

Future-proofing the training system for enabling climate adaptation and mitigation

“SKILLS FOR THE GREEN TRANSITION”

Discussion paper for a National Youth Employment Body (NYEB)
System Design Workshop

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We acknowledge the Wurundjeri people of the Kulin nation, the traditional owners of the land on which this document was produced. We respect and honour Aboriginal and Torres Strait Islander Elders past and present. We acknowledge the stories, traditions and living cultures of Aboriginal and Torres Strait Islander peoples on this land and commit to building a brighter future together.



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The focus of this workshop

This invitation only workshop brings together experts from across government, industry, the training system and community to identify the changes needed in the skills and training system to build capability for the transition to a climate resilient economy.

This workshop is the 5th in a series of skills and training system design workshops convened through the National Youth Employment Body (NYEB) to identify and co-design opportunities for strengthening the role the Australian skills and training system plays in enabling young people to access decent and secure work. Information on the National Youth Employment Body and links to previous workshop materials and outputs are provided in the appendix.

Executive Summary

THE SKILLS AND TRAINING SYSTEM IS VULNERABLE TO CLIMATE CRISIS SHOCKS

- The climate crisis will disproportionately impact those experiencing disadvantage and poverty.
- Young people face both potential economic disruptions triggered by increasing climate disasters and uncertainty as labour markets transform in response to climate mitigation and adaptation efforts.
- Existing Australian skills policy is lacking a focus on how changing jobs and skills needs will impact the next generation of workers, especially young people.
- This is despite a state, territory and national policy acknowledgement of the role that skills and training will play in mitigation and adaptation efforts across all occupations.
- A lack of stewardship and long-term planning at the level of state and Commonwealth governments has resulted in ad-hoc and disjointed efforts to address these problems.
- Without a strategic vision for the role of skills and training, young jobseekers risk missing out on the benefits of the emerging and projected labour market transformations.

DIVERSE CLIMATE ACTION EFFORTS ARE NEEDED

Efforts needed to transition Australia to a climate resilient economy (i.e. the 'Green Transition') comprise three broad streams of mitigation and adaptation activity, transitioning

1. from a carbon emitting to a carbon neutral economy and society.
2. from a high waste to a 'circular' economy and society.
3. from unsuited to adapted workplace skills and practices for a changed climate.

EXISTING TRAINING RESPONSES ARE INADEQUATE FOR ENABLING MEANINGFUL ACTION

Traditional workforce development approaches have limited success in enabling strong educational and employment outcomes for disadvantaged cohorts, including young people beginning their working lives.

Current skills and training responses to climate action are limited by three assumptions:

- **ASSUMPTION 1:** Existing approaches to workforce projection and training system policy are sufficient for enabling climate mitigation and adaptation efforts.
- **ASSUMPTION 2:** Existing upskill/reskill training mechanisms will provide the required skilled labour force needed to enable mitigation and adaptation efforts.
- **ASSUMPTION 3:** Existing skills and training product and pathway offerings are fit for purpose and adaptable to emerging and evolving occupational and industry needs.

A NEW GOVERNMENT PRESENTS AN OPPORTUNITY FOR A STRATEGIC VISION FOR SKILLS AND TRAINING

- The new Commonwealth government has renewed the focus on climate action, collaboration, and long term vision for skills, training, and employment outcomes.
- This policy and strategy window provides an opportunity to align state and community-level efforts with the needs of employers and industry to build a long term strategy for the skills and training response to the climate crisis that:
 - Ensures vocational training contributes to a meaningful response to the climate crisis, and
 - Enables systems to change so that the next generation have access to meaningful, secure employment.

EMERGING POLICY DIRECTIONS

- Workforce development approaches that build individual and institutional capability and agility in the face of known and unknown challenges.
- Expanding access to occupations enabling mitigation and adaptation efforts.
- A policy agenda that endorses sustainability as a core workforce capability

Setting the scene

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Transition to climate-resilient social and economic structures requires building decent work opportunities

A political agenda for a sustainable environment must include a focus on decent work

- The [ILO](#) notes that some G20 countries are incorporating objectives from the ILO's Decent Work Agenda into their environmental policies
- Integrating decent work measures can contribute to protecting vulnerable populations, enhancing adaptive capacity and strengthening the resilience of sectors with vulnerable livelihoods while facilitating the transition to a climate-resilient social structure (ILO, 2018a).

Transitioning to a climate-resilient economy requires a significant shift in the skills of the current and future workforces

- Work published by [UNESCO on the implications of climate change for the TVET](#) (Technical and Vocational Education and Training), has emphasised that:
 - Changes to the way jobs are performed require corresponding reforms to the way skills are developed for emerging climate-friendly occupations and the greening of existing jobs.
 - Enabling existing workers and jobseekers to develop cross-cutting competencies for sustainability alongside occupation-specific skills, is crucial for enabling the transitions to climate-resilient economies.

Skilling for climate adaptation has been overlooked in favour of a focus on clean energy transitions

- Recent work published [by UNESCO-UNEVOC on enhancing TVET's contribution to climate action](#) demonstrated how global discussions have to date focused on strengthening green skills for climate change mitigation and have left skills development for adaptation largely unaddressed and lacking in strategic focus

CLIMATE MITIGATION = tackling the causes and minimising the possible impacts of climate change

CLIMATE ADAPTATION = reducing the negative effects of climate change and taking advantage emerging opportunities

Future-proofing a skilled labour force requires action now

A strategic focus on enabling skilled and decent work within the transition to a climate-resilient social and economic structures is urgent.

Current responses to the climate crisis can be broadly categorised into three streams of effort: the carbon neutral economy, the circular economy, and climate adaptation.

Evidence from [recent analysis by Deloitte](#) points to both an enormous loss of labour market opportunities through in-action on climate and conversely a significant generation of new labour market opportunities through climate adaptation action and investment. For example:

- A study conducted by Deloitte in 2020 estimated that employment in Australia would contract by 330,000 in 2050 in a scenario where no action on climate change was taken.
- Alternatively, the climate adaptation policies are projected to generate 220,000 additional jobs by 2050.

A RENEWED FOCUS ON CLIMATE ACTION FROM THE NEW FEDERAL GOVERNMENT PRESENTS AN OPPORTUNITY

The new federal government recognises the urgent need for action on climate change and the role of skills and training in building a workforce to enable that action

Extensive public policy evidence and substantial research has emphasised the urgency of strategic and meaningful action in response to the climate crisis

- The recently published [State of the Environment](#) report has reiterated the need for urgent and meaningful action on climate change, stating that despite the efforts which have been made to this point “the state and trend of the environment of Australia are poor and deteriorating.” The report has also called for “a renewed emphasis on engagement across all sectors of society...to reverse environmental decline and to achieve ecologically sustainable development.”
- The failure to arrest and mitigate climate change will negatively impact all Australians, but those [experiencing disadvantage and poverty who will be most significantly affected](#).

Policy action on climate change is central to securing economic and job security

- Noting that “the world’s climate emergency should be Australia’s jobs opportunity”, the new government has already begun to invest in the skills system, with initiatives such as the \$100 million [New Energy Apprenticeships](#) characterising their renewed effort in workforce development.
- The upcoming [Jobs and Skills Summit](#) has explicitly stated that “maximising jobs and opportunities from renewable energy”, and “tackling climate change” sit within its key focus.

At the same time, there is a strong focus on future-proofing the skills and training system that presents a strategic opportunity to align responses to the climate crisis with training approaches that maximise opportunities for all Australians, but particularly young Australians and others seeking to build their career foundations.

- The new Minister for Skills & Training, Brendan O’Connor, has spoken across several platforms, noting the need for:
 - Increased collaboration across industry, employers, unions, educators, and government.
 - Converting the climate emergency into a jobs opportunity.
 - Redesigning job security for the digital age.
 - Future-proofing the training and careers of young people.
- Minister O’Connor has also stressed the need to ensure that “people are trained in the right areas, not only for the jobs that we need right now, but also the jobs of the future.”

Brendan O’Connor, ‘Opportunity knocks for more skilled workforce’, The Daily Telegraph, 20/07/22
- This long-term focus has been echoed in the focuses of the Jobs and Skills Summit, including addressing skills shortages with an eye to both short and long term needs.

EXISTING POLICY RESPONSES ARE REINFORCING SILOS AND ARE NOT SUFFICIENTLY FUTURE FOCUSED

Federal government action needs to address fragmentation of mitigation and adaptation efforts and the lack of a focus on future proofing skills and training at the state and territory level

Jurisdictions	Policy responses	Stream of effort	Focus on skills
VICTORIA	Renewable Energy Action Plan (2017)	Carbon Neutral Economy	Recognises the importance of building skills and capabilities but no clear plan on how to do this
	Recycling Victoria: A new economy (2020)	Circular Economy	No discussion as to what skills will be needed
	Victoria's Zero Emissions Vehicle Roadmap (2021)	Circular Economy	No clear skills ambition
	Victoria's Climate Change Strategy (2021)	Carbon Neutral Economy Climate Adaptation	Acknowledges the importance of investing in training to achieve this.
NSW	NSW Climate Change Policy Agenda (2016)	Carbon Neutral Economy Climate Adaptation	Job creation a core principle of the policy agenda. Framing of climate adaptation does not address changes to ways of working and the skills implication of this.
	Net Zero Plan: Stage 1 2020-2030	Carbon Neutral Economy	No explicit mention of skills and training.
	NSW Government Electric Vehicle Strategy	Carbon Neutral Economy	No acknowledgment of young people nor foundational skills, focus on reskilling through micro-credentials.
QUEENSLAND	Queensland Low Emissions Agriculture Roadmap 2022-2023	Carbon Neutral Economy	Framing of skills and education as outreach and awareness programs for existing practitioners. Development of information platforms practitioners can access. Emphasis on programmatic solution. No reference to changes to foundational agricultural and horticultural training.
	North west Queensland economic diversification strategy (2019)	Climate Adaptation	No mention of the role skills and training has in diversification
	Queensland Biofutures 10-year roadmap and action plan	Climate Adaption	No mention of how these skills will be developed or investment in training
SOUTH AUSTRALIA	Climate Change Action Plan 2021-2025	Carbon Neutral Economy Circular Economy Climate Adaptation	Government to support industry-led skills and training response to needs of action plan, largely through traditional subsidies and funding training infrastructure
	South Australia's Electric Vehicle Action Plan	Carbon Neutral Economy	No mention of the role of skills and training in enabling workforce for plan
	Climate Change Science and Knowledge Plan for South Australia (2020)	Climate Adaptation	While there is a focus on changes to business and workplace practices, no focus on how the skills and training system will contribute to this
NORTHERN TERRITORY	Delivering the Climate Change Response: Towards 2050	Carbon Neutral Economy Climate Adaptation	Accompanying skills development strategy due end 2022

WEAK TRAINING AND WORKFORCE DEVELOPMENT SYSTEMS RISK UNDERMINING A JUST TRANSITION

A reliance on outdated skills and training mechanisms risks undermining climate action and reinforcing weak labour market outcomes for young and disadvantaged jobseekers

Unemployment and underemployment remain a key challenge for young people

- 1 in 3 unemployed Australians are aged 15-24
- A stabilising unemployment rate is hiding a long-term increase in underemployment, underutilisation and insecure work for young people
- Despite the recent drop in unemployment in Australia, [ABS data demonstrates](#) that existing systems are letting young people down.
 - The current unemployment rate for young people sits at 7.9%, as compared to the national unemployment rate of 3.5%.
 - The current underemployment for young people sits at 14.5%, as compared to the national underemployment rate of 6.1%.

Training completion and conversion rates remain low and reflect weaknesses within the training system that will be exacerbated by labour market transformations associated with climate mitigation and adaptation

According to data from the National Centre for Vocational Education Research (NCVER):

- Less than 50% of VET students complete their qualification training
- Only 1 in 4 qualification completers were employer after training in the same occupation as their training.
- Less than half of those who complete their course find employment in the same industry
- Less than half of unemployed young people who invest in training secure a job after training

Existing training system mechanisms are not fit for purpose for the economic transformations required and generated by large scale mitigation and adaptation efforts

While mechanisms such as the National Skills Commission (and the new Jobs and Skills Australia) have been established for the purpose of anticipating and projecting labour and skills needs in general, to date there is a lack of intentional focus on the skills needs for enabling mitigation and adaptation to the climate crisis.

Existing skills and training policy responses and governance mechanisms to date have not been responsive to a set of long-term trends shaping the way young people move through education and work that are likely to continue to evolve and shape school to work trajectories in the decades to come. These include:

- Global transformations in the nature of work intensifying a focus on foundational capabilities for career mobility and adaptability
- Disruptions to historical processes for how young people gain entry to occupational and professional careers within the Fourth Industrial Revolution.
- Stagnated career mobility and wage growth, including a generation of young people in the decade post-GFC being pushed off a broken career ladder that has seen increased investment in education and training fail to support labour market security and mobility, and real wage growth amongst young people has flatlined.

STRENGTHENING THE ROLE OF SKILLS IS COMPLICATED BY MULTIPLE STREAMS OF MITIGATION AND ADAPTATION EFFORT

The three broad streams of effort to mitigate and adapt to climate change each have different implications for skills and training, employment and the economy

	Carbon neutral economy (CNE)	Circular economy (CE)	Climate adaptation (CA)
What it is	CO ₂ emissions from energy production and the wider economy are reduced or offset to reach a net value of 0	A model of production and consumption which decouples production from the consumption of finite resources	The changes to practices, assumptions, and contexts, which are enforced by a changed climate
What it looks like in practice	<ul style="list-style-type: none"> • Transition to methods of clean energy production, such as wind and hydrogen • Driving uptake of electric vehicles • Largely enabled through infrastructure projects, driving a short to medium-term boom 	<ul style="list-style-type: none"> • Enhanced waste management and waste reduction practices • Enhanced and more expansive recycling practices • Driven both by new infrastructure projects and by changes to work practices 	<ul style="list-style-type: none"> • Adapting occupational and workplace practices to account for increased instances of extreme weather. • Largely enacted through changes in practice, theory underpinning occupational skills
Main actors currently driving the effort	<ul style="list-style-type: none"> • State and Commonwealth governments • Industry 	<ul style="list-style-type: none"> • State and local governments • Industry • Employers • Community groups 	<ul style="list-style-type: none"> • Industry • Businesses • Professional organisations • Community groups
Current focus on the role of skills in enabling the effort	<ul style="list-style-type: none"> • Area with the strongest current policy focus. • Largely concentrated on short-term workforce development to meet the needs of new industries and the accompanying infrastructure boom. 	<ul style="list-style-type: none"> • While policy surrounding the circular economy is beginning to emerge at the level of local and state governments, it is largely centred around funding new waste management infrastructure, and supporting and incentivising changes to business practices. • Where thought is being given to the skills which enable these changed practices, it is in an isolated and ad-hoc manner, without clear policy stewardship from government. 	<ul style="list-style-type: none"> • Adaptation skills are currently being driven by individual industries, businesses, and education providers taking initiative, at times working collaboratively. • As with the circular economy, this is often ad-hoc, and unsupported by clear policy visions from state and Commonwealth governments.

Imbalanced focus on skills between the three streams of effort

To this point the skills and training policy landscape has been dominated by a focus on enabling the transition to a carbon neutral economy. This focus has shaped a skills and workforce development response which is not fit for purpose in responding to the needs of the circular economy and climate adaptation.

A short term focus on upskilling and reskilling

The focus of the carbon neutral economy on large scale infrastructure projects, coupled with the simultaneous reduction of the reliance on 'brown' energy, has resulted in skills policy focused on reskilling existing workforces and driving uptake in traditional trades. These policies have utilised traditional levers, such as driving enrolments through financial incentives, and the use of micro-credentials and short courses for reskilling.

Lack of focus on capability for changing workplace practices and inclusive workforce development

As a result, the implications of each stream upon changed work practices remain largely unexplored at the policy level, while those cohorts traditionally left out by workforce development approaches remain so.

Policy approaches must also recognise that not all occupations and industries will be impacted by the three streams in the same way (see slide 20).

Re-framing the problem through diverse expertise

What we have heard from you through the consultations

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CHALLENGES EXIST IN WORKFORCE DEVELOPMENT, SKILLS & TRAINING, AND GOVERNMENT STEWARDSHIP

Consultations with a diverse group of experts have revealed the barriers and challenges to realising a more strategic focus on skills

BSL has consulted with key stakeholders including:

- Representatives of state and local governments
- Training system leaders (TAFEs and RTOs)
- Sustainability experts
- Employers
- Youth employment specialists
- Skills service organisations
- Unions
- Sustainable development organisations
- Policy think-tanks
- Industry bodies
- Social advocacy bodies

More consultations are scheduled in the lead-up to the workshop and we are keen to hear from you and your networks about who are the key actors in this space whose input would be of value.

The purpose of this workshop is to bring together experts across multiple fields to identify the policy and systemic changes needed to enable the skills and training system to build capability for and opportunities within the transition to a climate resilient economy.

Several key questions have guided BSL's systemic change work in this space:

- What is the current state of readiness of the skills and training system for building capability for climate mitigation and adaptation efforts?
 - What are its policy drivers?
 - What are its assumptions?
 - What are the scale of its ambition?
- What are the strengths of current adaptation and mitigation efforts across all levels of government, industry, education, and community, and what are the systemic barriers undermining these efforts?
- What are the opportunities and levers for progressing a policy, advocacy, and systemic change agenda to ensure the skills system meaningfully contributes to mitigation and adaptation while also enabling secure, meaningful employment?
- Who are the collaborators with whom BSL can test concepts and build evidence around a systemic change approach, including the efficacy and value of trialing innovative ways to address emerging and complex problems?

The consultation process has identified barriers across three key domains in response to our guiding questions:

Government stewardship

A lack of consistent, collaborative, and encompassing policy vision and strategy across government, industry, the training system and community.

Workforce development

Existing workforce development solutions, already complicated by parallel climate efforts, prioritise short-term goals which do not adequately account for the geographic and temporal realities of job growth associated with mitigation and adaptation.

Skills and training

A lack of fit-for-purpose, regionally responsive training approaches that are adapting to changing job markets and skills needs of the mitigation and adaptation efforts. As a result, existing training products are not developing capability for transformed workplace practices needed to drive mitigation and adaptation efforts.

These three areas will be stepped out in detail across the next four pages.

EACH CHALLENGE IS ACCOMPANIED BY A CORRESPONDING OPPORTUNITY WHICH CAN BE HARNESSSED

As well as revealing barriers, consultations have also identified opportunities for enabling the training system to build capability for climate action and ensure young people are benefiting from the opportunities presented by current and forthcoming job transformations

Government stewardship

A lack of consistent, collaborative, and encompassing policy vision and strategy across government, industry, the training system and community.

Opportunity for change

A change of government rhetoric to one which emphasizes inclusiveness, climate action, cross-sector collaboration, and long-term workforce development strategy offers an opportunity to re-align the disparate efforts across sectors.

Workforce development

Existing workforce development solutions are prioritising short-term goals which do not adequately account for the geographic and temporal realities of job growth associated with mitigation and adaptation.

Opportunity for change

A large-scale infrastructure boom in the carbon neutral economy stream, and smaller infrastructure projects across the circular economy stream will lead to a significant short to medium-term rise in the volume of induced demand jobs nationwide.

Skills and training

A lack of fit-for-purpose, regionally responsive training approaches that are adapting to changing job markets and skills needs of the mitigation and adaptation efforts. As a result, existing training products are not developing capability for transformed workplace practices needed to drive mitigation and adaptation efforts.

Opportunity for change

An increase in the volume of 'low skill' and entry level jobs needed by mitigation and adaptation efforts can, with the right enabling conditions, serve as a training and workplace-exposure pipelines into more skilled training and employment pathways.

MITIGATION & ADAPTATION EFFORTS ARE LACKING LONG-TERM VISION AND SPECIFIC AMBITION FOR THE TRAINING SYSTEM

There is a lack of consistent, collaborative, and encompassing policy vision and strategy across government, industry, the training system and community

Details of the problem:

Key features

- A lack of long-term vision for the role of skills and training in addressing the climate crisis has resulted in it being largely absent from policy and strategy.
- Current approaches seek to leverage the skills system to develop a workforce in key industries that will contribute to the mitigation of climate change, with limited focus on developing a workforce which possess the workplace practices to contribute to mitigation.

Themes emerging from the consultations

- **Current rather than future workforce focus:** To date, federal and state/territory policy workforce development responses have prioritised those already engaged in employment and mechanisms for transitioning the current workforce into a more 'green' workforce and to address workplace changes. Little policy attention has been given to those who are not yet in the workforce, and future workers who are yet to enter the training system.
- **Emphasis on short term solutions:** This focus has driven rapid and short-term workforce solutions and reskilling, rather than a long-term vision for workforce development which considers young people and foundational qualifications.
- **Less focus on skills for circular economy and adaptation:** There is a disproportionate focus on the skills needs of the shift to a carbon neutral economy, and therefore on responses to demand. This means there is currently not much focus on how skills enable the transition to a circular economy, nor on how skills will enable climate adaptation.
- **Greater focus on immediate transitioning industries:** Workforce strategies have also been concerned with the redistribution of workers whose jobs are directly affected by current mitigation responses, such as in 'brown' energy and mechanics transitioning to electric vehicles.
- **SMEs have different needs:** SMEs require greater resources, guidance, and support to better enable them to build sustainability in their workforces and practices, and to connect existing efforts.

What is the impact:

- **A lack of future-focused skills policy limits climate action:** policy focus without a thorough exploration of the skill requirements for the circular economy and climate adaptation, skills and training solutions will not be fit for purpose.
- **Disproportionate impact on disadvantaged communities:** Insufficiently developed mitigation and adaptation efforts will increase the impact of the climate crisis, which will disproportionately impact the disadvantaged.
- **Young people excluded by narrow policy focus on existing workers:** A failure to broaden out the policy conversation to account for the needs and potential of young people and those yet to enter the workforce risks perpetuating the disadvantage that has for a long time shaped their experiences.
- **Ad-hoc approaches reinforcing unequal access:** Ad-hoc approaches to skills development can lead to unequal access to the skills required for long term employment.

Additional context:

- A clearer and more systemic skills ambition and strategy is needed, as a [large volume of the jobs needed to respond to the climate crisis rely on vocational education pathways](#).
- The conditions while will accompany the changed climate ([such as increased instances of extreme heat](#)) will impact workplace practices beyond just traditionally 'green' industries.

What we heard in the consultations:

"The current approach is completely fragmented, with no clear leadership."

"For TAFEs to act in this space we need government funding, government demand, and politicians to set policy objectives"

"Most of those who work in skills know very little about sustainability, most of those in sustainability know very little about skills"

"In order to engage SMEs in this work you need a clear roadmap and government support."

WORKFORCE DEVELOPMENT APPROACHES LACK A WHOLISTIC, LONG-TERM APPROACH

Existing workforce development solutions prioritise short-term goals and do not adequately account for the geographic and temporal realities of green transition job growth

Details of the problem:

Key features

- Current approaches rely too heavily on increasing the supply of skilled individuals to meet demand, resulting in an absence of a strategic focus on workforce capability and security.
- Current approaches are characterised by a 'just in time' approach to meeting short-term labour supply needs, without long-term vision or a consideration of systemic barriers to the conversion of training into employment.

Themes emerging from the consultations

- **Jobs boom will be largely regional:** A large-scale infrastructure boom will drive a short-medium term rise in volume of induced demand jobs (see slide 20) nationwide, but up to four out of five of these jobs will be located in regional areas.
- **Jobs boom in infrastructure will be largely low skill level:** A significant percentage (potentially a majority) of induced demand jobs for infrastructure projects will be in entry-level occupations. If done right, the high demand for low-level skilled jobs as part of the infrastructure effort will serve as a training and work-exposure pipeline into more skilled training in the future, in line with official skills pathways.
- **Jobs boom will taper off:** The initial boom will be followed by a downturn in available jobs, as a project's 1-10 year construction phase gives way to a lower demand maintenance phase.
- **Lack of visibility of emerging occupations:** Emerging large-scale changes in areas transitioning from 'brown energy' workforces to 'green energy' workforces has resulted in local populations which lack the knowledge of and exposure to new occupations and industries.

What is the impact:

- **Labour market exclusion:** A failure to act quickly to update and strengthen skills responses will lead to an intensification of disadvantage for young people for whom existing training approach are failing.
- **Lack of responsiveness to place:** Without considering the specific needs and conditions of communities where jobs growth is taking place (such as housing, transportation, social infrastructure, remoteness), those experiencing disadvantage will not have equitable access to workforce opportunities.
- **Career stagnation and churn:** Without clear and structured long-term career progression pathways and support, young people can easily be trapped in cycles of churn within entry-level and low-skill roles.
- **Young training graduates missing out:** As businesses and industry increasingly become 'green-compliant', young VET sector graduates will be at a disadvantage if their qualifications remain misaligned with labour market needs.

Additional context:

- Young people increasingly see the green credentials of businesses and industries [as a key factor](#) influencing their career choices.
- [Long term strategy and planning in programs across the United States](#) has successfully designed workforce solutions which address 'green collar' workforce growth while also addressing the needs of disadvantaged communities and cohorts.

What we heard in the consultations:

"How do young people find entry into green energy jobs when a community's only frame of reference is the coal industry?"

"There will be a medium-term bulge in demand. The need for skills will drop off after infrastructure efforts."

"Every job will need to change, to some degree"

"Low-skilled jobs...won't be developed into more highly skilled positions without effort and investment from multiple stakeholders."

"The circular economy can't just be about materials, we need to think about the people. What are we doing to provide meaningful livelihoods?"

SKILLS & TRAINING PATHWAYS LACK BREADTH AND DIVERSE OFFERINGS THAT CONVERT TO SECURE WORK

Training approaches are not fit-for-purpose and not responsive to regional variations in mitigation and adaptation activity. Existing training products are not developing capability for transformed workplace practices needed to drive mitigation and adaptation efforts.

Details of the problem:

Key features

- The current focus on short-term results and the reskilling existing workforces is limiting the scale of contribution that the skills and training system can make to long term workforce development.
- Current vocational curriculum lacks a focus on building a broad base of knowledge and skills required for mitigation and adaptation practices within all occupations.

Themes emerging from the consultations

- **Mobile and agile future workforces:** The transition's reliance on emerging technologies and 1–5-year infrastructure projects will require a high degree of mobility from future workforces.
- **Limiting career mobility:** Existing, narrow skills and training pathways can limit vertical and horizontal career mobility.
- **Sustainability skills gaps:** Vocational training which does not reflect the sustainability practices of an industry creates a 'sustainability gap' in young people's pathways, turning them away from industries which are seeking to enhance their sustainability credentials, such as mining and agriculture.
- **Siloing of effort:** A lack of clear Commonwealth vision and investment in a long-term climate workforce ambition has resulted in siloing efforts by RTOs, skills service organisations, and industry, limiting their capacity for skills innovation with a long-term horizon. This has left many unwilling to expend resources on unilateral action.
- **Digital literacy demand:** There will be increasing demand for digital literacy and skills across occupations involved in mitigation and adaptation.
- **Micro-credentials:** Micro-credentials have been identified as the key skills and training lever for the reskilling of the existing workforce, and for future workforce development.

What is the impact:

- **Disadvantaged job seekers most at risk:** A lack of a planning for inevitable downturns in job availability will disproportionately impact those without the capital to navigate these changes.
- **Barriers to high skill roles:** The 'technology gap' experienced by regional and disadvantaged young people hinder their entry into high-skill roles.
- **Skills shortage becoming a skills gap:** Without clear vision and stewardship, the current 'skills shortage' could soon be accompanied by a 'skills gap', with those who pass through the vocational education system lacking core sustainability competencies when compared to those whose foundational education has developed their sustainability literacy and practices.
- **A ceiling on career continuity:** Short-term skills thinking will place a ceiling on young people's career development.
- **Limited micro-credential currency:** Private and non-accredited micro-credentials will not align to skills development pathways, and will possess little utility outside of the context of their creation.

Additional context:

- An intensifying reliance on skills sets and other micro-credentials to support reskilling and upskilling efforts in response to labour force changes [face several challenges](#) that need to be considered within broader reform efforts.
- Primary and secondary schooling in Australia is already well along the path of developing sustainability as a [cross-cutting value across curriculum](#), with universities not far behind.
- Both [CEDEFOP](#) and the [OECD](#) advocate for green and sustainable education across all subjects, not just those directly associated with 'green' occupations.

What we heard in the consultations:

"Educators need support in order to be able to delivery sustainability skills across the country."

"There needs to be a clear connection between what is being taught in schools, into what will be taught in VET"

"Sometimes identifying skills need is not possible, because the tech does not yet exist."

"We need to recognise the different entry and exit points for learners, and the role of workplace learning."

"We can't wait for people to finish a 2-3 year traineeship, we need them now."

"Micro-credentials are responsive, but that short-cut cannot open the floodgates to unaccredited training."

Creating opportunities for change through deepening shared ambition

The structure of the workshop

Tools and resources for a solution focused discussion

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WORKSHOP OVERVIEW

Goal: identify the policy and systemic changes needed to enable the skills and training system to build capability for and opportunities within the transition to a climate resilient economy.

Intended outcome: to produce tangible system change ideas at the levels of practice and policy.

Solutions-focused: The focus of the workshop is on solutions. While we acknowledge the need to understand and discuss problems, we want to use this time with you to think about what could be, and how we can get there, rather than why things are not working or will not work.

Tools and resources for enabling the discussion

Workshop participants have been invited from a diverse range government, industry, training and community organisations. To provide a shared platform for the discussions, the following slides provide four key tools and resources:

1. An initial set of **POLICY PRIORITIES** that have emerged from the consultations and complementary policy and literature analysis
2. A statement on **SHARED LANGUAGE** for bridging the different fields of technical expertise that participants are bringing to the discussion
3. A **TPOLOGY** of how the three streams of climate mitigation and adaptation effort are impacting occupations, to support our birds eye system level view, with a goal to leveraging illustrative examples while remaining focused on policy level change opportunities
4. An initial **THEORY OF CHANGE**, as a tool for considering the change horizons appropriate for the opportunities we discuss at the workshop.

SCHEDULE



COMING TOGETHER TO SHAPE A SHARED AMBITION AND OPPORTUNITIES FOR ENABLING CHANGE

The themes emerging from the consultations point to a set of new **POLICY PRIORITIES**. We will use the time together in workshop to explore the policy levers and conditions for enabling these new policy directions

FROM

Existing workforce development solutions are prioritising short-term goals that do not adequately account for the geographic and temporal realities of green transition job growth

A lack of fit-for-purpose, regionally responsive training approaches that are adapting to changing job markets and skills needs of the mitigation and adaptation efforts

A lack of consistent, collaborative, and encompassing policy vision and strategy across government, industry, the training system and community

TO



Workforce development approaches that build individual and institutional capability and agility in the face of known and unknown challenges



Expanding access to occupations enabling mitigation and adaptation efforts



A policy agenda that endorses sustainability as a core workforce capability

Systems which have more accessible 'on ramps' and 'off ramps' so that training enables mobility and agency.

Systems which enable the 'future-proofing' of the skills and training system so that young people are better insulated from future changes to workforce needs.

More intentional and fit-for-purpose training responses are needed to ensure that disadvantaged cohorts have access to the training and employment opportunities emerging with the green transition.

A meaningful policy agenda that endorses sustainability as a core workforce capability, enabling sustainability knowledge and skills integration into vocational education so that skills serve to address climate change, instead of just meeting the workforce needs of climate-specific industries.



A SHARED UNDERSTANDING OF THE PROBLEM

With the theory and practice of the green transition still evolving, it is important that policy is shaped by **SHARED LANGUAGE** and by a clear understanding of where and why different interventions and approaches are required

Lack of agreement about terms

Early in the consultation process it became clear that the emergent nature of the transition towards a greener economy and society has led to a large degree of ambiguity in how people, organisations, and governments deploy certain terms, and how they group and characterise efforts and initiatives that are responding to the climate crisis. Many states are currently undertaking parallel efforts across carbon neutrality, circular economy, and 'green' practices.

Lack of consensus internationally and locally

Even internationally there is little consensus on appropriate nomenclature and terminology. The [OECD](#) applies the label of 'green skills' across "skills needed in a low-carbon economy", while the [ILO](#) more broadly applies their definition of 'green skills' to mitigation and adaptation efforts beyond a narrow focus on carbon emissions reduction.

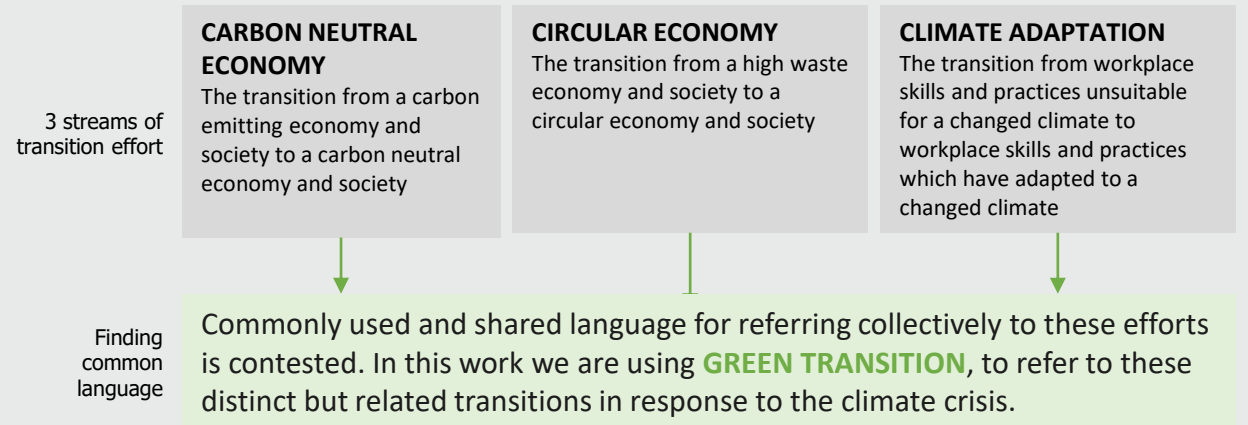
Scope of climate action expanding in real time

The emergent nature of effort in response to the climate crisis has also meant that the scope of climate action has expanded.

Where once the primary focus of governments and industries was just on reducing carbon emissions, efforts to mitigate climate change now impact a much wider cross-section of the economy and society.

We need to speak the same language to effectively advance the conversation

To further a meaningful discussion on policy and the overlap of the green transition, the vocational education system, and a vision for young people, it is important to have clarity of language and conceptual tools which speak to the complexity of an effort across multiple sectors.



NOT ALL OCCUPATIONS AND INDUSTRIES WILL BE IMPACTED BY THE TRANSITION IN THE SAME WAY

Any skills policy approach must recognise that industries and occupations will be impacted to different extents, and in different ways by the three streams of effort. This **TYPOLOGY** illustrates how different occupations will be impacted within and across the three streams of mitigation and adaptation effort.

	Occupation	Skill Pathing	CNE	CE	CA
Emerging green transition jobs 'New' occupations which will require the development of new curriculum and skillsets	Energy Auditor	Vocational, University	●		
	Hydroelectric Plant Technician	Vocational, University	●		
	Recycling Coordinator	University		●	
	Offshore Wind Turbine Technician	Vocational	●		•
Evolving green transition jobs Occupations whose training needs will be significantly impacted by green transition	Civil Engineering Professional	University	●	•	
	Farmer	Vocational, University	•	•	●
	Mechanic	Vocational			
	Manufacturing Machinist	Vocational, University		•	
Induced demand green transition jobs Occupations whose training needs will not significantly change, but will see an increased demand due to the green transition	Concreter	Vocational	●	•	•
	Electrician	Vocational	●	•	•
	Environmental Scientist	University			●
	Insulation Installer	Vocational		●	•
Broader green transition jobs Occupations whose training needs will not be significantly impacted by the green transition	Aged Carer	Vocational		•	•
	Hairdresser	Vocational		•	
	Nurse	Vocational, University		•	•
	Primary School Teacher	University		•	•

Training responses must reflect the different ways in which occupations will be impacted and needed by three streams of green transition effort

Deloitte's four job categories for the green transition can be adapted to better understand the variety of impacts each of the three streams of effort will have on occupations.

Occupational skill needs will not be impacted in a uniform way, and may be affected to different degrees by each of the three streams of effort.

For example, the skills requirements for concreters will not see a significant change, but demand for their skills will be significantly impacted by the infrastructure effort accompanying the carbon neutral economy.

At the same time, there will not be an increase in the demand for farmers, but their will be a significant change in the skills requirement for farming roles. These changes will be enforced by all three streams of effort.

Acknowledging the overlap between job types and streams of effort is key to shaping meaningful systemic policy approaches to ensure those entering the workforce are best enabled to pursue secure, meaningful employment.

As can be seen in the table, vocational pathways are not limited to specific jobs types, nor disproportionately impacted by a particular stream. Instead, they sit across all job types and each of the three streams.

Adapted from: Deloitte Access Economics, 2021, *Skilling Queenslanders for the Clean Transformation*.

CNE: Carbon Neutral Economy CE: Circular Economy CA: Climate Adaptation

● = large impact • = small impact

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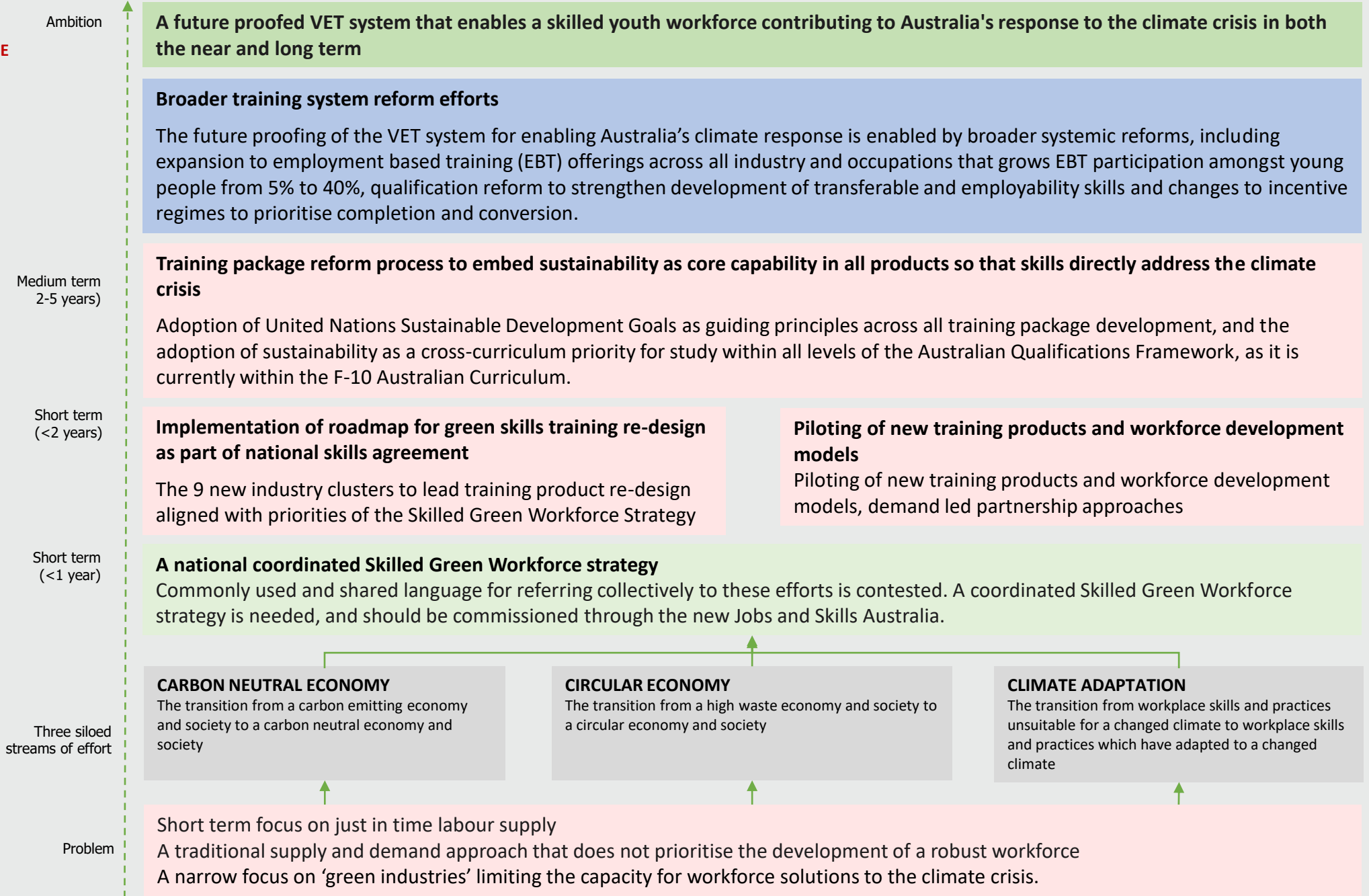


National Youth
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AN INITIAL THEORY OF CHANGE CAN SUPPORT OUR CONSIDERATION OF THE CHANGE HORIZON AND TO LOCATE POTENTIAL POLICY LEVERS WITHIN THAT HORIZON

This theory of change is offered as a starting point for discussions at the workshop and the basis for practice and policy opportunities emerging through collaboration after the workshop. It seeks to locate systemic reform ambitions within near term and long term change horizons.

We welcome feedback and robust discussion on both the potential pace of change and the near term levers that require collective attention.



Consultation participants

In preparation for these workshops we have consulted with a wide range of stakeholders to understand the impact of key structural barriers in their work to enabling entry level work and their views on potential programmatic and policy solutions.

While the consultations are ongoing, BSL would like to extend their thanks to all the individuals and organisations who have generously provided contributions and time to undertake pre-workshop consultations to this point. These consultations have been invaluable in the development of the System Design workshop and our ongoing work in youth employment.

- Chris Greentree, TAFE NSW
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- Celeste Howden, Innovation Business Skills Australia
- Toby Phillips, Centre for Policy Development
- Lyndal Manson, TAFE Directors Australia
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- Annette Frost, Queensland Department of Employment, Small Business and Training
- Kym Hudson, Queensland Department of Employment, Small Business and Training
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- Malcolm Kinns, Generation Australia
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- Chris Briggs, Institute for Sustainable Futures, University of Technology Sydney
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- Shaun Thomas, Australian Industry Standards
- Ben Latham, Victorian Council of Social Services
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- Bo Li, Melbourne Polytechnic
- Nicholas Wing, Queensland Department of Employment, Small Business and Training
- Simon Hislop, TAFE Queensland
- Lisa Wynter, TAFE Queensland
- Madeline Crust, Omexom Australia



Appendix

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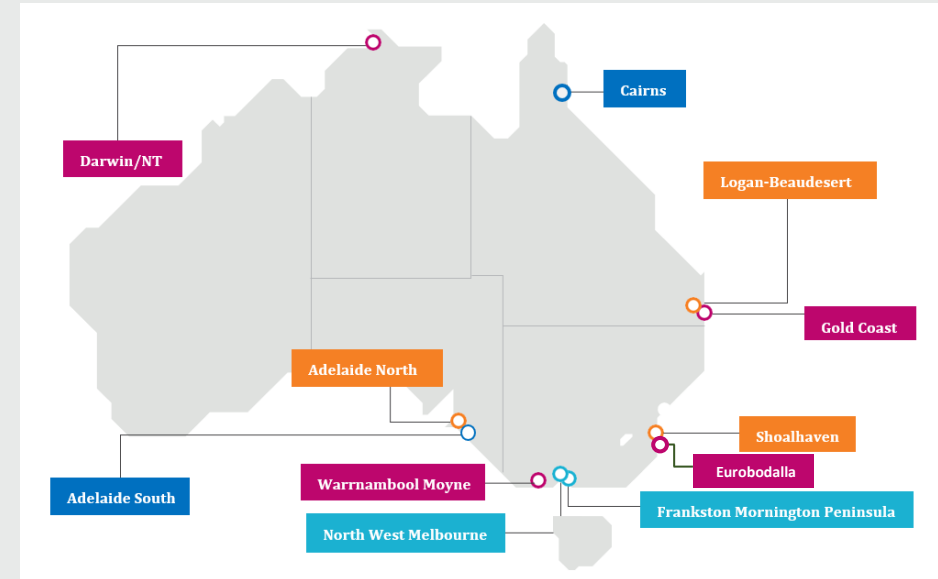
National Youth Employment Body

The National Youth Employment Body (NYEB) is a coalition of people and organisations invested in addressing youth unemployment through the development of local to national responses that meet the needs of young people and industry alike, and ultimately drive systems change.

The NYEB provides facilitative leadership with a coalition of people and organisations invested in driving solutions for youth employment. It advances local to national practice and policy responses that build the capabilities of young people and meet the needs of industry/employers in local communities.

What is the ambition of the NYEB?

- Better jobs for young people
- A strengthened role for skills and training for young people beginning their working lives
- Improved social infrastructure for enabling young people to thrive
- Expanded workforce development solutions that address the needs of employers and industry



Community Investment Committees

The NYEB has established local Community Investment Committees that mobilise key representatives from industry, VET, community, all levels of government and employment services.

Community Investment Committees develop and implement initiatives and training pathways that enable young people into meaningful work and build a skilled workforce for employers.

Community Investment Committees harness knowledge and resources; sustain and strengthen effective strategies and collaborative efforts in youth employment; and endure and adapt to new disruptions and opportunities through increased capacity to implement, monitor and advocate solutions.

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System Design Workshops

The **National Youth Employment Body System Design Workshops** provide a unique opportunity for stakeholders within the youth employment ecosystem of employers, industry, community, government, training and career systems to work together on a shared ambition to address youth unemployment and workforce development challenges.

Our approach to developing the workshops is grounded in BSL's "**systemic change**" model for progressing reform. The model aims to design and implement better systems over time through coordinated streams of effort.

The methodology draws on over a decade of continuous learning from BSL's practice and research efforts across a range of policy areas and continues to be refined and tested.

Our starting principle is a '**Capabilities - Advantaged Thinking**' approach to working with young people. It combines a focus on the actual and potential skills capabilities of young people with an emphasis on the necessary investment from government, community and industry/ employers to realise that potential. We aim to facilitate a **solutions and opportunities focused** conversation that looks beyond the structural barriers and limitations of the existing systems.

In the workshop we will employ BSL's distinct systemic change methodology to reach mutually beneficial and effective solutions to the employability of young people.

We need to do this together

We look forward to hearing your insights and working together through the workshop and beyond to shape the solutions that will enable a transformational systemic solution that address the needs of both young people and employers.

Through the NYEB, the BSL has led several years of systemic change work on the role of skills and training for enabling sustainable careers for young people. This work has highlighted the challenges and opportunities emerging from Australia's response to the climate crisis and the need for a systemic approach to future-proofing a skills and training response that doesn't leave young people behind.

Place-based co-design and piloting of skilled pathways in partnership with employers and industry

Emerging data from programmatic innovation pilots has demonstrated the importance of fit for purpose foundational training offers that set young people up for security and mobility as industry and employer expectations shift in line with climate response efforts

Leveraging diverse expertise through system design workshops and consultations

Diverse expertise and evidence generated through system design consultations and workshops have shape a shared understanding of the limitations of supply and bridging responses, and the need for systemic demand led solutions that are supported by an agile training system.

Mapping the system and identifying the conditions holding the problem in place

Thought leadership work led by the BSL's Social Policy and Research centre has reviewed literature, policy and programmatic evidence from Australia and overseas has identified how structural weaknesses in the training system are sustaining weak labour market outcomes and that there is a need for transformational reforms to both curriculum and models of training delivery.

Developing a shared understanding of the problem

With a particular focus on how the training system is enabling workforce development needed to support the response to the climate crisis, we have drawn on diverse expertise and evidence to shape a shared understanding of the challenges and opportunities.

Recent and current demonstration pilots

- [Entry to care roles pilot in 7 communities](#) across Australia (September 2020-April 2021)
- Foundational hospitality pathway using skill sets (Gold Coast 2022)
- Community Services Employability Pathway, Darwin (July 2022-October 2022)
- AgFutures Foundational Capabilities Pathway pilot (August 2022-July 2024)

System design workshops

- [Three system design workshops](#) (August-September 2021) identifying key mechanisms to achieve sustainable career entry and mobility of young people into agriculture & horticulture, transport & logistics, and care sectors.
- System design workshop (April 2022) exploring systemic conditions for enabling employability and mobility for young people entering growth industry sectors.

Thought leadership work

- Published paper on [new forms of employment-based training](#) that draw on principles of place, partnership and breadth
- [Papers and presentations](#) on systemic change effort and testing of a new framework for employability for young people

Building connections with experts at the forefront of workforce development and skills responses to the climate crisis

- Leveraged expertise of those within government and the vocational education sector to identify system change opportunities and barriers to training.
- Connected with industry, employers, and sustainability experts to inform an understanding of the scale of the skills and workforce vision required to respond meaningfully to the climate crisis.

Systemic change ambition

- Ensuring that the strategic ambition for responding to the climate crisis is enabling young people to pursue and sustain meaningful careers they value within the changing workforce landscape.
- Expanding social partnerships between youth employment stakeholders working on the principles of co-design and co-delivery to strengthen skills and jobs opportunities for young people in sectors leading the response to the climate crisis.