Preparing for Emerging Industries Across Northern Australia

Joint Standing Committee on Northern Australia

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MEGT

Summary

Australia's future prosperity in eight key areas, from reaching net-zero emissions to boosting critical minerals, defence, and other emerging industries, depends on a strong, locally skilled workforce. In these sectors, common workforce issues threaten to derail national ambitions.

- **Severe Skill Shortages**

  32% of occupations are in national shortage including trades and technical roles crucial for renewable energy projects, mining operations, infrastructure developments, and more. This shortage directly hampers achieving policy goals such as building 1.2 million homes, transitioning to net zero, and securing a *"Future Made in Australia."*

- **Inadequate Training Pipeline**

  Apprenticeships, the backbone of skilled trades, are at an all-time low. In 2024, apprenticeship commencements fell to about 0.86% of the workforce, 30% lower than a decade ago. With half of apprentices dropping out before finishing, the current system is not providing enough qualified workers to meet industry demand.

- **Underutilised Talent Pools**

  Key groups remain underrepresented in skilled roles. Women and First Nations people are especially under engaged in trades. For example, women make up less than 10% of trade apprentices in most industries, and fewer than 8% of apprenticeship employers are in remote or outer regional areas (where Indigenous Australians live). This is a missed opportunity to develop local talent in regions with major projects underway.

- **Small Business Participation Gaps**

  Small and medium enterprises (SMEs), which form the backbone of supply chains in these sectors, encounter hurdles in training. Only about 10% of apprenticeship employers are micro-businesses (1–4 staff), mainly because of the actual and perceived difficulties of hiring and training apprentices. Without increased SME participation in training, capacity will stay limited, especially in regional areas communities.

These cross-cutting issues mean that without intervention, Australia risks lacking the workforce needed to deliver essential initiatives in: clean energy, critical minerals, export growth, decommissioning, defence, infrastructure, overall workforce development, and First Nations empowerment. For example, Jobs and Skills Australia estimates the clean economy workforce must grow by 30%, adding 213,000 workers, by 2033 to meet net-zero infrastructure demands. Similarly, defence and infrastructure projects are ramping up in northern Australia, yet skilled labour shortages could delay or inflate the costs of these investments.

MEGT's central message is that addressing these challenges requires a holistic apprenticeship and traineeship ecosystem that supports participants from end to end. MEGT has over 40 years of experience and has supported more than 1.5m apprentices nationwide, giving it a unique insight into what works. We recommend a four-pronged strategy, applicable across all sectors:

1. Boost Financial Support for Employers

Offer more substantial incentives and lower cost barriers to encourage more businesses, especially SMEs, to take on apprentices. Well-designed subsidies provide excellent returns: **every $1 invested in apprenticeship incentives results in approximately $3 in public benefits**, through increased productivity and reduced reliance on welfare.

2. Increase Financial Support for Apprentices

Make apprenticeships a financially feasible option for individuals. This involves ensuring training wages and allowances are adequate, given the rising cost of living. Lack of funds and low wages contribute to 30–34% of dropouts. Recent government initiatives, such as offering priority apprentices an extra $2,000 payment and $1,000 to their employers (totalling $5,000 each) from July 2025 – are positive steps. Additional measures like tool and equipment grants, travel allowances for remote apprentices, and wage top-ups for second- and third-year apprentices in essential trades will further enhance retention.

3. Expand Mentoring and Support Services

Offer structured mentoring, coaching, and pastoral care to all apprentices and trainees, along with guidance for host employers. An unsupportive work environment is the primary cause of cancellations. MEGT's one-on-one mentoring, including resolute First Nations mentors for Indigenous apprentices, has proven highly effective – an independent analysis forecast a social return on investment from these support services. Mentoring helps apprentices stay engaged through challenges and equips small employers with the skills to train effectively. In MEGT's programs, employers collectively saved an estimated $71.5 million in time over five years by relying on our administrative and mentoring support, accounting for 85% of the total quantified benefits to employers. Scaling these services nationally will significantly improve completion rates and increase employer participation.

4. Reduce red tape and boost SME engagement

Simplify and streamline the apprenticeship system to be more 'SME-friendly.' Small businesses need clearer information, less paperwork, and more flexible training models to incorporate apprenticeships into their operations better. SMEs find it challenging to navigate the *"plethora of rules, regulations and bodies"* involved. We suggest developing a one-stop digital platform for employers, expanding Group Training Organisations (so SMEs can host apprentices without managing all the administrative work), and creating portable apprenticeship models that let apprentices move between employers or pause/resume training as needed. By removing these barriers, we can unlock thousands of new training places in regional towns and niche industries. Notably, small business participation surged when COVID-19 wage subsidies were introduced by the government, then declined when the support ended, showing SMEs are willing to train when conditions are right.

Following this cohesive strategy will allow each target sector to develop its own skilled workforce sustainably, instead of poaching from other industries, over-relying on migration and reduce fly-in-fly-out. It will also generate quality jobs for Australians, including in rural and remote communities, thereby spreading the benefits of growth. The rest of this paper is organised as follows: first, we outline the common workforce development challenges affecting all eight focus areas (and the overarching solutions needed, aligning with items (h) of the terms of reference). We then offer brief sector-specific analyses (items (a) through (f)), illustrating how these workforce initiatives can be adapted to meet each industry's specific needs. This approach prevents duplication by addressing universal issues early, allowing subsequent sections to focus on sector-specific nuances.

Introduction:
Common Workforce Challenges Across Key Industries

Across Northern Australia's growing industries and development priorities, workforce shortages have become a key risk. Consultations and research regularly highlight the following main challenges:

- **Severe Skill Shortages**

  Australia is facing the most severe labour shortages in decades. In 2024, Jobs and Skills Australia reported that 32% of occupations were experiencing shortages. The majority being in trades and technical fields, exactly the skills needed for industries like construction, clean energy, mining, and advanced manufacturing. For instance, electricians, engineering technicians, construction project managers, and heavy machinery mechanics are all on the national shortage list. These shortages directly threaten progress in areas such as infrastructure roll-out and resource projects. As noted, *"skills shortages translate to decreasing productivity and create challenges with fully capitalising on opportunities"* in these sectors.

- **Rising Demand from Strategic Initiatives**

  At the same time, government and industry efforts are significantly increasing demand for skilled workers in focus areas.

  - Reaching net zero will need a 30% growth in the clean energy workforce by 2033 (an extra 213,000 workers in renewable energy, power systems, and related trades).
  - Developing critical minerals involves opening new mines and processing plants in remote areas, which will require mining engineers, geologists, plant operators, and maintenance trades. The mining sector is already preparing, in 2022, 7,689 new apprentices and trainees started in mining (up 19% from 2021), but further expansion is necessary as exploration and production of critical minerals speed up.
  - Major infrastructure and defence projects are underway in Northern Australia and other regions. For example, the Commonwealth is allocating $17.1 billion over 10 years for transport infrastructure, and up to $18 billion for upgrading northern defence bases this decade. These initiatives will require thousands of skilled workers, technicians, and engineers. The local labour supply is not enough, for instance, the NT already experiences shortages in construction trades, and large defence contractors are warning of skilled labour gaps in fulfilling AUKUS commitments.
  - Both export and decommissioning sectors expect growth. Northern Australian agribusinesses, tourism operators, and manufacturers are working to boost exports but face workforce shortages. Many offshore oil and gas facilities reach the end of their operational life, a multi-billion-dollar decommissioning project is on the horizon (estimated at A$45 billion by 2040 for offshore infrastructure). This presents a significant industry opportunity if we develop the skills needed for dismantling, recycling, and environmental restoration.

The demand for skilled labour is rising across these sectors; fulfilling this demand is essential if policy goals are to be achieved. The Australian Government's investments (e.g., in green energy, housing, defence) will increase skills shortages unless paired with workforce development, a point highlighted in the 2025–26 Budget papers.

- **Apprenticeship System Under Strain**

  Paradoxically, the traditional pipeline for developing skilled workers, the apprenticeship and traineeship system has not been keeping pace:

  - **Declining Commencements**

    Over the past decade, apprenticeship starts dropped significantly. In 2023–24, the rate of new apprenticeships fell to its lowest level in recent times (only 0.86% of the working-age population started an apprenticeship, down from around 1.2% historically). Although there was a temporary increase during 2021–22 when substantial wage subsidies were offered by the government (COVID recovery programs), that momentum has since declined as subsidies tapered off. Fewer starters now mean fewer qualified workers in 3–4 years, just as major projects will be reaching their peak.

  - **Low Completion Rates**

    Equally concerning, nearly 1 in 2 trade apprentices nationally do not complete their training. According to NCVER data, the national completion rate for trade apprenticeships is approximately 52%, compared to around 60% for non-trade traineeships. This disparity reflects the greater complexity and demands of trade pathways, which often involve longer durations, more rigorous workplace expectations, and higher dropout risk in the first year.

    MEGT's own data shows significantly better outcomes. MEGT-supported trade apprentices and trainee completion rates consistently exceed the national benchmark.

    Attrition effectively halves the talent pipeline in many sectors. MEGT's survey of non-completers identified the top reasons for withdrawal:

    → 38% cited an unsupportive work environment

    → 34% cited poor wages

    → 30% cited financial stress

    These factors are especially prevalent in remote, high-pressure industries such as construction, hospitality, and hairdressing, where new entrants often lack adequate mentoring, supervision, or financial stability. First-year dropout rates are disproportionately high in these sectors, underscoring the need for structured support and employer engagement to improve retention.

  - **Regional and SME Gaps**

    Most apprenticeship training occurs in metro areas and large businesses, leaving regional Australia and small companies underserved. For instance, less than 8% of employers offering apprenticeships operate in outer regional or remote areas, even though emerging industry projects are based there. Likewise, small firms (fewer than five employees) account for only about 10% of apprentice-hosting businesses, despite accounting for around 90% of all Australian enterprises. This imbalance means rural communities and small to medium-sized enterprises which could be key drivers of local skill development often miss training opportunities, deepening regional skill gaps. It is a vicious cycle: limited local training options push youth to cities, which then makes it harder for local firms to find staff, hindering regional industry growth.

- **Diversity and Inclusion Challenges**

  There are structural issues related to who participates in these industries:

  - **Gender Gap**

    Many emerging industries (resource extraction, construction, defence) are male dominated. Women make up only about 7% of trade apprentices in fields such as construction and electrical technology. This gender gap not only limits the talent pool but also conflicts with equity goals. The mining industry's recent efforts show that change is possible, female apprentice commencements increased by 26% in 2022, but a similar focus is needed across all sectors to attract and retain women (through initiatives such as female mentors, harassment-free workplaces, and flexible work arrangements).

- **First Nations Participation**

  Northern Australia's population is about 16% Indigenous, and Indigenous communities stand to benefit significantly from emerging economic opportunities on Country, including renewable energy projects, mining, and land management jobs. However, barriers such as limited access to training, cultural safety concerns, and historical exclusion have resulted in under-representation of First Nations people in skilled roles. Bridging this gap is both a moral and practical obligation: empowering Indigenous Australians with skills will help address labour shortages in remote areas and promote inclusive development (covered in detail under item (h)). The same approach applies to other underserved groups, like people with disabilities or those from low socio-economic backgrounds, tapping into all talent streams will be essential to meet workforce demand.

- **Employer Engagement and System Navigation**

  On the employer side, particularly among SMEs, there is often a lack of awareness or ability to engage with the training system.

  - **Perceived Cost and Risk**

    Businesses, when considering hiring an apprentice, worry that *"if I take on an apprentice, the cost and effort might outweigh the benefits to my business"* This concern is especially strong for small firms where margins are tight. Employers need to spend time supervising apprentices and might not see full productivity for a couple of years. If the apprentice leaves, the initial employer investment is then lost. Such worries lead to employers preferring hiring already-skilled workers (or even relying on 457/482 visa workers) instead of training new ones. In fact, about 4 in 10 employers have been filling skill gaps by hiring internationally, which is not a sustainable long-term solution.

  - **Administrative Complexity**

    The apprenticeship system involves multiple stakeholders, including Australian Apprenticeship Support Services, State Training Authorities, TAFEs/RTOs, and incentive programs. For a small business without HR staff, this can be overwhelming. The Department of Education's Behavioural Insights study noted that employers feel *"frustrated with trying to navigate numerous bodies and websites to get up-to-date information on rules, courses, subsidies and costs."* In short, the process is bureaucratic. This deters participation by new or time-poor employers, an issue considering SMEs would otherwise be a natural place to expand apprenticeship opportunities, as they account for a large share of employment. Medium and large employers (200+ staff) host many apprentices; in cities, outer regional, and remote areas, very few small employers participate in the system.

These interconnected challenges highlight that *"business as usual"* in workforce development will not be enough. Without policy action, labour shortages will keep putting pressure on these industries, causing project delays, rising wages (and consequently higher project costs and inflation), and missed opportunities for Australians to secure good jobs. Currently, 79% of businesses find it hard to hire Technicians and Trades workers, and half plan to hire more apprentices and trainees as part of the solution. The intention is there, but the system must enable them to act.

In the next section, we share MEGT's view on what systemic changes and supports are necessary to strengthen industries and the economy across the north of Australia.

(a) The global transition to net zero and furthering renewable energy, decarbonisation and carbon abatement

Overview

Australia's commitment to net zero emissions by 2050 is driving an unprecedented expansion of renewable energy generation, storage, and low-carbon technologies. Massive projects are underway or planned – from large-scale solar and wind farms (e.g., the 10 GW Sun Cable project in the NT) to transmission super-grids, battery manufacturing, green hydrogen facilities, and energy efficiency retrofits. This sector is poised to create tens of thousands of new jobs; however, a lack of skilled workers could severely hamper progress.

Workforce Needs & Challenges

Jobs and Skills Australia's Clean Energy Capacity Study (2023) forecast a requirement for approximately 214,000 workers in clean energy sectors by 2030, up from around 156,000 today – a rise of about 58,000 workers in just a few years. The roles include construction (civil workers to build sites), electrical trades (to install and maintain solar panels, wind turbines, batteries, EV chargers), engineering (designing systems, integrating into the grid), and emerging roles like hydrogen technicians and carbon capture specialists. A particular pinch point is likely to be electricians: they are the central trade for most decarbonisation efforts (solar installation, wiring of EV infrastructure, industrial energy efficiency upgrades), and they are already facing a shortage nationwide. Furthermore, many of these projects are located in regional or remote areas – for example, wind farms in outback SA/Queensland, or solar farms in the Pilbara – where attracting and retaining workers can be challenging. The net-zero transition also intersects with nearly every other sector (building and construction needs to become greener, transport fleet electrification, agriculture shifting to low-carbon practices), meaning the demand for sustainability skills will permeate the entire economy.

Strategic Workforce Response

Increasing apprenticeships and training in electrical, mechanical, and engineering sectors is our best chance to meet this demand. The New Energy Apprenticeships Initiative – which offers a $10,000 incentive to apprentices in clean energy trades – has seen strong interest (over 2,200 sign-ups in its first year). This targeted support should be continued and possibly expanded (as funding permits) to attract more entrants into these trades. Equally important is updating training content: curricula for electricians now include units on solar PV systems and battery storage, but further specialisation (micro-credentials in grid integration, EV charger deployment, hydrogen safety) will ensure apprentices are job-ready for net-zero projects upon completing their training. The Government's establishment of a Clean Energy Skills Working Group is a positive step; MEGT recommends close collaboration with industry to ensure training packages adapt as quickly as the technology.

Another important aspect is geographic workforce mobility. The renewable build-out will require workers to relocate to project sites, which sometimes conflicts with many apprentices' desires to train and work near home. One solution is to adopt group training or project-based apprenticeships: for example, a Group Training Organisation could hire a cohort of 50 electrical apprentices and move them between projects (solar farm to wind farm to battery site) over four years, providing them with continuous employment and diverse experience, while different host companies receive labour when and where needed. This model offers stability to apprentices (rather than being laid off after each project) and helps keep them in the industry long-term. Government can support this by working with renewable energy developers to forecast labour needs and possibly subsidise some costs for GTOs to operate in remote project regions.

Critically, we should also seize the chance to retrain workers from declining carbon-intensive sectors. Transitioning coal-fired power workers into renewables is a prime example: many older electricians or mechanics from power stations have skills that could be adapted to maintain solar farms or install wind turbines, possibly through shorter upskilling courses or what's sometimes called an *"adult apprenticeship"* (fast-tracked for experienced workers). MEGT can assist by connecting these workers to apprenticeships or traineeships in renewable companies, leveraging Recognition of Prior Learning (RPL) to reduce the time needed for qualification. This approach both fills skill gaps and promotes a just transition for workers.

Outlook

If the workforce challenge is met, Australia stands to benefit hugely – not just through emissions cuts but also economically. It's projected that by 2050; the renewables sector could be employing over 300,000 Australians. Furthermore, a skilled domestic workforce allows us to capture more value locally: for example, manufacturing components like batteries or electrolysers domestically (rather than importing) becomes possible only if we have enough technicians and tradespeople. As regional communities gain from new jobs (e.g., an influx of apprentices working on a large solar farm, who then settle and raise families locally), it also helps build community support for further clean energy projects. In summary, reaching net zero is as much about skills as it is about technology or finance. By expanding apprenticeships, offering targeted incentives, and adopting innovative training methods, we can ensure we have the right people – electricians, engineers, and energy specialists – to install and maintain the infrastructure needed for a net-zero Australia. MEGT's role will be to keep encouraging young Australians to enter these trades (our marketing already highlights the exciting future in clean energy careers) and support them through to becoming qualified tradespeople and beyond.

(b) Developing the Critical Minerals Industry

Overview

Critical minerals, such as lithium, cobalt, nickel, graphite, rare earth elements, and vanadium, are the backbone of clean energy tech and advanced manufacturing (batteries, electric vehicles, wind turbines, electronics, defence tech). Australia boasts large reserves of many of these minerals, especially across Northern and Western regions. The government's Critical Minerals Strategy aims to move Australia beyond just exporting raw materials, into refining and possibly manufacturing. New mines—like lithium and rare earth projects in WA, NT, and Qld, and processing plants, including lithium hydroxide refineries and rare earth separation facilities, are either planned or already underway. This sector offers huge economic potential, provided we can staff it with skilled workers.

Workforce Needs & Challenges

The mining industry already has a strong tradition of vocational training (apprenticeships for electricians, diesel fitters, drillers, etc.), but critical minerals introduce some new complexities.

- **Specialised Processing Skills**

  Unlike traditional iron ore or coal mining, critical minerals often require complex chemical processing. This means we need more process plant operators, chemical technicians, and metallurgists. These roles sit between trades and tertiary education – often requiring a Cert III/IV in process plant operations or a diploma in metallurgy. Historically, Australia's mining training focused on extraction; now we must increase training in mineral processing and value-adding. Apprenticeships could be set up in fields like battery chemistry technician or rare earth processing technician to support the new refineries in development. Currently, companies are often poaching experienced petrochemical or pharmaceutical plant operators for these roles due to a shortage of local graduates.

- **Remote and Regional Deployment**

  Most critical mineral deposits are located in remote areas, such as lithium in WA's Pilbara and Goldfields, rare earths in NT's Tanami, and cobalt in northern Queensland. These projects frequently face the ongoing challenge of attracting skilled workers to these isolated locations. While the mining industry often relies on FIFO (fly-in-fly-out) workforces, developing a local residential workforce is preferable for long-term sustainability, something that governments and communities strongly support for regional development. Achieving this involves training local youth, including Indigenous youth, many remote communities are near these mineral deposits, in mining skills. It also requires addressing lifestyle considerations: providing apprentices with access to quality accommodation, recreation, and communication facilities when posted to remote mine sites for on-the-job training.

- **Cross-Sector Competition**

  Critical minerals projects are competing for talent not only with traditional mining (gold, iron ore) but also with construction, as building a new mine or refinery requires the same pool of electricians, pipefitters, and others. Moreover, global competition is intense: countries like Canada are also expanding their critical minerals sectors and seeking skilled immigrants. We risk labour poaching if we don't establish a pipeline quickly. Already, some rare earth companies have reported delays in recruiting experienced processing engineers.

Strategic Workforce Response

A combination of traditional apprenticeship roles and targeted new training is needed:

- **Expand Core Mining Trades Training**

  Increase the number of apprentices in essential trades for critical minerals projects, including electricians (focused on industrial electrotechnology), diesel mechanics/heavy vehicle fitters (for mining equipment maintenance), instrument technicians (for automated processing control), and boilermakers/welders (for building and maintaining processing plants). Recent data is promising – in 2022, the mining sector had nearly 11,652 apprentices in training (up 16%) and completions rose 10% – but critical minerals will require even more growth. The government can prioritise critical minerals as an industry for incentives, encouraging more apprenticeship commencements in companies serving this sector.

- **Introduce Traineeships for Critical Minerals Processing**

  Collaborate with industry and TAFEs to develop traineeship programs specifically tailored to mineral processing operations. For example, a Rare Earths Processing Traineeship (Cert III) could be established, covering skills such as operating kilns, solvent extraction units, and safely managing radioactive byproducts. Lynas Corporation (which runs a rare earths plant in WA), and others could pilot this initiative, with MEGT and similar organisations organising rotations between classroom learning and plant-floor training. Similarly, lithium refineries could offer Chemical Plant Operator apprenticeships, drawing on the chemical industry's existing traineeship framework but with a curriculum adapted to battery materials. This approach not only addresses workforce needs but also provides workers with a formal qualification that is portable across the growing battery metals sector.

- **Utilise Technology for Training**

  Virtual reality (VR) and simulation can be highly effective here. Some critical minerals processes are difficult for trainees to access directly, due to safety concerns or proprietary technology, but VR simulations can teach skills such as operating a flotation circuit or an autoclave. The government could fund a series of critical mineral process simulation modules in partnership with mining equipment manufacturers and CSIRO. These could then be made available through TAFEs in regional mining hubs like Mount Isa, Kalgoorlie, Darwin, and others, to speed up learning. It's similar to flight simulators for pilots – providing process operators with realistic practice before they take the controls.

- **Community-Based Recruitment**

  Ensure each new project commits to training local residents. Modern mining agreements often include Indigenous employment clauses, which should be supported by practical training programs. For example, a new rare earth mine could collaborate with the local Indigenous community to deliver a pre-apprenticeship course in diesel mechanics, with the best students subsequently hired as apprentice mechanics at the site workshop. Government can assist by providing funding through Indigenous skills programs or by utilising the Indigenous Ranger skillset (such as environmental monitoring or basic machinery operation), which can lead to mining jobs with additional training. The Northern Australia Indigenous Development Accord already highlights such partnerships; the key is effective on-the-ground implementation.

- **Retention through Career Pathways**

  The critical minerals industry can be presented to young workers as a high-tech, future-focused sector – which it truly is. Highlight that an apprenticeship in, for example, automation systems at a lithium mine could lead to a career as an emerging technology expert, especially as mines become more digital with drones, remote operations centres, and so on. Demonstrating clear career progression (from apprentice to tradesperson, supervisor, or even further study in engineering) can encourage talent retention within the sector. Businesses should be encouraged to offer ongoing education opportunities, such as supporting an apprentice to obtain an associate degree later on. This strategy helps address the common challenge of remote areas losing workers who feel their career growth is limited. If a young electrician sees they could become a process supervisor or earn a diploma in electrical engineering with company backing, they're more likely to remain in the industry and stay in their community.

Outlook

Building a skilled workforce for critical minerals will strengthen Australia's role in this global supply chain. If we can reliably supply labour, companies will choose to invest here rather than elsewhere. Conversely, a labour shortage could lead to project delays or cancellations. A key indicator of success will be reducing dependence on imported skilled workers for new projects. Currently, some operations have had to bring in foreign experts—such as Filipino or Canadian metallurgists—due to local shortages. Within five years, we should aim for Australian workers to fill the majority of roles in critical mineral projects. Investing in apprenticeships now will produce qualified tradespeople by then. For Northern Australia, in particular, this sector can be transformative: these projects can create well-paying jobs in areas where few other industries operate. By training local people to fill these roles, we ensure that the wealth beneath the ground benefits prosperity above in local towns and communities.

(c) Supporting the Development of Export Industries

Overview

Northern Australia's economy relies heavily on exports – from agriculture (beef, cotton, horticulture) and resources (LNG, minerals) to emerging sectors like renewable energy (potentially exporting green hydrogen or ammonia) and tourism. Growing export industries involves not just boosting output but also moving up the value chain: processing raw materials into higher-value products, improving supply chains, and reaching new markets. Workforce development plays a crucial role in all these areas. Often, expanding an export industry comes down to having the right skilled people to produce high-quality goods efficiently and reliably.

Workforce Needs & Challenges

Export industries are diverse, but some common workforce themes include:

- **Agriculture and Food Processing**

  Northern Australia aims to expand its farming through water projects and new crop varieties. This will need more agribusiness experts, farm managers, veterinarians and technicians (for livestock), and food processing workers such as abattoir technicians and staff for fruit packing and processing. Currently, the agriculture sector faces ongoing labour shortages, many depend on transient or overseas seasonal workers for unskilled roles. To grow, there's a need to train more locals in agricultural technology (like irrigation and drone operation) and in value-adding skills (such as butchery, food safety, and packaging). Success in exporting also depends on meeting strict quality standards abroad, which requires skilled technicians to manage cold chains, biosecurity protocols, and product quality assurance.

- **Logistics and Infrastructure Operations**

  Exporting goods from northern regions often involves complex logistics – long road or rail trips, port handling, and sometimes barging (for remote communities). There's a need for logistics technicians, heavy vehicle drivers, port operators, maritime crew, and aviation workers. For example, if new export hubs like the upgraded Port of Darwin or Weipa (for bauxite) expand, they'll require trained stevedores, crane operators, and marine pilots. As exports increase, weak links like the shortage of truck drivers become a limiting factor. (Australia currently faces an estimated shortfall of over 5,000 truck drivers, affecting regional freight.)

- **Manufacturing for Export**

  If Australia succeeds in developing manufacturing sectors like battery components, or processed foods, a skilled trades workforce is essential: welders, boilermakers, machinists, electrical fitters, and quality controllers. These fields have seen apprenticeship numbers decline as manufacturing contracted. Reviving them is vital to diversify exports beyond raw materials.

- **Services and Tourism Exports**

  Northern Australia's unique natural and cultural heritage serves as an *"export"* through tourism experiences for international visitors. Developing this sector involves training more tour guides, especially Indigenous guides, hospitality workers, and event managers. Language skills are also valuable for accommodating Asian and European tourists, so incorporating language training into hospitality courses can be helpful. Another expanding export service is education, attracting international students to northern universities or training centres. This requires qualified educators and support staff, along with ensuring our training facilities in the north meet global standards.

Strategic Workforce Response:

- **Strengthen Agri-Food Traineeships**

  Historically, apprenticeships in farming have been less common because agriculture relies more on informal on-the-job learning. We should expand the use of traineeships in agriculture and food processing. For example, a Certificate III in Agriculture (station hand) traineeship program in the NT cattle industry could systematically train young Indigenous stockmen and women in modern pastoral skills such as handling, machinery, and data recording. Similarly, revitalising meat processing apprenticeships, like butcher/boner and maintenance fitter roles in abattoirs, will support the beef export sector. The Government's National Agricultural Workforce Strategy recommendations, such as increasing school-based ag training and promoting careers in agribusiness, align well with MEGT's outreach approach. We can contribute to these efforts by placing trainees on farms through group training schemes; some pilot programs like this already exist, for example in the sugar industry.

- **Logistics Sector Partnerships**

  Tackle driver and logistics shortages by collaborating with the freight industry to develop more driver training pathways, such as a structured truck driver apprenticeship that includes vehicle maintenance skills and logistics certifications. Also, upskill existing workers for port and airport operations. The Northern Australia Infrastructure Facility (NAIF) is funding significant infrastructure projects; some of that could be allocated for training people to operate and maintain this infrastructure, like port gantry crane operators, who typically need a license and months of training. By engaging with port authorities and logistics companies, we can forecast future needs, for example, the number of new multi-combination road train drivers required if an export mine opens, and plan training programs early. The Commonwealth might also consider a logistics apprenticeship incentive for northern regions to attract more entrants into this sector, which often faces an aging workforce.

- **Cross-Sector Skill Transfer**

  Many skills in one export industry can be transferred to another. A boilermaker who worked on mining equipment could join a new manufacturing plant; a chef in a mining camp could move to a high-end tourism lodge with some extra training in cuisine. Therefore, developing a skilled workforce in one area increases overall flexibility. We should highlight portable skills: ensure qualifications like Certificates in Engineering (fabrication, mechanical) are standardised and recognised across industries. Additionally, short courses to *"convert"* skills can be beneficial – for example, a construction plant operator could do a short course in port operations to become a crane driver at a port. Governments can fund such cross-training programs during industry transitions or seasonal downturns.

- **Entrepreneurship and Business Skills**

  Developing export industries isn't just about frontline workers – it's also about building capable local businesses that can compete internationally. There is a workforce development aspect in training potential business owners and managers in commercial skills such as trade rules and marketing. While not traditional *"apprenticeships,"* targeted programs like *"Export Business Incubators"* or management upskilling for SMEs can improve the success of export ventures. MEGT's scope usually covers vocational training, but we can work with organisations like Austrade or local economic development agencies to connect technical training graduates with entrepreneurship programs. For example, a highly skilled tradesperson might eventually start a manufacturing micro-business – if we provide some business education, that person is more likely to succeed and eventually take on apprentices, increasing the workforce.

Outlook

A well-trained workforce can help Australian exporters move up the value chain, which is crucial for long-term economic resilience. If we have pastry chefs, food technologists, and machinery mechanics, we can export finished food products rather than just raw crops. If we have skilled leatherworkers and fashion technicians, we can export high-end crocodile leather goods from the NT, not just raw hides. Essentially, skills enable diversification. Conversely, without investing in people, export industries may remain stuck in the low-value segment or be hampered by inefficiencies. One key point: remote and rural industries currently generate around 80% of Australia's export earnings, yet these regions account for a much smaller share of skilled workers. By addressing this gap, investing in skills proportional to output, significant gains in productivity will follow. Additionally, building a reputation for quality (which underpins export success) is directly linked to workforce expertise – international customers trust Australian products like beef or wine partly because of the skilled husbandry and processing behind them. We should aim to extend that reputation to new products (like *"Australian-made battery cells"* or *"NT-grown tropical fruits"*) by ensuring a highly skilled workforce at every stage of production and logistics. MEGT's national reach and local presence (with offices and staff in regional Queensland, WA, and NT) position us to support this effort by connecting regional employers to government support and sourcing motivated trainees eager to build careers in their local industries.

(d) Supporting the Decommissioning Industry

Overview

The decommissioning industry involves the safe dismantling, removal, and rehabilitation of outdated infrastructure, especially in oil & gas, mining, and potentially obsolete defence facilities. In Northern Australia (and offshore waters), this is set to become a major activity as many installations from the 1970s–90s reach their end-of-life. For instance, offshore oil platforms in the Timor Sea, old mines in the Kimberley, and aging coastal facilities will need decommissioning. This industry can turn environmental and financial liabilities into economic opportunities – provided Australian firms and workers do the work instead of outsourcing overseas. The Centre of Decommissioning Australia (CODA) estimates thousands of jobs could be generated in this sector over the next 20–30 years.

Workforce Needs & Challenges: Decommissioning is inherently multidisciplinary:

- **Trade skills with a twist**

  It needs fitters, welders, electricians, divers, and crane operators, similar to construction but with extra specialised training in hazardous materials handling, heavy lifting, and dismantling techniques. For example, cutting up an offshore platform calls for skilled boilermakers who are proficient in underwater welding and know how to safely segment large structures. Managing legacy issues like asbestos, corrosion, and pressurised equipment adds to the complexity. Not all existing tradespeople possess these niche skills, as decommissioning has not been a large industry here before.

- **Project Management & Engineering**

  Planning a decommissioning project, whether it's plugging a well or demolishing a plant, requires substantial engineering effort. Therefore, we need not only labourers but also project managers, safety specialists, environmental scientists, and engineers with decommissioning expertise. Many of these professionals currently come from overseas or different industries because we haven't developed them internally yet.

- **Stop-Start Demand**

  Decommissioning projects occur when facilities retire, which can be irregular. There might be a surge of work when a group of offshore rigs all reach end-of-life, followed by a quiet period. This can make it difficult to maintain a steady workforce and training pipeline – people may seek more stable construction jobs instead. Smoothing this out, for example by scheduling or grouping projects, would help keep a core workforce employed.

- **Remote/Offshore Nature**

  Much of this work is offshore (e.g., the North-West Shelf, Timor Sea) or in remote onshore locations, meaning it's rotational work that often requires travel to site for weeks at a time. That lifestyle doesn't suit everyone, which narrows the potential workforce pool.

Strategic Workforce Response:

- **Specialised Training Modules**

  Add decommissioning specialisations to existing trade courses. For example, create an elective module in the Certificate III in Engineering (Fabrication) focused on *"Offshore Structure Dismantling,"* covering techniques for cutting large steel members underwater or in situ. Offer short course certifications like Offshore Decom Technician that a qualified tradesperson can undertake to become job-ready for decommissioning. These courses can teach an understanding of plugging oil wells, removing marine growth from structures, safe handling of legacy chemicals, and more. Industry bodies like CODA and the Offshore Network are developing training standards; government support to fast-track these and incorporate them into the VET system would be wise. We could also send selected Australian apprentices or young engineers for secondments in regions with established decom industries (North Sea, Gulf of Mexico) to learn best practices, effectively *"training the trainers"* when they return.

- **Redeploy Skilled Workers from Closing Operations**

  There is an opportunity to move workers from shutting production sites into decommissioning roles. For example, when offshore oil fields cease production, the crew who maintained them could be upskilled to help dismantle the facilities (they possess site-specific knowledge that is extremely valuable). Companies and governments should work together to train these workers in decommissioning techniques well before shutdown. A successful case is in the UK North Sea, where operators retrained platform staff for the decommissioning phase. Likewise, coal plant workers in Queensland could be retrained to dismantle their plant or rehabilitate the site. Governments might fund a dedicated program for *"transitioning fossil fuel workers to decommissioning specialists,"* helping to keep these workers in the energy sector instead of losing them.

- **Apprenticeships in Demolition and Remediation**

  Although much of decommissioning relies on existing trades, we should consider developing new apprenticeship pathways that combine diverse skill sets. For instance, a *"Heavy Industrial Demolition Technician"* apprenticeship could integrate rigging, welding, and environmental remediation. This would create a workforce capable of handling a range of decommissioning tasks. Trainees might start with simpler onshore demolitions, such as old warehouses or pipelines, and progress to more complex offshore projects. Given the long-term nature of decommissioning (with some projects extending to 2050 and beyond), training new entrants specifically for this sector remains a strategic move to build capacity. The investment now will pay dividends when the wave of major offshore removals begins in the 2030s.

- **Leverage Defence Force Experience**

  Interestingly, the defence industry has some relevant skills – navy clearance divers, for example, have experience cutting and recovering objects underwater; army engineers do demolition (albeit explosive) and site clearance. As certain ADF personnel retire or leave, they could be recruited into the decommissioning industry. Creating recognition pathways for ex-Defence personnel (granting credit for their military training towards civilian qualifications) will ease this transition. Some defence contractors might also diversify into decommissioning (especially for things like old radar sites, or even ship recycling), and they will bring their workforce along.

- **Ensure a Steady Work Pipeline**

  Workforce retention in decom requires a reasonably stable pipeline of projects. While outside the direct scope of training, it's worth noting that policy can assist here – for example, by scheduling decommissioning projects more evenly (perhaps even mandating timelines for companies to decommission redundant assets promptly rather than deferring for decades). If companies know they must proceed with decommissioning within, say, 5 years of shutdown, they will invest in maintaining a workforce or contracting local decom firms, who will then hire apprentices and train staff. The government could also support interim uses to fill gaps – like utilising idle rigs for training simulations or reef creation while waiting for final removal, keeping some of the workforce engaged. MEGT can help by being flexible with apprentices – if an apprentice's host project ends, we can rotate them to another company (perhaps maintenance at an operating facility) until the next decom project begins, ensuring continuity of their training.

Outlook

If Australia develops a domestic decommissioning industry, it will essentially create a new export service sector — expertise that we can potentially sell across the Asia-Pacific, as many neighbouring countries will face similar tasks in the future. However, time is critical: the case of the Northern Endeavour FPSO serves as a warning, showing that a lack of local capability meant a massive vessel had to be sent overseas for scrapping at a high cost. Conversely, if we train our workforce now, the next Northern Endeavour could be dismantled here, creating jobs for hundreds of Australians in the process. To do that, those workers need to be already skilled when the job begins. Therefore, proactive training (starting now) is essential, considering the lead times required for developing expertise.

From a job's perspective, CODA's analysis suggests decommissioning could support thousands of jobs each year by the mid-2030s as multiple offshore fields retire simultaneously. These are skilled, well-paid roles that can replace jobs lost in fossil fuel extraction. Many are also regionally based, such as in Darwin, Broome, or Townsville, especially if those ports are used as decommissioning bases. This helps diversify regional economies.

MEGT's potential contribution is to facilitate agile training arrangements. Given the episodic nature, we can employ apprentices and shuttle them to work sites, ensuring they complete their trade even if projects start and stop. In effect, we become the stable backbone employer for workers in a project-based industry. This model was used in construction before and suits decom as well. The support ecosystem (incentives, mentoring) we discussed earlier is especially vital here because, when an apprentice's work site is 300 km offshore on a rotating schedule, they'll need strong support to complete their modules and stay connected to training. Our experience with placing apprentices on offshore LNG facilities has shown that, with extra coordination, it can be done successfully.

In conclusion, the decommissioning industry can transform Australia's aging industrial heritage into a source of jobs and innovation rather than an environmental burden. However, it requires foresight in skills development, specifically training for jobs that don't yet fully exist but definitely will. This highlights the importance of a flexible, supported apprenticeship system: we are preparing people for an emerging industry, not just responding to current demands.

(e) Supporting the Defence Industry

Overview

Australia's defence industry is experiencing a substantial expansion, with increased emphasis on northern Australia as a strategic frontier. Initiatives include upgrading defence infrastructure (such as base upgrades, new training areas, and a planned regional maintenance centre for naval vessels in Darwin), domestic manufacturing of defence equipment (for example, components for AUKUS submarines, armoured vehicles, and missiles under the Guided Weapons program), and expanding the defence workforce (more soldiers, sailors, and air personnel stationed in the north). All of these developments require a proportional increase in the skilled civilian workforce that designs, builds, and maintains defence capabilities.

Workforce Needs & Challenges:

- **Construction and Infrastructure**

  The Defence Estate in the north (from WA's naval bases to NT's airfields to QLD's army barracks) is preparing for a construction boom. This will need construction managers, civil engineers, electricians, plumbers, carpenters, plant operators, and more. Many of these projects are in remote or tropical areas with logistical challenges. Ensuring a steady stream of defence-cleared tradespeople is crucial – many projects require workers who can meet security clearance or citizenship criteria, which can reduce the available labour pool compared to commercial projects.

- **Advanced Manufacturing and Sustainment**

  If Australia is to expand local manufacturing of defence tech, such as ships, vehicles, and potentially explosives or missiles, it will require specialised skills. South Australia and Victoria have a foundation in shipbuilding and aerospace, but northern Australia has a less developed defence industry, apart from maintenance. Essential skills include boilermakers and welders with defence-grade qualifications (e.g., high-spec welding for ship hulls), avionics technicians (for military aircraft maintenance at bases like Tindal or Townsville), and electronics/electrical technicians (for radars, communications, and weapons systems). The defence industry also relies heavily on systems integration and ICT, so expanding the STEM workforce—technicians capable of managing autonomous vehicles or cyber defence—is crucial.

- **Ex-Service Transitions**

  The defence industry often recruits ex-military personnel for roles in training, maintenance, and advisory. Supporting a smooth transition of ADF members into civilian trades or engineering positions is essential to increase industry capacity. These individuals possess discipline and relevant skills but may lack formal qualifications or need updates on civilian technologies.

- **Security and Clearance**

  A key aspect is that many defence industry roles require security clearances. This means entrants to the workforce often need to be Australian citizens with clean background checks. It limits the use of migrant labour that other sectors might rely on during shortages. We essentially have to *"grow our own"* workforce more in defence than in some other industries.

Strategic Workforce Response:

- **Defence Trade Apprenticeships**

  Defence and its prime contractors have specific apprenticeship programs, such as shipbuilding apprenticeships in Osborne, SA. We should replicate and expand these in the north. Consider establishing a *"Defence Trades Academy"* in the NT or North QLD, a dedicated training centre focusing on skills for defence projects (heavy vehicle mechanics for the army, avionics for RAAF, marine mechanics for the navy, weapons, and ordnance technicians, etc.). This could be a partnership between Defence, TAFEs, and companies like Thales, BAE, Raytheon, and others. Apprentices might undertake rotations on base and within industry, similar to the Defence Industry Pathways Program piloted in WA's naval sector. In fact, it would be wise to scale that program nationally (it's been funded with $12m to expand to SA) to include northern Australia. A cohort of multi-disciplinary defence industry trainees could be trained each year to support local projects.

- **Fast-Track Pathways for Veterans**

  Establish formal routes for ADF personnel transitioning to apprenticeships or traineeships in the defence industry. For example, a weapons technician leaving RAAF could enter directly into the second year of an electronics apprenticeship with credit for their military training. Similarly, an Army vehicle mechanic could progress straight into a Certificate IV or supervisor-level training, with some gap training on civilian vehicle systems. These pathways should be communicated clearly to ADF members well before they discharge, through Defence's Career Transition Assistance Program, and might also be incentivised (the government could fund the first year of training or offer relocation assistance if they move to a city for training). This approach benefits the individual and helps retain skills within the defence ecosystem.

- **Collaboration with Defence for Training Facilities**

  Many Australian military bases boast excellent training facilities and experienced technicians, such as workshops at bases or the RAAF's technical training school. There is potential for shared use of these facilities and instructors, possibly allowing some defence-led training to be accessible to civilian apprentices, particularly those expected to work on defence contracts. For instance, Naval Base Darwin could run a welding training program open to apprentices from nearby ship repair firms, led by an experienced Navy welder and aligned with defence standards. Similarly, the Army's school of electrical and mechanical engineers could conduct joint classes with civilian apprentices aiming for roles in defence supply chains. This approach promotes standardisation of skills and fosters a *"one team"* mentality between Defence and industry.

- **Address Clearance Requirements through Early Vetting**

  One frustration contractors face is discovering late that an apprentice or recruit fails security clearance. We can address this by integrating security vetting early in the recruitment or training process. For example, apprentices slated for sensitive defence projects can undergo baseline clearance during their first year (with their consent), so that by their third year and when they are ready to work on classified aspects, any issues are resolved. Supporting apprentices to meet these requirements (e.g., advising them on managing social media presence or finances to avoid red flags) is a niche but vital aspect of retention in defence industry pathways.

- **Localised Initiatives**

  Northern Australia has specific needs, such as maintaining the US Force presence in Darwin with marines or operating patrol boats in the Torres Strait. Training local workforces for these roles (for example, Indigenous marine mechanics from the Tiwi Islands who can service patrol vessels) delivers community benefits and boosts operational resilience. A good example is the North Australia Marine Training Centre in Darwin, which trains locals in maritime industries; similar targeted programs for, say, missile assembly technicians, especially with plans for guided weapon assembly in Queensland, could be initiated now in anticipation of new facilities being constructed.

Outlook

The defence industry typically works on long timelines – the people we train now will be the experienced leaders when Australia's new submarines are in service in the 2030s and 2040s. Therefore, workforce planning must be bold and forward-thinking. By investing in training and apprenticeships connected to defence, we also secure the sovereignty of our capability – there's bipartisan agreement that sovereign capability relies on Australians who can build and repair our defence equipment. The government's plan to allocate 2%+ of GDP to defence for the foreseeable future ensures a steady stream of work; the workforce can be confident that skills in this sector will lead to secure, well-paid jobs. We just need to ensure there are enough of them and that they aren't all concentrated in one or two cities.

From a regional standpoint, a strong defence industry workforce in the north also supports economic diversification. Defence bases and contracts serve as key employers in many northern towns. For example, if we boost the number of skilled tradespeople around Townsville, they could cater to defence needs but also assist with disaster recovery efforts or civilian projects, and vice versa. This enhances the overall skill level and capacity of the regional workforce.

MEGT is already involved through programs like the Defence Industry Pathways in WA, where hundreds of trainees have secured roles in the naval industry with our support. We aim to bring that experience north, fostering partnerships between training providers and defence companies, and ensuring young Australians interested in defence tech careers receive the opportunities and support they need, including security clearance guidance, as noted. We also focus on inclusion – encouraging more women to enter defence trades, and more Indigenous Australians (many of whom have extensive and proud military histories) to join the defence industry workforce as civilians. This aligns with Defence's diversity goals and helps expand the talent pool.

(f) Supporting Infrastructure

Overview

Infrastructure forms the backbone that supports all other industries and community growth. In Northern Australia, infrastructure needs are extensive – covering transport (roads, rail, ports, airports), utilities (power, water, communications), and social infrastructure (housing, health, and education facilities). The government's northern Australia agenda involves significant infrastructure investments (the NAIF's $3.9B in projects and state/territory programs). A skilled infrastructure workforce is essential to build and sustain these assets.

Workforce Needs & Challenges:

- **Construction Workforce Shortage**

  Across Australia, there's a national shortage in the construction trades, with the impact felt most keenly in the north, where attracting large crews is challenging. The skills in demand include civil engineers, project managers, surveyors, and trades such as carpentry, formwork, concreting, steel fixing, and plant operation. Remote projects often experience higher turnover due to tough working conditions and increased costs because of labour shortages. For instance, upgrading a 200 km stretch of remote highway might be delayed because there aren't enough grader operators or bridge carpenters willing or able to work in that area.

- **Maintenance and Operations**

  After constructing infrastructure, ongoing maintenance depends on local technicians. Frequently, infrastructure in the north fails prematurely (e.g., road damage, water plant issues) because maintenance is reactive and underfunded. We need more maintenance electricians, linemen, water plant operators, telecom technicians, heavy equipment mechanics, and others based in the regions where the infrastructure is located. Without these personnel, assets may not achieve their intended outcomes (e.g., a remote power station could experience outages if there's no local electrician).

- **Infrastructure for Remote Communities**

  A specific focus is on the smaller-scale infrastructure within remote Indigenous communities – such as community roads, airstrips, barge landings (mentioned in the inquiry), housing, and essential services. Historically, external contractors fly in to repair these intermittently. Training local community members in skills to maintain and operate this infrastructure (for instance, training local people as road builders, electricians, plumbers, plant drivers) would both generate jobs and enhance infrastructure reliability.

- **Climate and Geographic Challenges**

  Building in the tropics and outback requires skills in cyclone-resistant construction, flood management, and similar areas. There is a need for climate-adapted engineering expertise. Additionally, distance means workers must be more self-reliant – a mechanic on a remote job site might have to repair a variety of equipment with limited spares. Versatility is crucial.

Strategic Workforce Response:

- **Regional Training Hubs**

  To enhance local infrastructure skills, establish Regional Infrastructure Skills Hubs in key northern centres such as Broome, Darwin, Townsville, Cairns, and Alice Springs. Each hub should tailor its focus to the main needs of its region, like port and marine construction in Broome, roads, and housing in Alice Springs, and so on. These hubs should be well-funded TAFE or public training campuses, potentially co-located with major project sites for hands-on experience. They can also collaborate with NAIF projects: when NAIF funds a road or solar farm, conditions could require that apprentices from the local hub be involved in the project. This approach links infrastructure investment with workforce development.

- **Boost Civil Construction Apprenticeships**

  Traditionally, civil construction (roads, bridges, earthworks) hasn't used apprenticeships as extensively as building construction. We should expand traineeships in civil plant operations, bridge construction, and civil construction supervision. The existing Certificate III in Civil Construction (which can include streams like Road Construction, Pipe Laying, etc.) should be promoted and scaled up in the north. Large engineering firms and contractors should be incentivised to take on trainees as they carry out government contracts. For instance, every major road contract could have a requirement or at least encouragement to include a certain number of local trainees, with clients (government) helping to facilitate the training. This not only produces workers for that project but also leaves them skilled for future works in the region.

- **Infrastructure Maintenance Corps**

  Inspired by the old Community Development Employment Projects (CDEP) but with formal training, this could employ local Indigenous youths as apprentices or trainees in maintaining airstrips, water systems, housing, barges, and more. They would rotate through training in various trades needed for community infrastructure. Some could achieve full trades qualifications; others might gain multi-skilling to a semi-skilled level adequate for routine upkeep. The government could partner with Indigenous councils and organisations to run this, utilising a combination of funding from employment programs and infrastructure budgets. This directly addresses item (i) from the terms (barge landings and marine access) – by training local teams to maintain those facilities, we ensure sustainability.

- **Mobility and Fly-In Trade Support**

  Recognising that not all communities can have every specialist, a regional approach is vital where mobile teams (with apprentices tagging along to learn) service multiple communities. For example, an electrical maintenance team based in Darwin could regularly charter to island communities to fix power issues, while also training a few locals each trip. Over time, those locals become qualified, reducing the need for fly-in help. Investment in such *"mobile apprenticeship schemes,"* where apprentices travel with experienced tradespeople to conduct infrastructure maintenance circuits, could be an innovative way to cover large areas. It provides apprentices with exposure to diverse situations and helps spread skills. Some NA communities have already shown interest in this model, essentially forming regional trade pools.

- **Align with Climate Resilience**

  Ensure that the workforce is trained in climate-resilient construction and maintenance techniques. This could involve new course content on flood-resistant road design, cyclone-proof building methods, or emerging technology like using drones for infrastructure inspection over long distances. By upskilling the existing construction workforce with these skills (through short courses, CPD, or incorporating modules into apprenticeships), we can develop better infrastructure that endures longer in northern environments. A practical step: include a unit on *"remote and climate resilient works"* in the Certificate IV in Civil Supervision or relevant qualifications. This is somewhat related to workforce numbers, but it enhances the effectiveness of those we train.

- **Encourage Staying and Building Careers in the North**

  One reality is that many apprentices from the south might be temporarily attracted to high-paying northern projects, but they tend to leave after finishing. We want to develop local career paths, so skills stay in the region. Providing retention incentives (like a bonus for apprentices who remain working in the region 2 years after qualification) or pathways to higher qualifications (so they have reasons to stay and progress) can help. Additionally, improving liveability – making sure those workers have decent housing, services, and facilities for families – is essential and somewhat interconnected, as it depends on infrastructure.

Outlook

Investment in infrastructure delivers a double benefit when it also enhances human capital. Northern Australia's infrastructure development can serve as a foundation for training the next generation of skilled workers in those regions. Economically, this means more of the money spent on infrastructure stays within local communities (through wages paid to local workers), rather than leaking to fly-in crews who spend their earnings elsewhere. It also creates a self-sustaining maintenance ecosystem, which lowers long-term costs and minimises emergencies. For instance, if a remote water plant operator is locally trained and employed, they can address issues early, preventing costly fly-in emergency repairs or health crises.

From a strategic perspective, strong infrastructure, and the capacity to maintain it are vital for Northern Australia's development – as highlighted in numerous reports. Workforce shortages should not prevent a funded project from being completed on time. By acting now to train and attract workers, we reduce that risk.

MEGT's role can include collaborating with construction consortia to enhance Australian Apprenticeship support. We can assist in managing the logistics of apprentices on remote projects (utilising our group training capabilities to host them if necessary and rotate them among contractors). We can also customise mentoring to suit conditions – for example, mentoring apprentices via satellite phone or flying mentors to remote sites periodically. We've done similar work for apprentices on distant mines; it is feasible with dedication.

In summary, supporting infrastructure is just as much about backing the people who build and care for it. Northern Australia's ambitious infrastructure expansion can only happen with a parallel growth in its skilled workforce. With careful policy (as discussed under (g)) and targeted programs like those above, we can ensure the dozers, drills, and cranes of Northern Australia are operated by a well-trained, mostly local workforce, now and into the future.

(h) Training, attracting and retaining a skilled workforce

MEGT's Perspective

Term (h) – Training, attracting, and retaining a skilled workforce is the cornerstone of all industry-specific goals. From MEGT's perspective as Australia's largest apprenticeship network provider, building a strong workforce pipeline depends on crucial elements. By strengthening these areas, we can attract more people into training, support them in completing it, and ensure the industry receives the skilled talent it needs.

1. Increase Financial Incentives for Employers

A consistent finding is that employer incentives are effective, they directly influence apprenticeship commencements. MEGT's Productivity Prospectus shows how previous incentive enhancements increased training participation. As shortages become more severe, we recommend significantly increasing financial support for employers, especially SMEs and those in priority industries or regions.

- **Wage subsidies**

  Continue and expand programs like the Boosting Apprenticeship Commencements wage subsidy, which proved successful during COVID and covers 50% of first-year wages. Even the current Incentive System, which provides 10% of first-year wages for trades, could be boosted for critical trades or smaller employers, such as increasing to 15–20% for micro-businesses in construction or for any employer in remote areas. This helps bridge the initial productivity cost gap. When surveyed, small contractors often say, *"I run a small business; apprentices are time-consuming. I don't have time to teach; I need qualified people."* Subsidies can offset the dip in productivity, effectively compensating employers for the time they invest in training.

- **Hiring and Completion Bonuses**

. Reintroduce hiring grants for taking on a new apprentice, especially if it is a business's first apprentice or their first in some time, along with substantial completion bonuses to encourage completing the training. The Government's recent announcement to continue and expand employer incentives for priority apprentices from July 2025 including up to $5,000 in the first year for priority occupations and additional support for clean energy and housing construction apprentices - is a positive step.

  We propose going further: for example, a $4,000 commencement bonus for first-time apprenticeship employers in regional areas, or an additional $2,000 payment to employers for apprentices retained into the third year. These amounts are modest compared to overall project values, but they serve as a nudge for hesitant businesses to give a young worker a chance. Notably, during 2021–22, when wage subsidies and hiring bonuses were temporarily high, small businesses' share of apprenticeship commencements increased, showing sensitivity to these incentives.

- **Targeted Incentives for Key Sectors**

  Align incentives with strategic industries. For example, establish a *"Clean Energy Apprenticeship Bonus"* for employers in renewable energy to help solar and wind firms expand their installation teams, or introduce a *"Defence Trades Incentive"* for companies in the defence supply chain to take on additional apprentices, possibly linked to local content requirements on defence projects. This approach ensures that incentive funds directly benefit sectors of national importance. It also signals to the market that careers in these sectors are thriving, encouraging more people to enter.

- **Return on Investment**

  These incentives are not simply handouts; they are smart investments. Deloitte Access Economics modelling (2025) estimates that increasing apprenticeship completions by 320,000 over the next decade, driven by policy incentives for higher starts and completions could boost the economy by $14.4 billion and increase incomes for Australians by $11.8 billion. This represents about a 5:1 return on public expenditure. Moreover, incentives that expand the skilled labour pool can help prevent wage inflation in overheated sectors, benefiting project budgets. What might cost a few billion in subsidies could generate tens of billions in GDP by easing the skills-shortage chokepoint.

2. Improve Financial Support and Conditions for Apprentices

On the other side of the equation, we must make apprenticeships more attractive to individuals, particularly compared to other employment or education options. Capable young people shy away from trades because of low starting pay or the costs associated with training. Key steps include:

- **Increase Base Apprentice Wages**

  Apprentices in trades like construction or electrical often start on around 40% of a qualified worker's wage. That can be under $20,000 per year for a first year, barely above the poverty line. The Prospectus highlights that by the fourth year, an electrical apprentice earns four times the income of someone on Youth Allowance, but in the early years, the gap is much smaller (only about 2.5 times Youth Allowance in Year 1). We recommend that the Government consider mechanisms to supplement apprentice wages in the early years, especially for adults by using the tax system (e.g., an apprentice tax credit or negative income tax for low-earning apprentices) or through direct stipends. The goal is to ensure no apprentice must quit because they cannot afford the bills. The Electrical Trades Union has reported that apprentices juggle a second job or excessive overtime to meet basic living expenses, which can affect safety and learning. A modest boost in take-home pay (coupled with financial literacy coaching so they manage money well) would improve completions.

- **Trade Support Loans/Grants**

  The Trade Support Loan program (up to ~$21k over 4 years, with 20% forgiven at the end) is a valuable tool, but it puts apprentices in debt. Converting more of this support into grants or bursaries could ease financial pressure. For instance, the Government could offer a *"Cost of Living Scholarship"* for apprentices in specific trades, say $5,000 a year (mean assessed) for the first two years to assist those without other forms of support.

  Apprentices are young adults living away from home; targeted assistance with housing or transport can significantly improve their ability to remain in training. As one apprentice in recent MEGT research said, *"A liveable wage would assist me to thrive in my apprenticeship. The only way I'm existing is through my savings."* We need to ensure that apprentices with no savings or family safety net can still succeed.

- **Remove Cost Barriers**

  Reinstate direct support for out-of-pocket training costs. Grants for tools and equipment should be available across all industries, the previous federal Tools for Your Trade program (which offered grants of $800–$1,000 for work gear) was highly valued, and its discontinuation created a gap. Likewise, ensure sufficient travel and accommodation allowances so that apprentices from remote areas can attend off-site training. States like Queensland provide allowances, but additional national top-ups could ensure consistency. An apprentice from a remote community should not have to quit because paying for a flight or a week's hotel to attend trade school is unfeasible. These costs are minor compared to project expenses but can be decisive for an apprentice's participation.

- **Reward Completions for Apprentices**

  Just as we incentivise employers, consider offering completion incentives for apprentices themselves. For example, a $3,000 bonus upon receiving their Certificate III could motivate apprentices to stay the course (some employers already pay their own *"qualifying bonus"*; a government co-contribution could expand this practice). This also provides apprentices with a milestone to aim for and capital to start their post-qualification life (e.g., to buy a vehicle or tools to become a contractor). The new policy, which gives priority to apprentices through an extra $2,000 payment distributed during their training, recognises this principle. Securing such support (and potentially increasing it for critical occupations) will reinforce the message that completing your apprenticeship is worthwhile.

- **Promote Apprenticeship Pathways**

  A lingering perception issue remains: young people and parents underestimate the career and earning potential of trades. However, data shows that qualified tradespeople often earn more by age 25 than university graduates, with significantly less student debt. We should highlight success stories and non-traditional pathways (e.g., part-time apprenticeships for those with family commitments or higher apprenticeships leading into para-professional roles). By making apprenticeships a first-choice option rather than a *"fallback,"* we can expand the talent pool and attract more motivated entrants, thereby improving outcomes. MEGT supports initiatives like the National Careers Institute's campaigns and increased VET promotion in schools, as mentioned in the Prospectus's recommendations.

3. Strengthen Mentoring, Pastoral Care & Completion Support

Human support is essential for apprentice retention and success. As highlighted, unsupportive workplaces and inadequate training are major causes of attrition. MEGT's experience, supported by an EY social impact study, shows that providing mentors and targeted support significantly increases completion rates and improves apprentice wellbeing. We recommend:

- **Fully Funded Mentoring for All At-Risk Apprentices**

  The Australian Apprenticeship Support Services (AASS) model introduced in mid-2024, which MEGT delivers, adopts a risk-based approach, providing intensive mentoring to those who need it most. We support maintaining and expanding this approach. Every apprentice (and/or their employer) should be aware that an experienced mentor is available to assist if any issues arise. For high-risk groups (teenagers in their first full-time job, Indigenous apprentices in remote areas, women entering male-dominated trades, etc.), initiative-taking regular contact from a mentor is essential. For example, an Indigenous apprentice in a mining traineeship might be paired with an Indigenous mentor from day one, who visits them on site and offers culturally aware guidance. The mentor can also advise the employer on cultural matters or communication styles. These programs have proven highly effective, MEGT's Indigenous mentoring has helped over 50,000 First Nations apprentices and trainees successfully complete their training. The Government should ensure ongoing funding of these tailored services (through ACAPs or specialised providers) as a fundamental part of the training system, not just an optional extra.

- **Scale Up Pre-Apprenticeship and Gateway Programs**

  Not every school-leaver is job-ready on day one. MEGT's (now completed) Gateway services and other pre-apprenticeship programs help screen and prepare candidates, enhancing the quality of matches and setting realistic expectations. Expanding these initiatives could reduce the number of mismatched apprenticeships that end in quick cancellations. For example, a pre-apprenticeship in engineering trades for students in the Pilbara could give them a taste of various trades, such as electrical, mechanical, and fabrication, and then guide them into apprenticeships with mining companies armed with basic skills and a clear understanding of the work. Likewise, more thorough aptitude testing and career counselling can direct people into suitable roles. Someone with high spatial skills might excel as an electrician but struggle as a hairdresser. The EY evaluation credited MEGT's Gateway program with preventing costly *"false starts"* for employers. By improving candidate fit and motivation, we address the root causes of dropouts.

- **Ongoing Engagement and Early Support**

  Mentors should prioritise early intervention, the first year of an apprenticeship is when most dropout occurs. A structured timetable, such as check-ins at 1, 3, and 6 months, and additional check-ins if red flags appear (such as absences or employer feedback on difficulties), can address issues before they worsen. Even something as simple as mediating a conversation between an impatient supervisor and a struggling apprentice can preserve the training relationship. MEGT's mentors often perform this role, acting as impartial intermediaries. The benefit is clear in employer feedback: employers reported that having an AASS consultant/mentor available made problem resolution easier and helped keep the apprentice on track. Formalising this process could further reduce unnecessary cancellations.

- **Peer Support and Community**

  Promote the development of support networks among apprentices. For example, group mentoring sessions or organised meetups for apprentices in a region or industry can help them share experiences and coping strategies. Apprentices often feel isolated, especially if they are the only apprentice in a small company or one of few women on a job site. Building a sense of community through online forums, group events, or participation in programs like WorldSkills competitions can strengthen resilience. State governments and industry groups can collaborate with ACAPs to host *"apprentice forums"* where mentors and mental health professionals offer workshops on topics such as work-life balance and managing workplace conflict. A little investment here results in more confident, connected apprentices who are more likely to stay the course.

- **Focus on Quality Training and Supervision**

  The other side of supporting apprentices is helping employers create a good training environment. Many cancellations work at worksites that are not prepared to train, the apprentice ends up just sweeping floors or thrown into the deep end without guidance. Building an intense training culture within companies is essential. Achieved by requiring solid training plans and doing regular check-ins or audits of on-the-job learning, especially for smaller or first-time host employers. It might also involve training supervisor, teaching journeymen tradespeople how to coach and mentor their apprentices effectively. Larger companies and group training schemes often do this well; we need to spread that expertise to all workplaces. When an apprentice feels valued and sees evident progress in their skills, their commitment and resilience grow. MEGT recommends exploring an accreditation or recognition program for *"Apprentice Friendly Employers"* that meet standards of support; this could motivate businesses to adopt best practices.

In quantitative terms, these support measures have significant benefits. The SROI forecast noted that MEGT's mentoring and gateway services would generate about $199.5 million in social value over five years, through higher completion rates and productivity. Specifically, it estimated $5.2 million in savings for employers by avoiding rehiring costs due to prevented dropouts, and apprentices themselves gaining tens of millions in extra earnings by completing qualifications. This results in a benefit-cost ratio of 2.1:1 for apprenticeship and traineeships and 1.67:1 for gateway programs. In simple words, every dollar invested in supporting apprentices returns about two dollars to society through more successful, productive workers. These findings support the Government's recent moves to include dedicated mentoring in the AASS framework and should motivate continued or increased funding for these services in future contracts. The cost of mentoring one apprentice is much less than the expense of that apprentice dropping out and leaving a position unfilled.

4. Simplify the System & Engage More Employers (Especially SMEs and Regional)

To genuinely boost capacity, we must attract more employers and a wider variety of them into the training system. This involves removing barriers that currently discourage businesses from hiring apprentices.

- **One-Stop Information and Support**

  As highlighted, SMEs face challenges with the complexity of apprenticeship processes. Simplifying this is crucial. The Government can expand on digital systems such as the Apprenticeships Data Management System. We envisage a user-friendly online portal where an employer can do everything from signing up a new apprentice to lodging incentive claims and finding a local Registered Training Organisation (RTO), all in one place. This portal should be supported by an omnichannel support service (phone, chat, even in-person via ACAP field consultants) so that busy business owners can get quick answers. Essentially, make navigating apprenticeships as easy as online banking or tax filing,complex behind-the-scenes tasks simplified into a clear list and reminders. Reducing the *"frustration factor"* will encourage more employers to get involved.

- **Group Training and Shared Models**

  Many micro-businesses feel they can't commit to a full 3–4-year apprenticeship. They might have fluctuated work or worry about affording an apprentice during off-peak times. Group Training Organisations (GTOs) offer a solution by employing apprentices and rotating them among host employers. The Government should continue supporting GTOs and incentivise their expansion into fields and regions that are currently underserved. For example, establishing a Renewable Energy Group Training Scheme could allow a solar company, an electrical contractor, and a battery installer in a region to collectively host a pool of electrical apprentices who rotate through each business for different experiences. Similarly, in remote towns where a single employer might not have enough year-round work, a shared apprenticeship model (endorsed by the local industry association or council) could be implemented. By spreading the training responsibility, we make it feasible for more employers to participate, which directly results in more apprenticeship spots. The Government can assist by covering the administrative fees of GTOs for priority trades (effectively subsidising the group training overhead, making it cost-neutral for the host employer compared to a direct indenture).

  To further strengthen inclusion, the Government should support GTOs in developing disability-specific streams under the NDIS. These streams would employ participants and rotate them among host employers, backed by tailored supports and funding. This approach ensures micro-businesses can contribute to inclusive employment without bearing full-time costs, while creating sustainable career pathways for people with disability.

- **Flexible and Modular Training**

  Some employers mention that the training curriculum is inflexible or not tailored to their specific needs. Efforts by Jobs and Skills Councils to update training packages should continue quickly, ensuring that emerging and evolving skills (such as EV maintenance, cyber security in the electronics trades, etc.) are included. Additionally, offering modular or accelerated pathways can attract both employers and mid-career workers to apprenticeships. For example, a defence technician leaving the military could complete an accelerated apprenticeship in a civilian trade, with recognition of their prior skills, providing industry with experienced workers more quickly. On the employer side, allowing part-time apprenticeships or school-based apprenticeships offers businesses more options to get involved. A small business might begin with a school-based apprentice one day a week, then move to a full-time apprenticeship when they see the benefits. The system should support that kind of progression.

- **Reduce Paperwork for Incentives**

  While the new simplified incentive program is an improvement, applying for and claiming grants still involves paperwork that some employers do not complete (meaning they leave money on the table, which diminishes the incentive effect). Auto-enrolment in base incentives (so that once an apprenticeship is registered, standard payments happen without separate forms) would help. Also, aligning state and federal processes, for example, if an employer is eligible for a state payroll tax rebate for hiring an apprentice, which could be integrated into the same portal as federal claims. The easier we make it to access the support, the more SMEs will use it, improving their cost-benefit outlook for training.

- **Encourage New Entrants (First-Time Trainers)**

  To grow the pool of training employers, it's important to focus on converting first-time trainers into active trainers. Many businesses have never employed an apprentice. Targeted outreach can help change that. This might involve a *"Join the Skills Pipeline"* campaign that shows how training an apprentice benefits a business, supported by testimonials from other small employers. Industry associations and chambers of commerce can be engaged to promote apprenticeships as part of a business growth strategy. We also suggest a temporary incentive, such as a *"First Apprentice Bonus"*, for example, an extra $2,000 if an employer who has not had an apprentice in the past 5 years hires one. This helps offset their perceived risk and grabs attention. Additionally, recognition programs, such as awards or publicised case studies, for employers who train new workers can appeal to business owners' sense of community contribution and pride.

- **Place-Based Approaches**

  In regional areas, workforce solutions often need to be tailored to local conditions. We support *"grow your own"* training models, partnerships where local Government, employers, and training providers collaborate on programs to train locals for local jobs. For example, in a coastal community needing maritime engineers (for port operations or barge landings), a custom apprenticeship program could be established with a TAFE delivering part of the training on-site and local marine companies co-funding positions. Such models help keep young people in the community and fill niche roles that generic training might overlook. The Government can seed-fund pilot programs of this kind in Northern Australia, where standard training delivery does not always reach. The result is reduced reliance on FIFO workers and stronger regional economies.

By demystifying and streamlining the apprenticeship system, we aim to unlock the latent demand among Australian employers to train the next generation. Encouragingly, surveys show that 50% of businesses plan to employ apprentices or trainees in the next 12 months to meet skills needs, a proportion that could grow if the perceived barriers are lowered. Similarly, global trends indicate that employers are increasingly willing to upskill and commit to training if they see a clear path to return on investment. Our goal is to make that path as straightforward as possible.

In summary, MEGT's view is that Australia can develop a world class vocational pipeline by focusing on four key areas: incentivising employers, supporting apprentices, mentoring, and retaining them, and simplifying the system for everyone. We have already seen parts of this approach in action.

- When financial incentives spiked, commencements surged.
- When mentoring is provided, completion rates increase (MEGT's completion rates for mentored apprentices significantly exceed the national average, according to internal analysis).
- When bureaucracy is reduced, employers respond (as seen in the uptake of COVID subsidies).
- When underrepresented groups are supported (e.g., Indigenous mentoring and women-in-trades initiatives), their participation increases.

The challenge now is to systematically apply these lessons across all areas and specifically tailor them to each industry's context. The following sections (a–f) explain what this means for each focus area of the inquiry. It is important to note that term (g) – building the skilled workforce supports all of these, and the solutions we have outlined should be seen as foundational infrastructure for each area. Similarly, term (h) empowering First Nations people is a cross-cutting priority intertwined with these strategies, which we discuss separately before the sector analyses.

(i) Empowering and Upskilling First Nations People

Overview

Ensuring that Aboriginal and Torres Strait Islander peoples are at the heart of Northern Australia's emerging industries is not only a matter of fairness and reconciliation but also a practical requirement. Indigenous Australians make up a significant part of the population in many northern regions (for instance, over 25% of the Northern Territory's population) and are stewards of much of the land where development takes place. Empowering First Nations communities through skills development and employment opportunities will mobilise local workforces, reduce welfare reliance in remote areas, and build social licence for projects. Key considerations and strategies include:

- **Culturally Responsive Training and Mentoring**

  First Nations Australians often face additional barriers in vocational training, such as experiences of racism, cultural obligations like sorry business, or needing to leave close-knit communities for training or work. Programs must account for these factors. MEGT has achieved success by employing First Nations mentors who provide one-on-one support to Indigenous apprentices. These mentors understand cultural contexts and can help apprentices navigate challenges while *"staying connected to community and culture."* For example, if an apprentice needs leave to attend cultural ceremonies, a mentor can liaise with the employer to accommodate this and organise make-up training. The mentoring program also involves educating employers, helping workplaces become culturally safe and aware (MEGT's mentors advise employers on communication styles and respecting customs). We recommend expanding dedicated Indigenous apprenticeship mentoring across the country, building on programs like the Indigenous Apprenticeships Program in the Commonwealth and our own services. This support greatly enhances retention: national data show Indigenous apprentices have significantly lower completion rates than non-Indigenous counterparts (by some estimates, 10-15 percentage points less), but with proper mentoring, this gap can be reduced.

- **Pre-employment Programs and School Engagement**

  To empower more First Nations people to enter these industries, earlier intervention is essential. Support vocational pathway programs in schools with high Indigenous enrolments. For example, a school in the Torres Strait could offer a marine mechanics pre-apprenticeship, or schools in Kimberley could run joint programs with TAFEs on construction skills. Additionally, invest in work-readiness programs for Indigenous jobseekers. Many successful models exist (often led by Indigenous organisations in partnership with industry) that provide a few months of basic training, life skills, and exposure to various trades. The minerals industry, for instance, has *"tailored work readiness programs"* in partnership with Indigenous communities. These can be expanded with government support. The goal is to build confidence and foundational skills to then progress into a formal apprenticeship or traineeship. It's encouraging that in mining, Indigenous apprenticeship commencements rose 14% in 2022; we should scale up what's working there across other sectors.

- **Local Delivery and Mobility Support**

  One reason Indigenous participation is low is the tyranny of distance – many live in remote areas far from training centres. Bringing training to communities (mobile trade training units, on-country delivery) and/or supporting mobility is therefore crucial. The new federal Remote Apprenticeship Pilot (if implemented) and existing state programmes should be refined and made permanent. This could involve funding RTOs to deliver block training in remote communities (flying trainers out rather than apprentices in), setting up regional training hubs (as the NT has done with its Darwin-based facilities, but more distributed), or providing relocation scholarships for those who do have to travel. The Commonwealth's removal of previous relocation assistance cuts is a positive sign. Additionally, hostels or supported accommodation for Indigenous apprentices in major training towns can provide a culturally safe *"home away from home"* during off-the-job training periods. Some models exist (e.g. NANA Australia's Trade Training Centre concept) and scaling them would remove a big deterrent for remote apprentices.

- **Partnerships with Indigenous Organisations**

  Governments and industry should actively involve Indigenous-controlled organisations in workforce initiatives. Many Indigenous communities have Land Councils, Prescribed Body Corporates, or local enterprises eager to create employment pathways for their youth. Collaborating with them to develop training that aligns with community aspirations leads to better outcomes. For example, the Yarrabah Aboriginal community in Queensland partnered to create a local construction traineeship program to build housing in their community – training and employment go hand in hand. Another example: ranger programs (through the Indigenous Protected Areas initiative) have trained hundreds of Indigenous rangers in land and sea management; these rangers could upskill into roles in environmental monitoring for mining or biosecurity for agriculture, with additional VET training layered onto their experience. MEGT has formal partnerships in some regions with Indigenous organisations to co-deliver services, ensuring our approach is guided by Indigenous voices. We would continue and deepen such collaborations.

- **Career Progression and Entrepreneurship**

  Empowerment extends beyond entry-level jobs. We should support the advancement of First Nations workers into higher-skilled and leadership roles. This involves backing further training, such as apprentices moving into post-trade certificates, diplomas, or even university studies, and providing leadership development. Some mining companies run Indigenous leadership programs – these could be expanded with government incentives, such as tax offsets for companies that demonstrably promote Indigenous staff. Additionally, Indigenous-owned businesses should be encouraged to participate in these emerging industries' supply chains. For example, in decommissioning, Indigenous contractors could be trained in remediation work; in infrastructure, Indigenous construction firms could be supported through procurement targets. MEGT helps Indigenous entrepreneurs navigate taking on apprentices by providing additional support to Indigenous-owned host businesses in our network. Ultimately, having Indigenous people as not only workers but also decision-makers and business owners in these sectors represents the highest form of empowerment and ensures lasting economic benefits for communities.

The Northern Australia Indigenous Reference Group (IRG) has highlighted that *"advancing First Nations outcomes is vital to the success of the northern Australia agenda."* In practical terms, this means every initiative under items (a)–(f) should include a First Nations participation component.

- Renewable energy projects (a) should incorporate Indigenous employment targets and training programs (e.g., training Indigenous solar installation teams in remote communities to maintain local microgrids).
- Critical minerals projects (b) should come with Indigenous employment strategies and agreements that fund training centres in host communities.
- Export industry development (c) in the north must involve Indigenous agribusiness and tourism operators – building their capacity through traineeships in agriculture, hospitality, etc.
- Decommissioning (d) offers opportunities for Indigenous rangers and communities to lead environmental rehabilitation efforts on country, if given the specialised training.
- Defence (e) can draw on the strong service tradition in some Indigenous communities – recruiting and training Indigenous youth into defence trades and base support jobs near their regions.
- Infrastructure (f) projects (roads, ports) that traverse Indigenous land should partner with Traditional Owners to hire and train local workers for construction and maintenance.

By integrating these approaches, we address both the moral duty of inclusive growth and the practical need to expand the labour force. There are positive signs: the mining apprentice data shows progress, and several major companies now have Reconciliation Action Plans focused on training. However, more must be done systemically. MEGT is a committed partner in this effort – we have dedicated Indigenous Employment and Reconciliation teams leading our programs (as demonstrated by our Reconciliation Action Plan commitments and the cultural competence of our staff). We have seen firsthand Indigenous apprentices like Michael (a proud Kamilaroi man in electronics) and Rowlande (a Gangalidda woman excelling in painting and decorating) succeed with the right support. Scaling these successes is achievable with a united effort.

In conclusion, empowering First Nations people through skills and jobs is a key part of the workforce strategy. It increases the overall labour supply in Northern Australia, helps local communities benefit from development (reducing resistance and social conflict), and enriches industries with Indigenous knowledge and perspectives. The *"full apprentice and trainee ecosystem"* that MEGT promotes must be a genuinely inclusive one – respecting cultural diversity and offering extra support where historical inequalities exist. This approach aligns with Closing the Gap employment targets and the government's broader Indigenous Economic Empowerment agenda.

Conclusion

Across all these areas – from net-zero industries to defence, from export drivers to community infrastructure – one theme stands out: people make it happen. By focusing on a comprehensive apprentice and trainee ecosystem, as MEGT advocates, the Government can speed up progress in each sector, prevent bottlenecks, and maximise local benefits. The key recommendations woven throughout our analysis are:

- **Invest in skills now for future industries**

  Anticipate needs such as decommissioning, hydrogen, and advanced manufacturing, and train people early. This proactive approach makes sure Australia isn't caught short and forced to import labour or delay projects.

- **Incorporate Training into Investment**

  Every dollar spent on new projects or infrastructure should include a portion allocated for training the workforce to build or operate it. This *"skills levy"* idea ensures that human capital develops alongside physical capital.

- **Utilise MEGT and Industry Partnerships**

  Engage intermediaries such as MEGT, group training organisations, and industry skill centres to link government funding and initiatives with practical implementation on the ground. We serve as the link between policy and practice, and we are prepared to expand our efforts in the north in accordance with these priorities.

- **Support Employers and Apprentices (the ecosystem enablers)**

  The common support measures (incentives, wage support, mentoring, simplified admin) discussed under (h) are the foundational tools to deliver outcomes in (a)–(f) and inclusivity in (i). The Government should see these not as separate *"training policy,"* but as essential parts of economic and industry policy. For example, a critical minerals strategy should clearly include apprenticeship incentive boosts for that sector; a defence procurement should incorporate a skills development plan.

To answer the core question the inquiry raises

How do we ready Northern Australia for emerging industries? – we focus on the people. We train the young electrician in Darwin, the Indigenous trainee in Mount Isa, the mechanic in Townsville, the logistics worker in Broome, to face the challenges and grasp the opportunities these industries present. This method creates a positive loop: industries receive the skilled labour they need; Australians find the jobs and careers they aim for; and government reaches its policy goals with community support.

MEGT believes we have a once-in-a-generation opportunity to develop this workforce alongside the involved industries. The uploaded reports demonstrate that investing in apprenticeships and support services brings benefits in productivity, prosperity, and social value. By acting on these insights in a coordinated manner, the Government can ensure that Northern Australia's growth, whether it's harnessing solar power, mining new minerals, launching exports, retiring old facilities, defending the country, or uplifting communities, is backed by a strong, skilled, local workforce. That is the legacy of a genuinely prepared northern Australia, and MEGT is committed to being a trusted partner in making it happen.

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