AUSTRALIAN
INDUSTRY
STANDARDS

WATER IRC
SKILLS FORECAST
2017

WATER IRC SKILLS FORECAST

The IRC Skills Forecasts focus on the prioritisation of the skill needs of the industry sectors each IRC has responsibility for. They are developed and reviewed annually and submitted on behalf of the IRC to the Australian Industry and Skills Committee (AISC) for approval.

The document is deliberately brief, it does not seek to capture every issue within every sector. It is a snapshot of a continually evolving story that is intended to alert and inform a wide audience and enhance their capacity to act.

IRCs are required to consult broadly with stakeholders to ensure a whole-of-industry view about the opportunities and challenges for the workforce and the Training Package review work necessary to meet industry needs. The information is then used to develop the four-year IRC Proposed Schedule of Work.

HOW TO USE THIS DOCUMENT

This document contains links to assist the reader to navigate efficiently through the content of the Skills Forecast.

The tiles on the table of contents page will link to the relevant content when clicked with a mouse, or touched on a tablet device.

The Australian Industry Standards logo in the top right hand corner of each page will link back to the table of contents page when clicked with a mouse, or touched on a tablet device.

Australian Industry Standards acknowledges and thanks those organisations who supplied images to be used in this report.

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WATER IRC
SKILLS FORECAST

AUSTRALIAN INDUSTRY STANDARDS

This Four-Year IRC Skills Forecast has been submitted by the Water Industry Reference Committee (IRC) to Australian Industry and Skills Committee (AISC) for approval.

The IRC Skills Forecast identifies the priority skill needs of the Water industry following a research and stakeholder consultation process conducted by Australian Industry Standards on behalf of the IRC.

Once approved by the AISC, the IRC Skills Forecast informs the development of a four-year rolling National Schedule for development and review work of the NWP National Water Training Package.

More information on the National Schedule can be found at:

www.aisc.net.au/content/national-schedule

This IRC Skills Forecast was agreed to by the Water IRC Chair on Tuesday, 18 April 2017:

John Harris

Water IRC Chair

WATER INDUSTRY
REFERENCE COMMITTEE

AUSTRALIAN INDUSTRY STANDARDS

The Water Industry Reference Committee has been assigned responsibility for the NWP National Water Training Package.

The NWP National Water Training Package provides the only nationally recognised Vocational Education and Training (VET) qualifications for occupations involved in: water industry operations (generalist, treatment, networks, source, irrigation, hydrography, trade waste), treatment (drinking water, waste water) and irrigation.

More information about the Water IRC and its work can be found here:

http://www.australianindustrystandards.org.au/committee/water-industry-reference-committee/

Name	Organisation
Ainslie Cavanagh	Unity Water
Brendan Hill	Sydney Water Corporation
Darren Clarke	South Australia Water
David Scott	United Services Union/Australian Services Union
George Wall	Water Industry Operators Association of Australia (WIOA)
Jeff Rigby	Coliban Water
John Harris	Wannon Water
Jonathan McKeown	Australian Water Association
Kate Blizzard	TasWater
Michelle Hill	Queensland Water
Neil Hooley	Water Corporation
Peter Gee	Water Services Association of Australia
Robert Allen	Icon Water
Stephen Wilson	Water Industry Training Centre
Sue Earle	Power and Water Corporation

AUSTRALIAN
INDUSTRY
STANDARDS

WATER

OVERVIEW

WATER
INDUSTRY OVERVIEW

AUSTRALIAN INDUSTRY STANDARDS

The Water industry in Australia has an estimated annual revenue of $22.2 billion, adding $12.8 billion to the Australian economy in 2015-16. The industry employs nearly 31,000 people across its sub-sectors: water supply, sewerage, drainage services and pipeline transport (water).

WATER INDUSTRY METRICS

Revenue ($b)	22.16
Profit ($b)	5.1
Average Wage ($)	99,651.62
No. of Businesses	804
Employment Growth (% to 2022)	4.8

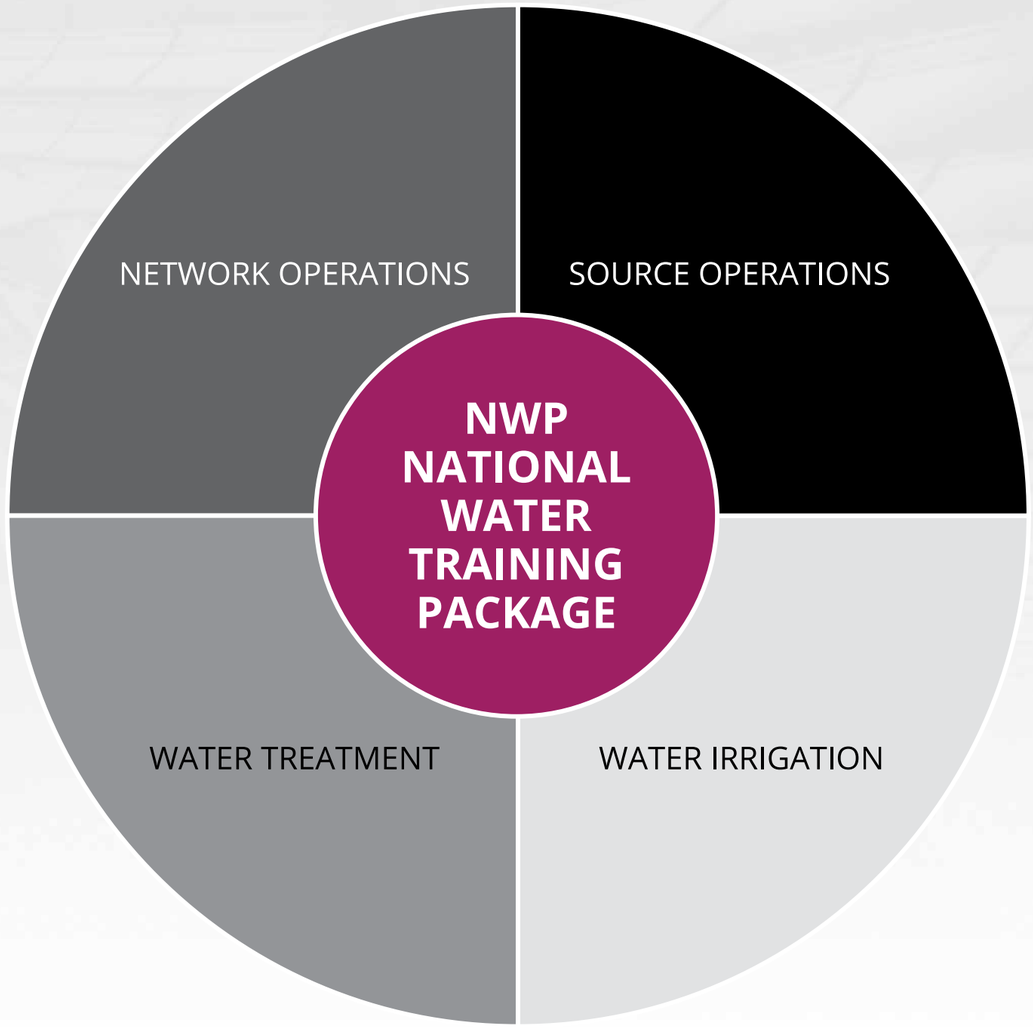
Scope: Water Supply, Sewerage and Drainage Services[1]

KEY FACTS

- **76,423 gigalitres** of water consumed in Australia in 2014-15[2]
- **57 per cent** of Australia's water is used for irrigation agriculture[3]
- **50 per cent productivity gains** in the past 15 years achieved through reform in the water industry[4]
- **Highest** per-capita surface water storage capacity in the world[5]
- **444 million litres** of water processed per day at Australia's largest desalination plant in Melbourne[6]

WATER TRAINING PACKAGE ARCHITECTURE

AUSTRALIAN INDUSTRY STANDARDS



NWP NATIONAL WATER TRAINING PACKAGE

AUSTRALIAN INDUSTRY STANDARDS

The NWP National Water Training Package provides the only nationally recognised Vocational Education and Training (VET) qualifications for occupations involved in: water industry operations (generalist, treatment, networks, source, irrigation, hydrography, trade waste), treatment (drinking water, waste water) and irrigation.

The NWP National Water Training Package comprises seven qualifications, 10 skill sets, 148 units of competency and associated assessment requirements and covers: water supply, sewerage, drainage services and pipeline transport (water).

The NWP National Water Training Package contains the following qualifications:

- Certificate II in Water Industry Operations
- Certificate III in Water Industry Irrigation
- Certificate III in Water Industry Treatment
- Certificate III in Water Industry Operations
- Certificate IV in Water Industry Treatment
- Certificate IV in Water Industry Operations
- Diploma of Water Industry Operations

The NWP National Water Training Package is in the Scope of Registration of 27 Registered Training Organisations.

WATER INDUSTRY
BUSINESS ANALYSIS

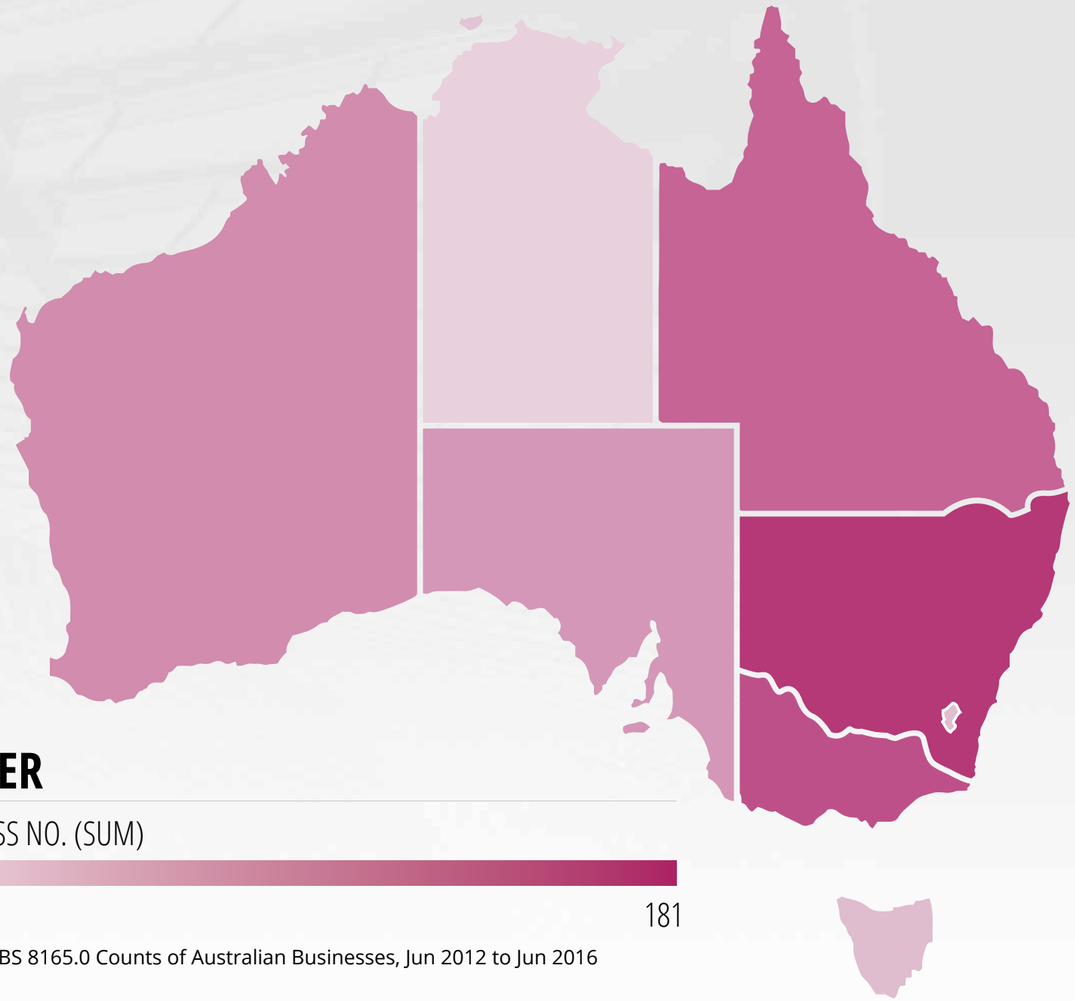
AUSTRALIAN INDUSTRY STANDARDS

The following image provides analysis of the businesses involved in the Water sector (size, local/state/national/global, government/not-for-profit/for-profit, scope of work undertaken by those businesses).

The figure shows that distribution of enterprises around the country matches the population distribution, apart from a slight over-representation in SA

WATER BUSINESS COMPOSITION

Small	88%
Medium	8%
Large	4%



Source: ABS 8165.0 Counts of Australian Businesses, Jun 2012 to Jun 2016

KEY WATER STAKEHOLDERS

AUSTRALIAN INDUSTRY STANDARDS

STAKEHOLDER CATEGORY	ORGANISATION	
Employers	Coliban Water	Sydney Water Corporation
	Icon Water	Tas Water
	Power and Water Corporation - NT	Unity Water
	Queensland Water	Wannon Water
	South Australia Water	Water Corporation
Employer Representatives	Australian Water Association	Water Industry Operators Association
	Water Directorate - NSW	Water Services Association of Australia
Employee Representatives	United Services Union/Australian Services Union	The Australian Workers Union
Licensing / Regulatory	Environmental Protection Authorities	
Government	Federal, State/Territory Departments	Department of Health
	Department of Agriculture and Water Resources	
Industry Advisory	Industry Skills Advisory Council - NT	Utilities, Engineering, Electrical, Automotive - WA
	Public Sector Training Advisory Board -NSW	Vic Water
	Electrical, Utilities and Public Administration Training Council Inc	
Training Organisations	TAFEs, Private RTOs, Enterprise RTOs	Water Industry Training Centre

INDUSTRY CHALLENGES AND OPPORTUNITIES

AUSTRALIAN INDUSTRY STANDARDS

TECHNOLOGY CHANGE

Technology is enabling more innovative approaches to water systems management, from improvements within the home to on-farm/water catchment management solutions. Drones are already making an impact on the way that waterways and assets are monitored and managed[7] and in some cases, can reduce the risk posed by manual inspections of elevated assets.

Automation of plant and water delivery will likely have a substantial impact on the industry, particularly due to retraining requirements. Increasingly, workers are required to interact with new devices and operating systems. Data capture and remote system operations via tablets and smart phones is becoming more common.

It has been acknowledged that digital technologies have the capacity to positively affect operations and asset management, leading to increased efficiencies[8]. Providers have also made use of such technology to improve service delivery, accomplishing substantially decreased turnaround times as a result[9]. On this basis, digital literacy will be important for companies as they seek appropriately trained staff to work with new technologies.

INFRASTRUCTURE DEMANDS

The water industry is infrastructure heavy, with many ongoing maintenance and renewal requirements. Given this reliance, aging infrastructure and increasing urbanisation present complications that must be addressed[10]. Water security and the implementation of new approaches such as Integrated Urban Water Management (IUWM) and Water Sensitive Urban Design (WSUD), are also areas of concern[11][12][13]

The ongoing development of water infrastructure, maintenance and upkeep has implications for the workforce as companies seek appropriately skilled labour and management skills to oversee these projects.

CLIMATE CHANGE / ENVIRONMENTAL MANAGEMENT

The impacts of climate change are already being felt in Australia as we see more extreme weather conditions with longer and more intense bushfire seasons, more severe and unpredictable wet seasons, warmer global temperatures and extreme drought. These weather patterns require proactive management of water resources to ensure that resources are monitored and available regardless of the challenges presented by climate variables.

The critical impact of climate change and drought has been noted by industry; revised water demand models[14] and solution-based strategies with a focus on assets[15] will prove vital in effective management of this issue. As governments plan for and implement changes to combat climate change and drought, the operating environment will be required to evolve, having a flow-on effect to the workforce skill requirements. A focus on the development of planning and forecasting skills will be required.

AUSTRALIAN
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EMPLOYMENT

WATER WORKFORCE BY STATE
PER 100K POPULATION

AUSTRALIAN INDUSTRY STANDARDS

WATER WORKFORCE PER 100K POPULATION

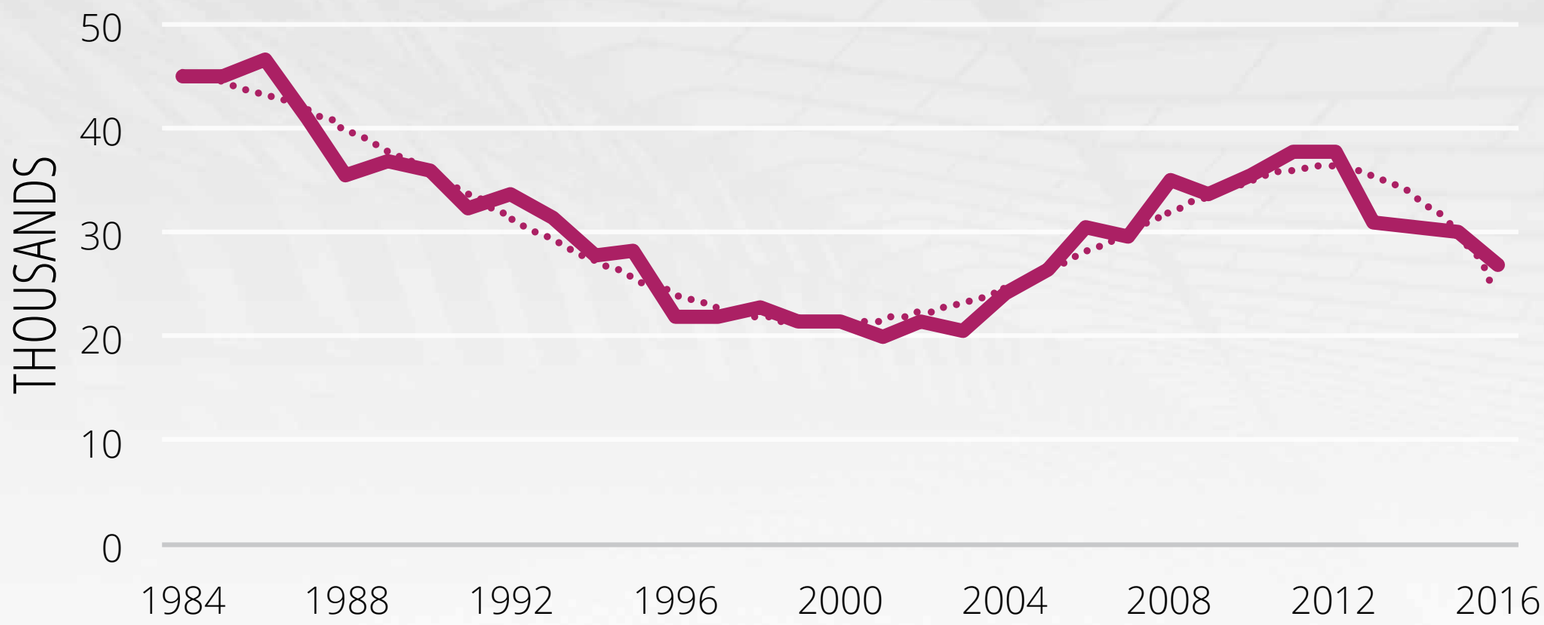
The number of Water industry workers in the Northern Territory and Tasmania per capita is approximately double the national average.

EMPLOYMENT HISTORY
OCCUPATION BASED

AUSTRALIAN INDUSTRY STANDARDS

WATER INDUSTRY WORKFORCE 1984 - 2016

Source: ABS 6291.0.55.003 - Labour Force, Australia, Detailed

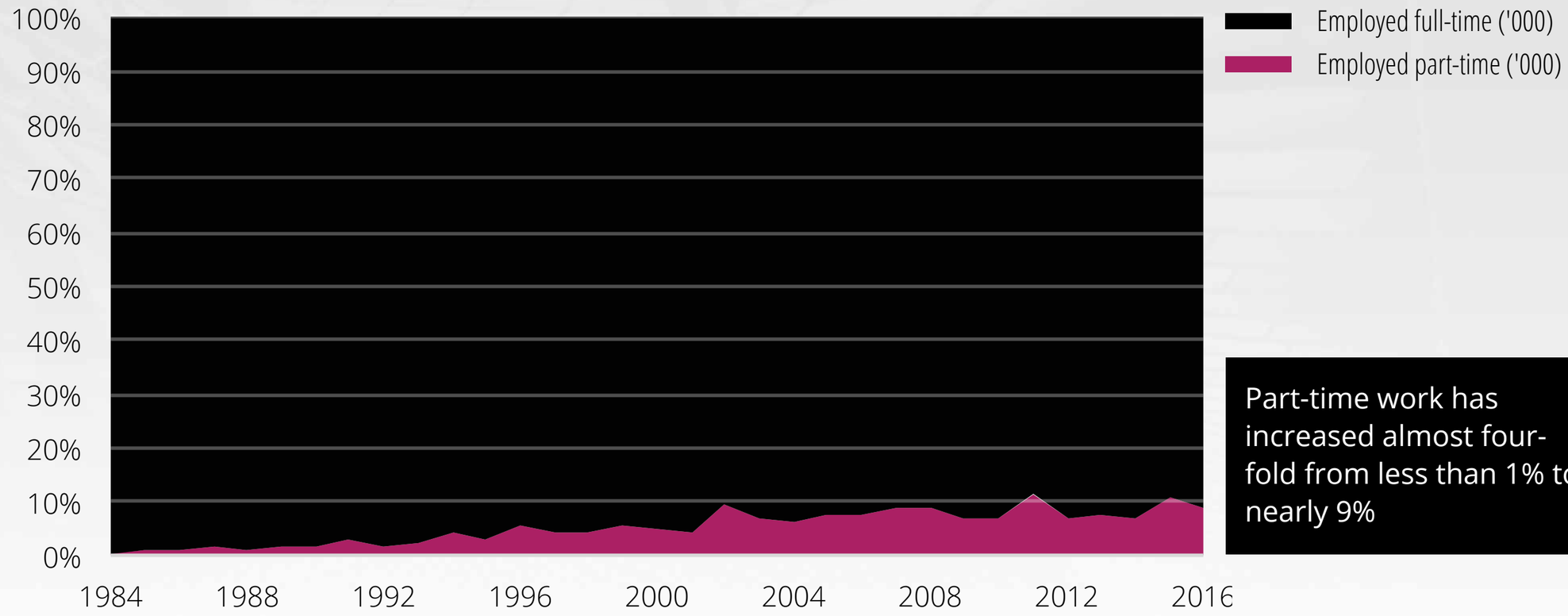


Water Supply, Sewerage and Drainage Services

The Water Industry workforce (as part of wider Sewerage and Drainage Industry) declined 55% to the year 2000, recovering steadily until 2012 before falling back to 1994 levels by 2016.

WATER INDUSTRY WORKFORCE CASUALISATION 1984 - 2016

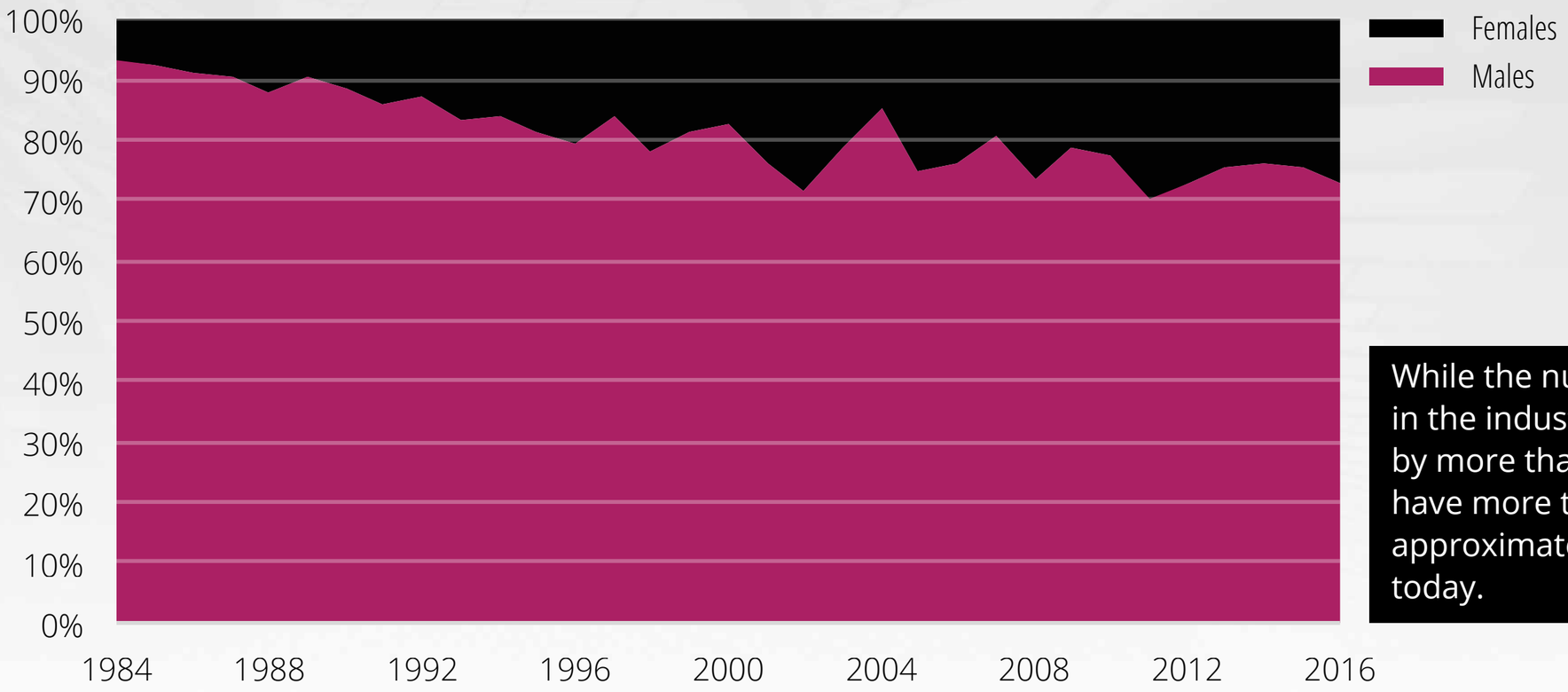
Source: ABS 6291.0.55.003 - Labour Force, Australia, Detailed



Part-time work has increased almost four-fold from less than 1% to nearly 9%

WATER INDUSTRY WORKFORCE GENDER COMPOSITION 1984 - 2016

Source: ABS 6291.0.55.003 - Labour Force, Australia, Detailed



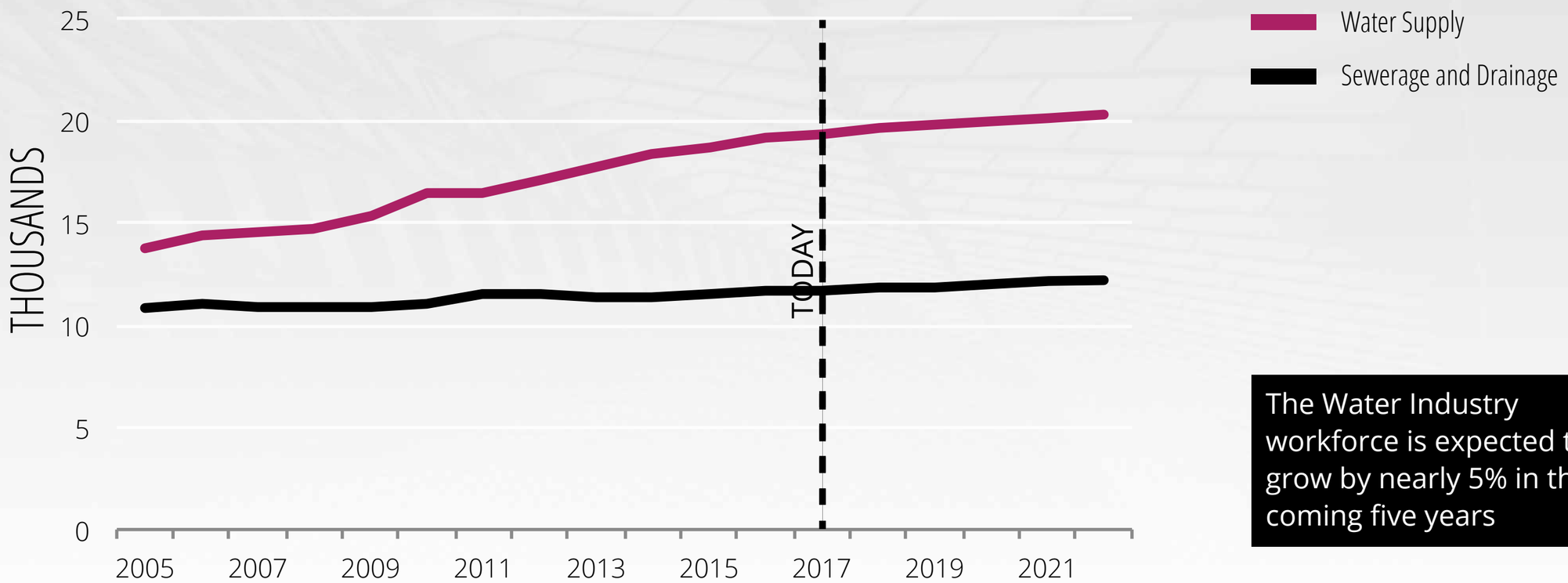
While the number of males in the industry has declined by more than half, females have more than doubled to approximately one in four today.

EMPLOYMENT PROJECTION
EMPLOYER BASED

AUSTRALIAN INDUSTRY STANDARDS

PROJECTED AND HISTORICAL WATER WORKFORCE 2005 - 2022

Source: IBISWorld



The Water Industry workforce is expected to grow by nearly 5% in the coming five years

EXPLANATORY NOTES

Workforce

The size of an industry's workforce is established by the Australian Bureau of Statistics (ABS) using two different approaches. The Labour Force survey, which provides a 30-year view of the industry, assigns each industry category based on the main job of the respondent. The Australian Industry dataset (which the Workforce Projections charts are based on), uses a topdown approach where industries are primarily classified by the single predominant industry class associated with a business' ABN. An industry's workforce therefore is bounded in the first instance by the occupations of workers and in the second by the primary business of an enterprise. The different approaches can therefore result in quite different workforce figures.

AIS has chosen to distinguish these approaches using the terms Workforce – Occupation based and Workforce – Employer based.

Enterprise size

Industry definition by ABN also applies to the Counts of Australian Businesses data (size and distribution). Furthermore, low level values in these tables are subject to perturbation to anonymise the data. This may result in some areas with a low level value being perturbed to zero.

Exemptions

The scope of the Labour Force Survey is limited to the civilian population of Australia and therefore members of permanent defence forces are excluded from the survey.

WATER INDUSTRY SKILL SHORTAGES

AUSTRALIAN INDUSTRY STANDARDS

WATER SKILL SHORTAGES

83.3% per cent of employers reported experiencing a skills shortage in the last 12 months[16]. The occupations reported as being in shortage were:

1. Water & Sewerage Operators
2. Wastewater Operators
3. Trainers and Assessors
4. Maintenance Operators
5. Hydrographic Surveyors

Employers identified the following reasons for the shortage with the most frequent response listed first.

Reasons for shortage
Shortage of skilled/qualified personnel
Remuneration/employment conditions
Geographic location of the vacancy
Ageing workforce/current staff retiring
Shift/weekend work

WORKFORCE SUPPLY SIDE CHALLENGES & OPPORTUNITIES

AUSTRALIAN INDUSTRY STANDARDS

REGULATORY AND TECHNOLOGICAL CHANGES

Federal and state governments have increased the regulation and reporting requirements for water utilities. This has a flow on effect to operational staff that are required to document, operate and respond in an increasingly regulated environment.

The increasing skill requirements of operational staff are not only limited to new technologies, they also involve greater workplace complexity, changes in WHS, environmental management and associated increases in documentation requirements. Moreover, the development of skills to assist with the improved functionality of water markets – as well as further knowledge of bans, limitations and effectiveness thereof – will prove to be beneficial[17].

AGEING WORKFORCE

The water industry has a high proportion of workers over the age of 55, with many workers planning to retire in the near future. Recruitment of new employees, with mentoring by experienced staff, will help companies to retain industry knowledge as people leave the industry.

The pace of technological change, and the capacity for the existing older workforce to adopt the new technology presents a challenge for the Industry. Workforce planning requires the need to balance employing the 'tech savvy' younger generation, while ensuring accumulated corporate knowledge of the more experienced Water industry workers is maintained.

Recent studies have contended that better overall performance can be achieved with gender diversity in management positions. Enhancing gender parity may assist with future shortages in the workforce that will arise from generational shifts[18].

Companies may need to look at how they promote careers in the industry, particularly in entry level roles, where there is a lot of turnover. Making the industry an attractive and rewarding place to work is imperative.

AUSTRALIAN
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SKILLS OUTLOOK

AUSTRALIAN
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INTERNATIONAL / NATIONAL WORKPLACE TRENDS

New technology in the water industry is the major trend affecting the workforce. The digitalisation of operations to improve service delivery corresponds with a need to increase the digital skills available in the workplace.

The incorporation of drone technology and remote system operations via tablets and smart phones has altered the methods used to oversee waterway and assets; thereby having an impact on risk management policies.[19] As these technologies continue to thrive in the industry, it will be necessary to prepare the workforce accordingly.

BIG DATA

Big Data capture and analysis is transforming the management of water in Australia[20]. Examples include the collection of data from pumping stations, sewage plants and reservoirs to manage operations remotely, but also for research and planning.

These advanced systems can assist with real-time operations' decision-making and improved customer relationships and communications, land use optimisation in urban and rural settings and safety management systems (e.g.: flood warnings). The industry will need support to upskill the existing workforce to use these tools to maximise productivity.

PRIORITY SKILLS

AUSTRALIAN INDUSTRY STANDARDS

The priority skills results are drawn from Water stakeholder responses to the IRC Skills Forecast survey conducted in February 2017.

In order of priority to the industry, the following skills were identified as the most important for the Water workforce within the next three to five years.

Skill Category
Treatment
Organisational/Planning
Supply
Risk management
Catchment/dam management

Ranking of the 12 generic workforce skills in order of importance to the Water industry.

Generic Skill
Managerial/Leadership
Science, Technology, Engineering, Mathematics (STEM)
Design mindset/Thinking critically/System thinking/Solving problems
Customer service/Marketing
Environmental and Sustainability
Technology
Data analysis
Learning agility/Information literacy/Intellectual autonomy and self-management
Language, Literacy and Numeracy (LLN)
Communication/Virtual collaboration/Social intelligence
Financial
Entrepreneurial

WATER SKILLS-RELATED INSIGHTS

AUSTRALIAN INDUSTRY STANDARDS

The Water industry in Australia affects the lives of all Australians through its management of an essential and precious resource. With an estimated annual revenue of $22.1 billion, the Water industry in Australia added $12.8 billion to the Australian economy in 2015-16. Nearly 31,000 people are employed across its main sub-sectors: water supply, sewerage, drainage services and pipeline transport (water).

The Water industry is supported by the NWP National Water Training Package that covers water supply, sewerage, drainage services and pipeline transport (water). VET enrolments have declined since 2012 and there is a need to attract new entrants to support industry growth, as well as upskill the existing workforce to meet the skill demands of workplaces experiencing significant technological and environmental change.

83.3 per cent of employers reported experiencing a skills shortage in the last 12 months, with the major driver identified as not enough qualified people. Innovative approaches to workforce development, including the development of skill sets and establishing industry supported pathways for transition from occupations with similar skills, will assist to meet this demand. The situation is also impacted by more favourable remuneration conditions in other sectors competing for the same qualified workers. Employment figures show the workforce are based predominantly on the east coast of Australia, with the highest per-capita Training Package enrolments recorded in the Northern Territory and Queensland. This outcome is related in part to several qualifications being identified as priorities for these jurisdictions during 2013-15.

Technology is enabling more innovative approaches to the management of water operations, systems and assets. This includes the use of drones, Big Data and the automation of plant and water delivery. In addition, remote system operations via tablets and smart phones have become more common. These new technologies

are likely to have an impact on service delivery, as well as catchment and risk management – areas that were prominently featured in the list of priority skills as indicated by industry.

As skilled water and maintenance operators are already in short supply, enhancing the digital literacy and data analysis capabilities of the future workforce will ensure these new technologies continue to flourish. By the same token, the existing older workforce may require assistance in keeping pace with the rate of technological change.

The results of the 2017 IRC Skills Forecast survey for the Water Industry revealed that managerial and leadership skills were the most important generic workforce skills. With a large proportion of the workforce aged over 55, the potential impact of increasing rates of retirement could intensify the loss of industry knowledge or leadership skills. Companies can circumvent this trend through recruitment strategies targeting younger workers, combined with establishing mentoring programs led by experienced staff.

Female participation in the Water Industry has increased significantly over the last fifteen years, and there is compelling evidence that better overall performance can be achieved with gender diversity in management positions. Initiatives to address future skill shortages could deliver additional benefit for the industry if they include a focus on attracting more women into roles across the industry.

Water treatment, organisational and planning skills were the highest priorities for skills development over the next 5 years. The workforce is projected to grow 4.8 per cent to 2022, primarily in the Water Supply area. Ageing water infrastructure and increasing urbanisation will require focus on equipping the workforce with the right skills to support maintenance and renewal operations.

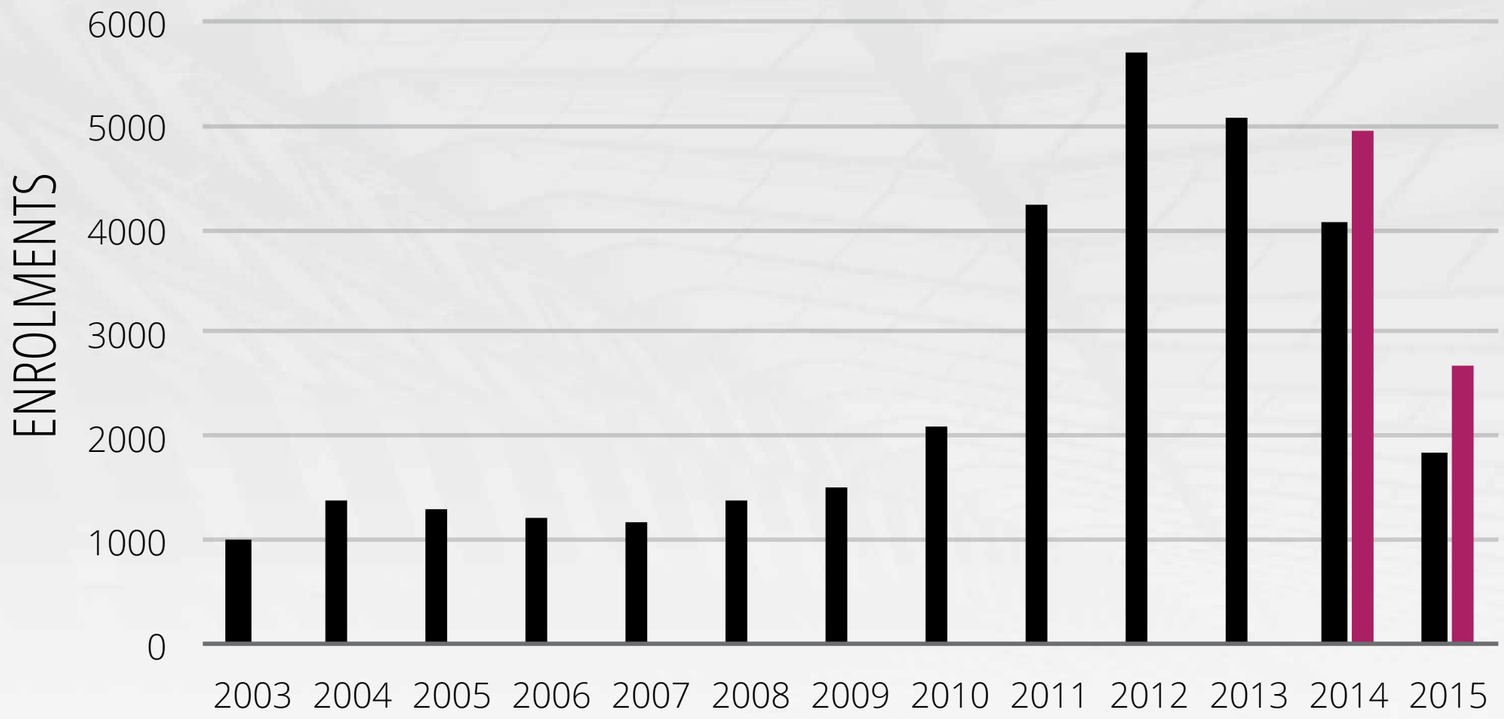
The successful design and implementation of new systems such as Integrated Urban Water Management (IUWM) or Water Sensitive Urban Design (WSUD) will need to be supported by developing critical thinking and problem solving capability throughout all levels of the workforce.

Climate change and drought continue to be matters of consideration for the Water industry. The operating environment for the industry will evolve as governments plan for, and implement changes to combat their effects. Effective management of this issue will likely involve revised water demand models and solution-based strategies with a focus on assets. This may affect the geographic location of vacancies in turn.

As affirmed by industry, changes that result from environmental concerns can be addressed by developing skills in the workforce that support forecasting and sustainability. These skills can also positively influence approaches to water security, in addition to improved awareness of the regulation and reporting requirements for utilities.

NWP PROGRAM ENROLMENTS BY DATASET

Source: VOCSTATS



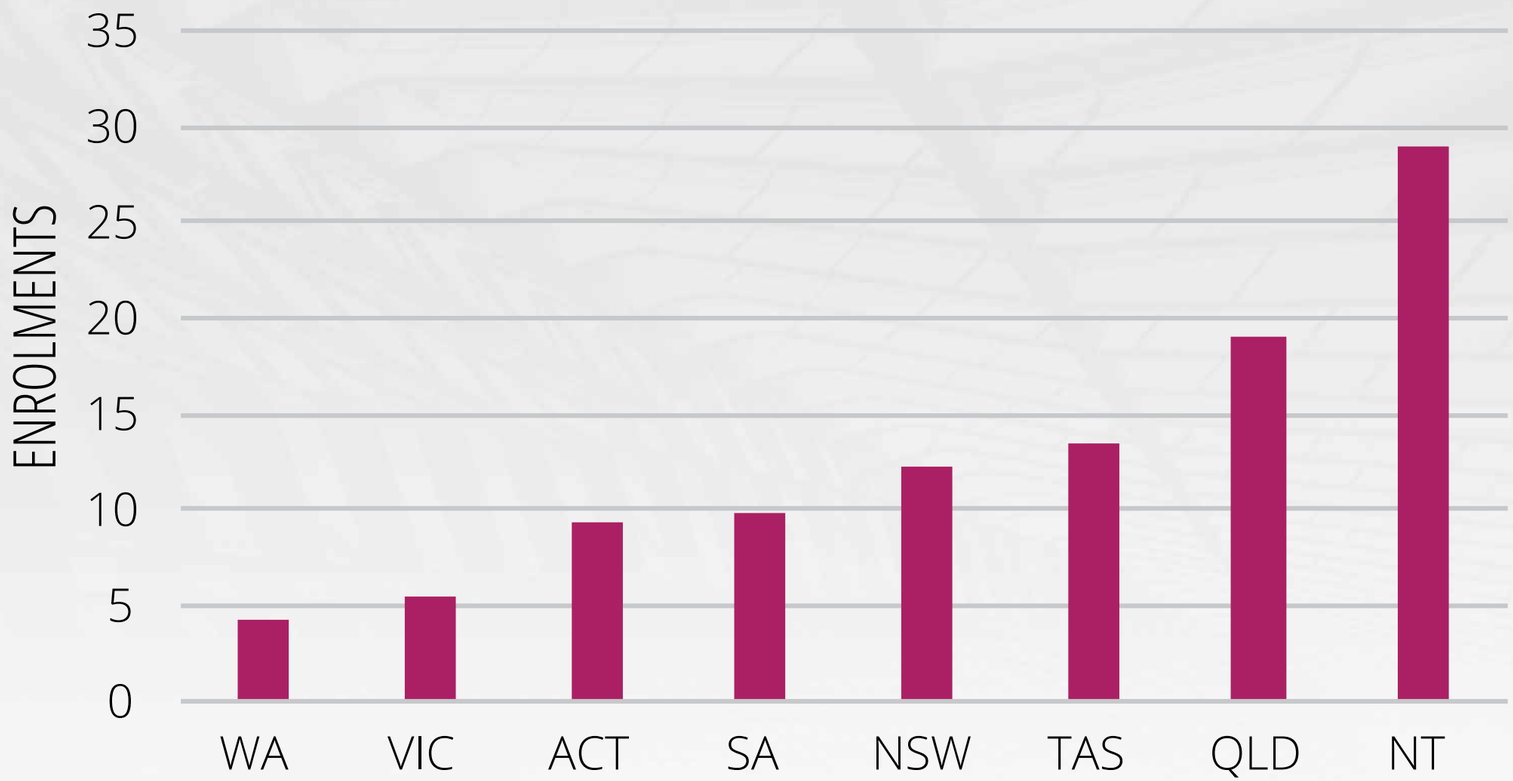
Total VET Activity

National VET Provider Collection

The fall in enrolments since 2012 is corroborated by the recent decline in TVA data.

NWP ENROLMENTS PER 100K POPULATION

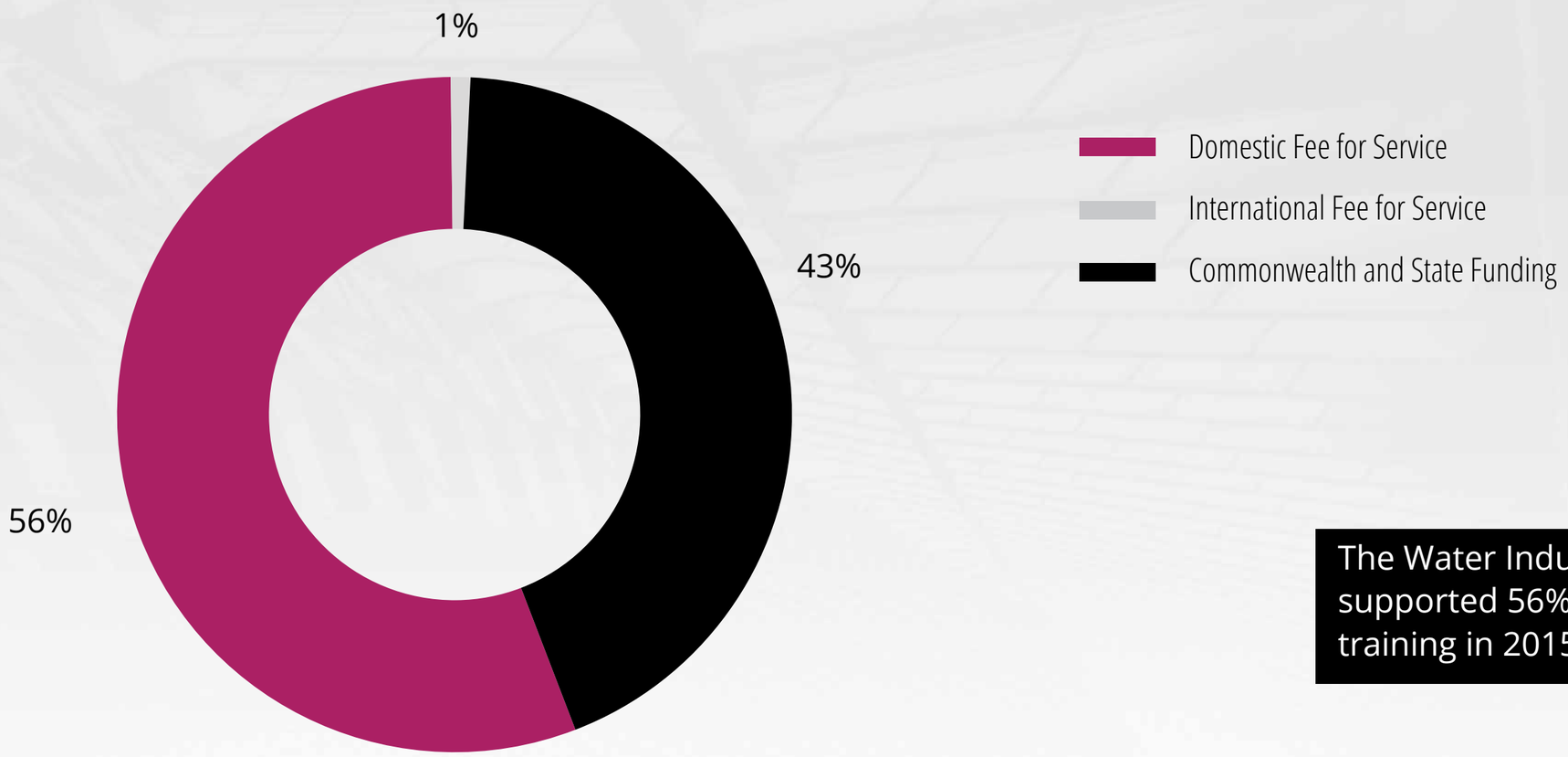
Source: TVA program enrolments 2015



Enrolments per capita are highest in NT and QLD, most likely reflecting the contribution from several qualifications being identified as priorities for these jurisdictions in this period.

NWP UNITS BY FUNDING SOURCE

Source: TVA - Subject Enrolments 2015



The Water Industry supported 56% of training in 2015

EXPLANATORY NOTES

Training Enrolments Charts

The Training Enrolments charts compare two datasets; the National VET Provider Collection and the Total VET Activity (TVA) dataset. The primary distinction between the two is that Total VET Activity data is collected from all types of providers and not only those in receipt of Commonwealth or state funding. TVA data collection commenced in 2014.

Exemptions

Where the submission of training data to TVA conflicts with defence or national security legislation, or jeopardise the security or safety of personnel working in defence, border protection, customs or Australian police departments, an exemption from reporting training data is available.

Organisations that deliver training for vital services to the community (such as emergency, fire, first aid and rescue organisations) may have received an exemption to submit data to TVA. From 1 January 2016 however, the exemption from reporting applies only in respect of training activity not delivered on a fee-for-service/commercial basis.

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PROPOSED SCHEDULE OF WORK

2017/18 - 2020/21 WATER IRC

AUSTRALIAN INDUSTRY STANDARDS

Subject to AISC Approval

WATER IRC PROPOSED SCHEDULE OF WORK

The IRC Skills Forecast review and development priorities will be constantly monitored and formally reviewed annually by the IRC, allowing the IRC Skills Forecast and schedule of work to remain at the forefront of the IRC priorities and have the flexibility to respond to the industry needs as they arise. In particular, technological advancement in the sector is rapidly changing the skills required to maximise these benefits to industry.

Units of competency that are in multiple qualifications or skill sets will only be reviewed once in a four-year period, unless there is a regulatory requirement or urgent attention required to meet specific industry requirements.

The Water IRC has not identified any training product development or review work that is expected to be contentious or lengthy in development causing industry issues.

The Water IRC has identified no major industry adjustments in this four-year period.

2017 – 2018

The training products requiring review and development in this period are to address identified industry skills needs due to the incorporation of big data applications through new technology based devices and used in real time. These advancements are being used in the upgrading of infrastructure and monitoring of current water associated plant operations across the industry.

Drones are now being introduced in the Water industry for inspections and monitoring, requiring operators to have the skills to diagnose and monitor from a computer screen remotely to accurately make the correct diagnosis of faults.

Development of a new qualification and skill set in Hydrography will address this identified skills shortage. The qualification will be part of a pathway in Water Operations, while the skill set will enable surveyors to upskill to meet the specific requirements of Hydrography.

Training Package review and development in this year consists of:

- New - Diploma in Hydrography
- NWP20115 - Certificate II in Water Industry Operations
- NWP30215 - Certificate III in Water Industry Operations
- NWP30315 - Certificate III in Water Industry Treatment

2018 – 2019

The training products identified for review and development in this period to address the skills requirements of operators as new and evolving technologies continue being incorporated into the irrigation sector of the Water industry. The review will involve consultation with stakeholders on the suitability of the current qualification. This process may uncover additional needs of industry and the regulator, and consequently may identify work to be done to this qualification and units of competency.

Training Package review and development in this year consists of:

- NWP30415 - Certificate III in Water Industry Irrigation.

2019 – 2020

The review and development identified for this period will provide the skills for the proposed implementation of technology based systems being designed to run water treatment plants. Technology is being adapted to provide detailed information to Water Treatment plant operators through hand held devices, enabling real time action to be taken, increasing efficiency and productivity. This review will also address impending regulatory changes to units of competency that are in NWP skill sets aligned to this qualification.

Training Package review and development in this year consists of:

- NWP40615 - Certificate IV in Water Industry Treatment

2020 – 2021

The review and development identified for this year will address scheduled regulatory changes, and will cover units of competency that are contained in the NWP skill sets included in qualifications within the NWP Training Package. It is imperative that these skill sets reflect current regulatory criteria, as the Water industry enterprises use these to provide the regulatory compliance for the workers in the various sectors using the qualifications or bridging compliance via skill sets.

Training Package review and potential development in this year consists of:

- Units of competency from NWP qualifications that make up the regulatory compliance components of the skill sets

LEGISLATIVE /REGULATORY REQUIREMENTS

As legislation or regulations are updated, the NWP National Water Training Package and Companion volume will need to be updated to reflect the change in legislative or regulatory requirements to meet generally the effective date of these changes. Changes, amendments and the implementation of new regulations have an associated effect on Training Package products that are aligned to this regulatory framework. Any legislative or regulatory change requirements identified, would take precedence over other reviews planned as these are often associated with higher workplace risk.

INTERDEPENDENCIES

NWP National Water Training Package qualifications include imported units of competency, within core and elective qualification packaging rules. Industry sector interdependencies that will potentially initiate future NWP qualification and/or skill set reviews include imported units from 19 separate Training Packages (inclusive of predecessors).

The NWP National Water Training Package has interdependencies with 19 other Training Packages.

These include:

- AHC10 - Agriculture, Horticulture and Conservation and Land Management
- BSB - Business Services Training Package
- CHC - Community Services
- CHC08 - Community Services Training Package
- CPC08 - Construction, Plumbing and Services Training Package
- CPP07 - Property Services Training Package
- FSK - Foundation Skills Training Package
- LGA04 - Local Government Training Package
- MEM05 - Metal and Engineering Training Package
- MSA07 - Manufacturing Training Package
- MSL09 - Laboratory Operations Training Package
- MSS11 - Sustainability Training Package

- PMA08 - Chemical, Hydrocarbons and Refining Training Package
- PMB07 - Plastics, Rubber and Cablemaking Training Package
- PSP04 - Public Sector Training Package
- RII - Resources and Infrastructure Industry Training Package
- TAE10 - Training and Education
- TLI10 - Transport and Logistics Training Package
- UEE11 - Electrotechnology Training Package

One other Training Package has interdependencies on the NWP National Water Training Package:

- RII - Resources and Infrastructure Industry Training Package

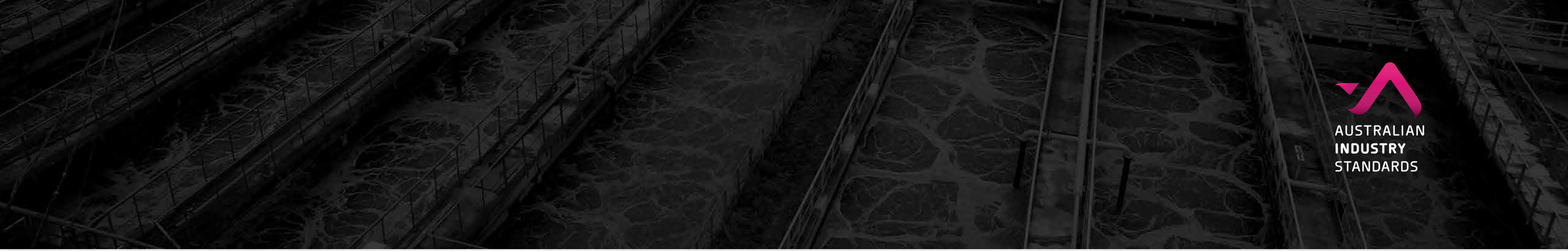
AUSTRALIAN INDUSTRY STANDARDS

PROPOSED SCHEDULE OF WORK - 2017/18 - 2020/21

Water Industry Reference Committee
Contact: Chief Operating Officer, Australian Industry Standards
Date Submitted: Friday, 28 April 2017

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE CODE	TRAINING PACKAGE NAME	QUALIFICATION CODE	QUALIFICATION NAME	UNIT OF COMPETENCY CODE	UNIT OF COMPETENCY NAME
2017 - 2018	NWP – National Water Training Package	New Qualification	Diploma of Hydrography	Development of a new qualification and skill set for hydrographic surveyors		
2017 - 2018	NWP – National Water Training Package	NWP20115	Certificate II in Water Industry Operations	Review the qualification to align to the emerging skills and technologies within this sector to be provided for within the qualification.		
2017 - 2018	NWP – National Water Training Package	NWP30215	Certificate III in Water Industry Operations	Review the qualification to align to the emerging skills and technologies being used within this sector to be provided for within the qualification.		

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE CODE	TRAINING PACKAGE NAME	QUALIFICATION CODE	QUALIFICATION NAME	UNIT OF COMPETENCY CODE	UNIT OF COMPETENCY NAME
2017 - 2018	NWP – National Water Training Package		NWP30315	Certificate III in Water Industry Treatment	Review the qualification to align to the emerging skills technology and treatment methods being used within this sector to be provided for within the qualification.	
2018 – 2019	NWP – National Water Training Package		NWP30415	Certificate III in Water Industry Irrigation	Review the qualification to align to the emerging skills and technologies being used within this sector to be provided for within the qualification.	
2019 - 2020	NWP – National Water Training Package		NWP40615	Certificate IV in Water Industry Treatment	Review the qualification to align to the emerging skills, technologies and treatment methods being used within this sector to be provided for within the qualification.	
2020 - 2021	NWP – National Water Training Package	Review the skill sets within the NWP Training Package, to incorporate the impending regulatory changes.				



AUSTRALIAN INDUSTRY STANDARDS

Australian Industry Standards (AIS) provides high-quality, professional secretariat services to the Water Industry Reference Committee, in our role as a Skills Service Organisation.

AIS provide services to eleven allocated IRCs which also cover the Gas, Electricity, Electrotechnology, Corrections, Public Safety (including Police, Fire and Emergency Services, Defence), Aviation, Transport and Logistics, Rail and Maritime industries. AIS supports these important industry sectors using our world class in-house capability and capacity in technical writing, quality assurance, project management and industry engagement in the production of training packages.

AIS was established in early 2016, 20 years after its predecessor the Transport and Logistics Industry Skills Council (TLISC) was established in 1996. More information about AIS can be found at www.australianindustrystandards.org.au

- We support industry growth and productivity through our modern innovative approach to establishing skills standards.
- We provide high-quality, professional secretariat services to help our allocated industry reference committees develop the skills that industry needs.
- We partner with industry to shape the workforce of the future.

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AUSTRALIAN INDUSTRY STANDARDS

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Australian Industry Standards acknowledges the financial support received
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