



WAIHANGA ARA RAU
Construction and
Infrastructure
Workforce Development Council

TEC Advice - April 2023.

Elevating the voice of industry
in our vocational education and training system.



Introduction and Purpose

Waihangara Rau has been established to give construction and infrastructure industries and employers, greater leadership and influence across vocational education and training. In particular, supporting a stronger voice for Māori business and iwi development. We engage with a broad range of organisations across the Construction and Infrastructure, Māori, Iwi and government eco-system, to form a view of the current and future skill needs of their respective industries.

This document outlines Waihangara Rau's advice to the Tertiary Education Commission (TEC), relating to your investment decisions for delivery and mix of training provision, in 2024. Advice has been grouped into two categories '**GIVE EFFECT**' and '**HAVE REGARD**' advice. This is in line with guidance provided by you.

Industry insights gained to date alongside industry data, have been used to guide Waihangara Rau's strategic initiatives and also inform the advice within this document. Some of the advice centres on:

- Prioritising funding for certain Detailing and Electrical Supply Qualifications
- Cultural Competency (Te ao Māori)
- Equity
- Climate Change
- Retention of skills and knowledge
- Qualification/Skill Standards which are currently being worked through

Information on projects and outputs supporting or directing a number of advice components are included, such as:

1. Plumbers, Gasfitters and Drainlayers Programme Framework Review and Capability and Capacity Review Projects
2. Information on construction micro credentials and
3. Small business management resources
4. Sector leadership capability resources.

Future advice will draw on the 11 strategic sectors plus Māori and Pacific workforce development plans and detail more specific guidance.

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Ngā Pou Rautaki | Strategic Pillar

POU TUATAHI

Whakahōnore i Te Tiriti o Waitangi

We support success for Māori through our engagement, thinking and advice that supports the aspirations of iwi, hapū and their community..

Develop and implement iwi and hapū relationship plans

Provide project support for iwi and hapū and broker participation

Increase our organisational cultural capability

Support industry awareness of te ao Māori

Pānui Whāinga | Statement of Intent

POU TUARUA

Relationships, Partnerships & Influence

We effectively engage with industry, communities and our other key stakeholders.

Strengthen our engagement with industry, iwi, hapū, pacific peoples, women and tāngata whaikaha

Engage our regional connections

Establish and Support Strategic Reference Groups

Engage with providers to lift quality and improve system responsiveness

Ngā Pou Rautaki | Strategic Pillar

POU TUATORU

Transforming the Workforce

We support an adaptable, diverse and skilled workforce that enables the industry to thrive.

Lead with data and insights

Optimise the system through quality advice and clear learning pathways

Partner for the development of a diverse workforce

Develop & implement skills for net-zero and sustainability

Enhance sector leadership capability

Pānui Whāinga | Statement of Intent

POU TUAWHĀ

Operational Excellence

We will ensure Waihanga Ara Rau is set up to successfully achieve its strategic priorities.

Develop & Implement Our People Plan

Improve Operational Efficiency and Effectiveness, and Increase Risk Maturity

Raise Waihanga Ara Rau awareness and profile

Key:

Initiatives linking to our advice

Our vision, kaupapa and strategic pillars

Te whāinga tāhuhu, te kaupapa, me ngā pou.

POU TUATORU

Transforming the Workforce

Creating an adaptable, diverse and skilled workforce that enables the industry to thrive.



Purpose | Kaupapa

Elevating the voice of industry in our vocational education and training system



POU TUAWHĀ

Operational Excellence

Ensuring Waihanga Ara Rau can deliver on its strategic priorities successfully.



POU TUARUA

Relationships, Partnerships & Influence

Effective engagement with industry, communities and our other key stakeholders.



POU TUATAHI

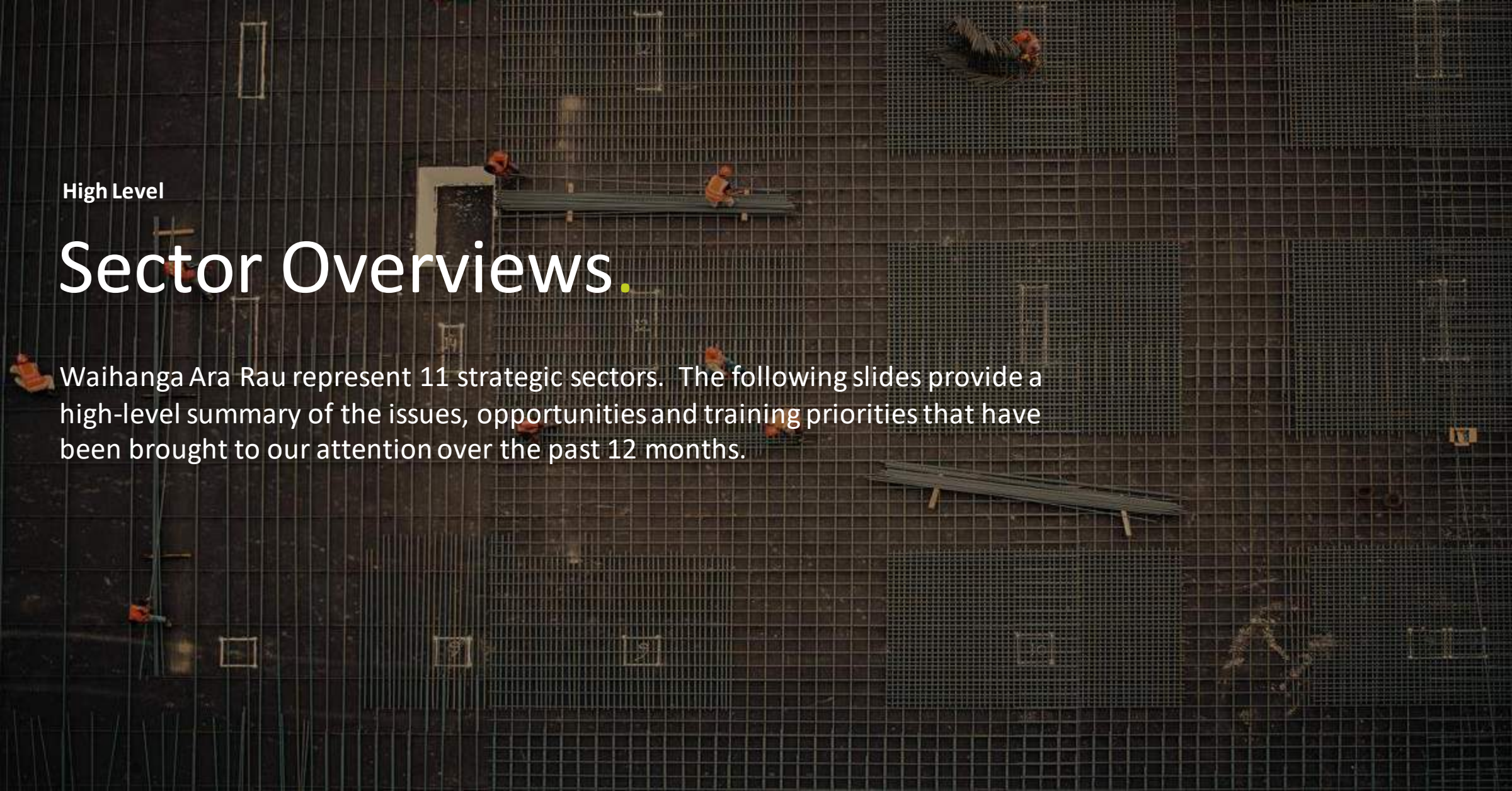
Whakahōnore i Te Tiriti o Waitangi

Enabling success for Māori through our engagement, thinking and advice that supports the aspirations of iwi, hapū and whānau.

Vision

Te Whāinga Tāhuhu

A construction and infrastructure sector that enables everyone to reach their potential.

An aerial photograph of a construction site at night, overlaid with a white grid. Several workers in orange safety vests are visible, working on a structure. Stacks of rebar are scattered across the site. The scene is illuminated by site lights, creating a high-contrast, industrial atmosphere.

High Level

Sector Overviews.

Waihanga Ara Rau represent 11 strategic sectors. The following slides provide a high-level summary of the issues, opportunities and training priorities that have been brought to our attention over the past 12 months.

Waihanga Ara Rau Strategic Sectors and Component Industries

Individual Construction Industries

Concrete construction, carpentry, stonemasonry, brick & blocklaying, monumental masonry, interior systems, glazing, roofing.

Concrete production, pre-cast and product manufacture, bitumen manufacture, frame and truss manufacture, timber joinery, architectural aluminium joinery

Electrical engineering, electronic engineering, electrotechnology, industrial measurement and control.

Painting and decorating, flooring, kitchen & bathroom design, floor and wall tiling, exterior plastering.

Cranes, scaffolding, rigging, industrial rope access.

Plumbing, drainlaying & gasfitting

Strategic Sectors

ON SITE CONSTRUCTION

OFF SITE MANUFACTURING

ELECTRICAL, ELECTRONIC & ELECTROTECHNOLOGY

FINISHING TRADES

ACCESS TRADES

PLUMBING, DRAINLAYING, GASFITTING

CIVIL INFRASTRUCTURE

ENERGY & TELECOMS

WATERS

Construction & Infrastructure Occupations

CONSTRUCTION & INFRASTRUCTURE SERVICES

CONSTRUCTION RETAIL & WHOLESALE

Individual Infrastructure Industries

Bitumen production, road construction & maintenance, contract & project management, road marking, temporary traffic management, deep piling & foundations, forestry earthworks.

Electricity supply, telecommunications, and gas reticulation.

Drinking water, stormwater, wastewater (including Pipeline Construction and Maintenance).

Quantity surveying, project management, architectural technology, asset management, surveying, building information modelling, procurement.

Retail & Wholesale Industries

Plumbing goods and furniture & floor covering wholesaling. Floor coverings, electrical, electronic, & gas appliance retailing and hardware and building supplies retailing

ON-SITE CONSTRUCTION

Shortage of workers

There is an expectation that cyclone and flooding recovery efforts will create further pressure on current worker shortages. Investment in training for this sector remains a priority.

Training priorities

Increase investment in programmes that enable upskilling and reskilling to support career changers within the industry.

Identify and invest in initiatives that remove barriers to rangitahi entering and completing training.

Increase investment in provision for Māori to enter and succeed in the workforce. Desire for Māori entities to become providers of training. Mā Māori Mō Māori.

Address the lack of gender diversity within construction.

Increase (or continue) pre-employment programmes with a focus on Construction and Infrastructure.

Ensure types and methods of training delivery are suitable for learners.

Ensure training is accessible to industry learners, especially in remote areas, even when it is not conducive to optimal cohort sizes.

Invest in skills for supervision, management, pastoral support, and project management and recognising these with credentials.

Ensure clear pathways into and through careers within construction.

Greater use of micro-credentials to encourage engagement into learning and allow greater responsiveness to training needs.

Support employers and learners engaged in work-based learning.

Driver's licences in schools.

ACCESS TRADES

Cranes Association NZ (CANZ) have raised concerns regarding the moderation practices of assessors who deliver unit standards.

In response, CANZ is preparing a brief to request the support of Waihanga Ara Rau in investigating and providing recommendations based on key learnings.

Exterior Cleaning Industry Association - The ECIA is in the process of preparing a statement to request support for the development of a micro-credentials or skills standard that includes a focus on water conservation and waste water discharge. This is in accordance with their COP and the RMA.

In addition, ECIA are also looking to establish skills standards that will help to support a micro-credential or skills standards for drain cleaning, exterior paint preparation, roof repair, roof replacement, and roof maintenance.

OFF-SITE MANUFACTURING

Technology has changed the shape of these industries massively over the last few years. Apprenticeships in the future will need to be more flexible and form a pathway to allow for these technology changes and the different roles they have brought about (e.g. CNC operators, detailers, programmers, designers).

Apprentice Boost and TTAF saw an increase in employers taking on apprentices who'd never had an apprentice before. This highlighted the need for support for employers to operate as trainers and mentors to their staff. Some industry associations have produced resources to assist with this in the absence of a formal qualification. Best practice is being gathered to inform a pilot programme, which may in turn become a credential if the pilot is successful.

It is anticipated there will be an increase in the use of modern methods of construction (eg offsite manufacturing, modular panels, light steel framing, structural insulated panels or cross-laminated timber). There are currently no qualifications specific to these methods. Waihanga Ara Rau is working with Hanga-Aro-Rau to scope these industries and explore the skills need to inform future product development.

FINISHING TRADES

There are growing issues around recruitment and retention of workers, reflected in high competition between businesses.

The sector would like to see improved visibility of the different types of jobs and opportunities available in Finishing Trades, especially for school leavers.

Lack of supervisory type training available. Businesses are finding it hard to employ staff with existing supervisory skills.

More support may be required for employers who have work-based learners in their employment.

“Keep it Decent Guidelines” has generated interested amongst the Finishing Trades.

Several of the Finishing Trades have expressed an interested in becoming a Licensed Building Practitioner trade.

Tiling industry is reporting a number of failures in projects due to poor waterproofing practice.

Te Whata Ora Palmerston North Hospital Project – indicated a need for more Finishing Trade workers will be required for the Palmerston North Hospital Project along with several other hospital redevelopment/rebuild projects around NZ.

PLUMBING, GASFITTING AND DRAINLAYING

The Plumbing, Gasfitting and Drainlaying’s (PGD) current focus is the New Zealand Programme for PGD.

The current review of Unit Standards are on track:

- Drainlaying and Core Unit Standards have been completed by the Technical Advisory Group (TAG)
- Planning for the review of the Plumbing Unit Standards has started and about to be reviewed by the TAG
- Gasfitting Unit Standards will be reviewed once Plumbing has been completed.

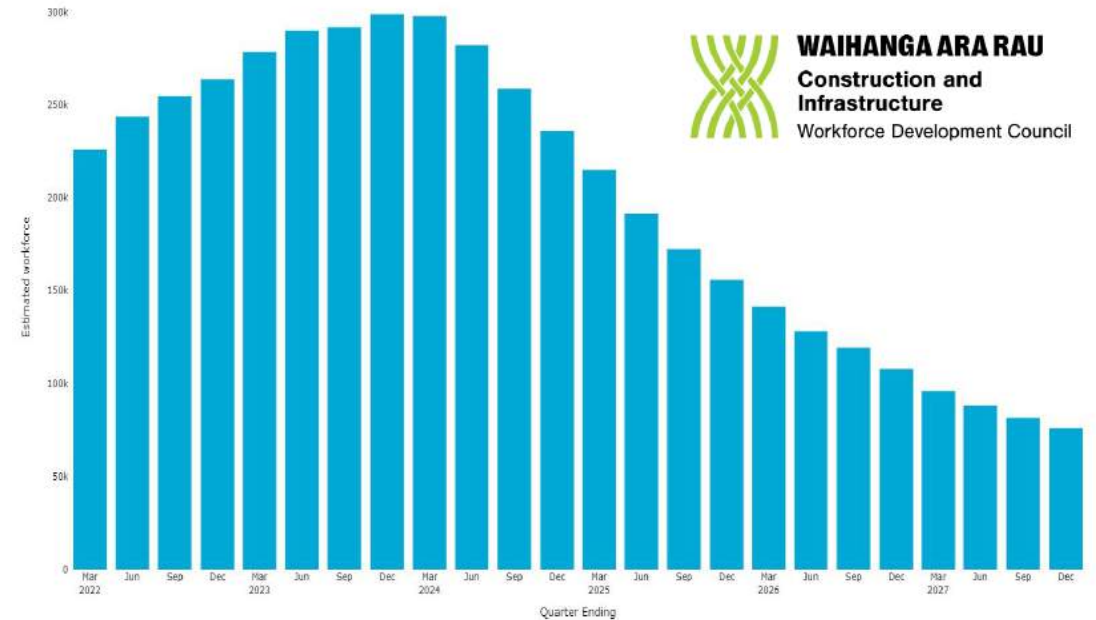
ELECTRICAL, ELECTRONIC AND ELECTROTECHNOLOGY

This sector has a foundational workforce document, being the Re-energise report which was developed alongside a Three Waters report. The next steps are to further progress some of the actions and commence discussion on the next iteration of this report.

Some additional conversations include the common competency framework.

Associations and wider organisations have raised the issue around the robust of data. Many have commenced research work to better understand the positions of respective industries and it will be how Waihangara Rau can add value and accelerate some of these projects.

CONSTRUCTION WORKFORCE FORECAST



INFRASTRUCTURE

As can be seen on the following slide there is significant workforce growth forecast in the Infrastructure sector in the coming years. While this growth will be felt across the country there will be areas with significant infrastructure projects (Wellington) and rebuilds from climatic events (Hawke's Bay and Tairāwhiti) that will experience significant growth. This will necessitate increased investment in skills development for infrastructure development including engineering programmes from L2 – L6 especially for water, electrical, civil, roading and heavy machinery operations.

WATER SERVICES

Work is being done on mapping the career pathways within the Three Waters Industries. Taumata Arowai is rolling out career coaching and digital capability, giving people tools to improve. Taumata Arowai is using the Waihanga Ara Rau Workforce Development Strategy to inform their mahi. There has been a need identified to get into schools, Water NZ is starting to engage with school to raise awareness and are sending out materials to schools.

ENERGY AND TELECOMS

Lack of visibility of available roles continues to be a big theme across all of this sector, the general public simply don't know the rich and diverse roles that are available, and the skills required to do them as well as the long-term careers that can be had.

Industry are asking for people who are work ready- not just in practical skills but also in soft skills, basics such as how to be a good employee, turn up to work on time etc

Industry also lacks the internal pastoral care needed for this generation of new employees and the struggle to understand each other meaning higher turnover rate and lost productivity through continually training new people and not being able to hold on to trained people in this tight market – there is potential for an employer pastoral care program that could work with companies, specifically the smaller ones as larger organisations seem to be better at this

There have been some gaps in qualification identified, such as Structured data cabling and bridging qualifications from high school to the security technician field.

There are also a growing voice asking for renewable energy qualifications

CIVIL CONSTRUCTION

Civil Contractors NZ (CCNZ) have recently summarised the sectors vocational education and training needs into three key themes. Where appropriate, Waihanga Ara Rau has committed to partnering with CCNZ to progress these identified needs:

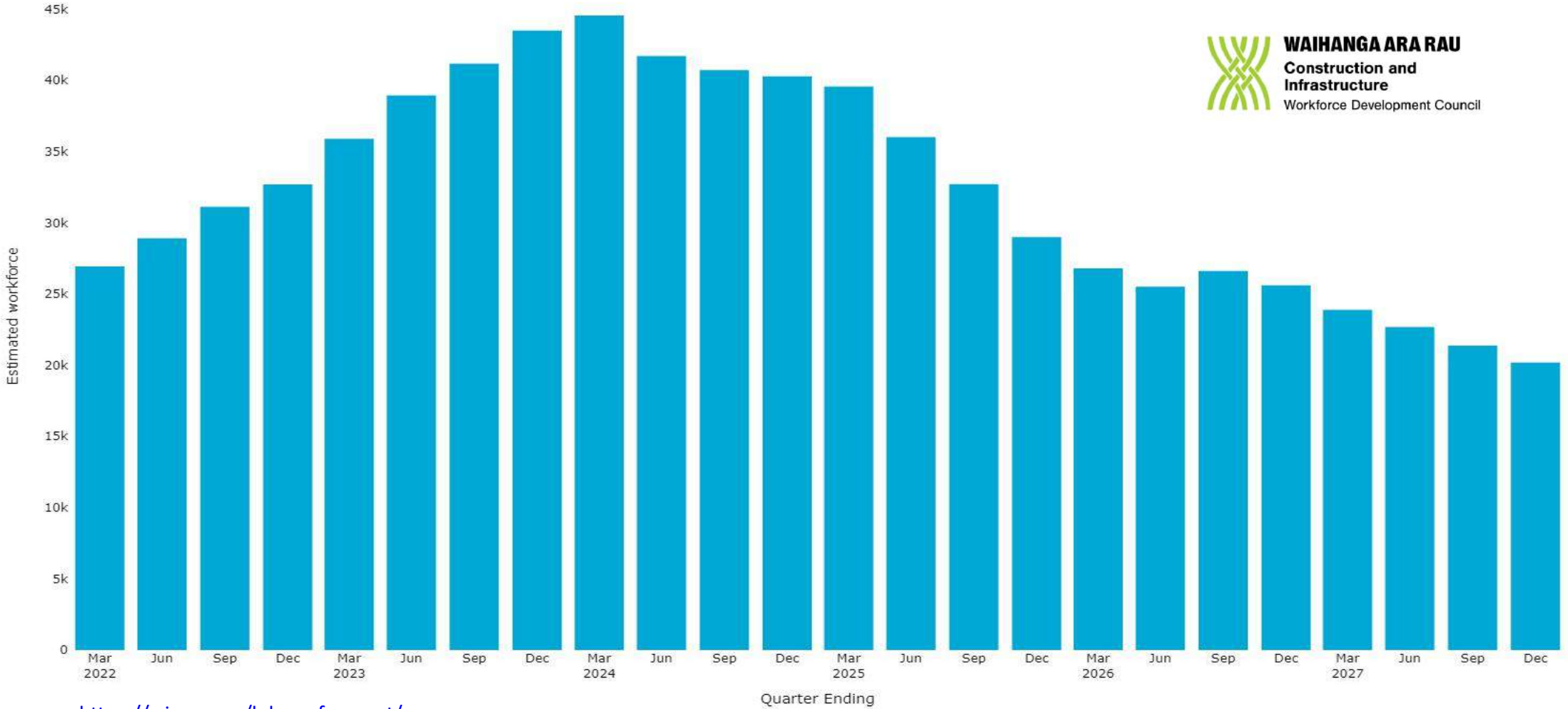
New and emerging technology - larger companies are investing in new technology, CCNZ, Waihanga Ara Rau and training providers will have a role in keeping up to date with the new technology, ensuring that industry training evolves to include the new technologies, and providing advice and assistance for industry wide adoption.

Developing a domestically sourced workforce – in 2022 CCNZ released its “Developing a Skilled Civil Construction Workforce Report”. The report noted that while the Targeted Training and Apprenticeships Funding was welcome, most of the funding for civil construction was to recognise current competence rather than developing new skills. School leavers are generally not equipped to enter the civil workforce, lacking such basic skills as driver's licences, situational awareness, practical aptitude, and experience.

Immigration - despite access to a domestic workforce and to new and emerging technology, there will be a significant shortfall of workers available to the industry. This was the case before the cyclone; it is much more so now. There will be a need for some pre-employment training such as that offered by the Infrastructure Skills Centre, and some on the job training.

Waihanga Ara Rau have set up Technical Advisory Groups focused on specific qualification reviews and developments supported by industry technical experts. Three new micro-credentials are in development (exact titles to be confirmed): Temp Traffic Management Designer; Risk Assessment for Temp Traffic Management Workers and Underground Utility Location

Civil Infrastructure workforce forecast



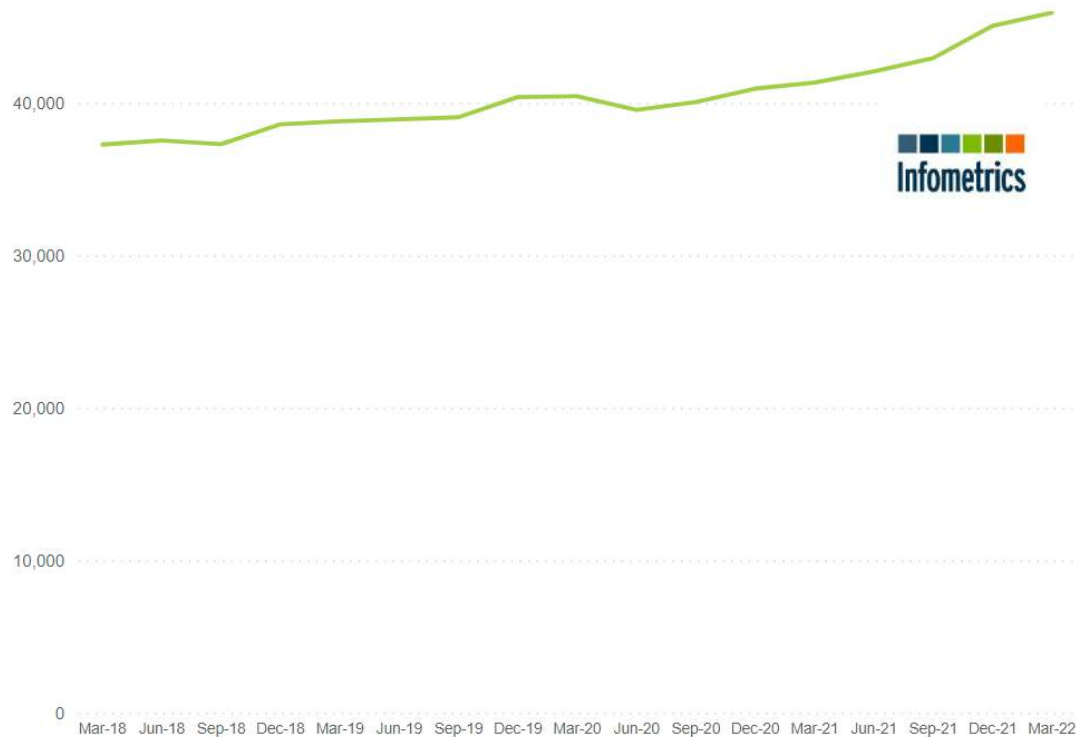
<https://wip.org.nz/labour-forecast/>

CONSTRUCTION & INFRASTRUCTURE SERVICES

The current high demand for construction, and the significant skill shortage experienced across the construction sector is equally being felt by the Construction & Infrastructure Services sector.

The need for a Structural Detailing qualification has been identified by the sector, and this has been developed. However, the Te Pūkenga merger process has delayed the delivery of this programme. We are looking forward to the appointment of an Ako Leader for Construction and Infrastructure so this discussion can be progressed.

Quarterly workforce size

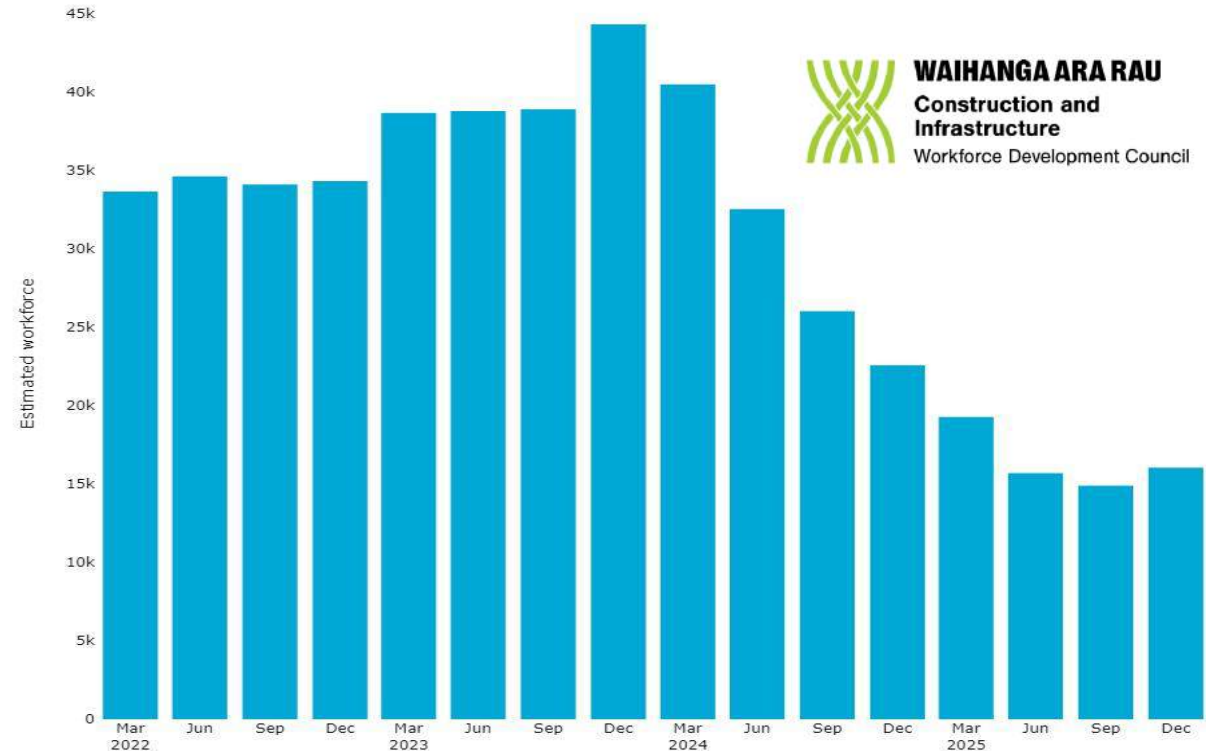


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<https://wip.org.nz/labour-forecast/>

Labour forecast



An aerial, top-down view of a construction site at night. The site is illuminated by various lights, creating a grid-like pattern of light and shadow. Several workers in orange safety gear are visible, some standing on rebar structures and others near a concrete slab. The overall scene is dark, with the primary light sources being the construction site's lighting.

Industry and Community Voice.

Overviews of the industry and community voice are presented separately on the next two pages.

Our industry's voice comes from semi structured (face to face) interviews with select industry representatives and their networks.

The community voice includes a broader range of engagement activities with sector relevant organisations and groups such as, but not limited to; Regional Skills Leadership Groups, ConCOVE, Construction Sector Accord, Branz, government agencies as well as industry representatives.

Industry Voice Key Themes

1. Labour shortages / skill shortages / supply issues

Key themes (examples follow in italics)

- [Labour shortages and skilled labour](#)
Well documented and felt across the entire sector
- [Attraction and retention](#)
Ongoing competition across the country to attract staff
- [Regulatory compliance](#)
Introduction of regulations but a lack of support for business to adapt to them
- [Lack of internal industry collaboration](#)
Lots of small companies competing not collaborating

Sub-themes

- [Aging Workforce](#)
lack of pathways into training and assessment
- [Soft skills](#)
role specific but including Communication & people leadership
- [Training and upskilling i.e., apprenticeships](#)
- [Succession planning](#)
Developing leaders and business owners
- [Lack of capacity to support mentor/mentee relationship](#)

2. Training

Key themes

- [Pastoral care](#)
Building capability especially for work based learners
- [Training gaps e.g., Lack of support for apprenticeships and mentor/mentee relationship, development of micro-credentials or bite-sized learning, less theory and more practical learning, developing qualifications to include multi-disciplinary content and workforce mobility](#)
- [Career pathways](#)
- [Government incentives – bring back Fees Free](#)

Sub-themes

- [Education frameworks](#)
- [Lack of resourcing](#)
- [Lack of public awareness of the industry \(i.e., roles, associations\)](#)
- [Engaging with secondary school leavers](#)

*Text in [blue](#) links with Waihangā Ara Rau Strategic Initiatives, bars in [green](#) specifically link with this advice

Industry Voice Key Themes

3. Technology / Digital change

- [Provision of training delivery](#)
[Availability of online learning resources and their use](#)
- Training gaps

4. Equity considerations

- Rate Structures / Salary and wages
Training wage not attractive and salary gap
- Migrant workers
Occupational gaps in the green List and Sector Accord
- [Honouring Te Tiriti o Waitangi](#)
Cultural capability building
- [Women in the trades](#)
Attraction or women into trade roles
- [Workforce diversity](#)
- [Ethical considerations](#)
Poaching staff
- [Mental health & well-being](#)

5. Impacts of COVID-19

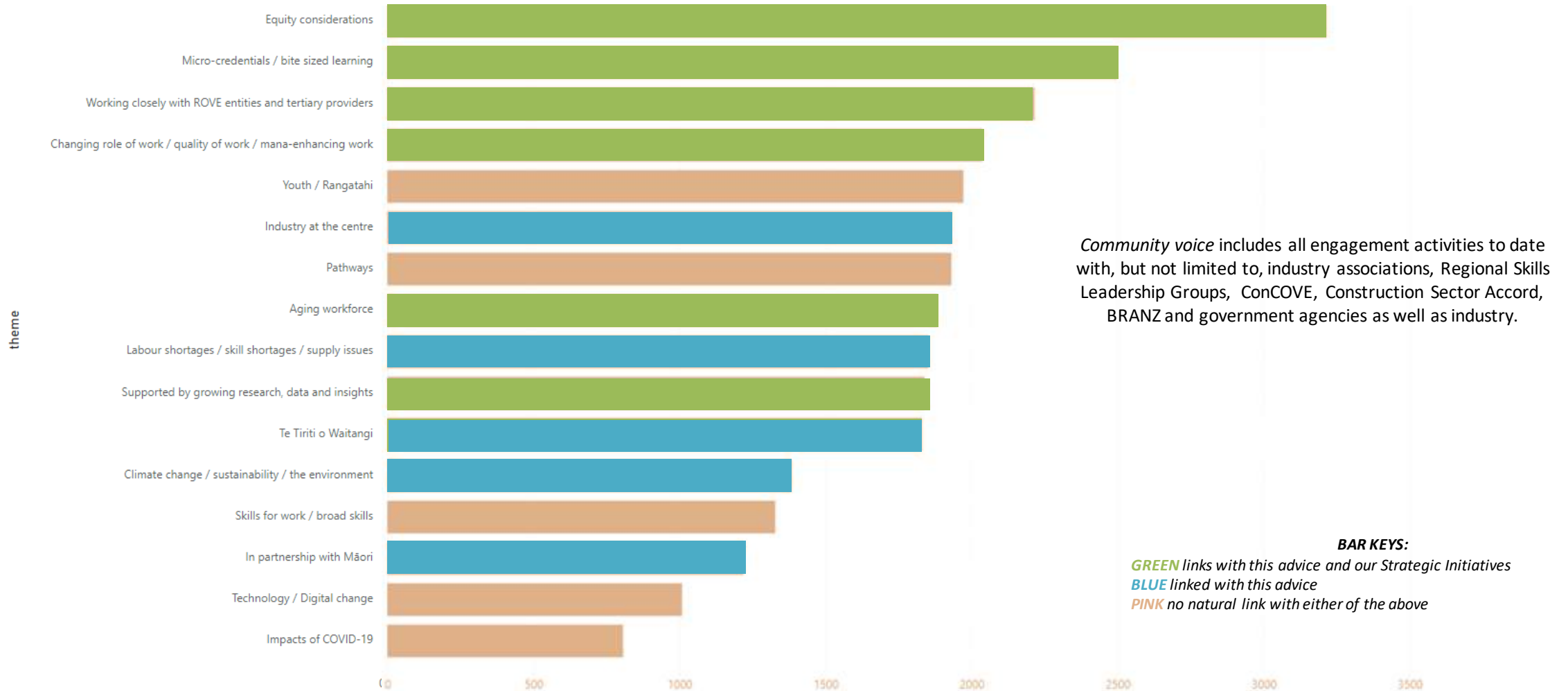
- Lack of resources
- Challenges recruiting migrant workers

6. Climate change / sustainability / the environment

- Seasonal work created due to climate change
- [Workforce sustainability](#)
- [Location](#)
Attracting workers to remote locations
- [Cultural support frameworks within industry](#)
Cultural Competency development
- Career prospects
Understanding career and learning pathways
- [Mental health & well-being](#)
Work based resources

*Text in [blue](#) links with Waihangā Ara Rau Strategic Initiatives, bars in [green](#) also link with this advice

Community Voice Key Themes



An aerial photograph of a construction site, overlaid with a dark grid. Several workers in orange safety gear are visible, working on a large structure. On the right side, there is a large, stylized, semi-transparent 'X' graphic. The overall scene is dark, suggesting a night or low-light environment.

Waihanga Ara Rau | April 2023 Advice to TEC

Give Effect.

Give Effect Advice | Mix of Provision

If a qualification/ programme/ credential is available to providers to include in their MoPs when they submit in July 2023, it is **give effect advice**. Waihanga Ara Rau advises TEC to implement the following advice, subject to funding limits set by the Minister/TEC, and constraints on capacity of TEOs to deliver on the mix of vocational education and training (section 411(2)), in each case where TEC is deciding to grant funding approval to TEOs under section 425 of the Education and Training Act 2020.

Waihanga Ara Rau wants TEC to give effect to

the prioritisation of **funding for the New Zealand Diploma in Detailing (Structural) (Level 5)** with strands in Light Steel Frame, Reinforcing Steel, Structural Steel, and Precast Concrete.

The expectation based on current demand and future job openings that approximately 50 people will enter programmes leading to the award of this qualification in 2024.

Defining the issue

The industry is in need of people who have the skills and knowledge to perform structural detailing to a professional standard.

There is currently no pre-employment learning pathway to support the attraction and development of people to be able operate unsupervised to perform all aspects of structural detailing, maintain currency with technology and practice and support others in structural detailing operations. There is also no qualification to support in employment development or recognise the skills of structural detailing professionals.

During a time of change there is a need to flag funding support, both learner and strategic component, for the development and introduction of this programme.

Source of information

Infometrics identifies 676 Design, Engineering, Science Professionals in the Offsite Construction sector equating to 3.50% of the workforce with 240 total job opening forecast by 2028

Vocational education and training solution

This qualification provides the structural manufacturing sector with graduates who have the skills and knowledge to perform structural detailing to a professional standard. Graduates will be able to perform all aspects of structural detailing, maintain currency with technology and practice and support others in structural detailing operations.

The delivery model developed by industry sees one Provider-based or Provider-based: extramural mode component and two Work-based mode components where learners study mainly in the workplace with supported self-directed learning.

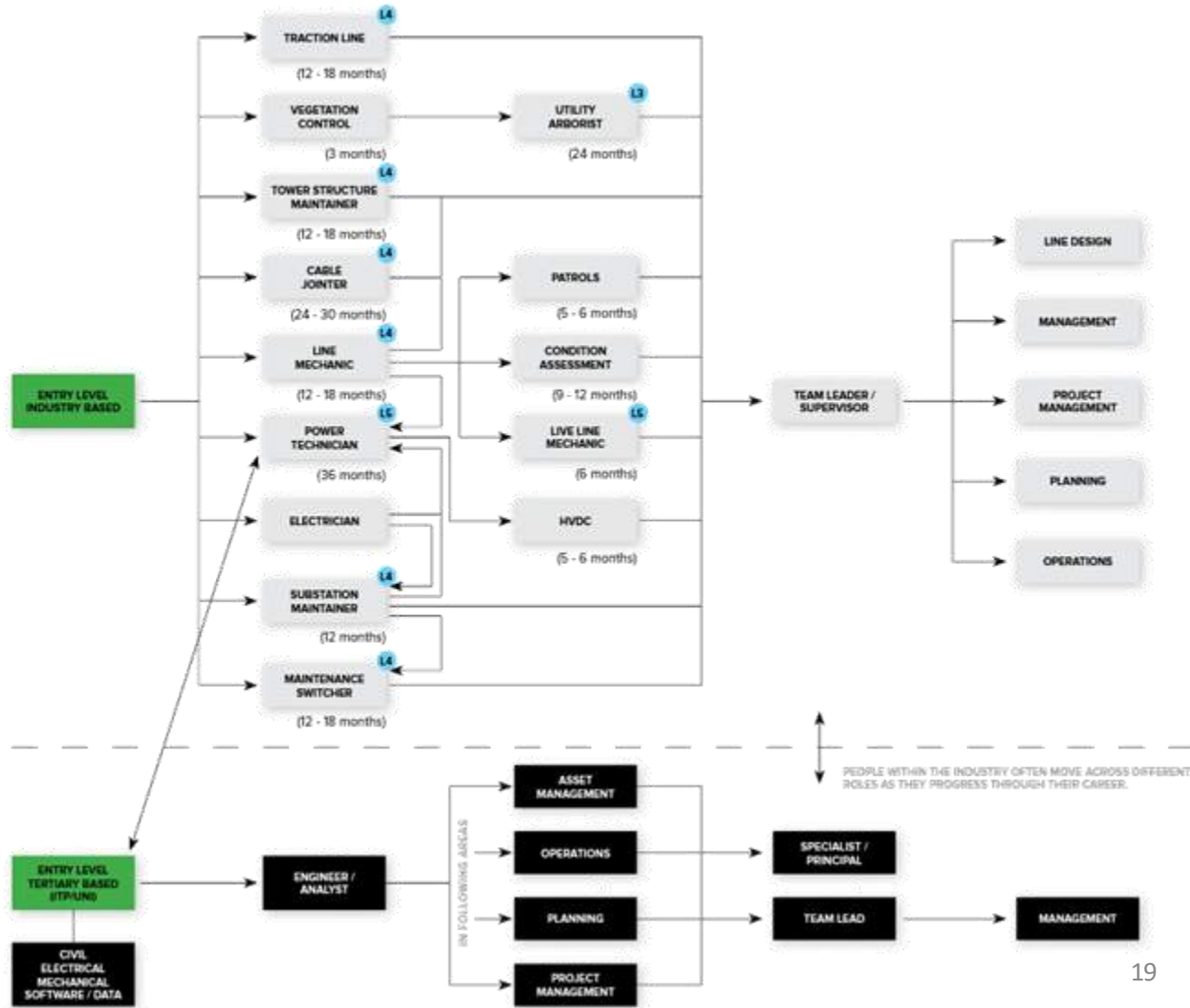
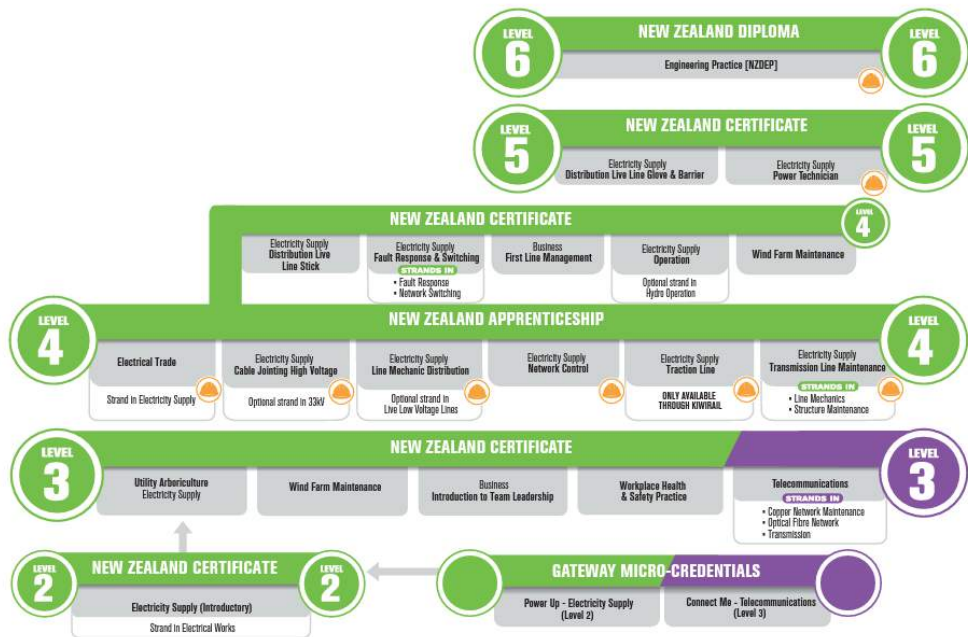
Role of WDCs/RSLGs

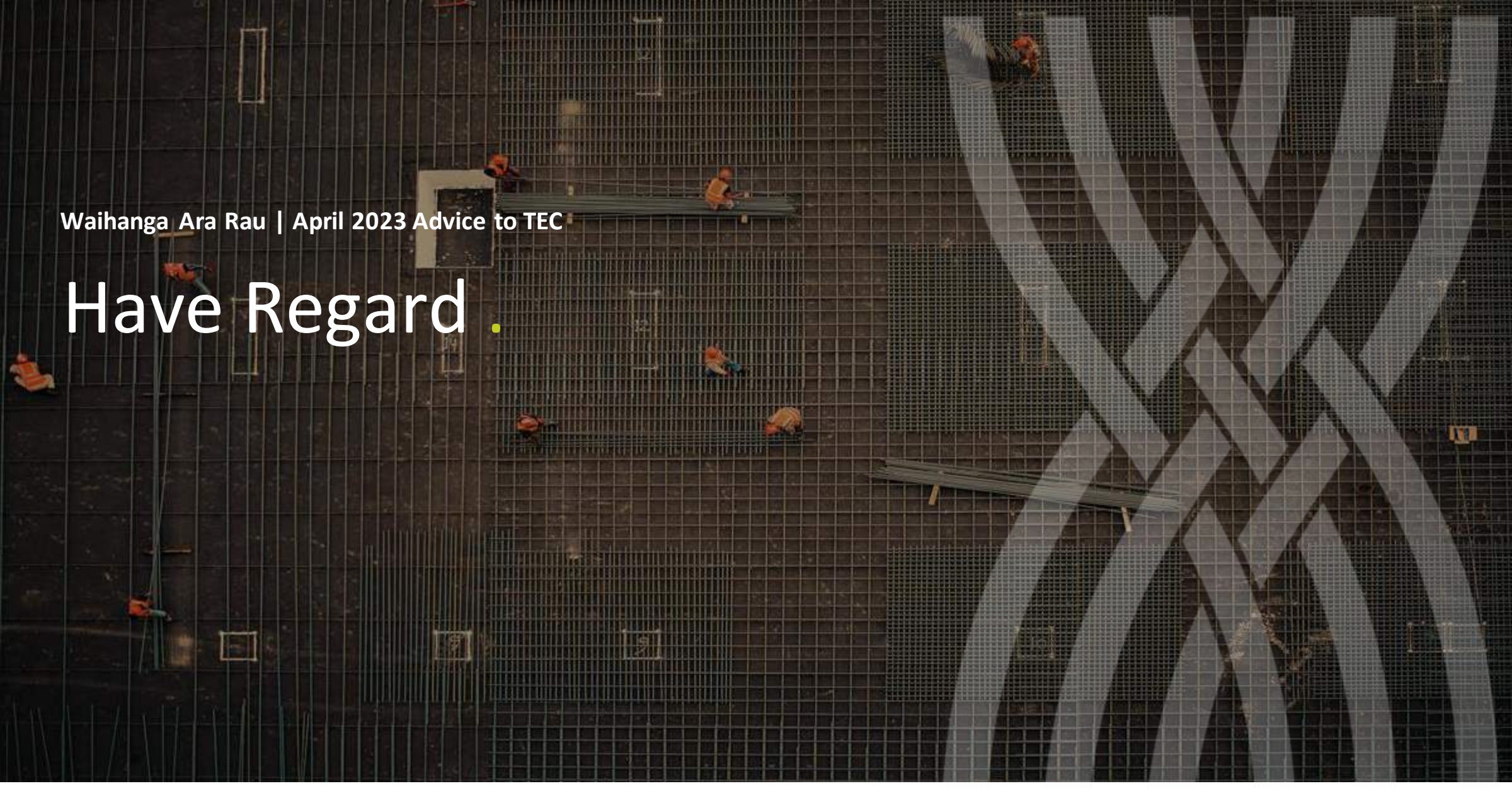
A dedicated technical industry group developed the structural detailing New Zealand Diploma with strands registered in December 2021. The group is available to support the development and implementation.

Support from TEOs

No organisations currently offer this qualification but discussions are progressing with VEENZ who's Board consists of four provider representatives, Waihanga Ara Rau and Hanga-Ara-Rau, four industry representatives and one Māori Hāpu or Iwi representative.

Career and Educational pathways in the Electricity Supply Industry



An aerial photograph of a construction site, overlaid with a dark grid. Several workers in orange safety gear are visible, working on a structure. On the right side, there is a large, stylized, semi-transparent 'X' graphic. The text 'Waihanga Ara Rau | April 2023 Advice to TEC' is positioned in the upper left area.

Waihanga Ara Rau | April 2023 Advice to TEC

Have Regard .

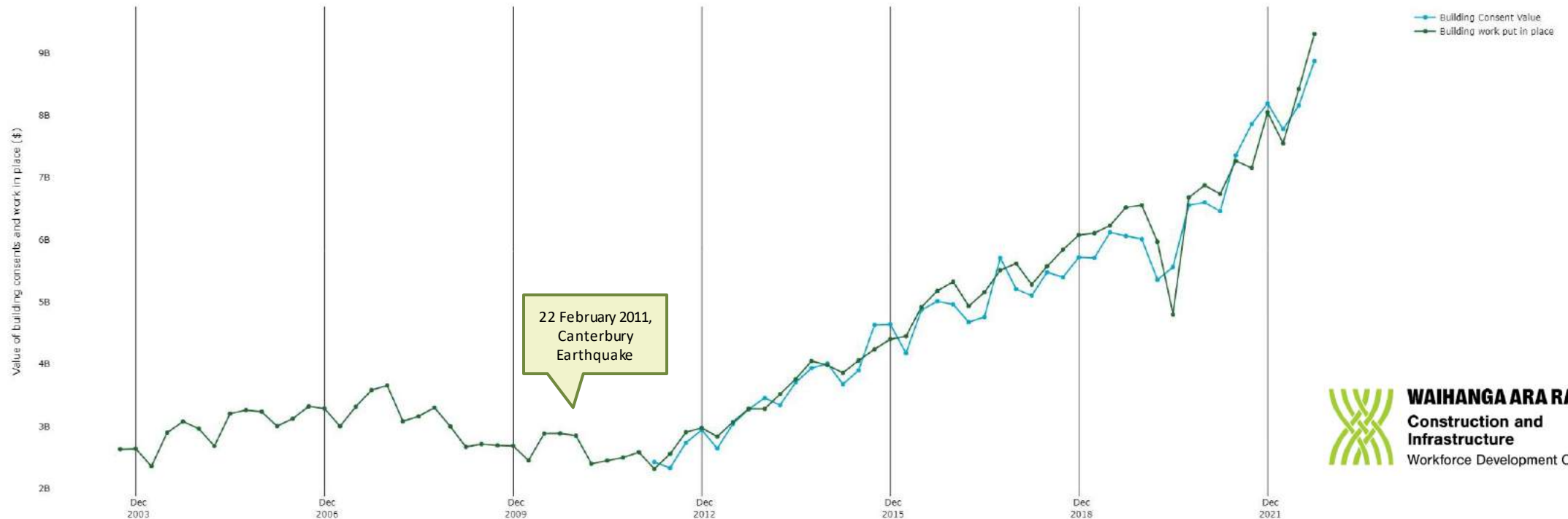
The following two pages help set the scene for:

1. The comparison of project activity now and over time.
2. The current pipeline of work and how it has grown.
3. The workforce supply vs project demand for the onsite construction and infrastructure workforces

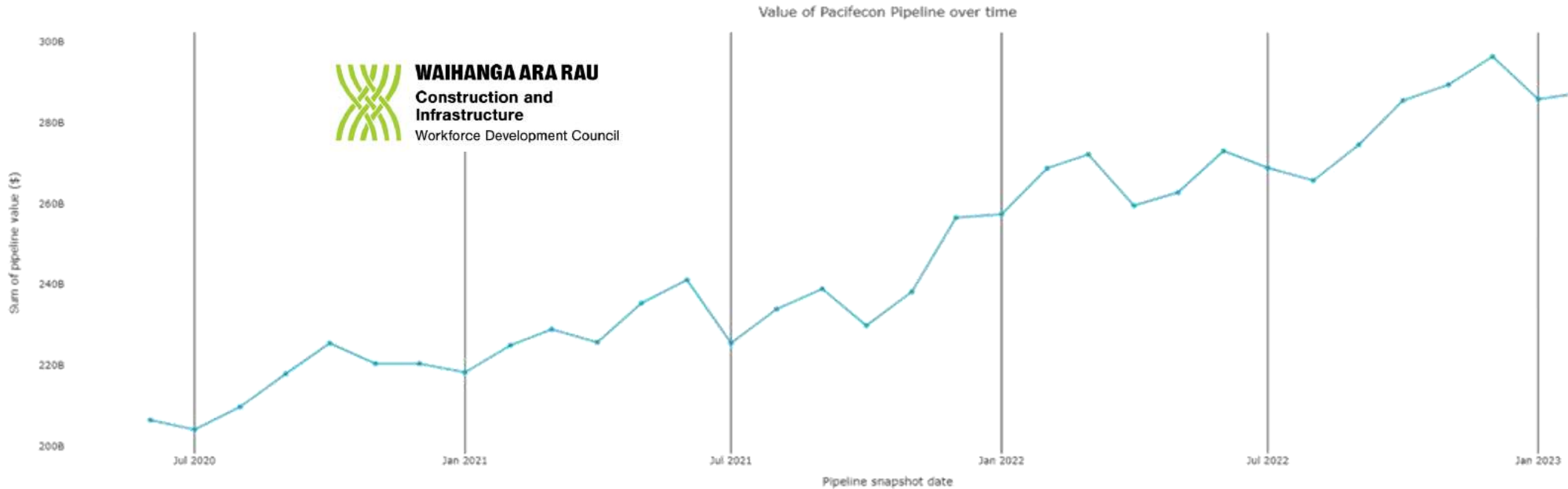
The proportion of regional delivery is likely to change with communities upskilling to “Build Back Better” though the mix of trades may not follow normal project modelling, with an emphasis on flooring, interior linings and painting in flooded regions. The attraction to work in these regions may also add to the workforce shortage in adjoining regions particularly, but also across the motu, as has been observed following the initiation of large projects in the past.

We are working with the Construction Sector Accord and other agencies to model the impact of significant events on the construction and infrastructure workforce. This is in response to recent weather events but is not specific to one event. Rather the goal is to create a modelling tool which can be used in the future to forecast employment and training demand. We are also in contact with TEOs to understand any impacts on learner numbers, and regional and sector distribution. We will continue to advise all in the ecosystem of our findings.

5 Year Rolling Value of the Construction And Infrastructure Project Pipeline



5 Year Rolling Value of the Construction And Infrastructure Project Pipeline



Workforce Supply vs Project Pipeline Demand | March 2023



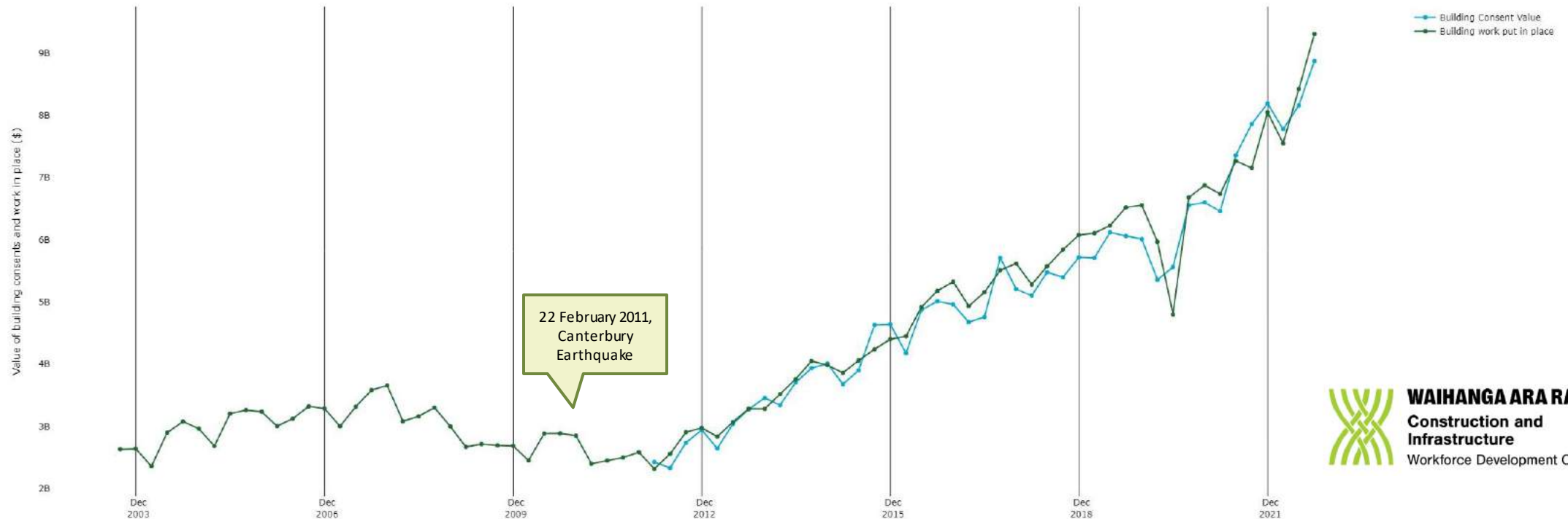
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5 Year Rolling Value of the Construction And Infrastructure Project Pipeline



Have Regard Advice | Setting the Scene

If the qualification/ programme/ credential will not be ready for provider's July MoPs, but is expected to be available to TEOs to deliver as some point in 2024, the following applies:

We note that we are developing or reviewing a qualification in a certain area, at a certain level. TEC can signal this in Supplementary Plan Guidance and potentially advise that they will look to invest in WDC endorsed programmes and credentials in this area, when they are available (within funding constraints).

In our following advice we:

1. Provide a time estimate of when the qualification/ programme/ credential will be available.
2. Note that where we are requiring a new qualification/ programme/ credential, it is likely due to current offerings no longer meeting needs.
3. Highlight any recommendations regarding whether investment should remain at the same level, reduce or increase.

We are aware of the limited windows where our advice impacts investment decisions. If it cannot impact the main investment round decisions, we understand that the next window is the in-year additional funding which occurs after April (dependent on available funding).

We recognise that in 2023/24, there are several possible scenarios impacting the mix of provision for the construction and infrastructure sector. We acknowledge the tension of competing factors impacting the workforce and the learners within it:

- The cost of living has coincided with the removal of Targeted Training and Apprenticeship Fund (free trades training), particularly impacting some of our most venerable learners.
- Economic pressures have impacted investment decisions, slowing activity and forward orders in the residential construction sector.
- At the same time, climate events have created regional rebuild activity which is hard to forecast in detail
- Aotearoa having the largest pipeline of construction and infrastructure for over a decade, but also the highest Official Cash Rate (OCR) in the same period
- This is all occurring at a time when there is 387% more work being put in place per quarter compared to February 2011, when the Canterbury earthquake happened.

These will all become clearer during 2023. However, the likely scenario would be to maintain current training numbers but see a shift in the regional distribution of learners, with the potential for a shift in the ratio of trades, learners are working and studying in.

Have Regard Advice | Cultural Competency & Equity

HAVE REGARD

1

Waihanga Ara Rau wants TEOs to focus on **cultural competency especially te ao Māori**. Cultural competency is the acceptance and respect for difference, a continuous self-assessment regarding culture, an attention to the dynamics of difference, the ongoing development of cultural knowledge, and the resources and flexibility within service models to meet the needs of minority populations.

2

Waihanga Ara Rau wants TEOs to focus on **specific areas of achieving system-wide equity** including the attraction of women and Asian learners into trades training, the progression and completion of Māori and Pacific learners and targeted transition and upskilling of career changers entering the construction and infrastructure sector.

Define the issue

Over 50% of new entrants into the C&I sector are career changers with the average age of work based construction learners being 27, higher for women. The targeted transition, upskilling and retention of career changers is critical to industry. Women are retained at the same rate as men so the focus for them is attraction. Māori and Pacific learner participation is equal to community percentages but the focus needs to be on completion and progression.

Info. Source

Diversity roadmap <https://www.constructionaccord.nz/assets/Construction-Accord/files/Construction-Diversity-Roadmap-Report.pdf>

IDI [data](#) on the origins of new entrants and retention data shows gender but not ethnicity equality. Nga Kete data shows completion and progression comparisons.

VET Solution

As noted above there are areas where priority learners, including mature learners in construction and infrastructure meet or exceed the performance of their peers. TEOs need to focus performance commitments on demographic gaps where achievement will be most transformational in achieving parity.

Role of WDCs/RSLGs

Waihanga Ara Rau is working with industry partners to develop educational solutions and resources <https://www.tradecareers.co/> to support diversity. Connected projects including Enhance sector leadership capability and supporting industry awareness of cultural competency especially te ao Māori will support TEOs to target interventions.

Support from TEOs

BCITO is working with apprentices who have on site leadership responsibilities in the last third of their programmes to capture evidence contributing to Site Management qualifications. A microcredential in this space would formalise achievements and support progression.

Strategic Pillar Alignment

POU TUATAHI | Whakahōnore i Te Tiriti o Waitangi

We enable success for Māori through our engagement, thinking and advice that supports the aspirations of Iwi, hapū and whānau.

POU TUATORU | Transforming the Workforce

We create an adaptable, diverse and skilled workforce that enables the industry to thrive.

Have Regard Advice | Sector Leadership & Sustainability

HAVE REGARD

3

Waihangā Ara Rau wants TEOs to work with partners and industry to **identify fit for sector models that enhance sector leadership capability especially on site leadership capability** which in turn achieves increased productivity, retention, progression, diversity, and qualification completion rates.

4

Waihangā Ara Rau wants TEOs to work with partners and industry to **develop zero-carbon, sustainability and mātauranga taiao skill profiles for industry segments**. As skills profiles are developed and resources become available, we would expect programmes to integrate these components

Define the issue

The C&I sectors has attracted on average 68,743 people each year for the last 7 years - but loses an average of 55,764 people. There are many reasons for this but one is on site culture. Enhancing on site leadership capability by connecting and integrating this component, with existing apprenticeship training along with other cultural competency and diversity initiatives will help improve workplace culture.

The built environment contributes up to 20% of New Zealand's carbon footprint. To achieve Aotearoa New Zealand's goal of reducing net emissions of greenhouse gases to zero by 2050, the sector needs to develop and adopt low carbon practices for design, construction and the operation of buildings and infrastructure

Info. Source

Industry and community qualitative research plus supporting IDI [data](#) on the origins of new entrants and the destination of leavers. Industry tenure data also shows construction that at 29% it has a significantly higher percentage of people in the sector for less than 12 months.

Industry and community qualitative research plus supporting work being undertaken by Climate Change Commission (He Pou a Rangi), BRANZ, the Construction Sector Accord, NZ Infrastructure Commission (Te Waihangā) and Industry Associations,

VET Solution

Work with industry partners to develop educational solutions, profiles and resources creating a joined up industry approach. In addition, supporting TEO's approach to enhancing on site leadership, cultural competency and diversity capabilities earlier in people's learning and career journey.

Waihangā Ara Rau is working with industry partners to develop industry and role relevant profiles and resources to support TEO's approach to delivering more effective net-zero and sustainability focused vocational education and training for industry, employers and learners.

Role of WDCs/RSLGs

Working with Kāinga Ora and their build partners to understand how people leadership skills can be enhanced on site and have spoken with TEOs about options for enhancing apprenticeship programmes. We anticipate future advice moving to 'Give effect' with specific advice on mix of provision in 2024.

2023 is a development year, meaning micro-credentials, qualifications and programmes do not currently exist or contain a mechanism for change. However, as the enablers are delivered, we would anticipate our advice moving to Give effect in 2024 with specific advice on mix of vocational education and training.

Support from TEOs

BCITO is working with apprentices who have on site leadership responsibilities in the last third of their programmes to capture evidence contributing to Site Management qualifications. A microcredential in this space would formalise achievements and support progression.

The goal of the BRANZ Transition to a zero-carbon built environment programme is that, by 2050, the building and construction industry is delivering net-zero carbon buildings in an affordable way.

Strategic Pillar Alignment

POU TUATORU | Transforming the Workforce

We create an adaptable, diverse and skilled workforce that enables the industry to thrive.

POU TUATORU | Transforming the Workforce

We create an adaptable, diverse and skilled workforce that enables the industry to thrive.

Have Regard Advice | Plumbing, Gasfitters & Drainlayers

Change is coming but it not quite here for Plumbers, Gasfitters and Drainlayers (PGD). There are two projects underway which will impact programmes and delivery in the sector in 2024:

Programme Framework Review Project

- Review of proposed delivery model for Version 3 programmes.
- Includes a review of the Level 3 unified programme to ensure it aligns with the Level 4 delivery model.
- Create a New Zealand Programme for both Level 3 and Level 4

Capability and Capacity Review Project

- Review the capability and capacity of all Level 3 and Level 4 PDG providers.
- Understand current and future state, and where additional capacity is required.
- Is there justification for a specialist centre? (PDG Centre of Excellence)

Both of these project have implications for the mix and nature of delivery in 2024. However, the Provider Capability and Capacity report is due in **mid-to-late April 2023**, and the Programme Framework Review Project is not due to deliver a revised programme until **July 2023**.

This advice notes that changes will be coming but the exact nature of change is not known at the 6th April, when 2024 funding advice is due with the Tertiary Education Commission.

Have Regard

5

That TEC notes the potential impact on 2024 delivery stemming from the outputs and recommendation from the two projects and makes allowance for additional advice which has the potential to impact funding decisions.

Problem Statement

Waihanga Ara Rau has been working with the TEC, TEOs and Plumbing, Gasfitting and Drainlaying sectors to address issues with the delivery of training that has disadvantaged many learners. Two projects will be reporting back after the deadline for advice to TEC with recommendations that will lead to systemic change.

Questions to be answered

What will be the change elements in the New Zealand Programmes for both Level 3 and Level 4 qualifications and what will be the outcome of the capability and capacity review of all Level 3 and Level 4 PDG providers

Background

There have been a significant number of over duration learners in the Plumbing, Gasfitting and Drainlaying sectors. Waihanga Ara Rau has been leading projects to address the impact on individuals and identify systemic change

Role of Education

TEOs can struggle to support learners as they may want because of staffing issues. It is a very competitive employment market and attracting qualified tutors out of the industry is extremely difficult.

Evidence

TEC is currently funding Waihanga Ara Rau to address the over duration learner issue and address systemic issues.

Status & Timing

This is a reviewed qualification. We anticipate programmes leading to the reviewed qualification will be delivered from January 2024.

Have Regard Advice | React to local needs

The introductory page to this section highlighted the tension of competing factors impacting the construction and infrastructure workforce and the learners within it. One of the impacts noted was the server climate events that have occurred in the early part of 2023.

The recovery phase from these events will create regional rebuild activity which is as yet hard to forecast in detail but is occurring at a time when there is 387% more work being put in palace per quarter than February 2011 when the Canterbury earthquake happened.

The cost of recovery will be significantly less than the Canterbury earthquake but the areas affected are much larger. The regional impacts of the Auckland floods in late January and Cyclone Gabrielle are still being understood. As at 1st April been over weather 96,000 insurance claims with the Earthquake Commission (EQC) noting that it has close to 4,000 claims relating to land damage.

Of the \$2.4B in insurance claims approx. 17.5% by dollar value are related to domestic home claims. This will see a surge in workforce demand particularly in the Hawke's Bay, we anticipate the need for increased pre employment and in employment training for all construction trades in the impacted areas.

	Hawke's Bay	Tairāwhiti	Auckland	NZ Total
Number of claims	20%	3%	40%	100%
Value of claims	66.0%	6.2%	14.5%	100.0%

Please note there has been significant damage to the roading network from server climate events. Infometrics estimated the Hawke's Bay and Tairāwhiti impact to be approx. \$1.97B but this is yet to be confirmed with Waka Kotahi and Councils. As with construction this increased volume of infrastructure work is likely to increase the need for pre employment and in employment training for infrastructure sector, on a localised basis.

Have Regard

6

Waihanga Ara Rau wants TEOs to be able to **react to changes in local workforce demand and the mix of training**. While feedback suggests the level of training nationally may remain constant we expect to see a shift in the regional distribution of learners with the potential for a shift in the ratio of trades learners are working and studying in.

Define the issue

The Canterbury earthquake saw a 9-12 month delay in significant rebuild activity, while we are seeing insurance claims being settled we also know there are already significant delays in getting people on site to complete work even if a building consent is not needed. It is therefore difficult to forecast if the 'lag' will be a feature of the recovery phase or not.

Source of information

Industry and community [Insurance Business NZ](#) and [Insurance Council of New Zealand](#)

VET Solution

Localised communities have been decimated by the recent server climate events and part of the call to 'Build Back Better' will undoubtedly be to leave a legacy of training, skills and knowledge in the community not just the pain of needing to rebuild. Understanding the views of Iwi, Hapū and other regional groups and supporting them to achieve their vision for the future is critical for success.

Role of WDCs/RSLGs

Waihanga Ara Rau is working alongside RSLGs to understand local impacts and link them with industry solutions.

Status & Timing

The outcome of this work is likely to see an increase of learner numbers in the regions impacted by the floods in late January and Cyclone Gabrielle.

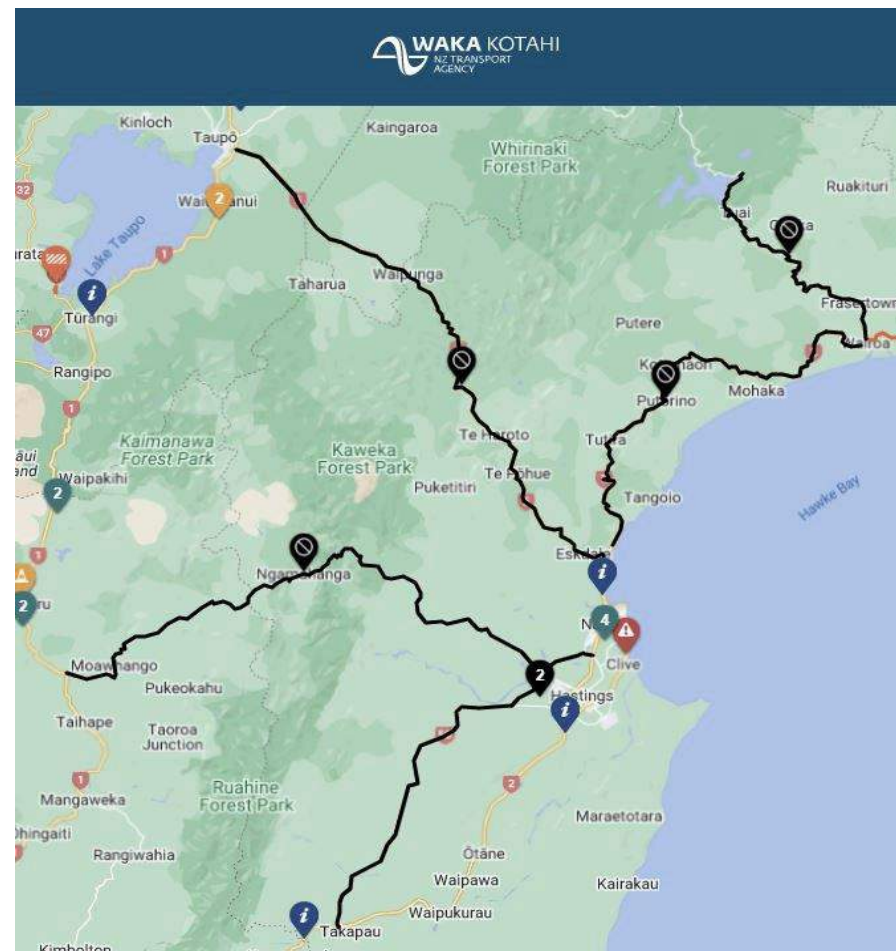
Sample Information for Weather Effectuated Regions on 1 March 2023

Learner numbers modeling from Infometrics supplied by BCITO and Connexis business units of Te Pūkenga

	Hawke's Bay / Gisborne		Auckland / Northland	
	Existing	Additional	Existing	Additional
Carpentry	4,292	402	48,892	1,251
Civil	2,643	233	22,790	611
Plumbing, gas-fitting and drainlaying	1,216	122	11,469	287
Painting and decorating	713	64	7,247	246
Electrical	1,852	73	21,142	206
Roofing	462	62	5,628	181
Cement and concrete	431	51	4,565	162
Scaffolding	257	44	4,175	150
Energy	496	44	5,089	114
Plastering and PPCS	307	38	3,270	102
Interior systems	286	37	2,992	92
Frame and truss	330	34	3,167	61
Flooring	330	24	3,461	53
Glass processing and glazing	201	12	3,210	56
Floor and wall tiling	165	21	1,668	44
Telco	130	42	7,101	15
Brick and block	130	23	1,236	19
Architectural aluminium	110	7	2,287	29
Building inspector	66	7	707	22
Water supply	167	10	1,636	19
Surveyor	98	9	1,134	19
Joinery	130	10	1,365	15
Telecommunications	201	16	3,059	8
Cranes and elevated platforms	86	7	673	15
Stonemasonry	27	3	328	6

Source: Infometrics - full definitions of occupational sectors are available on request

Example of impacts on the Hawke's Bay roading network

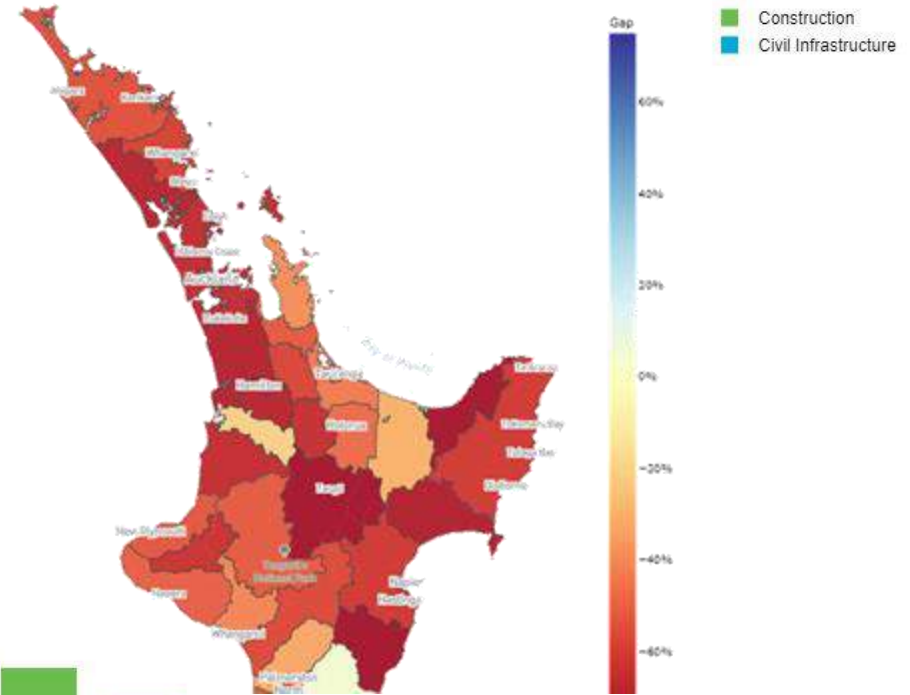


Project Pipeline in Weather effected regions on 1 March 2023

Included Northland, Auckland, Bay of Plenty, Gisborne and Hawke's Bay data from the Waihangara Rau Workforce Information Platform



The five year forecast pipeline of work for the listed regions (below) was \$139B prior to recent weather event with all areas showing a workforce supply demand gap of between 30% and 60% (right)



Have Regard Advice

Have Regard

7 Waihanga Ara Rau wants TEOs to work with industry to develop **fit for purpose programmes supporting the delivery of the concrete pump operators** to ensure future health and safety training meets industry needs.

8 Waihanga Ara Rau wants TEOs to work with industry to **develop fit for purpose programmes supporting the delivery within the Demolition industry**

Define the issue

Concrete pumps are used to bring concrete into sites that are not accessible for concrete trucks. The sector has recently become regulated so there is an opportunity to create a pathway for the recognition of trained competent concrete pumpers.

Demolition includes high risk activities and has little regulation in regard to expected practice. Demolition also produces significant waste that goes to landfills. Currently there is no training pathway in New Zealand and this is an opportunity develop the first qualification to support training pathways in this industry.

Source of information

This opportunity was raised by New Zealand Association of Concrete Contractors (NZACC) BCITO Concrete NAG, and through Waihanga Ara Rau's Needs Analysis. 67 concrete pumping business responded to an industry initiated survey identifying 260 operators who would train as soon as credentials were available.

This opportunity was raised by the New Zealand Demolition and Asbestos Association, Demolition employers, and through Waihanga Ara Rau's Needs Analysis

Vocational education and training solution

This is a **new qualification**, expected to be an additional strand of the New Zealand Certificate in Concrete Skills (Level 3). We anticipate programmes leading to the new qualification will be delivered **3rd or 4th quarter 2024**. Industry has indicated an initial intake of approx. 260 learners

This is a **new qualification** which is close to completion, it is anticipated delivery would begin in **early 2024**. Initially there is an expectation of one general qualification and associated skills standards. Training is likely to include predominantly on-job components.

Role of WDCs/RSLGs

Waihanga Ara Rau is working with concrete pumping contractors and companies on the development of unit standards and qualifications/credential. It also facilitates the On Site Construction Strategic Reference group and is developing a workforce development plan for the sector.

Waihanga Ara Rau is working with New Zealand Demolition and Asbestos Association on the development of unit standards and qualifications/credentials. It also facilitates the On Site Construction Strategic Reference group and is developing a workforce development plan for the sector.

Support from TEOs

The development of a programme and/or micro credential will need to be brokered with one or more TEOs to support this initiative.

The development of a mixed mode workplace, distance and face to face programme will need to be brokered with one or more TEOs to support this initiative.

Have Regard Advice

Have Regard	9	10
Define the issue	<p>Waihanga Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the Timber panelisation / Flooring cassettes</p> <p>Timber componentry manufactured off-site is becoming more and more popular amongst fabricators with many of the larger plants already manufacturing flooring cassettes.</p>	<p>Have regard – Waihanga Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the 11 Underground Utility Location.</p> <p>Utility strikes cause significant disruption and cost and present a high risk of serious injury. Utility locators do not have a pathway for recognition. The introduction of a micro-credential will support contractors to have confidence in the skills of utility locators.</p>
Source of information	<p>Developed at the request of the BCITO Frame and Truss National Advisory Group</p>	<p>The opportunity was raised by Worksafe as a result of Progressed with National Utility Locating Contractors Association (NULCA), Waihanga Ara Ra Needs Analysis</p>
Vocational education and training solution	<p>This is a new qualification, development work has been scoped and the output is expected to be an additional strand of the NZC Timber Structure Manufacture (L3) and standards. It is anticipated programmes will be offered leading to the award of this programme in the 3rd or 4th quarter 2024.</p>	<p>This is a new work-based micro-credential which is close to completion, it includes six purpose-built standards, it is anticipated delivery would begin in early 2024.</p>
Role of WDCs/RSLGs	<p>Waihanga Ara Rau is working with FTMA and industry representatives on the development of unit standards and qualifications/credential. It also facilitates the Off Site Construction Strategic Reference group and is developing a workforce development plan for the sector.</p>	<p>Waihanga Ara Rau is working with industry representatives on the development of unit standards and qualifications/credential. It also facilitates the Infrastructure Strategic Reference group and is developing a workforce development plan for the sector.</p>
Support from TEOs	<p>The development of a mixed mode workplace, distance and face to face programme will need to be brokered with one or more TEOs to support this initiative.</p>	<p>The development of a programme and/or micro credential will need to be brokered with one or more TEOs to support this initiative.</p>

Have Regard Advice

Have Regard

11 Waihangara Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Steel Fixing (Reinforcing installation)**

Define the issue

There are identified skill gaps and the lack of a benchmark minimum standard for steel fixing industry personnel. There is no stand-alone steel fixing qualification for those specialist technicians who work unsupervised completing steel fixing project requirements.

Source of information

This is a Covid-19 Construction Recovery Packages Project, noted in the Construction Sector Accord Skills Strategy. Developed with Concrete NZ

Vocational education and training solution

This is a **new work-based micro-credential** which is close to completion, it includes four purpose-built standards, it is anticipated delivery would begin in **early 2024**.

Role of WDCs/RSLGs

Waihangara Ara Rau has worked with the steel fixing industry on the development of unit standards, published September 2022, and the registration of a micro-credential. It also facilitates the On Site Construction Strategic Reference group and is developing a workforce development plan for the sector.

Support from TEOs

The development of a programme and/or micro credential will be brokered with Vertical Horizons to support this initiative.

12 Waihangara Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Temporary Traffic Management (TTM) Design**

TTM has become increasingly complex as a result of complex roading projects and the need to prevent injury and death. There is no current recognition for people designing TTM schemes. Good design supports TTM managements and strikes a balance between risk management and minimising disruption to road users.

Developed at the request of the Temporary Traffic Management Industry Advisory and Governance Groups. (includes representation from across the sector and regulator, Waka Kotahi)

This is a **new work-based micro-credential** that includes three purpose-built standards which are close to completion, it is anticipated delivery would begin in **early 2024**.

Waihangara Ara Rau has worked with the Temporary Traffic Management industry on the development of unit standards and the registration of a micro-credential. It also facilitates the On Infrastructure Strategic Reference group and is developing a workforce development plan for the sector.

The development of a mixed mode workplace, distance and face to face programme will need to be brokered with one or more TEOs to support this initiative.

Have Regard Advice

Have Regard	13 Have regard – Waihanga Ara Rau advises the TEC to fund delivery of training of Floating Floors and Carpet Tiles micro-credentials when they become available in 2024.	14 Have regard – Waihanga Ara Rau advises the TEC to fund delivery of training of Flooring Fundamentals & Introduction to Flooring micro-credentials when they become available in 2024.
Define the issue	Floating Floor and Carpet Tile installation are techniques not included in current qualifications.	Qualifications for the Flooring sector have traditionally been delivered exclusively in the workplace and are multi-year programmes with limited opportunities for learners to complete introductory or taster training before entering into an apprenticeship. The introduction of these micro-credentials will support pathways into careers in the sector.
Source of information	See the workforce supply and demand for flooring workers on the following page.	See the list of PTEs who received 2023 PTE Strategic Funding link . The Allied Trades Institute Ltd currently offering Pre-Apprenticeship Training link . See the workforce supply and demand for flooring workers on the following page.
Vocational education and training solution	These are new qualifications which are on the 2023 workplan, it is anticipated delivery would begin in the 2nd or 3rd quarter 2024 . The development of skills standards and micro-credentials address existing gap and provide learning and career pathways for people in the industry to specialise in Floating Floors and/or Carpet Tiles.	These are new micro-credentials the component skill standards are close to completion, it is intended to be completed in a provider-based or on-job context. It is anticipated delivery would begin 1st or 2nd quarter 2024 The Flooring Fundamentals micro-credential is intended to lead on to the NZC in Flooring Planning & Design, the Intro to Flooring MC is intended to lead on to the NZC in Flooring Installation.
Role of WDCs/RSLGs	Waihanga Ara Rau is developing skills standards to support this development and wants to support the delivery of this micro-credentials in 2024.	Waihanga Ara Rau is developing skills standards to support this development and wants to support the delivery of these micro-credentials in 2024.
Support from TEOs	The development of a programme and/or micro credential will be brokered with the Te Pūkenga and the Allied Trades Institute Ltd to support this initiative.	The Allied Trades Institute Ltd has been funded by TEC to develop a set of micro-credentials to meet the needs of the new flooring qualifications that provide training pathways from pre-apprenticeship to apprenticeship.

Flooring worker supply and demand as at April 2023

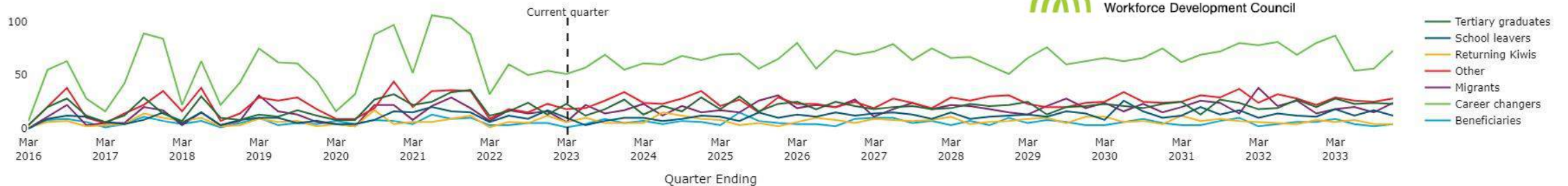
Included Northland, Auckland, Bay of Plenty, Gisborne and Hawke's Bay data from the Waihangara Rau Workforce Information Platform

Number of flooring workers needed to deliver the pipeline of forecast work



Source: <https://wip.org.nz/supply-and-demand/>

Origin of flooring workers entering the workforce



Total flooring industry job openings forecast April 2023 by Infometrics for the period 2023-2028 is 2,295

Have Regard Advice

Building, recognising and retaining skills and knowledge in the sector

Have Regard

15 Waihangā Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Trade Assistant (pre-trade micro-credential)**

16 Waihangā Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Paving industry**

Define the issue

Significant infrastructure and construction builds around NZ have highlighted the need for a training solution that supports significant numbers of learners to receive relevant training to prepare them to undertake basic construction and fabrication tasks, as well as provide essential skills such as time management and communication.

Permeable paved surfaces allow for water to go back into the ground, to relieve pressures on stormwater systems. Changes to housing intensification and properties requiring permeable surfaces around buildings.

Source of information

Raised by Dunedin Hospital collective, progressed with industry employers, documented in Waihangā Ara Rau business case

Initial industry need has been identified and requested by Firth, ConcreteNZ, PaveCraft. Documented in Waihangā Ara Rau Needs Analysis.

Vocational education and training solution

Likely to be a **new micro-credential** and standards in a provider-based or on-job context (or a blend of both provisions) this development is proposed for 2023 with **delivery in 3rd or 4th quarter 2024**.

Expected to be a **new qualification** and standards and likely to be work-based learning. This work is proposed for 2023 with **delivery in 3rd or 4th quarter 2024**.

Role of WDCs/RSLGs

Waihangā Ara Rau is working with Hanga-Aro-Rau on the development of skills standards and the registration of a micro-credential

Waihangā Ara Rau is working with Concrete NZ, Suppliers and the Paving industry on the development of skills standards and the registration of a qualification or credential. It also facilitates the Off Site Manufacturing Strategic Reference group and is developing a workforce development plan for this sector.

Support from TEOs

The development of a programme and/or micro credential will need to be brokered with one or more TEOs to support this initiative.

The development of a mixed mode workplace, distance and face to face programme will need to be brokered with one or more TEOs to support this initiative.

Have Regard Advice

Building, recognising and retaining skills and knowledge in the sector

Have Regard

17 Waihanga Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Joinery detailing** qualification.

18 Waihanga Ara Rau wants TEOs to work with industry to develop fit for purpose programmes supporting the delivery of the **Introductory Crane** micro-credential

Define the issue

There is currently a reliance on immigration to provide skilled workers. Currently employers are bringing in detailers from overseas as there is not a qualification or training pathway in NZ.

There is a need for a micro credential to provide a structured and accessible way for individuals to gain the necessary knowledge and skills to enter the crane operation industry, and address the shortage of crane operators entering the sector and the aging workforce.

Source of information

Need to be identified during review of NZC in Joinery, by BCITO Joinery NAG and by Master Joiners NZ.

Raised during the review of Cranes qualification suite in 2022, reiterated by Cranes Assc in 2023.

Vocational education and training solution

Expected to be a **new qualification** and standards and likely to be a blended mode of delivery with on-job components. This work is proposed for 2023 with **delivery in 3rd or 4th quarter 2024**.

A **new micro-credential** that provides recognition of the essential entry level knowledge and skills, comprised of skill standards, mixing practical and soft skills. This work is proposed for 2023 with **delivery in 3rd or 4th quarter 2024**.

Role of WDCs/RSLGs

Waihanga Ara Rau is working with Master Joiners on the development of skills standards and the registration of a qualification. It also facilitates the Off Site Manufacturing Strategic Reference group and is developing a workforce development plan for this sector.

Waihanga Ara Rau is working with Crane Association of New Zealand on the development of skills standards and the registration of a credential. It also facilitates the Access Trades Strategic Reference group and is developing a workforce development plan for this sector.

Support from TEOs

The development of a programme and/or micro credential will need to be brokered with one or more TEOs to support this initiative.

The development of a mixed mode workplace, distance and face to face programme will need to be brokered with one or more TEOs to support this initiative.

Have Regard Advice

Building, recognising and retaining skills and knowledge in the sector

Have Regard	19 Waihanga Ara Rau advises the TEC to fund delivery of training of tube and coupler scaffolding installers via the micro-credential it funded Vertical Horizonz NZ Ltd to develop in the 2023 PTE Strategic Funding round.	20 Waihanga Ara Rau advises the TEC to fund delivery of training of Edge Protection Installers via the micro-credential it funded Vertical Horizonz NZ Ltd to develop in the 2023 PTE Strategic Funding round.
Define the issue	Vertical Horizonz NZ Ltd was awarded UFS strategic Component funding to develop and implement a micro-credential for tube and coupler scaffolding as part of the 2023 PTE Strategic Funding round. At the time of advice submission the micro-credential is not Register of NZQA-approved Micro-credentials but delivery is anticipated in 2024.	Vertical Horizonz NZ Ltd was awarded UFS strategic Component funding to develop and implement a micro-credential for Edge Protection Installers as part of the 2023 PTE Strategic Funding round. At the time of advice submission the micro-credential is not Register of NZQA-approved Micro-credentials but delivery is anticipated in 2024
Source of information	See the list of PTEs who received 2023 PTE Strategic Funding link .	See the list of PTEs who received 2023 PTE Strategic Funding link .
Vocational education and training solution	Delivery of a new micro-credential and associated skills standards for tube and coupler scaffolding installers. This work is proposed for 2023 with delivery in 3rd or 4th quarter 2024 .	Delivery of a new micro-credential and associated skills standards training of edge protection installers via the. This work is proposed for 2023 with delivery in 3rd or 4th quarter 2024 .
Role of WDCs/RSLGs	Waihanga Ara Rau is developing skills standards to support this development and wants to support the delivery of this micro-credential in 2024. It also facilitates the Access Trades Strategic Reference group and is developing a workforce development plan for this sector.	Waihanga Ara Rau is developing standards to support this development and wants to support the delivery of this micro-credential in 2024. It also facilitates the Access Trades Strategic Reference group and is developing a workforce development plan for this sector.
Support from TEOs	The development of a programme and/or micro credential will be brokered with Vertical Horizons to support this initiative.	The development of a programme and/or micro credential will be brokered with Vertical Horizons to support this initiative.

Have Regard Advice

Building, recognising and retaining skills and knowledge in the sector

Have Regard

21 Waihanga Ara Rau wants TEOs to work with partners and industry to identify fit for sector models that **enhance trainer assessor capabilities**.

22

Waihanga Ara Rau wants TEOs to work with industry to develop and deliver fit for purpose programmes supporting the delivery of a reviewed NZC in Customer Premises Systems qual and a new Level 3 qualification for **structured data cabling**.

Define the issue

Industry wants to see the development of an assessor/trainer micro-credential for technical experts who are close to retirement and have an employer willing to support them to move into assessor/trainer roles within their business.

The New Zealand Certificate in Customer Premises Systems (Level 4) strand in Structured Cabling is not meeting the needs of industry but we do not believe any TEO is currently offering this strand so there are no implications for current funding

Source of information

This opportunity was raised on the 09/03/23 by the Civil and Water Community of Practice made up of L&D Managers (See Role of WDC below) and reiterated in feedback from Alan Pollard CE Civil Contracting New Zealand on the development of a workforce development plan.

The technical working group supporting this development project includes seven leading companies in this field supported by two TEOs (See support from TEOs section below)

Vocational education and training solution

The concept is a **new micro-credential** going beyond verification or assessment to include training in pastoral support, career guidance and literacy and numeracy. Based on recent activity and earlier recommendation this micro credential could also include cultural competency and diversity components. This work is proposed for 2023 with **delivery in 3rd or 4th quarter 2024**.

This **reviewed qualification** will provide a career and learning pathway for structured data cabling. It has connections with existing electrical career and learning pathways and would complement initial technical training or provide a pathway for future career development of qualified electricians. This work is planned for 2023 with **delivery in 3rd or 4th quarter 2024**.

Role of WDCs/RSLGs

Waihanga Ara Rau is facilitating the Civil and Water Community of Practice made up of Learning and Development Managers from leading contractors including HEB Construction, Higgins, Fletcher Construction, Brian Perry Civil, Watercare and Wellington Water

Waihanga Ara Rau will reviewed the NZC in Customer Premises Systems qual focusing on the Structured Cabling strand, develop a new Level 3 qualification for structured data cabling, develop any associated skill standards and develop and industry endorsed learning pathway.

Support from TEOs

The development of a programme and/or micro credential will need to be brokered with one or more TEOs to support this initiative for delivery in 2024.

Two TEOs are part of the Technical Working group with an additional four TEOs supporting the group

Have Regard Advice

Building, recognising and retaining skills and knowledge in the sector

Have Regard

23 the prioritisation of **funding for the New Zealand Certificate in Electricity Supply (Transmission Operational Switching) (Level 4)**. *Subject Area: Power Line Installation and Maintenance.*

24 the prioritisation of **funding for the New Zealand Certificate in Electricity Supply (Transmission Operating Sequence Control) (Level 5)** *Subject Area: Power Line Installation and Maintenance.*

Define the issue

To meet New Zealand's growing clean energy needs, the Electricity Supply industry needs to hire two people everyday for the next five years and beyond. Transformational growth is set against a backdrop of unprecedented labour shortages in construction, infrastructure and IT; serious COVID-19 restrictions on workforce immigration, and a change in long-term immigration policy toward low-volume / high-skills. On top of this, a quarter of the ESI workforce will reach retirement age over the next decade. Potential and current employees want to be able to visualise and plan for their futures, yet avenues within the industry are either broken, hidden or challenging to access.

Source of information

To meet future energy demands and decarbonisation targets, as much generation capacity will need to be built in the next 15 years as was built in the past 40 years. (Source: Transpower) Informatics forecasts over 6,300 total job openings by 2028.

Vocational education and training solution

This qualification provides the electricity supply industry with graduates who can action operating sequences for planned and unplanned activity. It provides options for career development and educational pathways to achieve it in the Power Line Installation and Maintenance sector of the ESI workforce

This qualification provides the electricity supply industry with graduates who can manage and undertake operating and switching tasks on transmission assets. It provides options for career development and educational pathways to achieve it in the Power Line Installation and Maintenance sector of the ESI workforce

Role of WDCs/RSLGs

Waihangara Ara Rau has facilitated the workforce planning for the ESI workforce and identified career development and educational pathways see <https://www.reenergise.nz/insights> and the following page. It has also developed a workforce activation strategy Co-designing solutions to attract the workforce of tomorrow. <https://www.reenergise.nz/downloads>.

Support from TEOs

There are established providers in the Electricity Supply sector, not all utilise TEC funding however we identify these qualifications in our advice to TEC as it is publicly published and is of direct relevance to all Tertiary Education Organisations.

An aerial photograph of a construction site, showing a grid of rebar being laid out on a concrete slab. Several workers in orange safety vests are visible, working on the site. The image is overlaid with a dark, semi-transparent grid pattern.

Projects Supporting our Advice.

Waihanga Ara Rau, alongside other organisations, are about to launch a series of resources that will support the enhancement of sector leadership capability **(Have Regard Advice #3)**.

The following two pages highlight these resources.

Enhance construction microcredential and small business management and capability

Working with SME's Waihanga Ara Rau with the support of BCITO has developed resources to support delivery of six micro-credentials including:

1. Basic Construction
2. Demolition and Renovation
3. On Site Assembly
4. Interior Linings
5. Exterior Envelope
6. Steel Fixers (Waihanga Ara Rau module)

Also developed are sector relevant resources supporting the delivery of the New Zealand Certificate in Business (Small Business) Level 4 - The development of digital learning resources to support the delivery can be used by any education provider in New Zealand in a way that meets the needs of their individual learners. The resources may be utilised in a variety of settings including face to face, fully online (self-paced or instructor led), or a mix of both. Units within this Certificate are focused on Human Resource skills covering:

1. Recruitment and Retention
2. Remuneration and Rewards
3. Discipline and Disputes
4. Legislation and Compliance
5. Personal and Professional Development

Enhance sector leadership capability resources

Through an extensive stakeholder engagement process in 2021, a project started by BCITO and completed by Waihangara Ara Rau, it was identified that there was a need to support the sector. As a result, the development of *10 Interactive modules were developed:

1. Team management
2. Recruitment and retention
3. Numeracy and literacy in construction
4. Creating a learning space
5. Communication
6. Diversity and inclusion
7. Cultural awareness and Support
8. Women in trades
9. Mental health and wellbeing
10. Sexual harassment, discrimination, and bullying

These can be completed both on a desktop computer and a smartphone.

Support packages are also provided in a variety of formats that meet different accessibility needs and learner styles, all provided free of charge. This includes a six episode podcast series 'Building Belonging' which breaks down the barriers preventing more diversity and inclusion in trades, and paves the way for a more inclusive future:

1. What's Going Wrong / What's Going Right? – Current state of play
2. What Does Cultural Respect Look Like? – Let's quantify what this actually looks like on the ground, why it's important, and how you can foster it in your business.
3. Striking a Balance with Gender Equality
4. Keeping Our Heads Above Water – Mental health
5. Supporting our Wāhine
6. Setting Solid Foundations: How do you recruit a diverse workforce?

Five written article/video asset were also produced covering:

1. Gender Diversity
2. Sexual Harassment
3. Recruitment
4. Retention
5. People Managers

The resources will be launched collectively in the second quarter of 2023 via a number of channels, as well as being on offer to all providers to integrate into their own systems. These educational assets are provided free of charge, and provide the industry with a comprehensive package of materials that support our employers.

An aerial photograph of a construction site. The ground is covered with a dense grid of steel rebar. Several workers in orange safety gear are visible, some standing on the rebar and others near a concrete slab. The lighting is dim, suggesting an overcast day or early morning/late afternoon. The overall scene is industrial and focused on infrastructure development.

RSLG Relationships

RSLG's are an important relationship that ensures we use our respective mechanisms, to better support industry, communities and regions. As both organisations continue to establish themselves, it is vital that we continually foster this relationship and create a more connected 'vocational, education and tertiary system', alongside TEC and wider sector.

RSLG's have provided us with a unique perspective on industry needs from a regional lens. It has helped further validate some of our engagement insights while also providing additional insights, to help us better understand the needs of the Construction & Infrastructure sector. A summary of these are highlighted in the following pages.

Alignment with Waihanga Ara Rau April Advice to TEC

This document has outlined Waihanga Ara Rau's *Give Effect and Have Regard* advice for 2024 investment (some of which is also signalling future pieces of advice). It is important that our advice is a true reflection of industry needs across Aotearoa, New Zealand. Therefore it was critical that the regional voices, captured by the RSLG's, are not missed.

Below is a collection of RSLG's voices that align with some of our *Give Effect and Have Regard* advice contained in this document:

Maintain investment in plumbing gas fitting and drain laying apprenticeships and increase investment in support for delivery that accelerates delayed apprenticeships+

Plant operator training (including licence and endorsements)

infrastructure development in engineering programmes from L 2 – L 6 especially for water, electrical, civil and roading engineering skills and heavy machinery operations

Training provisions that meet learner, region and industries immediate and future needs

Culturally appropriate wrap around pastoral care

More training targeting women, Women in Trades Program, Girls with Hi-Vis

Increased provision of assessors/instructors for apprentices in the building and construction sector

Courses that accurately reflect mātauranga Māori context and considerations

Invest in cultural competence

Investment in skills for supervision, management, and project management

TEC identify and fund Mā Māori Mō Māori

Responsive to impacts of climate change

Provision of New Zealand Certificate in Electrical Pre-Trade (Level 3)

Alignment with Waihanga Ara Rau 'Industry Voice Engagements

There are similar themes coming across RSLG's particularly with respect to the six key 'industry voice' themes identified above. Some of the key findings below:

01

Labour/Skills Shortages

It came as no surprise that labour/skills shortages was highlighted across RSLG advice, given our conversations to date. What has become more prevalent is the exacerbation of these issues for regions affected by recent floodings and cyclones.

There is also a need to address skill shortages in emerging industries such as the power generation sectors.

02

Training

Scaling up of programmes that have proven to be successful for example Māori Pacific Trades Training and cohort type delivery.

Also, ensuring training provision is responsive to the regions needs. Other matters include continued promotion of 'earn-as-you-learn' opportunities, lifelong learning, and culturally appropriate pastoral care.

03

Technology/Digital Change

Digital literacy and capability has been highlighted as an important issue for several regions. Micro-credentials could be used to allow learners/employees to remain up to speed and ideally ahead, of technology advancement.

The move to online learning has provided greater access however the issue of digital equity i.e. access to devices and internet can be a barrier for some.

04

Equity Considerations

There is evidence of support for equity considerations highlighted by us. However, one matter that was raised was the 'equity of provision/delivery' for regions, in particular more rural based communities.

In relation to this, was to ensure funding was responsive to such matters and providers are not disincentivised into delivering training to these types of communities

05

Impacts of COVID-19

It appears as though the impacts of COVID-19 has somewhat morphed into BAU type advice for most regions i.e. not explicitly stating COVID-19.

However, the impacts are still lingering and have been highlighted across the other key themes e.g. skill shortages, digital equity, etc.

06

Climate Change/Sustainability


Matters regarding climate change are front of mind for many regions. Being better responsive to future events through targeted training solutions has been suggested.

However, being able to apply a ha uora/wellbeing approach to delivery of training and provision will be vital to remove a barrier to people being able to attain appropriate skills.

Unique Insights from the Regions

Below is a summary of regional insights that were somewhat 'unique'. Although these could be grouped under our key themes and/or advice, in most instances the insight was quite explicit and therefore should be highlighted separately. These will require further analysis however it is possible that they could feature in future Waihanga Ara Rau advice, once they are further validated.

- Bespoke literacy & numeracy programmes for Construction and Infrastructure that meets learners needs
- Welding skills are in demand in Bay of Plenty and would like to support funding to either increase or maintain access to training. *We note that this listed as Construction insights and would need to be determined whether it fits in Hanga-Ara-Rau's remit*
- Workplace literacy provision for immigrants – who should be responsible for funding this?
- Support access to leadership/supervisory training for final year apprentices and those who have completed their training
- Environmental management training for roading, construction, infrastructure, machine operators
- Ability to 'fast-track' a learners qualification journey where appropriate.

An aerial photograph of a construction site, showing a grid of rebar being laid out on a dark surface. Several workers in orange safety gear are visible, working on the grid. The grid is composed of a dense pattern of small squares, with larger rectangular sections highlighted in a lighter color. The overall scene is dark and industrial.

WAYPOINT TUARIMA

New and reviewed qualifications.

July 2023 - June 2024

<https://www.waihangaararau.nz/for-industry/quals-work-in-progress/>

Qualification Lists

New qualifications or programme implementation, those under review or to be reviewed in 2023

Number	Title	Type	Level From	Level To	Credits From	Credits To	Review Date
4515	New Zealand Diploma in Detailing (Structural) (Level 5) with strands in Light Steel Frame, Reinforcing Steel, Structural Steel, and Precast Concrete	Diploma	5	5	120	120	31/12/2026
2738	New Zealand Certificate in Carpentry (Level 4) with optional strand in Metal Roof Cladding Installation	Certificate	4	4	310	320	31/01/2027
3614	New Zealand Certificate in Electrical Equipment in Explosive Atmospheres (Level 4)	Certificate	4	4	40	40	30/11/2027
4747	New Zealand Certificate in Electricity Supply (Transmission Operational Switching) (Level 4)	Certificate	4	4	40	40	30/11/2027
4748	New Zealand Certificate in Electricity Supply (Transmission Operating Sequence Control) (Level 5)	Certificate	5	5	50	50	30/11/2027
4761	New Zealand Certificate in Reticulated Gas Pipelines (Metering and Pressure Control) (Level 5)	Certificate	5	5	90	90	30/11/2027
3687	New Zealand Certificate in Electricity Supply (Operation) (Level 4) with optional strand in Hydro-operation	Certificate	4	4	85	105	1/01/2028
2767	New Zealand Certificate in Electrotechnology (Level 3) with strands in Installation, and Service	Certificate	3	3	95	95	28/02/2028
3775	New Zealand Certificate in Infrastructure Works (Bitumen Surfacing Construction) (Level 4)	Certificate	4	4	120	120	28/02/2028
3966	New Zealand Certificate in Piling (Level 4)	Certificate	4	4	150	150	28/02/2028