Application by Essential Energy for a waiver to establish a Training Academy to provide contestable technical training.

Ring-fencing waiver application

15 May 2025

Essential Energy

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Overview

Essential Energy operates one of Australia's largest electricity distribution networks, serving over 900,000 customers across regional, rural, and remote communities in 95% of New South Wales and parts of southern Queensland. The energy transition—driven by the urgent need to decarbonise and shift from fossil fuels to renewable sources—is transforming these regions through projects like NSW's Renewable Energy Zones (REZs), the cornerstone of the state's roadmap to a low-carbon future. This shift demands an unprecedented workforce expansion, yet a critical shortage of skilled workers threatens project delivery, grid reliability, and economic opportunity.

A Race for 2030 report forecasts that electricity sector employment must double to 66,300 by 2029 to meet the energy transition's demands,[1] yet regional areas like those in Essential Energy's footprint face an acute skills gap. Reinforcing this, the NSW Electricity Supply and Reliability Check Up Report (2023) recommends expanding Essential Energy's apprenticeship program to build a skilled workforce, both for Essential Energy and for third parties operating in regional NSW, ensuring network reliability as renewables reshape the grid.

The Essential Energy Training Academy (the Academy) will deliver on this dual imperative, providing targeted training in Parkes, Grafton, Orange, Wagga Wagga, Tamworth, and Goulburn—hubs strategically located near REZs like Central-West Orana and New England. By upskilling apprentices and workers to connect and maintain renewable infrastructure, the Academy supports the NSW Roadmap's 3GW Renewable Energy Zone (REZ)[2] vision while ensuring a safe, reliable, and affordable energy future aligned with the National Electricity Objective (NEO).

The AER's Ring-fencing Guideline[3] restricts Distribution Network Service Providers (DNSPs) like Essential Energy from offering contestable services without a waiver. This application seeks approval to establish the Academy as a targeted initiative to deliver essential qualifications, skill sets, and micro-credentials. The Academy will upskill Essential Energy's workforce, train prospective employees, and support the broader renewable energy industry operating in NSW regions where training access is scarce by upskilling regional-based workforces to deliver renewable energy projects.

Essential Energy's vision is to empower communities to share and use energy for a better tomorrow by enabling energy solutions that improve life. This means maintaining a safe and reliable network as Essential Energy becomes an energy business for the future where its values inform its decisions, the way it works and how Essential Energy treats its customers and people.

[1] RACE for 2030, *The Australian Electricity Workforce for the 2024 Integrated Systems Plan: Projections to 2050*: Final Report, published September 2024.

[2] NSW Government's Electricity Infrastructure Roadmap, published November 9, 2020

[3] Australian Energy Regulator (AER), Ring-fencing Guideline -- Electricity Distribution Version 4, March 2025. Clause 3.1(b),(e)

Introduction

Essential Energy builds, operates and maintains one of Australia's largest electricity distribution networks, providing a vital service to over 900,000 customers across regional, rural and remote communities. Its network footprint covers 95 per cent of New South Wales and parts of southern Queensland, traversing 737,000 square kilometres of diverse landscape from the desert to the coast, across alpine to sub-tropical climates.

Essential Energy plays a vital role in servicing the electricity needs of its diverse customer base both in terms of the services provided by the distribution network and assisting contestable providers to maintain the required qualifications to interact with the network. To date, it has assisted in this through the operation of a Ring-fencing waiver to help Accredited Service Providers (ASPs) to maintain appropriate authorisations to work on or near the electricity network. This waiver allows Essential Energy to provide, on an 'as needs' basis, three notionally contestable accreditations courses: Accredited Service Provider (ASP) initial and refresher training; Work Near Overhead Powerlines (WNP) initial and refresher training; and Safe Work Practices initial and refresher training. The waiver has been provided on the basis that:

- The training is mandatory under the NSW contestable works scheme
- Demand for the training is not sufficient in the regions to justify ongoing and accessible delivery by the contestable training market
- The set of controls, in relation to nominated locations where the training could be provided, does not impinge on the contestable market; and
- A waiver allows the relevant training services to be provided by Essential Energy which are likely to contribute to meeting the National Electricity Objective (NEO) in terms of the expected costs and benefits.[4]

Essential Energy's existing waiver for Accredited Service Provider (ASP) training has proven the value of localised solutions, enabling workers to gain mandatory accreditations without the need to travel from their regional bases where they provide services.

As renewable energy reshapes Essential Energy's network, the lack of skilled workers in regional and remote areas risks delaying critical infrastructure projects and undermining grid reliability. The Race for 2030 report underscores a looming shortfall of 10,000–19,000 skilled electricity workers annually through 2035, driven by renewable projects like the Central-West Orana and New England REZs. Complementing this, the NSW Electricity Supply and Reliability Check Up Report (2023) specifically recommends expanding Essential Energy's apprenticeship program to address this gap, building a skilled workforce in regional NSW to support transition delivery and network reliability.

Building on its proven ASP training model, the Academy will expand access to a broader suite of contestable training courses, targeting skills essential for renewable integration. It will accomplish this through the establishment of training hubs in Parkes, Grafton, Orange, Wagga Wagga, Tamworth, and Goulburn—locations aligned with REZ developments—to upskill apprentices and workers for renewable projects and to meet the forecast needs for Essential Energy's own workforce.

Set to launch fully in 2027 from a purpose-built facility in Tamworth, with interim courses starting in 2025, the Academy will assist to deliver the skilled workforce needed for the delivery of NSW's 3GW REZ capacity, supporting the transition to a reliable, low-cost energy system.

In the interim, it is envisaged that Essential Energy could provide a limited number of courses (two) in the 2025 calendar year to meet immediate demand of the electricity industry. The Academy aims to address the

[4] AER, Essential Energy – Ring-fencing waiver – training services

unmet demand for skilled renewable electricity workers in regional NSW, training both Essential Energy staff and external workers needed by renewable energy developers and operators in areas like the Central-West Orana and New England REZs. To achieve this, Essential Energy is exploring options to contract existing Essential Energy training facilities, subject to availability and demand.

1. Description of service - contestable technical training courses

The Academy will tackle a pressing portion of the projected 10,000–19,000 annual shortfall in trained electricity workers across NSW from 2025 to 2035, as forecast by the Race for 2030 report—a gap worsened by a scarcity of qualified VET trainers and limited training options in regional NSW. The NSW Electricity Supply and Reliability Check Up Report (2023) further supports this need, recommending an expansion of Essential Energy's apprenticeship program to build skills in regions like Parkes, Grafton, Orange, Wagga Wagga, Tamworth, and Goulburn—near the Central-West Orana and New England REZs—where training is virtually non-existent.

By delivering qualifications, skill sets, and micro-credentials in these hubs, the Academy will equip apprentices and workers to install, maintain, and operate renewable infrastructure, addressing the reports' calls for a reliable regional workforce while supporting the 3GW of capacity planned across NSW REZs. These will equip Essential Energy's workforce for its evolving needs while also training workers for other renewable energy businesses and projects across regional NSW, ensuring both Essential Energy's operations and the broader industry can thrive in the energy transition.

Starting with two courses in 2025 to meet urgent internal needs, the Academy will scale up by 2030 from a new regional hub. The aim of which is to provide workers in regional, rural, and remote communities in NSW, opportunities to upskill locally, where the workforce is needed and contribute to a secure, low-cost energy future. The courses selected are designed to allow qualification and appropriate licencing to get into the industry and build on a worker's existing qualifications to allow for specialisation in the renewable energy field of choice. These specialisations have been targeted as being needed in the future for Essential Energy's own internal purposes, with Essential Energy expected to be a key employer of workers with these skillsets in its footprint.

This initiative represents a significant investment to help meet the training needs of Essential Energy and the broader industry over the next decade. By training workers for non-Essential Energy renewable projects, the Academy will support regional economic growth and ensure timely delivery of critical infrastructure, such as the 3GW of renewable capacity planned in NSW REZs.

The expected training duration of industry recognised qualifications is up to four years, while skills sets and micro-credentials are designed to be delivered over a much shorter period from 1-3 days to a week of face-to-face in class training, to provide the basics to gain in-field experience.

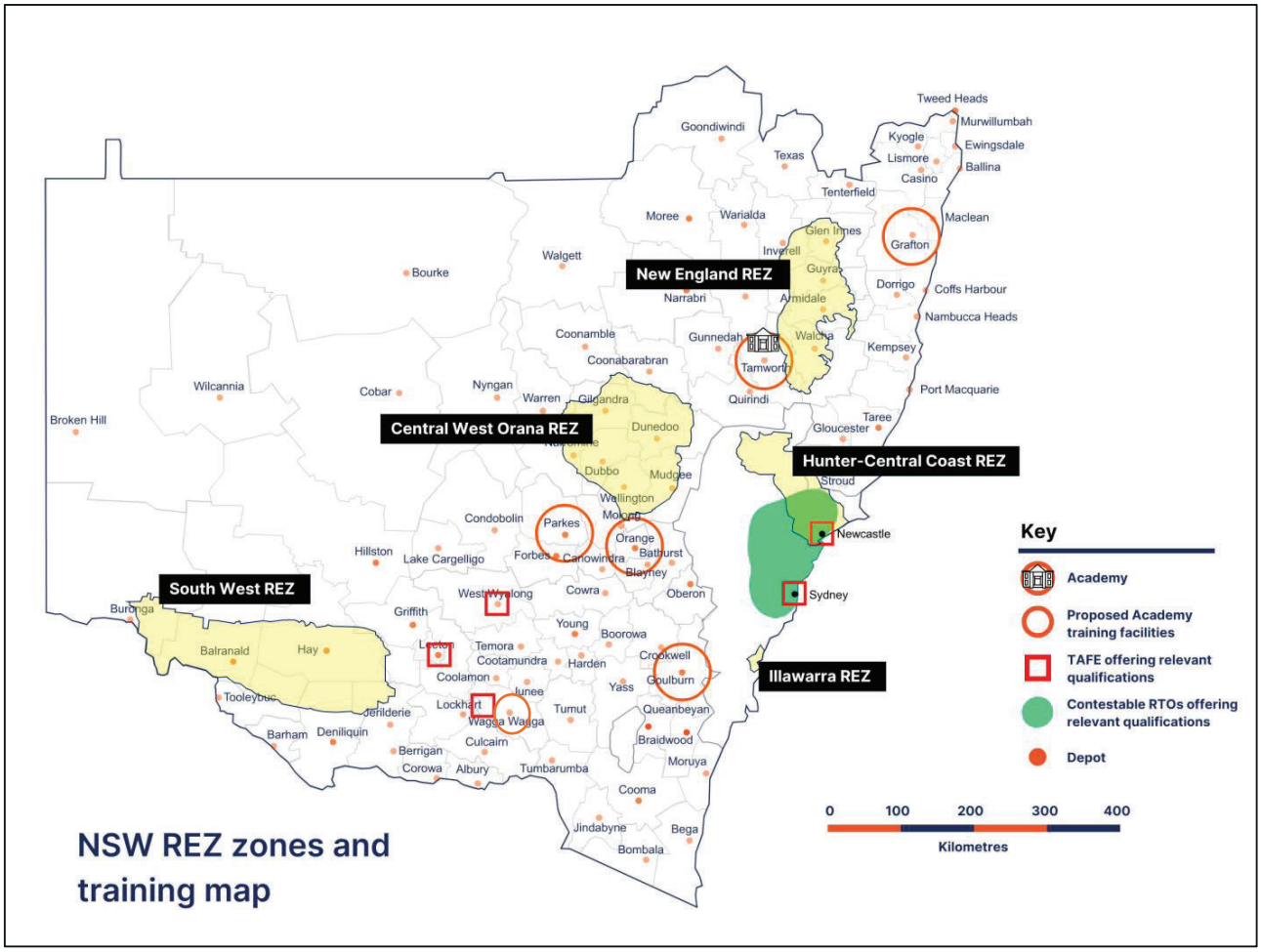
Figure 1 below provides a list of training courses the Academy intends to provide.

Figure 2 provides a map of Essential Energy's network area showing intended training locations in relation to the major renewable energy project precincts.

Figure 1 The Academy – prospective training courses

Course offerings
UEE22020 Certificate II in Electrotechnology (Career Start)
UET40522 Certificate IV in ESI - Substations
Substation Construction Skills - Skill set
UET40422 Certificate IV in ESI - Network Systems
UET30621 Certificate III in ESI - Distribution Overhead
UET30821 Certificate III in ESI - Distribution Underground
UEE43322 Certificate IV in Electrical - Renewable Energy
Grid-connected Photovoltaic Systems - Skill set
Grid-connected Battery Storage Systems - Skill set
Off-grid Photovoltaic/Generating Set Systems - Skill set
UEE50722 Diploma of Renewable Energy Engineering
Electrical Vehicle Charger (EVC) microcredential

Figure 2 Proposed training Academy locations and Renewable Energy Zones, with current availability of contestable training



2. Description of waiver being sought

2.1 Clauses to be waived

Essential Energy is seeking a waiver of the legal separation obligation under clause 3.1(b) and the branding and promotions obligations under clause 4.2.3, to allow Essential Energy to use its brand to promote a select range of contestable training services related to the Electricity Industry. Essential Energy would also require a waiver from clause 4.2.1 to allow it to contract for use, subject to availability and demand for selected courses, Essential Energy's training facilities in the locations of Orange, Grafton, Parkes and Goulburn.

2.2 Proposed waiver commencement and expiry dates

Essential Energy proposes that the waiver commences on the AER's approval and expires, for assessment for renewal, on 30 June 2034.

As a result of the long lead time to develop the Academy, Essential Energy is requesting an initial waiver period of nine years to allow the Academy to commence operations and ramp up to full operations by 2030 and complete its first rounds of qualifications. Therefore, the approval date for the waiver will allow for sufficient time in full operations to support a review of the effectiveness of the Academy and the effect on competition to be performed to assess whether the waiver continues to provide value to the industry. As a result, to provide certainty for the Training Academy and its students, Essential Energy is seeking a waiver from Ring-fencing obligations that extends past the traditional regulatory period. We consider that with the Academy expected to reach full operational status by 2030, the initial waiver should not expire before 2034. Attachment A provides a summary of each course including an analysis of existing contestable providers and the likely impact to competition, along with a brief description of the internal demand and objectives for the course. Attachment B provides an overview of courses, intended commencement dates and important milestones leading to the establishment of the Academy.

2.3 Reasons for seeking a waiver

As a distribution network service provider (DNSP), Essential Energy is prohibited, under clause 3.1(b) of the Guideline, from providing 'other services'. It is Essential Energy's experience that the provision of contestable training services are considered 'other services', which require a waiver from Ring-fencing obligations for Essential Energy to provide them.

Further, in order to use its brand to promote services to potential clientele, Essential Energy is required to obtain a waiver from obligations under clause 4.2.3, which states that a DNSP "*must not advertise or promote its direct control services and its contestable electricity services that are not direct control services together (including by way of cross-advertisement or cross-promotion)*".

Essential Energy already has an existing Ring-fencing waiver in place to allow it to provide a small number of contestable technical training courses. The decision to grant the waiver recognised the need for access to required industry training in the remote regions where Essential Energy operates. The existing waiver allows regionally based ASPs and their employees to access required training within the region where they work, without the need for excessive downtime or to travel to urban training centres.[5] This waiver application extends on that logic, taking into account a broader range of potential trainees to meet the training needs of the renewable energy workforce required in the regions.

[5] AER, Decision Essential Energy waiver for technical training services – February 2024.

The existing waiver, which we are not seeking to change, allows Essential Energy to use its offices, branding and staff to provide the training, which is provided on an on-demand basis. A key difference between the existing waiver and this application is that Essential Energy is proposing – once fully operational – to provide the training outlined above from its own bespoke facility(ies), using the Academy's dedicated training staff. However, in response to internal demand for workers in other regional areas, the Academy, may from time-to-time seek to provide training using Essential Energy's existing training facilities in these areas, on a contract-for-use basis. This would necessitate a waiver from the office sharing obligations under 4.2.1, to the extent existing regional office exemptions do not apply. To the extent that the Academy conducts training in other regional centres, then it will look to do so in full compliance with its obligations under the Ring-fencing framework for which waivers are not applied.

2.4 Transitional arrangements

As part of this waiver application, Essential Energy is seeking transitional arrangements to support the establishment of the Academy and commencement of training operations for selected courses prior to the launch of the dedicated training facility in 2027. It is envisioned that the Academy may need to contract-for-use premises, on commercial terms, from Essential Energy's existing training facilities. It is also likely to require the use of Essential Energy training and administration staff (cl. 4.2.2) to facilitate these courses.

Essential Energy expects use of these shared and contracted services – upon receipt of a ring-fencing waiver from obligations outlined above – to be fully compliant with ring-fencing obligations with respect to information sharing and cross-subsidisation. Under transitional arrangements, the Academy will cover its funding needs through corporate borrowings and sponsorships, as outlined in section 3.5, with costs of services allocated under the approved Cost Allocation Methodology (CAM). At no time will costs of the Academy be cross-subsidised from regulated revenues.

3. Supporting information for waiver application

Essential Energy's application for a waiver to set up a specialist training facility in the form of the Essential Energy Training Academy (the Academy) is in direct response to the shortage of skilled specialist electricity workers in the regions, both now and those anticipated in the future. The courses Essential Energy has chosen as its focus for the Academy, are requirements for those skillsets it expects to require in its own operations. As a result, Essential Energy is likely to become a primary employer of those trained by the Academy. A range of analysis, including Government reports, acknowledge that skills shortages in the industry, particularly in the regions where the work is being undertaken, are a threat to the timely delivery of Integrated System Plan Projects and NSW Renewable Energy Zones. For example:

- Race for 2030 reports that "overall electricity sector employment will have to double to 66,300 by 2029"[6]. The report also notes the difficulty of scaling up energy workforce training system to meet expected demand for workers, along with a shortfall in the number of qualified VET trainers, that also needs to be scaled rapidly.
- The Electricity Infrastructure Jobs Advocate's first report to the NSW Minister for Energy, acknowledges the shortage of skilled workers, particularly those located in the regions where critical infrastructure projects are being constructed and operated. The report also recognises the need for new training packages to meet the needs of the renewable energy sector, and that the current "courses offered by Technical and Further Education Commission (TAFE) and regional universities are limited in scope and have not been adapted to meet industry needs". The need to establish specialised training centres in the regions where skills are needed was also emphasised.[7]
- The NSW Government recognised these critical issues in its response to the NSW Electricity Supply and Reliability Check Up Report8, agreeing to develop a workforce plan for the NSW renewable sector. The NSW Government also accepted the Report's recommendation to expand Essential Energy's apprenticeship program in regional NSW, to help build the skills required – where they are needed.9
- The Jobs and Skills Australia, Clean Energy Capacity Study modelling shows that the vast majority of clean energy jobs over the next 30 years will require tertiary-level qualifications. It noted that: "*Clean energy top-ups and electives, including post-trade and post-graduate courses, allow workers to build on their broad-based qualifications, gain specific clean energy skills and specialize*". "*However, the availability of electives is not always widespread, particularly for emerging technologies*."[10]
    - On Post-trade and postgraduate qualifications, it noted that "*Accredited courses and post-graduate qualifications are starting to emerge that can provide additional 'top-up' skills for workers after completing their core qualifications. These top-up skilling opportunities are not just for recent graduates – a large pool of qualified workers in areas like construction could move into clean energy if short, accessible and affordable training were available. These could prove particularly important for workers in transitioning industries, like coal-fired power generation, who would benefit from short skilling pathways that can bridge gaps to new opportunities. but that increasing the capacity of education and training providers to scale these courses will be a key challenge going forward.*"

[6] NEM 2024 Workforce_FINAL.pdf, p.3., 12-13.

[7] Electricity Infrastructure Jobs Advocate's first report to the Minister for Energy, p.7.

[8] Marsden Jabob Associates, NSW Electricity Supply and Reliability Check Up, August 2024, p. 111.

[9] NSW Government, Electricity Supply and Reliability Check Up: NSW Government response – Recommendations 16 and 38.

[10] Jobs and Skills Australia, The Clean Energy Generation: Workforce needs for a net zero economy, p.103, 112, 116.

Essential Energy is widely recognised in regional and rural NSW as a preferred employer and trainer of electricity sector workers. It is well known for its robust training programs, particularly its award-winning apprenticeship and graduate programs, which equip workers with the skills required for building needed electricity network and connecting generation and emerging technologies. Essential Energy's apprenticeship program is highly regarded, with a 95% graduation rate. For employers in the energy, utilities, construction, or engineering sectors, hiring Essential Energy-trained employees means accessing a pool of workers who are qualified and skilled in the complexities of electricity networks, safety protocols, and regional challenges.

This is particularly valuable for companies working on projects like renewable energy installations, grid upgrades, or emergency response systems, where experience and reliability are vital to success. Additionally, the scarcity of skilled workers in regional areas, where many reviewable energy projects are planned, makes Essential Energy trained personnel even more attractive as they are often local people who are close to the communities where projects will be built and operated. Essential Energy trained personnel have proven ability to handle high-stakes, high-pressure situations —such as restoring power after storms or bushfires—gives them an edge that other employers are eager to leverage. While this experience is not formally part of the accredited courses to be offered, Essential Energy's trainers possess this range of experience which can provide invaluable insight to students, to help them prepare for real-world application of course content.

For the reasons highlighted above – and below – Essential Energy's participation in a small segment of the contestable training market, for skills required to connect renewables to the network, granting the waiver is in the interests of the NEO with respect to price, reliability and security of supply.

3.1 Regional employment mobility for utilities and construction trades

Employment mobility, including where a person gains their qualifications, in relation to where they live can affect where they choose to spend their working career. Australian Bureau of Statistics (ABS) Job Mobility Data, supported by other ABS reports including the Regional internal migration estimates[11] and population movement in Australia[12] show movements between Capital City Statistical Areas (GCCSAs, metropolitan) and non-GCCSA (regional) areas. This data shows that traditionally there is a "pull" from regional areas to the urbanised capital cities, driven by economic opportunities, education, and urban amenities. This generalised trend was somewhat reversed during the COVID-19 pandemic period, with an increased uptake in work-from-home opportunities and other general life-style factors, but has since 2022, at least partially returned to pre-pandemic patterns.

However, a deeper dive into the mobility of the skilled workforce, particularly construction and utility trades, shows a different picture. The direction of employment mobility can be broken down into three categories: metropolitan (metro) to regional; regional to metro and regional to regional. These are discussed in turn below

Metro to regional

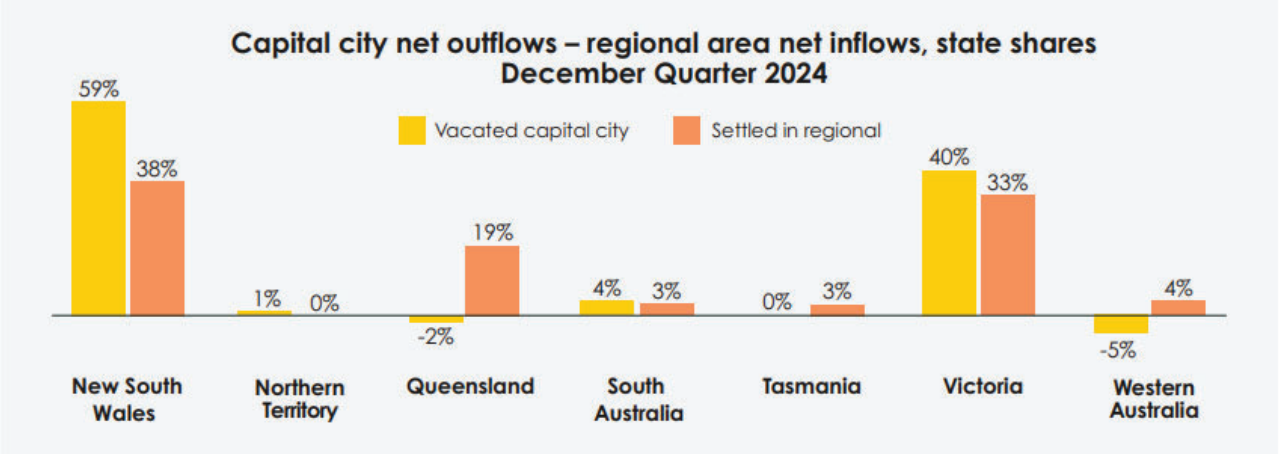
In this category, a trades worker, located in a metropolitan location moves to a regional location. ABS statistics show that internal migration from metropolitan to regional areas has been less common than the reverse due to increased job opportunities and urban amenities. Metropolitan areas dominate construction employment due to urban development, while Electricity, gas, water, and waste services are concentrated in metropolitan areas for population density. Total metro to regional migration accounts for 25 per cent of all migration. However, this is lower amongst tradespeople. A 2022 Regional Australia Institute (RAI) report,

[11] https://www.abs.gov.au/statistics/people/population/regional-internal-migration-estimates-provisional/latest-release

[12] https://www.abs.gov.au/articles/population-movement-australia

Skilled Migration in Regional Australia, found that only 20 per cent of metropolitan tradespeople who moved went to regional areas, with most (60 per cent) staying within urban boundaries.[13] Other research supports these findings, concluding that metro to regional migration is less common due to urban amenity, job availability and stability.[14] These studies demonstrate the difficulty of attracting metropolitan skilled workers to regional areas. Of those that leave the cities to settle in regional areas the greater share are from Sydney and Melbourne. The latest data provided by the RAI, provided in Figure 3 below, shows that Regional NSW and Regional Victoria are currently the most favoured destinations followed by Regional Queensland.[15]

Figure 3: Capital city net outflows by state



Regional to metro

This is where trades workers, located in regional areas migrate to metro areas. Metro areas attract skilled trades workers from regional areas due to the availability of job opportunities, higher wages and training opportunities. However, regional workers, who have a high labour mobility rate due to the availability of employment, demonstrate a preference for staying in regional areas, with only 35 per cent of migrating regionally based trades people moving to metropolitan areas.[16] An OECD study found that metro projects pull some regional tradespeople, but urban opportunities keep most metropolitan workers in place.[17]

Regional to regional

This is where a trades worker located in a regional area moves to another regional area. Employment migration among skilled trades people in the regions is higher than the national average and much higher than in metropolitan locations. Drivers for higher mobility rates among regional workers are economically based and include the availability of local employment, infrastructure project proximity and start and completion dates as well as locality of resources. As a result, regional tradespeople are 3-4 times more likely to move somewhere than metropolitan tradespeople are to move to regions, reflecting urban job retention vs. regional job-seeking behaviour.

Academic research supports these findings. Treasury analysts Deutscher and Mazumder found that regional economic fluctuations (e.g., construction booms) drive mobility more than metro stability, aligning with

[13] Regional Australia Institute. (2022). Skilled Migration in Regional Australia. Available at: regionalaustralia.org.au

[14] See Productivity Commission. (2014). Geographic Labour Mobility. Research Report, Stanwick, J., & Ong, K. (2014). An Exploration of Labour Mobility in Mining and Construction: Who Moves and Why, OECD. (2018). Sydney Metro Case Study. In OECD iLibrary: Skills and Workforce Development.

[15] Regional Institute Australia, Regional Movers Index Dec 2024 Quarter Report.

[16] Regional Australia Institute. (2022). Skilled Migration in Regional Australia. Available at: regionalaustralia.org.au

[17] OECD. (2018). Sydney Metro Case Study. In OECD iLibrary: Skills and Workforce Development. Available at: www.oecd-ilibrary.org

higher regional worker movement.[18] In a study of the mobility of regional construction workers, Wu et al. found that there is high cross-regional activity in Queensland and NSW as workers move between infrastructure projects.[19] The Productivity Commission also found that at an aggregate level, a region's economic opportunities and distance from other regions drive mobility, with construction tied to project locations (often regional).[20]

These findings demonstrate that where skilled workers are trained, because this is when the worker enters the statistics, plays a vital role in where those workers spend their working career. If the worker receives their qualifications in metropolitan areas, then the tendency to stay in metropolitan areas is increased. Regionally based skilled workers may migrate to metropolitan areas if local employment opportunities dry up, but they have a greater tendency to stay in regional areas. As a result, if new workers can be trained in the regions where the work is, they have a greater tendency to remain in regional areas or relocate to other regional areas when infrastructure projects complete. This retains valued skills and high-paying jobs in the regions, boosting economic activity and skill-levels. The opposite is true if prospective workers are required to migrate to metropolitan areas to obtain higher qualifications, they tend to stay in the metropolitan areas, with a resultant loss in skills and economic activity in the regions.

3.2 Potential costs if the waiver application is not granted

Essential Energy is seeking to target alleviating around 10 per cent of the unmet needs gap identified for skilled electricity workers in its network footprint based on in its analysis. Essential Energy expects that existing training providers will also increase their training offerings over time to also address part of the gap, with the understanding that the demand for skilled electricity workers in the regions, and therefore training, is likely to outstrip supply for the foreseeable future. Essential Energy has taken a cautious – risk-based – approach to the market, aiming to improve opportunities for training, particularly for the skills required by Essential Energy within the region where workers are required. It aims to do so whilst maintaining sufficient incentive for existing contestable training providers to also fill gaps within the training market.

Without this waiver, Essential Energy anticipates a widening skills gap that will hinder operations and leave other regional renewable energy businesses—such as wind farm developers and solar installers—struggling to source qualified workers, delaying projects and increasing costs for customers. This will force potential trainees to compete for the limited local contestable training places available and also increase the need for trainees to travel long distances to metropolitan training centres. As discussed in the previous section, requiring workers to travel to gain qualifications increases the risk that the worker will not return to the regions once training is complete.

In the absence of other measures, lack of training facilities, and the consequent result to trainee outcomes, can also place increased pressure on employee wages for in-demand skills, as wage growth meets the demand for workers in the regions. While this may be positive for employed workers, it can distort the market with a knock-on effect to project costs, and delivery timeframes, increase the risk of projects – and prices that electricity customers pay.

3.3 Enrolment projections

Enrolment projections for the Academy are conservative estimates, based on the expected need to provide options for upskill training for Essential Energy's own personnel plus the broader market – based on external and internal modelling of the future renewables industry workforce. The Academy forecasts internal

[18] Deutscher, N., & Mazumder, B. (2020). Intergenerational mobility across Australia and the stability of regional estimates. Economic Record, 96(315), 445-468.

[19] Wu, H., Zuo, J., Yuan, H., Zillante, G., & Wang, J. (2020). Cross-regional mobility of construction and demolition waste in Australia: An exploratory study. Resources, Conservation and Recycling, 156, 104710

[20] Productivity Commission. (2014). Geographic Labour Mobility. Research Report

(Essential Energy's existing workforce) demand for the two Certificate IV courses in Substations and Network Systems of around 365 places collectively in the 2025 calendar year. Total immediate internal demand for all courses is around 650 places. While modelling accounts for the capacity of the Academy for additional places for each course, Essential Energy has not undertaken any market testing, outside of an initial market scan, to assess the demand from external parties for Essential Energy to provide these courses through the Academy. The Academy's economics are anchored by internal demand for 650 annual training places, but its capacity will also serve external trainees—estimated at 200–300 annually—from regional renewable energy firms, amplifying its value to the industry and communities we serve.

Any external demand for training places, on the same fee-basis as internal demand, is considered a means to support the wider energy transition and seeks to resolve skilled workforce shortfalls and need identified in section 3. It is envisaged that the Academy will respond to the market, to the extent of capacity of the training facility to meet the needs of the training market, both in terms of industry demand for workers and student response.

3.4 The potential effect on the contestable market

Registered Training Organisations (RTOs) represent the contestable market for accredited training courses in NSW. Accredited training for electrotechnical skills to support the energy transition in NSW is dominated by three major RTOs: TAFE NSW, Australian Technical College Western Sydney, and Sydney Institute of Technology which also operates as Training and Education Support (TAE). Other important RTOs include: the Renewable Energy Institute and the Central Coast Community College. Other smaller RTOs also offer the courses selected to be provided by the Academy.

It is important to note, that of these only TAFE NSW provides some of the selected courses in some regional NSW areas such as Tamworth and Dubbo on a face-to-face basis. TAE provides the courses online, with the remaining RTOs based in either Sydney or populous urban centres such as the NSW Central Coast (Gosford), Newcastle and Wollongong.

RTOs are registered on the Federal Government's National Training Register, which is available to the public to search by provider or by course. An analysis of the contestable market in NSW by course title is provided in Attachment A.

As outlined above, Essential Energy is only targeting around 10% of forecast unmet needs, i.e. workers and potential trainees who are unable to receive training – even after an anticipated increase in the activities of the existing market (mainly TAFE NSW). The Academy's intended course offering is also only focussing on a very narrow sub-set of qualifications and skill sets it has identified as of value to Essential Energy, as a preferred employer, and network connection proponents, in the regions where these skills are likely to be required. As a result, the effect on the contestable market of Essential Energy operating an Academy for these qualifications and skill sets is likely to be negligible. However, for those who complete Academy courses, the results could lead to be rewarding.

3.5 Addressing risk of cross-subsidisation

The cross-subsidisation risk that the Ring-fencing Guideline is intended to address is the risk of DNSPs cross-subsiding its provision of other services by allocating the costs of doing so to the provision of distribution services. The funding model for the Academy will ensure that regulated revenue is not used for the establishment or ongoing running of the Academy. The Academy will operate as a separate business unit within Essential Energy. It will have its own separate accounts, as if it were an affiliated entity. The funding model obtains the initial start-up capital via borrowing from Essential Energy's shareholder; NSW TCorp. Additional funding for ongoing and any shortfall in the initial years of operation are to be provided through corporate sponsorship arrangements. Further, the Academy will accept students on a full fee-paying basis.

Under conservative forecasts of student numbers, the Academy is likely to show a small profit in FY 2029 and be self-sustaining through a combination of fees and corporate sponsorships thereafter.

The risk of cross subsidisation is further mitigated through the application of Essential Energy's approved CAM. The CAM determines how costs are allocated to cost centres, projects, accounts, products, programs, or branches of a company to measure performance and inform decision making. The costs of any services that Essential Energy provides to the Academy are allocated in accordance to this methodology to ensure that costs are recovered and there is no cross-subsidisation from regulated revenue. The CAM provides for both direct and overhead costs for any support services provided to the Academy to be appropriately recovered.

3.6 Why is the Essential Energy brand required?

As previously noted, Essential Energy has very strong brand recognition within the community and industry within which it operates. It is also well-regarded in the industry for the quality of its training outcomes, particularly its course completion rates and student employment prospects. It has a strong presence throughout its operational footprint and can provide access to real world experience and facilities that no other training organisation can match. Student outcomes for the limited range of courses Essential Energy will provide are enhanced by association with the Essential Energy brand. The use of the Essential Energy brand will enable the Academy to attract high calibre students for future, confidence of industry, and ongoing employment in both Essential Energy and related renewable electricity product providers.

For the reasons highlighted in this application, Essential Energy's participation in a small segment of the contestable training market for skills required to connect renewables to the network, granting the waiver is in the interests of the NEO with respect to price, reliability and security of supply.

3.7 Community benefit programs

NSW EnergyCo, the Infrastructure Planner for NSW REZs, states that REZs will "invest hundreds of millions of dollars into regional communities to ensure they receive lasting, transformational benefits" through the Community and Employment Benefit Program.[21] To facilitate these investments, Projects awarded REZ access rights must enter an Access Project Development Agreement (Access PDA) with NSW EnergyCo. These PDAs mandate set rates per MW of capacity each year to be invested in community benefit initiatives.

For example, the Central West-Orana project contributes $70 million from access fees over 33 years to community benefit programs.[22] The goal of the Community and Employment benefit Program emphasises sustained benefit beyond project lifecycles. Part of the West-Orana community benefit program is to create employment and participation opportunities for first nations peoples in the region. Such programs will form the bedrock of delivering sustainable community benefits through the enhancement of local skills and job opportunities for regional workers. The Academy plans to participate in these programs, both as a source of funding, and to meet the objectives of the program to enhance long-term employment prospects of regional workers.

3.8 Responding to evolving market conditions and uncertainty

This waiver application provides stakeholders with Essential Energy's most current analysis of the training requirements for Essential Energy and the broader renewable energy project market. It also proposes how Essential Energy intends to respond to these needs through the establishment of the Academy and the courses it has identified. In doing so, Essential Energy acknowledges that the transition to renewables is still

[21] https://www.energyco.nsw.gov.au/cebp

[22] https://www.energyco.nsw.gov.au/news/70-million-first-round-central-west-orana-communities

in its relative infancy and there is uncertainty as to how renewables project investors might react to the implementation of NSW REZ precincts, and how these projects may shape up in relation to staffing and training requirements.

Essential Energy acknowledges that the Academy may need to be responsive to market needs, both in terms of the courses it provides and the locations it serves. Therefore, while the existing waiver application limits the locations and courses it provides to the existing forecast of market need, this may change in the future, which may require variations to the waiver. The options Essential Energy considers as reasonable in this circumstance is for the AER to either:

- Consider a limited waiver with respect to locations and courses offered now, with course and location reviews at regular periods – say every three years; or
- Consider building in flexibility in relation to courses and locations within the waiver, under a set of principles in relation to the nature of training provided and the effect on competition – with more irregular reviews.

Essential Energy would be keen to test stakeholder feedback on either option during the consultation period. Any principles developed to guide the Academy's selection of courses and locations should be flexible enough to adapt to how the renewables industry may change and evolve over time with new technologies and infrastructure project locations. Principles should also account for the effect of how the market is served in relation to training opportunities and outcomes.

Attachment A: Details for each course to be offered by the Academy

UEE22020 CERTIFICATE II IN ELECTROTECHNOLOGY (CAREER START) – 10 MONTHS

Qualification Description and Outcomes

This qualification is for **Field operation trainees**, it is a diversity targeted program which covers competencies for work entry program providing grounding in safety and basic skills and knowledge for work in any electrotechnology discipline.

Competitive assessment

The Australian Government training website: Training.gov.au[23] lists 10 providers of this entry-level qualification which have offices or a physical presence in NSW. Essential Energy is one of the listed providers, servicing only its own internal demand within its existing workforce on an as-needs basis. Of the other nine providers, only three list operations in Essential Energy's network footprint, and none have any presence in the locations Essential Energy intends to operate, only TAFE NSW lists a single training location around 100kms from Essential Energy's closest proposed location of Wagga Wagga. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers (EE Aims)

TAFE NSW is currently the primary provider of this qualification in New South Wales, enrolling the majority of school-based Vocational Education and Training (VET) students and other eligible participants. Nationally, the completion rate for this qualification stands at 11%. Essential Energy seeks to boost participation by targeting school leavers, motivated individuals aspiring to join the electrotechnology sector, and underserved groups, including those in correctional facilities, unemployment agencies, and marginalized communities, to expand the pool of qualified candidates for the energy transition.

Course fee structure

Course fees are regulated by the NSW Government. Full fee-paying students may be eligible for NSW Government training subsidies through the "Smart and Skilled" program which provides an entitlement to government-subsidised training up to and including Certificate III and funding for higher-level courses (Certificate IV and above) in targeted priority areas.[24] The total fee for face-to-face delivery of this qualification is $5,450 available through the Smart and Skilled program as Apprentice and Trainee (A&T) Entitlement. For non-trainees, a fee of up to $1,220 would be deducted.

Additional subsidies are available for Aboriginal and Torres Strait Islander (ATSI) / Disability ($818), Long-term Unemployed ($818), and Regional ($545) or Remote ($1090) students.

[23] National Training Register - UEE22020 Certificate II in Electrotechnology (Career Start)

[24] https://www.nsw.gov.au/education-and-training/vocational/funding/smart-skilled-training-providers#toc-what-is-smart-and-skilled

UET40522 CERTIFICATE IV IN ESI – SUBSTATIONS – 12-18 MONTHS

Qualification Description and Outcomes

This is the qualification for qualified electricians to upskill to become **Zone Substation technicians**, it provides the skills and knowledge to work in power system substations in the electricity supply industry (ESI).

This qualification covers selecting, installing, setting up, testing, inspecting, fault finding, repairing and maintaining electrical systems within substations. It includes switching, maintaining circuit breakers and transformers, and diagnosing and rectifying faults. Options are available for skills to be obtained in high current direct current (d.c.) switchgear and equipment, installation of high voltage (HV) plant and equipment and/or the maintenance and commissioning of discrete protection and control systems.

Competitive assessment

The Australian Government training website: Training.gov.au[25] lists five providers of qualification nationally, with only three RTOs with a presence in NSW. which have offices or a physical presence in NSW. Of these, only TAFE NSW has operations in Essential Energy's network footprint, but does not have any courses available in the locations Essential Energy intends to operate. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

Essential Energy considers the UET40522 qualification a mandatory requirement for the Zone Substation Technician role, as outlined in the Position Description (PD), with approximately 185 employees currently in this position. Until recently, challenges such as a shortage of training providers, along with issues related to the suitability and geographic accessibility of existing providers, have hindered efforts to adequately skill its workforce. However, following a recent update to the packaging rules in the latest edition of the UET40522 qualification, Essential Energy is now taking steps to develop this qualification internally to meet its specific needs.

It is also recognized that other Distribution Network Service Providers in New South Wales, such as Ausgrid and Endeavour Energy, as well as Transmission Network Service Provider Transgrid, either require this qualification for similar PDs or depend on the associated skill sets. Additionally, private organisations involved in the renewable energy transition share a critical need for employees equipped with the precise skills this qualification provides. Essential Energy believes it will play a key role in ensuring electrical trade workers possess the necessary expertise to support the energy transition in the years ahead. With many zone substations requiring upgrades or new construction over the next 20+ years to support the shift to renewables, this qualification is directly aligned with both Essential Energy's needs and the broader industry's demands.

Course fee structure

The total fee for face-to-face delivery of this qualification is $10,610 available through the Smart and Skilled program as A&T Entitlement. For non-trainees, a fee of up to $4,960 would be deducted.

Additional subsidies are available for ATSI / Disability ($1,592), Long-term Unemployed ($1,592), and Regional ($1,061) or Remote ($2,122) students.

[25] National Training Register - UET40522 Certificate IV in ESI - Substations

UET40422 CERTIFICATE IV IN ESI - NETWORK SYSTEMS – 3-6 MONTHS

Qualification Description and Outcomes

This is for dual qualified Electrical Technicians, providing the qualifications for **High Voltage Live linespersons** and **cable jointers**. It provides the skills and knowledge to work on network systems in the electricity supply industry (ESI). This qualification covers work on the network systems in the specific fields of live line transmission, live line distribution, live line rail traction and/or installation and maintenance of specialised underground cables. These roles may lead or supervise work teams and work in transmission, distribution, rail or cable jointing. The qualification allows individuals to specialise in one of the following areas.

Competitive assessment

The Australian Government training website: Training.gov.au[26] lists three providers of qualification nationally, with only one RTO with a presence in NSW. There are no providers of this qualification in Energy's network footprint. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

This qualification is divided into six elective specializations, each tailored to the key skills needed by Distribution and Transmission Network Service Providers. Essential Energy has an urgent need for its internal workforce to develop expertise in three of these areas, and we are actively developing training programs for these streams: Distribution High Voltage Live Line (Group A), Specialised Cable (Group C), and Switching (Group D). While the current market for these skills may be limited, the scarcity of training providers and the critical demand for expertise—such as specialised cable jointing for 33kV and above cables to support the energy transition—have driven Essential Energy to explore offering this qualification externally. This approach aims to address a market gap where these skills are needed for ongoing projects, and existing training options fall short of meeting external demands.

Course fee structure

The total fee for face-to-face delivery of this qualification is $10,610 with no subsidy of available through the Smart and Skilled program.

UET30621 CERTIFICATE III IN ESI - DISTRIBUTION OVERHEAD – 4 YEARS

Qualification Description and Outcomes

This qualification provides the skills and knowledge to work in the electricity supply industry (ESI) as a **Distribution Overhead Lineworker**. This qualification covers the installation, maintenance and inspection of poles, structures, hardware, electrical apparatus and the use of support plant, tools and equipment.

Competitive assessment

The Australian Government training website: Training.gov.au[27] lists five providers of this qualification which have offices or a physical presence in NSW. Essential Energy is one of the listed providers, servicing only its own internal demand within its existing workforce on an as-needs basis. Of the other four providers, which list some operations in Essential Energy's network footprint, none have any presence in the locations Essential Energy intends to operate. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result,

[26] National Training Register - UET40422 Certificate IV in ESI - Network Systems

[27] National Training Register - UET30621 Certificate III in ESI - Distribution Overhead

the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

Essential Energy currently holds this qualification within its scope and uses it to train 90–140 employees annually, with plans to maintain this level in the near future. We operate multiple facilities across our service area equipped with the necessary physical assets to provide high-quality training. This setup benefits participants by offering accessible training in locations close to where they live or can easily commute, especially in areas where no other providers are active.

Course fee structure

The total fee for face-to-face delivery of this qualification is $16,870 available through the Smart and Skilled program as A&T Entitlement. For non-apprentices, a fee of up to $3,960 would be deducted.

Additional subsidies are available for ATSI / Disability ($2,531), Long-term Unemployed ($2,531), and Regional ($1,687) or Remote ($3,374) students.

UET30821 CERTIFICATE III IN ESI - DISTRIBUTION UNDERGROUND – 4 YEARS

Qualification Description and Outcomes

This qualification provides the skills and knowledge to work in the electricity supply industry (ESI) as a **Distribution Underground Cable Jointer**. This qualification covers the installation and maintenance of low voltage (LV) and high voltage (HV) underground cables, services and electrical equipment.

Competitive assessment

The Australian Government training website: Training.gov.au[28] lists twelve providers of this qualification nationally, five of which have offices or a physical presence in NSW. Essential Energy is one of the listed providers, servicing only its own internal demand within its existing workforce on an as-needs basis. Of the other four providers, two list some operations in Essential Energy's network footprint. None of these have any presence in the locations Essential Energy intends to operate. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

Essential Energy currently holds this qualification on its scope and uses it to train 20–40 employees annually, with plans to continue this into the near future. Essential Energy has multiple facilities across its service area equipped with the physical assets needed to deliver high-quality training for this qualification. This provides a key advantage for participants, who can access training in locations near their homes or within easy commuting distance, where no other providers currently operate.

Course fee structure

The total fee for face-to-face delivery of this qualification is $14,700 available through the Smart and Skilled program as A&T Entitlement. For non-trainees, a fee of up to $3,960 would be deducted.

Additional subsidies are available for ATSI / Disability ($2,205), Long-term Unemployed ($2,205), and Regional ($1,470) or Remote ($2,940) students.

[28] National Training Register - UET30821 Certificate III in ESI - Distribution Underground

UEE43322 CERTIFICATE IV IN ELECTRICAL - RENEWABLE ENERGY – 12-18 MONTHS

Qualification Description and Outcomes

This qualification provides competencies to select, install, set up, test, fault find, repair and maintain renewable energy (RE) electrical systems and equipment in buildings and premises. It provides the basic qualifications needed for Essential Energy's **Network Assurance Facilitators, Designers, Zone Substation Electrical Technicians, Senior Engineering Officers, and various managers in Planning, Transmission Services, and Operations**. It includes requirements and competencies to select, install, set up, test, fault find, repair and maintain stand-alone RE equipment and systems. This course includes a number of skillset modules – which can be provided as individual skill sets – are vital to the renewables' energy market.

Competitive assessment

The Australian Government training website: Training.gov.au[29] lists seven providers of this qualification nationally, six of which indicate they offer the course in NSW. Of these only one organisation lists any operations in Essential Energy's network footprint. None of these have any presence in the locations Essential Energy intends to operate. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

This qualification is critical for Essential Energy's internal needs, supporting roles such as field staff, Network Assurance Facilitators, Designers, Zone Substation Electrical Technicians, Senior Engineering Officers, and various managers in Planning, Transmission Services, and Operations. These positions will be directly affected by renewable assets connecting to the electrical network. Additionally, the qualification—or parts of it—will benefit commercial renewable energy organizations and electricians working in or entering the renewables sector, particularly for installing and maintaining these assets.

The qualification takes 12-18 months to complete and is targeted for full delivery by the opening of the Academy in 2027. However, there may be an opportunity to deliver some units of competence earlier, using existing facilities, including the skill sets outlined in Attachment B.

Course fee structure

The total fee for face-to-face delivery of this qualification is $7,890 available through the Smart and Skilled program for A&T Entitlement. For non-apprentices, a fee of up to $2270 would be deducted.

Additional subsidies are available for ATSI / Disability ($1,184), Long-term Unemployed ($1,184), and Regional ($789) or Remote ($1,578) students.

[29] National Training Register - UEE43322 Certificate IV in Electrical - Renewable Energy

UEE50722 DIPLOMA OF RENEWABLE ENERGY ENGINEERING – 18-24 MONTHS

Qualification Description and Outcomes

This is an advanced qualification for those with an existing 'unrestricted electricity licence' or have previous obtained the UEE30820 Certificate III in Electrotechnology Electrician. It provides management competencies needed to design renewable energy systems; supervise installation and maintenance; and develop, select, commission, maintain and diagnose faults/malfunctions on large-scale renewable energy (RE) equipment and systems.

Competitive assessment

The Australian Government training website: Training.gov.au[30] lists one provider of this qualification nationally. This single provider does not list any operations in Essential Energy's network footprint. For those locations of need identified by Essential Energy, prospective students would be required to travel interstate or be required to complete the course via online content only. As a result, the expected effect of the Academy's provision of this qualification on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

This qualification is vital for Essential Energy's internal needs, supporting a wide range of roles including field staff and supervisory roles, **Network Assurance Facilitators, Designers, Zone Substation Electrical Technicians, Senior Engineering Officers, as well as Planning, Transmission Services, and Operations Managers**. These roles will be directly affected by the integration of renewable assets into Essential Energy's network. Beyond internal use, the qualification—or specific components of it—will also benefit commercial renewable energy organizations and electricians working in the renewables sector, particularly those aiming to design, install, and maintain these assets.

Course fee structure

The total fee for face-to-face delivery of this qualification is $20,690 with no subsidy of available through the Smart and Skilled program.

Other skill sets

ELECTRICAL VEHICLE CHARGER (EVC) MICROCREDENTIAL – 1-3 DAYS

This course has no national unit of competence setup yet, but electricians will need additional knowledge of how to install both AC and DC EVCs. Please note 'most' (if not all) manufacturers of EVCs are stipulating 'their product' training is required of Electricians to install and maintain their products at this stage. Essential Energy intends to offer a course that provides a detailed overview of electric vehicle (EV) technology, with a specific focus on the diverse range of EVs, charging methods, and plug variations. It thoroughly explores the technical standards outlined in Appendix P of AS/NZS 3000:2018, specifically addressing the different types of Residual Current Devices (RCDs) and their implications for load management and maximum demand considerations. Additionally, the course will cover the existing product options available for both domestic and fleet requirements, along with an evaluation of current and future storage solutions and the compatibility between renewable energy sources and EV charging systems.

Essential Energy's demand for qualified workers

This micro-credential course will equip Essential Energy's staff with the skills needed to handle these products across the network and sites, positioning the organisation favourably for the eventual release of national units of competence. Essential Energy has already trained current employees on specific Electric

[30] National Training Register - UEE50722 Diploma of Renewable Energy Engineering

Vehicle Charger (EVC) assets, including EVSE and Wallbox EVC, and has trainers ready to teach the Wallbox product to additional internal staff. As the EVC rollout is still in its early stages, it's challenging to pinpoint exact start times and durations, though the course is expected to last 1–3 days.

Course fee structure

There is currently no regulated fee structure available for this skillset.

SUBSTATION CONSTRUCTION SKILLS

This skill set comprises four elective Units of Competency (UoC), essential to the work of ESI substation electricians, which are not included in the afore mentioned Certificate IV substation technician qualification, which Essential Energy substation workers are required to undertake for their role.

The UoC that comprise this Skillset are:

- **UEECD0033 - Produce products for carrying out energy sector work activities**
- **UEEAS0007 - Assemble, mount and connect control gear and switchgear**
- **UEEAS0008 - Fabricate and assemble bus bars**
- **UEEAS0009 - Mount and wire control panel equipment**

While UET40522 Certificate IV IN ESI – Substations is the base qualification for Zone Substation Electrical Technicians, it is underpinned by the pre-requisite qualification Certificate III in Electrotechnology Electrician qualification to provide the skills and knowledge to work in power system substations in the electricity supply industry.

This qualification provides individuals with the skills and knowledge to select, install, set up, test, fault find, repair and maintain electrical systems and equipment in buildings and premises. It includes Electrical Regulatory Authority Council (ERAC), or their successor's, Essential Performance Capabilities for an 'Unrestricted Electrician's license'.

Competitive assessment

The Australian Government training website: Training.gov.au, lists 17 providers of Certificate III Electrotechnology qualifications which contain these Units of Competency, as electives on their scope. However, due to the specialised nature, they are not being offered by any of the public RTOs.

Only TAFE NSW has operations in Essential Energy's network footprint, but it does not have any courses delivering these UoC available in the locations Essential Energy intends to operate. For those locations of need identified by Essential Energy, prospective students would be required to travel extensive distances to complete face-to-face components. As a result, the expected effect of the Academy's provision of this skillset on existing competitive market is negligible or zero.

Essential Energy's demand for qualified workers

Essential Energy considers the UET40522 qualification a mandatory requirement for the Zone Substation Technician role, as outlined in the Position Description (PD), with approximately 185 employees currently in this position, all of whom have completed the Certificate III in Electrotechnology Electrician qualification as a prerequisite. However, there is currently a skills gap that emerges from the transition from the Certificate III to the Certificate IV qualification.

Apprentices attending TAFE NSW to gain their Certificate III qualification are limited in the selection of an elective skillset to what is available for delivery. The inclusion of this skillset in Essential Energy RTO delivery will provide training that is not currently available in skills that are critical to the substation technician role, and which are not included in the Certificate IV in ESI Substations qualification. Additionally, this skillset

helps provide the skills required which allow existing electricians from the contracting industry to transition to the electricity supply industry in a substations role.

It is also recognised that other Distribution Network Service Providers in New South Wales, such as Ausgrid and Endeavour Energy, as well as Transmission Network Service Provider Transgrid, require this skillset, or similar. Additionally, private organisations involved in the renewable energy transition share a critical need for employees equipped with the precise skills this skillset provides. Essential Energy believes it will play a key role in ensuring electrical trade workers possess the necessary expertise to support the energy transition in the years ahead. With many zone substations requiring upgrades or new construction over the next 20+ years to support the shift to renewables, this skillset is directly aligned with both Essential Energy's needs and the broader industry's demands.

Course fee structure

There is no Smart and Skilled regulation around the pricing of these 4 units that complement the UET40522 Substation qualification. Therefore, Essential Energy will price it in accordance with market appetite and compatibility. It is intended for this skill set to be delivered out of the Zone Sub Training Centre at Orange when it opens, proposed in 2026-27, and could be replicated across other existing venues if market demand indicated it is viable to do so.

Attachment B: Academy Milestones by course, duration, forecast demand and timeline leading to Academy launch

					2025			2026				2027			
					March	July	Oct	Jan	March	July	Oct	Jan	March	July	Oct
Milestones															
Academy Building						Build and Completion									
Course offerings	**Course duration**	**Immediate Internal demand**	**Ongoing Internal demand (annual)**	**Routine external offerings**											
UEE22020 Certificate II in Electrotechnology (Career Start)	**10 months**	**10**	**10**	**60**				External 1st offering							
UET40522 Certificate IV in ESI - Substations **(Orange)**	**12-18 months**	**185**	**15-30**	**45**		Internal Launch				External Launch					
Substation Construction Skills - Skill set	**4 weeks**	**186**	**15-31**	**as per market**						Internal Launch					
UET40422 Certificate IV in ESI - Network Systems	**3-6 months**	**180**	**20**	**as per market**		Internal Launch				External Launch					
UET30621 Certificate III in ESI - Distribution Overhead	**4 years**	**110**	**120**	**30**										External Launch	
UET30821 Certificate III in ESI - Distribution Underground	**4 years**	**30**	**30**	**30**										External Launch	
UEE43322 Certificate IV in Electrical - Renewable Energy	**12-18 months**	**60**	**30**	**as per market**										External Launch	
Grid-connected Photovoltaic Systems - Skill set	**1.5 weeks**	**140**	**40**	**as per market**						Internal Launch				External Launch	
Grid-connected Battery Storage Systems - Skill set	**1 week**	**140**	**40**	**as per market**						Internal Launch				External Launch	
Off-grid Photovoltaic/Generating Set Systems - Skill set	**2 weeks**	**465**	**160**	**as per market**						Internal Launch				External Launch	
Electrical Vehicle Charger (EVC) microcredential	**1-3 days**	**150-200**	**15-30p/y**	**as per market**				External Launch (requires National unit/s to be released)							

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