



Clean
Energy
Skills

National Centre
of Excellence

Building the workforce for a
net zero world

NATIONAL SKILLS AGREEMENT

National Priorities 2024 - 2028



Supporting Net Zero



Housing Supply



Closing the Gap



Gender Equality



VET Quality and
Qualifications



Sustaining
Essential Care



Sovereign capability
& food security



Digital & tech
capability



- The CESNCE: Announced 10 June 2024 to position WA as a global clean energy leader
- Meets National Skills Agreement priorities: Net Zero, Closing the Gap & Gender Equality
- Supports WA's economic diversification objective and Net Zero targets
- Serves as a physical and virtual front door for clean energy training and opportunities
- Coordinates investment in training, curriculum, infrastructure, equipment and clean energy careers promotion



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OBJECTIVES

To develop the pipeline of suitably skilled workers needed to support the transition to net zero emissions by 2050 and to minimise workforce disruption and maximise opportunities for workers.



Coordinate investment in clean energy training facilities across TAFEs.



Oversee digital integration of key facilities across the TAFE network.



Network nationally and internationally with other clean energy Centres of Excellence.



Design and provide professional development to build capacity and capability of VET clean energy workforce.



Develop, disseminate and implement the latest teaching and learning products in response to industry needs.



Monitor clean energy skill delivery and requirements, set strategic direction and implement initiatives to meet workforce requirements.



Work with State and National bodies, such as Jobs and Skills Councils, unions, and Jobs and Skills Australia on workforce training needs.

TAFE CENTRES OF EXCELLENCE – NATIONAL APPROACH

NSW – Hunter Net Zero Manufacturing Centre of Excellence | Training to support the national transition of traditional mining, energy and manufacturing industries into cleaner energy sources.

VIC – Renewable Energy TAFE Centre of Excellence | Training related to renewable energy generation, infrastructure and networks, including offshore wind, smart grids, and digital training technologies

QLD – TAFE Queensland Clean Energy (Batteries) Centre of Excellence | Training related to renewable energy batteries, intermittent renewable energy source storage, grid connectivity, network embedded storage and electric vehicles for existing and emerging workforces.

ACT – Canberra Institute of Technology Electric Vehicle Centre of Excellence | Innovative training for heavy hydrogen electric vehicles, retrofitting of vehicles, battery repurposing and charging installation and safety training for occupations.



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The Centre will work alongside TAFE Centres of Excellence to:

- Build the capability and capacity of the TAFE network.
- Develop a skilled clean energy workforce for Australia.
- Expand university and industry partnerships to develop pathways for emerging skill needs.

OUR ADVISORY BOARD

The Advisory Board provides strategic advice to the Minister for Skills and TAFE. It guides the work of the Clean Energy Skills National Centre of Excellence to prepare Western Australia's workforce for a clean energy future.



Ms Krystal Skinner

Chief Executive Officer,
Horizon Power
*(Chair and experience/expertise in
clean energy industries)*



Ms Elizabeth Carr AM

Governing Council Chair,
North Regional TAFE
(representing TAFE colleges)



Ms Jasmine Kadic

Director, Noongar Chamber of
Commerce and Industry
*(representing Aboriginal
community-controlled
organisations)*



Mr Shannon O'Rourke

Chief Executive Officer,
Powering Australia
*(representing universities
involved in clean energy
technology and research)*



Mr Jai Thomas

Deputy Director General –
Coordinator of Energy, Dept Energy
and Economic Diversification
*(representing State Government
interests in the development of
clean energy industries)*



Ms Jodie Wallace

Director General,
Department of Training &
Workforce Development
(Ex-officio)



Mr Gregory Warren

Director, MizCo Pty Ltd
*(representing private
registered training
providers)*



Mr Terry Hill

Chair, Pilbara Development
Commission
*(representing a body
involved in training and
research relating to clean
energy industries)*



Mr Michael Wright

National Secretary,
Electrical Trades Union
of Australia
*(representing the interests
of workers)*



Mr Aaron Morey

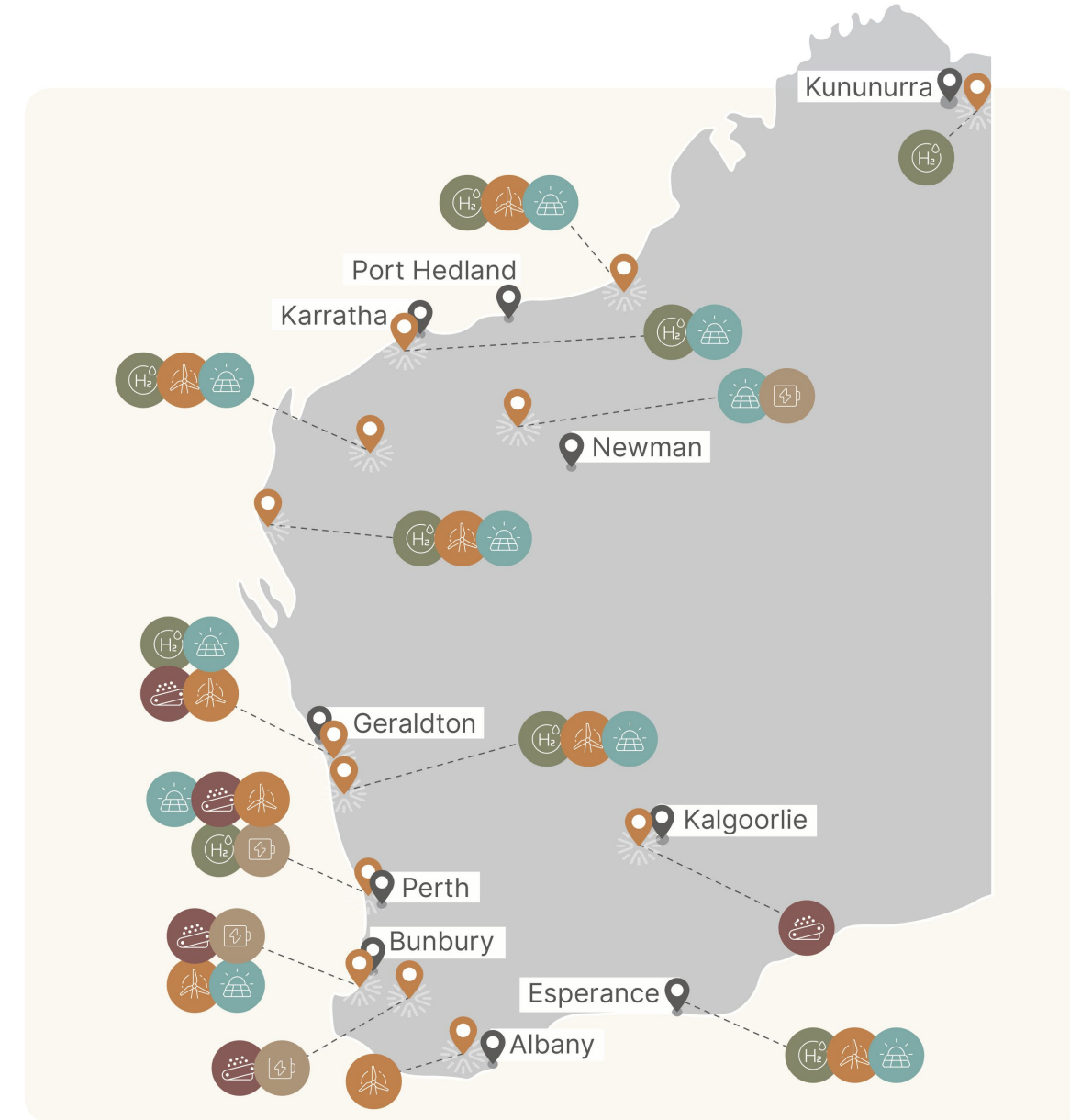
Chief Executive Officer,
Chamber of Minerals
and Energy of WA
*(experience/expertise in the
resources industry)*



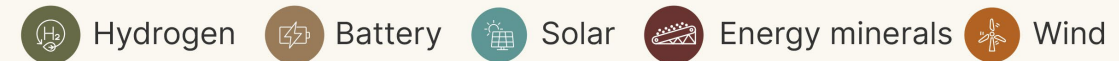
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WHY WE'RE NEEDED

- Net Zero target by 2050
- Around \$200b investment pipeline in WA
- 351,000 jobs estimated by 2050
- Regional opportunities and key renewable energy precincts spread around WA:
 - Western Green Energy Hub – Esperance
 - Collie – Bunbury
 - Kwinana – Western Trade Coast
 - Geraldton – Oakajee
 - Pilbara
- Range of skills required across planning, construction and operations/maintenance. Post trade and para-professional areas.
- A centralised Centre of Excellence to bring all TAFE colleges together and use collective strengths of regions/domains to meet future needs.



LEGEND





DOMAINS IN FOCUS

CESNCE focus – Working with TAFEs, RTOs, industry, universities and community on workforce demand for evolving skills across clean energy domains, including:



Solar



Critical minerals and rare earths processing



Wind turbines (onshore and offshore)



Ammonia/Hydrogen production



Grid management and transmission



Carbon capture, utilisation and storage



Battery applications (installation, maintenance, manufacture)



Emerging Biofuels and Green Steel



Battery storage



Environmental remediation





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EVOLVING SECTOR: SKILLS TRANSITION

All domains	Solar	Wind	Battery	Critical minerals	Hydrogen
Electrician Electrician Distribution Trades Electrical Mechanical Leading Hand/TGA Electrical Engineer Mechanical Fitter Clean Energy Technician					
Project Manager	Earthmoving Plant Operator	Steel Fixer	Earthmoving Plant Operator	Chemical Engineer	Chemical Engineer
Data Scientist	Assembly Labourer	Concreter	Civil Engineer	Materials Engineer	Process Engineer
Accountant	Mechanical Labourer	Civil Engineer	Forklift Operator	Process Technician	Civil Engineer
Truck Driver	Pile Driver	Welder	Rigger	Control Room Operator	Plumber
Work Health & Safety Officer		Wind Turbine Technician	Concreter	Chemistry Technician	Water Treatment Operator
Logistics Officer		Wind Blade Technician	Crane Operator	Materials Technician	Power Generator Plant Operator
Cyber Security Professional		Power Gen Plant Operator		Manufacturing Engineer	Process Operator
Systems Analyst		Rigger			Chemistry Technician
Software Engineer		Scaffolder			Gas Fitter

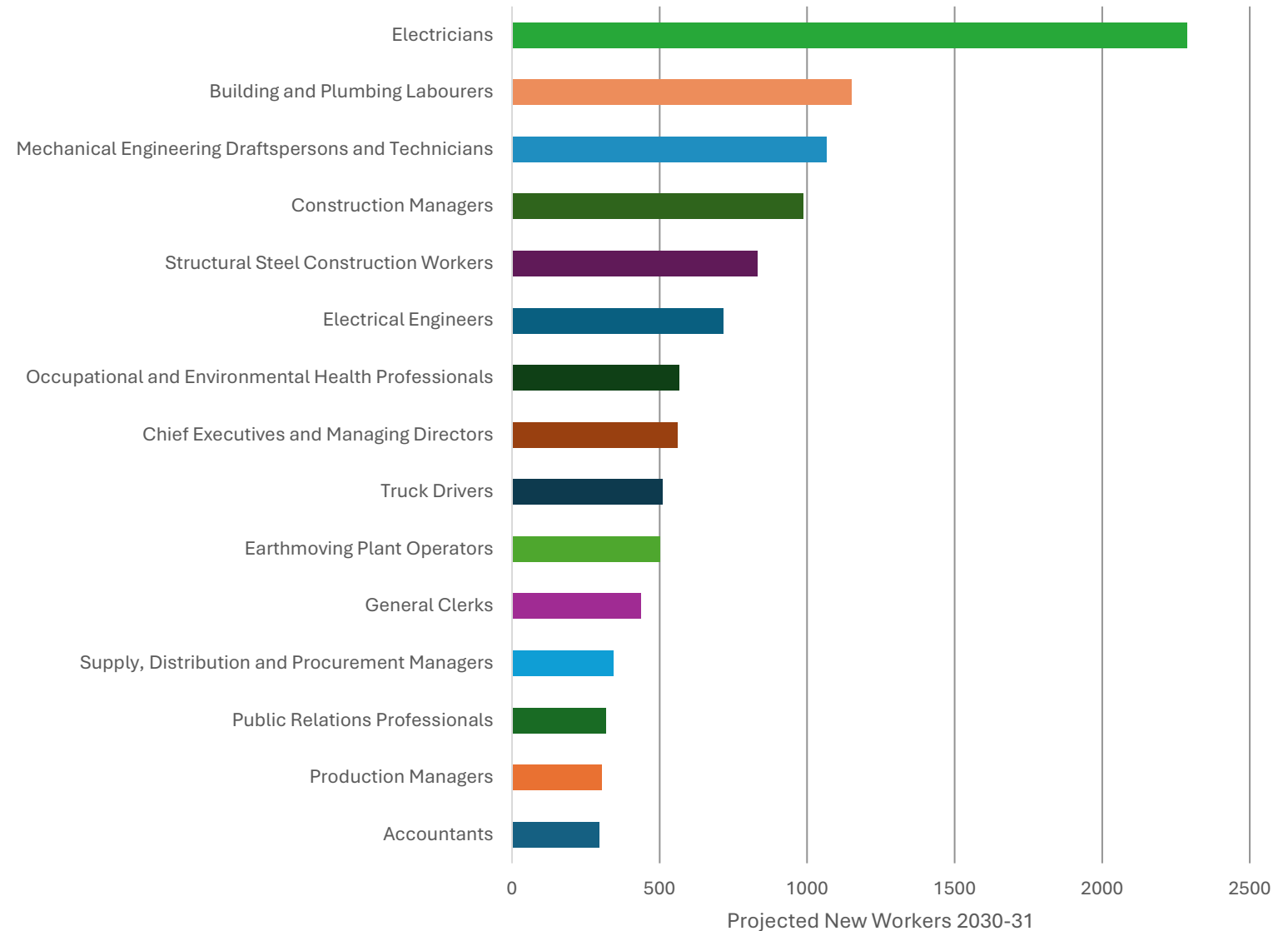


CLEAN ENERGY OCCUPATION FORECAST

Race for 2030 projections show that trade and managerial occupations which are key for project construction such as **Building and Plumbing Labourers, Mechanical Engineering Draftpersons and Technicians and Construction Managers** will be in high demand.

Electricians are projected to be the most in demand occupation for the clean energy transition due to the importance of this occupation across various project stages and across both generation, transmission and storage components of the clean energy transition.

Race for 2030 Projections





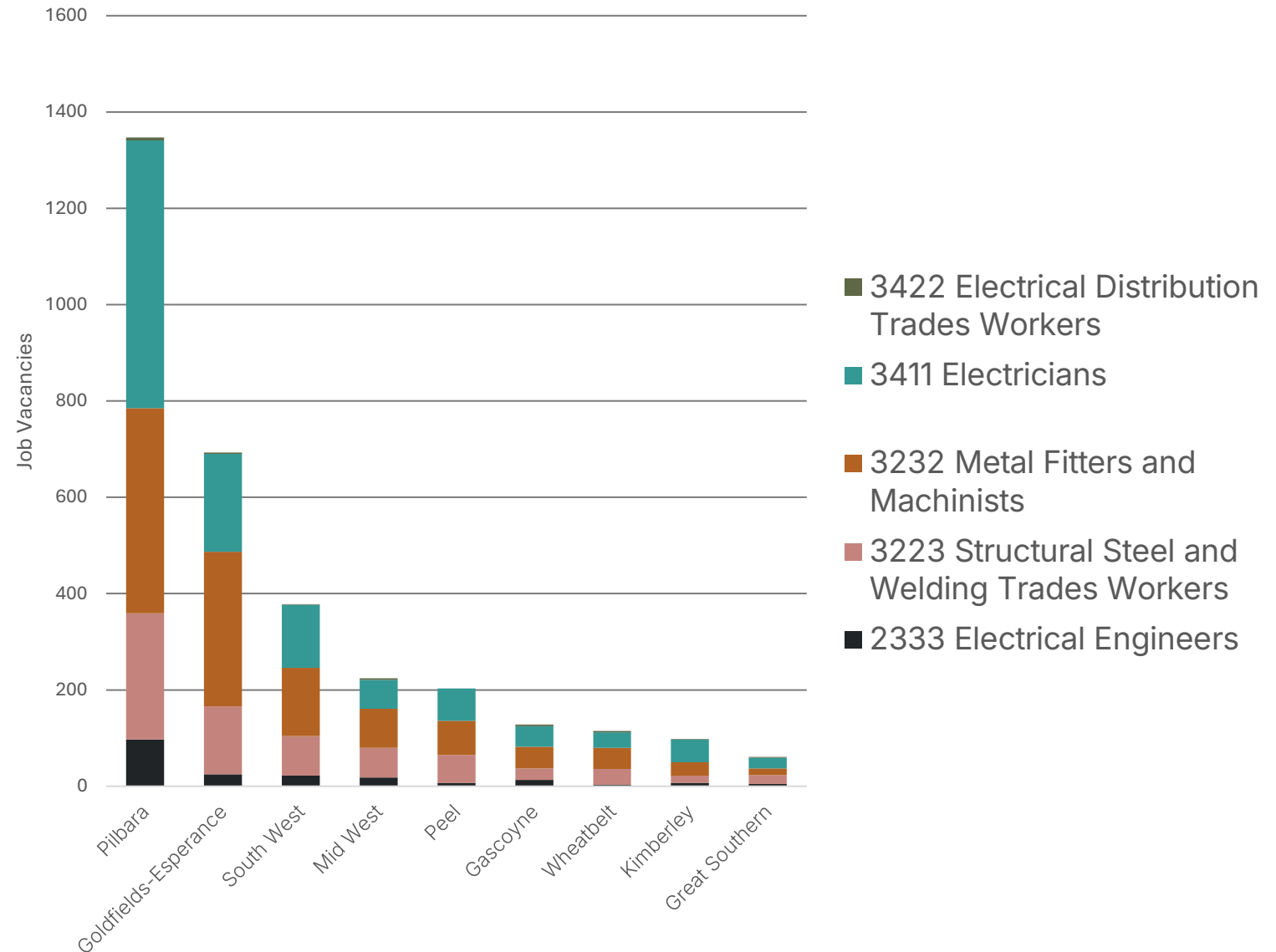
REGIONAL DEMAND - 2026

Demand is consistently highest in the Pilbara for selected clean energy occupations.

Pilbara, **Goldfields** and **South West** represent strong demand, reflected by the high number of projects in these regions.

Lower job vacancy counts in the Wheatbelt despite a high number of upcoming clean energy projects may be attributable to higher workforce mobility and proximity to Perth.

2026 January – June Regional Demand





CLEAN ENERGY PROJECT OVERVIEW

Under Construction

- Jinbi Solar Farm – 75MW
- King Rocks Wind Farm – 105MW
- Narrogin Wind Farm – 179MW
- Nullagine Wind Farm – 133MW
- Turner River Solar Farm – 690MW
- Waddi Wind Farm – 108MW

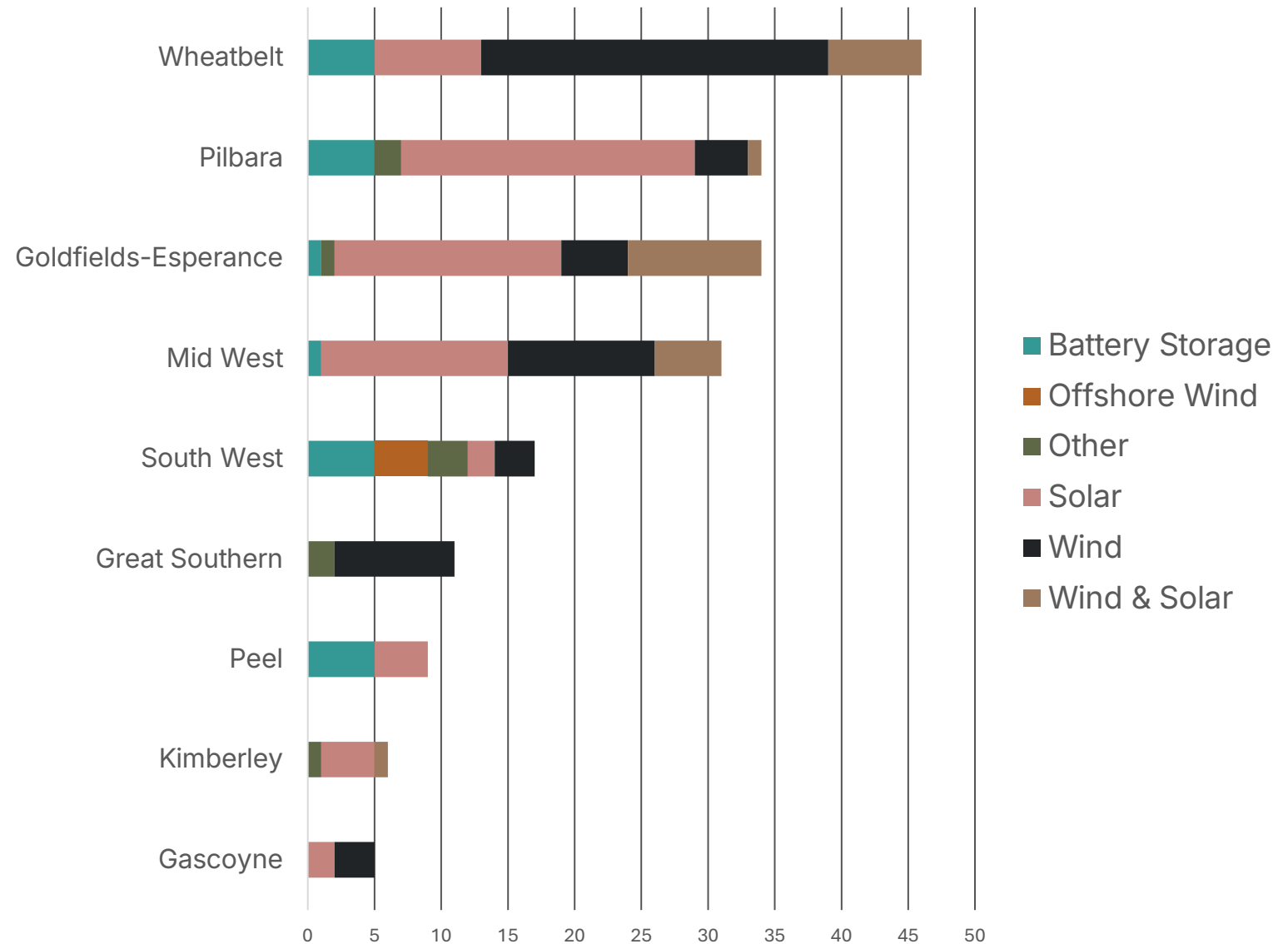
Construction Approval

- Bengier Solar Farm – 110MW
- Killawarra Hybrid Project – 400MW
- Kondinin Wind Farm – 130MW
- Parron Maam Marang Wind Farm – 470MW
- Tathra Wind Farm – 240MW
- Waroona Renewable Energy Project – 132MW

Planning

- Ambrosia Wind Farm – 600MW
- Binningup Solar Farm – 75MW
- Grevillea Wind Farm – 700MW
- Mahogany Wind Farm – 450MW
- Marri Wind Farm – 550MW
- Wandoo Wind Farm – 450MW
- Yathroo Wind Farm – 500MW

Number of Projects (Current and Upcoming)





CLEAN ENERGY ENROLMENT TRENDS

Current enrolment data highlights the growing demand for clean energy skills and training:

18,500

Clean energy
course enrolments
in 2024*

6117

Electrotechnology
apprentices in training
as at June 2026

↑ 24.4%

Electrotechnology
apprenticeship
commencement
(June 2026)

↑ 29.7%

Electrotechnology
apprenticeship
completions
(June 2026)

*Source: Department of Training and Workforce
Development Annual Report FY24/25

THE CLEAN ENERGY WORKFORCE



Strong demand for electricians

with an additional 42,500 expected to be required by 2030



Growing and evolving skill requirements beyond traditional trades, particularly in EV and charger maintenance, digital literacy, automation and AI



Apprenticeships are the foundation with opportunities to build specialist skills post trade and progress into a range of clean energy roles



Careers opportunities extend beyond trade based roles with opportunities suited to different student interest and aspirations



Regional engagement and building social license, particularly with First Nations communities, underpins participation and project success



HOW ARE WE TACKLING THESE CHALLENGES?

FACILITATED LEARNING AND KNOWLEDGE SHARING

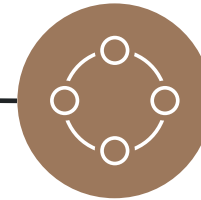
Through interactive spaces, Communities of Practice (TAFE Collab), symposiums, professional development opportunities and research and development.

COMMUNITY ENGAGEMENT

Strengthening meaningful partnerships with Aboriginal communities, ACCOs, RTOs, and GTOs to foster deeper engagement and lasting impact.

PROCUREMENT

Used when acquiring specific services or products with mutual value for both parties.



PROGRAM DESIGN AND DELIVERY

Focused on enhancing VET provider capability, infrastructure, equipment and curriculum for the delivery of clean energy skills.

TRAINING SECTOR COORDINATION

Aligning resources to meet identified needs, supported by a dedicated web portal.

GRANTS

Our primary service enabler, designed to surface innovative ideas and fund initiatives that generally fall outside of mainstream funding for the training system.



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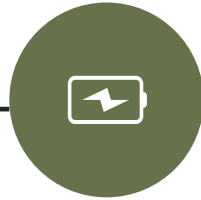
ACTIVITIES

2025



The Clean Energy Skills National Centre of Excellence established

2026



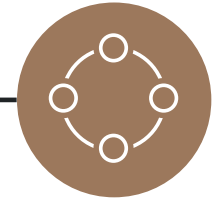
Applied Research Grant Program - Remote and distributed learning; First Nations – Learning on Country; and Agentic AI-supported delivery and assessment

VET Practitioner Capability Plan – PD and upskilling for lecturers

Higher Apprenticeship – Diploma of Engineering (Advanced Trade)

Career Taster Programs – Virtual Reality (VR) in Schools (Pilot)

2027



Clean Energy Infrastructure and Equipment mapping

Employer Incentives

International Symposium

Clean Energy Career Explorer – Webtool

Post Trade delivery – Industry accreditation (SAA), Skill sets

CESNCE Hub and Spoke - \$32 million – infrastructure and equipment project

Teaching and Learning Hub – Resources and training aids

Cert II in Utilities (Clean Energy Awareness) – Accredited course

VET Pathways Program - Aboriginal education on-country (NRTAFE)

Clean Energy Industry Pathways Program

Mobile Energy Training Unit (METU) – SRTAFE Pilot

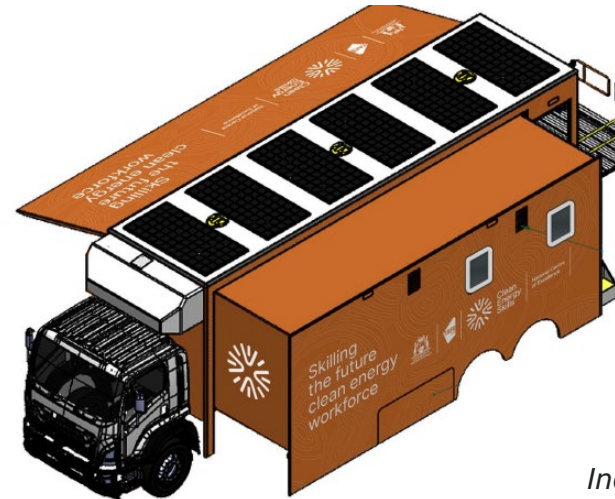
MOBILE ENERGY TRAINING UNIT

The METU has been designed to support hands-on training in clean energy and emerging electrical technologies while overcoming geographic barriers to participation.

It can operate independently or, in tandem with the trailer which transports a complete deployable solar / battery training kit and incorporates an on-board Stand-alone Power System with an automatically deploying roof solar array for demonstration.

Key Features

- ✓ Self-contained learning environment capable of operating in regional and remote locations.
- ✓ Expandable classroom design maximising training space.
- ✓ Integrated renewable energy system incorporating solar generation, battery storage and auxiliary power.
- ✓ Satellite communications and digital connectivity for online learning and remote support.



Indicative design only

APPLIED RESEARCH GRANT PROGRAM

CESNCE established a \$1.5 million Applied Research Grant Program to address real world challenges in clean energy training.

Critical skill sets for wind energy workers

Researching training programs for electricians transitioning to wind turbine installation roles, including remote learning strategies and employment opportunities for local communities.

Objectives

A practical and scalable training pathway that strengthens WA's wind energy workforce pipeline.

Energy on Country: Microgrid Installation

Creating culturally appropriate training models and experiences to support Aboriginal participation in clean energy projects specifically relating to Stand Alone Power grids in remote locations.

Objectives

A community-led training model that supports local employment and renewable energy capability in regional WA.

AI-Assisted Recognition for Clean Energy

Developing an AI-assisted framework to streamline assessment of prior learning and identify bridging courses for tradespeople moving into clean energy roles.

Objectives

A scalable model that accelerates skills recognition and supports workforce mobility into clean energy occupations.

VR Electrical Training for Remote Apprentices

VR-based electrical training to improve access and engagement for apprentices in remote and distributed locations.

Objectives

A flexible training model that improves participation, accessibility and learning outcomes for apprentices regardless of location.

CLEAN ENERGY SKILLS INDUSTRY INSIGHTS WEBINARS

Purpose: Equip VET educators to deliver training aligned with the needs of the clean energy industry.

Value: Professional Development opportunity for VET educators led by industry experts on current and emerging clean energy technologies.

Monthly webinar series:

- 12 Aug – Magellan Power's 4R Battery Ecosystem (Masoud Abshar, Magellan Power)
- 8 Sept - How AI is reshaping skills, jobs and training in clean energy (Lan Tran, EXTAG / Be Savvy)
- 7 Oct – Concepts and Philosophies Behind Quality Training (ERGT)
- Proposed future topics:
 - AI in manufacturing and workforce capability
 - Onshore wind industry
 - Mining plant automation
 - Carbon Capture and Critical Minerals
 - Electric Vehicle Heavy Vehicle





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Industry Insights Webinar

Magellan Power's
4R Battery Ecosystem



Wed 12 August | 12:00 PM - 1:00 PM



Industry Insights Webinar

How AI is reshaping skills, jobs and training in clean energy

Tuesday 8 Sept
12:00 PM - 1:00 PM

Lan Tran
Co-Founder
Be Savvy



Register now





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2027 INTERNATIONAL CLEAN ENERGY SKILLS SYMPOSIUM

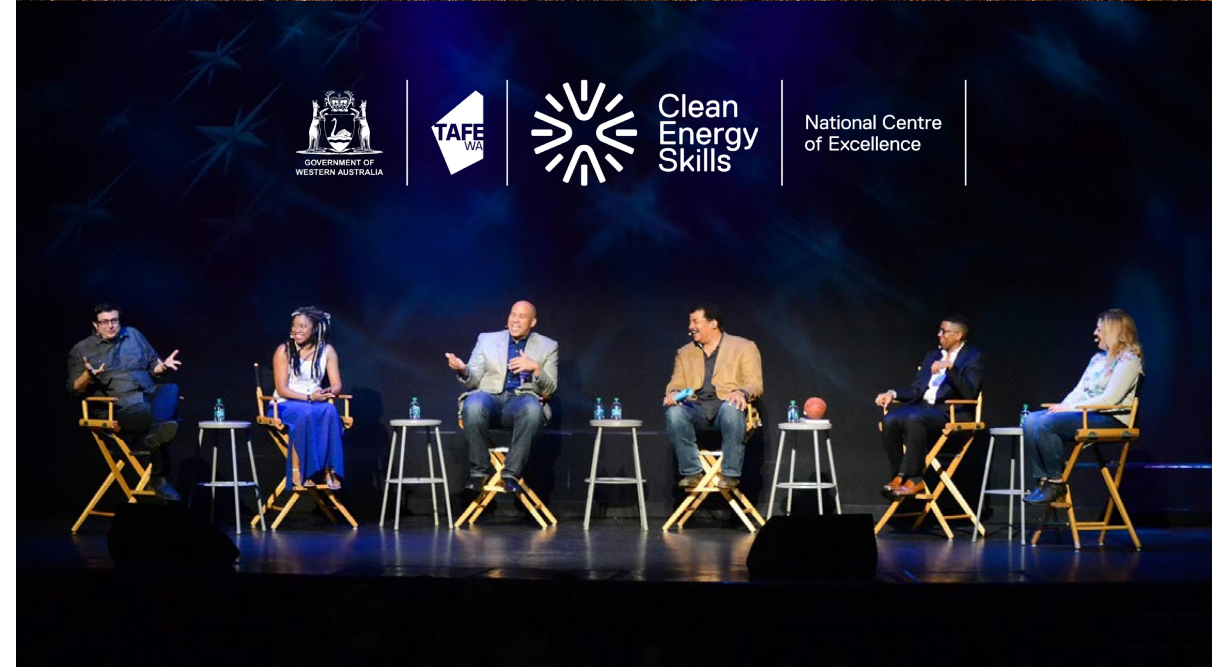
PRIMARY TARGET AUDIENCE: VET Practitioners

SYMPOSIUM OUTCOMES:

Build an understanding of emerging clean energy skills, trends and innovative training models, while providing opportunities to engage with industry leaders, workforce specialists and international experts.

KEY THEMES:

- ✓ Future workforce
- ✓ Industry collaboration
- ✓ Regional and remote training
- ✓ Skills pathways
- ✓ Technical capability uplift





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GET IN TOUCH

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