



International
Labour
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Government of Tonga

► Market and skills assessment of the construction sector in Tonga



- ▶ **Market and skills assessment of the construction sector in Tonga**

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The PCCMHS programme is implemented by the ILO, the International Organization for Migration (IOM), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and the Office for the High Commissioner for Human Rights (OHCHR) along with the Pacific Islands Forum Secretariat (PIFS) and the Platform on Disaster Displacement (PDD). The PCCMHS programme is supported by the New Zealand International Development Cooperation Programme.

Preface

The construction sector plays a foundational role in shaping resilient, inclusive, and sustainable economies across the Pacific. In the Kingdom of Tonga, this sector is particularly significant. It underpins national infrastructure development, supports economic diversification, and provides vital employment opportunities for communities across the islands.

This Market and Skills Assessment of Tonga's Construction Sector comes at a critical juncture. Tonga continues to navigate the complex impacts of global economic disruptions, climate change, natural disasters, and shifting labour market dynamics. At the same time, the country is presented with opportunities to strengthen domestic industries, enhance workforce capabilities, and invest in pathways that promote decent work.

This publication reflects the International Labour Organization's commitment to supporting Tonga and other Pacific Island Countries in advancing productive employment, skills development, and social inclusion. The assessment provides a comprehensive analysis of the construction market system, identifies key constraints affecting sector growth, and highlights practical opportunities for strengthening skills development frameworks.

Importantly, the report emphasizes that skills are not merely a workforce issue, they are central to economic resilience, enterprise development, and national progress. Addressing skills shortages, improving training systems, and supporting work-based learning are essential for enabling Tonga's construction sector to meet current and future demands.

The ILO extends its sincere appreciation to the Ministry of Trade and Economic Development, government partners, employer's organizations, workers unions, training institutions, and all stakeholders who contributed valuable insights to this study. Their engagement and collaboration are instrumental in shaping evidence-based policies and interventions.

I believe that this report will provide valuable guidance to policymakers, industry stakeholders, development partners, and training institutions. By working collectively, Tonga can continue to strengthen its construction sector as a driver of sustainable growth, quality employment, and national resilience.



Martin Wandera

Director

ILO Office for Pacific Island Countries

Foreword



The Government of the Kingdom of Tonga recognizes the construction sector as a strategic pillar of national development. Infrastructure investment, housing, and climate-resilient construction are essential not only for economic growth but also for improving the quality of life of our people.

This Market and Skills Assessment provides a timely and valuable insight into the evolving dynamics of Tonga's construction sector. It highlights both the strengths of the industry and the challenges that must be addressed to ensure sustainable and inclusive growth. Among the most pressing issues identified are skills shortages, workforce mobility pressures, and the need to strengthen training and certification systems.

Tonga's economy faces unique structural realities, including geographic dispersion, limited domestic market size, and high exposure to external shocks. Within this context, strengthening domestic industries and investing in human capital are critical priorities. The construction sector offers significant potential for employment creation, enterprise development, and enhanced national resilience.

The findings of this assessment reinforce the importance of aligning skills development with industry needs. Enhancing technical and vocational education and training, expanding work-based learning opportunities, and improving coordination between employers and training providers will be key to building a workforce that can meet the demands of modern construction practices.

The Government is committed to fostering an enabling business environment, strengthening regulatory frameworks, and supporting initiatives that promote decent work. We also recognize the importance of expanding participation in the sector, particularly for women, youth, and persons with disabilities, ensuring that growth is inclusive and equitable.

On behalf of the Government, I extend sincere appreciation to the International Labour Organization, the study author, and all stakeholders who contributed to this important work. The evidence and recommendations presented in this report will support informed decision-making and guide future policy and programme development.

We look forward to continued collaboration with national and international partners in strengthening Tonga's construction sector for the benefit of our economy and our people.

Hon. Dr. Viliami Uasike Latu

Deputy Prime Minister & Minister

Ministry of Trade and Economic Development
Kingdom of Tonga.

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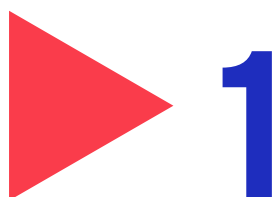
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Abbreviations and acronyms

AEWV	Accredited Employer Work Visa (New Zealand)
APTC	Australia Pacific Training Coalition
ESWA	Essential Skills Work Visa (New Zealand)
FY	financial year
GDP	gross domestic product
MET	Ministry of Education and Training
MOI	Ministry of Infrastructure
MTED	Ministry of Trade and Economic Development
NC	National Certificate
NEET	not in employment, education or training
PALM	Pacific Australia Labour Mobility
PCL	Pacific Consulting Limited
PSET	post-secondary education and training
RSE	Recognised Seasonal Employer (New Zealand)
SET	Skills and Employment Tonga (World Bank)
TASP	Tonga Australia Support Program
TDB	Tonga Development Bank
TEC	Tonga Energy Commission
TERMPLUS	Tonga Energy Road Map 2021–2035
TIST	Tonga Institute of Science and Technology
TLFS	Tonga Labour Force Survey Report
TNQAB	Tonga National Qualifications Advisory Board
TNU	Tonga National University
TPL	Tonga Power Limited
TQF	Tonga Qualifications Framework
TTI	Tonga Tertiary Institute
TVET	technical and vocational education and training
USP	University of the South Pacific





Introduction

Tonga, like many Pacific Island nations, is heavily dependent on tourism, agriculture and remittances, which have all been significantly affected in recent years by external shocks such as the COVID-19 pandemic, natural disasters and global economic disruptions. As a small island economy, Tonga faces a range of structural challenges, including a limited domestic market, geographic dispersion and isolation, and high reliance on imported goods. These factors, combined with inflationary pressures linked to global geopolitical events, have increased economic vulnerability for both businesses and households.

The country also grapples with labour market constraints due to the large number of Tongan workers participating in regional labour mobility schemes, particularly in Australia and New Zealand. While these programmes provide critical remittance income for families, they also contribute to workforce shortages in key domestic industries. Furthermore, Tonga's youth population remains high¹ continuing demand on the education and training system, heightening the need for more opportunities that equip young Tongans with the skills required for stable and meaningful employment.

To address these challenges and to identify pathways for job-rich economic growth, the ILO facilitated a National Employment Policy workshop in March 2023, alongside a Sector Selection Workshop. These events brought together representatives from the Tongan Government, social partners and civil society organizations to assess priority sectors with strong potential for employment generation.

Among the sectors reviewed, construction and trades emerged as a strategic priority due to its potential to drive economic expansion and create sustainable employment opportunities in line with Tonga's Strategic Development Framework. Strengthening this sector will also play a crucial role in enhancing the country's resilience to climate change and natural disasters by ensuring the development of safe and sustainable infrastructure, which is essential for Tonga's long-term stability and growth.

1.1. Purpose and scope

Building on the identification of the construction and trades sector as a priority for job-rich growth, the ILO engaged Pacific Consulting Limited (PCL) to conduct a market skills assessment. This study aims to examine the key functions, drivers and constraints within Tonga's construction and trades sector while evaluating its capacity to generate skilled employment opportunities that align with both current and future national needs.

This report provides an in-depth analysis of the market for construction-related skills, assessing both the supply of and demand for skilled workers. It also explores opportunities to expand green jobs and enhance workforce inclusivity, particularly for traditionally underrepresented groups such as women. Additionally, the report outlines the sector's structure, emerging trends and key stakeholders, along with the challenges they

¹ Sixty per cent of the population was aged 29 or younger at the last census (Tonga, TSD 2024a).

encounter – especially in fostering decent employment. Lastly, the report presents a range of potential policy and reform options to support the sector's growth and sustainability.

1.2. Methodology

This report utilizes a mixed methodology approach involving:

- a desk review of relevant policy, strategy and research documents;
- 36 qualitative key informant interviews; and
- a survey of construction and trades sector employers undertaken by the Ministry of Trade and Economic Development (MTED).

The interviews were carried out in September 2024, with the survey being implemented from November 2024 to early February 2025.

For the survey, in-person discussions using a standardized questionnaire were held with representatives of 101 construction-related businesses on Tongatapu, Vava'u and Ha'apai.² The survey collected inputs on a wide range of topics including;

- employment numbers;
- firms' experiences and expectations with regards to hiring, training and retaining workers; and
- firms' impressions on a range of areas and challenges impacting their business' ability to effectively operate, invest and grow.

The qualitative interviews were conducted with key stakeholders related to the construction and trades sector to gather information and insights. These included the following groups:³

- representatives of construction or trades-related businesses and utilities providers;
- post-secondary education and training (PSET) providers, administrators and trainers;
- senior officials of government ministries working in policy, management, procurement or service delivery roles for infrastructure and education; and
- entities who provide other types of support or funding for skills development or the construction sector.

These were predominantly one-on-one interviews and took place on Tonga's two most populated islands of Tongatapu and Vava'u. The interviews particularly focused on the supply of skilled workers and skills development needs, as well as challenges and difficulties faced by construction firms and their interest in further work-based training approaches. The interviews also allowed the consultant to gather insights relating to the impacts of labour mobility programmes, inclusion and the ability to improve sustainable business models and practices.

1.3. Conceptual definitions

For this study, it is important to define several concepts that will be referred to and used to frame the context of the analysis. These include:

Qualification: A formal expression of the vocational or professional abilities of a worker which is recognized at the international, national or sectoral levels. This generally involves an official record of achievement that recognizes successful completion of education or training or satisfactory performance in a test or examination, such as a certificate, diploma or degree.

² Details of the types of businesses to be included and the approach to sourcing the target list of firms can be found in Appendix I.

³ Further details of the individuals and organizations interviewed can be found in Appendix IV.

Skill refers to having the ability to carry out a mental or manual activity, acquired through learning and practice. “Skill” is an overarching term that includes knowledge, competency and experience, as well as the ability to apply these to complete tasks and solve work-related problems.

Skills shortage: A quantitative term to describe a situation in which certain skills are in short supply, for example, where the number of jobseekers with certain skills is insufficient to fill all available job vacancies seeking those skills.

Skill gap: Used as a qualitative term to describe a situation in which the level of skills of the employee or a group of employees is lower than that which is required to perform the job adequately, or the type of skills held by a worker does not match the job requirements.

1.4. Limitations

Key informant interviews

The consultant undertook the 36 key informant interviews. These were predominantly in-person interviews, with a single remote interview conducted in advance of the consultant’s in-country visit. Identification of relevant stakeholder was done through a combination of consultant research and inputs from staff at the MTED.

In August 2024, just prior to the consultant’s visit, Tonga hosted the Pacific Islands Forum leader’s summit. The timing of this event had a significant impact on the preparations for the research. In particular, it impacted the MTED’s ability to engage with the consultant in the run-up to the visit, and to provide direction and feedback on the planned research approach. This resulted in several areas of misguided decision-making and planning, which had some impacts on the success of the in-person research visit. Examples include the consultant being unaware of a national public holiday, which occurred on one of the two days that were planned to engage stakeholders in Vava’u and resulted in lower than expected engagement from local stakeholders. It also resulted in limited sharing of stakeholder contact information and limited validation of planned stakeholder interviewees ahead of the consultant’s travel.

This lack of inputs, coupled with out-of-date and incorrect information available on the internet led to some unexpected challenges. For example, information gathered by the consultant in advance of the visit indicated that there is a Vava’u campus for Tonga Tertiary Institute offering a range a post-secondary vocational training in construction. However, the consultant was unable to directly contact the school using the available contact information online,⁴ and upon arrival was informed that there were no longer any post-secondary courses available in Vava’u, with none of the local stakeholders consulted aware of any such institution.

These challenges contributed to a lower than expected number of interviews undertaken in Vava’u (just three). However, a higher than planned number were undertaken in Tongatapu, including with companies that operate in other islands, which is expected to make up for this deficiency and provide a sufficiently broad range of feedback to inform the study.

Other limitations included at least two scheduled interviewees being unable to meet due to other work commitments or not showing up at the agreed time.

Survey questionnaire and approach

The survey attempted to collect data on range of areas related to the operations of broad construction and trades firms with a view to providing a comprehensive picture of the local market. It was led by consultants working for the MTED and undertaken with the support of the Tonga Statistics Department (TSD). The construction and trades sector survey was conducted in parallel to several other sector-specific employment surveys on behalf of the ILO.⁵

⁴ The phone number had been reallocated to an unrelated person.

⁵ Including for tourism, health and education sectors.

The target to reach as many companies as possible across a range of divisions in Tonga – as well as the broad range of implementing stakeholders and of target respondents – appear to have created some challenges for timely survey implementation. The launch of the survey was initially delayed while implementing stakeholders were engaged, and the survey questionnaire and methodology was refined. These steps had already been pushed back due to the MTED's commitments related to the Pacific Islands Forum event and supporting other ILO consultants with in-person research visits.

The delayed survey launch, in November 2024, resulted in additional challenges for the survey team. They had difficulties gathering responses within the projected timeframe due to other commitments of businesses, which were trying to finalize projects before the end of year, as well as the closure of many businesses over the period of Christmas and New Year. As a result, the survey period was extended several times to allow the survey team to restart survey work in January 2025, and to give time to reach the large number of construction and trades businesses that had not yet responded to the survey.

In addition to difficulties completing the survey, there were substantive issues with the format of the survey itself, and consequently the responses to some portions of the survey, which impacted PCL's ability to draw meaningful insights from these responses. These included:

- For many questions where firms had multiple options to select from and selected the “other” option, they did not supply any further information in the provided text field as to what this “other” entailed. This included for questions relating to business challenges, occupations that are difficult to fill, the actions taken to overcome staff skills gaps, reasons why businesses have not arranged staff training, and the types of training that businesses have supported in the last two years.
- In other cases, the text responses provided to expand upon multiple choice answers were useful, but did not offer sufficient information to provide important context. For example, although two firms indicated that one of their top three reasons for difficulties related to hiring staff was that there was “no local course or training provider available”, but there was no specific information to clearly state which type of course or training they were looking for (although we have attempted to infer this). In general, the survey questionnaire could perhaps be improved in future by more directly targeting this area and by seeking precise inputs on which areas of specialist skills or training needs are demanded by firms. For example, although specialist skills needs were the highest ranked skill improvement need for firms, the complexity of the responses (for instance, concerning the range and number of specialist services individual firms provided) meant that it was difficult to accurately determine what specific specialist areas were relevant to them. This kind of information would be beneficial to better inform training institutions to develop new courses in areas where there are gaps.⁶
- The wording of some questions also does not appear to align with some of the responses, which suggested either lack of clear understanding by respondents or perhaps by enumerators. One example is in relation to a question asking employers to estimate the percentage of staff who were not fully proficient across specific occupational categories. In some cases the percentage values provided by the firm do not align with number of staff these companies employ in those occupational categories.
- There were also instances where questions appear to have been skipped, including in cases where other responses consistently relate to items which were skipped (for example, responses relating to specific occupations when no staff were listed as employed in these occupations.)

⁶ In this study the authors have been able to make some inferences concerning some areas of training based on broad and comprehensive interview feedback. However, this is unlikely to be a complete view of demand for all firms given the broad range of specialized services offered within the sector.

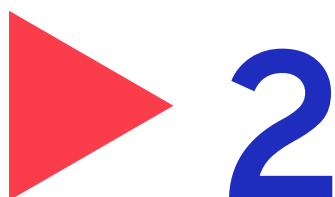
Data availability

Several key areas for data, insights or background information either were not available, not shared with the researchers as expected or lacked detailed current information. These included:

- ▶ Information relating to the total number students undertaking post-secondary education in Tonga was limited, with the Tonga National Qualifications Advisory Board (TNQAB) not having access to a comprehensive list of students receiving qualifications from training providers each year. The only information they had was for students participating in national certificates, which only account for a small number of the construction and trades courses on offer.
- ▶ Information was requested from two major training providers – Tonga National University (TNU) and the Tonga Tertiary Institute (TTI) – relating to student numbers by course. Although interview respondents indicated it is possible for them to share this information, no data was provided in response to our follow up requests.
- ▶ Published information relating to the range of courses offered and the certificate level of courses was available from several sources online, but these appear to have inconsistencies and include information that is out-of-date and that potentially does not reflect the current course offerings. This included inconsistencies between published courses on the websites of the TNQAB and TNU.⁷
- ▶ Information on the number of beneficiaries of Tonga Development Bank (TDB) loans and scholarships was requested, but ultimately no data was shared.

7 For example, out-of-date information was provided on the operations and courses available from the Puono Campus in Vava'u.





Overview of the Tonga construction sector

2.1. Market overview

Tonga has experienced negative population growth, with a 3 per cent drop in population seen between 2011 (103,252 people) and 2021 (100,179 people) (Tonga, TSD 2017; Tonga, TSD 2022). The annual population decline of around 0.3 per cent for the last ten years is expected to continue for the next decade before improving slightly, with the United Nations estimating the population in 20 years to be roughly the same as it is now (UNDESA, Population Division 2024). Although Tonga currently has a declining population, it has a median age of 22.5 years, with 46 per cent of the population under 20 years old and a fertility rate of 3.5 children per woman – typically indicative of fast growing populations (Tonga, TSD 2024a). The relatively flat population growth is the result of the impact of external migration on Tonga's population once they reach employable age, with an average of 2,400 Tongans migrating each year (a net migration rate of -2 per cent).

Tonga's gross domestic product (GDP) is 1,040.7 million pa'anga (US\$428 million), while GDP per capita is 10,410 pa'anga (US\$4,284) (Tonga, TSD 2024b). The past decade has been marked by several natural disasters, most notably the Hunga Tonga-Hunga Ha'apai volcanic eruption and tsunami, tropical cyclone Gita, and the COVID-19 pandemic. Even so, Tonga's economic activity has increased, led by construction and recovery in tourism and agricultural output, with the International Monetary Fund projecting real GDP growth to accelerate to 2.4 per cent in the 2025 financial year (FY). The country's economy is also heavily reliant on remittances with net transfers of 491 million pa'anga (US\$208 million) in 2023 making up 27 per cent of gross national disposable Income (GNDI) (Tonga, TSD 2024b).⁸

Recent inflation in Tonga has been slightly higher than the South Pacific region as a whole, averaging 5 per cent annually since 2020, and reaching a high of 10 per cent in 2023 (ADB 2025). The Tonga Statistics Department estimates that the economy was 1.9 per cent larger in 2023 than it was 2018. It also estimates that real GDP per capita had grown by 2.4 per cent since 2018, and was 19 per cent higher in 2023 than it was in 2012 (Tonga, TSD 2024b).

If Tonga is to achieve the vision and outcomes expected in the Tonga Strategic Development Framework, particularly to ensure “a more progressive Tonga supporting a higher quality of life for all” (Tonga, MOF 2015), then it will need to grow and develop its construction sector. This development is required to facilitate its intended national outcomes for more inclusive, sustainable and successful provision and maintenance of infrastructure, as well as to improve resilience to climate risks and risks from natural disasters.

⁸ GNDI is calculated by combining gross national income (GNI) with net current transfers to Tonga.

There are major infrastructure needs across the islands, particularly for public infrastructure, including roads, airports and terminals, wharves, hospitals and schools. Investments in infrastructure development play a fundamental enabling role for the rest of the economy, and if they do not occur, then this places a brake on economic growth and a ceiling on the level of development that Tonga will be able to achieve.

A thriving construction sector necessarily relies on there being a sufficient number of flourishing private or public contractors with the capacity to develop and maintain the country's infrastructure needs, as well as a sufficient number of skilled workers across a number of core occupations. Therefore, to understand the skills needs of any given sector, it is critical to first develop a shared understanding of the occupational profiles required for the functioning of that sector. For this assessment, the occupational profiles that were considered relevant to providing construction and trades services – and requiring specific skills, knowledge or experience – included:

- architects and surveyors;
- engineers (including civil/structural/electrical/geotechnical engineers and quantity surveyors);
- technicians (including engineering technicians, draughtsmen, clerk of works, building inspectors and others);
- construction managers and project managers;
- construction supervisors (including foremen and site managers);
- house builders, bricklayers, plasterers, concrete placers, concrete finishers and related workers;
- carpenters and joiners;
- roofers;
- floor layers and tile setters;
- glaziers and window and shutters installers;
- plumbers and pipe fitters;
- air conditioning and refrigeration mechanic;
- painters, varnishers, building structure cleaners and related trades workers;
- labourers (civil or construction works);
- electrical and solar technicians (including electricians);
- plant and heavy machine and vehicle operators; and
- welders and metalworkers.

These occupations were determined through the following three-step process. First, consideration was given to the International Standard Classification of Occupations (ISCO-08) definitions developed by the ILO. Second, PCL consolidated them into occupational groups based on distinct occupations in the local labour market and vocational training courses offered in Tonga. Third, this list was shared with representatives of the MTED and the Tonga Statistics Department for their feedback.

2.2. Trends and forecasts in the construction industry

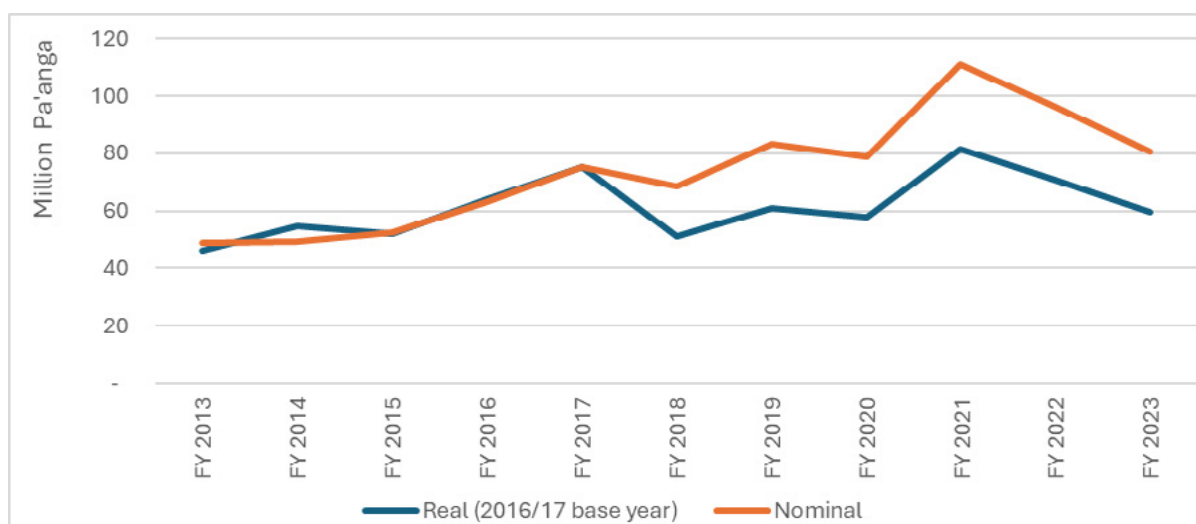
Tonga's construction industry has fluctuated over the past ten years, as shown in figure 1. There was strong growth up to FY2017 to a peak of 75 million pa'anga (making up 7.4 per cent of total GDP), which then fell to 68 million pa'anga in 2018 (nominal prices) (Tonga, TSD, n.d.).

The impacts of Cyclone Gita, which hit in 2018, led to the sector experiencing growth due to reconstruction works in 2019. However, this economic recovery suffered further setback in 2020 with the impact of Tropical Cyclone Harold and the global COVID-19 pandemic.

Although the Tongan economy, and the construction sector generally, picked up in 2021 – due to strong remittances, donor support and ongoing reconstruction efforts – this was severely impacted by further shocks in 2022. The Hunga Tonga–Hunga Ha'apai eruption and tsunami and the ongoing impacts of COVID-19 caused widespread damage with the construction sector, which peaked in nominal terms at 111 million pa'anga in 2021 before falling to 96 million in 2022.⁹ The sector experienced a further drop in 2023, which appears to have been caused by slow progress in rebuilding damaged infrastructure and significant labour shortages due to increased demand for seasonal workers (IMF 2023). FY2021 was also the year when construction contributed its highest proportion to Tonga's total GDP at 9.4 per cent, with this also declining down to 6.7 per cent by FY2023, reflecting the relative decline in the industry.

Much of the growth in the sector since 2017 (as a share of GDP) was driven by higher prices, as in real terms (that is, considering inflation) the sector generally remained below 2017 levels, aside from briefly exceeding them during the peak in 2021.

► **Figure 1. Contribution of the construction subsector to real and nominal GDP, FY2013–23 (million pa'anga)**



Source: Tonga, TSD n.d.-.

The Government of Tonga's Budget Statement for the Year Ended 30 June 2025 (released in June 2024) forecasts a considerable increase in construction's contribution to real GDP, with projected growth of 14 per cent in FY2024, 13 per cent in 2025 and 9 per cent in 2026, before declining to 4 per cent in 2027. The justifications for this projected increase include ongoing reconstruction efforts and expected development projects positively impacting the construction sector. The Government also expects improving economic performance due to increases in tourism and wholesale and retail trade, with private sector investments supported by remittances also remaining strong.

⁹ Real prices follow a similar trend.

Projecting the potential growth of the construction sector and estimating medium- and longer-term demand for employment within the sector is highly complex and dependent on a broad range of exogenous factors that make any attempt to do so quite academic. The relationship between investment in construction projects, contributions from donor partners, fiscal management by the Government, flows of workers departing on temporary or longer-term economic migration opportunities, as well as the likelihood and extent of natural disasters – which are all outside of the construction and trades sector’s ability to control – create risks of significant deviations from current estimations. For example, in recent years construction activities have been largely impacted by shocks from natural disasters and the pandemic, which were largely unpredictable.¹⁰ Inconsistencies, gaps and delays in reported data also present further challenges to accurately projecting the growth of the sector.

Considerate of these potential limitations, a basic model of estimated growth in the construction sector has been developed to illustrate some of the key drivers involved in future development and to provide some broad indications for how these could impact future growth.

Figure 2 below presents three different potential growth scenarios for the construction sector until 2030 (all nominal figures). In the high-growth scenario, the sector grows to 132 million pa’anga by 2030, but this appears to be quite optimistic. In the low-growth scenario, the sector is projected to reach just 101 million pa’anga by the end of the decade.

The high growth scenario is based on the Government’s own annual projections for (real) sector growth from the Budget Statement 2025 with an assumed glide path down to 4 per cent annual growth from 2028 onwards. The model applies this growth rate to the nominal value of construction’s contribution to GDP for the most recent available date.¹¹ The assumed glide path assumes that construction’s growth will continue to exceed population growth as the country develops, that participation in labour mobility continues to reduce and that ongoing improvements to technical and vocational education and training (TVET) contribute positively to increasing Tongan participation in government- and donor-led national infrastructure projects – for which there is an increased budget allocation over the next year or so.

However, the Ministry of Finance’s projections appear to be optimistic when assessed against historical performance – specifically the expectation for increased budget allocations to directly translate into strong growth in the short term. This assumes that there is sufficient capacity within both the industry and government procurement and project management systems to efficiently implement planned capital budgets.

More pragmatically, the medium growth model scenario assumes that skilled professionals in both government and the private sector have insufficient capacity to effectively absorb the significant increases to the budget for infrastructure, which will most likely result in project delays and lead to annual underspends – as has been seen in recent years. The result is expected to be a more gradual growth in expenditures and in sector output across a longer period.

The medium growth scenario essentially consists of a business-as-usual scenario along with limited improvements driven by ongoing improvements to TVET and reductions in the demand for short-term labour through regional mobility schemes. The scenario forecasts limited demand growth from positive economic growth and increased remittances, and is driven by planned increased investment in infrastructure in the short term.

The medium growth scenario also assumes that the Government will not engage in any major interventions required to increase the number of skilled workers needed to achieve the high growth scenario. Such interventions include steps to increase the number of skilled professionals working in government, as well as targeted

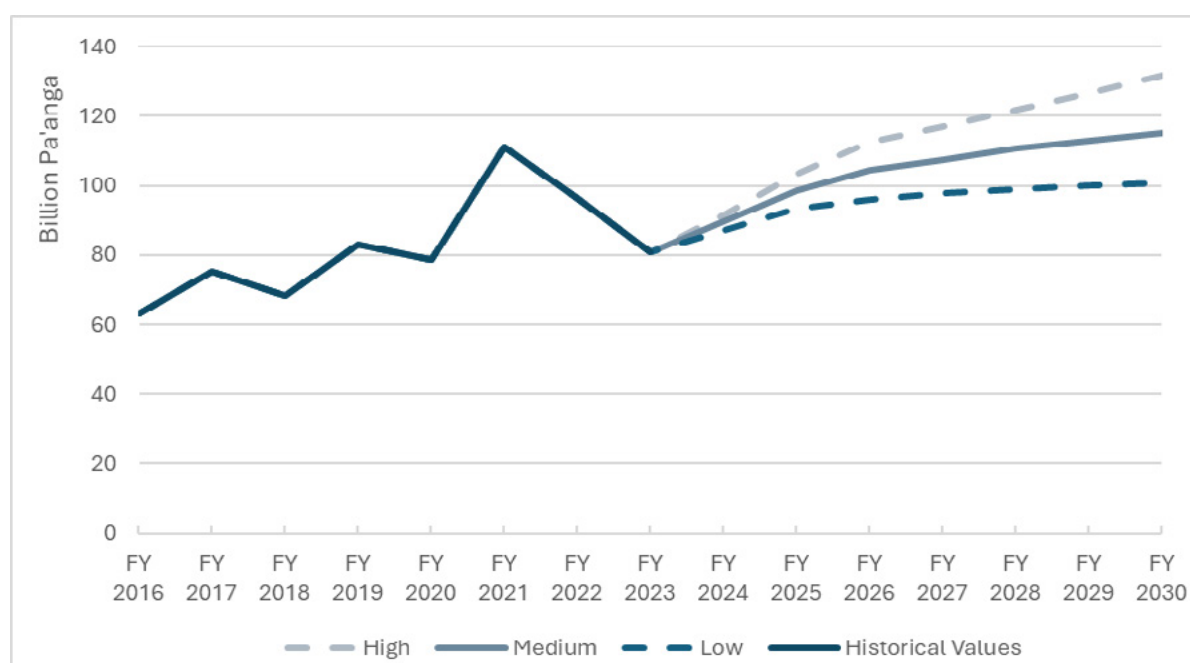
¹⁰ Although the World Bank Climate Change Knowledge Portal states that Tonga has a “less frequent disasters as compared to other Pacific Island Countries” (World Bank, n.d.-b), their statistics were last updated in 2020, and Tonga has since experienced a major eruption and tsunami as well as a large cyclone in the years since.

¹¹ This approach has been taken, rather than applied to real GDP, due to the considerable range of external factors that may impact real GDP’s contribution to the economy – including external shocks such as inflation, economic fluctuations and changes within external donor partner countries and remittances – which make estimating market changes a challenge.

measures to streamline and speed up procurements and project implementation in the short term. Some interventions along these lines are discussed in the recommendations of this report, and could include proactive efforts to address potential skills shortages by tightening restrictions on workers leaving on labour mobility, combined with efforts to retain skilled and unskilled Tongan workers for the construction sector and to attract new ones from overseas in key areas. One example could be to enact employment legislation to demonstrate a commitment to worker welfare. In the longer term, further consideration should be given to addressing the risks of “brain drain” due to the persistent migration of skilled workers, which is likely to impact the efficacy of further investments in TVET training.

The low growth scenario considers several negative factors influencing the sector, including the potential impacts of ongoing demand for labour migration and the draw of longer-term visa opportunities, which would further stifle longer-term capacity growth. The low growth scenario also reflects the risks of future natural disasters and resulting economic risks that would reduce the potential ceiling on sector expansion. These impacts could have conflicting secondary impacts, but are likely to lead to reduced economic performance, reduced living standards and lower government revenues – creating further incentives for economic migration and a tightened fiscal environment that will suppress government investments in infrastructure. The low growth scenario represents the current business-as-usual scenario with no interventions and some additional consideration of the potential impacts of external drivers on sector performance. However, the inherent risks in this scenario can easily be understated and involve far broader impacts on the country, making the outcomes and the potential damage more extensive than just financial losses.

► **Figure 2. Projected future GDP output of Tonga’s construction sector, 2016–2030: High, medium and low scenarios, with historical values (billion pa’anga)**



Source: Author's projections based on the Government Budget Statement forecasts (Tonga, MOF 2024).

Where the construction and trades sector will fall within these three scenarios depends on a wide range of factors, some of which are presented in table 1 below. Many of these factors are out of scope for this report, but they are briefly touched on here due to their key role in determining the future of the sector.

► Table 1. Key factors determining the Tongan construction industry's future growth

Factor	Discussion
Economic growth	At a basic level, the level of economic growth and activity will determine the demand for infrastructure investment and construction. Poor economic performance impacts private households, and businesses will have less capital available to invest in construction, repairs and maintenance. Tonga's recent economic performance has been poor. Of course, all of the below factors will also feed into economic growth.
Level of private investment	There is limited data available about the level of private investment. However foreign direct investment was just 0.6 per cent of GDP in 2022, below the historical average of 1.3 per cent over the last ten years (World Bank, n.d.-a). There is expected to be limited demand for new houses, given the flat or declining population. There are questions related to the anticipated quality of these houses and how much these will rely on the formal construction sector.¹² However, slightly positive demand is expected due to increasing remittances from ongoing external migration.
Government investment decisions	Government capital expenditure on infrastructure is partially funded through domestic revenue, budget support from development partners, and domestic borrowing, although such funding remains limited. Maintenance funding is also constrained. Most capital expenditure is covered by development partner grants – both in cash and in-kind – and, where feasible, through concessional loans. This funding supports the Government's direct capital requirements as well as the larger capital investment needs of public enterprises. The Tonga Government is currently in a state of debt distress. However, the government budget for is expected to grow from 784 million pa'anga in FY2024 to 899 million pa'anga in 2025, with the estimated budget for public infrastructure growing to 168 million pa'anga, of which 15 million pa'anga was recurring (Tonga, MOF 2024). This is up from a revised estimate of 115 million pa'anga in 2024 (with 19 million in recurring) – an apparent increase of 46 per cent. However, 2024's estimated budget had been revised down by the Ministry of Finance from 147 million pa'anga, as they expected only 78 per cent of allocated funding to be spent. This is likely due to delays in implementing and managing projects, and the capacity of the Government to support these projects efficiently. The Government forecasts the budget allocated for public infrastructure to reduce in 2026 to 152 million pa'anga and to drop further in 2027 to 118 million pa'anga – which is likely to be determinant with regards to their future growth expectations for the sector.
Donor investment decisions	Donors have historically been the major source of demand for large-scale projects. There are numerous potential sources of funding, such as the Australian Infrastructure Financing Facility for the Pacific, the Asian Development Bank and the World Bank.

¹² Some interviews indicated that individuals may seek support from professionals to ensure plans and permits are issued, with many people seeking to undertake some of the work themselves with the help of friends and family.

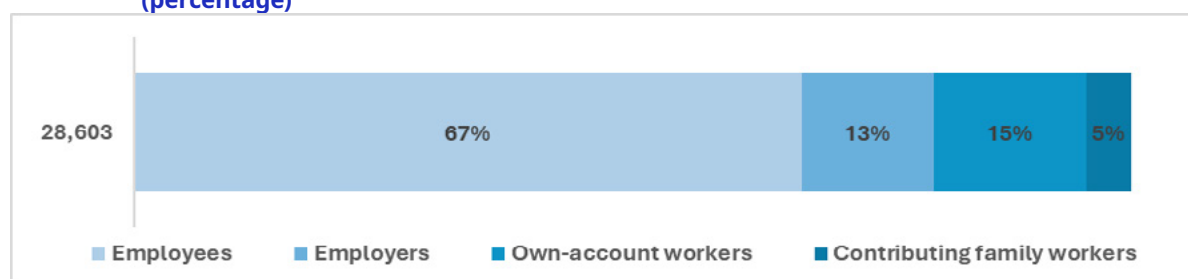
Factor	Discussion
Availability of skilled staff	If the sector does not have access to suitably skilled staff, it simply will not be able to grow to fill its potential. Sufficient access to skilled staff is likely to be the most prominent determinant in the industry realizing the high growth projection considered above. This would result in the market increasing its capacity to absorb investments from both the private and public sectors, ¹ increase the number of local participants in internationally funded infrastructure projects, and both mitigate and potentially overcome the natural leakage expected from continuing participation of Tongans in labour mobility programmes and external economic migration. ² The Tonga National Infrastructure Investment Plan 2021–2030 indicated that a “key features of Tonga’s macroeconomic position include[d] ... capacity shortages in the building industry, including issues with quality of work” (Tonga, TBD 2021).
Broader business environment	This will impact on both broader private sector demand and the ability of construction firms themselves to grow. This is likely to be dependent on ongoing recovery within other sectors, such as tourism, agriculture, and retail and wholesale trade to stimulate additional demand beyond the relatively flat performance in recent years.
Impact of natural disasters/climate change	Tonga is vulnerable to natural disasters such as tropical cyclones, earthquakes, tsunamis, volcanic eruptions as well as water shortages, El Nino climatic oscillation, flooding and saline encroachment, and erosion due to seawater incursion. The impacts of these events can be devastating and have wide-ranging and long-lasting impacts for both communities and the nation, with an estimated average of 40 per cent of the population being affected and costing an estimated 14 per cent of GDP each time there is a disaster (World Bank, n.d.-b). Tonga is also heavily exposed to the impacts of climate change. In roughly the past decade, Tonga has experienced major disasters in the forms of Cyclone Ian (2014), Cyclone Gita (2018), Cyclone Harold (2020) and the Hunga Tonga-Hunga Ha’apai volcanic eruption and tsunami (2022). With each causing economic damage of between 11 and 38 per cent of GDP (Tonga, MEIDECC, NDRMO 2024). The country also closed its borders for nearly two and a half years due to the COVID-19 pandemic, which had a profound economic impact. While some of these natural disasters can lead to a short-term boost for the construction industry as the country rebuilds, in the long run they leave the country poorer and reduce new investment.
External global or regional economic/ political conditions	These will have an impact through several mechanisms, such as the price and availability of construction inputs or the state of the global economy. There may also be impacts on demand and compensation for Tongan workers overseas, which would impact migration and remittances flows, which are a significant part of the Tongan economy.

- 1 The Tonga National Infrastructure Investment Plan 2021–2030 estimated an adsorption capacity, for financing implementing and maintaining infrastructure projects, of 110 million pa’anga per year, or around 550 million pa’anga across the first five years of the plan (Tonga, TBD 2021).
- 2 The 2021 Census indicated that, on average, 2,400 people migrate from Tonga each year, mostly to New Zealand and the United States of America.

2.3. Employment in construction

According to the *Tonga Labour Force Survey Report 2023* there were a total of 28,603 people employed in Tonga in 2023,¹³ 52 per cent of whom were men and 75 per cent of whom were in Tongatapu (Tonga, TSD 2024c). The total number of employees has not materially changed since the previous Tonga Labour Force Survey (TLFS) in 2018 – which saw a total of 28,598 employees (Tonga, TSD 2018b). Employees working for a salary made up by far the largest group of the labour force, accounting for 67 per cent of workers, while 13 per cent were employing others, 15 per cent were own-account workers, and the remainder were contributing to family work (5 per cent) (figure 3). Notably the proportion of those working as employees has increased significantly since the 2018 TLFS, which saw 59 per cent of workers being employees, with most of the change coming from a decline in the share of own-account workers, which accounted for 23 per cent of workers in 2018.

► **Figure 3. Tongan population aged 15+ years in employment by type of labour market activity, 2023 (percentage)**



Source: Tonga, TLFS 2023.

The TLFS 2023 found that construction employed 2,749 people, accounting for 10 per cent of the total working population in Tonga, a particularly high share of workers and an increase from 9 per cent in 2018. Of these, 23 per cent were based in urban Tongatapu. Construction accounts for 10 per cent of all urban workers as well as 10 per cent of all rural workers. Most construction employees (94 per cent) were men.

There were also 246 people employed in the electricity, gas, steam and air conditioning supply sector, 22 per cent of whom were employed in urban areas and 92 per cent were men – making it the sector with the lowest female representation in terms of absolute numbers. Water supply, sewerage, waste management and remediation activities employ 200 people in Tonga, most of these jobs were held by men (76 per cent) and 27 per cent were in urban areas.

The professional, scientific and technical activities sector, which includes engineers, architects and other higher qualified technical roles linked to the construction industry, employ 229 people. More women are employed as professional, scientific or technical workers (59 per cent) than men, and only 21 per cent are employed in urban areas.

2.3.1. Employment in construction: Survey of businesses

The survey of 101 construction-related businesses conducted for this assessment focused on the occupations in table 2 below, which shows the number of companies who employed individuals in a given occupation, as well as the total number of such workers employed by those companies. The surveyed businesses employed a total of 1,586 individuals within the occupations of interest covered by the survey.

¹³ “Employed” was defined as “any work for pay, profit or family gain during the reference period (person who worked during the last one week)” or “has a job or business from which he/she was absent during the reference period”.

► **Table 2. Number of surveyed construction firms employing particular types of workers and number of employees of each type, by occupational grouping**

Occupation	Number of Companies	Number of Employees
Architects and surveyors	20	71
Engineers (including civil/structural/electrical/geotechnical and quantity surveyors)	18	54
Technicians (including engineering technicians, draughtsmen, clerk of works, building inspectors and others)	14	32
Construction managers and project managers	24	51
Construction supervisors (including foremen and site managers)	18	51
House builders, bricklayers, plasterers, concrete placers, concrete finishers and related workers	38	483
Carpenters and joiners	26	115
Roofers	13	55
Floor layers and tile setters	16	47
Glaziers and window and shutters installers	11	32
Plumbers and pipe fitters	18	89
Air conditioning and refrigeration mechanic	12	41
Painters, varnishers, building structure cleaners and related trades workers	14	86
Labourers (civil or construction works)	16	136
Electrical and solar technicians (including electricians)	19	79
Plant and heavy machine and vehicle operators	14	44
Welders and metalworkers	12	44
Other (please specify)	12	76
Total	101	1 586

Note: These groupings will be regularly referred to within the report. In some instances, this may be in shortened form for simplicity and to reduce unnecessary repetition. For example, “House builders, bricklayers, plasterers, concrete placers, concrete finishers and related workers” may be referred to as “bricklayers and concrete placers” and should be considered interchangeably as having the same definition or containing the same group of trades as the table above.

Assuming that the number of people employed has not changed dramatically since the Labour Force Survey 2023, then the recent survey of businesses covered around 46 per cent¹⁴ of employees across the construction, electricity, gas, air conditioning supply, water supply, sewerage, waste management as well as professional, scientific and technical activities sectors. This suggests that the results of the survey may be broadly indicative of employment within the broader construction and trades sector. This is particularly likely given that sewerage and waste management and professional and scientific activities include a range of companies and occupations that were not included within the target population for the construction and trades survey.

14 That is, 1,586 out of a total of 3,424 workers (2,749 + 246 + 200 + 229).



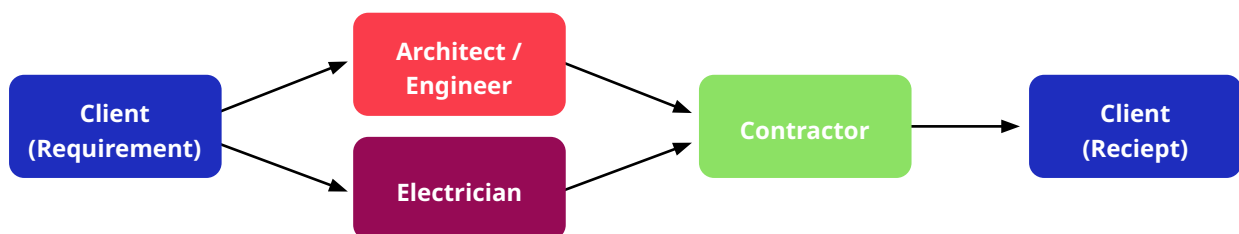
3

Market system

3.1. Core market actors

To assess the market system for construction we need to first develop an understanding of the value chain for construction and trades services.¹⁵ Simplistically, the market consists of the demand from clients looking to procure services and the construction and trades services supplied by contractors to meet clients' requirements. In the case of construction projects, an intermediary step is performed by an architect or engineer to create a design which is to be vetted and approved by the Ministry of Infrastructure. For electrical projects, a design is produced by an electrician, to be vetted and approved by the Tonga Electricity Commission. In both cases, these oversight and quality assurance functions assist in defining the requirements and monitoring their implementation during the project to ensure they are met.

► Figure 4. Broad overview of the construction and trades value chain



The clients for services generally consist of:

1. **Public projects** financed by the Government or donors for public buildings, institutional facilities or civil infrastructure. Examples include schools, hospitals, roads, airports and some water and electricity infrastructure. From FY2018 to FY2023 the Government's net investment in fixed assets was 82 million pa'anga per annum on average, but this is expected to rise sharply in FY2024 to 153 million pa'anga and is projected to continue to grow up to 250 million pa'anga by FY2026 (Tonga, MOF 2022; Tonga, MOF 2024), with investments in buildings and structures expected to be 80 per cent of this total.
2. **Private developments**, include offices and businesses premises as well as residential properties. These are typically financed through a mixture of personal capital, business equity and debt. Examples include commercial office space, stores, hotels and homes. In most instances, the construction is likely to be undertaken by a registered firm, under a formal building permit and the oversight of the Ministry of Infrastructure. However, there can at times be some level of informality, with some construction activities being carried out by an individual or their family/community.

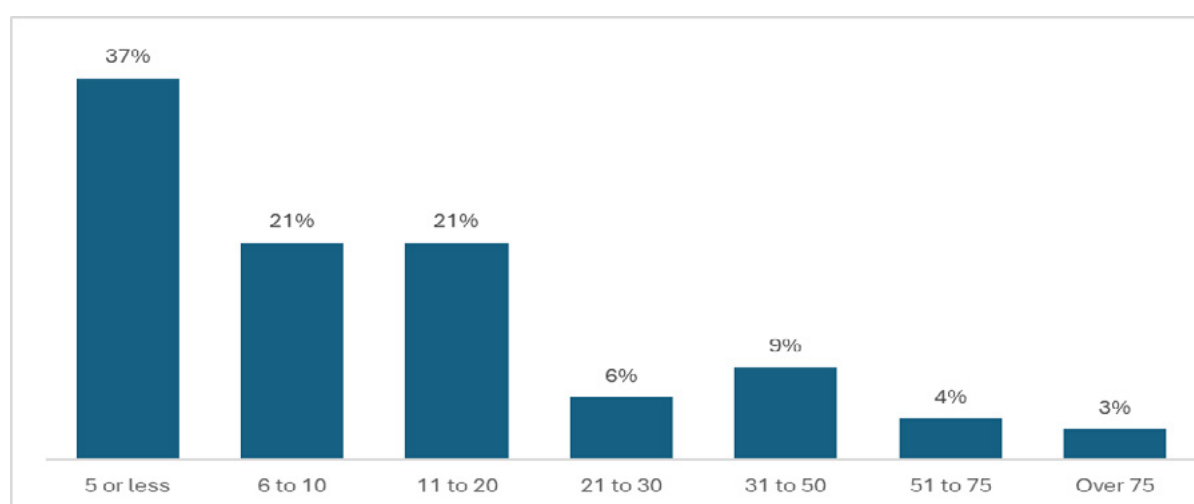
¹⁵ The "value chain" is the full range of activities that are required to bring a product or service from conception through the intermediary phases of production and delivery to final consumers.

The delineation between these clients can at times be unclear, with the sources and types of funding mixed, depending on the nature and scale of the project and the formality and priorities of the client. However, all projects generally tend to align with one of these categories.

The suppliers of construction and trades-related services include private contractors and supplementary service providers such as consultant architects and engineers.

The market for construction and trades services is broad and predominantly consists of smaller firms. Among the surveyed firms, 79 per cent had 20 or fewer employees, 58 per cent had ten or fewer employees and 37 per cent had five or fewer.

► **Figure 5. Breakdown of surveyed construction companies by number of employees (percentage)**



These smaller businesses are often characterized by limited capacity to finance their own construction activities and manage multiple projects at once. They often have a limited number of management staff aside from the business owner – making it difficult to manage change and deal with shocks and challenges.

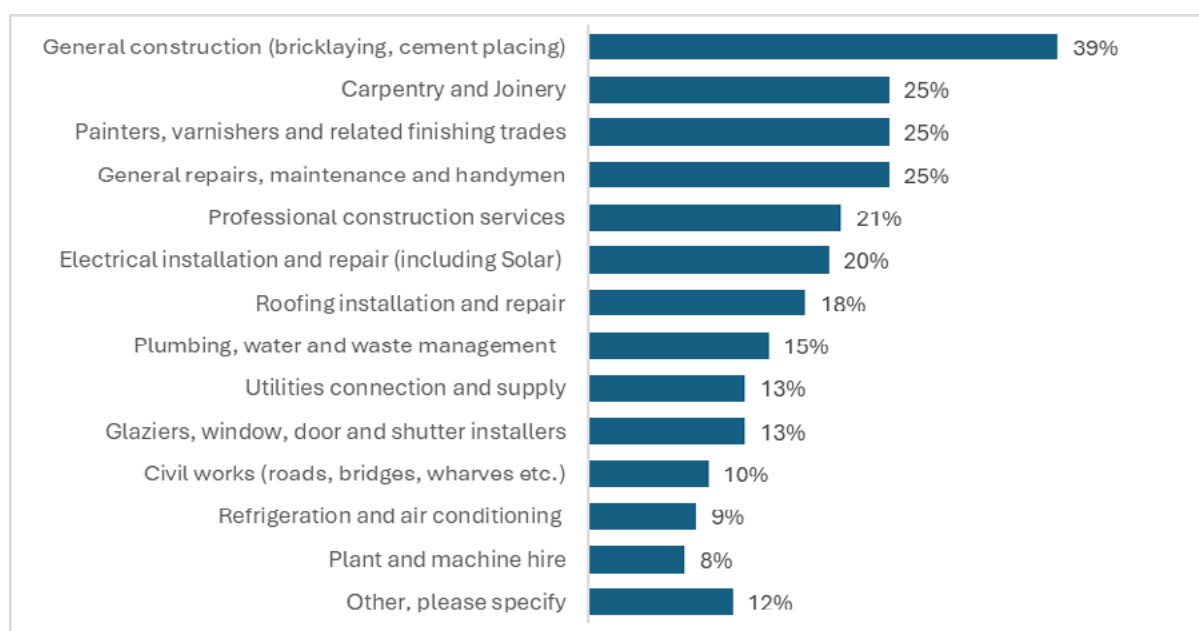
There were seven surveyed companies (7 per cent) with over 50 employees. Unsurprisingly, larger firms also tended to offer a broader range of services than smaller firms (a figure representing this relationship is included in Appendix II).

Larger firms were typically characterized by having a higher capacity to fund their construction activities, and can leverage their own financial arrangements and cashflows to sustain project operations.

However, even the largest local construction firms struggle to compete with major international firms for some of the larger national infrastructure projects. This is typically due to a combination of limited specialist expertise and limited capacity to implement such large and complex projects. However, it is also commonly due to challenges related to sourcing sufficient financing to allow them to sustain operations in line with funder expectations – which is usually a result of the company's typical revenues. This financing barrier that is likely to persist in some form for the near future, as such projects require operations at a cost and scale that make the demand for them highly irregular – which in turn limits the ability of local firms to develop capacity to lead such projects.¹⁶

The survey asked firms to provide information on what types of services they provide, and respondents were able to choose from a selection of 13 different options or specify an alternative option (figure 6).

¹⁶ An example of this includes the current Nuku'alofa Port Upgrade Project, which involves the expansion and upgrade of by far the largest port facility in Tonga, in order to address capacity demands for the next 20 years.

► **Figure 6. Specialist services provided by surveyed construction firms (percentage of firms)**

Note: More than one response possible.

The most common service offerings involve construction of core structural elements of buildings and finishing and maintenance of these buildings. These services include cement placing or bricklaying, painting and cleaning, carpentry and general maintenance, with at least a quarter (25 per cent) of all firms providing these services. Key supporting functions for these activities are also common, including professional construction services for design and oversight (21 per cent), electrical works (20 per cent), roofing (18 per cent) and plumbing (15 per cent).

Notably, only 15 companies (15 per cent) offered plumbing or related water services, while 20 (20 per cent) offer some form of electrical or solar services. Although this may reflect inherent biases within the sample of respondents,¹⁷ it correlates with interview responses that suggested that plumbing services were difficult to obtain and that plumbers are very busy; while electrical services are relatively competitive, with a greater number of contractors with less work available.

Less commonly offered services tend to be more niche or specialist areas. These include contracting for utility connections and supply (13 per cent of respondents), civil works (10 per cent) and plant and machine hire (8 per cent). Providing these types of services often requires contractors to meet higher contractual or financial obligations through investment in costly plant and machinery or to meet more sophisticated levels of accreditation or contracting arrangements. Other more niche services offered include non-structural finishing services such as glaziers and window and shutters installers (13 per cent) and refrigeration and air conditioning services (9 per cent).

Other services specified included firms offering welding (1 per cent), as well as services in areas that may share some common inputs, including skills or equipment, with construction and trades. These include landscaping (2 per cent), quarrying or mining (2 per cent), interior decoration (2 per cent), manufacturing (1 per cent), and selling furniture (2 per cent). One firm provided “general supplies”, which is understood to refer to retail sale of general office supplies and furniture, while another stated “floriculturist” and another “home appliances”.

¹⁷ Maybe more electrical companies answered the survey than plumbing businesses for reasons other than the absolute number of companies in each area. For example, maybe the survey team had access to more contacts working in electrical contractors.

The same firm that provides general supplies also offers carpentry and joinery services and gives a relevant example of small firms attempting to diversify services offerings. This was also discussed during interviews. A specialist plumbing firm had started offering general construction, bricklaying and concrete services to supplement and support their core business and to cross-sell basic construction services (for example, to build small concrete outdoor toilets). The same firm was also experimenting with selling simple products, such as outdoor furniture made with the plastic piping they would typically use for plumbing.

Firms seeking to diversify did so for a number of related reasons, but mostly to increase their revenue streams and reduce cashflow risks by offering more services. This was particularly the case for those offering both products and construction or trades-related services, as the combination provided them a more consistent or reliable income stream. In cases where firms manufactured products themselves, this also offered them ways to keep skilled workers busy and fully employed during quiet periods for construction or trades work. Diversification generally allows firms a greater ability to manage the risks and costs associated with inconsistencies in demand and disruptions to their core business, which appear to be evident within the relatively small local construction and trades sector in Tonga.

The market for the supply of construction and trades-related services also includes government ministries, which can be responsible for infrastructure delivery and procurement services. Many ministries also perform supporting policymaking functions with regard to national infrastructure demand, construction, physical planning, and health and safety standards creation and enforcement. These include the:

- Ministry of Infrastructure, and its Public Works Department, which provide construction services through things such as road construction and maintenance services, as well as acting as a construction regulator through the Building Control Department.
- Ministry of Lands and Natural Resources, and its Physical Planning Unit, which oversee physical planning policy and lands surveying and contribute to the process for approving construction permits.
- Ministry of Police, which is responsible for Fire Services and fire safety approvals for construction permits.
- Ministry of Health, which is responsible for sanitation and health checks for some works permit approvals.
- Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications, which is responsible for overseeing the implementation of energy and climate change policies, including the Tonga Energy Road Map 2021–2035, and in performing environmental impact assessments and approvals for construction works as part of the process for approving construction permits.
- Public utilities, including Tonga Power Limited, Tonga Gas Limited and the Tonga Water Board, which are responsible for the supply utilities services in these areas.
- Utilities regulators, such as the Tonga Energy Commission.
- Individual ministries also typically have units dedicated to facilities management as well as externally contracted Project Management Units established to manage and oversee the implementation of various projects, often funded by international organizations, by acting as a liaison between the Government and the project contractor.

Aside from the core actors in the supply and demand for services, the market's effective function depends on a number of supporting functions and is governed by various rules and regulations.

3.2. Rules and regulations

3.2.1. Building standards, licences and permitting

Licensing of Market Participation

To engage in business activities in Tonga every business is required to have a business licence issued by the Ministry of Trade and Economic Development (MTED) and tax registration. Foreign nationals also require a Foreign Investment Registration Certificate from the MTED prior to commencing business activities. Certain specialist industries and trades are required to provide additional approvals or qualifications from sector-specific regulators to the MTED to receive their licence to provide these services. In the case of construction and related trades there are two key areas where this applies – the licensing and approval of construction firms and the licensing and approval of electrical firms – with each being subject to different requirements.

Construction services licence

Construction firms are required to obtain a letter of endorsement from the Building Control and Services Division of the Ministry of Infrastructure's (MOI) prior to being issued a business licence. The MOI endorsement involves multiple elements to verify the competency and character of the individuals:

1. **Application letter** providing details of the company and its directors or key individuals, including educational background and work experience.
2. **Supporting letter from the Town Officer or District Officer** validating the identity of the individuals, acknowledging their profession as a builder and prior work undertaken.
3. **References** from two clients giving details and feedback on prior work undertaken, as well as two professional references from an engineer or architect giving details of your work experience and their recommendation for the company's suitability to obtain a licence.
4. **Supporting documents** such as CVs, evidence of prior work and copies of builder's licenses issued overseas.
5. **Copy of expired Builder's Trading Licence**, if previously the holder of a licence.
6. **Interview** with Building Control and Services staff, once the prior steps have been completed satisfactorily, to assess the applicant's knowledge and understanding of relevant building codes and legislation,¹⁸ as well as their background, experience and ability to handle building plans.

Although this process appears to be quite comprehensive, some interview responses suggested some concerns with robustness of its implementation and gave indications that individuals without clear construction experience had received licences. Others felt that the system should be reviewed to create tiers of licences, based on the experience, scale or other measures of a company's overall operating capacity.

Electrical contractors licence

To receive an electrical contractor's licence, firms must first be endorsed by the Tonga Energy Commission (TEC).¹⁹ To receive the TEC's endorsement, individuals or firms must:

1. **Demonstrate ten years of practice** in electrical engineering.
2. **Pass a theoretical exam**, or provide evidence of a valid overseas registration (or prior registration with the TEC).

¹⁸ Specifically, the Building Control and Standard Act 2002, the Building Control and Standard Regulation 2005 and the National Building Code 2007.

¹⁹ Previously the Tonga Electrical Commission.

3. Provide company details, including for key individuals, and not have a criminal record.

4. Provide educational background, including indicating if they have undertaken formal training or apprenticeship, and providing detailed evidence of all qualifications.

There are currently 34 licenced electrical contractors in Tonga regulated by the TEC. The TEC also acts as a regulator for the national electrical utility, Tonga Power Limited (TPL), and are responsible for regulating TPL pricing and ensuring public safety by compliance of electrical practices with Tonga's electrical code and standards.

In an interview for this assessment, the TEC suggested that many electricians find it difficult to acquire an electrical contractor's licence due to the combined requirement for ten years of prior experience and passing the theoretical exam. Many experienced professionals struggle with the theoretical exam, as they have typically been away from formal education for some time; while junior professionals do not have the required ten years of work experience. In light of complaints, the TEC is considering lowering these requirements, but this could only be realistically achieved without severely compromising public safety by reducing the number of years of required experience – but this approach still presents risks to public safety.

One option could be for the creation of a short course, which would allow practicing electricians to maintain or improve their theoretical knowledge while working so that they are better prepared for the exam once they have achieved ten years of experience. Another consideration could potentially be to introduce regular certification renewal requirements for practising electricians, ensuring that they retain and validate their knowledge while practicing. This should apply to both contractors and practicing electricians who have not yet acquired their contractor's licence.

Professional practice and standards

Aside from the controls implemented for construction and electrical contractors, there are currently no specific requirements for certification or accreditation of building professionals in construction or trades-related occupations in Tonga. In essence, any individual can work in the sector without a professional accreditation or qualification so long as it is for a registered contractor or in a subsector without specific licencing requirements. In practice, however, most firms still seek qualified individuals, measured in terms of their knowledge and experience.

There are also no professional standards bodies to oversee and ensure the suitability of practitioners within the sector, and recognition of engineers and architects is based on overseas accreditation and qualifications.

Building control

Under the Building Control and Standards Act of 2002 every person intending to erect a building shall first obtain a building permit from the Building Controller – an official position within the MOI's Building Control and Services Division.

The process for obtaining a building permit is substantial, but essentially follows these steps:

1. The applicant must complete an application form, including a range of relevant details relating to the location, ownership and builders licence number expected in relation to the construction works. The application should include:
 - a. locality plan and site plan;
 - b. working drawings, including structural details, plumbing, sanitation and earthworks;
 - c. architectural drawings, including the intended use of each room;
 - d. structural design criteria used;
 - e. design calculations and diagrams;

- f. fire engineering calculations;
 - g. test reports and certificates;
 - h. specifications; and
 - i. Environment Impact Assessment Report from the Ministry of Environment and Climate Change.
2. Assessment of building classification and type for the determination of permit fees and the required level of engineers supporting design work to be included in the application.
 3. Preliminary survey work.
 4. Compliance check against the National Building Code and Standards.
 5. Referral process, wherein the application is sent for review of its suitability by key stakeholders, including the Ministry of Health, Ministry of Police, Environment Department and Ministry of Lands and Survey.
 6. Final approval and issuance of building permit.
 7. Inspection for compliance and issuance of compliance or occupancy certificate.

Although this process appears to be quite detailed and comprehensive, various interviewed stakeholders indicated that it may not be as robust as expected. Some suggested that applications for permits predominantly rely on satisfactory completion of the administrative process, with applications dependent upon the payment of required fees and the provision of a sufficient building contractor's licence. The author is not able to confirm or deny such claims, but according to interviews with the MOI and a consulting engineer, there were a number of recent graduate engineers working within the Building Control unit, and that there was a general need for more experience and mentorship to improve staff capacity. One further challenge highlighted was that a number of these graduate engineers have never practiced in areas of design or even in the supervision of engineering works, limiting their understanding and applied engineering experience, which are invaluable to ensuring robust and effective practices.

National Building Code and Construction Standards

Tonga has a National Building Code that was legislated under the Building Control and Standards Act 2002, and last updated in 2007. The Building Controller is ultimately responsible for the application of and compliance with the Code, with the basic objective of ensuring that acceptable standards of structural sufficiency, fire safety, health and amenity are maintained. There is also a Building Control Authority, appointed by the Minister for Infrastructure, which is responsible for the ongoing review of the Code and the Regulations under the Building Control and Standards Act. The Authority also hears any appeals against a decision of the Building Controller.

Tonga does not, however, have any defined construction standards, and there is currently no authority responsible for developing or maintaining construction standards. The National Building Code references Australian and New Zealand building standards, which are only accessible if one pays substantial annual fees and are restricted to being viewed through digital portals, making them costly and difficult to access for small local firms with limited digital experience or skills. These standards are regularly updated, and some of the standards referenced may have been withdrawn or superseded, requiring ongoing payments to keep up to date.

Interview respondents indicated that this was a particular challenge for some skills providers, who found the costs and difficulties to source up-to-date standards prohibitive. This prevented them from teaching these current standards to their students. At least one firm shared that better access to building codes and building regulations is needed.

The responses from interviewees regarding the permitting process was mixed. Some said it can be relatively quick and easy, with others saying that it required a lot of follow up, and others saying it was very slow. There were also some suggestions that it was largely dependent on paying the appropriate fees.

The lack of specialist knowledge among local authorities as well as practitioners in the industry was raised as a challenge by some firms, with one suggesting that buildings of three floors or taller should be required to have an overseas accredited engineer review due to lack of experience among many Tongan engineering graduates.

3.2.2. Work permits, reserved occupations and exceptions for special category visas

Work permits are issued by the Immigration Division,²⁰ subject to a letter of support from the MTED's Labour Division. The requirements are mostly administrative checks (including a police record and health report), but there is a requirement for the employer to advertise the position locally and to demonstrate that they have been unable to find local workers with relevant skills.

Responses from the interviewed firms generally indicated that the process for obtaining work permits is efficient and economical, but several indicated that there were still high costs and difficulties associated with hiring foreign workers. These included the time and costs to source foreign workers, as well as costs for relocation and accommodation, which create barriers to employing foreign staff. As a result, most businesses indicated a strong preference for hiring Tongan workers, who they generally found to be more cost effective and reliable, particularly when sourcing employees outside of the immediate region and for lower-skilled areas.

3.2.3. Procurement and contracting

The Public Procurement Regulations (PPR) defines various aspects of government procurement in Tonga. Individual government ministries may undertake their own procurement in instances where the value is less than 20,000 pa'anga (Tonga, MOF 2020), but larger procurements are managed by the Central Procurement Unit of the Ministry of Finance, with procurements greater than 100,000 pa'anga requiring a non-objection from the Government Procurement Committee based on the recommendations of the Evaluation Committee.²¹

The PPR sets out rules around establishing the eligibility and qualification criteria for bidders participating in the public procurements. These criteria aim to show the bidder's professional and technical qualifications, financial resources, equipment and facilities, managerial capabilities, experience, business reputation, and personnel, with the intention of demonstrating their ability to fulfil the contract. According to the PPR, qualification criteria should not be overly restrictive in order to ensure healthy competition, and they should be tailored to the specific procurement requirement, taking into account factors such as the contract's size, complexity and technical aspects.

Interview respondents suggested several relevant aspects related to public procurement. This included some firms saying that delays in government processing of payments was a major challenge for their businesses.²² Others said there was a need for a better contractor selection process and improved oversight, with a suggestion to create tiers for contractors based on factors such as experience and project size – with this recommendation based in part on the belief that smaller, less competent firms were winning contracts they were not suitable for. Some interviewees suggested that the Government put too much weight on the lowest cost bids when assessing the criteria for “best value for money”, with this tending to lead to a reduction in the overall quality of construction outcomes. Similarly, some people felt that a lack of specialist technical expertise within the Ministry of Finance has led to suboptimal procurement decisions and practices. A lack of experienced registered architects within the Government was a given as a reason for these issues, with procurement and assessment a fundamental part of an architect's professional practice. Within some of the interview responses there were also some suggestions of potential preferential treatment or risks of corruption in procurement decisions.

²⁰ Part of the Ministry of Foreign Affairs.

²¹ The make-up of the procurement committee is also defined within the PPR and includes the Minister of Finance, the Chief Secretary, the Secretary to Cabinet and the CEO responsible for finance, among others.

²² They said that because of delays they often had to borrow money internally from other companies they owned in order to sustain cashflows.

The Pacific Regional Infrastructure Facility (PRIF) recommends Pacific Island countries adapt procurement policies to include explicit considerations for “local content” relating to support for increased participation of local workers and companies in major national projects. These could include provisions for increased margins on total bid costs or increased scoring for tenders that engage local contractors or workers or that support local skills development. Such mechanisms can create pathways for smaller and less experienced firms to grow their capacity and experience by participating in more sophisticated and complex projects that would typically be beyond their capacity to win themselves (PRIF 2022). However, some interview respondents highlighted the gap between international expectations and local capabilities, with few qualified local contractors for large projects, with many facing financial constraints and lack of proper setup.

Given the large proportion of infrastructure funding that comes from donor partners, many projects face challenges in balancing international standards and local realities, with several interviewees requesting major donors to recognize the importance of understanding the local context in development projects. This highlighted the need for gradual capacity-building and support for local contractors to slowly increase participation in these larger donor-funded projects. This should include increasing the number of trained engineers, architects and project managers, and developing their overall financial and operational capacity.

3.3. Supporting functions

3.3.1. Insurers and financial lenders

Access to and use of formal financial products, such as loans and security guarantees, can provide useful support to construction firms by bolstering their tender applications and by reducing the risk during construction operations of unplanned shocks to business operations or of payment delays. Interview respondents suggested that understanding of, access to and utilization of such products, as well as knowledge of their potential costs, may be limited. This is likely to be particularly the case among smaller firms, with this creating additional challenges to their participation in larger donor-funded construction projects or government tenders.

General capacity for business financial management may be a challenge for some construction firms, with interview responses suggesting that practically minded small business owners in the construction sector may not be comfortable with this aspect of the business or aware of potential opportunities to improve financial management.

3.3.2. Construction materials

Almost all major components utilized in formal construction in Tonga are imported. This includes cement and all metal, plastic or certified construction timber products, as well as all appliances, fixtures and fittings.

Although Tonga produces some aggregates – such as limestone and sand – locally, it does not produce enough to meet current demand, and there are additional environmental concerns (PRIF 2025).²³ Crushed limestone is used for road bases, concrete and other applications, but the quantity and quality of local supplies mean that it is expected to need to import better quality materials and sand to supply the infrastructure sector in the coming years.

Concrete production and concrete blocks are manufactured locally – likely using both imported and local sand and aggregates. Although there is some locally produced timber in Tonga, the production capacity is relatively small. High value hardwoods are not typically used for construction and manufacturing due to their relative cost and are mostly exported, according to interview respondents. Although these are typically not used in structural features, they could be more commonly used for furniture and finishings. However, one woodworking firm said they were not able to source this kind of timber and did not have sufficiently trained joiners to produce the high-quality outputs required. Producing lower grade timber is uneconomical and has generally been superseded by imported pine for most construction (Tonga, MAFF 2017).

²³ A total of 124 tons of aggregate was imported between 2020 and 2022, according to the PRIF (2025).

The MOI has a Construction Materials Testing laboratory, but this offers a limited range of testing services. For large national infrastructure projects, contractors commonly establish their own concrete and materials testing laboratory to allow them to meet the standards required by large donor funders.²⁴ However, without similar requirements imposed on other projects, the sustainability of demand for ongoing testing is unclear. Interview respondents indicated that there are currently no qualified geotechnical engineers in Tonga, and that local civil engineers are only able to assess smaller buildings, while international consultants are needed for larger buildings and infrastructure.

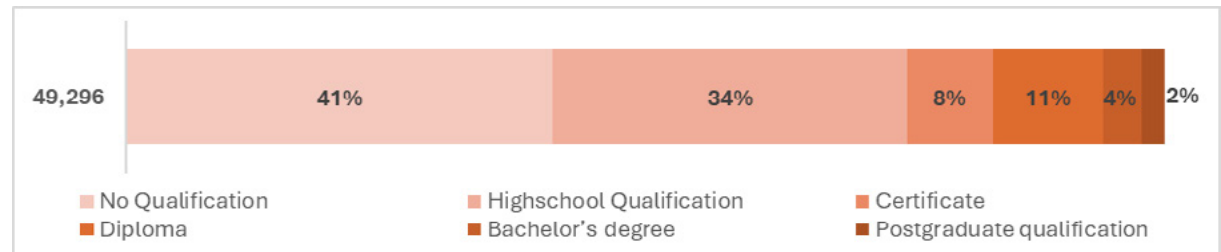
Notably, the MOI's testing lab does not include testing of other features that could be of interest in regard to “greening” of construction. This includes the testing of timber for structural properties – a precursor to enabling the certification of local timber products and potentially the more widespread adoption of local timber for construction uses..

3.3.3. Skills

Although higher than many Pacific countries, educational attainment in Tonga remains quite low, with 41 per cent of persons aged 18 and above not having any form of educational qualification (20,238) (Tonga, TSD 2024a). Around 34 per cent of the population (16,856) have a high school qualification, 8 per cent (4,034) have a vocational certificate and 11 per cent (5,270) have achieved a diploma. About 4 per cent (1,815) have a bachelor's degree, and 2 per cent (1,083) have a postgraduate certificate, degree or professional certificate (figure 7).

The level of education completed is relatively similar among men and women, with around 25 per cent of each having attained a certificate level or higher. However, it is more common for men to be without a qualification at 44 per cent, compared to 39 per cent of women.

► Figure 7. Distribution of educational qualifications among the population 18 years and older (percentage)



Source: Tonga, Census 2024a.

These low levels of educational attainment have led to a shortage of skilled workers, which has been one of the most persistent and common issues facing construction and trades businesses.

However, there does appear to have been notable progress in recent years in terms of advancing educational attainment in Tonga, with the share of the labour force with a tertiary qualification increasing from 11 per cent in 2018 to 31 per cent in 2023.²⁵ This contributed to a significant reduction in the number of people in the labour force who had only achieved a primary qualification, which dropped from 28 per cent in 2018 to 8 per cent in 2023.

24 For example, McConnell Dowell has established its own laboratory to facilitate its work constructing the new international port facilities in Nuku'alofa. This project-specific lab is currently larger than that of the MOI.

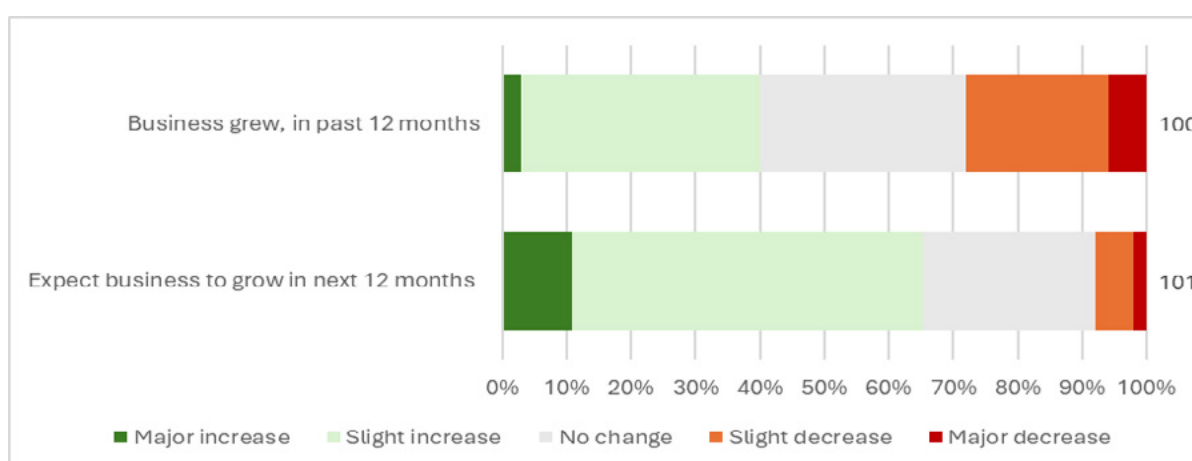
25 Based on Labour Force Survey data for those respective years.

3.4. Business overview and key challenges

As part of the employer's survey undertaken for this study, companies were asked for their perceptions on the growth of their business over the last 12 months and their expectations for the next 12 months. More companies had positive impressions on business performance over the last year (40 per cent) than those that held negative views (28 per cent). Three per cent of companies said they experienced a major increase in their business in the last year, while an additional 37 per cent said they saw a slight increase. However, more businesses experienced a major decrease in business over the previous year (6 per cent) compared to those with a major increase, while 22 per cent experienced a slight decrease and 32 per cent said business performance remained unchanged.

Generally, businesses expectations for the next 12 months were more positive, with around two thirds (65 per cent) of businesses expecting growth, compared to less than one in ten expecting decreases (8 per cent). Breaking down the survey responses, 11 per cent of respondents expected major business growth and 55 per cent expected some growth. Only 2 per cent of firms predicted major decreases in their business in the year ahead, while 6 per cent expected a slight decrease in the size of their business and just over a quarter (27 per cent) of respondents did not expect the amount of business to change (figure 8).

► **Figure 8. Surveyed construction firms' perceptions of business growth in the previous 12 months and in the next 12 months (percentage)**



Notably, no firms with more than 50 employees experienced a drop in business in the last year or expected a decline in the next 12 months, with five out of seven experiencing a slight or major increase over the previous year and six out of seven expecting business to increase over the next 12 months. This likely reflects their larger market presence, which gives them a stronger ability to gain contracts, particularly larger government or donor-funded infrastructure projects, due to their scale and financial clout. This is evident within the survey data by looking at the average number of employees for each specialist service type offered, with companies undertaking civil works having an average of 50 employees – the highest by far. Companies offering glazing, window, door and shutter installation were the next highest with an average of 37 employees, followed by those providing roofing installation and repair services with an average of 34 employees. Companies offering services relating to utility connection and supply had an average of 32 employees.²⁶

Interview respondents indicated that government and donor-funded projects for national government buildings or infrastructure is the main area of expected growth within the construction and trades sector, with private demand tending to be relatively flat. Private construction was also said to predominantly consist of lower-scale projects such as residential homes and commercial shops or small factories.

²⁶ The average number of employees for companies providing services in other specialist areas ranged between 21 and 29, with no clear pattern found within the data based on service offerings.

These demand trends have likely concentrated the focus of medium and larger firms on servicing government construction demands. However, several medium-sized construction firms shared that they experience challenges when it comes to competing for government contracts. These are generally related to strong competition from smaller firms for lower-scale projects – which some believed is the result of unfair bidding processes that do not give sufficient consideration to operational experience and operational capacity or to compliance with relevant construction regulations.

Interview respondents also suggested that some large construction firms may subcontract work to smaller or more specialized firms to meet specific project needs or to augment their capacity to deliver multiple projects simultaneously. Such a model can improve returns for smaller specialized firms by allowing them to participate in a broader range of project sizes. This in turn can allow them to manage their demand and resulting cashflow risks better by participating in projects across both private and public sector.

While the potential for subcontracting is promising for some smaller firms, it is not appropriate or successful across all areas. One company that initially specialized in construction design and management services (such as architecture, engineering and project management) said they have moved more into directly providing construction services themselves due to the unreliability of subcontracted firms. A large proportion of this firm's business is in implementing medium-sized projects for the Government and funded by donor partners, which are typically subject to high standards and deadlines that require more precise orchestration to meet deliverables. The firm felt that local construction firms they had worked with struggled to meet these expectations, and so they now manage and implement key elements of construction themselves and try to only subcontract supporting services (such as electrical and plumbing).

In general, firms with between 11 and 50 workers were the most likely cohorts to have experienced declines in business within the last 12 months and the most likely to expect decreases in business in the next 12 months. Firms with between 11 and 20 workers were the only group among the surveyed businesses wherein more companies experienced a decrease in the business (43 per cent) than an increase (33 per cent) in the last 12 months. Similarly, firms with between 21 and 30 workers were the only grouping that had a large proportion of companies expecting a decrease in the next 12 months, with this being the case for half (50 per cent) of firms in this group.

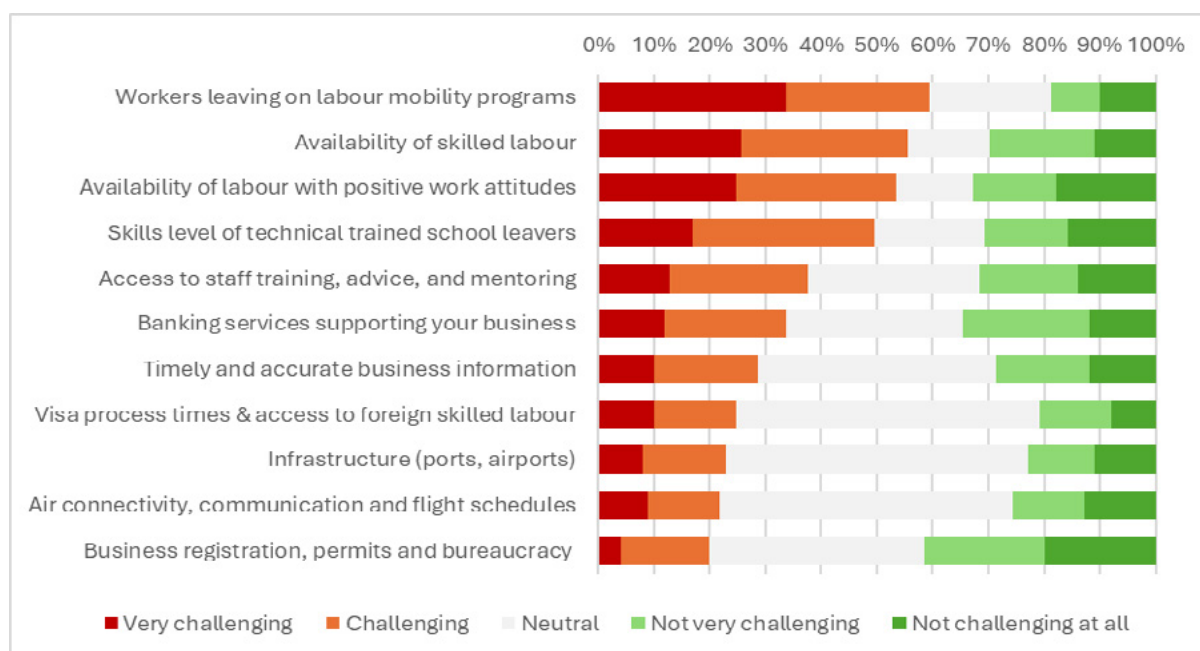
Surveyed employers were asked to share their feedback on a range of challenges that might potentially affect their businesses, as shown in figure 9. The most common challenges faced by businesses all relate to the availability or retention of sufficient numbers of appropriately skilled workers. The most common challenge faced was “workers leaving on labour mobility programmes”, with 60 per cent of firms saying this was a challenge, including a third of all businesses (34 per cent) saying this issue is “very challenging”. Only one in ten (10 per cent) companies stated that workers leaving on labour mobility programmes was “not Challenging at all”.

The “availability of skilled labour” was a challenge for 56 per cent of businesses, with just over a quarter (26 per cent) finding it very challenging. Over half of businesses (54 per cent) said that it was a challenge to find “labour with positive work attitudes”, with a quarter (25 per cent) finding it very challenging. Half (50 per cent) of the surveyed firms said the “skills level of technical trained school leavers” was a challenge, and 38 per cent of firms also indicated that “access to staff training, advice and mentoring” was a challenge.

Although just over a third (34 per cent) of businesses said that “banking services supporting your business” was a challenge, roughly the same number (35 per cent) responded that it was not very challenging or not challenging at all. More than twice as many businesses felt that “business registration, permits and other bureaucracy” was little to no challenge (42 per cent) than those that did find it challenging (20 per cent).

In general, businesses' views were balanced for inputs that relate to government service delivery, infrastructure and transportation. An equal share of firms (29 per cent) saw access to “timely and accurate business information” as a challenge or as little to no challenge, with views on “infrastructure” also being balanced (23 per cent each). “Visa processing times and access to foreign skilled labour” was more slightly more of a challenge (25 per cent) than not (21 per cent), while businesses felt more positive than negative for “air connectivity, communication and flight schedules” (26 per cent little to no challenge compared to 22 per cent challenge).

► **Figure 9. Surveyed construction firms' perceptions on what constitutes a challenge for their business (percentage)**



3.4.1. Skills shortages

The surveyed construction firms were asked about how difficult it is for them to fill roles within 17 different occupational categories. For 11 of the 17 categories, the surveyed businesses were more likely to report these roles as being hard to fill than they were to view them as being easy to fill (figure 10). It should be noted that survey respondents were only allowed to comment on whether workers in a particular occupational group were hard to find if they actually employed or were looking to employ those sorts of workers. As such, the discussion that follows uses percentages that do not reflect the entire survey sample (n=101), but only those construction enterprises that provided a response for each occupational group, which varies from between 11 and 38 respondents.

The most difficult occupation to find workers is floor layers and tile setters, with two thirds (67 per cent) of responding businesses saying that they are quite hard to find.²⁷ This difficulty is likely due to the lack of specialist training in this area in Tonga, and interview respondents suggested that there were no specialized Tongan tilers, with the only specialist tiling company consisting of foreign tilers. Although basic tiling skills are sometimes taught within more general construction courses, interview responses suggest that the limited practical experience and specialist focus of tiling training results in lower quality of work outputs that are not sufficient for these graduates to practice and specialize in this area.

Half (50 per cent) of all businesses looking to employ “house builders, bricklayers, plasterers, concrete placers, concrete finishers and related workers”, “construction supervisors (including foremen and site managers)”, “painters, varnishers, building structure cleaners and related trades workers”, or “labourers” said that these workers were either hard or very hard to find. These are key positions to the construction, completion and maintenance of buildings, and include lower-skilled occupations as well as those that require more experience and specialist skills. Painting and related finishing work is not taught in Tonga, and this a potential reason why these occupations had the highest proportion of businesses (29 per cent) who indicated that it is very hard to fill these positions. Just over one in six (17 per cent) businesses who employed labourers and construction supervisors also found these positions very hard to fill.

²⁷ The author notes that only a small number of firms responded for this group (12), reflecting the lower number of firms that employ people as “floor layers and tile setters” (16).

The difficulty to fill some of these occupations may also be related to the expectations of firms regarding the qualifications of employees. To employ construction supervisors, which includes foremen and site managers, more than seven out of every ten firms (72 per cent) require a qualification of a diploma level or higher. Such occupations also often require practical experience, typically achieved from years on construction sites, making it common in many countries for those with other vocational qualifications to work their way up to these senior positions. In the Tongan context these requirements present some potential challenges, with experienced trades professionals potentially having to leave the workforce, and forego income, to undertake locally offered diploma qualifications (full-time) to qualify for this role. Conversely, the only locally offered diploma qualification, in architectural technology, covers a few related areas of competency that are applicable to several intermediate and high-skilled occupations within construction. It is then assumed that the inexperienced graduates from these courses are likely drawn into other occupations that do not require similar site experience.²⁸ One potential support for this assumption is firms' relative lack of difficulty in hiring architects or surveyors, with no firms responding as having any difficulties hiring architects or surveyors and two thirds (67 per cent) saying that they it was easy or very easy (17 percentage points higher than any other occupation).

However, in some cases, the relative difficulty of hiring certain types of workers appears to be reflected in firms' expectations for qualifications. More than half (54 per cent) of companies will employ "painters, varnishers and related trades" workers without a vocational or higher-level qualifications. And half (50 per cent) of all companies will employ labourers without any such qualifications.

Many businesses had some difficulty finding "construction or project managers" (44 per cent), with one in six businesses finding it very hard (17 per cent). These positions often require prior experience and a tertiary qualification such as a diploma or degree for most companies (88 per cent of companies employing these positions), which are not currently offered in Tonga. From the scholarship records reviewed, there also does not appear to have been any Tongans who have participated in project or construction management training through a scholarship since 2017.

Among businesses who employ "plant and heavy machine and vehicle operators", 44 per cent said these occupations are quite hard or very hard to fill. Again, this seems to reflect a lack of specific formal or accredited training available locally for these occupations. Several interviews indicated a tendency to employ unskilled workers for these positions and then provide some basic training. Others, however, stated that only specific experienced site workers or managers are allowed to operate heavy machinery to minimize risks to safety and damage to equipment.²⁹ Survey responses appear to show that firms still prioritize some form of qualification for plant and heavy machinery operators, with just under two thirds (64 per cent) requiring at least a vocational certificate.

To address challenges related to the limited numbers of trained heavy machinery operators, as well as the limited number of mechanics who can maintain these types of equipment, there is currently a project seeking to develop national qualifications in these specific areas in Tonga.³⁰

Although the development of such qualifications is a positive and clearly necessary step to support Tonga's construction industry, there may be some practical limitations to the scope of its potential success. An international contractor working on a large national infrastructure project indicated in their interview for this study that all of the heavy machine and excavator operators they employ came from overseas. The reason given was due to the high level of precision required from both the operator and the machinery for construction works, which meant they had to bring in specialized staff with strong experience in such environments.³¹ The international contractor's view was that the irregular nature of large national infrastructure projects meant that it would be unlikely for local workers to develop and maintain sufficient skills experience to reach the standards that would be required for their needs. To develop such a degree of specialization individuals might need to participate

28 For example, as a junior site engineer, clerk of works or survey technician, rather than working as a foreman or site manager.

29 In one case, the construction manager had prior experience and a specialist qualification obtained overseas.

30 This project is being funded by the Tonga Australia Support Program (TASP), with initial course demand and content scoping being undertaken in October 2024, which the author was able to observe.

31 They described many of the local workers they had tried as being trained in and suited to quarry work, for which imprecision does not tend to impact costs and project deliverables to the extent that it can in construction.

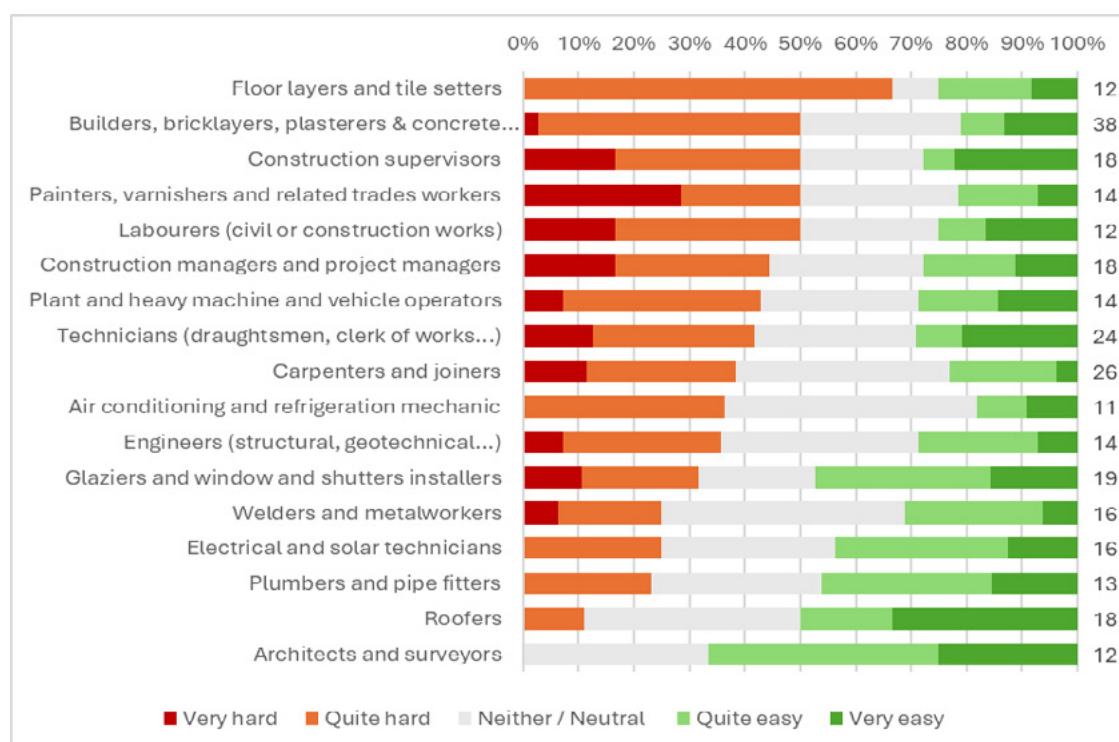
in projects internationally to maintain a sufficiently high level of work experience in complex projects with advanced machinery.

Companies generally found it harder to find “technicians” (42 per cent) than easy (29 per cent). Among the respective respondent companies, 38 per cent found “carpenters and joiners” to be hard to find, and this was also the case for 36 per cent of respondent companies in regard to “air conditioning and refrigeration mechanics” and 35 per cent of respondent companies in regard to “engineers and quantity surveyors”.

There were six occupations where more businesses stated that they found it easy to hire for an occupation than hard. These included “glaziers and window and shutters installers”, “welders and metalworkers”, “electrical and solar technicians”, “plumbers and pipe fitters”, “roofers” and “architects and surveyors”. These findings were corroborated in places by interview respondents, with one person even suggesting that there was potentially an oversupply of electrical graduates and that electrical contractors were not able to accommodate them all. Interestingly, respondents also indicated that there were limited numbers of Tongans participating in national solar development projects, with specialist firms from overseas often contracted to undertake these projects due to a lack of local skills.

In some places the survey findings appear to contradict, or require some qualification by, the interview respondents. For instance, interviews suggested that plumbers were in short supply, despite the survey respondents being more likely to say they are easy to hire. Other areas include architects, where some interview respondents highlighted challenges with hiring suitably qualified and experienced professionals, which diverges sharply from the survey responses, where not a single company said they were hard to secure. The challenges reported by interview respondents concern the hiring of architects typically related to the lack of individuals with professional practice and accreditation. The broader impacts of this were that there were limited numbers of Tongans with sufficient knowledge and experience to manage and deliver larger projects, or to develop and maintain robust building controls. In one example from the interviews, a firm stated that they bring in qualified architects from overseas to meet the requirements of their clients.

► **Figure 10. Surveyed construction firms’ perceptions on whether certain occupations are difficult to fill (percentage)**



Note: The numbers at the right of the figure give the number of employers who supplied a response for a given occupation group.

Employers were also asked to share their top three reasons for why positions were hard to fill. Again, interview responses showed that the most common reasons related to the low availability of skilled and motivated staff, with the most commonly supplied reasons being that applicants either lacked the “necessary skills” (33 responses) or “separation of employment due to participation in temporary labour migration programme” (27 responses). These were followed by those who said that they had a “low number of applicants/lack of interest in the tasks of the job” (26 responses), “applicants lack the necessary work experience” (23 responses), and “applicants lack the necessary qualifications” (22 responses).

One of the least common reasons given for hiring difficulties was “separation of employment due to long-term/permanent migration opportunity”, with just six companies raising this as an issue.³² Although this is still clearly a challenge, and if combined with the number of interview respondents who included separations for temporary migration as a reason for hiring difficulties, then the departure of employees to work overseas would be the biggest challenge impacting firms’ ability to find staff.

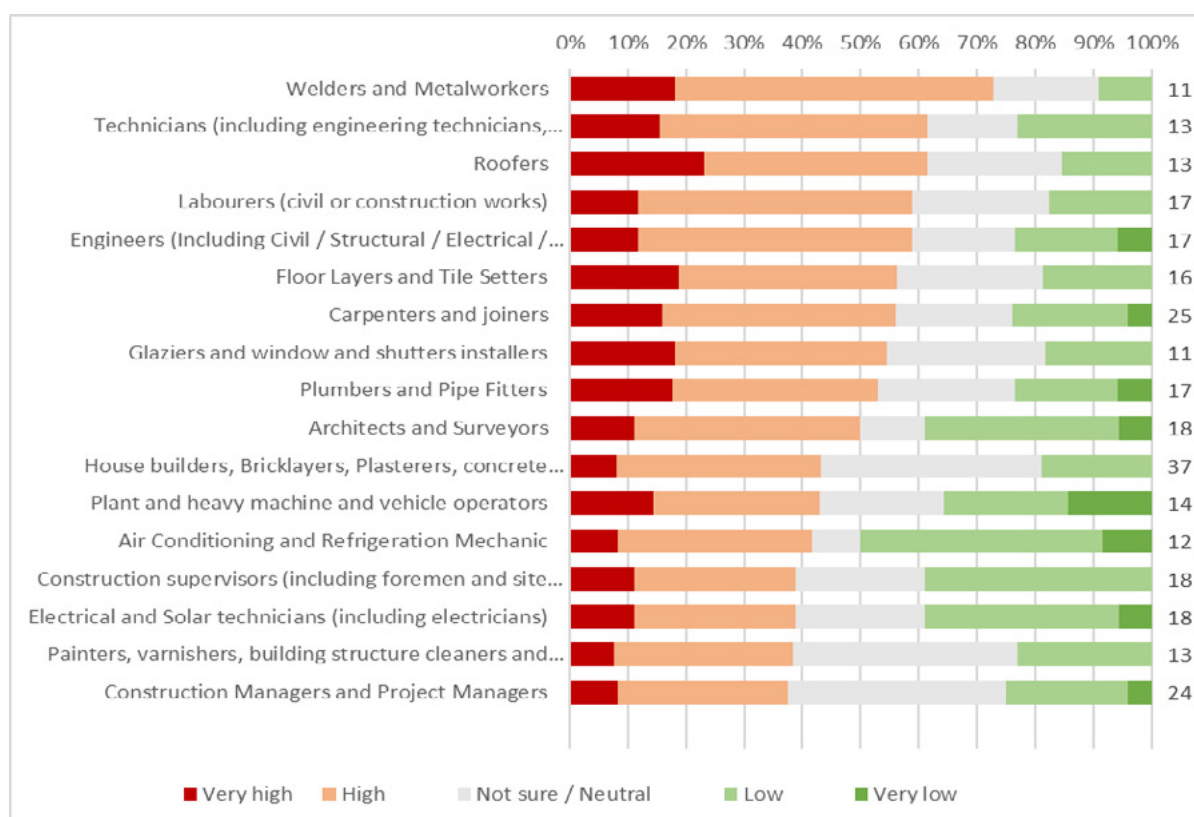
Two firms selected “other” in response to the survey question, with both specifying the reason of “no local course or training provider available”. These firms worked in different areas, with one offering “carpentry and joinery” as well as “painters, varnishers, building structure cleaners and related finishing trades workers” services and the other offering “refrigeration and air conditioning” and “general repairs, maintenance and handyman services”. As noted previously, there are no painting courses offered in Tonga, neither are there any for refrigeration mechanics or specialist joinery. Interview responses from several firms highlighted the lack of specialist joinery training, suggesting that this led to challenges in providing high precision woodworking in areas such as furniture and fitting doors and kitchens.

Construction and trades businesses were asked to share their demand expectations for occupations over the next 12 months, with responses shown in figure 11. In only one occupational group did more businesses expect a lower level of demand compared to those that expected a higher level of demand in the next 12 months. Half (50 per cent) of firms for which the occupation was relevant stated that anticipated demand for “air conditioning and refrigeration mechanics” was low or very low, while 42 per cent expected demand to be high or very high. For another two occupational groupings demand was evenly balanced with 39 per cent of firms expecting “construction supervisors” and “electrical and solar technicians” to be either high or very high and an equivalent share stating low or very low.

The occupational group with the highest expectations for demand in the next 12 months is “welders and metalworkers”, with just under three quarters (72 per cent) of firms who employ staff in this area expecting high or very high demand. This was followed by demand for “technicians” and “roofers”, both with 62 per cent of firms expecting at least high demand, and then “labourers” and “engineers”, with 59 per cent of firms expecting at least high demand. Among all 17 occupational groups, roofers had the highest proportion of firms indicating that they expect very high demand, at just under a quarter (23 per cent) of relevant businesses.

³² Although one reason given was that construction workers and some local tradesmen may not have sufficient qualifications to be eligible to travel to New Zealand under one of the longer-term skilled visas specifically for construction workers. With some saying that only a few workers had left through this kind of channel. Note, this does not refer to higher skilled workers with degrees or recognized qualifications.

► **Figure 11. Demand among surveyed construction firms for various occupations in the next 12 months (percentage)**



Note: The numbers at the right of the figure give the number of employers who responded to the question for the given occupation group, this typically reflected the number of firms currently employing workers in these occupations at the time of the survey.

More than half (57 per cent) of relevant businesses expected at least high demand for “carpenters and joiners” as well as for “floor layers and tile setters”. Given the significant overlap in skillsets between “carpenters and joiners” and “roofers” it is unsurprising that demand for these two occupations correlate strongly.

At least half of companies employing “glaziers and window and shutters installers” (55 per cent), “plumbers and pipe fitters” (53 per cent), and “architects and surveyors” (50 per cent) expected high or very high demand for these positions in the next 12 months. Positively, these were all occupations that more businesses found easier to hire than not, but the relatively strong anticipated demand suggests that these roles could become more challenging to secure in the next year.

Demand was often high or very high for builders or bricklayers (43 per cent), painters (39 per cent) and construction or project managers (38 per cent). However, almost as many firms were unsure or have neutral expectations for demand, at 38 per cent for each occupation. Demand for “plant and heavy machine and vehicle operators” was overall more likely to be high (43 per cent) than low (36 per cent) among relevant businesses.

Demand for other occupations specified by companies included some within the construction and trades sector as well as some in broader related fields. This included quarry workers, for which high demand was expected in the next 12 months, as well as landscapers, though only with very low expected demand.

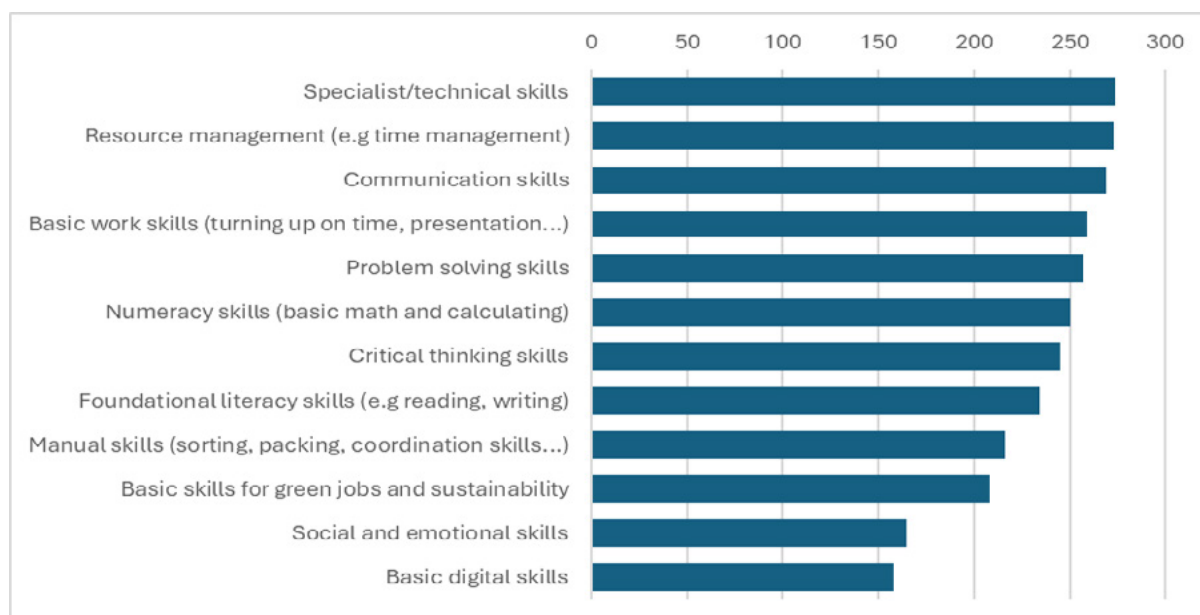
Skills gaps

In addition to identifying the most hard-to-fill vacancies, companies were asked to rank the skills improvement needs of their employees from a range of potential options. The greatest skill needs related to specialist technical skills, this was followed by resource management (for example, time management), communication and basic work skills (which includes presentation and being appropriately dressed) (figure 12). Interestingly a number of these top skills needs relate to an individual employees' personal character and ability to work within a formal employment context. These are also general skills commonly picked up through experience and upbringing, as opposed to formal qualifications or training.

The strong need for specialist technical skill improvements is also demonstrated by just under half of the surveyed firms (47 per cent) including this within their top three needs. Although it is at times difficult to determine which specific skills are needed, due to the range of occupations employed by the surveyed firms, there are a few occupations which do clearly stand out. Skill improvements are required by some firms with air conditioning and refrigeration mechanics and general housebuilders and concrete placers, as well as likely being needed by some employing plant and machine operators, painters, and construction managers.

Within the group of firms that included specialist or technical skills among their top three needs, there were also some who employed professional or management roles (including architects, engineers, technicians, managers and supervisors), as well as carpenters and joiners, roofers, tilers and glaziers, and painters. It is not possible to determine which occupations specifically required additional skills as these firms commonly employed workers in at least three different occupations. However, several of these occupations are in areas that do not have local training options – such as tiling, glazing, painting and joinery – with interviews respondents highlighting challenges related to securing workers with sufficient skills in these areas.

► **Figure 12. Surveyed construction firms' rankings of employee skills improvement needs (weighted index of rankings)**



Note: The figure is organized by the calculated weight of all responses by employers (n=36) who ranked each improvement need. Weighting calculated by inverting the ranking position value (that is, rank 1 = 12 points, rank 2 = 11 points, and so on) and multiplying by the total number of responses for that improvement need.

Business responses to skills shortages and skills gaps

Firms were asked what actions they typically take to try and address vacancies. The most common response was “increase pay” (33 per cent), followed by “more training for existing workers” (26 per cent), “increase use of internship, apprenticeship or student trainee placement programmes” (19 per cent), “recruit and train less skilled workers” (17 per cent) and “more recruitment advertising” (13 per cent). Just 1 per cent said they “established new business partnerships” to address staff vacancies, and 3 per cent “recruited foreign workers” (figure 13).

► **Figure 13. Share of surveyed construction firms that took various actions to address hard-to-fill vacancies (percentage)**



Note: Not all companies responded to this question (n = 62), although almost all of those who did not respond also did not state any difficulties in filling any occupations.

3.4.2. Training takes centre stage

Among the surveyed businesses, 45 per cent had not arranged or funded dedicated trainings for staff in the last 24 months, while 41 per cent had done so (leaving 15 per cent unsure). The most common reasons for why businesses did not arrange staff trainings are shown in figure 14 below.

► **Figure 14. Surveyed construction firms' reasons for not arranging or funding dedicated staff trainings in the last 24 months (percentage)**



Note: The figure showcases the responses of the 45 employers who reported having no dedicated trainings for staff in the last 24 month. More than one response possible.

Among the 45 surveyed companies that did not have any dedicated staff training in the last two years, the same share (40 per cent) said they had no budget for workforce development or that there was no need for training because their staff were fully proficient. There was, however, only limited overlap between these companies that provided these responses, with just three companies offering both reasons for not conducting training.

A number of the companies that had not providing training indicated that there was no training available in relevant subject areas (38 per cent), while only around half this number (18 per cent) stated that the courses they are interested in are not available locally.

Companies that gave the reason that training was not available locally included those working in “plumbing, water and waste management”, “professional construction services (Engineering, Architecture and project management)”, “painters, varnishers, building structure cleaners and related finishing trades workers”, “roofing installation and repair”, “plant and machine hire”, welding and landscaping. In addition, the companies who responded that there was no training available in relevant subject areas include companies who only employ people in one occupation group, including carpenters and joiners, architects and surveyors, engineers, house builders, plant and machine operators, and electrical and solar technicians. The lack of any available training related to these companies’ core business has the potential to prevent them from staying up to date with current trends and practices, potentially putting them at a serious disadvantage in the future.

One third (33 per cent) of companies that did not conduct any training said that their high workload meant there was no time for training.

It is also interesting to note that 29 per cent of businesses stated that it is difficult to get information about locally available courses, suggesting that many businesses may not be aware of what is available locally. One

in five businesses (20 per cent) who did not arrange training for staff in the last two years said that external courses are too expensive, while a similar number (18 per cent) said they had difficulties assessing the training needs of their organization. Among the eight companies who found it difficult to assess needs for training, three were small firms of less than five workers only offering professional construction services and employing architects and engineers. Another was a carpentry and joinery firm whose owner shared during interviews that they would appreciate support from an experienced professional from overseas to help guide their business strategy and mentor their team to help them move into new areas of specialization. This is expected to be a consistent challenge for other small businesses with more limited experience and knowledge of the potential models for their business.

On a positive note, high staff turnover was one of the less common reasons given for not conducting training, with just 11 per cent of relevant firms giving this as a reason for not arranged training for staff in the last 24 months. Three firms said that course start dates were inconvenient, but two of these only employed one person as an architect or surveyor, potentially suggesting that the lack of operational redundancy contributes towards their inability to participate in local training options.

Two firms gave the reason that the quality of local courses was not sufficient, but there is not sufficient information within their responses to determine what specific training courses should be improved.

Options for training staff

Among the 41 firms that did arrange training for their staff in the last two years, 66 per cent arranged “job specific training”, 44 per cent offered basic induction training for new staff members, and 34 per cent arranged health and safety or first aid training. A total of 22 per cent arranged training in management, and 20 per cent provided training on supervision, with the same number enabling training on new technologies and upgrading workers’ people skills.

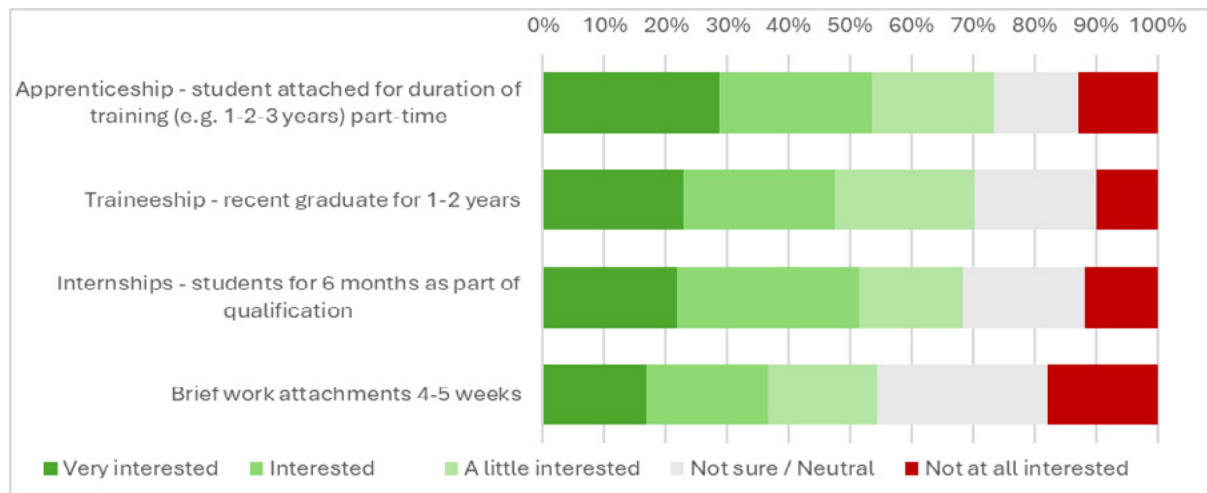
In total, 418 employees benefited from training arranged or funded by the 41 companies that provided training in the last two years, equivalent to 54 per cent of employees within those 41 firms and 26 per cent of all employees within the 101 surveyed enterprises. This appears to show a particularly stark difference between companies that have arranged employee training and those that have not.

For the most part, businesses paid for the training themselves (68 per cent), with one in ten (10 per cent) funded by either an international organization or through a mixture of sources.³³

Businesses were asked to share their interest in facilitating several different types of work-based training opportunities for trainees (figure 15). A majority of companies were interested in each of the proposed options, with the hosting of apprentices part-time for the duration of their course of study being the most popular option, with just under three quarters of firms (73 per cent) being at least a little interested, including 29 per cent who were very interested.

More than two thirds (70 per cent) of companies were at least a little interested to support full-time traineeships of one to two years duration for recent graduates, including 23 per cent being very interested. Similarly, 68 per cent of companies had at least some interest in supporting students through a six-month long internship as part of their qualification, including 23 per cent being strongly interested in this option.

³³ The remainder included 2 per cent saying that the training was paid for by the Tonga Institute of Technology, 2 per cent saying “Bank”, and 1 per cent saying “Fiji”, although it is unclear what specifically these answers represent.

► **Figure 15. Surveyed construction firms' level of interest in participating in further work-based training opportunities (percentage)**

The work-based training option that attracted the least interest from firms was to support brief, four- or five-week work attachments for students, but a slight majority (55 per cent) still expressed at least some positive interest. However, 18 per cent of firms also said they were not at all interested in brief work attachments, which was higher than for any other option. Interestingly apprenticeships had the second-highest proportion of firms stating that they were not at all interested (13 per cent), followed by internships (12 per cent). Traineeships had the least strong negative feelings against them, with only 10 per cent of firms saying they were not at all interested in this option.

Interview respondents provided some insights as to firms' relative interest in and concerns with each of the proposed options. Many interview respondents also shared a strong interest in taking on graduates and apprentices, with most of these predominantly driven by an interest in getting access to additional skilled workers. Several interviewed firms said that trainees graduating from local vocational training institutions still needed quite a bit of support and further training to get ready for the workplace. At least one indicated that apprenticeships would be beneficial, as students can return to the training institution to continue to develop their knowledge and skills alongside their experience within the firm.

Some of the interviewed firms complained about the current processes for student placements for practical experience during their qualification. Several firms shared that they felt that students were placed with their company without much clear direction or structure for the company (and potentially for the student as well) in relation to the competencies they were expected to develop during their placement. This seemed to contradict some of the responses provided by training institutions such as the Tonga Institute of Science and Technology (TIST), which described a more developed programme of practical work experience during which TNU staff³⁴ visit apprentices monthly, and students use booklets to record daily work and skills. However, in general it was widely acknowledged that for future apprenticeship programmes to be successful, improved communication, oversight and support from training providers for firms hosting apprentices is needed.

Of particular interest, interview respondents indicated that the comprehensive collaboration, oversight and supervisor involvement required from firms to manage an apprenticeship programme effectively appeared to have been overlooked by some. At least a couple of companies who initially showed strong interest in taking on trainees, graduates or apprentices tempered their enthusiasm when pressed about their willingness and ability to fully support them (for example, through regular feedback sessions or updates with trainers overseeing apprentices).

³³ TIST has been incorporated within the TNU and they are now the same institution.

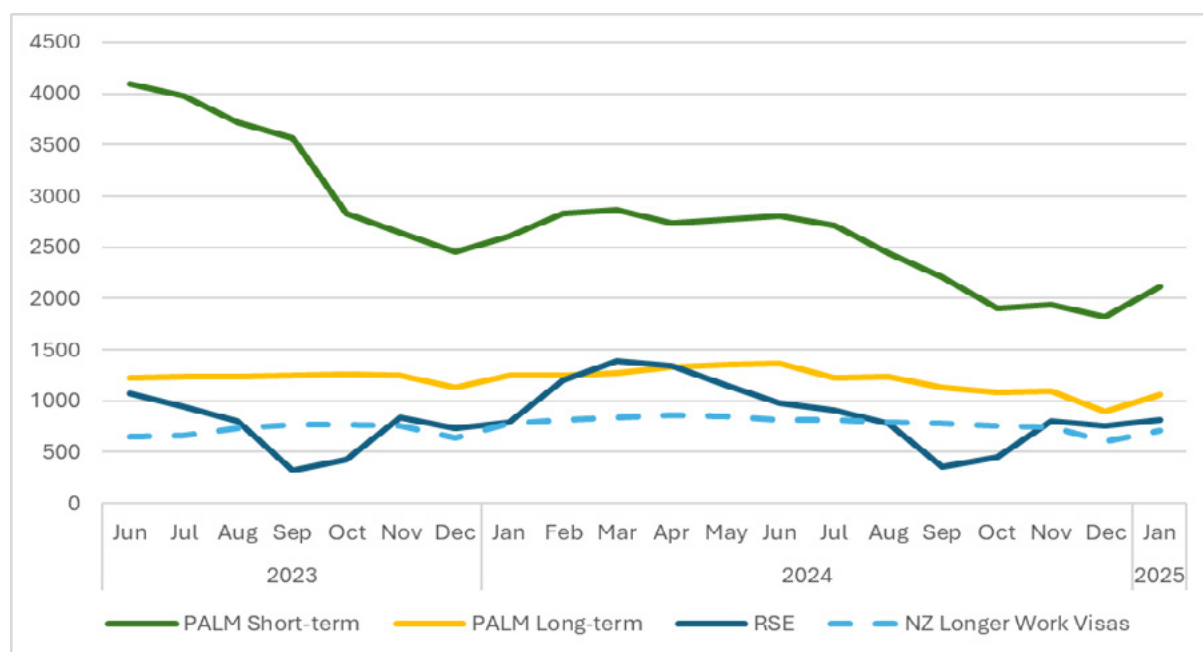
3.4.3. International employment migration and labour mobility

Overseas employment via international labour mobility programmes

The causes of skills and labour shortages in Tonga (and the Pacific more generally) are hotly debated. While it is clear from data and interviews that skills shortages are in part driven by a lack of available training options locally and challenges within the education and training system to attract youth into construction and trades, labour mobility and external economic migration also have a significant role to play.

As of January 2025, 4,705 Tongans were participating in international temporary labour mobility or visa schemes in Australia through the Pacific Australia Labour Mobility (PALM) scheme or in New Zealand through that country's Recognised Seasonal Employer (RSE) scheme, Accredited Employer Work Visa (AEWV) or Essential Skills Work Visa (ESWA).³⁵ The RSE offers short-term visas of up to seven months to participate in agricultural work in New Zealand; while the ESWA, which was closed to new applicants in July 2022, allowed up to three years' stay. The ESWA was replaced by the AEWV, which allows up to five years stay for skilled migrants working in care, construction and infrastructure, meat processing, and seafood processing both on and off shore. Australia's PALM scheme offers two types of visas: a short-term visa of up to nine months or a long-term of up to four years. The PALM scheme mostly employs workers in agriculture and meat processing (92 per cent of participants as of January 2025), with others in accommodation and health and social care.

► **Figure 16. Number of Tongan workers participating in overseas temporary labour migration schemes by programme/visa, June 2023 – January 2025**



NZ = New Zealand.

Note: NZ longer work visas include workers within the ESWA and the AEWV, as the latter is a replacement for former.

³⁵ Data sourced from the following PALM website (PALM, n.d.) and Migration Data Explorer of the New Zealand Ministry of Business, Innovation and Employment website (New Zealand, MBIE, n.d.).

The consistency and availability of published data as well as seasonal shifts due to the nature of some visas makes longer-term comparisons difficult, but it is clear that the overall number of workers participating in these overseas employment schemes has fallen over the last two or three years. There were about 8,006 Tongans working in these temporary labour schemes in April 2022, with that number falling to 6,278 in April 2024.³⁶

A major cause for the decline has been lower employer demand for short-term seasonal workers in Australia. This appears to be due to the increased availability of an alternative supply of foreign workers in the form of working holiday makers, who are perceived to be more flexible to employ and cost less than PALM workers for agricultural work. Working holiday maker numbers in Australia have increased dramatically from pre-COVID averages of 140,298 (between June 2017 and December 2019) to an average of 180,000 (in the year up to the end of September 2024) – a 28 per cent increase (Curtain 2025).

Although absolute numbers of Tongan workers have declined due to competition for some shorter-term work, the number employed under longer-term visas remained relatively steady over the two-year period to December 2024.³⁷ However, there remain concerns over the long-term impact of these longer visa programmes³⁸

Impacts faced by companies from international labour migration

Even though the absolute number of workers migrating overseas declined in 2024, workers leaving through labour mobility programmes was still the most commonly cited challenge faced by surveyed firms, affecting 59 per cent, with about a third (34 per cent) saying this was “very challenging” for them. At the same time, 27 per cent said that separations caused by temporary labour mobility and 6 per cent said that separations due to long-term migration were making it difficult to hire workers.

From the data available there was a peak of 7,034 Tongans employed through labour migration schemes in Australia or New Zealand in June 2023, with 5,161 on short-term contracts. When this is compared to the total of 28,603 employees within Tonga in the same year (Tonga, TLFS 2024c), the total number of workers going overseas via labour migration schemes is equivalent to 25 per cent of all employed workers in Tonga, with short-term migrants being equivalent to 18 per cent of all employed workers in Tonga. Expressed in these terms, the general loss to the country’s productive capacity is stark, and it is unsurprising that firms have experienced difficulties in finding workers.

The impact of these large numbers of overseas migrants is further exacerbated by the high proportion of migrants who are relatively young. In 2024, 52 per cent of Tongan AEWV workers in New Zealand were under 30 years old, with 4 per cent under 20, and 67 per cent of RSE workers were under 30, with 14 per cent under 20. The large number of workers under the age of 20 participating in the RSE is particularly notable, as interviews conducted for this study indicated that the rules maintained by Tonga’s Overseas Employment Division (OED), part of the Ministry of Internal Affairs, state that workers under the age of 21 are not allowed to participate in labour mobility programmes.³⁹

The relative difficulty involved in hire workers for low-skilled construction and trades jobs, such as labourers and painters, provides a strong indication of the general lack of workers in Tonga. This lower-skilled group was the most likely to experience the impacts of labour mobility programmes, which offer relatively lucrative compensation for work at a similar skill level. While the recent downward trend for short-term labour mobility workers is likely to provide some relief for Tongan firms, it remains to be seen whether competition from the currently high numbers of working holiday makers will continue. At the same time, demand for long-term work under PALM and New Zealand’s employment schemes remains quite consistent.

36 Comprehensive data for April 2025 was not available at the time of drafting. In addition, consistent data was not available prior to June 2023, when PALM monthly records began being consistently collected and published online. Prior to June 2023, only two months of data had been published, including April 2022.

37 There was an increase from the end of December 2022 to December 2023, but this largely dropped back by end of 2024.

38 According to the PALM website, PALM visas came into effect on 4 April 2022, and “extends visa validity for up to 4 years for long-term worker placements and enables eligible short-term workers to transfer into long-term placements onshore” (PALM, n.d.).

39 This may be related to the significant discrepancies and under-reporting of labour mobility participants that was discovered when a comparative analysis was made of data shared by the OED and data published by the PALM scheme and the New Zealand migration portal.

Interviews suggested that it was commonplace in Tonga, even among school-age students, to view working overseas as a desirable career pathway, and most firms described challenges with attracting workers into junior positions due to the draw of such programmes. The impact of this was enormous on some firms, with one saying that they had halved their workforce, from 120 down to 60 workers, due to so many leaving in the last year alone.⁴⁰ Several firms described shrinking or prioritizing their operations to accommodate the impacts of the workers leaving, as it has had such a large and regular impact on their business.

Aside from challenges stemming from labour mobility programmes when it comes to attracting lower-skilled staff, many interviews also raised concerns about skilled staff leaving Tonga in search of longer-term economic opportunities. These are typically qualified technical staff with recognized vocational certificates, diplomas or degrees who are leveraging their qualification to move to Australia or New Zealand for more lucrative employment opportunities. One notable example was at Tonga Power Limited, they have around 100 technicians and linesman and bring in external trainers for specialized training, with around 40 per cent of their linesman having a Level 4 New Zealand certificate. However, they expect that many of them will be poached by power companies in New Zealand within a year or two of achieving their certifications based on previous experience.

A similar draw towards international opportunities appears to be prevalent across a number of skilled trades roles. One plumbing company owner suggested that many of his classmates during vocational training now live overseas and that he had made a conscious choice to stay in Tonga. A large international contractor who was supporting some of their local workers to upskill and certify in specific roles (including specialized welders) suggested that the enthusiasm from workers to gain recognized certification was because it would allow them to migrate. The contractor also indicated that they themselves would look to retain some of the more prodigious workers in certain higher skilled areas, such as junior site engineers and other more technical roles, for other projects overseas.⁴¹

Do people come back after participating in labour mobility?

It is generally asserted that workers return from labour mobility programmes with improved skills. Although questions on this topic were not included within the survey of businesses, interview respondents suggested that limited benefits could be conferred upon local firms from employees leaving on temporary labour mobility programmes and then returning with more developed skill sets.

However, in many cases interviewees described a tendency for workers who go on temporary labour mobility to seek to return to such programmes again the following year. None of the interviewees was aware of any instances of skilled workers who had left on labour mobility returning to work in Tonga during the period between their overseas contracts (a period of typically between three and six months) or using the money earned abroad to fund their own further education and upskilling.

Some interview respondents indicated that workers may permanently return at some point, but this is typically for family reasons once they have undertaken a few seasons of work abroad.

Other potential channels for returning Tongan workers

The impacts of international migration were not all negative, however, with the international contractor interviewed for the study describing a model where they try to bring in experienced Tongans working overseas to support their projects. They claimed that it brought a number of benefits, including that these qualified and experienced workers could be employed at internationally competitive rates (due to their work on large donor-funded projects) while still bringing with them an awareness of the Tongan context, customs and language, allowing them to work more effectively. Importantly, the contractor shared their experience of the significant benefits

⁴⁰ Interviews undertaken in September 2024.

⁴¹ Such employees included ones that had local qualifications in architectural technology and who they thought could be supported to achieve further qualifications overseas.

these senior workers brought in terms of mentorship and the example they set for locally trained staff. In their view, the increased discipline and productivity these examples inspired stemmed from a recognition among staff of the potential opportunities they could have access to if they can improve their own competency level.

This was not the only example of foreign-based or trained Tongans returning to participate in projects in Tonga. Another interviewee was a qualified construction manager who had grown up and been trained in the United States and who had been contracted by a New Zealand-based contractor for an internationally funded project. One owner had worked for many years in the United States and gained a range of vocational certifications there before returning to Tonga to run his own company. The broad experience and niche qualifications he had gained allowed him to oversee work by junior or untrained staff and thereby mitigate any quality or competency gaps.

The relationship with Tonga's large international diaspora could provide further opportunities for importing skilled and experienced construction workers to support and mentor local workers. This could also work to partially offset some of the negative impacts of external labour migration from Tonga. If properly supported, there may be potential to even create a positive feedback loop of migrant workers returning once they have gained skills and experience overseas.

3.5. Potential for greening in the sector

"Basic skills for green jobs (environmental awareness, energy and water efficiency) and environmental sustainability" was ranked relatively low by the surveyed construction firms compared to other skill improvement needs (eighth out of a potential 12 options to select from). Those businesses that had green jobs skills and environmental sustainability within their top three skill needs included those providing professional construction services, electrical installation and repair (including solar), plumbing, water and waste management, carpentry and joinery, and utilities connection and supply. Delving deeper into these types of service providers and their potential role with regards to green jobs and sustainability provides an entry point into the topic as it relates to the construction and trades sector in Tonga.

Companies providing electrical and solar installation and repair services, plumbing and waste management, and utilities connection and supply services were among those that were most likely to rank improved green skills as being highly needed. These types of companies have an important role in relation to greening and represent some of the most pressing and achievable areas for improvement in this area.

Energy

The Tonga Energy Road Map 2021–2035 (TERMPLUS) aims to transform Tonga's electricity generation to achieve 100 per cent renewable power by 2035, up from a baseline of 12 per cent (Tonga, MEIDECC 2021). It also aims to limit petroleum consumption growth for road transportation by increasing the use of electric vehicles and seeks to improve demand-side energy efficiency for final consumption through the introduction of energy efficiency measures for buildings and appliances. These ambitious targets involve the construction of solar, wind and other forms of renewable electricity generation, as well as the installation of solar water heating systems and the introduction and enforcement of energy efficiency standards for buildings.

The successful implementation of TERMPLUS will significantly reduce carbon emissions within the country, but one of the major challenge faced relates to skills. In recent years National Certificates (NCs) in Sustainable Energy have been developed covering levels 1 and 2 as well as a specialized level 3 course in Biomass and Hybrid-Wind, all of which were accredited in 2023. There was also discussion over the accreditation of NCs in solar energy and energy efficiency, as well as a stated expectation to launch a full diploma in sustainable energy by the end of 2024 (PCREEE 2023). These qualifications had been developed through a collaboration between the TNQAB, the South Pacific Community's Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) and the Tonga Department of Energy. The Tonga Institute of Science and Technology (TIST), the first training institution in Tonga to have been granted TNQAB accreditation to deliver the Sustainable Energy NCs, has completed training for the National Certificate in Sustainable Energy (NCSE) levels 1 and 2.

Since the development of the level 3 qualifications only just started to be implemented in 2024, there is no graduate information yet available, and the solar energy qualification had not yet started at the time of the study. Interviewees described challenges for training institutions to offer the courses due to the significant setup costs involved. As a result of these qualifications being so new or not yet underway is that there are apparently no specialized solar companies in Tonga, at least according to interviewed stakeholders, with major solar energy projects being implemented by foreign firms. In some cases, local firms were involved in these projects, but they did not participate in the design or implementation of any specialist solar components.⁴²

Although one interviewee had suggested that there was a reasonable supply of electrical graduates and strong competition among electrical contractors for projects in a relatively flat market for electrical installation and repairs, their participation in the growing number of solar energy projects appears to be quite limited. The reason given was a lack of specialist skills or experience working with solar technologies. While firms may struggle to win solar energy contracts without demonstrable experience in this area, it is particularly surprising that graduates of electrical courses do not possess sufficient core skills to enable them to transition to becoming more specialized in solar technologies. Senior staff at TPL, the national power utility, said they had previously raised similar concerns with regards to the suitability of graduates from local vocational training institutions to install, operate and maintain power generation and management systems, so they provided additional specialist training for these concepts.

TPL also shared concerns that the construction of new power generation facilities, including solar energy facilities, by foreign firms through independent power producer (IPP) contracts has brought additional challenges to them, as they were responsible for integrating these facilities into the grid. TPL also raised challenges with maintaining these types of facilities. Further they questioned the sustainability of the approach with regards to the need to eventually replace solar installations (which can need to occur within 10 to 15 years) without developing key competencies and skills locally.

Management of Water Resources

Tonga's natural geography results in there being only one island (Eua) with freshwater springs, and most other islands in Tonga rely on pumped groundwater for their fresh water supply (Tonga, MEIDECC 2018). Many of these water pumps are fuelled by oil products, but TERMPLUS is targeting increasing the proportion of pumps that are high efficiency (and multi-fuel, which we understand includes electricity) to 25 per cent by 2025 and eventually to 100 per cent by 2035. The reliance on groundwater reservoirs makes many parts of Tonga vulnerable to water contamination from human activities as well as from seawater intrusion. The ongoing effects of climate change and sea level rise are expected to increase the salinity of groundwater in many places and thereby reduce the available supplies of drinking water. This is coupled with issues related to over-pumping and high levels of water leakage, which together raise significant concerns for the future availability of drinking water in Tonga. Given these concerns, ensuring effective plumbing, water and waste management practices is critical to the country's future and should be a priority area for the construction sector to contribute to greening the Tongan economy.

One plumbing company interviewed was very concerned by the general quality levels practiced within their subsector. They shared several stories of being called to assist homeowners and repair the faulty workmanship of other contractors, noting that they once had to plumb an entire property after two separate other contractors had worked on it, which cost the property owner around 10,000 pa'anga – nearly the equivalent of Tonga's GDP per capita – on top of what had already been paid to the two previous plumbers.⁴³ Aside from generating additional repair costs paid by consumers, poor quality plumbing work can lead to water leaks and, in turn, to increased water costs. Effective wastewater practices can also ensure that septic systems are installed and maintained correctly, and thereby minimize the risk of faecal contamination in groundwater.

⁴² This was stated as being in less complex areas, such as the installation of small solar-powered water pumps, rather than large photovoltaic arrays.

⁴³ Nominal GDP per capita was reported as 10,410 pa'anga in 2023.

Given the growing pressures on Tonga's water resources, the risks caused by poor water management are enormous, and ensuring that there are enough skilled professionals in this area is critical to minimizing and mitigating these risks so that Tongans can enjoy ongoing access to safe drinking water. However, there does not appear to be any notable regulation of plumbing and wastewater professionals – as there is for electrical and construction contractors – which likely contributes to ongoing poor practices and performance by some market participants. There is also likely growing potential demand for plumbing services, with the Joint National Action Plan II (JNAP II) stating that there is a need for greater investment in rainwater harvesting and storage. If the objectives within TERMPLUS are to be implemented as expected, then there will also be significant demand for the installation of solar water heaters in residential premises, with a stated intention to increase the proportion to 25 per cent by 2025 and to 100 per cent by 2035.

Materials and other areas of environmental impact

Professional services incorporate key design and oversight functions in relation to construction that determine things such as the construction methods and project management approaches applied as well as the type and quantity of materials used. These factors can impact the efficiency and sustainability of the overall project, including through the sustainability, reliability and efficient use of materials and the eventual efficiency of the building with regard to its use of key resources such as water and electricity (for example, in relation to its thermal efficiency to minimize the cost of heating or cooling).

High quality planning and design can significantly improve the resilience and longevity of buildings or infrastructure. This is particularly relevant in Tonga, which is “at high risk of experiencing natural disasters due to its location in a region prone to cyclones, earthquakes, and rising sea levels” (World Bank 2023, 4). These events can cause major damage to infrastructure, impact the economy and require significant resources for reconstruction and recovery. Experienced qualified professional engineers, architects and building inspectors are required to ensure the implementation of quality design in line with the Tongan National Building Code and related standards. However, several interview respondents raised concerns over the ability of returning graduates in these areas to effectively fulfil their roles without receiving appropriate mentorship or completing their professional practice and accreditation from a relevant industry body.⁴⁴

There are likely several interrelated facets to this issue. Professional practice and industry body accreditation require architecture and engineering graduates to work for one or two years in another country where these accreditations are available (typically Australia or New Zealand), before returning to Tonga. However, once they have completed their accreditation to practice, they have more opportunities to remain in relatively higher-paid employment within the countries where they gained their accreditation – leading many to not return to Tonga. Another is that many Tongan graduates in engineering or architecture have had their studies funded through government scholarships and are often bonded to a particular government ministry. This then requires students to return to work for that ministry – sometimes in settings that do not have accredited engineers or architects to mentor these young graduates effectively. A further concern raised by one accredited engineer was the content of the work given to engineering graduates working in government departments such as the Ministry of Infrastructure, indicating that without professional experience within the Tongan private sector they would struggle to develop key knowledge and experience relevant to their government roles.

Effective project management can also lead to greater efficiencies within the construction project itself, and bring potential environmental benefits in terms of reduced resource use through reductions in transportation demands and wastage during operations. Given that most construction materials are sourced from overseas, the efficient use of these materials is one of the few ways that many construction firms can improve their impact on the environment. This is particularly the case because there are currently no viable alternatives in Tonga for shipping, road transportation and heavy machinery that do not rely on fossil fuel usage.

⁴⁴ Examples include Engineering New Zealand, Engineers Australia, New Zealand Registered Architects Board and the Architects Accreditation Council of Australia (and related state or territory registration bodies).

The sourcing of aggregates locally could bring some environmental and cost benefits by removing the need for long distance shipping, but the potential supplies available are not expected to meet the country's level of demand and extraction activities can also cause environmental damage. In Tonga's case, this environmental damage includes the risk of groundwater contamination from quarrying activities as well as coastal erosion and sea encroachment from beach sand mining. Although beach sand mining has been banned, illegal extraction continues in some places and is likely to continue, driven largely by smaller private construction (PRIF 2024).

In 2023, the World Bank conducted a survey with 13 construction contractors in Tonga. Among the 11 respondents that answered a question on material selection, seven said they consider environmental sustainability when selecting materials for construction projects, while four said that they do not currently consider environmental sustainability but foresee using environmentally sustainable materials in the future. The survey also found a majority of the surveyed companies (nine out of 11) had experience completing Contractor Environmental and Social Management Plans (CESMPs) for civil works contracts, indicating their commitment to addressing environmental and social considerations in their projects (World Bank 2023).

3.6. Potential for social inclusion

3.6.1. Women and girls

Among the 101 construction and trades companies surveyed for this study, 41 had at least one female employee with a total of 164 women employed – or 10 per cent of all workers employed in the surveyed companies. In the Tonga Labour Force Survey (TLFS) of 2023, 47 per cent of all employees in Tonga are female (Tonga, TSD 2024c) – clearly demonstrating the relative lack of representation by women in construction and trades.

Of the 2,749 construction workers in the 2023 TLFS, only 6 per cent were female. However, this was a notable increase from the 2018 TLFS, in which only 2 per cent of construction employees were female (Tonga, TSD 2018b). Only 5 per cent of those employed in the “electricity, gas, steam and air conditioning supply” sector were women, as well as 20 per cent of “water supply; sewerage, waste management remediation activities” employees and 48 per cent of those in “mining and quarrying”.

Student numbers from some training institutions appear to show a more mixed picture of gender imbalances. Monfort Technical Institute had an average female participation rate in construction or related trades training courses of 17 per cent over the period 2022–24. The share of students who are female was over half in the awards data for the NC in Sustainable Energy (levels 1 and 2), at 62 per cent; while women made up 61 per cent of construction-specific course participants at the Australia Pacific Training Coalition (APTC) in 2023. However, in both instances the proportion of females in construction courses remained notably lower than the average across all course types (with a difference of 12 percentage points for the APTC and 25 percentage points for NC awards). It is also likely, at least in the case of the APTC, that there have been proactive attempts to prioritize female participation in these areas during selection, with the APTC's 2023 Annual Report acknowledging: “Lower levels of literacy and numeracy, as well as challenges for women entering non-traditional trades, have been identified as challenges to TVET in Tonga.” (APTC 2024, 135)

From the interview discussions, most companies did not have any concerns about hiring females in construction or trades roles, with some saying the number had increased in recent years. Given these responses and the data available, it seems that the bottleneck for increased female participation may be at the level of training institutions. Although available data show positive trends, with a higher proportion of females in training than currently in the workforce, there is expected to be significant room for improvement in this area.

One barrier to greater female participation in construction and trades relates to expectations around societal perceptions and norms for women in Tonga, with some suggestions that young women may feel they lack the physical strength to pursue a career in these areas. TLFS 2023 data also demonstrates that a general issue to contend with is the relatively low labour force participation rate among working age females in Tonga (39 per cent),⁴⁵

⁴⁵ The labour force participation rate represents the population in the labour force as a share of the total working-age population.

which is 12 percentage points lower than that of males (51 per cent) and has remained flat since the previous LFS in 2018 (Tonga, TSD 2024c; Tonga TSD 2018b).

Increased career advisory services in secondary schools and public communications programmes could encourage more women and girls to engage in training for construction and trades and challenge any negative social perceptions linked to this career choice. Greater female participation may have the added benefit of improving overall worker retention due to women historically participating in labour mobility programmes to a much lesser degree than men.⁴⁶

3.6.2. Youth

Rough four in five (81 per cent) of the surveyed firms had employees under 30 years of age. A total of 479 people under 30 were employed by the surveyed firms, making up 30 per cent of the total workforce of the survey sample.

Companies' interview responses indicated that there was significant interest in hiring young workers; this was partly to address general difficulties to finding staff, though some interviewees said they preferred to hire young workers as they were either more likely to have formal qualification or training or they were perceived to be more malleable to instruction and able to develop a good work culture.

Although the overall share of youth in the construction workforce appears to be quite positive, there are several concerning trends in relation to youth employment more generally. According to the 2023 TLFS, a total of 5,316 youth (ages 15–24) – or around 5 per cent of Tonga's total population – are not in employment, education or training (NEET), making it clear that more work needs to be done to consider how to provide young people with opportunities to access employment, education or training.

One interviewee said he had given up on taking trainee students from TIST due to the lack of success the company had experienced with such students in the past, suggesting he had retained only one employee out of an estimated 100 trainees over the last decade. They also described a general lack of work readiness among youth candidates. Although they did indicate that there had previously been youth employees who had left to join labour mobility programmes, he was particularly disappointed that he was aware of a number who had left the firm to remain at home without any form of productive employment. Other contractors also shared difficulties hiring young workers for construction roles, and even suggested that some young graduates from vocational schools were not even applying for local construction jobs.

This hints at a broader issue of widespread adult dependency within Tonga, where individuals or families rely on remittances coming from extended family overseas and effectively drop out of the productive workforce.

A troubling factor related to this is that, according to interview respondents, school age youth actively planned to pursue employment overseas, with some suggesting that this dynamic created a negative feedback loop with the most productive and ambitious workers leaving to work overseas. This has created a bias or "brain drain" with the less motivated employees left behind.

46 Only 12 per cent of Tongan RSE workers recruited during the 17 years to 30 June 2024 were women (Bedford 2025).

3.6.3. Persons with disabilities

The survey of construction and trades companies found 7 per cent of companies employed at least one individual with a disability, but that less than 1 per cent of all employees in the surveyed companies (n=11) had a disability.

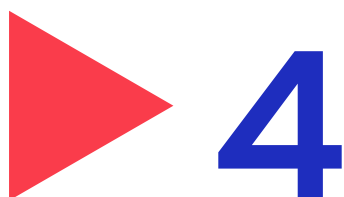
Of the 23 construction or trades-related students studying at APTC in 2023, two were listed as having “special needs”. Monfort has not consistently collected data on the disability status of its students, but in the only year where this information was recorded there were no students listed as having a disability (out of 40 students). There was no information collected in the National Certificates (Qualifications) data regarding disability status.

In general, there were 12,224 people recorded as having at least one form of disability in the 2021 Census (Tonga, TDB 2024a.), or around 12 per cent of the total population. When looking at the proportion of the total population over 5 years old (89,254), just over 6 per cent have difficulties walking, 8 per cent have difficulties with their sight, and just under 3 per cent have difficulties with their memory.

The *Tonga Disability Survey Report 2018* (Tonga, TSD 2018a) gave some more nuanced insights on the challenges faced by persons with disabilities in Tonga. These included higher rates of never attending school as well as much higher rates of dropping out of school (61 per cent to 32 per cent) and lower rates of attendance in post-school education (10 per cent) compared to those without a disability (14 per cent). Less than one third (30 per cent) of households containing a person with a disability were involved in paid work, compared to 47 per cent for households without a person with a disability.

Work in Tonga’s construction sector is generally quite physical (particularly for low-skilled positions), and often in an unstructured environment with little consideration or application of workplace health and safety provisions. This makes it potentially dangerous or unsuitable for individuals with physical impairments, and their needs are unlikely to be addressed appropriately in such a setting.





Skills development system

This section looks at the system for skills development for construction and trades occupations, including the roles of government institutions, public and private domestic skills providers, and other related areas of education and training.

4.1. Structure of the formal education and training sector

The formal education system in Tonga has four stages:

1. early childhood (two years);
2. primary (six years);
3. secondary (seven years); and
4. post-secondary education (six months to three years, depending on type of training).

It is compulsory for children to be in school from ages 4 to 18.

The pathways for technical and vocational education and training (TVET) starts in secondary school, with courses in electrical, carpentry, plumbing and welding offered in some major colleges or high schools at certificate levels 1 and 2. Higher certificate levels are typically studied in post-secondary education and training (PSET) institutions.

Secondary and post-secondary education in Tonga is funded through a mix of government, mission or private sources, with government and church systems running independent TVET institutions.

In terms of the overall policy for the formal skills development system, there are two key related elements:

1. The **Ministry of Education and Training (MET)** is responsible for the administration, management and policy development for education and training in Tonga. In 2022 the MET established a TVET Coordination Unit, supported by the Australian Government, to manage the implementation of Tonga's TVET Policy Framework, which aims to strengthen collaboration across Tongan TVET stakeholders and improve the links between skills and industry demand (APTC 2023). The MET provides grant funding for education on a per student basis across TVET providers in Tonga.
2. The **Tonga National Qualification and Accreditation Board (TNQAB)** is responsible for the registration, accreditation and quality assurance of all PSET providers, as well as the accreditation for qualifications. Its work is split across two operational divisions:
 - a. The **Qualifications Framework Unit** responsible for the administration of the Tonga Qualifications Framework (TQF) and for registering and assessing the suitability and quality of providers and courses can be accredited.

- b. **The National Qualifications Unit** is responsible for the establishment, promotion and awarding of national qualifications. It is also responsible for identifying and contracting individuals for Industry Training Advisory Committees (ITAC). ITACs are comprised of representatives of key sectors and industries and act as skills advisory bodies for the development or review of qualifications.

4.2. PSET providers and courses

4.2.1. PSET providers

There are three main post-secondary education providers that offer construction or related trades education in Tonga. These are all located on the main island of Tongatapu.

The **Tonga National University (TNU)** is the country's largest TVET institute and only domestic university, and was launched in 2022 through a merging of government-owned institutions, notably the Tonga Institute of Science and Technology (TIST) and Tonga Institute of Higher Education. The TIST now forms part of the university's Faculty of Science and Technology, which offers TVET certificate courses up to level 4. TIST is funded through a mix of grant funding from the MET and course fees, which are around 400 pa'anga for 16-week TVET course.

The **Montfort Technical Institute (MTI)** is a post-secondary training institution operated and partially funded by the Catholic Church. Located in Nuku'alofa, Monfort offered certificate level 3 and 4 courses in electrical, carpentry and plumbing in 2024, with 12, 14 and 8 students in each respective course. Plumbing was only introduced in 2024 with support from the Tonga Australia Support Program (TASP), which helped to procure tools and trainers. Course fees of 400 pa'anga per annum have been set by the Diocese, who pay for the operations of the school, although these fees are expected to rise in 2025. Monfort also offers automotive repair, which could be relevant to the construction industry, but they do not teach students to repair heavy machinery (for example, excavators). According to an interview with the Institute, this is due to challenges relating to the costs of sourcing materials and the financial risk of practicing on others' machinery – even though they believe there is a strong need for such training, with a lot of machinery abandoned and in disrepair.

The **Tupou Tertiary Institute (TTI)** is operated by the Free Wesleyan Church and offers courses in architectural technology at the Certificate IV, diploma and advanced diploma levels, with between 50 to 60 students enrolled annually. Around 60 per cent of their enrolment come directly from high school, with the remainder coming from industry. TTI estimated that 90 per cent of their graduates are employed by the Ministry of Infrastructure, with many alumni filling middle-management roles in the construction sector. They also support carpentry training at their small campus in Vava'u at levels 2, 3 and 4 for up to ten students annually. Their operations are mostly funded through fees, with carpentry students entirely funded through former students.

In interviews for this study, training providers shared difficulties in meeting the costs of undertaking accreditation of courses with the TNQAB, but were pleased that course accreditations now only need to be reviewed every four years, up from the previous duration of two years. Providers also said they had challenges related to securing the financial resources needed to run TVET courses in construction and trades due to the cost of maintaining workshops and materials. TNU shared that TVET training is more expensive than the other areas of training they offer, which creates challenges related to covering course costs with fees without creating imbalances that disincentivize uptake. All institutions had challenges finding and retaining skilled teaching staff due to the higher salaries that can be earned working in industry, although some of the institutions were receiving support from donor partners to expand their pool of trainers.

4.2.2. Other PSET training options

The **University of the South Pacific (USP)** has campuses in Tongatapu and Vava'u, although it does not offer any relevant qualifications via in-person courses. USP does, however, offer bachelor's-level courses in engineering from its campus in Suva, Fiji, which can be done remotely for the first year of study.

The **USP Pacific TAFE** is a vocational and work skills training arm of USP, offering micro-credentials to Certificate IV and Diploma level courses through flexible evening classes delivered remotely. It offers accredited courses in project management, procurement, and business management and administration, which could be relevant to construction and trades firms. Feedback from USP indicated that courses could be provided in-person or as short-term trainings if there was sufficient demand.

The **Australia Pacific Training Coalition** (APTC) is an Australian Government-funded regional programme to support national and regional TVET systems. It offers programmes leading to Australian-accredited qualifications from the Certificate II to Diploma levels. In 2023 APTC trained 22 Tongans in construction and trades-related courses at regional campuses in Samoa and Fiji – including 16 in construction at level I or II, five in plumbing certificate II and one at carpentry level III (APTC 2024). They also provided a certificate for Skills for Work in Vocational Pathways at certificate II to 35 students.

The APTC also works in partnership with other PSET institutions to reform and strengthen systems and providers; and has provided coaching in training and assessment to trainers at other TVET providers as well as support for course development of locally offered qualifications.⁴⁷

APTC supported Montfort Technical Institute to write the provider qualification, Certificate IV in Electrical while the Tonga Institute of Science and Technology (TIST) was assisted to “map” the local qualifications for the Cert IV in Electrical and Cert IV in Plumbing with the Australian qualifications (APTC 2023)

4.2.3. Technical and vocational training in schools

Technical and vocational training for lower-level certificates is taught in secondary schools, with several major colleges around Tonga offering vocational certificates I and II as part of a pathway to post-school TVET education. For example, Tupou College (Toloa) offers certificates I and II in carpentry, welding and electrical. These certificate courses are developed through TIST and certified under the TNQAB, and they are working on developing a level III in carpentry with the support of a New Zealand-based college. They also offer relevant courses in woodworking and design technology which fall under the National school's curriculum.

During an interview for this study, the MET indicated that there are challenges to finding enough trained teachers for these vocational courses in schools, and Tupou College said they struggled to fund workshops and materials for training.⁴⁸ Fees charged for certificate courses ranged from 920 to 1,000 pa'anga per year depending on the level, although these costs were quite challenging for some families. With around 100 students participating in certificate levels I to III in 2024, Tupou College had experienced a large decline in student numbers compared to the around 200 learners in this stream several years ago, attributing the drop to the removal of the Form 5 school leavers certificate. The college shared that most students participating in trades courses were “non-academic”, and that although they put great emphasis on creating pathways for these types of students, the removal of the Form 5 certificate had discouraged many from continuing their studies with the new requirement to stay and complete an additional year in school to earn a Form 6 school leavers certificate.

Construction career paths and career advisory in schools

Although it is typically a requirement for students who wish to study construction or trades courses at TVET institutions to have prior experience or training in high school, interview responses from TVET administrators suggested that this more often an outcome of the system rather than a strict rule. Several shared observations that most students wishing to study in these areas had already found their path and had chosen to study in technical or vocational areas well before getting to the post-school TVET level. Many students had either decided much earlier in high school that they would not follow an academic path or just found academic subjects and classroom activities to be more challenging and therefore not a desirable post-secondary school pathway. One administrator suggested that some technical and vocational students in colleges may be more unruly and challenging when it comes to delivering instruction, and that non-academic training may be one of few opportunities open to them to engage in education and gain good skills to find decent employment.

⁴⁷ For example, supporting the development of plumbing courses at Monfort.

⁴⁸ They were looking for 500,000 pa'anga in funding for a new dedicated building for practical training in vocational subjects after receiving a commitment of a similar amount from Australian Government sources.

Although such tendencies for students with less academic prowess or interests to gravitate towards less academic technical or vocational subjects are not unexpected, it does suggest a perception at a societal level that perhaps undervalues study or work in these areas. Undervaluation of technical subjects was also indicated by educational administrators interviewed for the study, who shared that parents tended to push their children towards more academic subjects, and that student demand was greater for these subjects at the post-secondary education level. One reason given was that there was a common expectation that academic subjects could lead to more lucrative career opportunities in the future.

This expectation, however, contradicts several key observations gathered during interviews. According to one TNU administrator, students in areas such as business may find it harder to find decent employment after their studies. Some construction firms also shared that daily rates for qualified staff have increased notably in recent years, and are now comparable to many office-based occupations that may require higher-level certification in academic subjects.

The interview responses generally indicated potential areas for intervention to address the imbalance in societal perceptions of the construction and trades industry in order to encourage more students in these areas and to address labour shortages within these critical industries for national development. Potential areas for consideration include:

1. Formalizing and expanding existing career advisory services in schools.
2. Start existing careers advisory services in schools at an earlier age in order to encourage more students to engage in TVET subjects while in high school.
3. Incorporate industry into the production of career advisory materials and give greater details on the potential opportunities for decent employment in the construction and trades sector in Tonga.
4. Engage in public advertising campaigns to educate parents of the needs for construction and trades professionals, and to share examples of opportunities for productive careers within Tonga's construction industry.

4.2.3. PSET courses and qualifications

Participants in PSET can take a variety of programmes leading to qualifications ranging from Certificate I to Post-Graduate Diplomas under the Tonga Qualifications Framework (TQF).⁴⁹ Appendix table 4 displays the types of TVET qualifications and how they relate to school and higher education qualifications.

4.2.4. Provision for construction and trades

TVET courses

A total of 11 post-school technical and vocational qualifications related to the construction and trades sector have been accredited for delivery in Tonga by the TNQAB (see table 3). These courses are generally offered at levels 3 and 4, with the only course at diploma level or above being in architecture. All courses are offered full-time at campuses on the main island of Tongatapu, aside from a level 3 carpentry course at TTI's Vava'u campus – although this is very small, with around ten students per year.

Qualifications related to the construction sector have mostly been independently developed by the training institutions themselves and then accredited by the TNQAB (these are referred to as “accredited programmes”). There are only a few National Qualifications (sometimes referred to as “certificates”), which are in sustainable energy and have been developed in recent years. National Qualifications are developed by the TNQAB itself and then training providers must apply the programme and get it accredited by the TNQAB in order to offer these qualifications.

⁴⁹ Although the highest level available for construction-related courses is an Advanced Diploma.

TNU did indicate that they were interested in offering higher-level trades qualifications in future, but were currently focusing on consolidating their operations after their recent merger and on ensuring they can sustainably maintain the current programme offerings.

► **Table 3. Qualifications in the construction and related trades sector in Tonga by level, providers and status of certificate**

Level	Providers with accreditation to deliver the course	Qualification type
Building and Construction		
III & IV	Tonga Institute of Science and Technology (TIST)	Accredited Programme
Carpentry, Building and Joinery		
III & IV	Montfort Technical Institute (MTI)	Accredited Programme
Carpentry		
III	Tupou Tertiary Institute (TTI) - Puono, Vava'u	Accredited Programme
III & IV	Tonga Institute of Science and Technology (TIST)	Accredited Programme
Welding		
II - IV	Tonga Institute of Science and Technology (TIST)	Accredited Programme
Electrical Engineering		
III & IV	Montfort Technical Institute (MTI) Tonga Institute of Science and Technology (TIST)	Accredited Programme
Plumbing		
III & IV	Tonga Institute of Science and Technology (TIST) Montfort Technical Institute (MTI)	Accredited Programme
Architecture		
IV & Diploma & Advanced Diploma	Tupou Tertiary Institute (TTI)	Accredited Programme
Sustainable Energy		
I & II	Tonga Institute of Science and Technology (TIST)	National Qualification
Sustainable Energy (Biomass)		
III	Tonga Institute of Science and Technology (TIST)	National Qualification
Sustainable Energy (Hybrid-wind)		
III	Tonga Institute of Science and Technology (TIST)	National Qualification
Sustainable Energy (Solar)		
III	Tonga Institute of Science and Technology (TIST)	National Qualification

Source: Consultants assessment from a range of sources, including TNQAB website, TNU handbook 2023, information shared directly by Monfort, and interviews with key stakeholders. The data across these sources is at times inconsistent, and further data was not shared by some stakeholders as expected to allow for comprehensive and up to date information. TIST are now incorporated within the TNU and are the same institution.

Higher education courses

In Tonga there is no provision of bachelor's-level construction-related courses, such as in engineering or architecture. Students participating in these subjects typically undertake training in Fiji, Australia or New Zealand, with engineering programmes through USP in Fiji being the most common, according to interview respondents.

4.3. Funding for PSET education and training

The MET supports funding for PSET education through a combination of budgetary mechanisms that include direct funding or grants to educational institutions as well as scholarships. The MET has an estimated budget of 113.4 million pa'anga for FY2025, an increase of 12.4 million pa'anga (12 per cent) from the previous financial year.

4.3.1. Direct government funding

Government-owned institutions received budgetary support through direct grants, with TNU receiving 5.4 million pa'anga from the MET's budget in FY2025 (just under 5 per cent of the Ministry's budget). The MET also provided grant funding on a per student basis for all non-government TVET schools at a rate of 1,200 pa'anga, which increased to 1,320 pa'anga in FY2025 (a 10 per cent increase). It is not clear how much is given to government schools, with this considered to be a slightly sensitive subject.

There is government support for economically disadvantaged students aimed at supporting tuition and accommodation during their studies for those from outside of Tongatapu. Until recently, funding for this support was coming via the Skills and Employment Tonga (SET) project, a wide-ranging World Bank initiative that sought to reduce dropouts and improve student attendance in secondary schools while also improving TVET provision in Tonga. Starting in 2019, the SET project aimed to achieve its objectives through support to enhance TVET quality, strengthen governance of the TVET sector, and the aforementioned TVET student support funds, which are used to incentivise attendance. The total project cost was around US\$20 million, and the project contributed around 4 million pa'anga in FY2024 and 600,000 pa'anga in FY2025, with the project finishing in December 2024. According to the Government's FY2025 Budget Statement, "926 students benefited from the TVET Student Support Programme, with 411 being female" (Tonga, MOF 2024, 23). Although SET is expected to be replaced by the Tonga Pathway to Employment programme, interviews seemed to suggest that the Government was still exploring ways that it could fund this, and there was a general expectation that support would have to be scaled back after the ending of the SET project.

4.3.2. Scholarships

Data shared by the MET indicated that 163 scholarships were issued in 2024 across all PSET scholarship funding sources. The Government of Tonga was by far the largest source of scholarship funding with 119 scholarships, followed by 15 through Australian Government funding and nine through New Zealand Government funding. Among all of the scholarships issued in 2024, seven were for construction-related courses.

Government of Tonga education scholarships

The Government of Tonga offers full educational scholarships to selected students engaged in tertiary education. Scholarship places are managed by the Tonga Scholarships Board, with scholarship places being allocated based on national needs and through a system of reserved places for government ministries. For students receiving scholarships through reserved government places, they are bonded to the specific ministry supporting the scholarship and must commit to work there once they graduate for an amount of time equivalent to the duration of their training.

The MET has increased its recurrent budget allocation for government-funded scholarships by 36.4 per cent in FY2025 to an estimated 4.5 million pa'anga – up from 3.3 million pa'anga in FY2024 (Tonga, MOF 2024). This due to an increased number of beneficiaries in areas with identified technical capacity gaps, such as civil engineering and education.⁵⁰

⁵⁰ Half of all scholarships were allocated to the education sector, according to the Budget Statement 2024–2025 (Tonga, MOF 2025).

The Government has issued 446 scholarships since the beginning of 2020, with just under 4 per cent (17) going to individuals enrolled in construction or trades-related courses, according to data shared by the MET. Nearly all of these (16) were for Bachelor of Engineering students, with the majority of those engaged in civil engineering studies (12)⁵¹ and another two were studying to become electrical engineers.⁵² Only one scholarship was issued to support a bachelor's level student studying architecture, with the funding coming from the MOI in 2024.

Since the beginning of 2020, only 22 scholarships issued by the Government were listed as “open” and therefore not binding the student to work in a particular government ministry or learning institution after their studies. Only one of these unbonded scholarships was related to construction (studying civil engineering). Most of the bonded scholarships related to construction (13 out of 15) had the students committed to working at a government ministry, but two construction-related students were bonded to educational institutions (MET and TNU).

International scholarships

Two major bilateral international partners provide the bulk of the remaining scholarships for PSET education for Tongan students.

The **Government of Australia** provides fully funded scholarships and supporting allowances to Tongan students studying degrees in Australian institutions. There have been approximately 134 awards since 2020, with only one – a Master of Engineering – directly related to construction or trades.⁵³

The **New Zealand Government** has funded around 47 fully funded scholarships and supporting allowances to Tongan students studying at tertiary institutions in New Zealand and in the Pacific region since the beginning of 2020. However, none of these scholarships went to students whose studies were related to construction or trades occupations.

Other sources of scholarship funding include other partner countries, non-governmental organizations and PSET institutions, however none of these appeared to relate to construction. Ultimately only around 18 out of a total of 798 scholarships since 2020 went to students engaged in studies directly related to construction or trades.⁵⁴

4.3.3. Other funding sources and support

Private loans and family support

The Tonga Development Bank (TDB) offers the only dedicated student loan facility available from a financial institution in Tonga. The TDB offer loan terms from 15 to 24 months with an 8 per cent interest rate, and requires a bank security of 1.5 times the value of the loan without a mortgage (Tonga, TDB, n.d.).⁵⁵ These loans are typically for up to a maximum of 15,000 pa'anga, although they can be higher to accommodate tuition fees for overseas institutions. Interview respondents suggested that many families struggle to provide sufficient security to leverage TDB student loans, while the costs of repayment and the relatively short repayment period also pose challenges.⁵⁶

Aside from student loans, prospective students rely on fundraising and support from extended family members to fund post-secondary education – putting a significant financial commitment on families.

⁵¹ With one specializing in structural engineering and another in transportation.

⁵² Two were just listed as “BE”, or Bachelor of Engineering, but did not have any listed specialization.

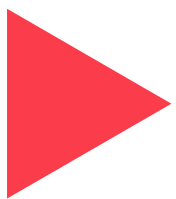
⁵³ There were also two Bachelor of Mechanical Engineering scholarships for the MOI and MET, respectively, but it is not clear whether these are related to construction, so they were not included.

⁵⁴ There were many scholarships offered for education-related qualifications, but only those with clear connections to construction-related courses and bonded with educational institutions were counted within the construction totals.

⁵⁵ Bank security equivalent to loan value if a mortgage is included.

⁵⁶ Interview respondents suggested that although there are personal loan facilities available from other financial institutions, these tend to have higher costs, shorter repayment periods and lower borrowing amounts, making them cost prohibitive.





5

Summary of constraints on the market system

The table below provides a summary of the constraints on the market system for construction and trades services and skills development discovered during the course of the research.

► **Table 4. Summary of constraints on the market system for construction**

Constraint	Causes	Impacts
Workforce shortages	► High turnover of low-skilled workers due to seasonal migration (for example, to Australia and New Zealand). ► Loss of trained workers to long-term migration and recruitment by regional or international firms. ► Many people are not in education, employment, or training, relying on remittances from overseas family. ► Limited local training leads to reliance on foreign labour for some specialist skills.	► Increased salaries to staff (competitive rates to other sectors). ► Inconsistent availability of skilled tradespeople. ► Scaled back operations for some firms. ► Challenges with being able to undertake work after successfully winning bids/tenders due to insufficient staff. ► Delays in project completion. ► Reliance on foreign contractors for specialized tasks.
High labour mobility and retention issues	► Short- and long-term regional labour migration opportunities on higher salaries than offered locally. ► Lack of employment contracts or worker protections. ► Government policies encouraging labour mobility participation.	► Skilled and unskilled workers leave for better wages abroad. ► High staff turnover rates and local industry struggles to retain talent. ► Reduced incentives for companies to invest in training staff.

Constraint	Causes	Impacts
	▶ Limited opportunities for career progression and continued skills development. ▶ Poor employee motivation and graduate attitudes to work.	▶ Significant losses to government investment in education and training with many benefits accrued to individuals. ▶ Limited number of skilled and experienced professionals in the industry.
Limited access to specialized training programmes and skilled workers in niche areas	▶ Limited course offerings, with gaps in key skill areas such as refrigeration and air conditioning, tiling, heavy machinery operation, solar energy, joinery, painting and finishing (for example, drywall). ▶ No local training – or low awareness – in areas like procurement, construction management and technician roles. ▶ Only one relevant domestic training course available at diploma level or higher. ▶ High costs for building workshops, purchasing equipment and training materials. ▶ Limited scholarships for vocational training, with high costs and competition from academic pathways. ▶ Most scholarships are bonded to government ministries, with few allocated to industry needs. ▶ Tonga's small population and limited educational options restrict the local labour pool. ▶ Regional civil engineering courses are broad, with few students specializing in areas like geotechnical engineering. ▶ Few qualifications locally or regionally for intermediary roles such as engineering technicians.	▶ Shortage of skilled workers in specialized areas. ▶ Complete reliance on imported labour for some trades (such as tiling). ▶ Limited opportunity for skill advancement within Tonga. ▶ Skills mismatches between market needs and training. ▶ Employers train unskilled workers to undertake work, but gaps remain in specialized areas and more advanced skillsets. ▶ Scholarship recipients end up in working in government. ▶ Limited availability of skilled graduates with qualifications above certificate level, particularly in the private sector. ▶ Practical training outsourced to industry, who may not have the skills, incentives or opportunities to train in a range of competency areas. ▶ Reduced numbers of students participating in post-secondary education and training. ▶ Overall skills gaps. ▶ Both ministries and firms generally lacked specialists in some areas (for example, geotechnical engineering as well as architects and engineers with professional practice/accreditations). ▶ Specialist technical job-specific skills are the greatest area of skill improvement needed by firms.

Constraint	Causes	Impacts
Skills gaps in practical training	► Education often lacks hands-on training. ► Theory–practice disconnect between local trade schools and related industry placements. ► Lack of comprehensive apprenticeship programmes. ► High costs of materials and facilities and limited budgets at training institutions pushes practical training into industry.	► Graduates often lack work-readiness and necessary practical skills. ► Employers must invest time and resources into basic training. ► Industry training does not align well with training institution curriculum, and practical experience matches only part of the theory for some courses. ► Specialist technical and job-specific skills are the greatest area of skill improvement needs by firms. ► Gaps in specialized areas of practical training where limited number of firms practice currently (for example, solar).
Limited industry regulation and enforcement of building and planning rules and standards	► No licensing requirement for some trades (for example, plumbing). ► Limited skilled and experience capacity in local planning authorities to undertake and assess quality of plans. ► No employment legislation or worker protections. ► No specific health and safety requirements for construction firms. ► Limited legal basis for stricter enforcement. ► Few industry bodies, professional standards associations, or other forms of standardized accreditation for workers in many fields.	► Poor quality of plumbing works, leading to additional costs and time for consumers. ► Lower construction quality, safety risks in buildings and difficulty in holding contractors accountable. ► Lack of employee protections and potential for abuse, which contributes to relative benefits to working overseas. ► Delays to planning authorizations. ► Suboptimal enforcement of building codes and standards limits the ability to encourage sustainable construction approaches. ► Limited skills premiums and incentives for increased training, accreditation and specialization (for firms and workers).
Inconsistencies in demand and impact of external shocks	► Private sector demand is relatively flat due to lack of population growth and the impacts of economic shocks. ► Government- and donor-funded projects are increasing but are subject to capacity constraints and potential fluctuations due to external factors.	► Firms competing for limited numbers of large government projects. ► Many are unprepared to meet stringent contractor requirements. ► Payment delays and procurement challenges stem from limited government capacity.

Constraint	Causes	Impacts
	► Informality and small size of the market.	► Limited growth opportunities lead firms to diversify services to reduce risk, often at the expense of specialization. ► Most firms still recovering from major disasters.
Government procurement and tendering challenges and delays	► Limited capacity in project management, engineering, architecture and construction procurement. ► Public procurement prioritizes lowest-cost bids. ► Limited transparency in tender decisions, with small market dynamics discouraging contesting outcomes.	► Quality and efficiency of construction compromised, with delays to project implementation. ► Reduced opportunities to tie skills development and other national objectives to procurement rules and approaches. ► Reduced trust in tendering process. ► Cash flow problems for contractors.
Poor incentives for businesses to invest in formal external training	► Client demand is high, and staff numbers and available time to participate in training are limited. ► Limited direct rewards to training investments, with limited requirements for individual accreditations or minimum standards requirements.⁵⁷ ► High risk of employees leaving to competitors or labour mobility, using new skills or qualifications.	► Businesses do not tend to fund formal training for employees. ► Most training is undertaken by business owners or staff in-house. ► Formal training tends to be funded by individuals (or families), who have greater incentive to support funding by leaving on labour mobility via a qualification.
Government scholarships do not adequately support industry	► Scholarships are mostly tied to government ministry bonds, with few open or private sector-focused awards. ► Scholarships have traditionally prioritized academic university pathways, with limited support for TVET or intermediate skilled roles like technicians. ► Scholarship availability is limited, leaving many students without support.	► Scholarships offer limited support for private sector needs. ► Many graduates in government roles lack practical experience in key competencies (for example, design, supervision). ► Scholarship recipients often have little professional experience overall. ► Limited incentives remain after bonded employment, with higher overseas salaries continuing to attract qualified graduates. ► Students without scholarships must self-fund overseas training, limiting access and increasing the drive to work abroad to repay costs.

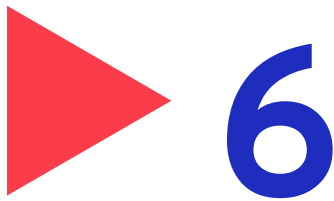
⁵⁷ That is, although contractors may require a license, individuals working for the contractor do not have any specific requirements.

Constraint	Causes	Impacts
Limited career advice in schools and parental support for construction training	► Only a limited part of standard school curriculum, and only for senior years once students have selected study pathways. ► Expectations of limited opportunities for growth and salaries, with better rewards in academic subjects or labour mobility. ► Perceptions that trades are for non-academic or difficult students.	► Limited understanding of positive opportunities for career development and compensation and the strong national need for workers. ► Limited prioritization of construction or trades training by students and parents. ► Individual, social or cultural expectations limiting the number of female students moving into TVET, and consequently a lack of female participation in industry. ► Incorrect assumptions that women may not be well suited – and even greatly needed – in some construction roles (such as tiling and painting).
Insufficient infrastructure and equipment	► Lack of materials and modern equipment for training (for example, heavy plant and machinery, CNC machines, solar equipment). ► High costs of imported materials and equipment for construction courses. ► Limited funding available for education and training and maintenance of existing facilities or construction of new ones.	► Training institutions struggle to provide strong industry-standard education. ► Training institutions struggle to provide courses at cost, and risk creating incentives for lower cost classroom-based subjects (for example, business). ► Limited ability for businesses to scale or modernize operations. ► Training providers rely on external support from donor partners or community stakeholders to subsidize the costs of training.
Inadequate supply of local building materials	► Limited supply and range of local materials (such as timber and local sand and gravel aggregates). ► High costs for imported goods and materials.	► Increased costs for construction projects. ► Limited options for sustainable interventions and use of local building materials.
Hard to source and retain qualified trainers in TVET	► Better compensation for working in industry or overseas. ► Difficulties to expand the range, quality and level of training options.	► Training providers have had to allow trainers to work part-time to encourage them to provide training. ► Support has been required from donor partners to source and fund trainers and support course development and delivery.

Constraint	Causes	Impacts
	► Insufficient numbers of interested applicants with sufficiently high qualifications.	► Institutions have had to rely on goodwill of alumni to return to work as trainers for lower salaries than they would get in industry. ► The Government has had to invest in scholarships to upskill trainers overseas. ► Difficulties to increase the ceiling to qualifications available locally due to qualifications of trainers, requiring institutions to upskill trainers in order to offer higher level courses.
Many small firms and financial barriers to business growth	► Business and financial management skills gaps among small- and medium-sized enterprises – lack of awareness or access to formal financing mechanisms and capacity to manage projects and submit tenders. ► No licencing or accreditation of firms or workers enables workers to start-up new businesses with limited preparation or experience. ► Gaps in enforcement and oversight, including on licencing/permitting and (potentially) tax.	► Many small firms with limited qualified staff have challenges with business management, project oversight and accurate work estimation, resulting in: • Higher incidences of project failures, budget overruns and scheduling delays. • Limited ability to adapt to changing market conditions. • Unstable income streams, prompting firms to broaden their service offerings rather than specialize, as a way to manage risk. • Reduced capacity to invest in workforce development or training. • Inaccurate tender submissions, particularly underbidding on government contracts. ► Slower business growth, fewer employment opportunities and difficulties maintaining long-term financial viability. ► Some unregistered contractors operate outside legal frameworks, often facilitated by licensed contractors who assist with securing permits.

Constraint	Causes	Impacts
Availability of data and data accuracy and relevancy	▶ Limited proactive data collection and reporting by the Government across several relevant areas to education (for example, graduates from TVET institutions). ▶ Poor quality/limitations of data collected (for example, data collected only for national qualifications and miscounting the numbers of temporary labour migrants). ▶ Some learning institutions do not share data as expected.	▶ Overview of the number of graduates participating in the market is limited. ▶ Incomplete awareness of participation in labour mobility and the extent of the potential gaps in domestic labour supply. ▶ Government planning and policymaking is made without access to full information. ▶ Potential efficacy of research is restricted due to focus on data collection, rather than analysing data and identifying problems.





Conclusion and recommendations

Tonga's construction and trades sector is a large and growing part of the economy, with good opportunities for growth and decent employment, and both the Government and the private sector expect it to continue to grow over the coming years. If Tonga is to achieve positive economic growth and address the challenges faced from natural disasters and climate change, then the construction sector will be both a key component and determining factor.

The findings of this report suggest that the construction industry appears to be on the path to achieve this growth so long as it can navigate several key risks and challenges that need to be avoided or addressed.

Although there are a broad range of risks and challenges, including both internal and external threats, the sector is predominantly held back by a lack of sufficient numbers of both skilled and unskilled workers. This shortage of workers applies across most job types, with major struggles to find low or unskilled workers in occupations such as painters and labourers, gaps in several trades areas due to a lack of local training opportunities, and challenges to source and retain skilled graduates in more senior or technical roles across both the public and private sectors. A major driver of these shortages is labour migration, with both short-term and longer-term migration opportunities providing lucrative alternative propositions for unskilled workers and recent school leavers, while workers with recognized qualifications are attractive for overseas employers that can offer more permanent pathways to well compensated migration opportunities.

The lack of adequate worker protections, through the introduction of national employment laws, and the more limited opportunities for career progression and ongoing skills development create further disincentives for workers to remain in Tonga. Although the economy more generally has shown recent promise, both the national economy in general and the construction sector itself are highly vulnerable to external shocks and are still recovering from the severe impacts of COVID-19 and major natural disasters in recent years. Natural disasters can be a double-edged sword for construction, causing disruptions and damage to economy and infrastructure, but also leading to increased demand for and investments in construction activities to support rebuilding efforts. However, Tonga is generally restricted in its capacity to respond and implement reconstruction efforts, which often leads to project delays and underspends of available capital investments within the national budget.

This analysis was complicated by the limited amount of consolidated or published data available, particularly in relation to training participation, as well as in relation to the recorded numbers of labour mobility participants – and these are areas where immediate improvements can potentially be made. Even so, there are still many conclusions that can be drawn.

There was no clear evidence found that the future pipeline of skilled workers is sufficient or that there are plans or reforms in place to adequately address this issue. This would include reforms to effectively expand the

participation of local construction and trades enterprises in government development projects, or to attract, train and retain enough skilled workers within the sector to facilitate such participation. Although there have been donor-supported investments in improving skills development in recent years, too much of this appears to involve a focus on overseas migration for short-term economic gains without sufficient foresight on attracting or retaining a sufficient supply of skilled workers in Tonga. Such an approach subjects the economy and the sector to significant risks, creating reliance on external economic conditions and stifling its productive capacity over the longer term – and likely contributing further to the perceived benefits of migration.

The strong international demand for qualified construction workers overseas provides further opportunities for ambitious Tongans to migrate, but significantly reduces the efficacy and incentives for needed investments in post-secondary education and training. Major interventions to leverage this demand and to shift some of the risks of such investments to individuals – for instance, through the provision of concessionary student loans – could provide significant opportunities for increased funding and participation in TVET and more directly recoup some of the benefits of these investments to the training sector. Such interventions should explore methods to incentivize participation of individuals from poorer socio-economic backgrounds and among workers that remain in Tonga. However, creativity is required to explore alternative models of credit security and repayment to fully exploit such potential reforms and retain more of the benefits within Tonga.

Increased investments are needed at the TVET level to expand the range of courses available, develop new short courses, invest in materials and facilities, and create better incentives for training and retaining skilled trainers. Although external partner support has helped to increase the number of courses offered, more training is needed in a variety of areas, such as painting, finishing, tiling, joinery, and air conditioning and refrigeration. Exploring ways to introduce more flexible training options and incentivize ongoing learning and development would help companies to better support the upskilling of individuals and enable workers to transition across trades more easily. This could assist in developing greater resilience and provide more options for either career progression or for retraining to move into new areas of higher demand.

Regional skills provision is severely lacking due to costs and difficulties related to accrediting courses and maintaining services, with almost all PSET training concentrated within Tongatapu at present. This leaves many sector participants in rural areas without any formal qualifications or opportunities to progress, and creates further incentives to migrate overseas. Creating greater flexibility in training delivery, through the introduction of short courses and online components, could improve the opportunities available to people in outer islands by reducing costs associated with travel and taking time away from their workplace.

A major component to expanding training options should include the introduction of apprenticeships involving a mix of part-time training and practical experience on site under the supervision of a skilled professional. However, substantial input and support is likely needed to ensure that this is effective, including the development of strong feedback and oversight mechanisms between firms and learning institutions and further training for new trainers and supervising professionals. Significant consideration should be given to incentives for retention of both staff and students in order to ensure that training support is not diminished by the external migration of qualified individuals.

To supplement these initiatives, greater attention should be put into improving the attractiveness of the construction sector more generally, through increased career advisory materials in secondary schools and public awareness campaigns to share information on opportunities, benefits and career pathways within the sector.

Although many firms seem to be aware of locally available training, increased publicity could improve engagement. However, many firms did not have the budget or time to offer training to their workers or there was little to no available training locally, with a significant divide between companies whose staff participated in training and those that did not. Most staff training is funded by businesses and focuses on job-specific skills – further indicating some gaps in formal training provision. The relatively small scale of many firms, the apparent challenges related to arranging and funding training, and the lack of relevant trainings locally appear to all be barriers to engagement in further staff training.

The lack of licensing for contractors in some areas erodes the quality of service delivery, increases public costs and limits potential premiums to skills and experience. This is particularly the case for plumbing and water management, which may increase risks related to Tonga's long-term water security and sustainability.

Similar concerns exist regarding the regulation of construction contractors, with further challenges coming from the reduced capacity within government relating to industry oversight, procurement and project management. A lack of experienced professional engineers, architects and project managers underpins these challenges and hinders the Government's potential to: expand and improve local contractor involvement in government infrastructure projects; implement and enhance building standards (including in relation to the facilitation of sustainability and efficiency improvements); and increase output more broadly. Investing in improving the professional capacity within the Government would improve the efficiency of implementation of key national infrastructure projects and enhance the pipeline of funding for this key sector of the national economy.

Opportunities exist within the Government to encourage and support the growth of the construction and trades sector, including supply side interventions to increase the number of government scholarship allocations to support the private sector, prioritizing the hiring of senior experienced construction professionals to lead and mentor junior government staff. This could contribute to demand side improvements in procurement, regulation and project management, which would have flow-on benefits to the private sector.

Smaller construction firms face challenges with general business and project management and in engaging with formal financing tools, which limit the sustainability of these business and contribute to the failure risk of projects. These smaller firms' limited ability to weather economic shocks leads many to increase the diversification of their service offerings in an attempt to manage these risks. Over the longer term, this protects employment in small firms, but may limit their ability to specialize and improve in a manner that would enable them to engage in more lucrative government or donor-funded contracts.

The ability to maintain a sufficient pool of skilled workers should be seen as a national economic imperative. Unless this is actively addressed, a brake may be placed on the level of development that Tonga is able to pursue and the country may be left vulnerable to risks of regression in the event of negative external shocks or natural disasters. This is particularly true for the construction sector due to its crucial enabling role in the recovery in the rest of the economy. More focus is needed on expanding and improving supply-side skills development to meet industry needs and to improve funding opportunities without risking Tonga's economic stability. Focus should be made on improving the management and oversight of labour mobility participation and on supporting the retention of skilled workers in Tonga. These need to be coupled with demand-side interventions from the Government to: enhance its role as the driver of policies and investment; support improved oversight, quality and skills development; and ultimately, increase employment in this important national industry.

6.1. Opportunities for intervention

Strengthen quality of TVET provision through the development of apprenticeships and other forms of work-based learning

Establishing apprenticeships, traineeships and other structured work-based learning opportunities, alongside the recognition of skills acquired through prior work experience, offers a pathway to address several persistent challenges. Apprenticeships, in particular, embed learners directly into the workplace from the outset, providing a practical solution to skill shortages. They expand current training avenues and give employees firsthand exposure to real work environments. By aligning certifications with work-based experience through apprenticeship models, businesses benefit from retaining junior staff until qualifications are achieved; while employees can earn an income to support their ongoing training.

Launching an apprenticeship framework could begin with a pilot in a single occupation facing acute shortages, particularly one in demand across multiple employers. This would follow a structured five-step process:

1. Engage a training provider offering a curriculum in the chosen occupation and with the capacity to adapt the programme for a blended model– such as four days in the workplace and one in training, or a 3/2 split.
2. Secure the participation of several employers willing to host apprentices across at least two certificate levels.⁵⁸
3. Design a tripartite apprenticeship agreement template, identifying the key signatories (for instance, employer, apprentice or parent/guardian, and training provider).
4. Create a logbook system to track apprentice progress and establish a coordination mechanism between the workplace supervisor and the training instructor.
5. Monitor satisfaction levels among employers and apprentices.

Training institutions could provide direct support to apprentices, while employer engagement could be facilitated through the Tonga Chamber of Commerce and Industries, with the MTED's Labour Division overseeing conflict resolution.

Considerable effort will be needed to equip businesses with the tools and knowledge to supervise apprentices effectively, given existing constraints on mentoring capacity, budgets and time. The success of apprenticeships hinges on the availability of suitably skilled mentors within firms, which may present a challenge. Additional support for businesses to develop mentoring capabilities could extend training opportunities and ease reliance on the more rigid trainer certification processes typical in formal TVET institutions. Lessons from past pilot initiatives should inform future efforts, particularly strategies to balance classroom learning with workplace demands in order to minimize disruptions.⁵⁹ One option might involve pairing apprentices, alternating their presence in the workplace and the classroom to ensure continuity in business operations.

More broadly, consideration should be given to expanding the recognition of work-based learning and practical industry experience through the TNQAB, thereby helping to accredit experienced construction and trades workers. This would broaden the pool of potential trainers and allow seasoned industry professionals to contribute to TVET instruction. This could involve engaging with existing licencing institutions for construction and electrical contractors in order to support the testing and accreditation of contractors and to establish ongoing learning or assessment approaches to support applicants to prepare for licencing tests and provide ongoing validation of skills and competencies.

Develop more short courses and increase awareness of training options

Increased focus should be made on breaking existing certificate courses into short courses or micro-credentials and on introducing a greater range of short courses for specific competencies. This could allow more focus on and flexibility around industry needs and reduce the costs of developing competencies in specific areas, making training more manageable and accessible for businesses and individuals alike.

New short courses should also be developed for specialized and niche areas such as painting and finishing (including drywall installation), tiling, procurement, and potentially, air conditioning and refrigeration.

In general, there should be a strong focus on the alignment of short courses to facilitate flexible learning and career development for students and existing workers alike. Short courses in solar installation repair and maintenance or other generator systems could also be beneficial, and allow existing electrical engineering graduates to participate more in these growing sectors. Conversely, by making courses more modular, greater focus can be put into tailoring specialized trainings for those who need them and allow for more alignment with specific industry needs. Examples of this include specialized areas for national utilities in areas such as linesmen, electricity grid and generation management, and pipe fitting for gas or water. They could also include aligning with regulators to provide short refresher trainings for contractors to support the licencing process.

⁵⁸ This is most likely to include Certificates III and IV, due to this being taught at the TVET level.

⁵⁹ Tonga's Quality Apprenticeship Pilot Programme (Fonu 2024).

Consideration should be given by local training institutions to facilitating flexible micro-credentials in more general areas, such as health and safety on site or working at heights. Although these are currently only a requirement for major donor projects (with firms arranging trainers from overseas), they could provide a supplemental revenue source for institutions and provide a valuable service to both industry and individuals. The Government could further incentivize participation in these trainings by making them a requirement for contractor licences or for participation in government projects.

Efforts should be made to better publicize locally available training options, timeframes, costs and trainee placement opportunities across all skills providers, and efforts should be made to proactively engage the industry to participate in new short or flexible training options. Centralized public information could support increased participation of firms in training and placement opportunities and avoid perceptions of bias or lack of engagement from some firms.

Adjustments to Tonga scholarship allocations and recognition of the value of private practice

The Government should consider adjusting its approach to issuing scholarships, with greater consideration given to the private sector in scholarship allocations for construction-related roles. This would help address skills gaps in industry and enhance graduates' breadth of applied knowledge and experience in areas such as design and supervision for subjects such as engineering and architecture – a notable gap for recent graduates currently working within the Government. Such an approach could provide experience to these graduates in the private sector and reduce reliance on foreign workers. If steps are taken by the Government (and particularly by the MOI) to engage and retain more experienced workers from the private sector, this could offer complementary benefits, with the Government benefitting from more well-rounded and experienced professionals and the industry receiving a more regular supply of trained graduates.⁶⁰

Greater consideration or support should also be given to supporting architects and engineers to gain their professional practice or industry accreditation in order to develop more experienced and qualified individuals and to address gaps in competencies within the Government. This could be managed through an employment bond, like existing qualifications. However, it may require the Government to consider improved remuneration or other approaches in order to improve retention of highly qualified individuals.

Government support for expansion of private financing for training

The Government should target approaches to expand private financing of post-school education and training (PSET) and undertake a dedicated study of financing for post-school education in Tonga. Such a study should explore opportunities to improve the terms of existing student loan programmes, such as that of the TDB, perhaps by extending repayment terms or looking at more flexible security requirements. The Government could specifically explore approaches to underwrite financing risks and look at alternative sources of available capital that could be leveraged to support training. One example would be to engage with the National Retirement Benefits Fund to explore the provision of student loans collateralized on accrued, or future, retirement contributions of individuals or family members, as has been implemented in countries such as Vanuatu.⁶¹

Ultimately, the aim for such a study and interventions is to find ways that the Government can reduce financial barriers and expand access to training by better spreading the risks involved in funding education in Tonga. In particular, there is a need to address the risk that the benefits derived from the Government or industry increasing investments in training are predominantly accrued to individuals – especially in instances where they migrate overseas.

⁶⁰ This expectation is partially reliant on interview responses that indicated a perception that the Government provides better incentives for longer-term retention through improved retirement benefits and job security, even if salaries are often lower.

⁶¹ The Vanuatu National Provident Fund's Student Education Support Scheme allows individuals to take out a student loan at favourable rates guaranteed by up to four different guarantors. This allows risks to be spread by leveraging traditional family ties. It also opened new funding sources for TVET training which were not available under the Government Scholarship scheme or private financial institutions, in part because of relative costs and risks (Vanuatu, VNPF, n.d.)

Although bonding scholarship recipients provides some form of hedge against such risks, it does not mitigate the additional costs incurred to train and mentor recent graduates or sufficiently protect against investments in training ultimately leading to employees with good experience and knowledge taking their skills abroad. Whereas in the case of a loan, individuals are free to leave – as many currently do – but some of the costs of training are at least recouped through loan repayments.⁶²

Further consideration could also be given within the development of such a student loan scheme to incentivize elements that better support national objectives. This could include reduced costs or better repayment terms for graduates who remain in Tonga over longer periods or who are employed within specific sectors. Consideration could also be given to needs-based assessments of student loan recipients and the providing of opportunities to subsidize or support students from disadvantaged backgrounds.⁶³

Over time, providing better opportunities for students to receive private financing could increase the number of participants receiving post-school training, lead to the retention of more of the training investment within Tonga and increase the overall funding available to training institutions.

Implement employment and employee protection legislation

The Government should seek to swiftly enact employment law, ensuring clarity and protections for workers and employers alike. Such protections could support the creation of more formalized employment in the sector, avoid potential abuses of workers and fundamentally provide greater assurances to workers that they are valued in Tonga, thereby reducing the draw of overseas work.

Public campaigns to improve perceptions of construction and career advisory services in schools

Interventions should be considered to improve communication about construction career pathways, including career materials for secondary students and broader public campaigns to promote the sector.

Career guidance should include targeted efforts to encourage female participation in construction, focusing on trades with historic gaps or cultural misconceptions. Roles like painting, finishing and tiling offer both demand and strong opportunities for women. Additionally, women's lower likelihood of leaving for overseas work could improve retention in key areas of the industry.

The promotion of career pathways should also target the wider public to improve perceptions of construction work, highlighting demand, pay and growth prospects. This can inspire students to pursue construction or trades training and encourage parents and officials to see these careers as vital to national development while offering rewarding opportunities.

Career guidance in junior secondary school can help students understand their study and job options, motivating skills development, reducing dropouts and aligning training choices with employment demand.

Public communication should prioritize encouraging local participation in Tonga's construction sector and highlight success stories from industry and training institutions. While overseas training and employment have benefits, the focus should remain on meeting Tonga's needs. A secondary aim could be to engage the Tongan diaspora, encouraging them to return for national projects or to contribute to local training and industry initiatives.

⁶² Ultimately the Government is likely to (and should) continue to contribute to education and training through grants and other investments in training institutions.

⁶³ For example, those who have been supported under the World Bank's Skills and Education for Tongans (SET) programme.

Investigate options to improve incentives for trainers to work in PSET

Further work is needed to identify ways to attract and retain skilled workers as trainers in PSET, ensuring the sustainability and growth of training in Tonga.

Government support could help industry professionals gain teaching qualifications and offer improved compensation to attract industry professionals to teach, even if only part-time. This should be coupled with greater prioritization of recognizing prior work-based learning and experience and for flexibility by the TNQAB, which could serve to strengthen mentorship and training resilience across both PSET and industry.

Existing scholarships or training funds should prioritize private sector participants seeking accreditation, and be linked to commitments to mentor, teach part-time or supervise apprentices until a portion of the training costs are repaid. Firms could be incentivized to get their staff involved in mentoring and training by being given priority access to trainees and apprentices. Clear communication and transparent policies will be key to maintaining fairness and maximizing participation in these initiatives.

Improved construction licencing and standards enforcement and the establishment of a plumbing industry standards and enforcement authority

It would be productive to review the processes, authority and competencies of the Building Control and Services Division of the MOI in order to ensure that they have sufficient resources and legislative support to appropriately and efficiently perform their role.

Such a review could include seeking support for additional mentorship or technical assistance to provide experience and improve the capacity of existing staff. Additionally, support for legislative review and enhancement of rules and enforcement powers would be helpful to support the Division to ensure it has sufficient tools to enact its mandate.

One area for consideration could be the review of existing construction licencing approaches in order to ensure that these are implemented consistently and are sufficiently stringent to encourage good construction practices and exclude bad actors. An option to explore is the potential for introducing tiers or levels of contractor licences, which could recognize different levels of competency and scale. This could encourage greater formalization and be aligned with government procurement to provide a clear identifier of the quality or suitability of contractors. The publication of construction contractor information and accreditations could also support these aims while also supporting transparency and consistency.

Within these new rules and licencing approaches, consideration should be given to incorporating increased requirements for health and safety training and accreditation of firms. It would also provide an opportunity to improve building regulations with regards to building sustainability and efficiency standards, as had been planned within the Tonga Energy Road Map (TERM PLUS).

Introducing a plumbing contractor license and establishing plumbing standards should be pursued to improve the quality and reliability of plumbing work. This would help create skills premiums for accredited firms and workers, reduce the risk of customers suffering losses, and support better water management while strengthening water security and sustainability.

Review and improvements to government procurement processes and policies

A review of government construction and infrastructure procurement capacity and approaches is needed to improve the Government's ability to engage private firms to deliver critical infrastructure projects, encourage and reward good practice in construction and trades, and support the development of local skills and competencies.

Engaging in such review initiatives should involve the Government's Public Procurement Regulations processes and the operations of the Procurement Division, and should consider avenues to include more qualified construction professionals within the process to prepare, assess and award tenders and manage contracts. This is expected

to improve the effectiveness and productive long-term outcomes of public procurement – and ultimately the timely and efficient delivery of national infrastructure.

Additional technical assistance and mentorship are needed to enhance the Government's infrastructure teams in relation to project management and specialist technical areas – such as experienced registered architects – to increase the capacity to meet the ongoing demand. External donor partners should be engaged to support such initiatives, with the intention of developing broad capacity within government ministries, rather than specifically focusing on individual projects.

TNQAB to improve its data collection and publishing of information

The TNQAB should seek to develop a database of all students participating in post-secondary education and training (PSET) in Tonga, and this should contain a record of all graduates by level and by training institution – similar to (and including) what they currently have for National Qualifications. This would provide valuable insights on graduate numbers in key construction and trades occupations and assist in developing and monitoring policy interventions to support the sector.

Regional labour mobility to address gaps in key trades areas and reduce permanent labour migration

The creation of a Pacific regional worker mobility or exchange programme – excluding those countries currently participating in established labour mobility schemes – could offer a practical approach to addressing skill shortages in targeted sectors. Across the region, many Pacific Island countries share similar challenges regarding the availability of skilled labour, with concerns that involvement in labour mobility arrangements with traditional destination countries may further exacerbate the outflow of skilled workers, who often transition into permanent roles abroad. This issue is particularly pronounced in the construction and trades sector, which has historically not been prioritized by destination countries under existing mobility programmes, resulting in limited recruitment from these fields.

In other Pacific Island countries, skill shortages may arise in different occupational areas than what has been seen in Tonga, influenced by variations in local training capacity and areas where certain countries hold a relative advantage in labour availability.⁶⁴ This presents an opportunity to facilitate more efficient movement of labour across the region, capitalizing on comparable certifications, aligned work experiences and similar employee compensation structures – all within a closer cultural context that could serve to simplify the process of labour migration.

Establishing a regional registry or database of skilled professionals and technical workers could serve as a valuable resource for contractors seeking talent from within the Pacific. Such a tool would not only assist in matching workers to demand, but also enable employees to gain broader experience and deepen their expertise in specialized areas that are otherwise challenging to cultivate within smaller national markets. In Tonga's case, such a platform could provide greater opportunities to engage with the Tongan diaspora – a potentially large pool of expertise who are aware of local culture and context and who could stimulate and support the industry if they can be identified and appropriate channels found to incentivize their return.

Greater information on Tongans' qualification attainment from the TNQAB and the creation of a database of skilled Tongans could be a productive first step towards retaining and publishing information on such individuals.

⁶⁴ As one example, interview respondents in a similar skills study on the construction sector in Vanuatu (VCCI 2025) indicated a higher number of low-skilled workers, with limited opportunities for training and employment. While Tonga is struggling with high demand for labourers and painters, with few firms requiring prior qualifications for these workers.

Review of overseas employment policies and enforcement to prioritize local skills needs in key trades areas

Review of the policies and enforcement of the Overseas Employment Division, following the findings of this and other sector-specific labour studies, is needed to ensure that they are appropriately supporting national labour needs. This should investigate whether these policies sufficiently support Tonga's domestic labour needs and provide opportunities to direct workers to remain, or return, to areas of high demand for labour in Tonga. This could include enforcing rules for individuals to be above a certain age to participate in labour mobility or including provisions for practical experience in Tonga prior to becoming eligible to participate in labour mobility. This could encourage individuals into areas of low-skilled demand that are currently experiencing shortages, such as labourers.

The review should also seek to identify causes of data inconsistencies in the numbers of international labour participants relative to published data from receiving countries.⁶⁵ This will give a clearer picture of current circumstances to the Tongan Government and may provide greater awareness and prioritization of domestic labour needs once the actual extent of overseas migration is fully understood.

⁶⁵ Namely New Zealand and Australia.

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Appendices

Appendix I. Further information on study methodology and limitations

Types of services being offered and the types of companies to be targeted included the following:

1. Carpentry and joinery;
2. Electrical installation and repair (including solar);
3. Plumbing, water and waste management;
4. Refrigeration and air conditioning;
5. Professional construction services (engineering, architecture and project management);
6. General construction (bricklaying, cement placing and finishing, and so on);
7. Civil works (road and bridge construction, wharves, runways and so on);
8. Utilities (water, electrical and gas connection and supply);
9. Painters, varnishers, building structure cleaners and related finishing trades workers;
10. Roofing installation and repair;
11. Glaziers, window, door and shutter installers;
12. General repairs, maintenance and handyman services; and
13. Plant and machine hire.

In determining this list, PCL started with the initial list of occupational categories expected to be included in the study, which had already been created through review of the ISCO-08 occupational classifications, and then sought to refine both lists with inputs from our construction expert. The result was an abridged list of occupations covering the primary activities of firms in the above categories, which was used in the employer survey and to provide a framework of occupations and services for discussions with key informant interviews.

► Appendix table 1. Study occupational groupings and their respective ISCO coding

	Study Occupational Category	Major Group	ISCO 08 Code(s)
1	Construction Managers and Project Managers	1 - Managers	1323, 1349
2	Architects and Surveyors	2 - Professionals	2161, 2164, 2165
3	Engineers (Including Civil, Structural, Electrical, Geotechnical and Quantity surveyors)		2141, 2142, 2143, 2144, 2145, 2146, 2151

Study Occupational Category		Major Group	ISCO 08 Code(s)
4	Technicians (including engineering technicians, draughtsmen, clerk of works, building inspectors and others)	3 - Technicians and Associate Professionals	3111, 3112, 3115, 3118, 3119, 2149
5	Construction supervisors (including foremen and site managers)		3123
6	House builders, Bricklayers, Plasterers, concrete placers, concrete finishers and related workers	7 - Craft and Related Trades Workers	7111, 7112, 7113, 7114, 7119, 7123
7	Carpenters and joiners		7115
8	Roofers		7121
9	Floor Layers and Tile Setters		7122
10	Glaziers and window and shutters installers		7125(+)
11	Plumbers and Pipe Fitters		7126
12	Air Conditioning and Refrigeration Mechanic		7127
13	Painters, varnishers, building structure cleaners and related trades workers		7131, 7132, 7133
14	Plant and heavy machine and vehicle operators		8113, 8114, 8189, 8211, 8332, 8342, 8343, 8344
15	Welders and Metalworkers		7212, 7213, 7214, 7215
16	Labourers (civil or construction works)	9 Elementary Occupations	9312, 9313
17	Electrical and Solar technicians (including electricians)	7 - Craft and Related Trades Workers	7411, 7412, 7413
		3 Technicians and Associate Professionals	3113

The survey also provided the opportunity for firms to share whether they provided other services, and to specify the types of services they offered.

PCL was unable to source a comprehensive list of businesses to target, and relied on the MTED and Tonga Statistics Department to create a list of businesses to survey based on company registration and other information available to them.

Market information and data limitations

Appendix table 2 below presents a summary of the limitations of the available datasets and the data that should be readily available to enable an effective analysis of the market.

► **Appendix table 2. Overview of datasets and their respective availability and limitations**

Dataset	Description	Availability/limitations
PSET student database	Includes information on student enrolment at tertiary institutions under the TNQAB'S oversight. This includes information on courses, graduate status institution and year of study for each registered student	PSET education data has only been compiled for National Qualifications, with no information available for participants in other courses.

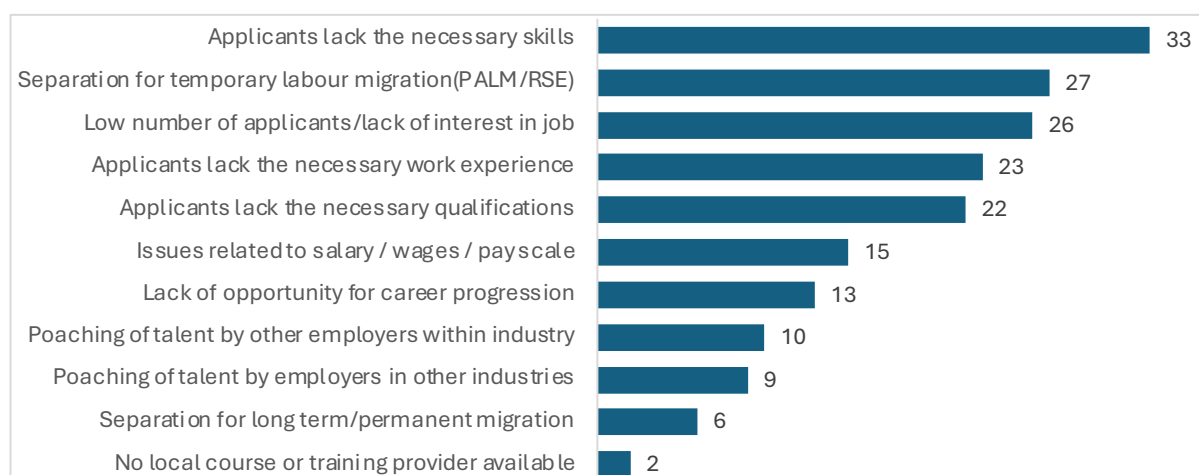
Appendix table 3 offers a brief overview of the market skills development approach, which was central to the assessment conducted of the Tongan construction and trades sector.

► **Appendix table 3. Market skills development approach summary for the construction and trades sector**

	Market for services	Labour market	Education market
Demand	▶ Private enterprises ▶ Government infrastructure ▶ Private households	▶ Private construction and trades companies ▶ Government ministries/ facilities/ departments	▶ Students
Supply	▶ Private local construction and trades businesses ▶ International construction businesses ▶ Government procurement teams	▶ Local workers ▶ International workers	▶ Domestic TVET providers ▶ International PSET providers ▶ Employers (on-the-job training) ▶ Schools
Price	Price for construction services	▶ Salaries of workers ▶ Additional costs on hiring and retaining workers	▶ Fees for training ▶ External expenses to undergoing training ▶ Opportunity costs of training (for example, forgoing income)
Intermediation	Regulators	▶ Employment services ▶ Work permits	Regulators (standards, curriculum, training designers, advisory groups)

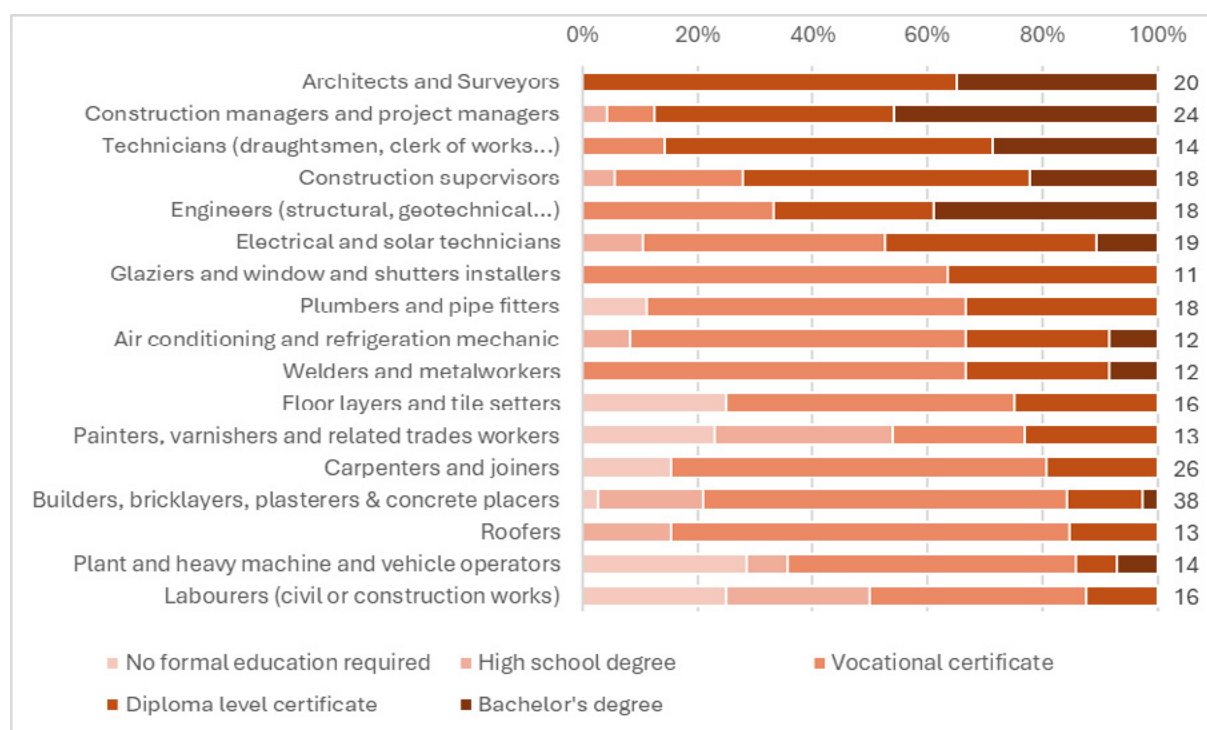
Appendix II. Additional tables and figures from the employer survey

► **Appendix figure 1. Surveyed construction firms' top three reasons for positions being hard to fill (number of respondents)**



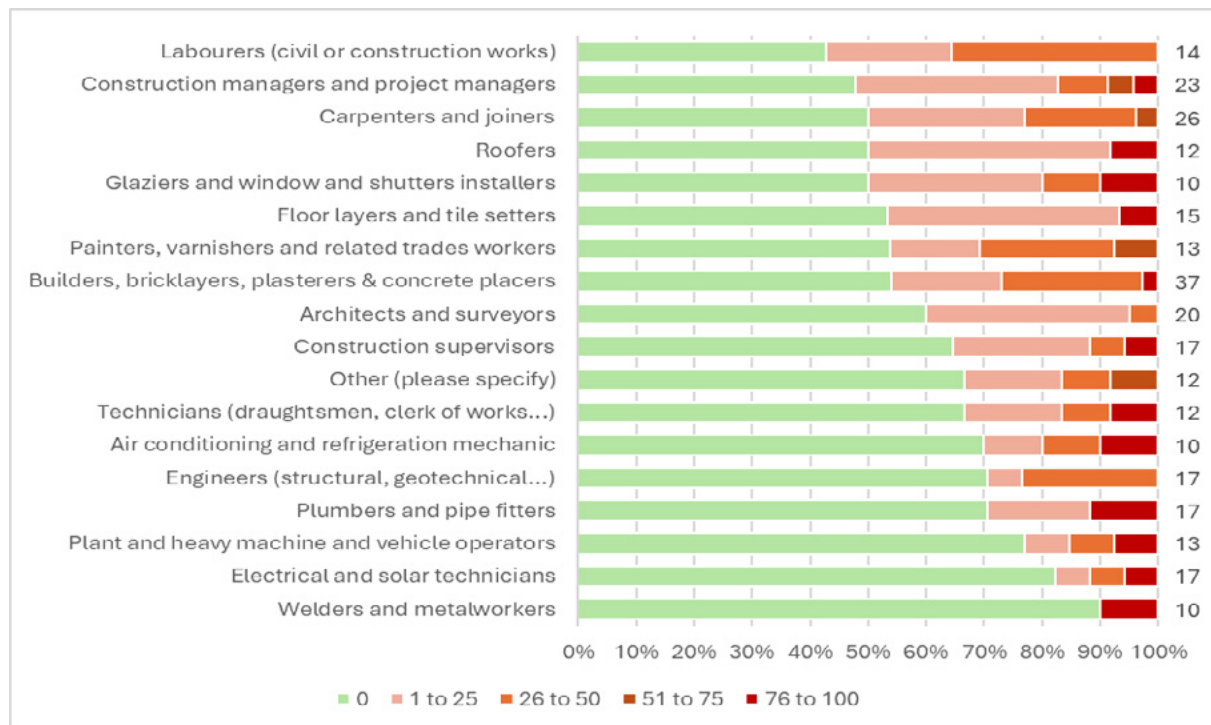
Note: Numbers of respondents based on the number who had indicated some difficulty hiring workers in one of a range of specific occupational categories.

► **Appendix figure 2. Surveyed construction firms' required education level for specific occupations (percentage of respondents)**



Note: Numbers to the right refer to the number of respondents for each occupation group, which relates to the number of firms employing people in these occupational categories.

► **Appendix figure 3. Surveyed construction firms' estimates of the share of their employees in each occupation group who are not fully proficient (percentage)**



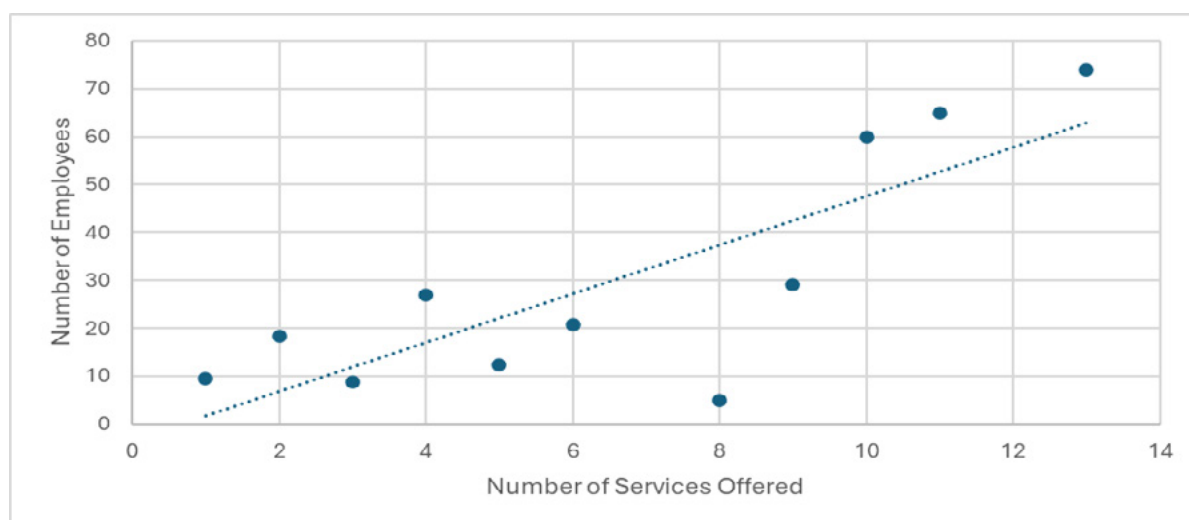
Note: Numbers to the right refer to the number of respondents for each occupation group. There appear to be inconsistencies within the reported data for this question, particularly in relation to whether 0 per cent relates to a skipped question or a valid response, and also with regards to the provided percentages appearing to have little relation to employee numbers in some cases. This could be a result of surveyor error or a misunderstanding of percentages from respondents.

► **Appendix figure 4. Surveyed construction firms' indication of how often certain actions are undertaken to address gaps in employee skills (percentage)**



Note: Total number of responses for each subcomponent of this question is n = 101.

► **Appendix figure 5. Average number of employees compared to the number of specialist services offered by the company**



Note: Consultants' calculation based on survey responses.

Appendix III. Further information on education

Courses and accreditations on offer

► Appendix table 4. TQF levels and their relationship to levels and types of education and training

VQF level	School	TVET	Higher education
10			Doctorate
9			Master's Degree
8			Post Graduate Diploma Post Graduate Certificate Bachelor's with Honours
7			Bachelor's Degree Graduate Diploma Graduate Certificate
6			Advanced Diploma
5		Diploma	Diploma
4		Certificate IV	University Foundation
3		Certificate III	
2	Certificate II		
1	Certificate I		

Source: Compiled by the authors based on Tonga, TNQAB, n.d.

► Appendix table 5. Relevant tertiary courses available from regional institutions

Providers deliver the course	Courses	Levels	Accreditation/ standards status
University of the South Pacific	▶ Electrical Engineering ▶ Mechanical Engineering ▶ Civil Engineering (bachelor's only)	Bachelor's Master's PhD	Accredited by New Zealand Engineers Association; Civil Engineering course accredited by Fiji Engineers Association
Fiji National University	▶ Urban and Regional Planning ▶ Electrical Engineering ▶ Mechanical Engineering ▶ Civil Engineering	Up to Bachelor's	Fiji-specific frameworks
	▶ Quantity Surveying ▶ Architectural Drafting ▶ Land Surveying	Up to Diploma	
Papua New Guinea University of Technology	▶ Quantity Surveying ▶ Architectural Drafting ▶ Land Surveying	Bachelor's – Master's	Papua New Guinea-specific frameworks (for example, Institution of Engineers Papua New Guinea)

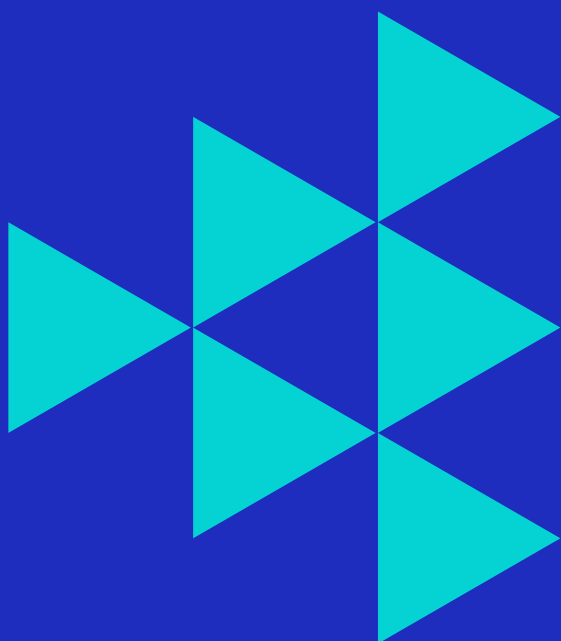
Sources: USP, n.d.; FNU, n.d.; Unitech, n.d.

Appendix IV. Interviewed stakeholders

No.	Interviewed Representative, Position and Institution
1	Dr Robin Havea, University of the South Pacific/Pacific TAFE Tonga
2	Inoke, site superintendent, Westland Construction, Vava'u
3	Manager and Plumber, Tonga Water Board, Vava'u
4	Manager, Public Works Department (Vava'u)
5	Ministry of Finance
6	Dr Tangikina Skeen, Tonga National University
7	Industry group engagement session – Heavy Machinery & Construction (hosted by TASP)
8	Vili Maka, Tonga National Qualification Accreditation Board
9	Puloka Construction
10	Sam Ve'a, Tonga Chamber of Commerce and Industry
11	Moses Vaipulu, Tonga Electricity Commission
12	Ana Bing Fonua, ADB-PPIU
13	Frank Schubert, McConnel Dowell
14	Fisilau, Consulting Engineer, ADB-PPIU
15	Andrew Kautoke, Acting Projects Manager, and Uluakimata Ma'afu, Acting HR Manager, Tonga Power Ltd
16	Falemei Fale, Tonga Gas Ltd
17	Isikeli Oko, CEO, Ministry of Education and Training
18	Deputy CEO – Labour, Ministry of Trade and Economic Development
19	National Planning, Prime Minister's Office
20	Maeakafa Tu'inukuafe, 'Esiola
21	Maeakafa, SINO
22	Ministry of Infrastructure
23	Bill Jinlai Huang, SENDO Group
24	Dr Ungatea Kata, Tonga Tertiary Institute
25	Physical Planning, Ministry of Land and Resources
26	ITS Pacific
27	Oscar Engineering Ltd
28	SKIPS Joinery

No.	Interviewed Representative, Position and Institution
29	Rev. Feleti Atiola, Principal of the Tonga College, Toloa (technical training institute)
30	Luna'eva & Sons Company Ltd
31	Kiwi Tonga
32	Levini, MEIDECC - Pacific Resilience Program
33	Bridget Gray, Director, Tonga Australia Support Platform.
34	Brother Jim Madavana, Principal of Monfort Technical Institute
35	CC Plumbing Solution
36	Siaosi Palu, Advanced Construction Development & Civil Work Ltd





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**PACIFIC CLIMATE CHANGE MIGRATION AND HUMAN
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