



Australian Government  
Department of Education, Employment  
and Workplace Relations



# Employment Outlook for Electricity, Gas, Water and Waste Services



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## Introduction

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Electricity, Gas, Water and Waste Services is the smallest employing industry in Australia (of a total of 19 industries<sup>1</sup>), employing 144 300 people (or 1.3 per cent of the total workforce) as at February 2009. While there is a constant demand for the utilities provided by the Electricity, Gas, Water and Waste Services industry, employment is affected by economic cycles and industry policies, especially deregulation of energy markets.

The industry is roughly divided into eight sectors: Electricity Generation; Electricity Transmission; Electricity Distribution; On Selling Electricity and Electricity Market Operation; Gas Supply; Water Supply, Sewerage and Drainage Services (abbreviated to Water, Sewerage and Drainage); Waste Collection Services; and Waste Treatment, Disposal and Remediation.

The discussion below focuses on employment characteristics, trends and prospects in the Electricity, Gas, Water and Waste Services industry, and highlights sectors where job growth is strongest. The analysis of characteristics includes workforce ageing, employment share by gender, educational profile, weekly earnings, average hours worked, regional and occupational employment and vacancies.

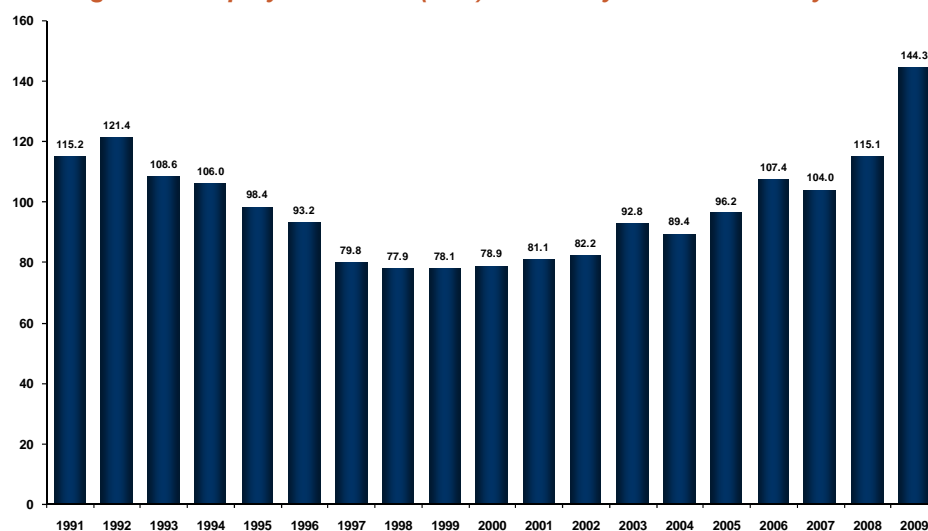
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<sup>1</sup> DEEWR Industry Employment Outlooks use the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06)

## Employment Growth

In recent years, employment in the Electricity, Gas, Water and Waste Services industry has shown variable growth (see Figure 1). Employment in the industry fell sharply during the 1990s from a peak of 121 400 in February 1992 to a low of 77 900 in February 1998 (the lowest recorded level since the trended series began in 1984), a fall of 35.8 per cent over the six year period. Employment has recovered in recent years and reached a peak of 144 300 in February 2009. In the five years to February 2009, the average annual growth rate has been 10.0 per cent, the second largest annual growth rate of all 19 industries.

**Figure 1: Employment Level ('000) - February 1991 to February 2009**

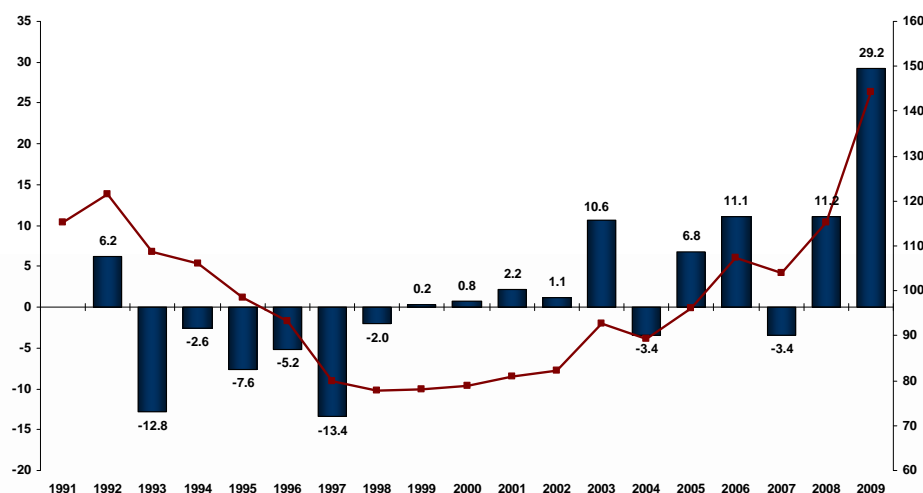


Source: ABS Labour Force Survey (DEEWR Trend data)

Employment in the Electricity, Gas, Water and Waste Services industry is influenced by the economic cycle, demand and supply factors within the domestic economy, industry policies and longer term trends in the energy industry.

During the recessionary period of the early 1990s, there were falls in employment, particularly in the year to February 1993 (down by 12 800 – see Figure 2). Employment then rose to a 25 year high of 144 300 in February 2009 with an increase of 29 200.

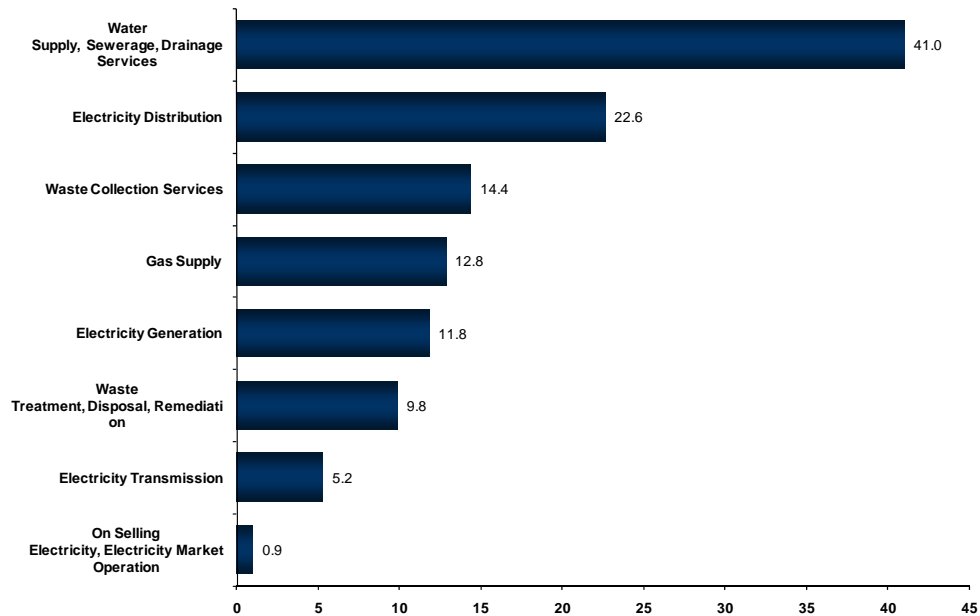
**Figure 2: Employment Level (line RHS) and Annual Change ('000) in year to February (cols LHS)**



Source: ABS Labour Force Survey (DEEWR trend data)

When employment in the Electricity, Gas, Water and Waste Services industry is broken down into specific sectors, the main contributors to employment can be identified. Figure 3 shows that employment in the industry is dominated by Water, Sewerage and Drainage, which accounted for 41 000 workers (or 34.6 per cent of industry employment) in February 2009. Electricity Distribution employed 22 600 workers (or 19.1 per cent). On Selling Electricity and Electricity Market Operation (900 or 0.8 per cent) and Electricity Transmission (5200 or 4.4 per cent) employed the smallest number of workers in the industry.

**Figure 3: Electricity, Gas, Water and Waste Services - Employment Level ('000) - February 2009**



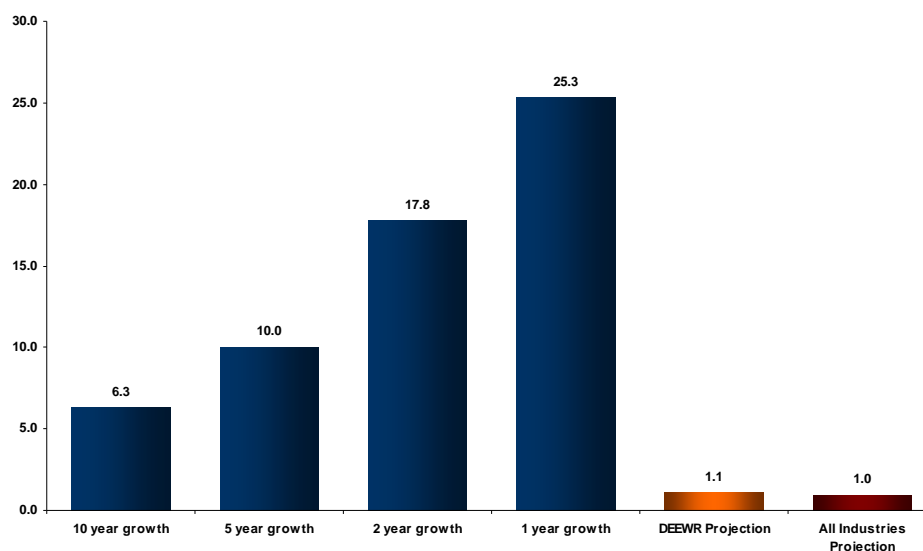
Source: ABS Labour Force Survey (DEEWR trend data)

## Employment Prospects

The Department of Education, Employment and Workplace Relations (DEEWR) prepares annual updates of employment projections for industries for the next five years. These are based in part on the Monash model developed by the Centre of Policy Studies at Monash University, but also take into account recent employment trends and prospective industry developments. It should be noted that a certain degree of risk is attached to these employment projections, especially for sectors within the broader Electricity, Gas, Water and Waste Services industry.

In the five years to 2013-14, employment in the Electricity, Gas, Water and Waste Services industry is expected to increase at an average rate of 1.1 per cent per annum, which equates to an increase of around 7900 jobs (see Figure 4). This compares with an average annual growth rate of 1.0 per cent across all industries over the same period.

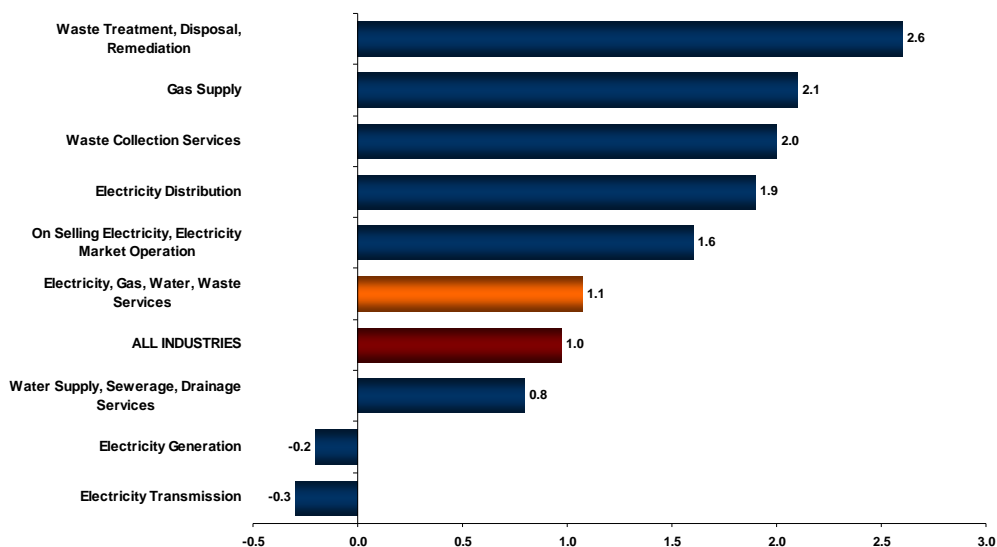
**Figure 4: Recent and Projected Employment Growth (% pa) - to February 2009 (past) and 5 years to 2013-2014 (projected)**



Source: ABS Labour Force Survey (DEEWR trend data); DEEWR projections

Employment growth projections for sectors in the Electricity, Gas, Water and Waste Services industry are varied (see Figure 5). Water Treatment, Disposal and Remediation is projected to have the strongest employment growth of all the industry sectors (up by 2.6 per cent per annum), followed by Gas Supply (up by 2.1 per cent per annum) and Waste Collection Services (up by 2.0 per cent per annum).

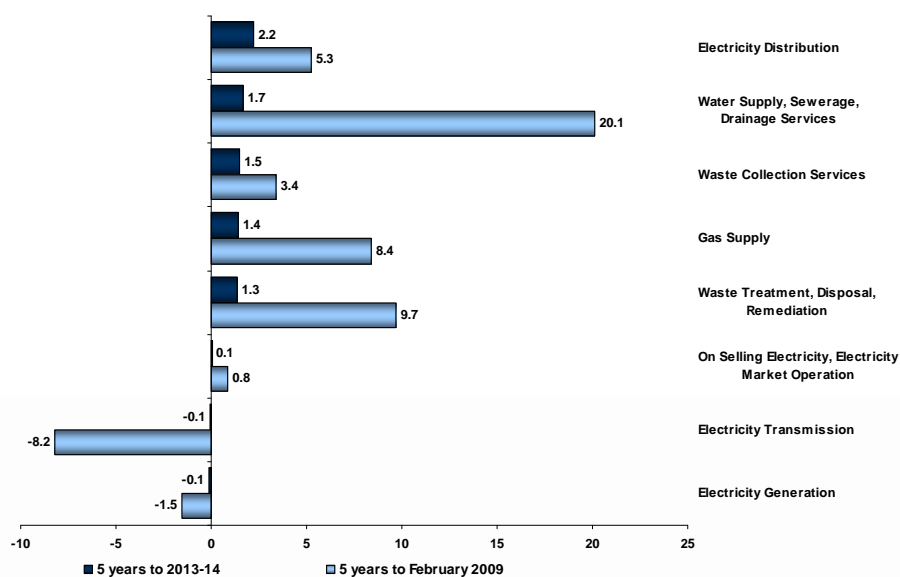
**Figure 5: Projected Employment Growth (% pa) to 2013-2014**



Source: DEEWR projections

As Figure 6 shows, in the five years to February 2009, the largest job gains have been in Water Supply, Sewerage and Drainage Services (up by 20 100). In the five years to 2013-14, employment growth across five of the eight sectors is projected to increase. Electricity Distribution is expected to be the main driver behind growth (up by 2200) followed by Water Supply, Sewerage and Drainage Services (1700) and Water Collection Services (1500).

**Figure 6: Electricity, Gas, Water and Waste Services Sectors, Recent and Future Employment Growth ('000) - 5 years to February 2009 (past) and to 2013-14 (projected)**

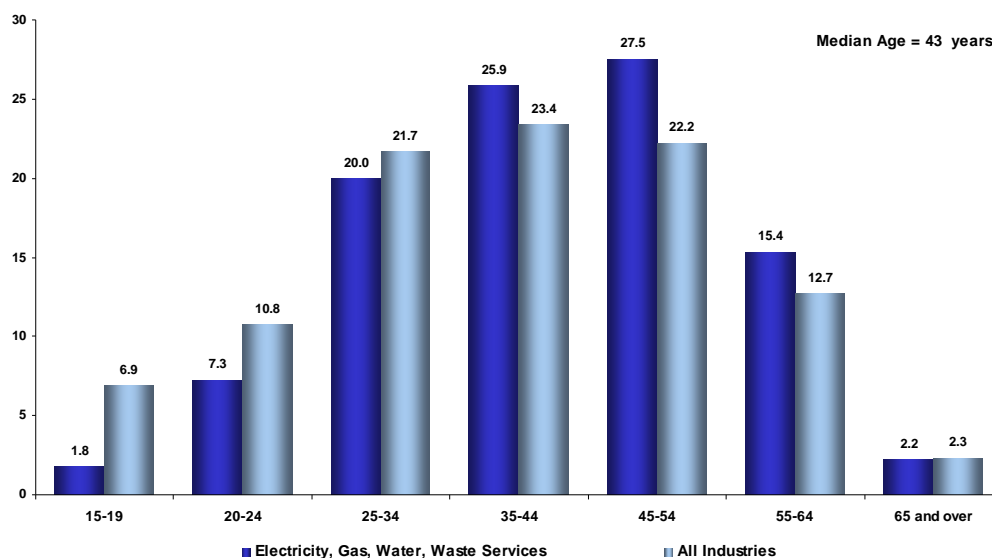


Source: ABS Labour Force Survey (DEEWR trend data); DEEWR projections

## Workforce Ageing

The Electricity, Gas, Water and Waste Services industry has an older than average workforce relative to all industries. More than four in ten workers (45.1 per cent) of the industry's workforce were aged 45 years and over in 2008, with a large proportion of workers aged 45 to 54 years (27.5 per cent - see Figure 7). The Electricity, Gas, Water and Waste Services industry has a below average share of younger workers aged 15 to 19 years (1.8 per cent) and 20 to 24 years (7.3 per cent). The median age for workers in Electricity, Gas, Water and Waste Services was 43 years while the median age for all industries was 37 years.

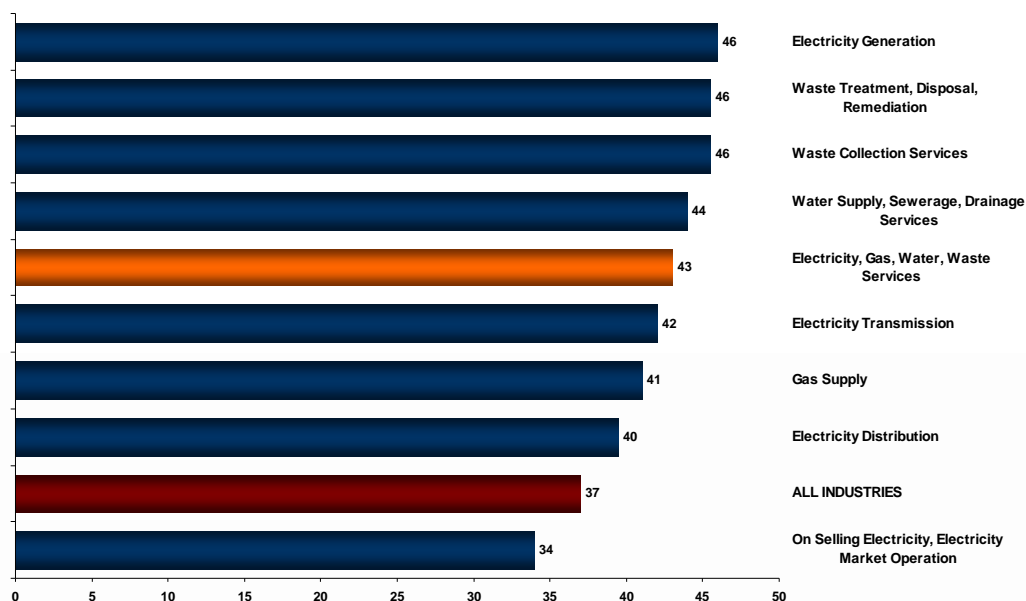
**Figure 7: Employed Persons by Age compared with All Industries (% share of employment) - 2008**



Source: ABS Labour Force Survey

The median age for each sector within the Electricity, Gas, Water and Waste Services industry varies from 46 years in Electricity Generation to 34 years in On Selling Electricity and Electricity Market Operation (see Figure 8).

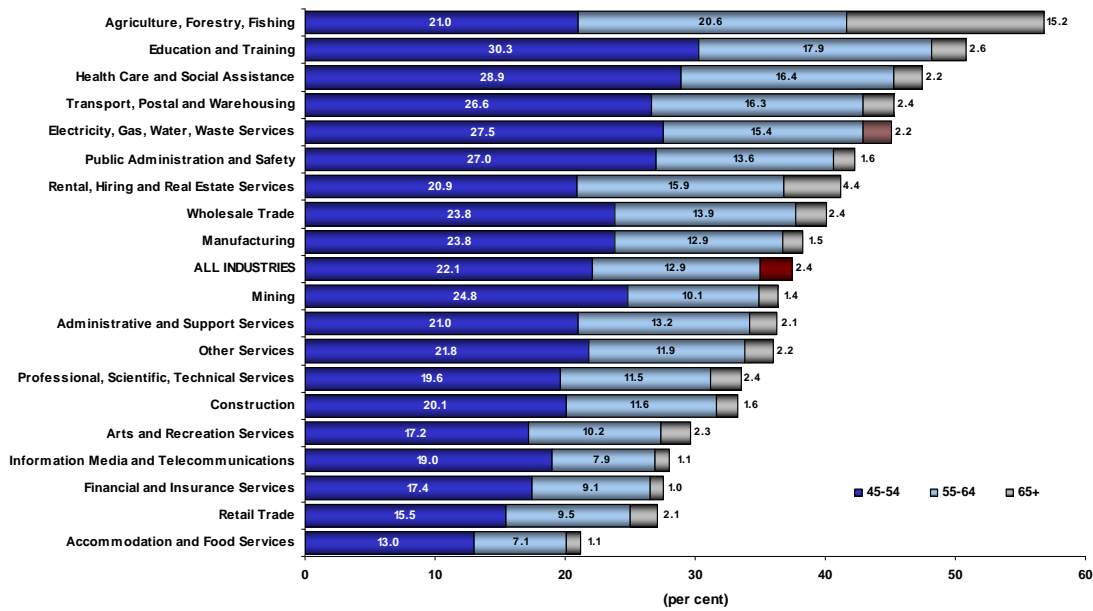
**Figure 8: Electricity, Gas, Water and Waste Services Sectors - Median Age in years – 2008**



Source: ABS Labour Force Survey

The Electricity, Gas, Water and Waste Services industry has a relatively high share of workers aged 45 years and over. In 2008, four in ten workers (45.1 per cent) in the industry were aged 45 years and over, compared with 37.4 per cent for all industries (see Figure 9). The bulk of the mature age workforce in the Electricity, Gas, Water and Waste Services industry were aged 45 to 54 years (27.5 per cent) while 2.2 per cent of workers were aged 65 years and over.

**Figure 9: Mature Age workers (45+ years) % share of employment – 2008**

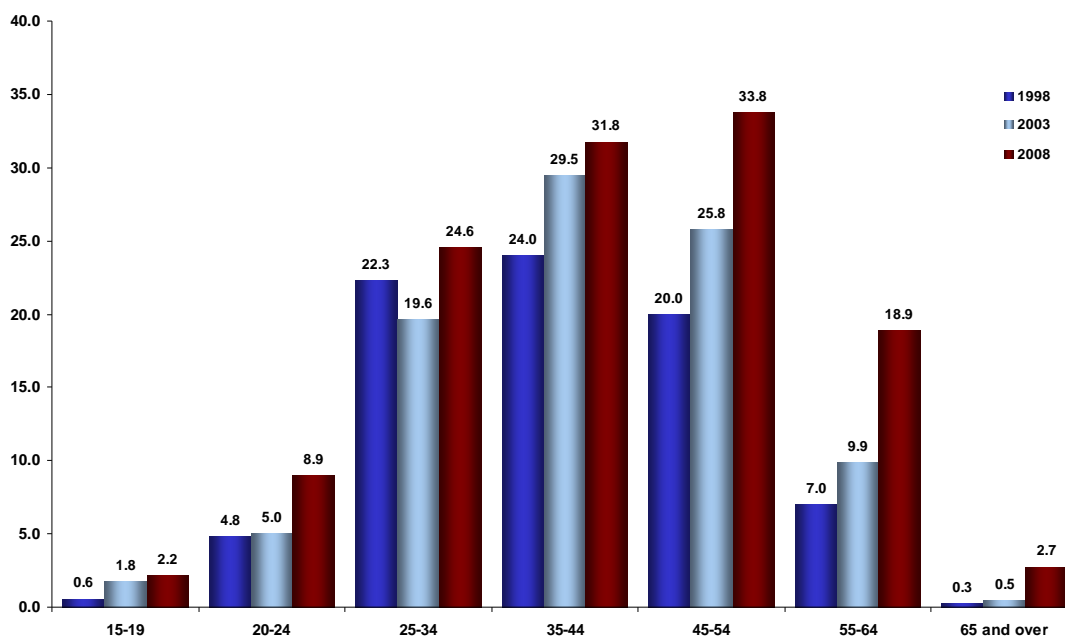


Source: ABS Labour Force Survey

Figure 10 shows employment by age group for three calendar years: 1998, 2003 and 2008. This provides a guide to the changes in employment mix by age group in the Electricity, Gas, Water and Waste Services industry. As the Australian workforce experiences an increase in the median age of the population, it is important that there is a supply of prime age and mature age workers entering the workforce.

In the ten years to 2008, all age groups within Electricity, Gas, Water and Waste Services experienced employment growth. Workers aged 45-54 years experienced the strongest employment growth (up by 13 800 or 69.0 per cent). Nevertheless, Electricity, Gas, Water and Waste Services has experienced an influx of workers in all age groups, including 15 to 34 years, thus making it less vulnerable to workforce ageing than previously.

**Figure 10: Employment by Age ('000) - 1998, 2003 and 2008**

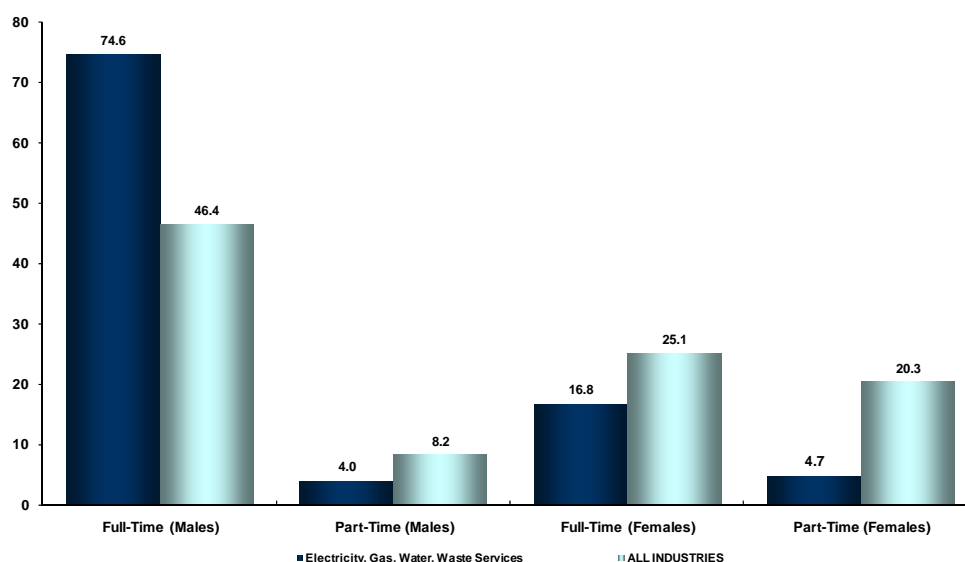


Source: ABS Labour Force Survey

## Employment by Gender and Full-time/Part-time

The Electricity, Gas, Water and Waste Services industry workforce consists predominantly of male full-time workers (74.6 per cent of industry employment - see Figure 11). In comparison, female employment, both full-time (16.8 per cent) and part-time (4.7 per cent), was below the average for all industries. Workers in the Electricity, Gas, Water and Waste Services industry are predominantly employed full-time (91.4 per cent), due in part to the nature of work within this industry.

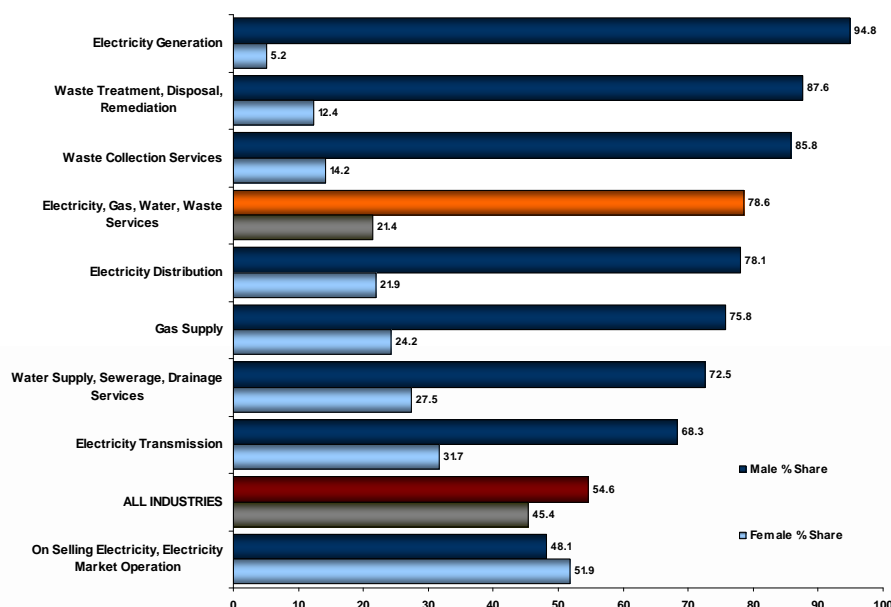
**Figure 11: Employment by Gender Full-time / Part-time (% share) - Year to February 2009**



Source: ABS Labour Force Survey

As shown in Figure 12, employment is skewed towards males across all sectors within the Electricity, Gas, Water and Waste Services industry, with the exception of On Selling Electricity and Electricity Market Operation where the female share was 51.9 per cent. In the year to February 2009, Electricity Generation employed the highest proportion of males (94.8 per cent).

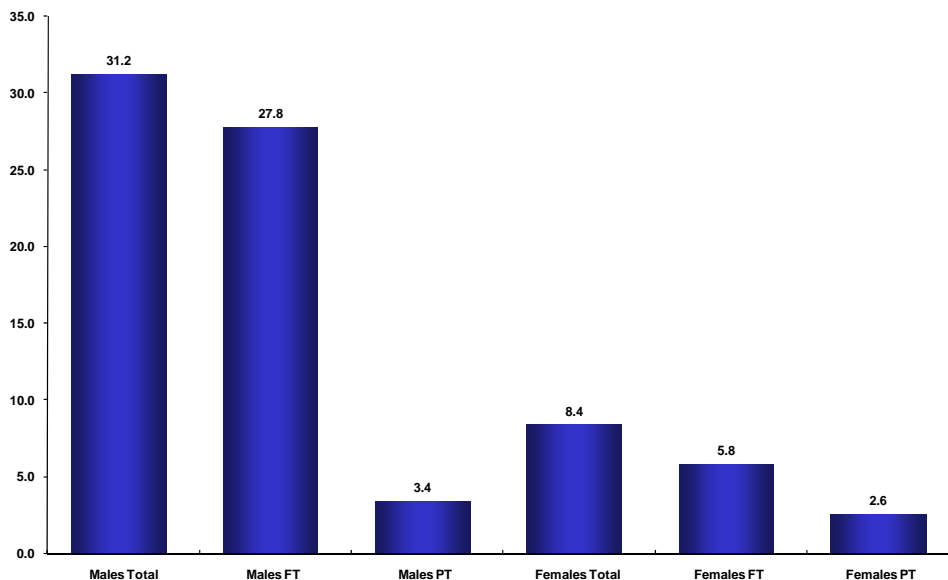
**Figure 12: Electricity, Gas, Water and Waste Services Sectors Employment by Gender (% share) Year to February 2009**



Source: ABS Labour Force Survey

In the five years to February 2009, employment growth in Electricity, Gas, Water and Waste Services was driven by an increase of male workers (up by 31 200), with nearly all of this growth attributable to male full-time workers (27 800 - see Figure 13). Employment has also risen for females over the same period, albeit by much less (up by 8400).

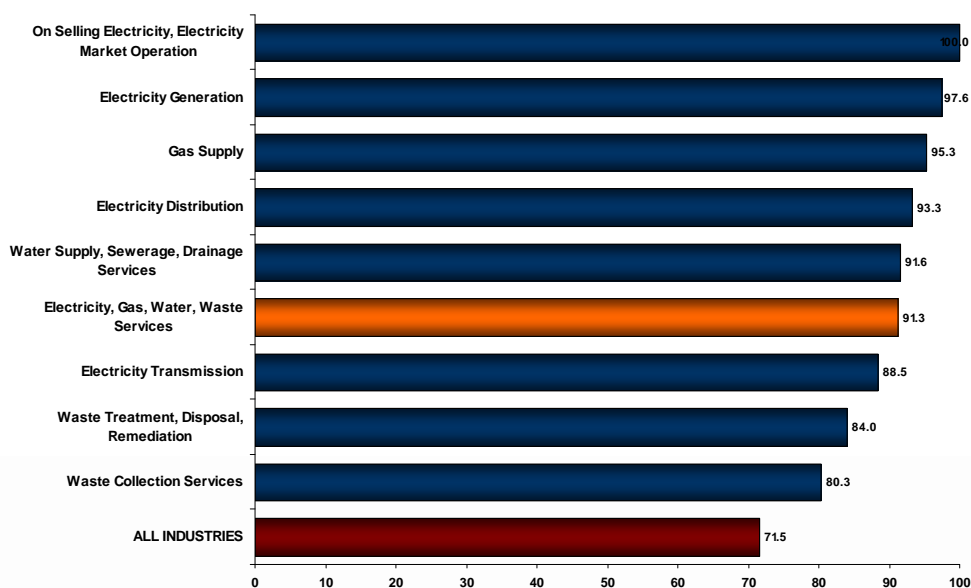
**Figure 13: Employment Growth (five years) by Gender and Full-time /Part-time year to February 2009('000)**



Source: ABS Labour Force Survey

All of the Electricity, Gas, Water and Waste Services industry sectors have a higher full-time employment share than all industries (71.5 per cent - see Figure 14). The highest full-time employment share can be found in On Selling Electricity and Electricity Market Operation (100.0 per cent), followed by Electricity Generation (97.6 per cent) and Gas Supply (95.3 per cent).

**Figure 14: Per cent share working full-time - year to February 2009**

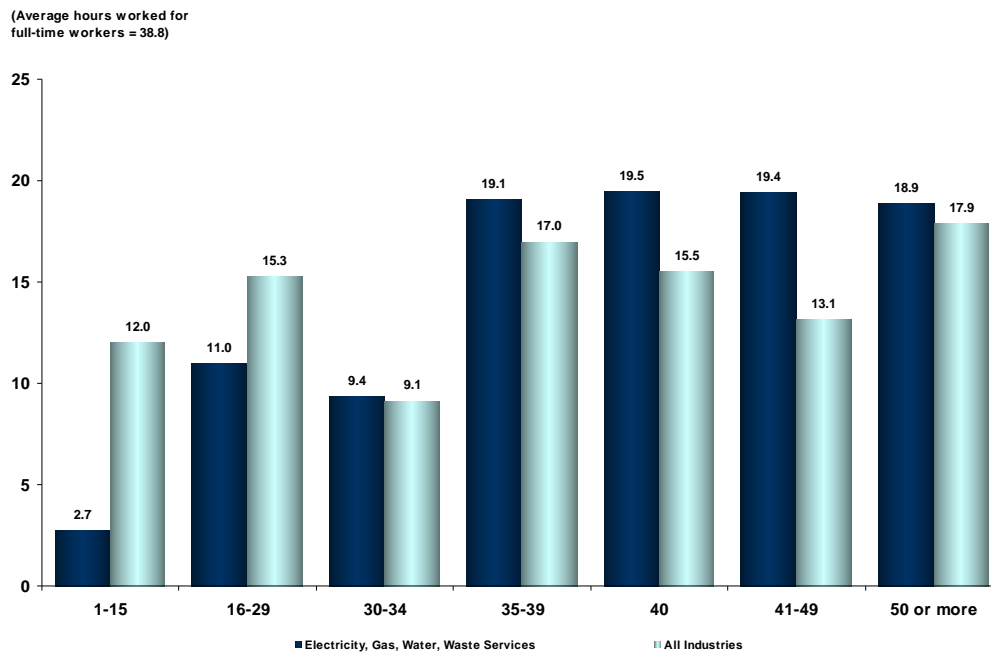


Source: ABS Labour Force Survey

## Hours Worked

In the year to February 2009, the Electricity, Gas, Water and Waste Services industry recorded below average hours worked for full-time workers (38.8 hours compared with 41.3 hours for all industries). However, the highest share of workers in Electricity, Gas, Water and Waste Services worked 40 hours per week (19.5 per cent), followed by those working 41 to 49 hours per week (19.4 per cent). The shares of those working 30 hours or more were above the shares for all industries.

**Figure 15: Hours of Work (% share) - Year to February 2009**



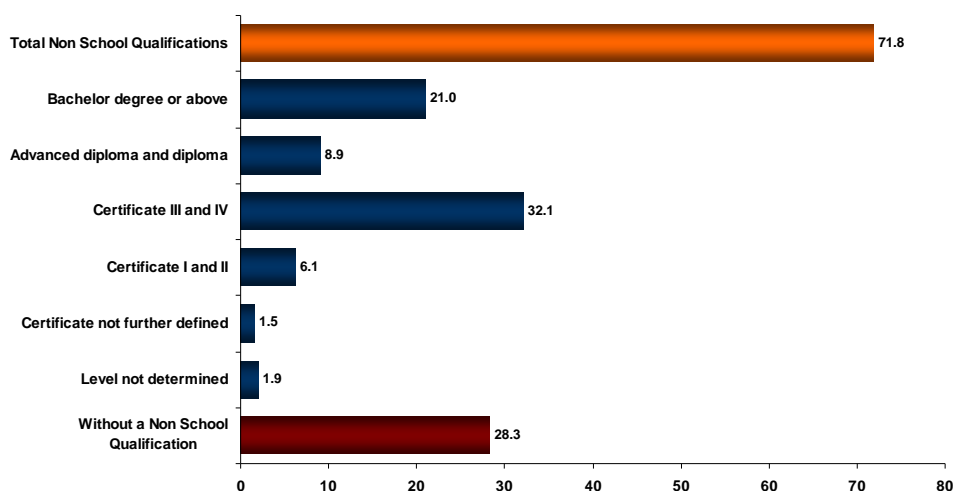
Source: ABS Labour Force Survey

## Employment Characteristics

### Educational Profile

Electricity, Gas, Water and Waste Services generally has a high educational profile, nevertheless it plays a vital role in providing job opportunities for low skilled workers. In May 2008 (latest data), 71.8 per cent of workers in the Electricity, Gas, Water and Waste Services industry had completed a non-school qualification (see Figure 16), compared with 60.2 per cent for all industries. Over one fifth (21.0 per cent) of Electricity, Gas, Water and Waste Services workers had a Bachelor degree or above, while an even larger proportion (32.1 per cent) held a Certificate III or IV qualification, attributable to those with Trades qualifications. Meanwhile, 28.3 per cent of workers in the industry were without a non-school qualification.

**Figure 16: Educational Attainment, Share of Employment (%) - May 2008**

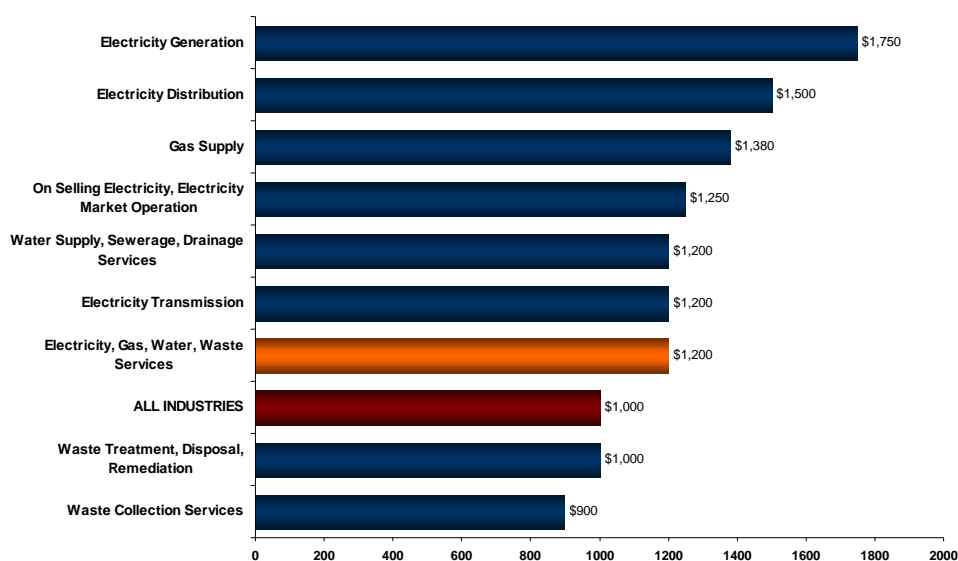


Source: ABS Education and Work, cat. no. 6227.0

## Median Weekly Earnings

The median weekly earnings of full-time Electricity, Gas, Water and Waste Services employees in August 2008 were \$1200, higher than for all industries (\$1000 - see Figure 17). Workers in the Electricity Generation sector earned the most (\$1750), followed by Electricity Distribution workers (\$1500). The higher than average earnings for workers in the industry can be explained by the higher skills needed for the majority of occupations in the Electricity, Gas, Water and Waste Services industry, particularly Trades and Engineering Professionals. These earnings data are for full-time employees, and do not reflect the earnings of self-employed or contract workers.

**Figure 17: Electricity, Gas, Water and Waste Services Sectors - Median weekly earnings (full-time and before tax) August 2008**

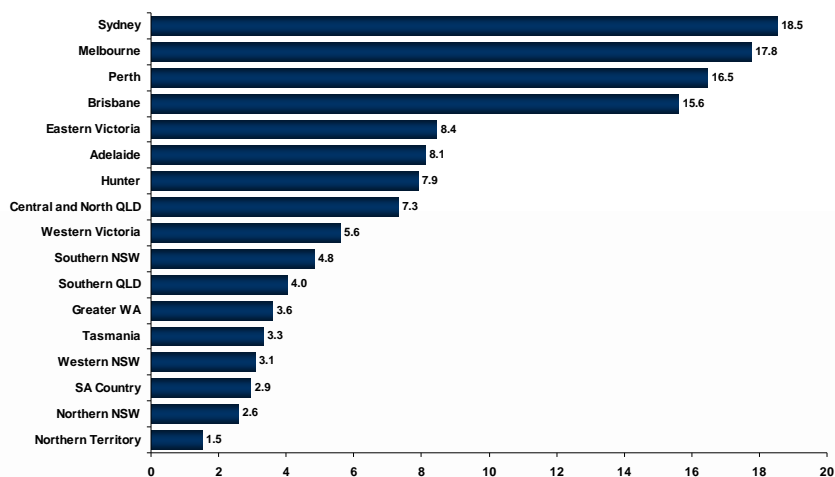


Source: ABS Employee Earnings, Benefits and Trade Union Membership, cat. no. 6310.0

## Main Employing Regions

Employment in the Electricity, Gas, Water and Waste Services industry is generally correlated with population size. In the year to February 2009, Sydney employed the largest number of workers (18 500), followed by Melbourne (17 800), Perth (16 500) and Brisbane (15 600). Conversely, employment was low in the rural areas of the Northern Territory (1500) and Northern New South Wales (2600).

**Figure 18: Main Employing Regions ('000) – year to February 2009**

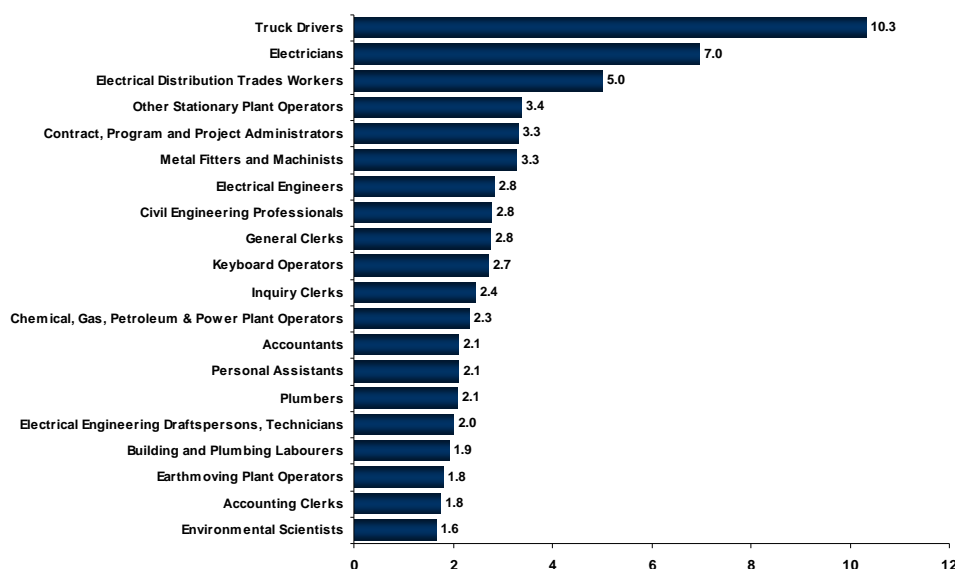


Source: ABS Labour Force Survey

## Main Employing Occupations

It is useful for job seeking and career advice, to identify key occupations within an industry. Occupations in the Electricity, Gas, Water and Waste Services industry are generally spread across the Professions and Trades, in addition to a variety of administrative positions. The largest employing occupations in the Electricity, Gas, Water and Waste Services industry were Truck Drivers (10 300), followed by Electricians (7000) and Electrical Distribution Trades Workers (5000 – see Figure 19).

*Figure 19: Top 20 Employing Occupations ('000) - in 2008*



Source: ABS Labour Force Survey

Further information on occupations is available on the Job Outlook website ([www.joboutlook.gov.au](http://www.joboutlook.gov.au)).

For further information on the Other Services industry (or other industries), visit the SkillsInfo website at [skillsinfo.gov.au](http://skillsinfo.gov.au). SkillsInfo provides a range of skills related information for industries and regions. The website offers a broad range of information on employment, careers, education and training and skills issues – including workforce ageing, skills in demand, labour force data, ICT and employability skills, as well as quick links to skills information. Data are sourced mainly from the ABS Labour Force Survey.

SkillsInfo also brings together a large collection of links to external industry and skills related websites.

