**Attachment A: ACT Women in Trades Research Summary**

## 1. Introduction

In the context of current skill shortages in Australia, under-representation of women in key industries is not only bad for gender equality, it undermines Australia's economy and growth opportunities. While the VET sector generally struggles to present itself as a viable career pathway, women face additional barriers in pursuing careers in trades considered unconventional for them. The causes vary from cultural to structural hurdles in these industries.

Research and stakeholder consultations conducted by Skills Canberra point to specific factors that affect women seeking to take up jobs in male dominated industries. Research[1] identifies that some of the characteristics of successful tradeswomen include;

- A preference for hands-on work and practical problem solving
- A love of mathematics, science and technology
- Tolerance of negative male behaviours
- Positive attitudes to dirty, heavy work
- Persistence, resilience and maturity
- Love of the outdoors and involvement in sport

Some of the key barriers identified through the consultation include;

- Gender stereotypes (what constitutes 'women's work')
- Women and young girls' lack of exposure and experience to trade vocations
- Employers' difficulty in recruiting female workers and handling workplace issues
- Connecting employers and apprentices
- Representation of tradeswomen in popular media

Some of the key enablers identified through the consultation include;

- Networks assisting tradeswomen to connect with each other and with employers
- Pre-apprenticeships and opportunities for young women to try a trade
- Early exposure to use of tools
- Information and education

## 2. Women in Trade Research Summary

Skills Canberra undertook consultation and a review of the existing research on women in traditionally male dominated trades in an effort to develop evidence-based options to assist women seeking to enter a trade. A summary of the consultation and review is presented below.

*Gender stereotypes*

Gender stereotyping was identified as the prevalent cause of female worker shortages in male dominated trades[2]. Despite generally progressive gender perspectives in Australia,

[1] Jones and Clayton, http://vital.new.voced.edu.au/vital/access/services/Download/ngv:76804/SOURCE29?view=true
[2] *ibid*

occupations such as building, plumbing, automotive, engineering and electro technology are still male dominated (Table 2 below). This is not because women lack the skills to participate; rather, they lack the opportunities to take up technical or trade subjects in school. They are not encouraged, and too often are actively discouraged, to undertake apprenticeships in these areas.

Career decisions are usually solidified with educational choices made during school and post-secondary education, and role stereotyping affects students' choices from a young age. There is gender segregation in education subjects, with young women more likely to consider education and careers in the humanities or social sciences rather than engineering or technical fields[3]. The implicit nature of this segregation directly influences the decisions of parents, family members, friends, and often teachers and career counsellors, to encourage or discourage young women from pursuing trade and technical subjects and careers.

While many female tradespeople who take up positions in traditionally male dominated trade industries manage to overcome this barrier with determination and hard work, all of them stressed the importance of orienting families, career advisors and children away from stereotypes from a young age. Additionally, negative experiences and/or perceptions of workplace cultures in male dominated industries discourage women from accessing study pathways such as apprenticeships and ASBA type opportunities in these fields.[4]

Stakeholders also pointed out the role that media, literature and popular culture play in fostering gender stereotypes, which disempower women. While experts suggest that role models could help address these stereotypes and inspire young women and female tradespeople, efforts to identify the ambassadors and advocates and give them a platform to link with apprentices and employers have not received enough attention or support.

*Lack of exposure and experience*

Work experience and ASBA opportunities, often accessed at schools, are important to a prospective apprentice's resume. Stakeholders observed that the ASBA pathway is not commonly accessed by female trade apprentices and this is confirmed by Skills Canberra data[5]. Consequently, a lack of awareness and exposure to these trades leads to a lack of interest and participation. A young woman who wants to pursue a trade after school but did not access an ASBA will be less qualified and at a disadvantage in seeking trade jobs. The challenge is compounded by a lack of female mentors and successful role models in male dominated trades, a lack of resources targeting young female students to access pre-apprenticeship programs in these trades, and the complex nature of school-industry relationships.

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[3] A larger proportion of females than males who were studying, in 2016, did so in the fields of Health (19% male and 8.2% female in Health) and Society and culture (26% male and 15% female), while almost one-fifth (18%) of males were studying Engineering and related technologies, compared with 1.4% of females. (http://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0).

[4] https://www.ncver.edu.au/publications/publications/all-publications/how-people-choose-vocational-education-and-training-programs-social,-educational-and-personal-influences-on-aspiration. Additionally, Table 4 presents statistics of ASBA qualifications accessed by male and female students.

[5] The qualifications that were accessed by both gender between 2007 and 2016, the total female ASBA was 9 while the total male ASBA is 232 over this period. At the same time, the non-school female ASBA was only 4 between 2007 and 2016 while the non-school male ASBA stood at 72. Breakdown is presented in Table 4.

*Employer's inability to recruit female workers and address workplace discrimination*

Research and consultations identified that workplace discrimination, bullying and sexual harassment are key issues discouraging women from seeking occupations in male-dominated trades. Along with a general sentiment that the workplace is not designed for them, these issues are identified as key reasons for women leaving highly paid, engaging, and rewarding jobs. Employer support was widely recognised as being crucial in helping women succeed in their trades and in guiding future gender shifts, while the lack of appropriate support will only continue to drive women away from these trades.

While many employers are open to recruiting women in these trades, they lack understanding about creating an enabling environment for women tradespeople that includes ensuring adequate human resources practices for handling workplace discrimination and sexual harassment. The employers willing to employ women tradespeople struggle to find employees due a thin supply chain, a direct result of the shortage of female pre-apprentices and apprentices in these trades.

*Inability to link with employers*

A recognised barrier in the apprenticeships system is the connection between employers and apprentices, through both formal and informal networks[6]. The Australian Apprenticeships system is complex and can be particularly challenging to navigate for individuals without experience. While there is evidence that apprenticeship opportunities are being advertised (jobactive lists 142 jobs under a search for 'traineeship' in the ACT and 110 jobs listed under 'apprenticeship'),[7] none of the current services involve targeted links with employers with the objective of raising the number of female apprentices. Through Skills Canberra's consultation, it was identified that many employers in traditionally male dominated trades were reluctant to take on female apprentices. Therefore, identifying employers with an interest in taking on female apprentices is a key requirement not addressed through current services. Similar findings are reported in 'Ducks on the Pond: Women in Trade Apprenticeships Integrated Research Report' 2014 prepared by Quay Connections for NSW State Training Services.[8]

*Industry*

Industry involvement is vital. Moving from a classroom to a worksite can be a shock for young female apprentices and may stymie their enthusiasm and lower retention rates. Having discussions with female apprentices and industry about the distinct worksite environment and even worksite visits early on is therefore crucial.

Involving industry representatives at all levels including employers, employees and executives is important as they each provide different perspectives. Collating a list of employers within industries who are willing to take on female apprentices would be a valuable asset moving forward, especially within the automotive and electrical trades, which currently boast the greatest enrolments from women.

[6] https://www.ncver.edu.au/publications/publications/all-publications/the-female-tradie-challenging-employment-perceptions-in-non-traditional-trades-for-women
[7] https://jobactive.gov.au/ (Accessed 17/10/2017).
[8] https://www.skillsboard.nsw.gov.au/publications/ducks-pond-women-trade-apprenticeships

*Construction industry*

The construction industry is Australia's third largest employer and a central economic player in the Australian economy. However, construction remains unyielding as Australia's most male dominated industry. To date, initiatives aimed at shifting the industry's gender imbalance have been generic in approach and focused on women and individual agency.

Recommendations of the 'Rigid, Narrow and Informal: Shifting the Gender Imbalance in Construction: Building Industry Specific Responses' report[9] include:

- The construction industry needs to change. Existing construction practices need to be analysed and challenged and leaders need to take ownership of gender diversity.
- Construction projects need to be planned, resourced and managed with employee wellbeing in mind.

*Automotive industry*

A study undertaken by Victoria University academics, Jones and Guthrie[10], suggests that gender diversity in the workforce matters because it:

- Enlarges the pool of potential employees
- Increases productivity through increasing the range of capabilities available to a business
- Enables individual women to achieve their ambitions
- Enables individual women to access higher paying jobs
- Helps break down rigid thinking about gender roles that contributes to societal harms.

Previous interventions aimed at increasing the participation of women in traditionally male trades have generally failed because they have been short term and one-dimensional. The study proposes an alternative 'ecological approach', specifically 'site saturation', and suggests that strategies to increase the participation of women in male occupations must, like the problem, be multidimensional and complex.

*Canadian experience*

An environmental scan of the structure of programs aimed at increased female workforce participation across Canada was published in 2013[11]. The study aimed at increasing women's participation in trades and technology sectors through identifying best practices. The findings from this study suggest the sustainability of a program is dependent on a number of variables and there is no 'one size fits all' approach.

*USA experience*

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[9] https://www.nawic.com.au/NAWIC/Documents/Rigid_Narrow_and_Informal_NAWIC_2017_IWD_Scholarship_Reprt_Natalie_Galea.pdf

[10] http://www.voced.edu.au/content/ngv%3A73646

[11] An Environmental Scan of Women in Trades and Technology initiatives across Canada along with a comparison using a case study of the Trade HERizon Program on Prince Edward Island, Jenny Wood, University of Prince Edwards Island, 2013, https://www.islandscholar.ca/islandora/object/ir:8760

'Women in Construction: Successes, Challenges and Opportunities – A USACE Case study'[12] identifies the top five barriers that women face at USACE-SAD:

- work/life balance
- male dominance
- unfair perception of women's capabilities
- slow career progression, and
- socio-cultural issues.

The successes identified included:

- increased awareness by the public and private industry of the issues women face in construction
- shift in organisational policies to better address the needs of women; and
- increase in leadership roles for women.

Recommendations include:

- the introduction of policy that allows women to have flexible work hours, breaks in service without penalty -and mobility within a career
- providing women more training options, and
- increasing women mentors and participation of women in advocacy organisations.

## 3. ACT Data

*Female Representation in Traditionally male dominated Trades*

Apprenticeships in traditional trades continue to be dominated by males. In 2016, female representation in these trades in the ACT was 2.2 percent (Table 1). This outcome has not changed significantly in the last 10 years. In the most popular apprenticeship qualification in the ACT – Certificate III in Carpentry – women have comprised less than one percent of the total commencements since 2007 (Table 2). Even in electrotechnology and automotive qualifications, which receive the greatest number of female apprentices, the representation of women has never exceeded 5 percent (Table 3).

**Table 1: Commencements by female apprentices in traditional trades, as a percentage of total commencements, 2007-2016**

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Female** | 28 | 26 | 21 | 26 | 27 | 35 | 28 | 24 | 34 | 28 | 277 |
| **Male** | 1213 | 1174 | 1082 | 1333 | 1311 | 1239 | 1339 | 1183 | 1122 | 1221 | 12217 |
| **Total** | **1241** | **1200** | **1103** | **1359** | **1338** | **1274** | **1367** | **1207** | **1156** | **1249** | **12494** |
| **Female %** | 2.26% | 2.17% | 1.90% | 1.91% | 2.02% | 2.75% | 2.05% | 1.99% | 2.94% | 2.24% | 2.22% |

[12] http://ascpro.ascweb.org/chair/paper/CPRT249002014.pdf

**Table 2: Commencements by female apprentices in top 5* trade qualifications as a percentage of total commencements, 2007-2016**

| Qualification | Female | Male | Total | Female % |
|---|---|---|---|---|
| **Certificate III in Carpentry** | 10 | 2479 | **2489** | 0.40% |
| **Certificate III in Electrotechnology Electrician** | 53 | 1817 | **1870** | 2.83% |
| **Certificate III in Plumbing** | 10 | 1511 | **1521** | 0.66% |
| **Certificate III in Light Vehicle Mechanical Technology** | 48 | 1376 | **1424** | 3.37% |
| **Certificate III in Telecommunications** | 9 | 647 | **656** | 1.37% |

*Top 5 in terms of total commencements by all apprentices in trade qualifications from 2007-2016

**Table 3: Commencements by female apprentices, by number of commencements*, in top 5** trade qualifications, as a percentage of total commencements, 2007-2016**

| Qualification | Female | Male | Total | Female % |
|---|---|---|---|---|
| **Certificate III in Electrotechnology Electrician** | 53 | 1817 | 1870 | 2.83% |
| **Certificate III in Light Vehicle Mechanical Technology** | 48 | 1376 | 1424 | 3.37% |
| **Certificate III in Parks and Gardens** | 24 | 109 | 133 | 18.05% |
| **Certificate III in Cabinet Making** | 21 | 509 | 530 | 3.96% |
| **Certificate III in Painting and Decorating** | 16 | 177 | 193 | 8.29% |

*In order from highest female commencements to lowest female commencements

**In terms of top 5 trades chosen by female apprentices

**Source (Tables 1, 2 and 3):** ACT Vocational Education and Training Administration Records System (AVETARS) (*Accessed 10/7/2017)*. Analysis uses the ANZSCO classification system and the National Register on Vocational Education and Training's classification of qualifications by ANZSCO classification.

*ASBA*

Australian School Based Apprenticeship (ASBA) statistics show that not all traditionally male dominated trade qualifications are accessed by female students in the ACT. For the qualifications that were accessed by female students, there is a stark difference between male and female participation. For the qualifications that were accessed by both genders between 2007 and 2016, the total of female ASBAs was 13 while the total of male ASBAs was 304 over this period.

**Table 4: Participation of male and female students in ASBAs in traditional trades**

| | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **Female** | 0 | 2 | 1 | 3 | 1 | 2 | 0 | 1 | 2 | 1 | 13 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Male** | 5 | 24 | 33 | 47 | 33 | 42 | 24 | 33 | 27 | 36 | 304 |

**Source (Table 4):** ACT Vocational Education and Training Administration Records System (AVETARS) (Accessed 02/11/2017).

*Employers*

Skill Canberra's data shows the employers that have employed female apprentices over the years have not fluctuated significantly, averaging 28 employers per year from 2007 to 2016.

**Table 5: Employers with Female Apprentices**

| | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
|---|---|---|---|---|---|---|---|---|---|---|
| **Employers** | 28 | 26 | 21 | 26 | 27 | 35 | 28 | 24 | 34 | 28 |

**Source (Tables 5):** ACT Vocational Education and Training Administration Records System (AVETARS) (Accessed 16/11/2017).

## 4. Complimentary Activities/Resources

The following activities are relevant and complementary to the Women in Trade initiative and have been considered while developing the options being presented.

*Pathways – Career Education*

Pathways is a website that helps students aged 10 to 17 years in the ACT plan their future beyond school (https://www.education.act.gov.au/school_education/transitions-careers/pathways). The website contains three plans; a 5-6 Plan (currently under development), the Pathways Plan and 11-12 Plan. Students keep the same Pathways account throughout their school career. Pathways is open to every young person in the ACT.

Students can share their progress with others including parents, carers, and mentors. Students are encouraged to reflect on their strengths, abilities and interests so the site can match them to relevant vocations and chart higher education or training paths to reach these vocations.

The website maintains engagement with the students from years 5 to 12. While workshops that let students try a skill consistently garner strong enthusiasm, there is an opportunity to create links between students' practical experiences and information available to them through pathways and vice versa. Promotional content for trades featured on Pathways could seek greater gender balance by including content displaying as many female as male tradespeople, which is essential in dispelling the image of trades as a male's domain. Additionally, the website could potentially provide specific modules on women in trades and contacts to employer or industry support networks.

*Careers Expo*

The industry group Supporting and Linking Tradeswomen (SALT) attended the 2017 ACT Careers Expo and ran a workshop with students involving a small woodwork project (a

cheeseboard). The workshop was run by eight qualified tradeswomen and one male. (http://www.canberracareersmarket.com.au/home.php?pageid=7)

SALT has conducted tailored workshops in primary schools and reported great interest amongst younger participants. Capturing this enthusiasm at an early age could prove successful as career planning pitched to younger ages has been proven to be more influential in career aspirations than later—year 11 and 12—engagement.

*Parents*

Research shows that parents have the largest impact on a child's vocational choices. Accordingly, increased engagement with parents is an important priority for encouraging girls into trade vocations moving forward. The Engaging Parents in Career Conversations (EPICC) Framework (http://www.education.vic.gov.au/school/teachers/teachingresources/careers/parentsframe/Pages/default.aspx) is an online resource that provides an opportunity to promote the benefits of trade vocations.

*Pathways into an apprenticeship*

A range of different pathways have been considered to support women into apprenticeships, including:

- the use of skill sets which could provide platforms to extend into traditional trades
- 'taster' programs allowing students to experience a variety of vocations through involvement in diverse projects. For example, students may be involved in building a garden bed, drawing upon carpentry, horticulture, and project management skills. This model has had some success in other jurisdictions and provides practical exposure to a range of occupations and a strong means of promoting trades to school students
- rather than placing just one student with one employer, providing groups of students with different employer experiences across industry. While this approach is more resource heavy, it has proven to generate greater interest amongst students than one off worksite placements.
- running activities with gender balanced groups to help engender a cultural change amongst males.

*ACT Women's Register*

The ACT Women's Register (http://www.communityservices.act.gov.au/women/act_womens_register) is a database containing information provided by women who have indicated an interest in nominating for appointment to ACT Government and non-government boards and committees. It is held by the ACT Office for Women, Community Services Directorate. It has been identified that men and women often have different approaches to applying for positions - generally men will apply for a position when they meet *some* criteria, whereas women need to feel confident on *all* criteria. The register seeks to address this gap in self confidence in promoting positions to women they may not usually consider. A Governance skill set may be applicable to women aspiring to board positions, SITSS00038 - Governance for Board Members.

*'Women in Trade' Campaign*

Skills Canberra undertook an analysis of the Building and Construction Industry Training Fund Authority's (TFA) Tradeswomen in Building and Construction Campaign (the Campaign), which was launched in 2008.[13] The Campaign, in two stages, targeted school students from year 9-12 at schools and colleges and employers within the building and construction sector to create wider awareness and demonstrate viable career paths through ASBA and full apprenticeships. The Campaign launched a website aimed at promoting traditional trade vocations to women (http://www.trainingfund.com.au/women-in-trades/). The Campaign also utilised young tradeswomen as ambassadors to promote women in this industry.

*Electrical Innovative Delivery Pathways Project*

The National Electrical and Communications Association (NECA) has received funding through the Australian Government's Alternative Delivery Pilots[14]. Within the four core activities there are nine programs that are being developed and trialled. The programs address critical issues needing attention in skills development and training approaches in the highly regulated electrical and communication industry. Each initiative is being developed in consultation with partner providers, i.e. NECA, relevant government departments and employers. One initiative progressing through this project aims to trial innovative approaches to increase the number and outcomes for women into the industry. NECA notes that their initial consultations have identified:

- the need to get into schools much earlier than we currently do, to ensure young women know that an electrical apprenticeship is a viable career option for them
- the need to persuade mothers and teachers that doing a trade can be equally as rewarding as going to university for many students
- women in particular benefit from pre-apprenticeship courses as their entry point – especially as many are mature students, so need to be sure it's the right thing for them
- most people favour supporting women's industry groups and actively using more women in leadership and mentoring-type roles
- gender-based discrimination is experienced by most women in our industry, and we have to find ways to combat this behaviour, and
- interestingly most women in the industry thrive on being "the odd man out" and accept that is part of the job, and they prove themselves by striving to be "even better than the boys."

*Women in male-dominated industries: A toolkit of strategies*

The 'Women in male-dominated industries: A toolkit of strategies' report was released by the Australian Human Rights Commission in 2013. The report summarises strategies for the attraction, recruitment, retention and development of women in male-dominated industries. By identifying best-practice programs and model organisations, the toolkit

[13] http://www.trainingfund.com.au/women-in-trades/
[14] https://neca.asn.au/sites/default/files//Info%20Flyer_Electrical%20Alternative%20Pathways%20Project.pdf

empowers organisations to collaborate and devise innovative pathways that lead to higher female representation in their workforces.

Suggestions for increasing female participation include:

- displaying diverse images and using inclusive language in job advertisements;
- using women's voices for radio, television, video and internet advertising;
- offer a female contact for questions;
- establish recruitment targets—both shortlisting and interview targets—for women and share them with labour suppliers;
- promote and display zero tolerance for workplace harassment, bullying and discrimination;
- engage senior leaders as role models;
- offer informal and formal opportunities for women to network; and
- encourage opportunities for women to move to non-obvious career paths.

The report is a useful resource for organisations hoping to realise the benefits of a diverse workforce and aiming to increase their proportion of female employees and can be found at https://www.humanrights.gov.au/sites/default/files/document/publication/WIMDI_Toolkit_2013.pdf.