

# Skills Industry Plan Roundtable

## Discussion paper

### Renewables and Sustainability Industry

November 2022



**ACT**  
Government



## Background

**Skilled to Succeed** is the ACT Government's skills and workforce agenda that seeks to ensure Canberrans have the right skills for in-demand jobs now and into the future. Our priorities are to deliver a skills and workforce agenda which is:

- inclusive and provides Canberrans with a foundation for lifelong learning
- responsive, flexible and future-focused
- proactive in helping employers build, attract and retain the right workforce
- built on strong and sustainable skills sector foundations.

To deliver this agenda, the ACT Government will develop Industry Plans for the Care, Technology, Building and Construction, Experience, and Renewables and Sustainability industries. The purpose of these Plans is to identify actions to develop a fit-for-purpose vocational education and training sector that supports our future workforce.

To support the development of these Plans, the ACT Government is hosting roundtables with stakeholders from each industry. This discussion paper is intended to support and inform discussion at the Renewables and Sustainability industry roundtable on 28 November 2022.

## Scope

The purpose of this discussion paper is to provide stakeholders with key data and insights on the Renewables and Sustainability industry to stimulate thinking on the role of **Vocational Education and Training (VET)** in shaping the future of jobs and skills in the industry.

The questions in this paper will guide discussion at the roundtable and focus on:

- Qualification types and content
- Delivery of qualifications
- Quality and fit-for-purpose of courses
- Level of consultation/engagement with industry
- Skilled migration pathways
- Accessibility and equity

## Discussion questions

- 1 What skills do workers need to be 'job-ready' and what skills do you expect to train on the job?
- 2 Think about the training your staff attend now. How suitable is this training for your business needs?
- 3 With the increased focus on technology and sustainability, what additional skills do workers need?
- 4 How can the vocational education sector support greater diversity in the workforce (e.g. older workers and women entering this workforce)?
- 5 What works well with the current training market? What would you like to see more of, and what changes need to take place?
- 6 What are the barriers to completion? How can these barriers be addressed?

## Collective actions to consider

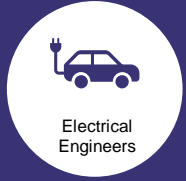
- 1 Develop courses that will future-proof the skills requirements based on emerging trends.
- 2 Incorporate greater digital literacy and non-technical course content into existing courses.
- 3 Support the development of VET pathways that allow expedited entry into high need roles, including at higher skills levels.
- 4 Increase participation of women.
- 5 Broaden the eligible professional experience that can be recognised as prior learning.

# Industry Overview

## Growth in Employment

**27%** Last 10yrs   **36%** Last 5yrs   **22%** Avg 5yrs (All industries)

## Largest Growing Occupations

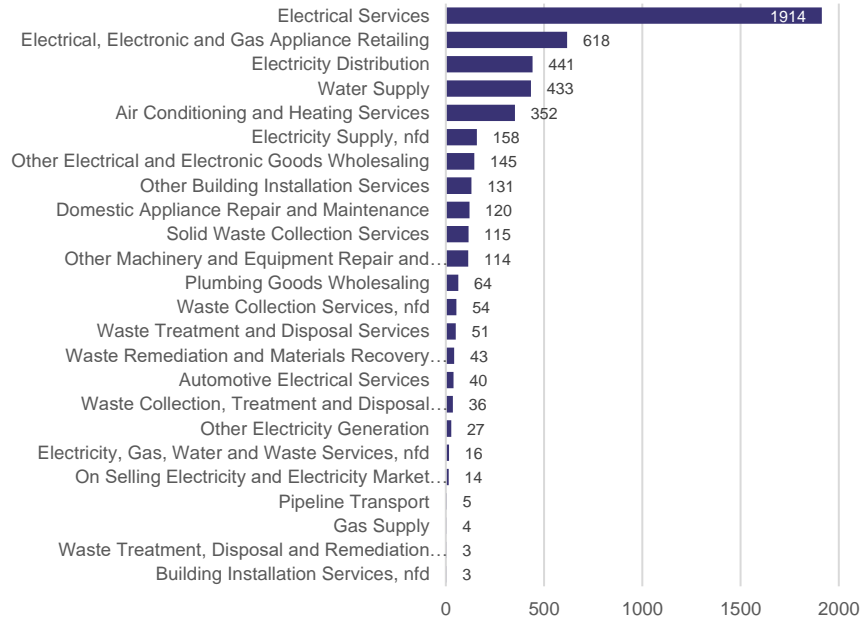


Source: ABS census 2021

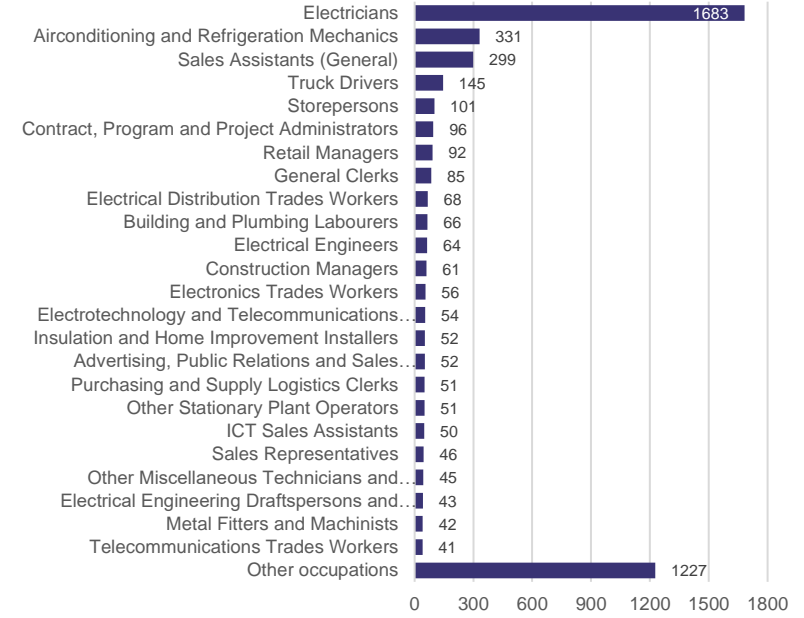
Note: Renewables and sustainability is not explicitly defined in ABS data and as such, the growth figures presented are indicative only and based on the occupations presented in the chart to the right.

## Renewables and Sustainability - Employment Snapshot (2021 census)

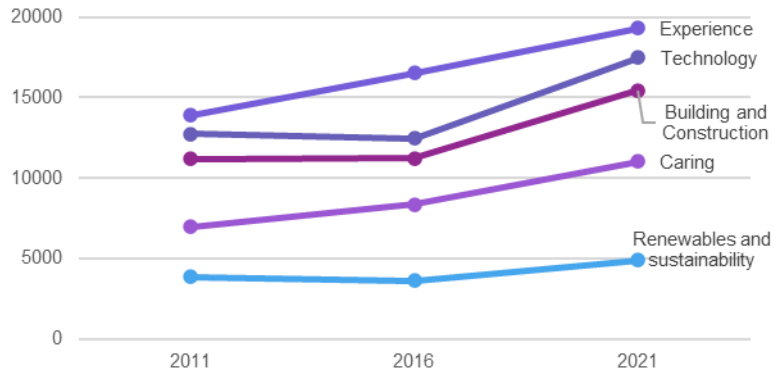
### Employment by Sub-Industry



### Employment by occupation



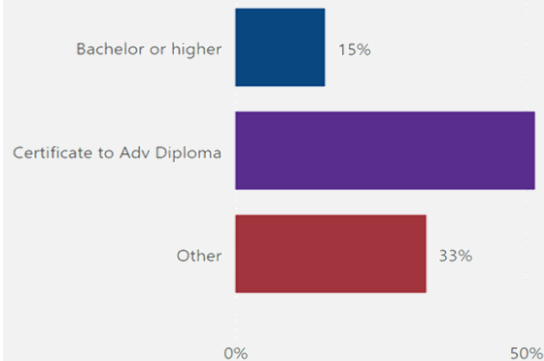
## Employment by Industry in the ACT



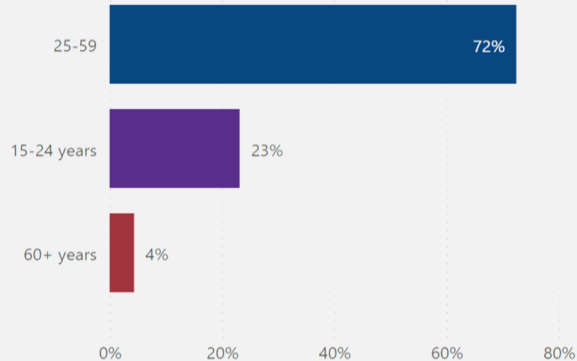
Source: ABS Census 2011, 2016 and 2021

## Employment characteristics

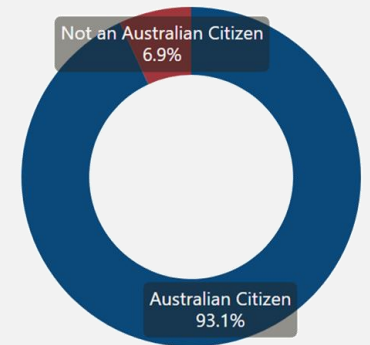
### % by Education



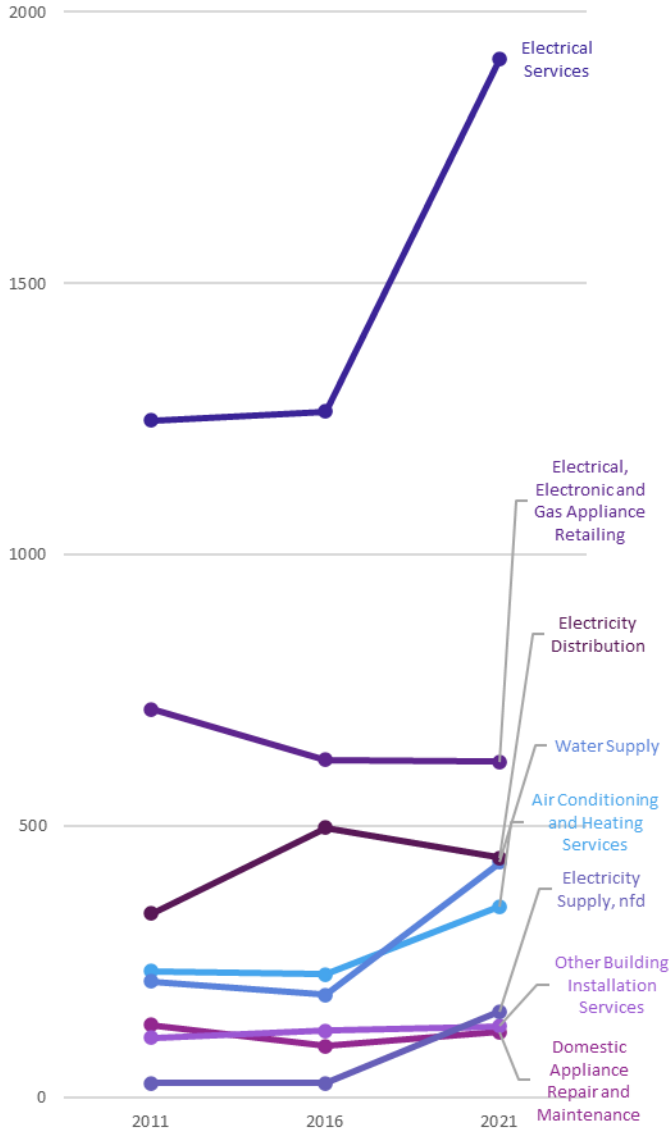
### % by Age Group



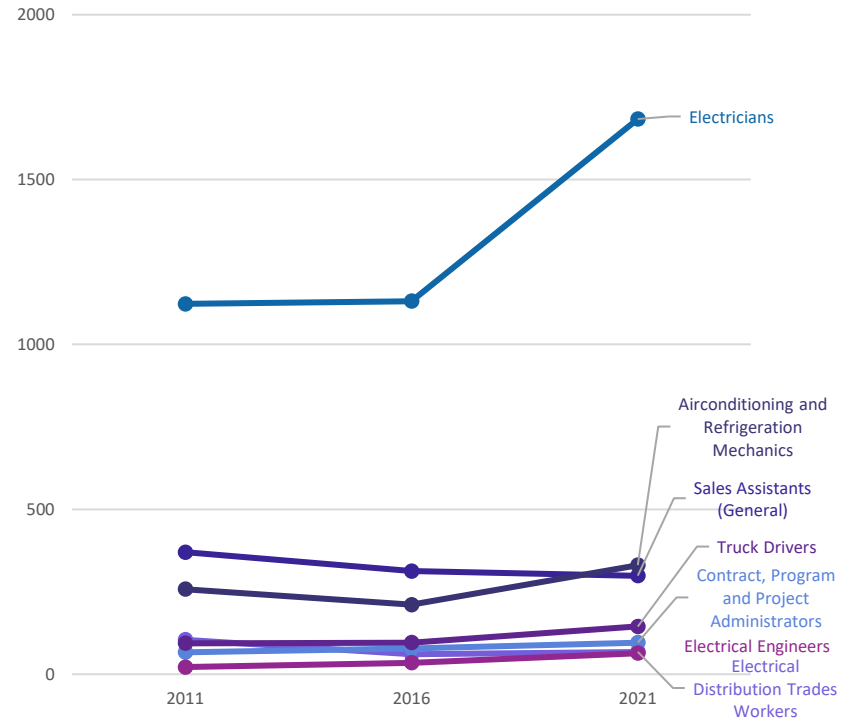
### % by Australian Citizenship



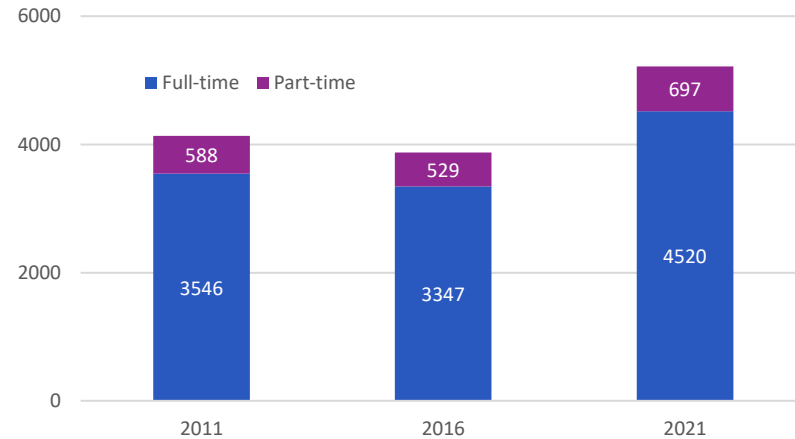
## Employment by top industries



## Employment by top occupations



## Employment by type of employment



Source: ABS census 2021

# Industry snapshot

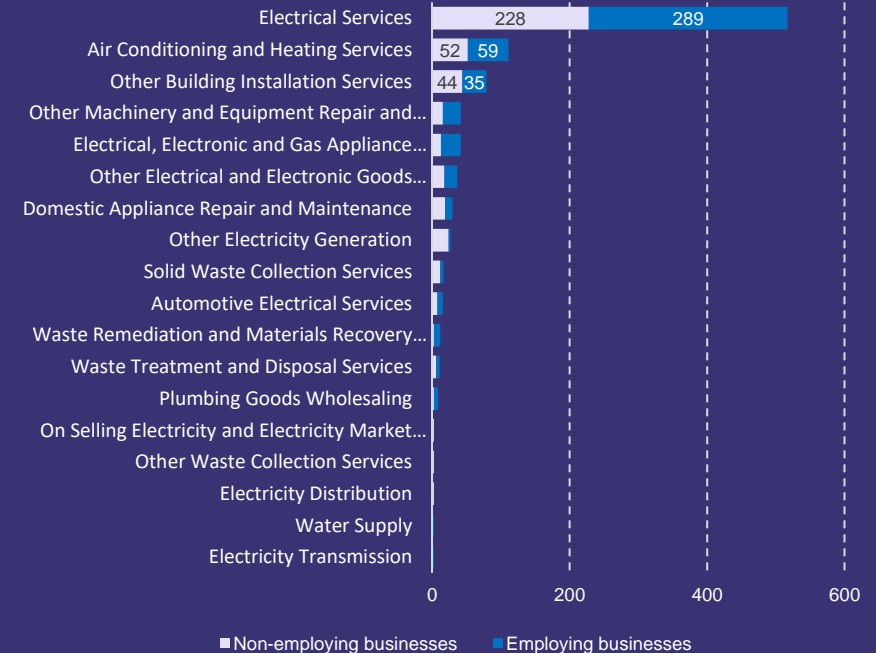
## 965

Total number of businesses in the **Renewables and Sustainability** industry in 2021, **510** of which are employing businesses\*

## Contribution to ACT economy

**2%** of total employment

## Number of business by sub-industry



Source: ABS 2021

\*Renewables and sustainability is not explicitly defined in ABS data and as such, the total number of businesses presented is an estimate and indicative only.

# Small-scale Installations in the ACT as of September 2022

 **44,261**

Small solar generation units in the last twenty years

 **24,759**

Small solar generation units in the last five years

 **2,302**

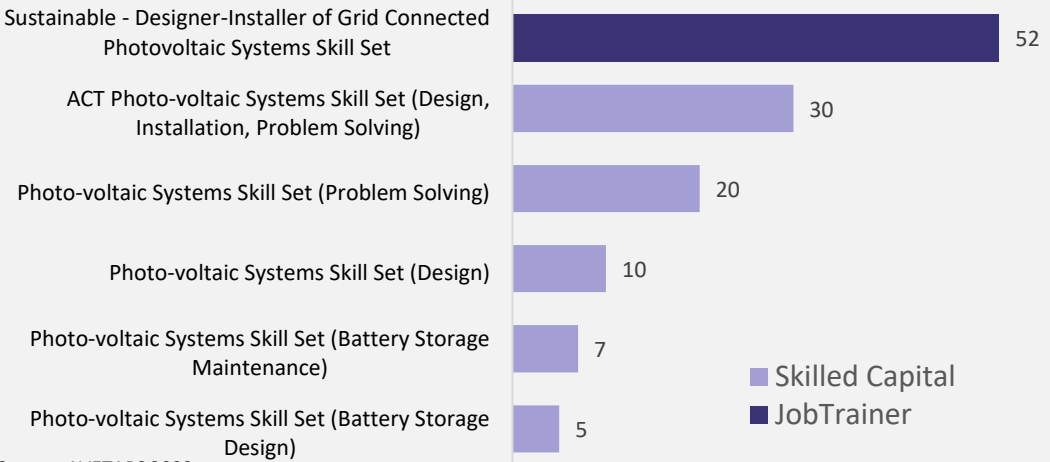
Solar PV system with battery storage capacity for the last five years

 **5,821**

Solar water heater and air source heat pump for the last five years

Source: Clean Energy Regulator

## Short course enrolment since 2020



Source: AVETARS 2022  
 Note: Short courses in renewables have been offered since 2020 in Skilled Capital program and in JobTrainer. Skilled Capital \*is a capped program, no release of new places since January 2022.

## Renewables and Sustainability related courses currently available

- Working Safely in the Solar Industry
- Design and Installation of Grid Connected Renewable Energy Systems
- Certificate III in Electrotechnology Electrician
- Certificate III in Renewable Energy ELV\*
- Certificate IV in Renewable Energy\*
- Certificate IV in Electrical-Renewable Energy\*
- Certificate IV in Electrical-Photovoltaic Systems\*
- Certificate IV in Wind Power Generation\*
- Graduate Certificate in Renewable Energy Technology\*
- Advanced Diploma of Applied Electrical Engineering (Renewable Energy)\*
- Advanced Diploma of Renewable Energy Engineering\*
- Diploma of Renewable Energy Engineering\*
- Diploma of Environmental Monitoring and Technology
- Certificate IV in Environmental Monitoring and Technology
- Certificate IV in Waste Management

Source: ACT Skills Needs List

\* These courses were introduced in 2022 and currently there are no enrolments.



## Sector's highlights and issues

- The ACT is a leader in emissions reduction with a target of zero net emissions by 2045. The ACT is seeing increasing uptake of roof top solar and registrations of zero emissions vehicles have more than doubled in the last twelve months.
- There remains greater opportunities for research, training, and collaboration to promote cleantech, recycling, and renewable industries.
- In the **VET Sector**, new courses are being introduced to upskill workers in the renewables and sustainability industry. This includes the Certificate III in Electrical Vehicle Technology which will be offered at CIT from 2023.

Nevertheless, in general, the industry is currently facing the following issues;

- **Skills shortages** exacerbated by increased local demand and difficulty to find suitable workers with specific experience in renewable sectors.
- **Greater concentration in urban areas**, making it is difficult to attract suitable candidates for projects in regional or remote locations.
- **Rising costs** due to the high price of fuel, imported materials, and higher wages.

## Circular economy for sustainability

The ACT Government has a vision for Canberra to become a circular city - a cyclical, regenerative system that minimises resource inputs, waste, emissions and energy. Circular economy principles cut across all industries, from building and construction to hospitality. Circular economy is a growing concept in Australia and momentum is growing.

## Megatrends



### Impactful technology

Technological advances are changing the renewables and sustainability industry at a rapid pace. This includes how we generate, store and use energy as well as technologies to support more efficient service delivery, such as through the use of artificial intelligence.



### Urbanisation and demographic change

The world is experiencing rapid and massive demographic change, such as an ageing workforce, which adds a new challenge for businesses. Urbanisation is also placing pressure on large scale infrastructure such as the electricity grid and waste management.



### Climate and resource security

The megatrend of climate and resource security describes the growing pressure on critical resources especially food and clean water scarcity. This drives the need for climate resilient infrastructure and the growing demand for environmentally sustainable, climate-ready and zero emissions approaches. This in turn is driving the growth in the renewables and sustainability industry.



### Demand for work-life balance

Work-life balance is of increasing importance to the workforce. Trends such as hybrid working has shifted the nature of work in the post-pandemic workplace.



### Focus on cleaner and greener solutions

This trend emphasises solutions to resource constraints through cleaner and greener means driven by population growth, industrialisation and urbanisation. The renewables and sustainability industry is growing and will contribute to the establishment of new industries and occupations.



### Re-skilling and up-skilling

Firms around the world are considering ways of re-skilling and up-skilling existing workers into new roles in order to address skills shortages and increase retention of high performing staff and older workers. With an expanding renewables and sustainability industry, there are opportunities for up-skilling and re-skilling workers from adjacent industries such as building and construction.