

First Nations and clean energy: barriers, opportunities and actions to increase First Nations jobs in clean energy

ERICA, February 2024

ISF: Chris Briggs, Rusty Langdon, Sarah Niklas

SGS Economics: Jeremy Gill, Michelle Tjondro, Mary-Ellen Trimble, Ed Wensing

Alinga Energy: Ruby Heard

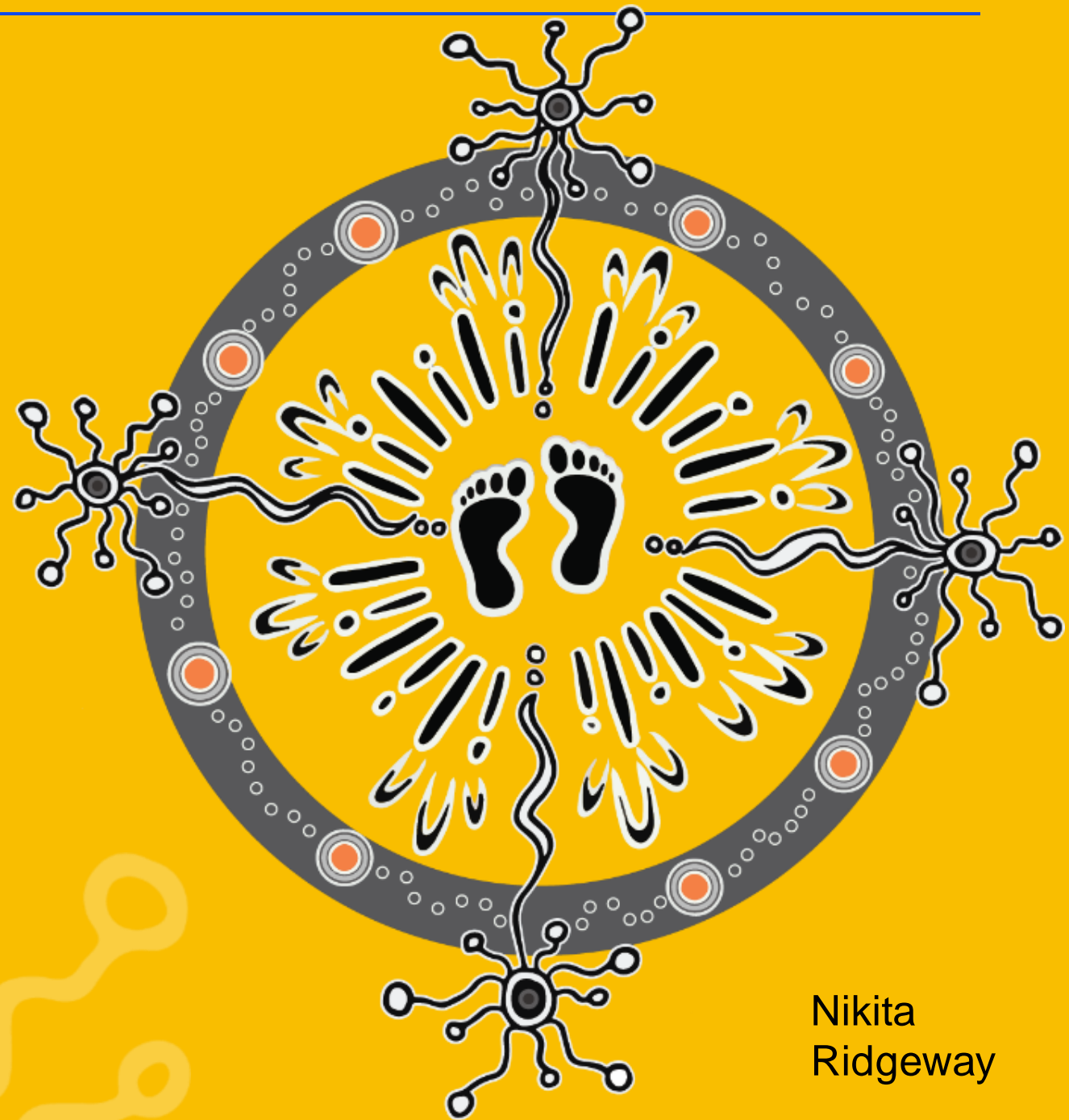
Indigenous Energy Australia: Michael Frangos



Acknowledgement of Country

We acknowledge that today we meet on many Aboriginal lands.

We acknowledge the traditional custodians of the lands and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work.



Nikita
Ridgeway

Introduction

ISF, SGS Economics, Alinga Energy and Indigenous Energy Australia have been engaged by the **First Nations Clean Energy Network** to support the develop of a jobs and skills strategy

Research Questions

- What are the key employment opportunities, training and career pathways in clean energy?
- What are the employment expectations of First Nations peoples and how can the clean energy industry meet them?
- What are the barriers and opportunities to increasing First Nations participation in the clean energy sector?
- What are the key policy or program opportunities for increasing First Nations training and employment participation in clean energy?

Methodology and Scope

Regions

- REZs
- Remote areas
- Industrial regions in transition

Methodology

- Employment modelling and regional labour market analysis
- Desktop review of First Nations employment and training programs and data
- Fieldwork: interviews and workshops

The context: lower employment participation and qualifications

The gap in employment participation and educational attainment has not narrowed for three decades

- Employment rates for First Nations are much lower than non-indigenous Australians – 52% of persons aged 15 – 64 are employed compared to the population-wide rate of 64.5%.
- There are some variations by gender, region and age:
 - Employment rates for First Nations women > men
 - gap in employment rates is relatively stable across age-groups.
 - gap in employment rates is notably lower for young women (under 20%) than young and prime-aged men (e.g. the gap is up to 30% for 25-34 year old men).
 - employment rates in metropolitan areas > regional > remote areas
- Improvement in education (e.g. school completions) is one of the few areas where progress is being made against ‘close the gap’ targets ... but the employment gap **‘has not closed notably over the past 30 years’** (Commonwealth Government, Employment White Paper).

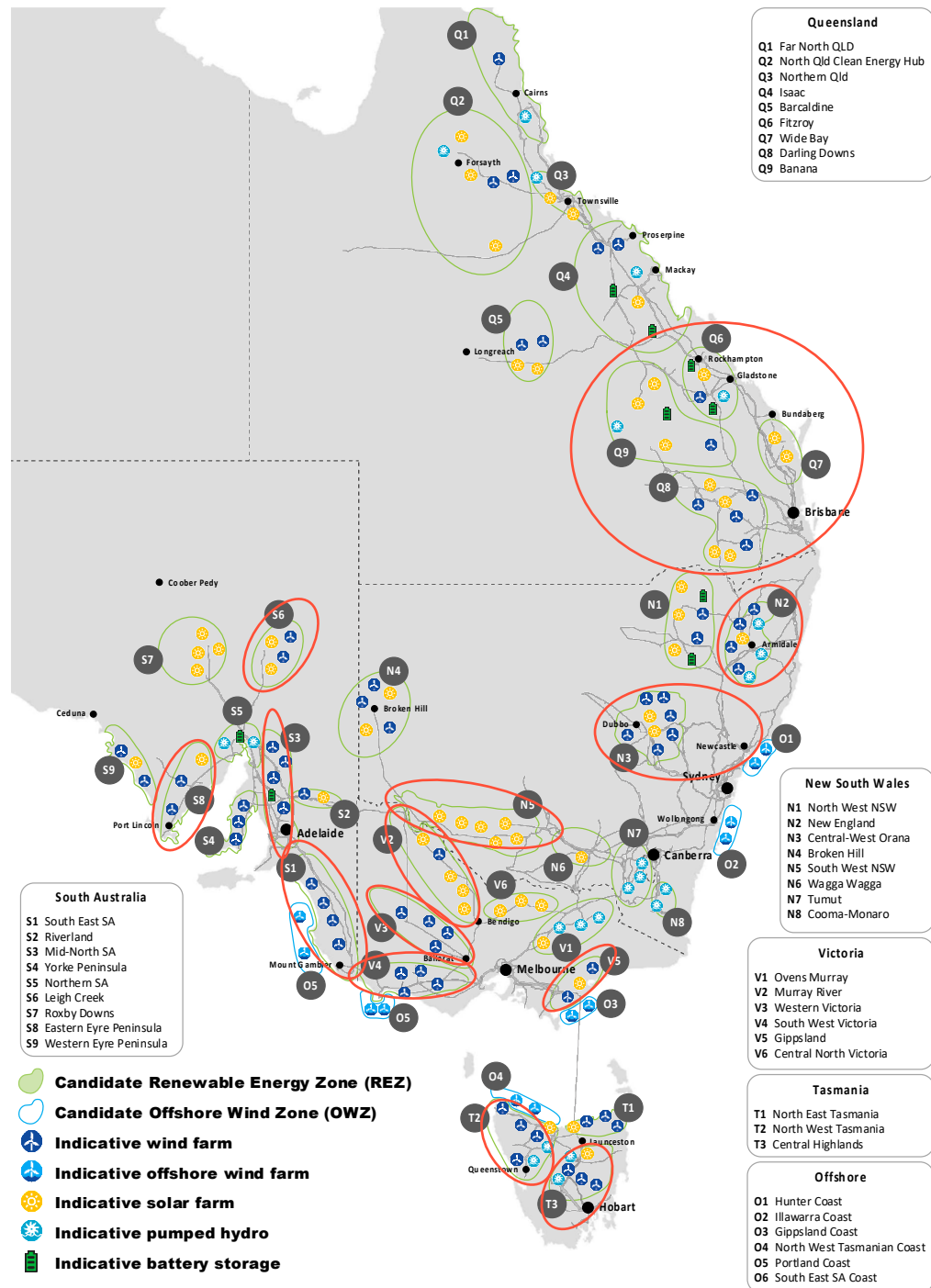


01

REZs and First Nations employment



Renewable Energy Zones: what First Nations employment shares could be achieved?



REZs have higher First Nations populations – especially in major NSW REZs

- On average, FN people make up **6.2%** of REZ populations compared to 3.8% nationally:
 - In the key NSW REZs, the First Nations population share is 9.4% (New England) and 12.7% (Central-West Orana)
 - In the Qld REZs, the share is 7.5% (Fitzroy) and 5.9% (Darling Downs) in major REZs
 - The First Nations population share in the Victorian REZs is notably lower – < 5%.

REZ employment participation is similar to national levels – but labour markets are very tight

- Across all the REZs, just under or over half the First Nations population are not in the labour force compared around one-third the total population
- On average, First Nations unemployment (3.4%) is over double non-indigenous unemployment of First Nations people (1.6%) are unemployed – both are low highlighting tight labour markets but there are communities with high long-term unemployment and extreme social disadvantage

The First Nations population is very young

- Half the First Nations population across the REZs are less than 19 years

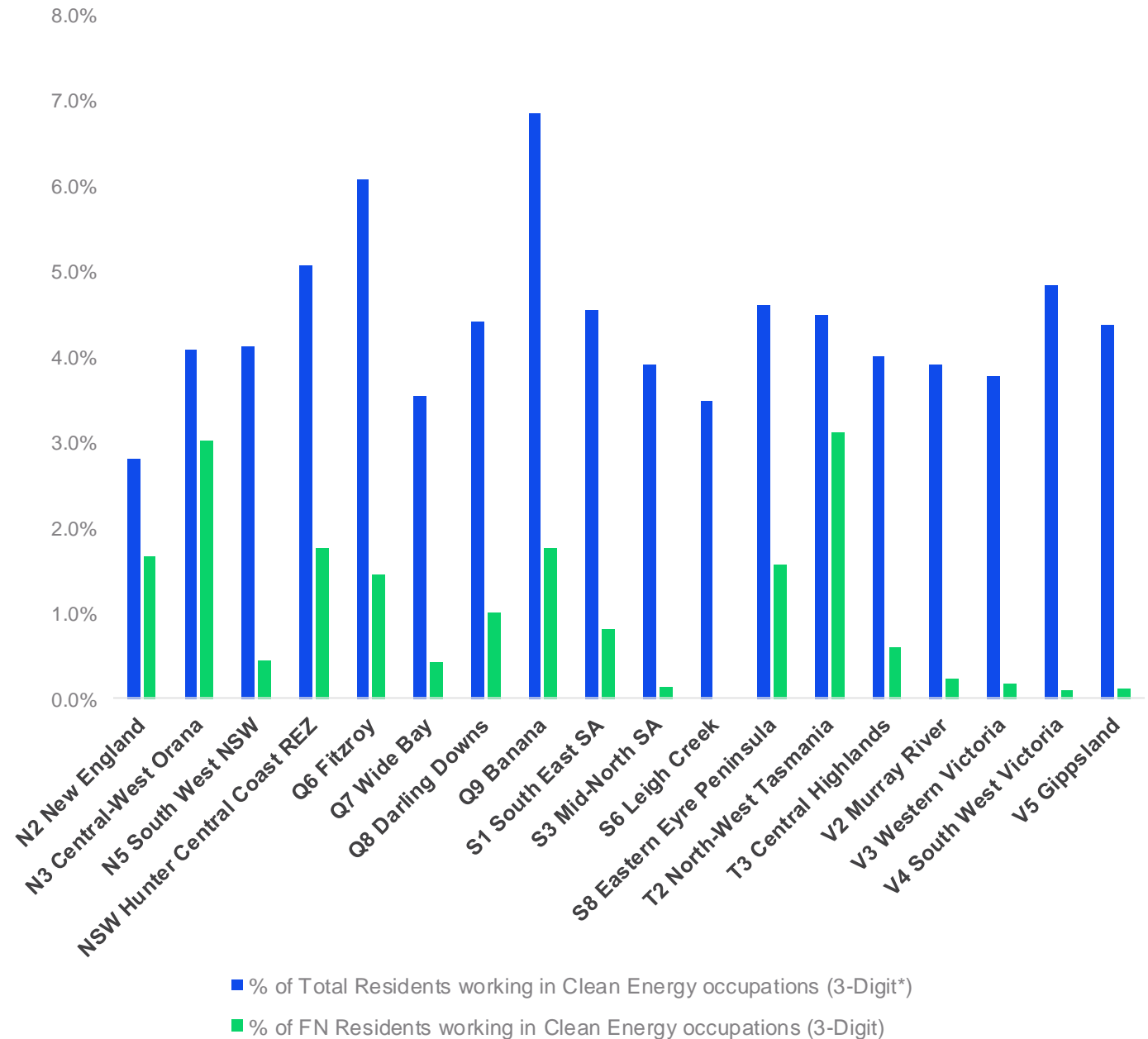
ISF and SGS have used REZ employment projections for the 2022 Integrated System Plan and 2021 census data to inform target-setting

- Growth in existing workforce required to achieve 1.5%, 5% or 10% of demand for renewable energy
- The size of First Nations segments that could work in renewable energy in the future – the schools, unemployed and those not in the labour force

There is a low base in key occupations for renewable energy in REZs

There is a low base of First Nations people in adjacent occupations (e.g. electricians, construction labourers)

- the First Nations workforce comprises less than 3% (3-Digit occupations) and 1.2% (4-Digit occupations).
- the First Nations workforce is heavily skewed towards truck driving - remainder Miscellaneous Labourers, mechanics, and various types of construction workers
- The numbers in some key occupations is very low e.g. the 2021 census records 87 electricians across all REZs - almost half of whom are in the Hunter.
- Indigenous participation in apprenticeships is double their population share (7% vs 3.2%) – but completions much lower and highly concentrated in service-sector and lower-skilled occupations (e.g. admin, retail)



First Nations labour supply relative to REZ employment targets

REZ	Projected RE Employment Demand, 2030	Projected Peak RE demand	FN Supply, Key Occupations, Current + New Entrants	FN workers, relative to 1.5% target, 2030	FN workers, relative to 5% target, 2030	FN workers, relative to 10% target, 2030	FN workers, relative to 1.5% target, Peak Demand	FN workers, relative to 5% target, Peak Demand	FN workers, relative to 10% target, Peak Demand
N2 New England	1,108	7115	87	70	31	-24	-20	-269	-625
N3 Central-West Orana	2,307	3399	364	330	249	134	313	194	24
N5 South West NSW	128	230	24	22	18	11	21	13	1
NSW Hunter Central Coast REZ	12	903	1,039	1039	1039	1038	1026	994	949
Q6 Fitzroy	1,391	1430	295	274	226	156	274	224	152
Q7 Wide Bay	748	748	86	75	49	11	75	49	11
Q8 Darling Downs	2,031	3851	272	242	171	69	215	80	-113
Q9 Banana	0	1164	98	98	98	98	98	98	98
S1 South East SA	804	1430	47	35	7	-33	30	-11	-69
S3 Mid-North SA	685	220	82	72	48	14	61	11	-61
S6 Leigh Creek	0	1343	-	0	0	0	0	0	0
S8 Eastern Eyre Peninsula	30	1164	95	95	94	92	92	84	73
T2 North-West Tasmania	762	80	329	318	291	253	309	262	195
T3 Central Highlands	1,164	963	46	29	-12	-70	29	-12	-70
V2 Murray River	71	1404	29	28	25	22	28	25	21
V3 Western Victoria	420	2,227	19	12	-2	-23	4	-29	-78

REZ employment targets equivalent to First Nations population are challenging but achievable

Existing First Nations in adjacent occupations equivalent to range of employment targets but low-skilled

- Almost all REZs > 1.5% of RE demand, 2030, 60%+ > 5% of RE demand, 2030, over half > 10% of RE demand, 2030
- A short-term push for higher targets could lead to a high concentration in low-skill jobs – which has often been the experience of First Nations programs in the past - virtually no First Nations presence in mid and high-skill occupations

The major scope for growth in employment is First Nations students

- Just over half the REZs have sufficient future school leavers to meet a 10% employment target in renewable energy – but largest pool of labour and opportunity to break generational cycles of disadvantage

Major structural barriers – but increasing participation of unemployed and those not in labour force has very high social value

- Major structural barriers – health, transport, identification, qualifications, confidence, soft skills for employment
- Entry-level job opportunities (e.g. solar farms) but equally it is unknown how many jobs can be created given structural sources of disadvantage.

First Nations businesses have not been included in this analysis but should also be recognised as a potential source of jobs and training.

- There are long-term contracts in a range of areas (e.g. land management, facilities management) which could be delivered by indigenous businesses
- Indigenous businesses have a record of higher levels of employment and training for indigenous people and could be alternative path to direct employment

REZ	Primary School FN enrolments	Secondary FN enrolments	Gap remaining on 10% target
N2 New England	533	113	-62
N3 Central-West Orana	892	162	-13
N5 South West NSW	792	331	6
NSW Hunter Central Coast REZ	5,715	2,557	824
Q6 Fitzroy	3,090	1,721	104
Q7 Wide Bay	3,038	1,049	-7
Q8 Darling Downs	4,425	2,337	19
Q9 Banana	1,138	293	80
S1 South East SA	395	37	-41
S3 Mid-North SA	3,168	705	6
S6 Leigh Creek	46	0	0
S8 Eastern Eyre Peninsula	639	504	61
T2 North-West Tasmania	1,636	1,026	170
T3 Central Highlands	852	417	-78
V2 Murray River	1,403	518	17
V3 Western Victoria	405	193	-25
V4 South West Victoria	391	179	-86
V5 Gippsland	627	291	-215

02

Options for increasing First Nations employment in clean energy



The starting point: cultural change required across the clean energy sector

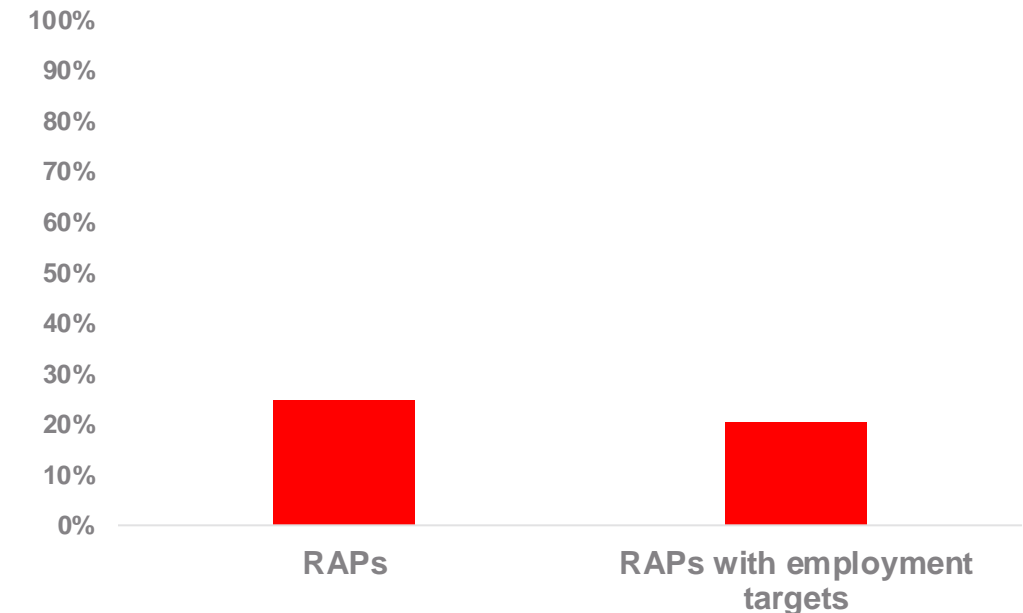
There is a disconnect between employment/training providers and the clean energy sector

- A consistent finding in past reviews/studies that First Nations organisations deliver better outcomes for First Nations jobs seekers – but the Clean Energy Council has acknowledged a ‘persistent disconnect’ (Clean Energy Workforce Capacity Report, Jobs Skills Australia) with both the wider employment and training system and First Nations organisations.
- The cases where there have been significant First Nations employment appear to have arisen from individual project managers rather than a system working effectively to place First Nations people into clean energy jobs.

Cultural change occurring – but very uneven especially at project level

- Improving engagement with First Nations communities has been identified as a priority by clean energy leaders – but very consistent feedback from our stakeholder interviews that engagement is limited at project level and by contractors
- The review of Indigenous Employment and Skills Program found there is a general issue with ‘building cultural safety in the workplace’ which was ‘critical’ to increased training and sustained jobs and careers.
- Only 1/4 of major firms listed in AEMO’s project list has a Reconciliation Action Plan – RAPs sometimes don’t lead to change, organisations can take different approaches – but does reflect interviews that highlight low levels of understanding/engagement across sector.

How many Solar and Wind Firms have a Reconciliation Action Plan?



Note: sample is 49 firms listed in AEMO’s current project pipeline

‘I know for a fact in the clean energy industry they’re really insular in the way they go about building and design projects ... they purposefully don’t engage widely and that includes recruitment and subcontracting. They like to recruit staff themselves – 100% inhouse – but that doesn’t help with outreach to aboriginal communities There’s a lot of goodwill – and badwill – how do you translate that and do it at scale?’ (First Nations representative)

Options for Increasing First Nations Employment and Training in Clean Energy

First Nations Skills and Jobs pathways

Schools e.g. outreach campaign, school-based apprenticeships, STEM programs

VET e.g. pre-apprenticeship programs for First Nations cohorts

Universities e.g. outreach by Regional Universities Centres

Labour market transitions e.g. pre-employment programs for unemployed/not in labour force for entry-level jobs

Increased supply of First Nations people with skills for clean energy



Expanding FN clean energy workforce to create mentors & inform design of education and training pathways

Industry implementation

- Industry support program (e.g. NSW Infrastructure Skills Legacy Program)
- Tenders for Group Training Organisations to provide REZ-level and program-level services (e.g. indigenous housing retrofits)
- Place-based pilots/collaborations between industry, FN organisations and training bodies. e.g.:
 - Entry-level jobs (e.g. solar farm construction)
 - Apprentices (e.g. wind turbine technicians)
 - Social, community and environmental jobs

Developing industry and training capacity to enable higher employment targets



Leveraging procurement and industry commitments to increase demand for First Nations workers

Employment & training targets/commitments

- FN employment and training targets in the Capacity Investment Scheme with flexibility for implementation at State and REZ level
- Integrate employment and training targets into key climate and energy programs (e.g. Indigenous housing retrofits, micro-grids etc)
- Strengthen criteria for Indigenous businesses
- 'Career trackers for clean energy': industry-level agreement and organisational commitments to 10-year programs for First Nations professionals

Supply-side

Industry and training systems

Demand-side

Cultural Competence of Industry

- Increase RAP commitments among clean energy sector companies
- Mandate cultural safety training programs for clean energy organisations which receive government funding

Knowledge sharing and capacity building in First Nations organisations

- Funding to expand the capacity of FN employment service providers, First Nations-owned businesses and organisations with employment and training roles
- Develop a knowledge sharing network between FN organisations on good practice in employment and training outcomes for FN people in the clean energy sector

Integrating training within climate and energy programs

One of the key learnings drawn by the International Energy Agency (IEA) from a review of 'diversity' programs is outcomes are best when training is integrated into other policy domains that typically drive the change – climate, energy and industry policy.

'Many governments are investigating the development of training, reskilling and educational programmes in anticipation of the upcoming changes. The most advanced programmes align energy, industrial, labour and education policies to jointly develop a strategy for energy transitions' (IEA, Skills Development for Inclusivity, p. 12).

Very rarely happens in Australia – notably neither ARENA or Clean Energy Finance Corporation include employment or training requirements in programs

There are a range of opportunities:

- **Home retrofits:** targets for Aboriginal Housing but rarely met because of low numbers of First Nations electricians. Targets combined with supporting programs could create cohorts across contractors through Group Training Organisations for plumbing, HVAC/ refrigeration and electrical trades, energy auditors and community engagement
- **Micro-grids and diesel replacement/solar:** technicians, especially maintenance jobs
- **Indigenous-owned renewable energy:** opportunity for program to build capacity of land councils to host renewable energy on extensive land holdings and develop local employment.

Case Study: Canada's indigenous clean energy training programs

Canada has developed a suite of training initiatives that are embedded within energy programs:

Regional Energy Advisor Training Program: Training Indigenous energy experts to undertake energy audits in Indigenous communities and housing for retrofit. Auditors are certified through exams and 7 supervised energy audits and once certified they can access grant funding. The program includes 100-hours of training (workshops, virtual, in-person) over 8 months, audit kits and stipends.

Indigenous Off-Diesel Initiative (IODI): The IODI is a renewable energy training program that supports Indigenous-led climate solutions in remote communities that use diesel or fossil fuels for heat and power.

The Initiative supports Energy Champions and their community teams with renewable energy training, access to expertise, and financial resources to plan and develop renewable energy project. It was designed based on 18 months of engagement with Indigenous rights holders, Indigenous organisations, and stakeholders.

Employment targets: ‘demand-pull’ and ‘supply-push’ mechanisms

Employment targets have proven they can be effective

- Mandatory procurement requirements or weighted criteria for First Nations employment, training or businesses, procurement can increase demand.
- The IESP review found a ‘common theme’ that a fundamental weakness of many previous employment programs was the lack of employer accountability and commitments – our research has found a fundamental lack of trust and frustration at RE industry in REZs
- Conversely, in multiple reviews the use of mandatory targets have been noted to increase demand for First Nations indigenous business, employment and training.

Targets are rare in clean energy – but could be implemented through the Capacity Investment Scheme

- Coverage of employment and training targets in clean energy is low – only NSW has a mandatory (1.5%) and voluntary stretch target for employment, learning workers and indigenous businesses for the LTESA auctions. Some targets apply through construction procurement and specific program areas
- Inclusion of targets within the Capacity Investment Scheme auctions would provide a coherent benchmark for large-scale renewable energy, storage and transmission across the NEM
- Based on our REZ analysis, modest targets could be increased over time with goal of mainstreaming recruitment, training and workforce development

Concerns about targets

1. Is there sufficient supply of qualified or trained First Nations workers to meet the target?
2. Will targets drive ‘accounting’ exercises in which projects find ways to meet targets without implementing real changes that lead to better long-term outcomes?
3. Will targets lead to a focus on low-skill jobs instead of a wider change that increases jobs across skill levels including trades, professions and managers?
4. Will targets narrowly focus on employment and not include indigenous businesses?

Employment targets: ‘demand-pull’ and ‘supply-push’ mechanisms

‘Coordinated flexibility’

- Minimum benchmarks with flexibility for implementation at state and REZ level based on population and implementation of supply-side
- Require states set First Nations employment targets for REZs aligned to population shares by no later than 2030 through Renewable Energy Transformation Agreements being negotiated for the Capacity Investment Scheme
- Provide funding for the states to implement a support program based on NSW ILSP to assist companies meet targets. Pilots to be implemented focussing on the largest REZs
- Targets could include recognition of procurement with indigenous businesses as an alternative to direct employment

Targets need to be complemented by supply-side programs

- Supply-side programs required to increase volume of First Nations people with skills to work in sector
- The **NSW Infrastructure Skills Legacy Program** is an example of a program that combines employment targets and training/labour supply support. It is mandatory for all NSW government infrastructure projects and includes:
 - skills, training and diversity targets based on contract value e.g. 20% of the trades workforce are required to be apprentices, 20% of workforce must be learning workers, 2% of the trades workforce must be women
 - Mandatory application of the Aboriginal procurement policy which includes 1.5% indigenous business participation and employment.
 - The program is administered by Training Services NSW which provides training services to support the achievement of the targets
 - Preliminary understanding is the program has become an accepted part of industry practice after initial reservations. To date, projects have on average exceeded most targets including 26% apprentices, 7% Aboriginal people.

Industry Pilots

One way of starting the process of change could be pilots enabling collaboration between industry, First Nations organisations and employment and training providers centred on some of the more prospective opportunities.

Case Study: Avonlie Solar Farm

Beon Energy Solutions was the EPC partner for Iberdrola to build the 245MW Avonlie solar farm in Narrandera, South-West NSW

30-plus First Nations people were employed in the construction phase – none had worked on a solar farm before, many long-term unemployed or never worked (e.g. women who had kids at a young age), some with prison records

- **Genuine, early engagement:** Beon approached LALC to meet community, introduce project, enquire about interest & local issues.
- **Addressing barriers to employment:** Long-term unemployment and missing ID had been identified as key barriers, Beon held an ID day to provide community with essential paperwork
- **Pre-Employment Program:** 1-week program to allow workforce to meet, adjust expectations and build confidence -> key outcome is mutual support
- **Transitioning into employment and training after the Solar Farm:** 90% got another job after the solar farm



"The legacy that the solar farm has left in this town is generational change," said Shaurntae Lyons, fighting back tears as she talked about it.

<https://www.abc.net.au/news/2023-12-21/workforce-narrandera-construction-solar-farm/103235476>

Industry Pilots

Solar Farm Construction

- A handful of solar farms have employed high numbers of First Nations workers (and unemployed, ex-prisoners, refugees) as labourers demonstrating the opportunity to provide a bridge for unemployed or people out of the workforce (e.g. mums).
- However, to make these projects the rule rather than the exception - a coordinated program between government, solar farms and First Nations employment service could include:
 - Increasing the pool of First Nations workers through pre-employment programs, resourcing of First Nations employment service providers,
 - Mentoring, wrap-around services (e.g. transport, housing etc) and cultural awareness training to increase retention
 - worker redeployment into accredited training and/or other jobs via Group Training Organisations, First Nations employment service providers or other government programs at end of construction

Wind farm mechanical technicians

- Low employment currently – but there are a number of factors that make this a good site for a pilot:
 - labour shortages - and emerging constraints on importing technicians
 - local technicians cheaper
 - barriers to entry are lower than other trades – some firms will employ trade assistants as well as apprentices
 - higher First Nations employment in adjacent jobs like motor mechanics (than electricians) which have skills that are highly transferrable
 - Jobs on-country or 'drive-in/drive-out'