

ELECTRICITY, GAS, WATER & WASTE SERVICES



Government of South Australia
Training and Skills Commission

www.tasc.sa.gov.au

Foreword



The Commission is pleased to present this report on South Australia's Industry Priority Qualifications (IPQs). This unique report details the extensive industry collaboration and consultation process undertaken by the Commission over the last 12 months, culminating in the identification of industry's priorities across the State economy and within 18 industry sectors; the first time this has been achieved. The level of engagement with industry stakeholders exceeded the Commission's expectations, and we acknowledge the hundreds of contributions made by industry. The scope and depth of the results achieved through this collaborative approach means this work will remain important and relevant for years to come.

These Priority Qualifications Lists are a direct reflection of industry feedback and will play an important role as one of a range of inputs used by Government to determine which Vocational Education and Training qualifications will receive publicly funded support.

South Australia needs a workforce that is innovative and adaptable but most importantly, in possession of the skills required to meet the ever-changing needs of industry and the South Australian economy. This report is a valuable tool to assist in meeting this challenge.

The detailed findings contained in this report are valuable across several domains; valuable to Government in guiding public investment in skills development, and valuable to industry to better understand and compare qualification priorities across sectors. These findings are also valuable to the Commission as they provide a platform for further exploration and policy deliberations which in turn will inform future recommendations to Government as part of our State Workforce Development Plan Skills for Future Jobs 2020 to be released at the end of 2016.

While it is acknowledged that the priorities of Government and public investment may differ from those of industry, we are encouraged by the fact that this is the first time Government will have a comprehensive understanding, informed directly by industry, of the needs of industry within the context of qualification and skills priorities.

On behalf of the Commission, we extend a sincere thank you to all contributors and respondents who participated in our consultations. It is clear that the challenges facing skills development for industry are significant, but so is the appetite from Government, industry and the community to actively pursue mutually beneficial solutions.

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Anthony Kittel
CHAIR

A handwritten signature in white ink, appearing to read 'Melinda OLeary'.

Melinda OLeary
DEPUTY CHAIR

Our Members



Mr Anthony Kittel (Chair)
Chief Executive Officer, REDARC Electronics



Ms Melinda OLeary (Deputy Chair)
Nova Systems



Mr Adrian Smith
Managing Director, Rheinmetall Defence



Ms Adrienne Nieuwenhuis
Director, Office of Strategic Programs, Chancellery,
University of South Australia



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SA Branch Secretary, Maritime Union of Australia



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Government Relations and Communications
Professional



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Former Member of Parliament, School Principal
and Industry Consultant



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Deputy Members



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Alternative dispute resolution specialist



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National Coordinator: Skills, Training & Apprenticeships
with the Australian Manufacturing Workers' Union



Professor John Buchanan
Principal Advisor, Research Impact at the
University of Sydney Business School



Dr Karleen Thornton
Nursing Director, Northern Adelaide Local Health
Network

The Training and Skills Commission

The Commission, established in 2003 and later reformed in 2008, is comprised of industry, academic and community leaders with responsibility for advising the Minister for Higher Education and Skills on skills and workforce development priorities for South Australia and regulation of our Apprenticeship and Traineeship system.

The Commission also provides independent, strategic advice on how South Australia can invest in a sustainable, highly skilled workforce particularly in key growth sectors. This advice is crucial to meeting South Australia's economic and social needs, now and into the future.

Our Responsibilities

The Commission's responsibilities include:

- promoting and encouraging investment, equity and participation in, and access to vocational education and training (VET);
- monitoring, reporting and making recommendations to the Minister on the state of VET and workforce development in South Australia, including the expenditure of public money in these areas; and
- promoting pathways between the secondary school, VET, adult community education, and higher education sectors.

Executive Summary

This report represents the significant findings of the Commission's Industry Priority Qualifications Survey. With 1,138 Qualifications, Skill Sets and Accredited Courses (QSCs) identified by industry as a priority, this report provides a unique opportunity for the State Government to strategically align its investment in skills development with the qualification priorities of industry.

The 'Whole of Economy' List of Priority Qualifications was informed by 850 responses to an industry designed survey, 20 half-day consultation sessions, discussion with peak employer and employee bodies and now a final revision after being available for feedback since the launch of the Interim Report on 8 December 2015. This document represents over 800 hours of consultation activity, and is arguably the most comprehensive exploration of industry demand conducted in any jurisdiction across Australia.

Across the breadth of our State's economy there are 106 QSCs identified as Highest Priority (Tier 1), 169 identified as a High Priority (Tier 2), 225 identified as a Priority (Tier 3), 639 identified as a Low Priority (Tier 4) and 2,961 were not selected (Tier 5).

As diverse as enterprises are within our State, the results of the Commission's stakeholder consultations indicate the wide application of generic and transferable qualifications across most industry sectors. Of the 106 qualifications identified as a Tier 1 priority, approximately 50 percent are highly transferable and non-industry specific. Leadership and management, general business related qualifications as well as work, health and safety qualifications were routinely identified as a high priority across most industry sectors.

These results are complemented by qualitative insights gathered from extensive conversations with our industry Partners, which in turn has enabled the identification of key trends and workforce development challenges in South Australia.

These include:

- The increasing complexity of the Vocational Education and Training (VET) sector is proving difficult to understand and navigate;

- Formal training is not always the answer to the workforce development needs of industry;
- Enterprises highly value skills that increase the internal mobility and capabilities of employees;
- The Australian Qualifications Framework (AQF) and Training Packages are inconsistent and often misunderstood by many engaged in the VET system;
- Continual changes to the level of public subsidy for VET qualifications at both a State and Commonwealth level diminishes business planning capability;
- The capacity of industry to invest in skills development varies widely between sectors and sub-sectors, as well as between small and large employers;
- As diverse and unique as our State's economy is in the national context, so too are the unique needs of our regions when compared to the broader South Australian economy; and
- High growth employers have demonstrated differing needs than those employers experiencing subdued conditions.

Throughout the process of consultation the Commission has remained committed to its principles of transparency with its approach and methodology.

The final consultation phase and work of the Commission has reaffirmed the strength of this engagement, with some (though not extensive) changes in priorities that reflect additional stakeholder feedback and analysis.

The Commission is confident that the 'Whole of Economy' Priority Qualifications List now represents the best platform South Australia has ever had to guide Government investment in VET towards industry need. These qualifications have been self-identified by industry and have been considered in the context of the wider economy. Discussions with our industry Partners and stakeholders were extensive to the point of being able to consider individual qualifications and their place in our diverse VET sector.

It is not always the case that VET qualifications are undertaken for the purposes of employment or improving business productivity. It is therefore important to understand the role that VET plays in our society in the broader context. The Commission has long provided support and analysis on the importance of the VET sector in social inclusion, and recognises the integral part that Adult Community Education (ACE) plays in providing pathways that encourage participation in work and community.

In this report, the Commission has provided suggestions on how the South Australian Government should treat the findings as well as identifying opportunities for future policy work.

That said, this report is a platform for industry as much as a blueprint for Government; one which provides better information on market demand and activity, as well as providing a tool to promote closer alignment of Government support to industry need.

As perhaps the only report of its kind – industry, government, training providers, employers and various other stakeholders now have yet another piece of the strategic puzzle, one which can respond to the question of ‘what training and skills should the Government support’?

This report, although not the complete answer, is a significant step forward and one that will provide insight into the skills needs of industry well into the future.

This report should be read in conjunction with the full Report on South Australia's Industry Priority Qualifications available at: www.tasc.sa.gov.au



Respondents

850 respondents completed the IPQ Survey representing employers, individuals, unions, registered training organisations and industry groups.



Employer Size

58% of employers surveyed identified as **micro or small businesses** with less than 20 employees.



Qualifications

Over 1,100 Qualifications, Skills Sets and Accredited Courses (QSCs) were identified by industry as a priority. This is just over 25% of all available QSCs (4,103) embedded within the IPQ Survey.



Priorities

106 qualifications were identified as a **top priority** for industry over the next five years, while 169 were identified as a high priority and 225 identified as a priority. The remaining 639 were identified as lower priority.



Top Qualifications

Generic (business-related) qualifications were consistently identified as high priorities for industry and the SA economy. These qualifications were often considered applicable to multiple occupations and transferable across industry sectors.



Skills Clusters

Managerial and Leadership, Sales and Customer Service and Information and Technology skills were ranked most highly across industry sectors by survey respondents as the skills required in the next five years.



Key Challenges

Reskilling will be a priority to meet the skills and workforce needs of the future as structural change presents ongoing challenges for the South Australian economy.



Projected Employment Growth

TaSC Interim Modelling projects employment growth of **1.1 % per annum (43,000 new jobs)** over the next five-year period.



Regional Needs

The **Industry Priority Qualifications of State Government Regions** are very diverse and need to be better understood.



High Growth & Small Employer Needs

Both High Growth and Small Employers have ranked **Marketing & Customer Engagement qualifications** as high priority.

Key Insights



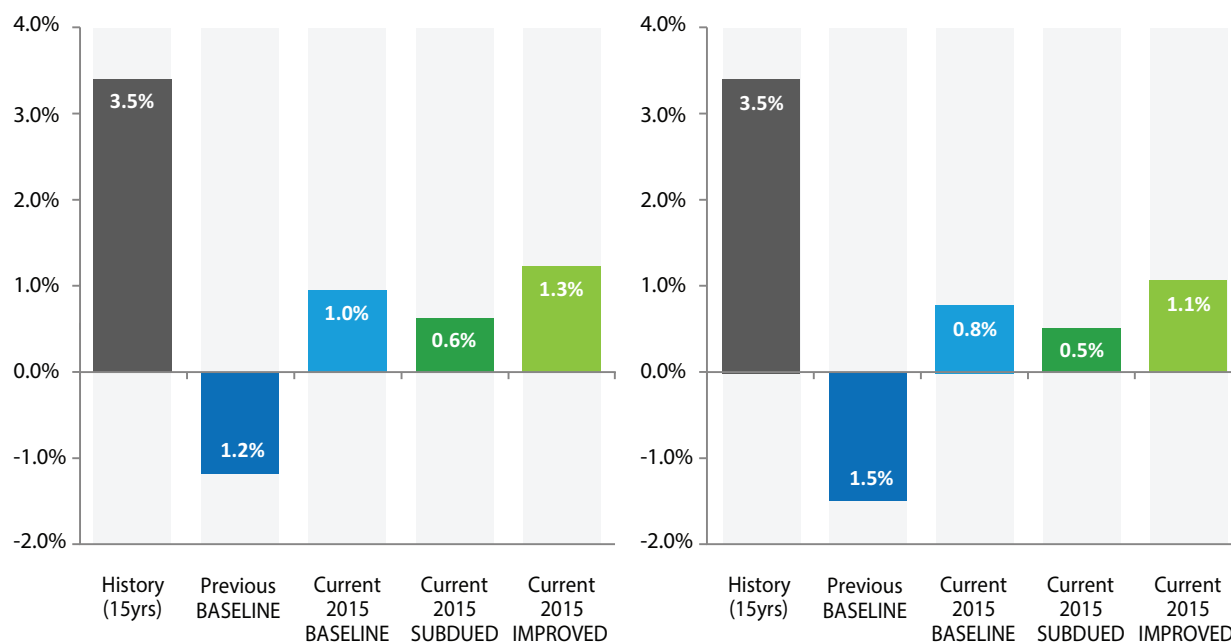
Electricity, Gas, Water and Waste Services

Employment Outlook

According to the Commission's interim modelling, employment in the Electricity, Gas, Water and Waste Services industry is projected to increase 1.0 percent a year over the next five (5) years under the baseline scenario. This compares with a rate of growth over the past 15 years of 3.5 percent per annum.

Over the long-term (2014-15 to 2024-25), the industry is expected to record continued employment growth around the State average. As a result, its share of the State's employment is projected to remain around 1.3 percent.

Figure 1 - Electricity, Gas, Water & Waste Services, Average Annual Employment Change 2014-15 to 2019-20 and 2014-15 to 2024-25



Source: Interim TaSC Economic Modelling, 2015

Industry Outlook

Electricity demand on the National Electricity Market (running across Queensland, New South Wales, Tasmania, Victoria, South Australia and the ACT) has fallen for an unprecedented fifth straight year, and now sits at over 8 percent below its 2009 peak. Three factors appear to be driving the decline in aggregate electricity consumption, including; energy efficiency, consumer engagement (initiated by rising prices and measurement/management technology) and distributed generation (particularly rooftop photovoltaic panels and solar hot water heaters).

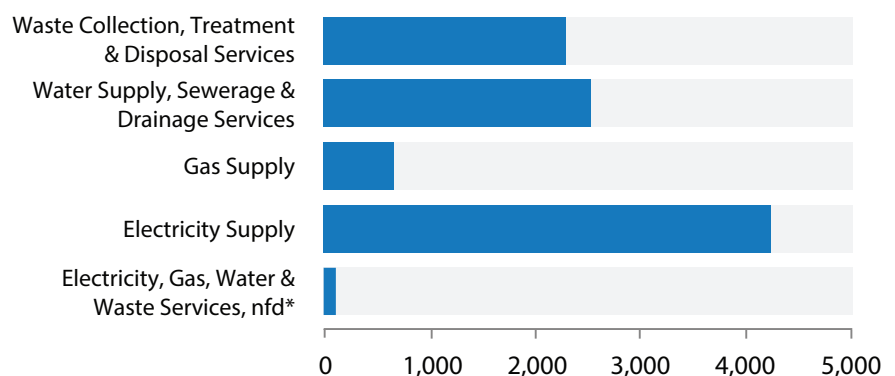
South Australia has the highest penetration rate of solar panels in Australia, with a full quarter of homes having panels installed. This has had the effect of pushing peak demand in South Australia from 5pm to 7pm since 2008.

The Gas Supply Industry (GSI) transmits approximately 60 percent of natural gas for electricity generation and the rest through the distribution network to households and businesses.¹

Growth in the Waste Production sector continues to increase. South Australia supports more than 50 businesses that reprocess paper, metal, glass, plastics, concrete, asphalt, timber, electronic waste and garden organics. 82 percent of the State's recycled material is treated locally². Local Governments have been working on rationalizing waste collection to improve efficiencies.

Largely driven by necessity, South Australia has been a leader in water and waste treatment for some time. The Water industry Alliance is a cluster sponsored by the South Australian Government to build an Internationally competitive, export-orientated water industry made up of SMEs. Further developments have seen two new specialisation clusters: a managed aquifer recharge group (MARHub) and a wastewater group (WaRDA).

Figure 2 - Electricity, Gas, Water & Waste Services, Employment by Sub-Sector

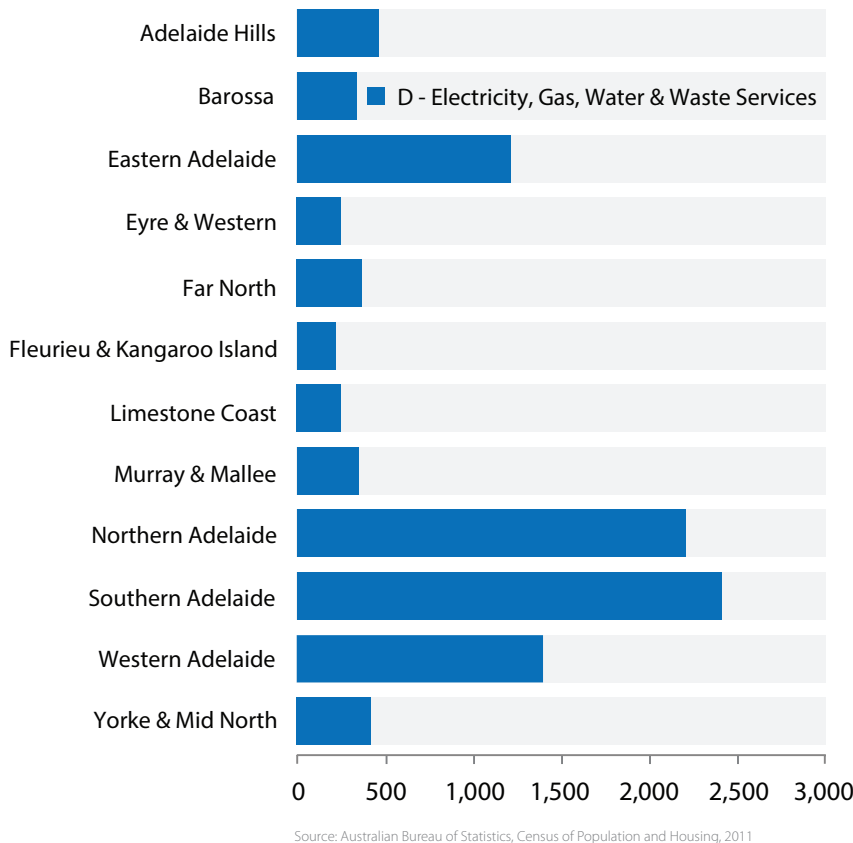


Source: Australian Bureau of Statistics, Census of Population and Housing, 2011

¹ - <https://www.sa.gov.au/topics/water-energy-and-environment/energy/energy-supply-and-sources/non-renewable-energy-sources/gas/sa-gas-industry>

² - http://www.zerowaste.sa.gov.au/upload/resource-centre/publications/reuse-recovery-and-recycling/ZWSA_Upclose_Industry_web.pdf

Figure 3 - Electricity, Gas, Water & Waste Services, Employment by Region



Skills needs

Survey respondents ranked the Work Health and Safety (WHS) skills cluster as having the highest importance, followed by the Sustainability and Environmental and then the Information and Technology skills clusters. This is consistent with the workplace risks associated with this industry and moves towards energy reduction and environmental sustainability now available through new technology.

Language, Literacy and Numeracy (LLN) and Entrepreneurial skills clusters were ranked of lowest importance by Electricity, Gas, Water and Waste Survey respondents. This was somewhat unexpected, as many enterprises in this industry are small and medium businesses that need entrepreneurial skills to build their market.

Table 1 - Electricity, Gas, Water & Waste Services, Ranked Skills Clusters

Skills Clusters	This Industry	All Respondents	Compare
Work Health & Safety (WHS)	1	4	↑
Sustainability & Environmental	2	9	↑
Information & Technology	3	3	↔
Managerial & Leadership	4	1	↓
Financial	5	6	↑
Sales & Customer Service	6	2	↓
Human Resources	7	8	↑
Marketing & Engagement	8	7	↓
Administration & Support	9	5	↓
Entrepreneurial	10	11	↑
Language, Literacy & Numeracy (LLN)	11	10	↓

Workforce development themes and issues

Providing households and businesses with the capacity to monitor and manage their consumption requires a fundamental shift in work practices. The embedding of energy efficiency and sustainability units into the core of all energy sector qualifications into existing standards (now completed) will ensure that new tradespeople, or those who undertake specialised training, will apply energy efficient work practices. Energy efficiency training for existing workers through upskilling in Skill Sets could provide cost benefits for new technologies associated with smart systems.

Liquid waste collection services are expected to grow strongly, with Environmental Protection Authority and other Government requirements being a major driver of activity. Solid waste collection services have increased and industry has been investing in labour saving devices to reduce employment numbers.

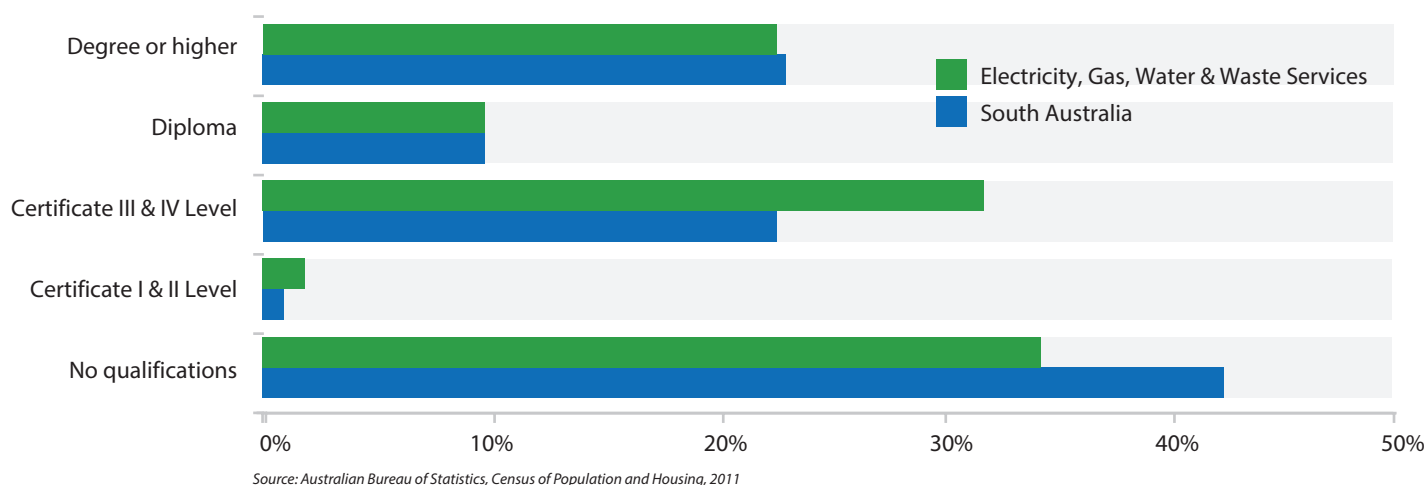
With increasing technological and legislative impacts, the waste sector is highly complex and requires a new generation of skilled personnel to lead, direct and work with important community and global issues, such as understanding environmental risk and contingency management, as well as meet the increasing demands for Work Health and Safety compliance and new technology skills³.

Trades play a very important role in the Electricity, Gas, Water and Waste Services industry. Apprentice numbers are down, posing long-term issues for workforce planning and short-term skill shortages as a consequence of low recruitment numbers.

Training in Skill Sets offers experienced tradespeople the opportunity to upskill and reskill but needs to be targeted and flexible to meet workplace priorities.

3 - <http://www.cpsisc.com.au/resources/CPSISC/Industrypercent20Snapshot/Managementpercent20Industrypercent20Snapshot.pdf>

Figure 4 - Electricity, Gas, Water & Waste Services, Employment Share by Post-School Qualification Level



Industry Priority Qualifications

The Electricity, Gas, Water and Waste industry received a total of 17 responses to the Survey. This was more than double the target responses for this Industry, based on employment share. Respondents in this industry primarily identified as employers.

Employers in this industry were predominantly medium sized businesses. Around two-thirds of employers expected flat or declining employment growth in the short-term.

A small number of qualifications were reprioritised by stakeholders in this industry. In particular, qualifications relevant to SA Water were boosted, given they have a very large number of employees.

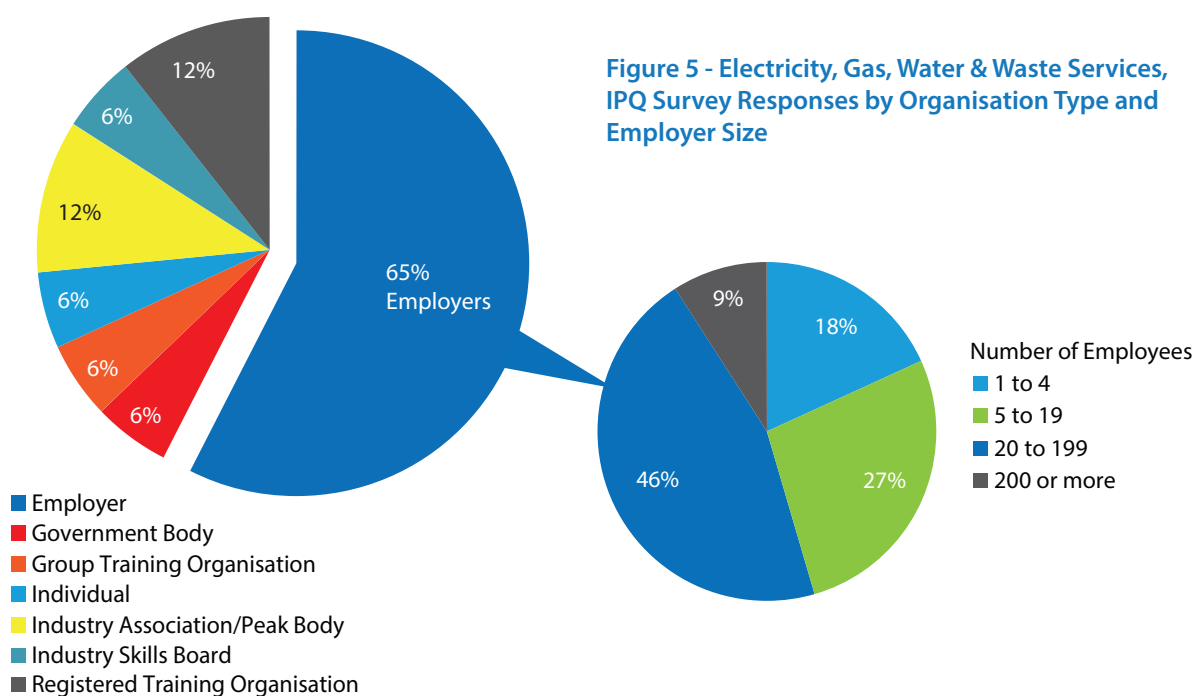


Table 2 - Electricity, Gas, Water & Waste Services, Prioritised Qualifications

Electricity, Gas, Water & Water Services

Tier 1 (Highest Priority)

Certificate IV in Work Health and Safety
 Certificate III in Air-conditioning and Refrigeration
 Certificate III in Electrotechnology Electrician
 Certificate III in ESI - Power Systems - Distribution Overhead
 Certificate III in Instrumentation and Control
 Certificate II in Electrotechnology (Career Start)

Tier 2 (High Priority)

Advanced Diploma of Electrical - Engineering
 Advanced Diploma of Engineering Technology - Electrical
 Diploma of Electrical Engineering
 Diploma of Work Health and Safety
 Certificate IV in Electrical - Instrumentation
 Certificate IV in Electrotechnology - Systems Electrician
 Certificate IV in Renewable Energy
 Certificate III in Data and Voice Communications
 Certificate III in Driving Operations
 Certificate III in Gas Fitting
 Certificate III in Gas Supply Industry Operations
 Certificate III in Plumbing
 Certificate III in Roof Plumbing
 Certificate III in Work Health and Safety
 Certificate II in Sustainable Energy (Career Start)

Tier 3 (High Priority)

Advanced Diploma of Work Health and Safety
 Diploma of Accounting
 Diploma of Air-conditioning and Refrigeration Engineering
 Diploma of Human Resources Management
 Diploma of Leadership and Management
 Diploma of Purchasing
 Certificate IV in Accounting
 Certificate IV in Air-conditioning and Refrigeration Servicing
 Certificate IV in Business
 Certificate IV in Electrical - Data and Voice Communications
 Certificate IV in Electrical - Renewable Energy
 Certificate IV in Human Resources
 Certificate IV in Leadership and Management
 Certificate IV in Plumbing and Services
 Certificate IV in Purchasing
 Certificate IV in Refrigeration and Air-conditioning Systems
 Certificate IV in Training and Assessment
 Certificate III in Accounts Administration
 Certificate III in Business
 Certificate III in Business Administration
 Certificate III in ESI - Power Systems - Transmission Overhead
 Certificate III in Fire Protection
 Certificate III in Information, Digital Media and Technology
 Certificate III in Waste Driving Operations
 Certificate III in Water Operations
 Certificate II in Emergency Medical Service First Response
 Certificate II in Water Operations
 Skill Set (UET) - Refresher - Perform CPR
 Skill Set (UET) - Refresher - Perform EWP Rescue and CPR
 Skill Set (UET) - Refresher - Perform Pole Top Rescue
 Skill Set (UET) - Refresher - Perform Rescue from a Live LV Panel and CPR

A full list of **Tier 4** (Low Priority) Industry Prioritised Qualifications are available in the IPQ Dataset
www.tasc.sa.gov.au



Government of South Australia

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Disclaimer: The material contained in this report has been developed by the Training and Skills Commission and was informed through a detailed survey of industry and consultations with key industry partners and groups. The information contained in this report does not necessarily reflect the views of the Government of South Australia or the Department of State Development, or indicate any commitment to a particular course of action.

The information contained in the report is provided in good faith and all reasonable care has been taken in its preparation. The Training and Skills Commission recommends users exercise care in interpreting this report and carefully evaluate the relevance of the material for their purpose and where necessary obtain appropriate advice specific to their particular circumstances.

A full copy of the Report on South Australia's Industry Priority Qualifications can be accessed electronically at:
www.tasc.sa.gov.au

Images have been supplied by the Department of State Development and the South Australian Tourism Commission.

Acknowledgements: The Training and Skills Commission expresses its sincere gratitude to its key Industry Partners and industry stakeholders who responded to the IPQ survey and have provided detailed information to inform this report. The Commission also acknowledges the contributions of Joshua Rayner, Angela Niedorfer, Heidi Greaves, Joel Pillar and Kimberley Hoey in producing this report.

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