas to the Australian economy. For the year 2007-08 the physical measures of electricity supply and gas supply are illustrated by way of a supply chain diagram. The estimates provide an 'alternative' view of electricity supply and gas supply within Australia.

Estimates are provided for each electricity supply and gas supply business activity. Electricity supply activities are defined to comprise electricity generation, electricity transmission, electricity distribution, electricity wholesaling and retailing activities. Gas supply activities are defined to include gas extraction, gas pipeline transportation, and gas distribution (which includes gas wholesaling and gas retailing activities).

The alternative view ANZSIC coverage is shown in Table 1.1.

1.1 ELECTRICITY AND GAS SUPPLY ACTIVITY: ALTERNATIVE VIEW ANZSIC 2006 COVERAGE

Alternative View Activity	*ANZSIC 2006 Division*	*ANZSIC 2006 Class*
ELECTRICITY SUPPLY		
Generation	D Electricity, Gas, Water and Waste Services	2611 - Fossil Fuel Electricity Generation, 2612 - Hydro-Electricity Generation and 2619 - Other Electricity Generation
Transmission	D Electricity, Gas, Water and Waste Services	2620 Electricity Transmission
Distribution	D Electricity, Gas, Water and Waste Services	2630 Electricity Distribution
Wholesaling / Retailing	D Electricity, Gas, Water and Waste Services	2640 On-selling Electricity and Electricity Market Operation
GAS SUPPLY		
Extraction	B Mining	0700 Oil and Gas Extraction
Transmission	I Transport, Postal and Warehousing	5021 Pipeline Transport
Distribution	D Electricity, Gas, Water and Waste Services	2700 Gas Supply
Wholesaling / Retailing	D Electricity, Gas, Water and Waste Services	2700 Gas Supply

INTRODUCTION *continued*

It is important to note that this alternative view is presented not to address any flaw in the ANZSIC 2006 classification system, but rather to provide users with further insight into electricity and gas supply activities - as such it is intended to supplement ANZSIC 2006 industry statistics.

The incorporation of gas extraction activity and gas transport activity into the alternative gas supply view effectively increases the size of *Gas Supply* relative to the industry view. This is the result of reclassification of relevant ANZSIC 2006 classes and not an extension of ANZSIC 2006 class boundaries. Technical Note 2 discusses the concept of an alternate view, and Technical Note 3 the methodology used in this publication.

While alternative view estimates are subject to the limitation that they cannot be compared on a '*like basis*' with existing industry statistics they can, nevertheless, provide useful analytical insight to a segment of the economy of interest (such as electricity and gas supply).

The data source used to produce the alternative view estimates was *Australian Industry, 2007-08* (cat. no. 8155.0)(see both the publication, and the attached data cubes, which contain the data from the 2007-08 *Energy Supply Survey*).

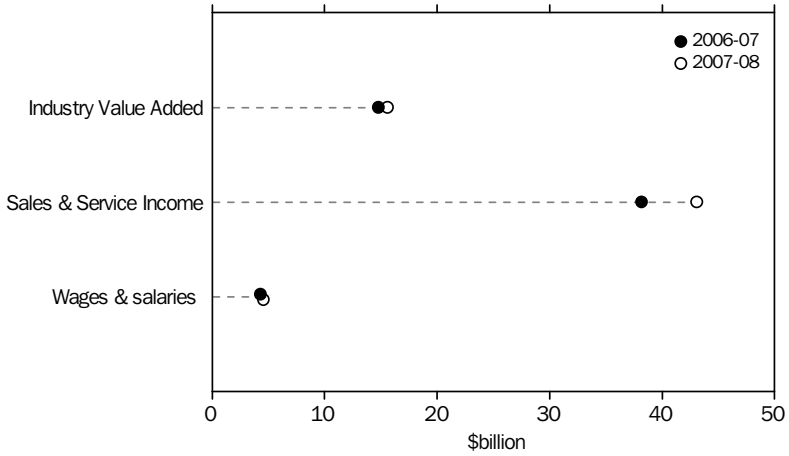
MAIN FINDINGS

Electricity supply

There was an increase in the value of all three key financial data items for businesses engaged in electricity supply activity between 2006-07 and 2007-08 (see Fig 1.2). Industry value added increased by 5.4% ($14.8b to $15.6b), sales and service income increased by 12.9 % ($38.2b to $43.1b) and wages and salaries increased by 6.5% ($4.3b to $4.6b).

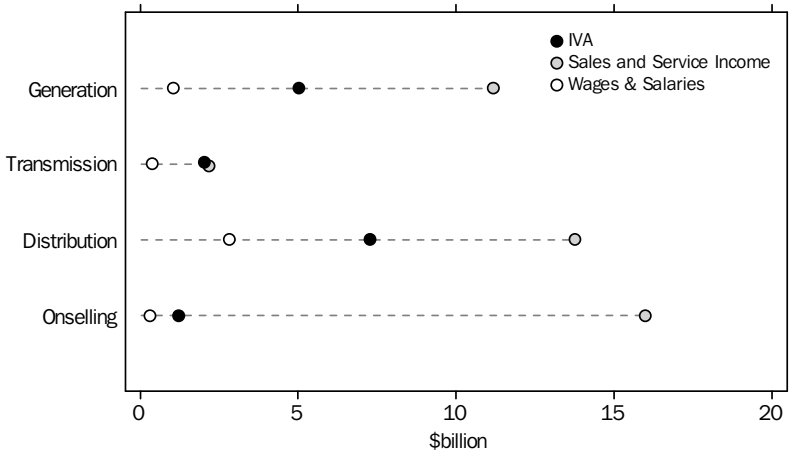
Electricity supply continued

1.2 ELECTRICITY SUPPLY, KEY DATA ITEMS, 2006-07 AND 2007-08



Electricity distribution had the highest IVA for electricity supply activity in 2007-08, at $7.3b (see Fig 1.3). This was followed by electricity generation at $5.0b, electricity transmission at $2.0b, and on-selling at $1.2b. Electricity on-selling had the highest sales and service income at $16.0b, followed by electricity distribution at $13.8b and electricity generation at $11.2b, while electricity transmission was $2.2b. Electricity distribution had the highest wages and salaries at $2.8b, followed by electricity generation at $1.1b, electricity transmission at $0.4b and on-selling at $0.3b.

1.3 ELECTRICITY SUPPLY, BY ACTIVITY, KEY DATA ITEMS, 2007-08

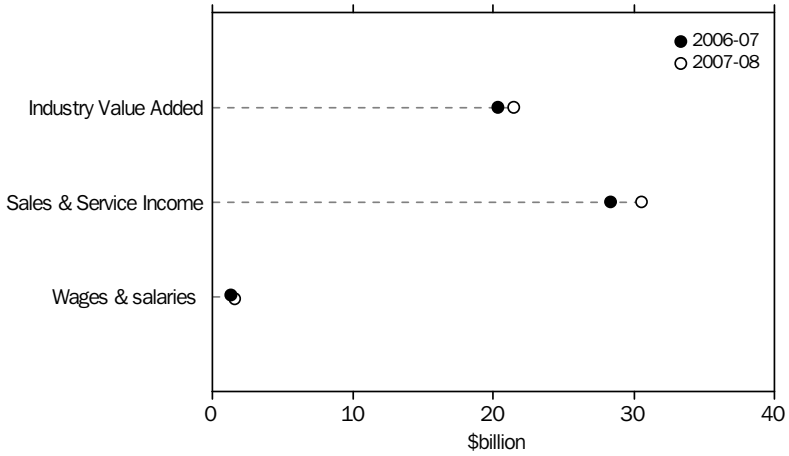


Gas supply

There was an increase in the value of all three key financial data items for businesses engaged in gas supply activity between 2006-07 and 2007-08 (see Fig 1.4). IVA increased by 5.5% ($20.3b to $21.4b), sales and service income increased by 7.9% ($28.3b to $30.6b) and wages and salaries increased by 23.5% ($1.3b to $1.6b).

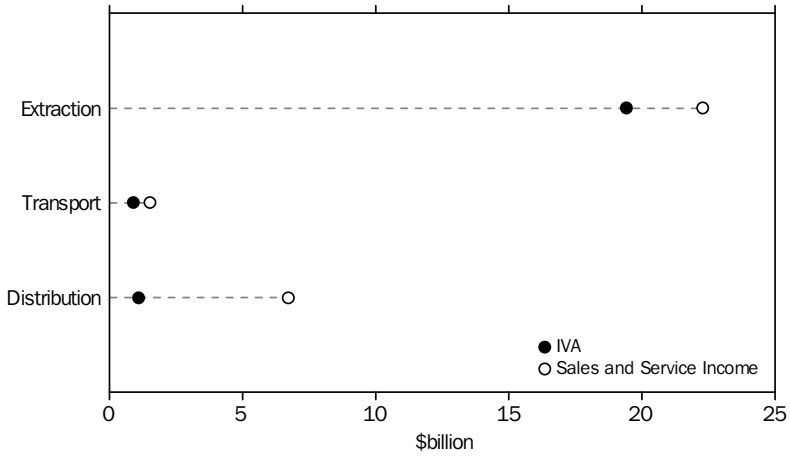
Gas supply continued

1.4 GAS SUPPLY, KEY DATA ITEMS, 2006-07 AND 2007-08



Gas extraction had the highest IVA for gas supply activity in 2007-08, at $19.4b (see Fig 1.5). This was followed by gas distribution at $1.1b and gas transport at $0.9b. Gas extraction had the highest sales and service income at $22.3b, followed by gas distribution at $6.7b and gas transport at $1.5b.

1.5 GAS SUPPLY, BY ACTIVITY, KEY DATA ITEMS, 2007-08



CHAPTER 2 ELECTRICITY SUPPLY ACTIVITIES

INTRODUCTION

Statistics in this chapter refer to all those businesses engaged in electricity supply activities in 2006-07 and 2007-08.

Estimates for total electricity supply by all businesses are provided and these are separated into businesses that are engaged only in the supply of electricity (but not gas) and businesses that supply both electricity and gas. Importantly, for businesses that supply both electricity and gas, the estimates are for the electricity supply component of the business activity and exclude the gas supply component[1].

Estimates for 2007-08 are also provided for electricity supply by activity.

These activities include:

- Electricity generation
- Electricity transmission
- Electricity distribution
- On selling electricity and electricity market operation

Further information on these activities can be found in the *Australian and New Zealand Standard Industrial Classification, 2006* (cat. no. 1292.0).

The commentary provided refers mainly to the tables in this chapter, and to the figures in Chapter 1. All value data are shown at current prices. The glossary provides definitions for terms used.

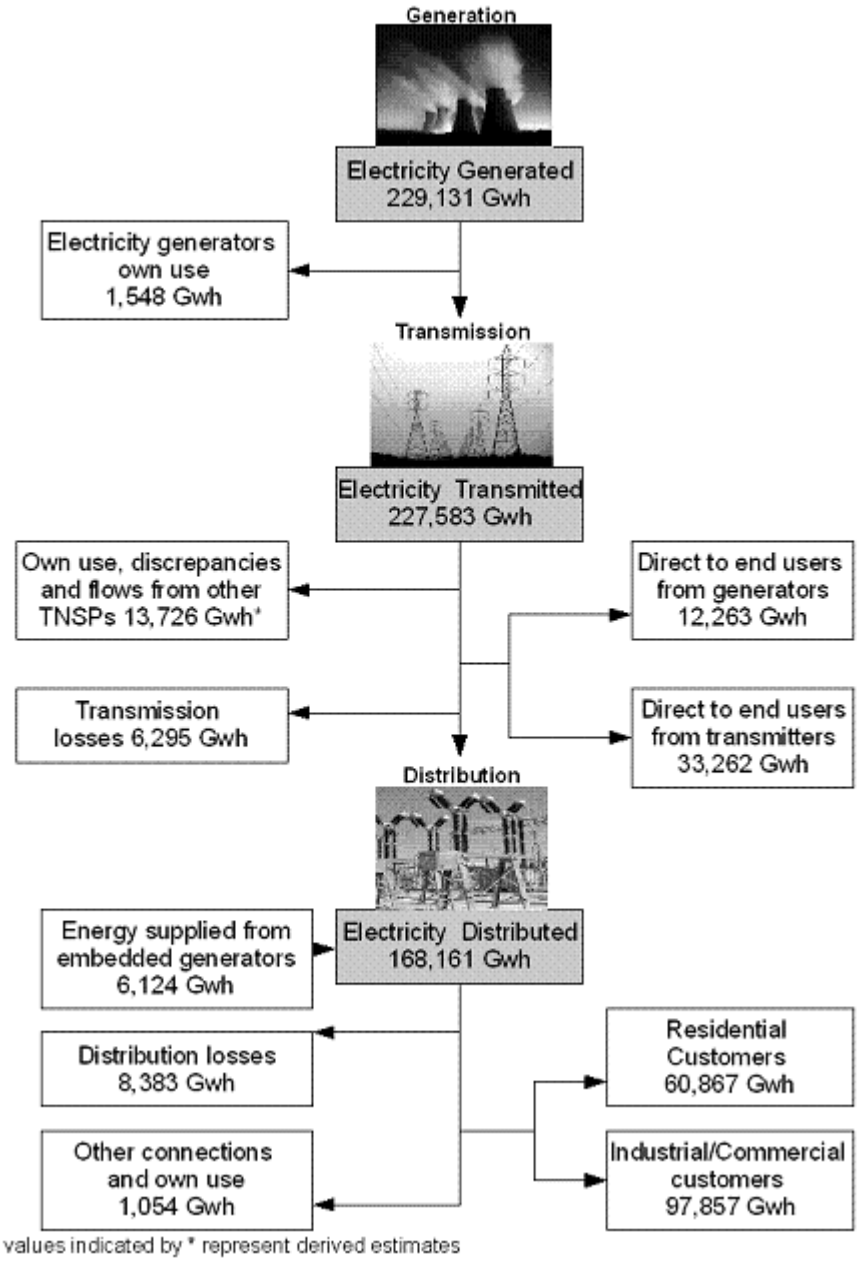
THE ELECTRICITY SUPPLY CHAIN

The supply of electricity begins with generation in power stations. Electricity generators are usually located near fuel sources, such as coalmines, natural gas pipelines and hydro-electric water reservoirs. Most electricity customers, however, are located a long distance from electricity generators, in cities, towns and regional communities. The supply chain, therefore, requires networks to transmit electricity from generators to the distribution network. The supply chain is completed by retailers who buy wholesale electricity and package it with transmission and distribution services for sale to residential, commercial and industrial customers.

The following diagram shows the electricity supply chain and the relationship between the data items presented.

1 The gas supply component of business activity is accounted for in Chapter 3: Gas Supply Activities.

Electricity Supply Chain: Physical Flow of Electricity (Gwh) 2007-08



Note values indicated by * represent derived estimates

BUSINESS CHARACTERISTICS

There were 178 businesses involved in electricity supply in Australia in 2007-08.

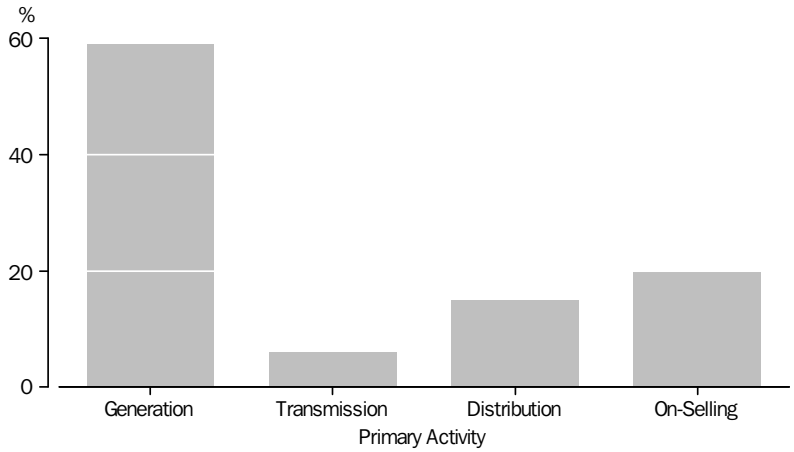
Of these businesses:

- 91% were engaged in the supply of electricity (but not gas)
- 9% supplied both electricity and gas.

The primary activity of these businesses is shown in Figure 2.2.

BUSINESS CHARACTERISTICS *continued*

2.1 PRIMARY ACTIVITY OF ELECTRICITY SUPPLY BUSINESSES, 2007-08



SUMMARY

ELECTRICITY SUPPLY, KEY DATA ITEMS 2007-08 AND 2006-07 (Table 2.1)

While all the major indicators (IVA, sales and service income, wages and salaries, and employment) for overall electricity supply showed an increase between 2006-07 and 2007-08 this growth occurred exclusively in businesses which only supplied electricity (and not gas). Businesses supplying both electricity and gas showed a decline in all the key indicators over the reference period.

INDUSTRY VALUE ADDED (IVA)

In 2007-08 electricity supply IVA was $15.6b - up 5.4% on 2006-07. Between the reference periods, the IVA of:

- businesses supplying electricity (but not gas) increased by 15.6%, from $10.4b to $12.0b.
- businesses that supplied both electricity and gas decreased by 18.9%, from $4.3b to $3.5b.

Of total IVA in 2007-08:

- 77.4% derived from businesses that supplied electricity (but not gas).
- 22.6% derived from businesses supplying both electricity and gas.

WAGES AND SALARIES

In 2007-08 $4.6 billion in wages and salaries were paid to electricity supply employees, up 6.5% on 2006-07. Between the reference periods, wages and salaries in:

- businesses that supplied electricity (but not gas) increased by 29.9%, from $2.5b to $3.3b.
- businesses that supplied both electricity and gas decreased by 27.9%, from $1.7b to $1.2b.

Of total wages and salaries in 2007-08:

- 72.6% derived from businesses that supplied electricity (but not gas).
- 27.4% came from businesses that supplied both electricity and gas.

EMPLOYMENT

In 2007-08, 45,059 persons were employed in electricity supply, up 5.1% on the 2006-07 level. Between the reference periods, employment in:

ELECTRICITY SUPPLY, KEY DATA ITEMS 2007-08 AND 2006-07 (Table 2.1) continued

EMPLOYMENT *continued*

- businesses that supplied electricity (but not gas) increased by 23.3%, from 25,180 to 31,054.
- businesses that supplied both electricity and gas decreased by 20.9%, from 17,711 to 14,005.

Of total employees in 2007-08:

- 68.9% were in businesses that supplied electricity (but not gas.)
- 31.1% were in businesses that supplied both electricity and gas.

ELECTRICITY SUPPLY, INDUSTRY RATIOS 2007-08 AND 2006-07 (Table 2.2)

The industry ratios for overall electricity supply were all stable between 2006-07 and 2007-08.

INDUSTRY VALUE ADDED (IVA) PER PERSON EMPLOYED

IVA per person employed in electricity supply businesses remained relatively unchanged between 2006-07 and 2007-08. Between the reference periods, the industry value added per person employed in:

- businesses supplying electricity (but not gas) decreased by 6.3%, from $413,800 per person employed to $387,700 per person employed.
- businesses supplying both electricity and gas increased by 2.6%, from $245,000 per person employed to $251,400 per person employed.

WAGES AND SALARIES PER PERSON EMPLOYED

There was a 1.4% increase in the wages and salaries per person employed in electricity supply businesses between 2006-07 and 2007-08. Between the reference periods, the wages and salaries per person employed in:

- businesses supplying electricity (but not gas) increased by 5.3%, from $101,200 per person employed to $106,600 per person employed.
- businesses supplying both electricity and gas fell by 8.9%, from $97,900 per person employed to $89,200 per person employed.

INDUSTRY VALUE ADDED TO WAGES AND SALARIES

Overall there was negligible change in the IVA to wages and salaries for electricity supply businesses between 2006-07 and 2007-08. Between the reference periods, the IVA to wages and salaries for:

- businesses supplying electricity (but not gas) fell by 12.2%, from 4.1 to 3.6.
- businesses supplying both electricity and gas increased by 12.0% from 2.5 to 2.8.

ELECTRICITY SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY 2007-08 (Table 2.3)

The electricity distribution activity had the highest value for all key data items, followed by the electricity generation activity.

ELECTRICITY GENERATION

For 2007-08:

- IVA was $5.0b, 32.3% of total IVA.
- Sales and service income was $11.2b, 25.9% of total sales and service income.
- Wages and salaries was $1.1b, 23.3% of total wages and salaries.
- Employment was 9257 persons, 20.5% of total employment.

ELECTRICITY SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY 2007-08 (Table 2.3) continued

ELECTRICITY TRANSMISSION

For 2007-08:

- IVA was $2.0b, 13.0% of total IVA.
- Sales and service income was $2.2b, 5.0% of total sales and service income.
- Wages and salaries was $365m, 8.0% of total wages and salaries.
- Employment was 3237 persons, 7.2% of total employment.

ELECTRICITY DISTRIBUTION

For 2007-08:

- IVA was $7.3b, 46.8% of total IVA.
- Sales and service income was $13.8b, 31.9% of total sales and service income.
- Wages and salaries was $2.8b, 61.8% of total wages and salaries.
- Employment was 28078 persons, 62.3% of total employment.

ELECTRICITY ONSELLING

For 2007-08:

- IVA was $1.2b, 7.9% of total IVA.
- Sales and service income was $16b, 37.1% of total sales and service income.
- Wages and salaries was $314m, 6.9% total wages and salaries.
- Employment was 4487 persons, 10% of total employment.

ELECTRICITY SUPPLY TABLES

2.2 ELECTRICITY SUPPLY, KEY DATA ITEMS, 2007-08 AND 2006-07

		BUSINESSES ENGAGED IN:		ALL BUSINESSES:
Key data items		*Electricity supply (but not gas supply)*	*Electricity and gas supply*(a)	*Total Electricity Supply*
2007–08				
Number of businesses	no.	162.0	16.0	178.0
IVA	$m	12 041.2	3 520.2	15 561.3
Sales and service income	$m	30 948.6	12 137.6	43 086.2
Wages and salaries(b)	$m	3 311.1	1 249.5	4 560.6
Employment(c)	no.	31 054.0	14 005.0	45 059.0
2006–07				
Number of businesses	no.	157.0	18.0	175.0
IVA	$m	10 418.7	4 339.6	14 758.3
Sales and service income	$m	24 024.3	14 141.5	38 165.8
Wages and salaries(b)	$m	2 548.9	1 733.3	4 282.3
Employment(c)	no.	25 180.0	17 711.0	42 891.0

(a) For businesses engaged in both gas supply and electricity supply, only the electricity supply component of business activity is included in estimates - the gas supply component of business activity is excluded.
(b) Excludes the drawings of working proprietors
(c) At the end of June

ELECTRICITY SUPPLY TABLES *continued*

2.3 ELECTRICITY SUPPLY, INDUSTRY RATIOS, 2007-08 AND 2006-07

Industry Ratios		BUSINESSES ENGAGED IN: *Electricity supply (but not gas supply)*	BUSINESSES ENGAGED IN: *Electricity and gas supply*(a)	ALL BUSINESSES: *Total Electricity Supply*
2007–08				
IVA per person employed	$000/pp	387.7	251.4	345.4
Sales and Service Income per person employed	$000/pp	996.6	866.7	956.2
Wages and salaries to person employed	$000/pp	106.6	89.2	101.2
IVA to wages & salaries	no.	3.6	2.8	3.4
2006–07				
IVA per person employed	$000/pp	413.8	245.0	344.1
Sales and Service Income per person employed	$000/pp	954.1	798.4	889.8
Wages and salaries to person employed	$000/pp	101.2	97.9	99.8
IVA to wages & salaries	no.	4.1	2.5	3.4

(a) For businesses engaged in both gas supply and electricity supply, only the electricity supply component of business activity is included in estimates - the gas supply component of business activity is excluded.

2.4 ELECTRICITY SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY, 2007-08

		Generation	*Transmission*	*Distribution*	*Onselling*	*Total Electricity Supply*
Key Data Items						
IVA	$m	5 033.0	2 028.2	7 277.6	1 222.6	15 561.3
Sales and service income	$m	11 166.7	2 166.1	13 758.2	15 995.2	43 086.2
Wages and salaries(a)	$m	1 061.4	365.1	2 819.9	314.1	4 560.6
Employment(b)	no.	9 257.0	3 237.0	28 078.0	4 487.0	45 059.0
Industry Ratios						
IVA per person employed	$'000/pp	543.7	626.5	259.2	272.5	345.4
Sales per person employed	$'000/pp	1 206.3	669.2	490.0	3 565.0	956.2
Wages and Salaries per person employed	$'000/pp	114.7	112.8	100.4	70.0	101.2
IVA to wages and salaries	no.	4.7	5.6	2.6	3.9	3.4

(a) Excludes the drawings of working proprietors

(b) At end of June

CHAPTER 3 GAS SUPPLY ACTIVITIES

INTRODUCTION

Statistics in this chapter refer to all of those businesses engaged in gas supply activities in 2006-07 and 2007-08.

Estimates for total gas supply by all businesses are provided and these are separated into businesses that are engaged only in the supply of gas (but not electricity) and businesses that supply both gas and electricity. Importantly, for businesses that supply both gas and electricity, the estimates only include the gas supply component of business activity and exclude the electricity supply component[2].

Estimates for 2007-08 are also provided for gas supply by activity. These activities include:

- Gas extraction
- Gas transport
- Gas distribution (including wholesaling and retailing)

Further information on these activities can be found in the *Australian and New Zealand Standard Industrial Classification, 2006* (cat. no. 1292.0).

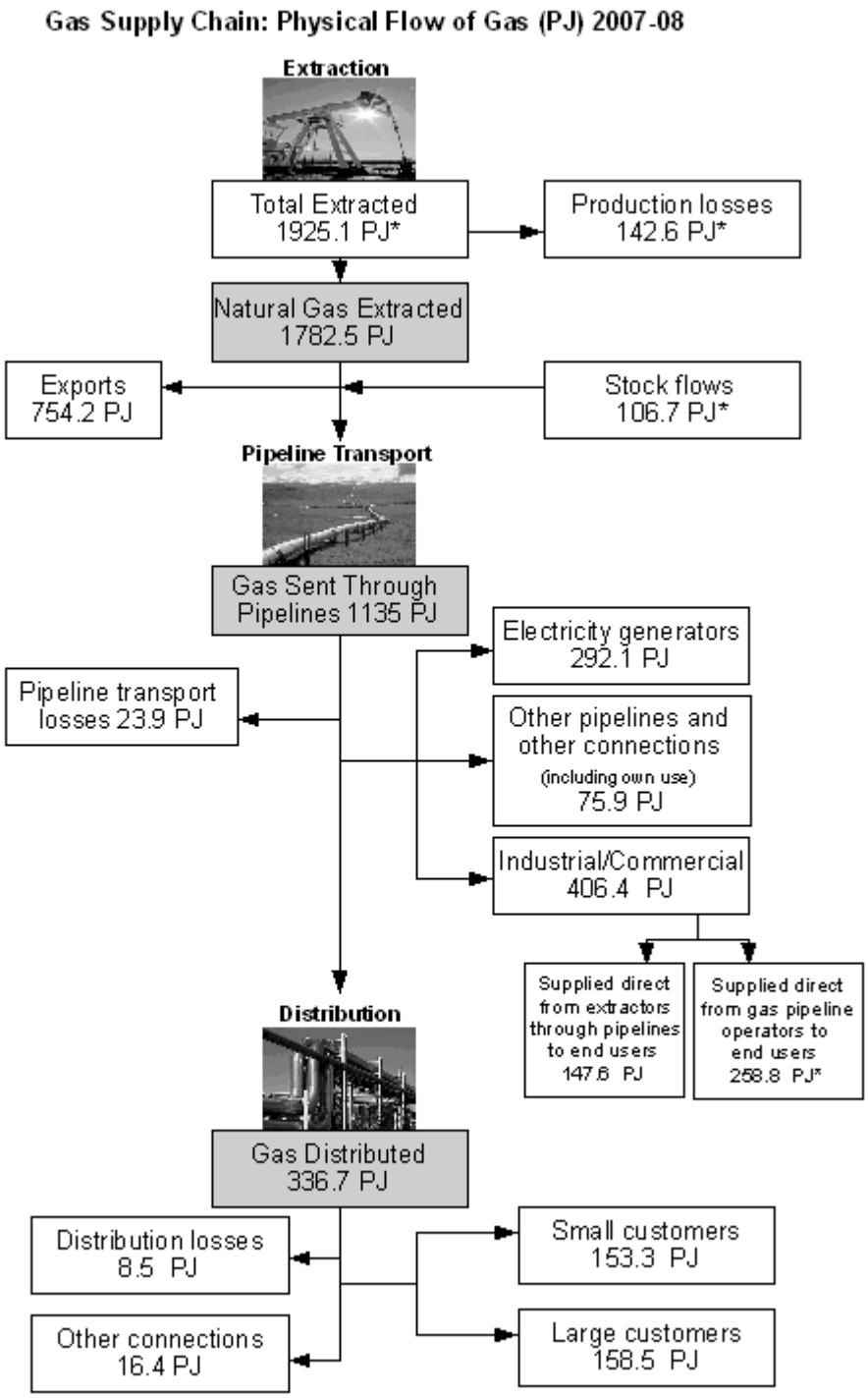
The commentary provided refers mainly to the tables in this chapter, and to the figures in Chapter 1. All value data are shown at current prices. The glossary provides definitions for terms used.

THE GAS SUPPLY CHAIN

The gas supply chain begins with extracting gas from wells. The extracted gas is processed to separate the methane from the liquids and other gases that may be present, and to remove any impurities. More commonly gas fields and processing facilities are located some distance from the cities, towns and regional centres where the gas is consumed. High pressure transmission pipelines are used to transport gas from the source of extraction over long distances from production fields to major demand centres. Distribution pipelines deliver gas from points along the transmission pipelines to industrial customers and from gate stations to consumers in cities, towns and regional communities.

The following diagram shows the gas supply chain and the relationship between the data items presented.

1 The electricity supply component of business activity is accounted for in Chapter 2: Electricity supply activities.



Note values indicated by * represent derived estimates
The data excludes any gas extracted outside of Australian territory. Diagram represents an activity view of the Gas supply chain. For an industry view see ABS Australian Industry (Cat. No. 8155.0)

BUSINESS CHARACTERISTICS

There were 126 businesses involved in gas supply in Australia in 2007-08.

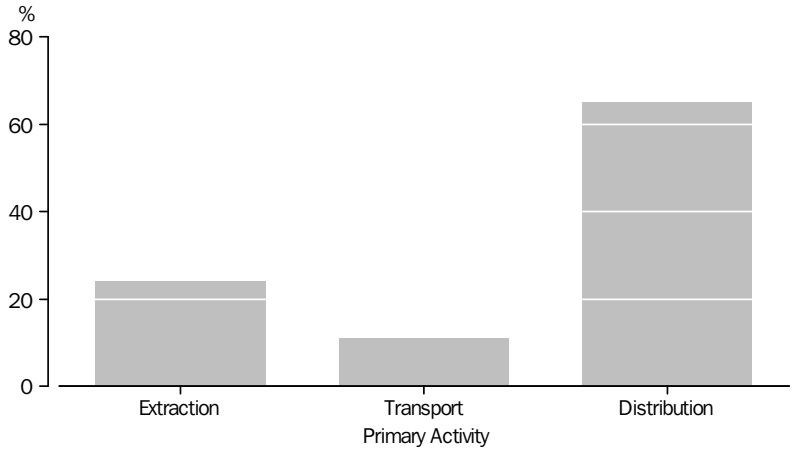
Of these businesses:

- 92% were engaged in the supply of gas (but not electricity)
- 8% supplied both gas and electricity.

The primary activity of these businesses is shown in Figure 3.2.

BUSINESS CHARACTERISTICS *continued*

3.1 PRIMARY ACTIVITY OF GAS SUPPLY BUSINESSES, 2007-08



SUMMARY

GAS SUPPLY, KEY DATA ITEMS 2007-08 AND 2006-07 (Table 3.1)

All gas supply key data items increased between 2006-07 and 2007-08.

INDUSTRY VALUE ADDED

In 2007-08 gas supply IVA was $21.4b - up 5.5% on 2006-07. Between the reference periods, the IVA of:

- businesses that supplied gas (but not electricity) decreased by 3.0%, from $19.8b to $19.2b.
- businesses that supplied both gas and electricity increased by 352%, from $0.5b to $2.2b.

Of total IVA in 2007-08:

- 89.7% derived from businesses that supplied gas (but not electricity).
- 10.3% derived from businesses supplying both gas and electricity.

WAGES AND SALARIES

In 2007-08, $1.6 billion in wages and salaries were paid to gas supply employees, up 23.5% on 2006-07. Between the reference periods, wages and salaries in:

- businesses that supplied gas (but not electricity) increased by 14.4%, from $1.2b to $1.4b.
- businesses that supplied both electricity and gas increased by 172%, from $75m to $205m.

Of total wages and salaries in 2007-08:

- 87.3% derived from businesses that supplied gas (but not electricity).
- 12.7% came from businesses that supplied both gas and electricity.

EMPLOYMENT

In 2007-08, 12273 persons were employed in gas supply, up by 12.0% on the 2006-07 level. Between the reference periods, employment in:

- businesses that supplied gas (but not electricity) increased by 4.2%, from 10,040 persons to 10,466 persons.
- businesses that supplied both gas and electricity increased by 97.7%, from 914 persons to 1807 persons.

GAS SUPPLY, KEY DATA ITEMS 2007-08 AND 2006-07 (Table 3.1) continued

EMPLOYMENT *continued*

Of total employees in 2007-08:

- 85.3% were employed in businesses that supplied gas (but not electricity).
- 14.7% were in businesses that supplied both gas and electricity.

GAS SUPPLY, INDUSTRY RATIOS 2007-08 AND 2006-07 (Table 3.2)

Gas supply IVA per person employed and IVA to wages and salaries both declined between 2006-07 and 2007-08, whereas wages and salaries per person employed increased.

INDUSTRY VALUE ADDED PER PERSON EMPLOYED

For gas supply businesses generally the IVA per person employed fell by 5.8% between 2006-07 and 2007-08.

- businesses supplying gas (but not electricity) experienced a 6.9% decline, from $2.0m to $1.8m.
- businesses supplying both gas and electricity increased by 129%, from $0.5m to $1.2m.

WAGES AND SALARIES PER PERSON EMPLOYED

Overall the wages and salaries per person employed for gas supply businesses increased by 10.2% from $119,500 to $131,700. Between 2006-07 and 2007-08 the wages and salaries per person employed for:

- businesses supplying gas (but not electricity) increased by 9.8% from $122,900 to $134,900.
- businesses supplying both gas and electricity increased by 37.5% from $82,400 to $113,300.

INDUSTRY VALUE ADDED TO WAGES AND SALARIES

The IVA to wages and salaries for gas supply businesses fell by 14.2% between 2006-07 and 2007-08. Between 2006-07 and 2007-08 IVA to wages and salaries for:

- businesses supplying gas (but not electricity) declined by 15.5%, from 16.1 to 13.6.
- businesses supplying both gas and electricity increased by 67.2%, from 6.4 to 10.7.

GAS SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY 2007-08 (Table 3.3)

The gas extraction activity had substantially higher values for all key data items.

GAS EXTRACTION

For 2007-08:

- IVA was $19.4b, 90.7% of total IVA.
- Sales and service income was $22.3b, 73.0% of total sales and service income.
- Wages and salaries was $1.3b, 81.1% of total wages and salaries.
- Employment was 8209 persons, 66.9% of total employment.

GAS TRANSPORT

For 2007-08:

- IVA was $0.9 b, 4.2% of total IVA.
- Sales and service income was $1.5b, 5.0% of total sales and service income.

GAS SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY 2007-08 (Table 3.3) continued

GAS DISTRIBUTION (INCLUDING WHOLESALING AND RETAILING)

For 2007-08:

- IVA was $1.1b, 5.1% of total IVA.
- Sales and service income was $6.7b, 22% of total sales and service income.

GAS SUPPLY TABLES

3.2 GAS SUPPLY, KEY DATA ITEMS 2007-08, AND 2006-07

Key Data Items		BUSINESSES ENGAGED IN: Gas supply (but not electricity supply)	BUSINESSES ENGAGED IN: Gas and electricity supply(a)	ALL BUSINESSES: Total Gas Supply
2007–08				
Number of businesses	no.	110.0	16.0	126.0
IVA	$m	19 231.1	2 196.5	21 427.6
Sales and service income	$m	26 182.7	4 369.3	30 552.0
Wages and salaries(b)	$m	1 412.1	204.9	1 616.9
Employment(c)	no.	10 466.0	1 807.0	12 273.0
2006–07				
Number of businesses	no.	116.0	18.0	134.0
IVA	$m	19 822.9	485.9	20 308.7
Sales and service income	$m	26 047.7	2 257.7	28 305.4
Wages and salaries(b)	$m	1 233.9	75.4	1 309.3
Employment(c)	no.	10 040.0	914.0	10 954.0

(a) For businesses engaged in both gas supply and electricity supply, only the gas supply component of business activity is included in estimates - the electricity supply component of business activity is excluded.

(b) Excludes the drawings of working proprietors

(c) At end of June

GAS SUPPLY TABLES
continued

3.3 GAS SUPPLY, INDUSTRY RATIOS, 2007-08 AND 2006-07

Industry Ratios		BUSINESSES ENGAGED IN: *Gas supply (but not electricity supply)*	*Gas and electricity supply*(a)	ALL BUSINESSES: *Total Gas Supply*
2007–08				
IVA per person employed	$000/pp	1 837.5	1 215.3	1 745.9
Sales and Service Income per person employed	$000/pp	2 501.7	2 417.4	2 489.3
Wages and salaries to person employed	$000/pp	134.9	113.3	131.7
IVA to wages & salaries	no.	13.6	10.7	13.3
2006–07				
IVA per person employed	$000/pp	1 974.4	531.6	1 854.0
Sales and Service Income per person employed	$000/pp	2 594.4	2 470.2	2 584.1
Wages and salaries to person employed	$000/pp	122.9	82.4	119.5
IVA to wages & salaries	no.	16.1	6.4	15.5

(a) For businesses engaged in both gas supply and electricity supply, only the gas supply component of business activity is included in estimates - the electricity supply component of business activity is excluded.

3.4 GAS SUPPLY, KEY DATA ITEMS, INDUSTRY RATIOS, BY ACTIVITY, 2007-08

		Extraction	*Transport*	*Distribution*	*Total Gas Supply*
Key Data Items					
IVA	$m	19 429.3	910.1	1 088.2	21 427.6
Sales and service income	$m	22 289.1	1 534.4	6 728.5	30 552.0
Wages and salaries(a)	$m	1 311.6	np	np	1 616.9
Employment(b)	no.	8 209.0	np	np	12 273.0
Industry Ratios					
IVA per person employed	$'000/pp	2 367.2	505.9	480.1	1 745.9
Sales per person employed	$'000/pp	2 715.6	852.9	2 968.6	2 489.3
Wages and Salaries per person employed	$'000/pp	159.8	np	np	131.7
IVA to wages and salaries	no.	14.8	np	np	13.3

np not available for publication but included in totals where applicable, unless otherwise indicated
(a) Excludes the drawings of working proprietors
(b) At end of June

EXPLANATORY NOTES

INTRODUCTION

1 This publication, *Alternative View of Electricity and Gas Supply Activity in Australia, 2006-07 to 2007-2008* (cat. no. 4647.0), presents statistics on the supply of electricity and gas, based on the alternative view methodology defined in *Research Paper: Developing an Alternative View of Electricity and Gas Supply Activity in Australia* (cat. no. 4647.0.55.001).

2 The industries used to compile this alternative view, as specified in the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (cat. no. 1292.0), 2006 edition ('ANZSIC06'), comprise:

- ELECTRICITY SUPPLY (in ANZSIC Division D Electricity, gas, water and waste services, Subdivision 26), which relates to the generation, transmission or distribution of electricity, and the on selling of electricity via power distribution systems operated by others.
- GAS SUPPLY (in ANZSIC Division D Electricity, gas, water and waste services, Subdivision 27), which relates to the distribution of gas, such as natural gas or liquefied petroleum gas, through mains systems.
- OIL AND GAS EXTRACTION (in ANZSIC Division B Mining, Class 0700), which relates to the extraction of natural gas, crude oil or condensate from gas and oil deposits.
- PIPELINE TRANSPORT (in ANZSIC Division I Transport, Postal and Warehousing, Class 5021), which relates to the transportation of natural gas, oil or other materials via pipelines.

3 For the "Oil and Gas Extraction" and "Pipeline Transport" industry classes, only those businesses whose predominant activity was natural gas related were included in the sample survey coverage.

4 The data source used to produce the alternative view estimates was *Australian Industry, 2007-08* (cat. no. 8155.0)(see both the publication, and the attached data cubes, which contain the data from the 2007-08 Energy Supply Survey).

5 For information on scope and coverage, survey sample details, statistical units used, reference period and data reliability, please see the Explanatory notes of *Australian Industry, 2007-08* (cat. no. 8155.0).

ACKNOWLEDGMENTS

6 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued co-operation is very much 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

7 Related publications include:

- *Research Paper: Developing an Alternative View of Electricity and Gas Supply Activity in Australia*, cat. no. 4647.0.55.001, ABS, Canberra.
- *Electricity, Gas, Water and Sewerage Operations, Australia, 2006-07*, cat. no. 8226.0, ABS, Canberra.
- *Australian Industry, 2007-08*, cat. no. 8155.0, ABS, Canberra (see both the publication, and the attached data cubes, which contain the data from the 2007-08 Energy Supply Survey).

RELATED PUBLICATIONS *continued*

8 Products released by the ABS are available from the Statistics View on the ABS web site. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

NON-ABS DATA

9 There are a number of external organisations that collect and present data on the electricity and gas supply industries. Users requiring further information should contact:

Energy Supply Association of Australia Ltd., Melbourne (03) 9670 0188 <http://www.esaa.com.au> (for key data, see the ESAA's annual publication Electricity Gas Australia)

Australian Energy Regulator, Melbourne (03) 9290 1444, <http://www.aer.gov.au> (for key data, see *State of the Energy Market 2008*)

Australian Bureau of Agricultural and Resource Economics (ABARE) Canberra, (02) 6272 2000 <http://www.abare.gov.au>.

ABS DATA AVAILABLE ON REQUEST

10 As well as the statistics included in this and related products, the ABS may have other relevant data available on request and for a charge. Inquiries should be made to the National Information and Referral Service on 1300 135 070.

TECHNICAL NOTE 1 OVERVIEW OF ELECTRICITY AND GAS MARKET REFORMS

INTRODUCTION

1 A period of market reform over the past two decades has created significant changes to electricity and gas business structures.

MARKET DIVERSIFICATION

2 A continuing trend has been the diversification of businesses. This has seen electricity supply businesses enter the gas supply market and, conversely, gas supply businesses enter the electricity supply market as opportunities expand within these markets. Diversification has also occurred geographically, allowing growth of businesses and diversified sources of risk and exposure to state wholesale markets[3].

3 For more information on electricity and gas market reforms and their impact on ABS statistics, please see *Industry Background* in Chapters 2 and 3 of *Electricity, Gas, Water and Sewerage Operations, Australia, 2006-07* (cat. no. 8226.0).

ELECTRICITY MARKET REFORMS

4 Since 1991, governments in Australia have been undertaking structural reform of the electricity market.

CHRONOLOGY OF KEY ELECTRICITY INDUSTRY REFORMS(a)(b)

Year	*Reform*
1991	The Special Premiers' Conference in 1991 established the National Grid Management Council to coordinate the development of the electricity industry in eastern and southern Australia (c). State owned utilities were disaggregated into separate generation, transmission, distribution and retail supply entities, corporatised and, in some jurisdictions, sold to the private sector.(c)
1994	The introduction of competitive wholesale and retail electricity markets resulted in trading across state borders.
1996	New South Wales, ACT, Queensland, Victoria and South Australia passed the National Electricity Law, and created the National Electricity Market (NEM).(d)
1998	Establishment of the NEM, linking the ACT, New South Wales, Victoria, South Australia, and Queensland, and later Queensland (2000-01), and Tasmania (2005-06).(c)
2007	Council of Australia Governments (COAG) established an industry funded Emerging Market Operator for both electricity and gas, replacing both the National Electricity Market Management Company (NEMMCO) and the gas market operators. Operational as from July 2009.

(a) While it was impractical for Western Australia to join the NEM, it was consistent with the other states in that it was historically dominated by a single, vertically integrated utility under government ownership. The Western Australian Government disaggregated the electricity utility Western Power Corporation into four separate, state-owned entities in 2006. Later that year, a wholesale electricity market was established.

(b) Given the scale of the Northern Territory Market, a 'bilateral contracting' system was reintroduced under which generators are responsible for dispatching the power their customers require. In 2000, the electricity market was open to competition. The introduction of full retail contestability is currently scheduled for 2010.

(c) Australian Bureau of Statistics (2008) Electricity, Gas, Water and Waste Services, Australia, 2006-07, ABS cat. no. 8226.0, ABS, Canberra.

(d) Australian Energy Regulator (2008), State of the Energy Market 2008.

GAS MARKET REFORMS

5 The current gas supply industry reflects the result of the restructuring which began in the early to mid 1990s.

1 Australian Energy Regulator (2008), State of the Energy Market 2008

CHRONOLOGY OF KEY GAS INDUSTRY REFORMS(a)

Year	*Reform*
1990 - onwards	Restructuring of the gas industry commenced. As in the electricity supply industry, vertically integrated businesses have formed separate business units to undertake various stages of distribution and other activities. Increased competition was introduced along the various stages of the distribution chain with the entry of new businesses.
1997	The 1997 National Gas Pipelines Access Agreement introduced full retail contestability (FRC) providing all gas users their choice of supplier.
2007	Queensland introduced FRC, with the result that now all states and territories, except the Northern Territory, permit customers to enter a supply contract with a retailer of their choice. Council of Australian Governments established the National Energy Market Operator (NEMO) in June 2009.

(a) Australian Bureau of Statistics (2008) Electricity, Gas, Water and Waste Services, Australia, 2006-07, ABS cat. No. 8826.0, ABS, Canberra (direct quotes)

TECHNICAL NOTE 2 WHAT IS AN ALTERNATIVE VIEW AND WHY WAS IT UNDERTAKEN?

INTRODUCTION

1 An alternative view provides a measure of economic activity for a segment of the economy that involve a combination of industry classes as defined by ANZSIC. This involves identifying and reclassifying existing statistics. The ABS has developed some alternative industry views, particularly to address data needs in emerging areas and to support some industry-based policy. For example, the alternative view of the 'resources industry' published in 2002, presented a broad view of the mining industry in Western Australia for the years 1995-96 to 1999-2000. In addition, the March 2007 issue of the Western Australian Statistical Indicators (ABS, 2002b and 2007b) provided some alternative view information for the 'resources industry' for 2001-02 to 2005-06.

2 There is a range of alternative views possible for any segment of the economy and how the alternative view is derived is based on users needs and data availability. However, it must be noted that each one is among many that are equally statistically valid. It is also important to note that while alternative views often generate a larger "industry" than that defined by ANZSIC (e.g. gas supply in this publication), this is the result of reclassification, and not an extension of ANZSIC industry boundaries.

3 The methodology developed in *Research Paper: Developing An Alternative View of Electricity and Gas Supply Activity in Australia, 2003-04* (cat. no. 4647.0.55.001) is an example of such an alternative view, which has been applied in this publication to produce the estimates in Chapters 1-3.

WHY AN ALTERNATIVE VIEW?

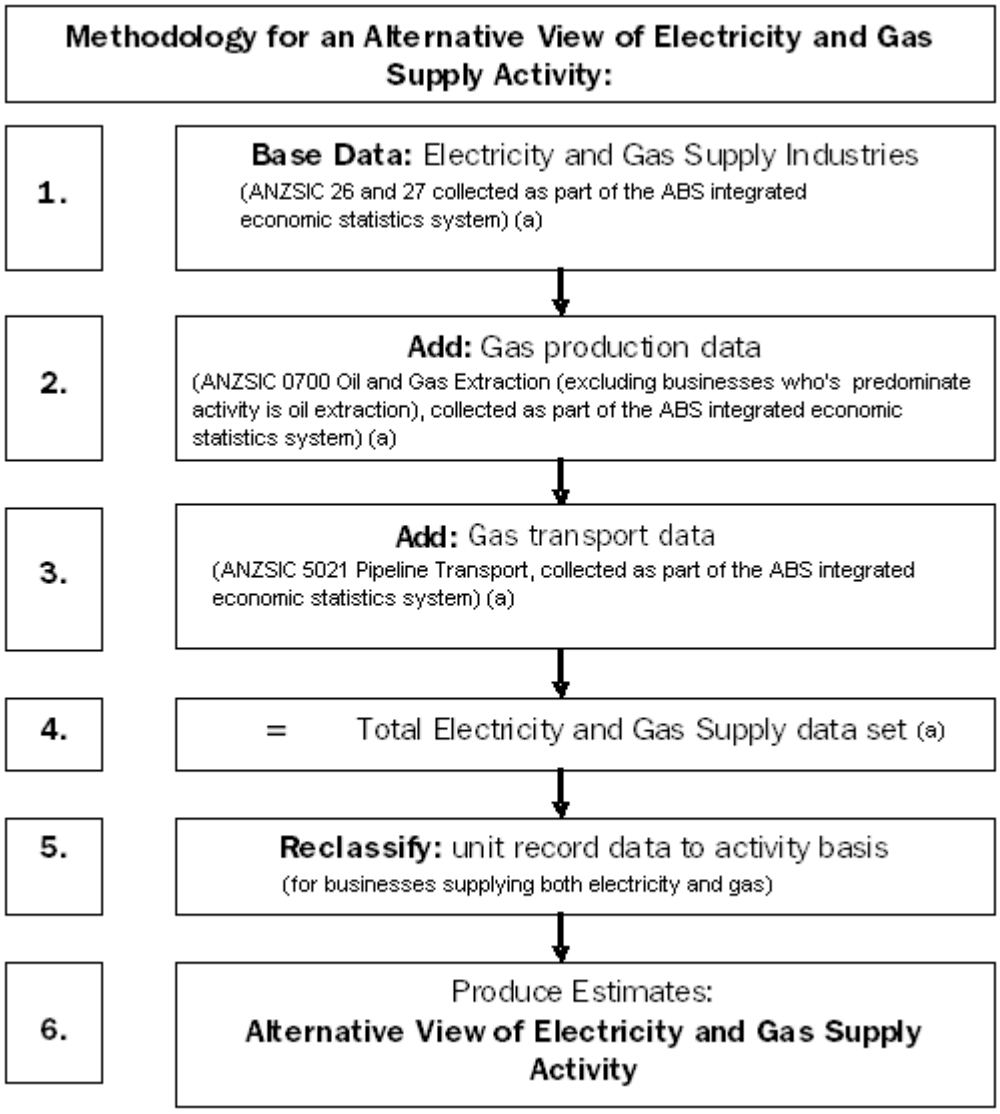
4 The alternative view of electricity supply and gas supply activity presented in this publication was developed in response to user demand for more detailed information on the electricity supply and gas supply segments of the economy. While ABS energy statistics stakeholders have highlighted the importance of ABS Industry Statistics they have also requested more information on the effects of the competition reforms of the 1990s on the structure of electricity and gas supply industries.

5 The alternative activity view provides analytically useful activity statistics which differ significantly to current ABS industry statistics, particularly for gas supply. However, the alternative activity view should be considered to complement, rather than replace, the existing ANZSIC-based electricity and gas industry statistics. These existing industry statistics are essential for producing consistent economy wide industry statistics that are utilised for national accounting purposes and for macro-level industry analysis.

TECHNICAL NOTE 3 METHODOLOGY USED TO GENERATE ALTERNATIVE VIEW

INTRODUCTION

1 The methodology developed in an *Research Paper: Developing an Alternative View of Electricity and Gas Supply Activity in Australia* (cat. no. 4647.0.55.001) has been applied in this publication to produce estimates in Chapters 1-3, see the following diagram.



(a) Sourced from 8155.0 Australian Industry, 2007-08

GAS PROPORTION OF MINING AND TRANSPORT

2 Data on the gas supply industry is supplemented with data on gas extraction and transport from the mining and transport industries. Businesses mainly engaged in the extraction of gas and the high-pressure transport of gas are classified to the ANZSIC 2006 industry Divisions B: Mining and I: Transport, Postal and Wholesaling respectively, and not to the gas supply industry. The purpose of this treatment is to ensure consistency

GAS PROPORTION OF MINING AND TRANSPORT *continued*

with the ANZSIC 2006 classificatory framework, which groups business units carrying out similar productive activities, together within an industry boundary.

3 This treatment is sound for energy statistics users who wish to focus on domestic and international industry comparisons. However, some energy statistics users wish to focus exclusively on productive activity associated with specific energy products, which may be produced and value added across a number of ANZSIC industries. The focus of this alternative view is to assist these users by using a methodology to derive estimates of productive activity associated with electricity supply and gas supply irrespective of the industry associated with the productive activity.

RECLASSIFYING ELECTRICITY AND GAS ACTIVITY

4 Industry statistics assign businesses to ANZSIC 2006 industries on the basis of predominant activity, and compile statistics for each industry based on the data for businesses assigned to that industry.

5 The alternative view presented in this publication reclassifies the data for businesses to either electricity supply or gas supply. This is simple for those businesses involved in electricity supply (but not gas supply) or gas supply (but not electricity supply), with all data allocated to electricity supply and gas supply respectively.

6 For those businesses involved in both electricity supply and gas supply, the data needs to be split between these two activities. For sales and service income (referred to as "sales" hereafter), data for total sales, electricity supply sales and gas supply sales is available for each business. Any sales from other sources are allocated to electricity supply and gas supply in proportion to electricity supply sales and gas supply sales.

7 For the other key data items, Industry Value Added (IVA), Wages and salaries (W&S) and Employment, only the total for each of these data items was collected for each business, and a methodology is required to split these totals between electricity supply and gas supply.

8 For those businesses involved in electricity supply (but not gas supply) or gas supply (but not electricity supply), the sales per IVA, sales per W&S and sales per Employment ratios are known across all those businesses supplying only electricity and across all those businesses supplying only gas. It would seem reasonable to assume that these ratios be maintained for each of the electricity supply and gas supply components of "mixed" businesses. So an estimate of electricity supply IVA (E_{IVA}) for a mixed business is calculated as the total IVA of the business multiplied by the sales per IVA across all those businesses supplying only electricity. An estimate of gas supply IVA (G_{IVA}) for a mixed business is calculated similarly. Estimates for electricity/gas supply for W&S and Employment for a mixed business are calculated in the same way.

9 But these estimates of electricity and gas supply data items for a mixed business will not sum to the total for the data item for that mixed business (for example, total IVA (T_{IVA})). To ensure the electricity and gas supply estimates sum to the required total, a factor (for example, for IVA the factor will be $T_{IVA} / (E_{IVA} + G_{IVA})$) is applied to each of the estimates to provide final estimates. This not only ensures that the electricity and gas supply estimates sum to the required total, but also ensures that the relativities between electricity supply and gas supply ratios are maintained.

GLOSSARY

ABN unit The statistical unit used by the ABS to represent businesses, and for which statistics are reported, in most cases. The ABN unit is the business unit which has registered for an ABN, and thus appears on the ATO administered Australian Business Register. In most cases, the ABN unit represents the legal entity. This unit is suitable for ABS statistical needs when the business is simple in structure. For more significant and diverse businesses where the ABN unit is not suitable for ABS statistical needs, the statistical unit used is the type of activity unit (TAU).

Alternative Activity View An alternative activity view provides a measure of economic activity by business activity. Primary and secondary activities of businesses are reassigned to their corresponding activity instead of all being assigned to the predominate activity of the business (which is the approach taken in official industry statistics). This involves identifying and reclassifying existing statistics based on activity.

Alternative Industry View An alternative industry view (or "alternative view") aims to provide a measure of economic activity for a segment of the economy that comprises a combination of industry classes as defined by the ANZSIC. This involves identifying and reclassifying existing statistics.

Australian and New Zealand Standard Industrial Classification The Australian and New Zealand Standard Industrial Classification (ANZSIC) is the standard classification used in Australia and New Zealand for the collection, compilation, and publication of statistics by industry. The 2006 edition is currently being used.

Business A business is generally considered to be a person, partnership, or corporation engaged in business or commerce; for example, an electricity generating business.

In this publication, the term represents the ABN unit or type of activity unit (TAU), which are the two standard statistical units for the 2007-08 EAS collections (these two units are explained under separate entries).

Electricity Supply Activity Electricity supply activity consists of electricity generation, electricity transmission, electricity distribution, and on selling electricity and electricity market operation.

- Electricity Generation- Consists of units mainly engaged in the generation of electricity. ANZSIC 2006 industry classes include fossil fuel electricity generation, hydro-electricity generation and other electricity generation.
- Electricity Transmission- Consists of units mainly engaged in operating high voltage electricity transmission systems including lines and transformer stations. These units transmit or facilitate the transmission of electricity from the generating source to the low voltage electricity distribution system.
- Electricity Distribution- Consists of units mainly engaged in operating low voltage electricity distribution systems, including lines, poles, meters and wiring, that deliver electricity to final consumers.
- On Selling Electricity and Electricity Market Operation- Consists of units mainly engaged in on selling electricity via power distribution systems operated by others. It also includes units mainly engaged in providing services to the electricity market which facilitate the matching of supply and demand for electricity.

Electricity Supply Chain Electricity is produced at power stations (generators) using renewable and non-renewable fuel sources, including coal, gas, water (hydro), biomass and wind. The electricity is transported from power stations through the high-voltage transmission network. Electricity leaves the power stations at a very high voltage (up to 330,000 volts) so it can travel long distances efficiently. As the electricity gets closer to where it will be

Electricity Supply Chain *continued*

used, its voltage is reduced to a lower voltage (110,000 to 132,000 volts) at high-voltage substations. In some cases, electricity goes directly to some very large customers, such as aluminium smelters. High-voltage transmission networks transfer electricity to a local electricity distribution network via a 'bulk supply' substation in the region where it will be used. The distribution network consists of transformers, overhead powerlines, underground cables, circuit breakers and other network equipment. Various substations and transformers within the distribution network reduce the level of the electricity voltage in a series of steps as it is transported to connection points at homes and businesses.

Employment (as at the end of the financial year)

This refers to the number of persons employed during the last pay period ending in June of the given year. It excludes persons paid by commission only, non-salaried directors, and self-employed person such as consultants and contractors.

Gas Supply

In this publication the term 'gas supply' refers to the alternative view of gas supply activity, defined as ANZSIC 2006 codes 0700, 5021 and 2700.

Gas Supply Activity

Gas Supply Activity consists of gas extraction, gas transport and gas distribution.

- Gas Extraction - consists of units mainly engaged in extracting natural gas through the extraction of gas deposits.
- Gas Transport - consists of units mainly engaged in the transportation of natural gas via pipelines. Note that the terms gas transport and gas transmission both refer to the transportation of natural gas via pipelines and are often interchangeably used.
- Gas Distribution, wholesaling and retailing - consists of units primarily engaged in the distribution of gas such as natural gas or liquefied petroleum gas through mains systems. Along with units mainly engaged in on selling gas via gas distribution systems operated by others. It also includes units mainly engaged in providing services to the gas market which facilitate the matching of supply and demand for gas.

Gas Supply Chain

The supply chain for gas begins with the extraction of gas from wells in gas fields. The extracted gas often requires processing to separate the methane from liquids and gases that may be present, and to remove any impurities. The gas extracted from a well can be used on site as a fuel for electricity generation or other purposes. More commonly, however, gas fields and processing facilities are located some distance from the cities, towns and regional centres where the gas is consumed. High pressure transmission pipelines are used to transport natural gas from source over long distances. A network of distribution pipelines are then used to deliver gas from points along the transmission pipelines to industrial customers and from gate stations (or city gates) for the reticulation of gas in cities, towns and regional communities.

Industry value added (IVA)

IVA represents the value added by industry to the intermediate inputs used by the industry. IVA is the measure of contribution by businesses to gross domestic product.

The derivation of IVA is as follows:

	Sales and service income
plus	Funding from Federal, State and/or local government operational costs
plus	Capital work-done for own use
plus	Closing inventories
less	Opening inventories
less	Purchases of goods and materials
less	Other intermediate input expenses
equals	IVA

However, it should be noted that IVA is not a measure of operating profit before tax (OPBT). Wage and salary expenses and most of the 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.

Sales and service income

Includes:

Sales and service income *continued*

Sales of goods, whether or not produced by the business (including goods produced for the business on a commission basis). Includes export sales, sales or transfers to related businesses or to overseas branches of the business, progress payments relating to long term contracts if they are billed in the period, delivery charges not separately invoiced to customers, sales of goods produced by the business from crude materials purchased, and income from 'specific' rates (e.g. water, sewerage, irrigation and drainage rates). Excludes excise and duties received on behalf of the government (e.g. the petroleum production excise duty), sales of assets, natural resource royalties income, interest income, and delivery charges separately invoiced to customers. Exports are valued free on board (f.o.b.), i.e. export freight charges are excluded.

Income from services, includes income from consulting services, repair, maintenance and service income and fees, contract, subcontract and commission income, management fees/charges from related and unrelated businesses, installation charges, delivery charges separately invoiced to customers and royalties from intellectual property (e.g. patents and copyrights) and natural resource royalties income. For the electricity supply and gas supply industries, also includes transmission and distribution income. Excludes interest income, and delivery charges not separately invoiced to customers.

Rent, leasing and hiring income, derived from the ownership of land, dwellings, buildings and other structures, motor vehicles, plant, machinery and other equipment. Excludes royalties from mineral leases, income from finance leases and payments received under hire purchase arrangements.

These are valued net of discounts given and exclusive of goods and services tax (GST). Extraordinary items are also excluded.

Type of activity unit (TAU)

The TAU is the statistical unit used by the ABS to represent businesses, and for which statistics are reported, in cases where the ABN unit is not suitable for ABS statistical needs.

The TAU comprises one or more business entities, sub-entities or branches of a business entity within an enterprise group that can report production and employment data for similar economic activities. When a minimum set of data items are available, a TAU is created which covers all the operations within an industry subdivision (and the TAU is classified to the relevant subdivision of the ANZSIC). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry subdivision.

Wages and salaries

The gross wages and salaries (including capitalised wages and salaries) of all employees of the business. The item includes severance, termination and redundancy payments, salaries and fees of directors and executives, retainers and commissions of persons who received a retainer, bonuses, and annual and other types of leave. Provision expenses for employee entitlements (e.g. provisions for annual leave and leave bonus, long service leave, sick leave, and severance, termination and redundancy payments) are also included, as are salary sacrificed earnings and remuneration of employees in the form of share based payments and stock options. (Note that in issues of this publication prior to 2006-07, salary sacrificed earnings and remuneration of employees in the form of share based payments and stock options were reported under related expense items. For example, salary sacrificed for superannuation was included in employer contributions into superannuation.)

Payments related to self-employed persons such as consultants, contractors and persons paid solely by commission without a retainer are excluded. The drawings of working proprietors and partners are also excluded.

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PHONE 1300 135 070

EMAIL client.services@abs.gov.au

FAX 1300 135 211

POST Client Services, ABS, GPO Box 796, Sydney NSW 2001

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