



# Network Deliverability Strategy

In support of the Energex Regulatory  
Proposal 2025-30

15 January 2024

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## 1 PURPOSE OF THIS DOCUMENT

The purpose of this document is to demonstrate that Energex has the strategies in place to ensure the necessary capacity and capability to efficiently deliver on its regulated network capital works program for the 2025-30 period.

The key objectives of this Strategy are:

- Describe the governance processes, tools and systems that support the full lifecycle of delivery of our capital works program (Chapters 4 and 7).
- Outline the delivery achievements, including new strategies and process improvements that enable increased or more efficient delivery this period (Chapter 5), and how these initiatives will extend/endure into the future.
- Outline any changes in our delivery strategy for next period, including how we will deliver material increases and the robust measures and initiatives in place to ensure deliverability (Chapter 6).

### 1.1 Scope of this document

This Strategy covers the network capital expenditure (capex) associated with delivering prescribed Standard Control Services (SCS) in the 2025-30 period.

This Strategy excludes the deliverability of all network operational expenditure (opex) and non-network capex including Property, Fleet, Information Communications Technology (ICT) and Capitalised Overheads.

### 1.2 Relationship to other documents

This Strategy forms part of the supporting information for our 2025-30 regulatory proposal. It should be read in conjunction with supporting document 5.07 Strategic Asset Management Plan (SAMP), which outlines our governance framework for network expenditure, and 5.10 Cost Comparison of Energex RIN Unit Costs to the NEM which outlines our delivery performance over the 2018-2023 period and how we compare to other DNSPs. Further information can also be found in supporting document 5.10 – Network Deliverability Strategy that accompanies our Ergon Energy Network regulatory proposal.

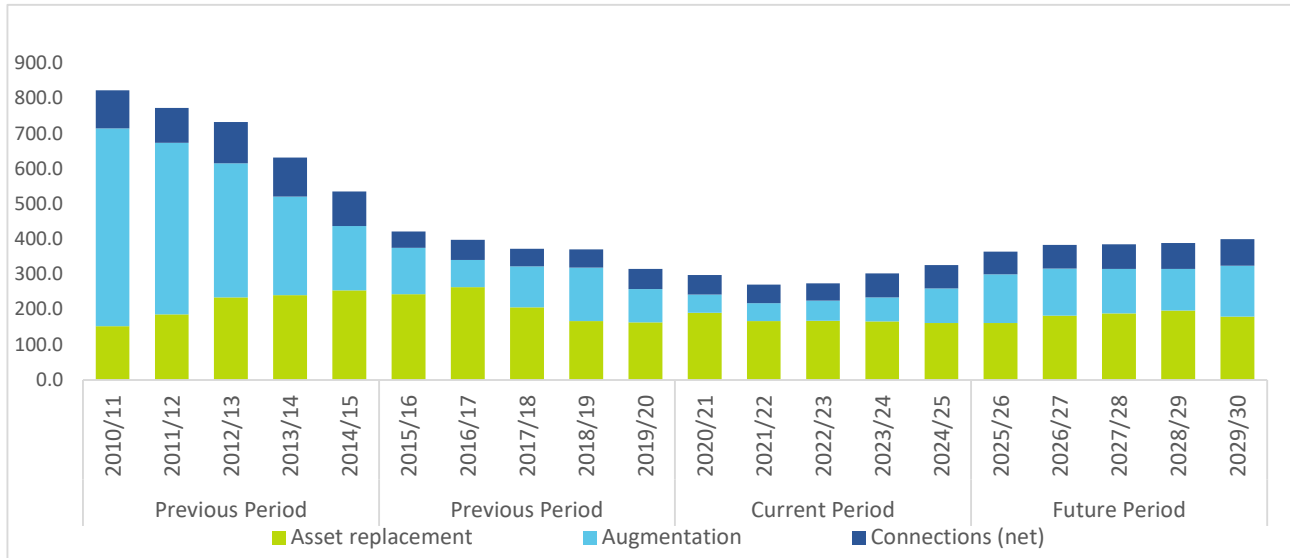
## 2 EXECUTIVE SUMMARY

This document details the strategies that will ensure the necessary capacity and capability to efficiently deliver on our regulated network capital works program for the 2025-30 period.

Over the 2020-2025 period we plan to deliver \$1.08 billion of network capex, having navigated the impacts of COVID-19 early in the period including restricted regional travel and supply shortages for key materials. This is \$391 million less than we delivered in the 2015-2020 period, and \$2.2 billion less than the 2010-2015 period, while ensuring we continue to invest to meet the National Electricity Rules objectives and our commitments to customers.

Over the 2025-2030 period, we expect to marginally grow our level of capex required for our customer and small commercial and industrial connections. We plan to modestly increase our asset replacement capex and steadily increase network augmentation capex to meet Queensland's economic growth, the needs of the 2032 Brisbane Olympic and Paralympic Games and the ongoing energy transformation.

**Figure 1 – Augex, Repex and Connex**



We propose to gradually increase our augmentation program with large, discrete projects such as the establishment of a new substation in Caloundra to service the needs of growing demand in our network. We can maintain these levels of delivery and sustain the forecast increases in our augex over the next period. Our resourcing and procurement strategies support this increase in our Program of Work and we have several initiatives underway to grow our workforce capability and capacity to deliver on these requirements.

Our Grid Investment Plan and Program of Work governance are working effectively to deliver the planned capex each year, adjusting for constraints and environmental conditions. This period we improved our Grid Investment planning cycle, with the introduction of a globally recognised asset investment planning and management tool, *Copperleaf*, to optimise the formation of our investment plans and program of work.

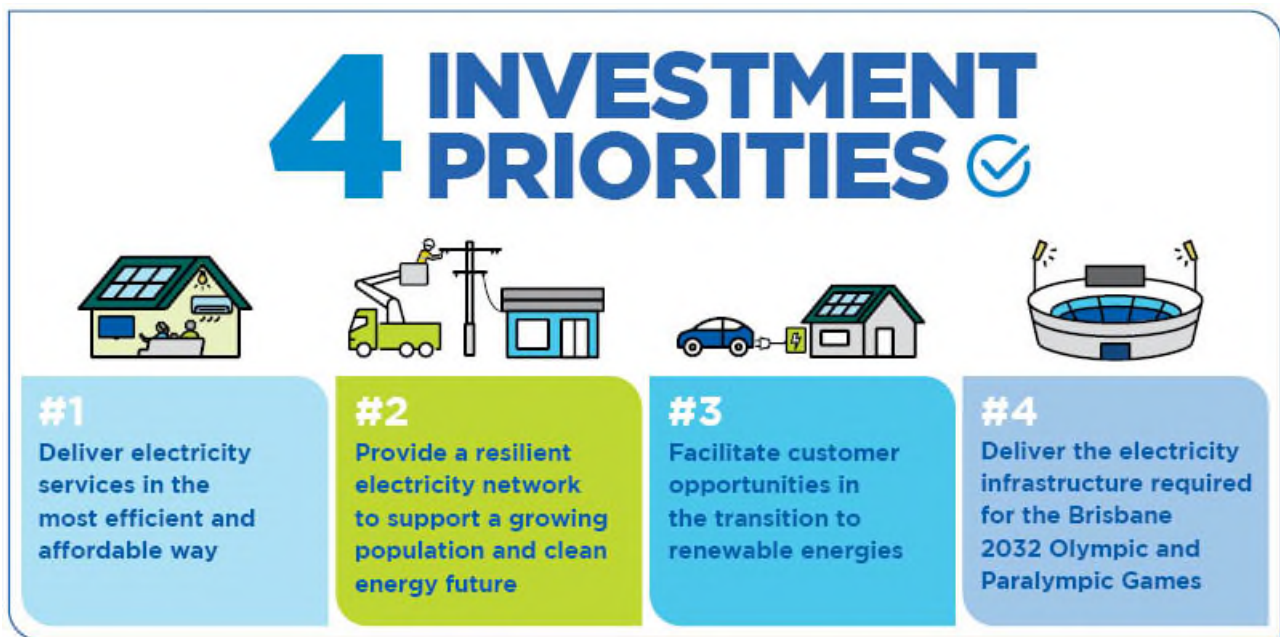
Against this backdrop of robust annual processes, we have assessed material step changes – where volumes, location or the nature of work is changing – to ensure the resourcing and procurement strategies are in place to deliver on our forecast.

Our internal workforce exhibits high comparable levels of retention and engagement, with less than 6% turnover across all Departments and only 4.1% attrition across recent years for our Operations workforce. With innovative and broad-ranging people strategies from engineer and apprentice sponsorship to cross-skilling, we’ve grown our internal workforce across Energex and Ergon Energy Network by over 700 Full Time Equivalent (10%) in the past two years and are well placed to deliver and continue growth and development in our people.

### 3 OUR TRANSFORMING OPERATING ENVIRONMENT

Energex is committed to empowering an ‘Electric Life’ for South-East Queensland communities and customers. Throughout our regulatory proposal, we have outlined for key Investment Priorities, shown in Figure 2.

Figure 2: Our investment priorities for 2025-30



These investment priorities need to be understood in the face of several deliverability challenges in our operating environment such as labour and skills shortages, supply chain constraints and climate change-driven weather events. These are not unique to Energex or to Energy Queensland and are being experienced across the energy industry and globally. Effective and robust processes are in place and continue to be updated and revised, to mitigate the deliverability risks arising from these challenges and to facilitate the energy transformation for our customers (see Chapters 4 and 7).

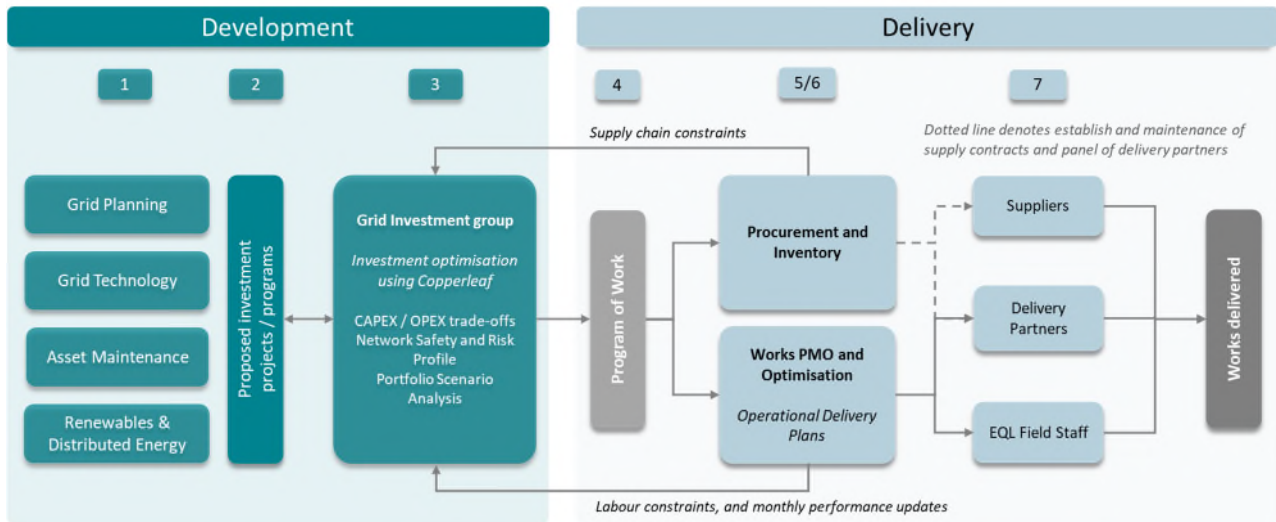
### 4 CAPITAL WORKS PROGRAM DEVELOPMENT

We employ a systematic process, outlined in the Strategic Asset Management Plan (SAMP) and captured in each year’s update of the Grid Investment Plan (GIP), to develop a capital works program that is prudent, effective and efficient and aligns with our *Asset Management Policy and Objectives*.

The annual process ensures that the forward-looking Program of Work (PoW) is optimised from a planning perspective to manage the network risk profile, and from a delivery perspective, also considers risks and constraints.

Figure 3 below provides a high-level overview of the capital works program development process through to delivery.

**Figure 3 – Development of Program of Work from Grid Investment plan to Delivery**



Our SAMP operationalises the asset management objectives, providing direction for asset management activities to all engineering business units.

Business units with accountability for asset management activities develop strategic proposals and business cases for projects and/or programs to achieve the objectives of the *Asset Management Policy and Strategy*. This includes the network projects and programs dedicated to:

- Replacement and refurbishment of network assets (repex)
- Reinforcing or growing the network (augex)
- Connecting residential and small Commercial & Industrial (C&I) customers to the network (connex)

Our Grid Investment and Optimisation team reconciles the proposed projects and programs against top-down expenditure targets and optimises the overall PoW utilising *Copperleaf* (see right) and based on consideration of:

- Network risk profile
- Capex / Opex trade-offs
- Labour and resource constraints
- Supply chain constraints
- Cumulative risk associated with deferred projects and programs.

The optimised PoW is finalised and approved by the EQL Board prior to being executed by the Operations team and Delivery Partners (see Chapter 7).

Our Operations Division works closely with our Engineering Division (Grid Investment and Asset Management functions) to iteratively develop the detailed version of the *Operational Delivery Plan* (ODP) that can be achieved in the following financial year.

Our Program Management Office (PMO) and Planning, Scheduling and Supervision (PSS) teams centrally coordinate the final round of optimisation for delivery on the ground, with a quarterly release of work. In this stage, near-term changes in constraints, such as network or resource availability, can be accounted for. It's also a final chance for near-term work across both Opex and Capex to be geographically bundled to minimise driving and establishment time, particularly for remote locations.

Finally, the quarterly package of work can be scheduled to our crews and external delivery partners, with ongoing performance monitored and reported to our monthly Works Program Committee (WPC). This Committee plays a key governance role, leveraging the decision-makers in attendance to ensure delivery risks or challenges are responded to promptly via the relevant area of the business.

## 4.1 Continuous improvement

To achieve our vision of an 'Electric Life', we are continuously improving our systems and processes. This has ensured we have been able to scale up our delivery when required (Chapter 5) and implement strategies that will better prepare us for the future works program (Chapters 6 and 7). In this section we elaborate on the maturity over time of our investment optimisation process.

Using *Copperleaf* has demonstrated tangible improvements in efficiency and reduced the manual nature of our investment optimisation process. We have shifted away from manual and time-consuming Excel spreadsheets where projects and programs were prioritised based on single constraints, applied in series, and have improved our ability to both identify and manage potential interdependencies and flow on impacts.

Our current state allows us to perform optimisation at a projects and programs level based on the network risk profile and several constraints.

We are planning on improving this process by performing optimisation even further upstream in the process, at an asset level and integrating it with our *Asset Management Strategies*.

### **What is Copperleaf?**

*Copperleaf is a globally recognised asset investment planning and management tool, to optimise our PoW.*

*This tool performs a scenario analysis to create different investment scenarios over time based on various constraints and assumptions.*

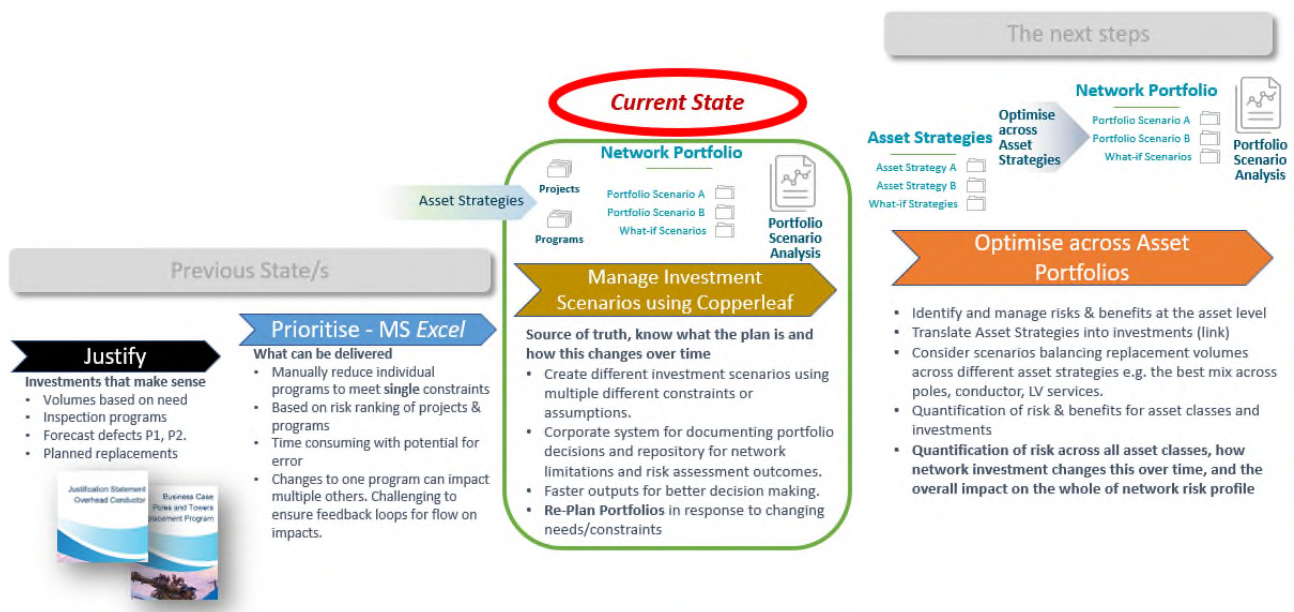
*This is an iterative process as it is conducted in collaboration with the relevant business unit to confirm whether the proposed projects and programs are deliverable following optimisation.*



Optimisation at an asset level will ensure a granular assessment of risks and benefits across various investment options and scenarios – optimising on *how we treat the asset* – either replacing, refurbishing, or additional monitoring. We will then continue to optimise across portfolio scenarios – optimising across timing and grouping of asset treatments and other investments to maximize risk reduction per dollar. This is an important step in our journey as our works program increases in volume and complexity.

Our maturity journey for investment optimisation can be seen in Figure 4.

**Figure 4 – Maturity Journey for Investment Optimisation**



In addition to optimising our investment planning process, we are implementing a suite of initiatives across the organisation to improve our delivery performance. Some key initiatives include, but are not limited to, the following:

- Cross skilling our internal workforce and improving delivery efficiency through standardisation of projects, i.e. reducing time on site by utilising workshops at Energex offices (see section 7.1).
- Building the future workforce through our industry-leading graduate, paraprofessional traineeship and apprenticeship programs (see section 7.2).
- Establish long-standing agreements with our panel of contractors and suppliers by being a 'partner of choice' for critical program delivery and materials procurement (see section 7.3).

These initiatives demonstrate our ability to continuously improve our systems and processes to successfully deliver our PoW in an increasingly transforming operating environment.

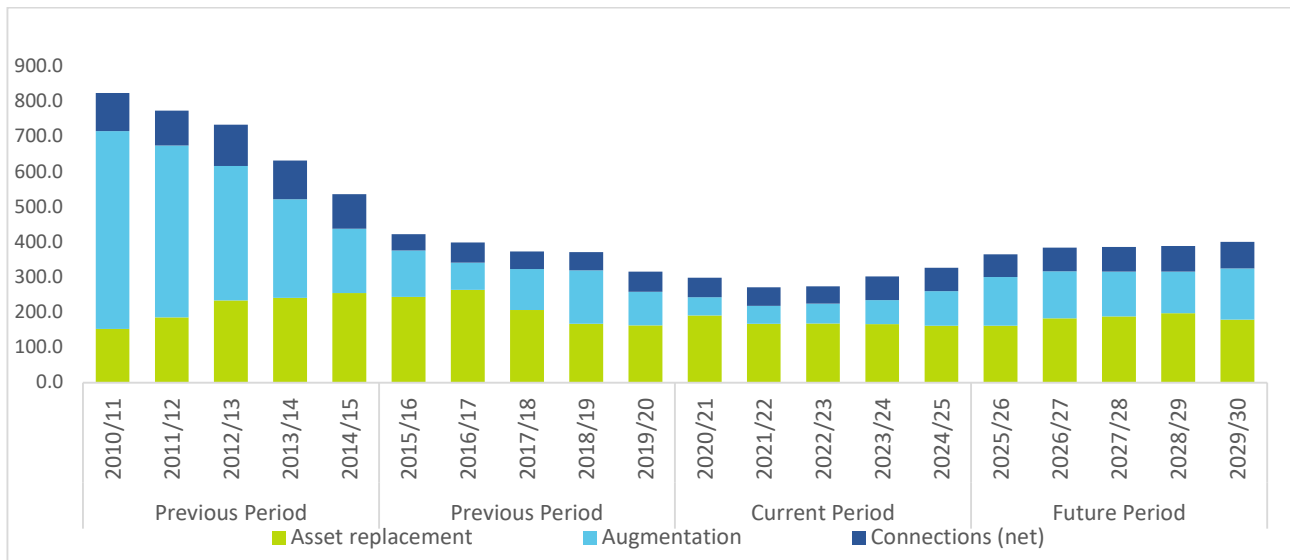
## 5 2020–25 REGULATORY PERIOD PERFORMANCE EXPENDITURE

### 5.1 Overview

Energex is committed to maintaining the safety and reliability of our network while ensuring it is resilient to the expected changes of the energy transformation (see Chapter 3). We balance requirements of the *Electrical Safety Act 2002*, with the National Electricity Rules (NER) objectives and our commitments to customers, including that of affordability.

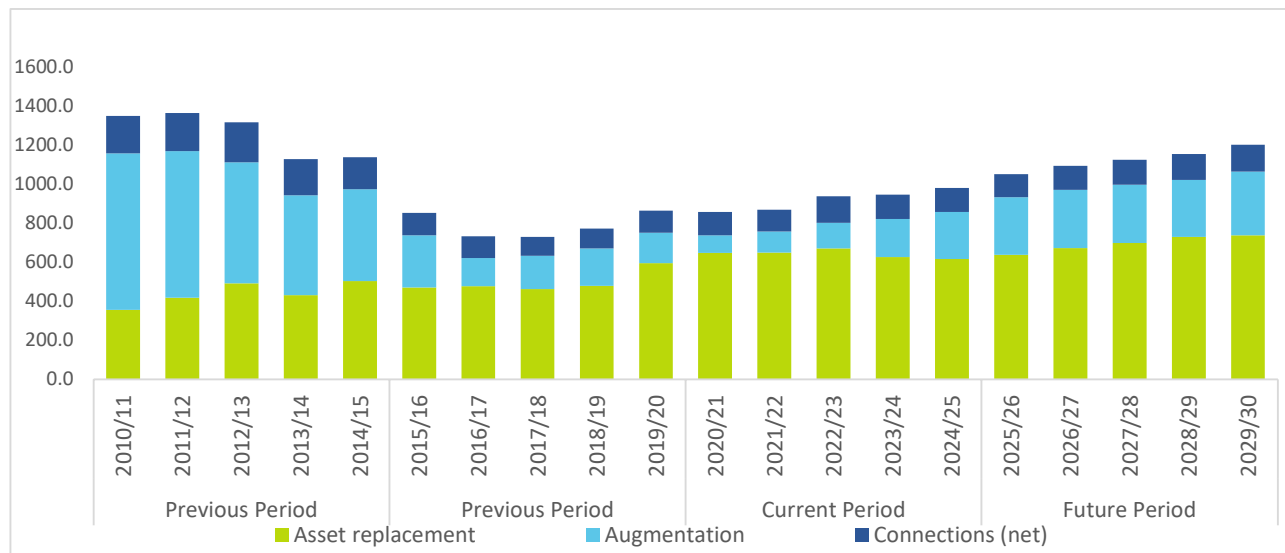
By the end of 2024-25, we expect to have delivered \$1.08 billion of network capital expenditure for the current regulatory control period in the Energex network. This is a decrease on the 2015-2020 regulatory control period of \$391 million, or 27%. Figure 5 shows our network expenditure across the most recent four periods.

**Figure 5: Energex network capital expenditure from 2010 – 2025**



It is important to note that Energex is part of the Energy Queensland group, and we have a related DNSP Ergon Energy Network. This relationship allows us to share access to labour, materials and other resources in delivering our program of work. To put this in full context, Figure 6 shows the total network capital expenditure of these two DNSPs.

**Figure 6: Combined Energex and Ergon capital expenditure from 2010 – 2025**



As Figure 6 demonstrates, our overall combined network capital expenditure has increased over the 2018-2023 period on average around \$33m / year, while our total forecast expenditure for the 2025-2030 period is forecast to increase on average \$37m / year. In percentage terms, our network program of work has grown around 4.3% / year over the 2018-2023 period, while in the 2025-2030 period we are forecasting a 3.8% / year increase in program expenditure across both Energex and Ergon.

As a combined business, our ability to deliver a step increase in expenditure in the current regulatory period demonstrates our ability to increase our delivery capability at the required rate for us to be confident that the 2025-2030 proposed program is deliverable.

COVID-19 impacted the delivery of our PoW in 2019-20 and 2020-21. There were three main impacts due to our COVID-19 operating protocols:

- Travel restrictions – led to rescheduling of some work and movement of planned projects across 2019-20 to 2021-22,
- Social distancing – led to some work taking longer to complete and an increase in costs,
- Customer impacts – work was rescheduled or repackaged to be delivered in a different manner to minimise the number of customers impacted by an outage.

In 2020-21, our customers in south-east Queensland faced disruptions caused by La Niña flooding and numerous severe storms. Energex declared eight Major Event Days due to widespread and prolonged customer supply interruptions. In response, we shifted our workforce towards OPEX remediation work after these extreme weather events.

Throughout these challenges, we focussed on prioritising work across the breadth of EQL network Capex and Opex, leading to the postponement of certain augmentation projects and replacement programs from the previous period.

Our robust resourcing, workforce and procurement strategies provided the flexibility needed to cater for increased delivery requirements (see Chapter 7).

## 5.2 Case studies for delivery

As discussed in Section 5.1, our current period expenditure is below our historic average, and 27% below the previous regulatory control period. Irrespective, we have identified a number of areas of clear evidence of our ability to deliver an increased program of work between our two DNSPs while also maintaining efficient costs and ensuring outcomes are in the long-term interests of customers.

## 5.3 Clearance-to-ground and clearance-to-structure programs

Following the introduction of a LiDAR based inspection process to detect clearance to ground and clearance to structure network defects, we saw a sharp rise in the number of these defects required to be rectified in the Energex network. This resulted in additional CTG/CTS projects in 2018-19 and 2019-20. Across 2018-19 and 2019-20 we increased our clearance defect remediation program to ensure customer safety and regulatory compliance, while reducing our reconductoring and other distribution lines replacement expenditure to free up the required field staff to undertake this work.

The flexibility in our resourcing allows us to shift our internal crews in response to the needs of the PoW and fill in the gaps with external contractors (see Chapter 7). This also demonstrates a robust governance framework which allows us to risk-prioritise our work and deliver the right projects at the right time.

## 5.4 Ergon's 2018–2023 delivery track record

Our related DNSP in regional Queensland, Ergon Energy Network, has undertaken a large increase in its network capital expenditure since 2018-19. As a related DNSP with identical governance processes and indeed the same team's responsible for delivery of the program of work, evidence of Energex's ability to deliver on an increase capital expenditure program can be seen through Ergon's recent history. We have included a number of examples from Ergon showing how we have been able to deliver this increased program of work.

### **Ergon's clearance-to-ground and clearance-to-structure programs**

In 2015-20, compliance-driven clearance-to-ground (CTG) and clearance-to-structure (CTS) projects were reported under the repex portfolio.

We identified 35,972 defects in clearance through (non-compliance with statutory clearances) through Light Detection and Ranging (LiDAR) data acquisition and analysis across our network in 2017-18 and 2018-19 and were identified in Ergon's revised proposal to the AER.

We significantly ramped up our delivery of CTS and CTG works, through a concerted program of effort to address our commitment to the Electrical Safety Office Queensland (ESO) and rectify the ESO notices for remediation. We increased defects addressed from 864 in 2019-20, to 5,187 in 2020-21, all while our unit rate for delivery on clearance defects has remained steady.

Further improvements to the delivery quality and efficiency of these programs early in the period included:

- CTS/CTG Steering Committee approval of the process, prioritisation matrix, temperature correction business rules, and definition of CTS/CTG high risk areas and locations,
- Implementing a process to automate creation and dispatch of CTG/CTS customer notification letters and updating call centre scripts for consistent and clear messaging to our customers, and
- Deploying a training strategy on improvements in the remediation of CTS / CTG defects.

### Ergon Repex

Over 2020-23, Ergon invested increased levels of expenditure (Figure 7) due to increases in replacement of our poles and conductors.

Increasing pole failures, changes in our serviceability requirements and increases in identified defects in 2018-19 resulted in the increases in our pole and conductor replacement programs to reduce the risk of failure. This is a significant program across our network and will continue into our forecast period (see Chapter 6).

**Figure 7: Total Replacement Expenditure (\$m, 2024 – 25)**

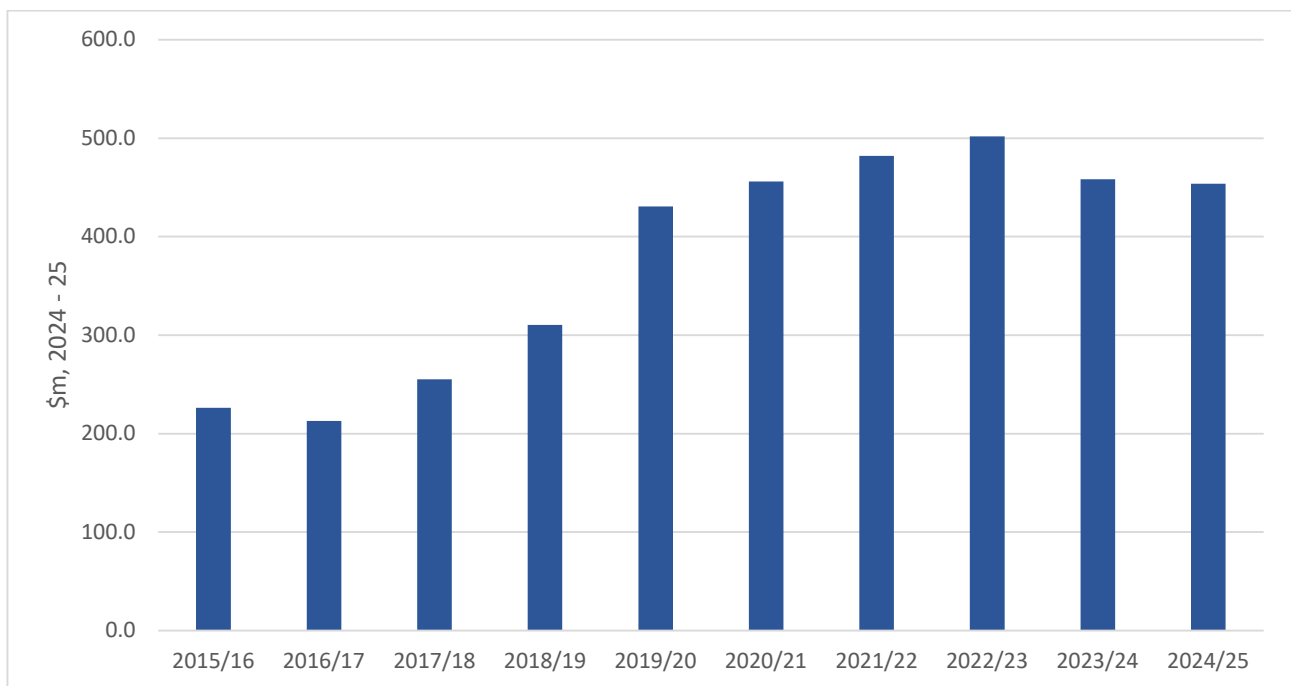


Figure 7 is a testament of Energy Queensland’s ability to procure and deliver a significant ramp up in our pole replacement program, including associated secondary assets on poles. We successfully managed the needs of our pole replacement program through robust procurement of poles, conductors, and transformers and scaling up and mobilising our workforce (Chapter 7). More information can be found in the Ergon Energy Network Deliverability Strategy.

## 5.5 Key priorities and achievements

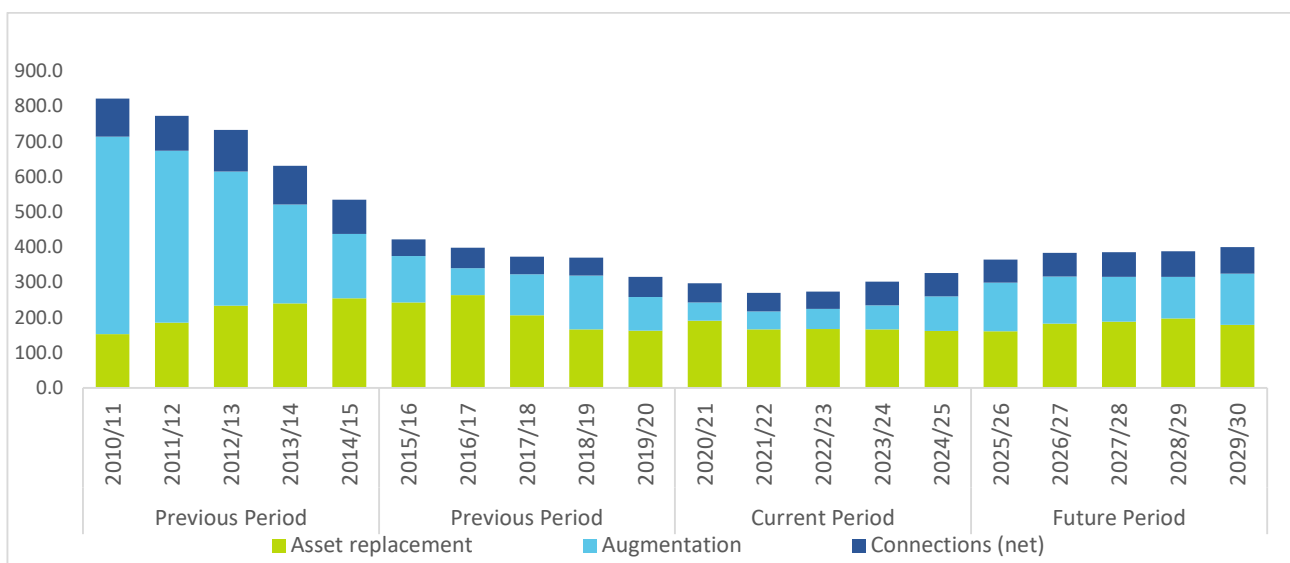
This period we experienced some early challenges related to the impact of COVID-19 to travel restrictions and social distancing. Despite these challenges, we delivered our PoW safely and efficiently and will use the lessons learnt to drive improvements in the forecast period. Key highlights and achievements from the 2020-25 period include:

- Aligning the Operations operating models across Energex and Ergon Energy Network into EQL, delivered efficiencies in the way we plan and deliver our work. This resulted from aligning tools (like micro-scheduler and iPads) and being able to move crews to work across the boundaries of the two organisations to better manage peaks in workloads (see also section 7.1). In 2021-22, we exported more than 222,000 hours between Energex and Ergon Energy Network to deliver the PoW while facing various external challenges.
- To ensure resource availability to deliver CTG/CTS programs, we deferred specified projects under repex to future years which successfully fulfilled our compliance obligations. Our Operations and Engineering teams collaborated to ensure specified projects were being deferred in line with the EQL risk appetite.
- Energy Queensland's ability to deliver two capital expenditure programs across Energex and Ergon, and in particular the increase in this regulatory control period of the Ergon program while maintaining our existing unit rates demonstrates our ability to increase our capital program into the 2025-2030 regulatory control period.

## 6 CAPITAL PROGRAM IN NEXT PERIOD

In the next period, Energex will be working with customers and communities towards empowering an 'Electric Life' and transforming Queensland's energy system. We are proposing to increase our network Capex by 19% to \$1.95 billion over the 2025-30 period to achieve this objective.

**Figure 8 – Total Capex by Category (\$m, 2024 – 25)**



Our proposed Capex program will allow us to maintain a safe, reliable and efficient network. Key areas that are driving our Capex program for 2025-30 are:

- Preparation for the Brisbane 2032 Olympic and Paralympic Games through increasing capacity and refurbishing our existing assets to ensure a reliable and safe event.
- Growth and demand driven sub-transmission and distribution augmentation works.
- Compliance driven clearance, protection and grid communication works.

While we delivered a lower level of network Capex than the AER's allowance over 2020-25 period, we successfully delivered an increase in our repex program despite a challenging operating environment due to COVID-19. With the ongoing improvements to investment optimisation, resourcing and workforce strategy and material procurement, we will be well-placed to efficiently deliver on:

- A 50% increase to our augex program driven by strong population growth, grid communications projects and preparation for the Olympic and Paralympic Games via the strategies outlined in section 6.1, 6.4 and Chapter 7. This Augex program is in line with our expenditure in previous regulatory periods.
- A 7% increase to our repex to replace ageing distribution assets, and some investments being brought forward by a year or two in preparation for the Olympic and Paralympic Games via the strategies outlined in section 6.2 and Chapter 7.
- Similar levels of connex as experienced in the current period.

In addition to factors impacting the scale of our program, we are seeing challenges in building our workforce and acquiring specialist skilled labour, a rise in the unit rates of materials and global supply chain constraints over the coming years.

Despite these challenges, we are confident in our ability to deliver our 2025-30 Capex program. We are increasing the size of our workforce through recruitment of skilled resources and building the future workforce through our leading graduate and apprenticeship program.

We are effectively managing our resources with an optimal mix of internal staff and external contractors (see sections 7.1 and 7.2 for discussion of labour strategies underway). We capitalise on the benefits of resource sharing between Ergon Energy Network and Energex when the need arises.

For some small, newer expenditure programs, we are engaging peer utilities and upskilling our current workforce.

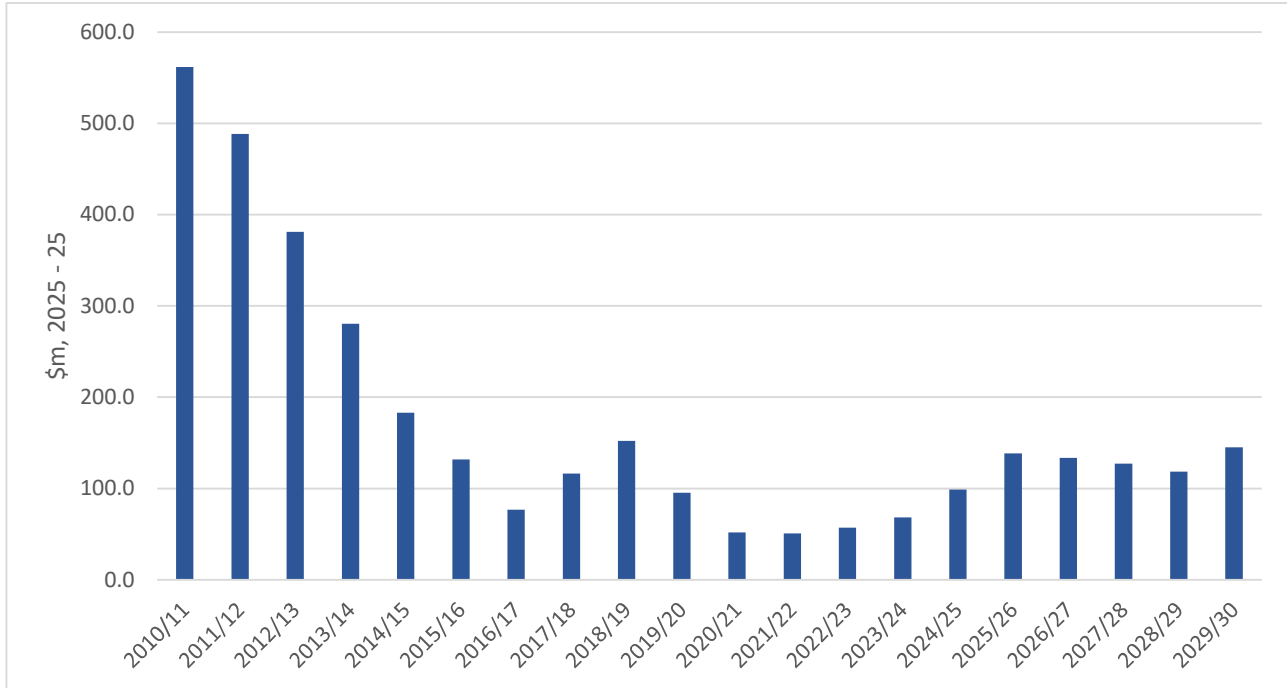
## 6.1 Proposed augex

As discussed in Chapter 3, Queensland is in a period of economic growth with strong population increase in the south-east, specifically Logan, Ipswich, Moreton Bay and Sunshine Coast. This is paired with Brisbane hosting the Olympic and Paralympic Games which will drive augmentation across the ageing areas of the network to ensure we maintain safety and reliability.

These drivers have contributed to our expanding augex program which will be increasing over the 2025-30 period but will remain less than historical delivery levels over the 2010-15 period. We are forecasting an increase of 50% in our augex relative to the current period, with a significant portion of this expenditure in the establishment or increase in capacity of existing substations. We are confident that we will continue to maintain delivery performance through our robust systems and processes (see Chapter 7) and the targeted strategies outlined in this Chapter.

Figure 9 shows the proposed total augex for the period 2025-2030.

**Figure 9 – Augex (\$m, 2024–25)**



The increase in augex is primarily driven by large growth projects and programs. Supporting document 5.3.01 – Export Services Integration Strategy outlines the priorities to prepare the network for the grid transformation that will occur as DER penetration increases. In the grid communications and technology space, this requires an uplift of existing technology and assets to manage the increasing levels of complexity in our grid.

To meet the challenges of this increased expenditure, we are growing our engineering and operational workforce. Section 7.2 outlines several of our people strategies. Our large, specified growth projects are also well suited to delivery by our external contractors when there is insufficient availability from our internal workforce.

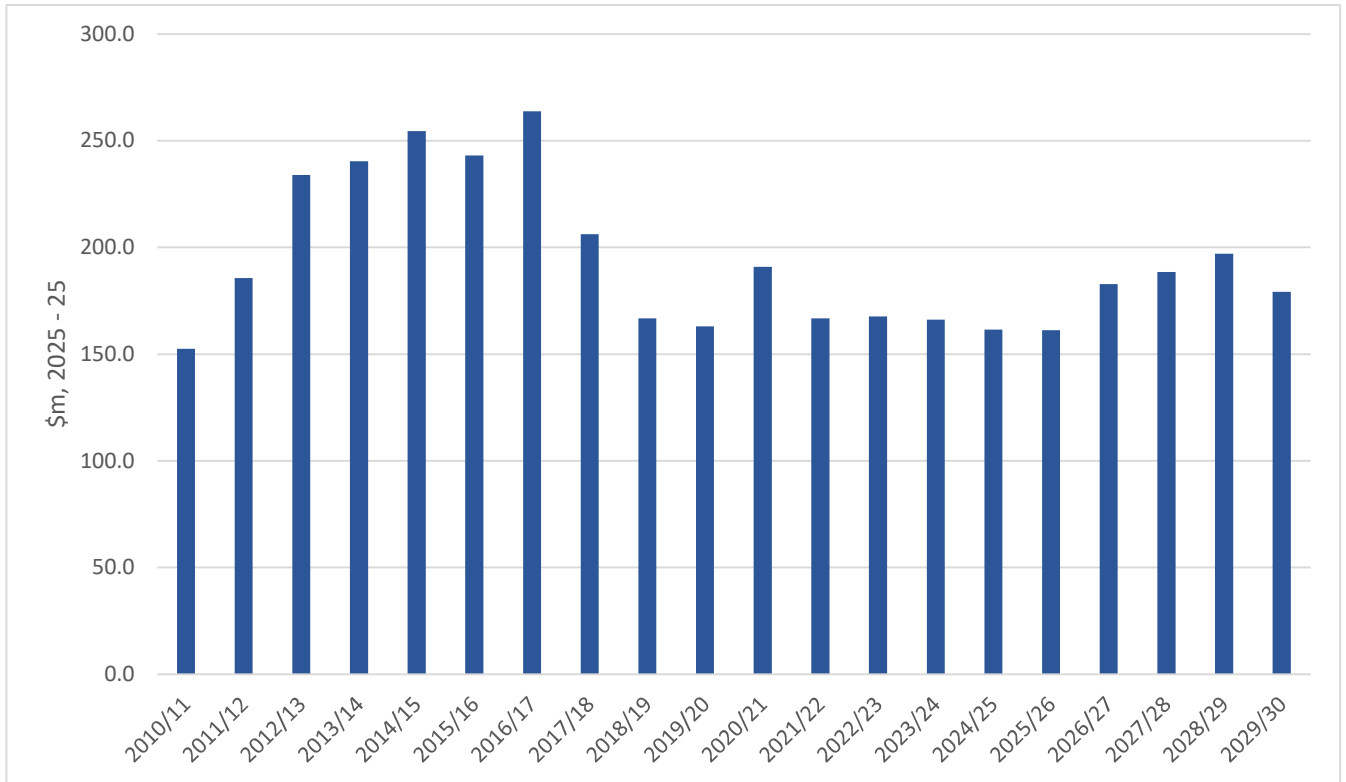
Through our suite of upskilling and cross-skilling initiatives and excellent retention rates among our workforce (see Chapter 7), we are confident in meeting the needs of our future augex program.

## 6.2 Proposed repex

In the current period, we saw a decrease in our repex by around 10. We are forecasting an increase of 7% relative to the current period. This aligns with the typical ebb and flow of replacement works, which are dependent on asset condition and age. We are also bringing forward some expenditure due to the replacement of ageing assets in areas supplying venues that will be used for the Brisbane Olympic and Paralympic Games. These projects would have been undertaken anyway, however we have timed these projects to avoid any infrastructure freezes prior to the Olympics, as well as to deliver a safe and reliable event.



**Figure 10 – Replacement Capex (\$m, 2024–25)**

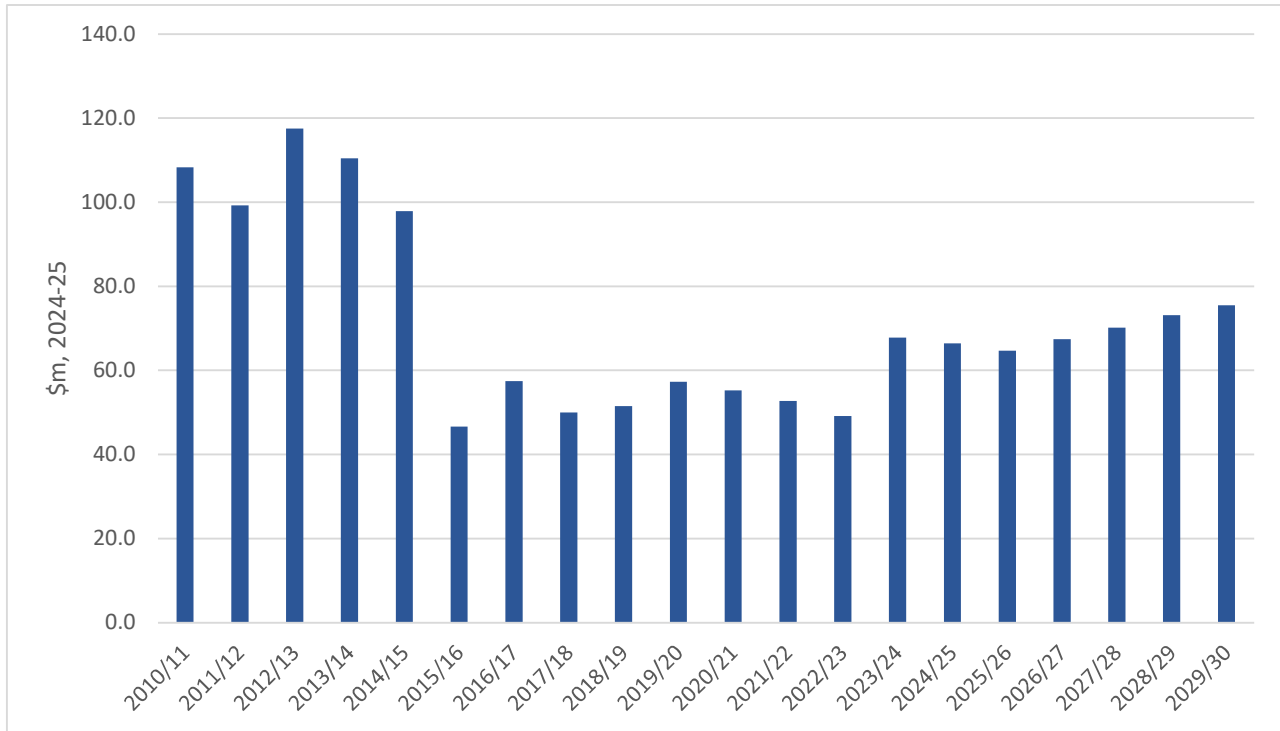


We have sustained our delivery performance since 2020-21 and mitigated risks arising from global supply chain constraints and COVID-19. In the next period, we will be entering an increasingly competitive labour and contractor market with the onset of the Olympics. Through the strategies outlined in Chapter 7, we are confident that we will be in a strong position to mitigate these resourcing risks and deliver our proposed repex program.

### 6.3 Forecast connex

With strong population forecasts and a growing economy, we foresee connection volumes increasing modestly over the next period. Figure 11 shows our connex over the last three regulatory control period.

**Figure 11 – Connections Capex (\$m, 2024–25)**



We will maintain delivery performance of our connections program over the forecast period. We prefer to utilise our internal crews to deliver connex work due to the shorter delivery timeframes, with only 30-35% of total connex being spent on contractors between 2021-23.

#### **6.4 Proposed Grid Communications capex case study**

Our Grid Communications expenditure includes both replacement and augmentation projects. We manage these as a single delivery portfolio, overseen by our team of engineers and experts in this field. We are proposing modest increases in both repex and augex relative to the current period. A combination of ageing assets, addressing growth in demand and preparing for a future grid is driving this increase in expenditure.

We have many assets approaching end of life (10-15 years) in the next period following large installation programs in 2012-15, including microwave links, communication sites, switches and routers, and batteries.

We faced supply chain challenges for some of our communication assets including modems and battery procurement in this period, which saw supply times increase from two months to more than five months having roll-on impacts of delayed start times for some of our projects.

During this period of supply chain disruption, our Works Program Office were able to reprioritise the packages of communications-related work and centrally select sites for communications work adjusted for when materials were confirmed. Our team have secured a new contract for the procurement of modems, and we have now secured contracts for 90% of the critical infrastructure. This sets us up to procure and deliver the step change in volume for Grid Communications equipment as seen in 0.

Additionally, there are delivery and design challenges associated with geographical accessibility when coordinating construction at the fringe-of-grid locations. Our Grid Communications team have initiatives underway to lift capacity by 20-30% to meet this demand in delivery.

## **6.5 Continuing our proven deliverability**

Over the 2025-30 period, we have a significant capex program to deliver, particularly with our increase in growth-driven augmentation of the network. We have proven our delivery capability in the last 5-10 years (see Chapter 5) and considering our continuous improvement initiatives we are confident that we will successfully deliver the proposed capex works in 2025-30.

Our delivery capability is supported by the following key initiatives:

- Ensuring that our ODPs are optimised by taking into account top-down budget constraints from Grid Investment, resourcing and procurement constraints from our Operations and Procurement teams through an iterative and collaborative process.
- Building our internal workforce across our offices and depots to improve delivery performance (see section 7.1).
- Utilising external contractors, in the order of 30-45% across our augex and repex programs to supplement the capacity of our internal workforce.
- Growing and developing our workforce to prepare for the needs of a future decentralised grid through upskilling and cross-skilling opportunities (see section 7.2).
- Establishing long-standing agreements with the suppliers of critical materials and equipment such as poles, overhead conductors and transformers and incorporating minimum purchase commitments within the contractual agreement.

Chapter 7 will provide an overview of our approach to PoW management, resourcing, and procurement and the suite of initiatives that puts us in a strong position to deliver the 2025-30 Capex program.

## 7 PROGRAM OF WORK MANAGEMENT

Energex follow a gated process to develop, manage and deliver projects and programs. Our PoW consists of large, technically complex and challenging projects ranging up to \$150 million to maintain a safe and reliable network.

Due to their complex and challenging nature, we have ensured that our gated project management framework accommodates ongoing changes and variations at key decision points across a project lifecycle.

**Figure 12 – Figure Gated Project Management Framework**

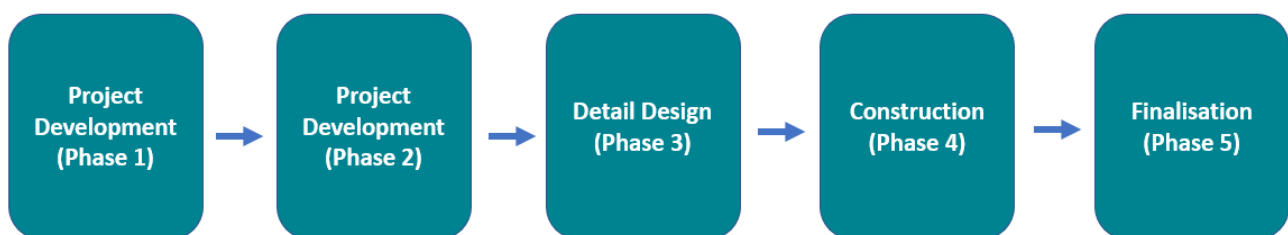


Figure 12 demonstrates our 5-phase gated process to manage the lifecycle of our projects and programs. Each phase of this process includes key decision gates that can ascertain whether the project and/or program is still the preferred option at time of approval and ongoing risks are monitored and managed. Our process covers the following key phases:

- **Phase 1:** Initiation of a project and initial estimate to confirm likely preferred option through our Cost Benefit Analysis Framework. Request for Design Services (RDS) occurs at this stage to transition to project development.
- **Phase 2:** The relevant Engineering team prepares a project design to enable a more accurate estimate prior to being approved for inclusion in the GIP.
- **Phase 3:** Detailed design is completed, and the project estimate is updated. The outcomes of this phase are included in the ODP for the Operations division.
- **Phase 4:** Construction and delivery of the project as outlined in the ODP by our internal crews and external delivery partners (see Chapter 7 for our resourcing approach). During this phase, we regularly report delivery performance to our Executive and Board through the WPC. This ensures that each project and/or program continues to provide optimal outcomes for our customers and communities.
- **Phase 5:** At completion, we review and document any lessons learnt through the lifecycle of the project and report to the WPC.

Our utilisation of this process across our PoW has allowed us to effectively scale up our operations and deliver increased volumes of work. Transparent communication and effective governance have ensured that we have managed our projects and programs in line with customer and community expectations.

## 7.1 Resourcing approach and strategy

Our resourcing approach to deliver our complex PoW consists of a combination of skilled internal workforce and external delivery contractors.

The core principle of our resourcing approach is to first prioritise our internal workforce for delivery. If there are gaps or constraints, we engage our preferred panel of contractors and delivery partners to complete our work.

This mix of internal and external resourcing allows us to be flexible and adaptable during unplanned events and efficiently deliver our PoW across a widely dispersed regional distribution network. Each year, we outsource approximately 500,000 hours of electrical capital works to external contractors and 3 million hours to our internal crews.

Our two businesses, Energex and Ergon Energy Network, work together to share resources when the need arises. This reduces our reliance on external contractors and improves our deliverability.

As outlined in Chapter 4, our extensive PoW is translated into a quarterly Integrated Works Program (IWP) and embedded into granular ODPs for our internal asset-level works management team. The asset-level works management team allocate the work to internal crews or external contractors based on the requirements of the ODPs.

Our Works Optimisation team ensures that our ODPs have taken consideration of the myriad challenges and constraints and they are optimised in relation to deliverability.

To ensure the efficient delivery of the PoW, we prepare our ODPs on the following principles:

- Striking optimal balance between budget, resources, and delivery efficiency,
- Minimise travel time by utilising locally available workforce in the first instance,
- If travel is required, minimise time spent on site through standardisation where possible or ensure sufficient notice is provided to internal crews on their travel requirements,
- Utilise the external panel of contractors and delivery partners to fill in the resource gaps and ensure delivery is economically efficient.

Our Works PMO team utilises our in-house Program Scheduling and Supervision (PSS) tool to plan and schedule our delivery. PSS was a critical component of our successful delivery performance during the ramp up of the pole and conductor replacement program over the last 4 – 5 years.

While the Works PMO looks after the high-level resourcing constraints, our asset-level works management team is accountable for granular area-level deliverability. Risks are issues are escalated across the Operations team and up to the WPC, as required.

### **Deep dive into PSS**

*At the end of the last period we aligned our operating model across Ergon Energy and Energex's Operations areas. This alignment has helped us gain efficiencies and consistency in how the business programmed, scheduled and supervised work.*

*Efficiencies came from aligning tools (like Microscheduler and iPads) and from being able to move crews across the two DNSP boundaries.*

*In 2018–19 we commenced rolling out our new mobility platform, including Microscheduler (integrated with our Ellipse platform) and electronic time-sheeting, to deliver efficiencies in the field.*

*We enhanced how data was captured and used in our systems to support work scheduling, including how we capture and rectify defects on assets.*

## 7.2 Preparing for the 2025–30 period

While our resourcing approach and strategy is effective in delivering our work program as demonstrated in the last period (see Chapter 5), we are ensuring continuous improvement of our strategy and approach to tackle the resourcing challenges of the future.

Our workforce strategy has been designed to meet several key objectives, listed in priority order:

- **Retention** of our workforce capability and regional presence for ongoing delivery
- **Growth** in scale of workforce to meet the needs of the increasing PoW.
- Monitor continuously the age profile of our delivery workforces.
- Growth in **capability** to deliver on our DER.
- Maintain the quality and capacity of external contractors, clearly signalling the forecast **work to market** to retain this flexibility.

In the 2025-30 period, we will continue to successfully deliver our increasing PoW, we will be scaling up our workforce through:

**Retention: Cross-skilling our internal workforce** To minimise engagement of specialised and skilled labour, we upskill our internal workforce with additional skills that allow them to perform work outside of their usual job. For example, upskilling our linespersons to also perform substation switching which prevents the need for engaging a substation specialist. We will continue to build this capability across our growing workforce to tackle new and upcoming DER technologies such as battery-energy-storage-systems (BESS) and stand-alone-power-systems (SAPS).

### **Growth: Targeting internal workforce growth**

In the 2025-30 period, we are entering an increasingly competitive market with the upcoming Brisbane 2032 Olympics. This may lead to constraints in procuring external delivery partners to deliver our PoW. To mitigate these constraints, we are prioritising the growth of our internal workforce to provide operational stability in the midst of an evolving operating environment. Section 7.2 provides an overview of how we're attracting, growing and retaining our workforce.

### **Monitor: Maintaining a forward view of our delivery workforces**

We continuously monitor the age profiles of our field and near-field delivery workforces to ensure that we will not be faced with a 'retirement cliff' during the coming Regulatory period.

### **Capability: Building the workforce of the future**

We are accelerating the growth of our future workforce through our industry-leading graduate and apprenticeship program (see section 7.3).

### **Using drones for lines inspection**

*Energex have been using drones for several years to investigate damage in hard to reach sections of the power network after storms, and helping to string powerlines between power poles.*

*Drone technology has advanced in recent years and we have capitalised on this by using them for summer preparedness.*

*We use drones to allow crews to locate damage undetectable with the naked eye through thermal imaging cameras. Drones are also used for installing lifesaving markers on powerlines to help keep people safe during flooding.*

***Innovation: Use of technology to improve efficiency***

Alongside our growing workforce, we are also utilising technology and improving our systems to drive delivery efficiencies. From using drones for our conductor replacement program to continually improving our PSS capability, we have robust processes in place to scale up our capability in response to our PoW.

Queensland’s resource market’s competitiveness and contractor availability could be further influenced by the upcoming Brisbane 2032 Olympics and the associated economy-wide expansion of projects in various sectors.

To address this, we’re part of an Olympic Steering Committee, comprising representatives from Queensland’s water and telecommunications utilities. This committee aims to coordinate the broader works program, optimizing resource allocation and aiding overall project delivery in preparation for the Olympics.

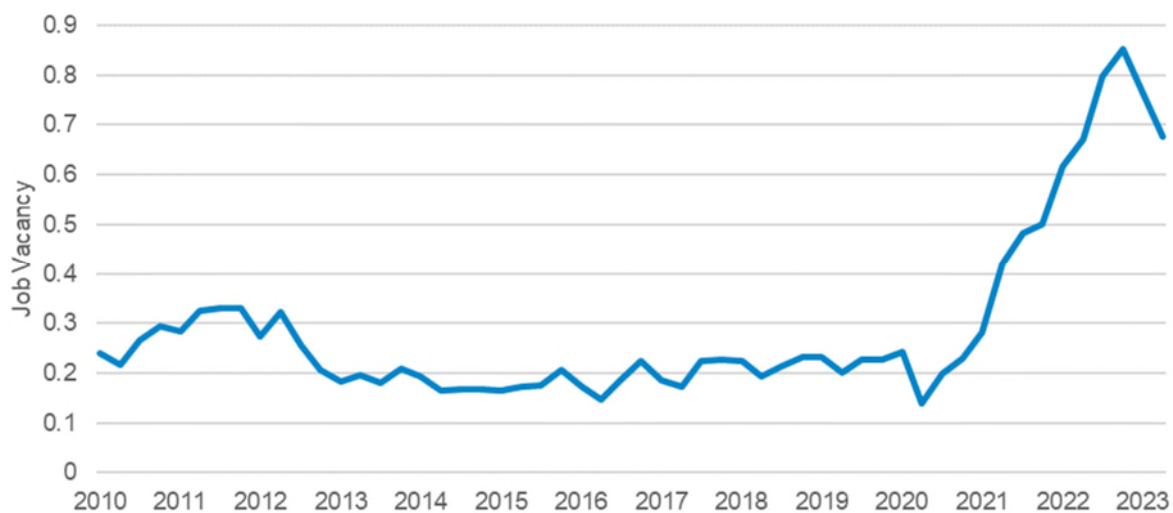
**7.3 Building our internal workforce**

**7.3.1 State of the labour market**

This section outlines the current state of Queensland’s labour market and how this may impact on available resources for the increasing PoW for Energex.

In the last 2-3 years, there has been an increase in the number of reported job vacancies, reaching levels close to total unemployment figures (Figure 13) and highlighting the rise in risks of skills shortages and labour constraints across the Queensland economy.

**Figure 13 – Job Vacancies as a Share of Total Unemployment – Queensland (Source: Australian Bureau of Statistics, Deloitte Access Economics)**



However, Queensland is seeing unprecedented migration from interstate especially from New South Wales and Victoria in the last 3-4 years in light of COVID-19 (Figure 14). This presents an opportunity for us to capitalise on this true change and attract talent and skills to deliver our pipeline of work over the next period.

**Figure 14 – Net Interstate Migration: 2019 to 2022**

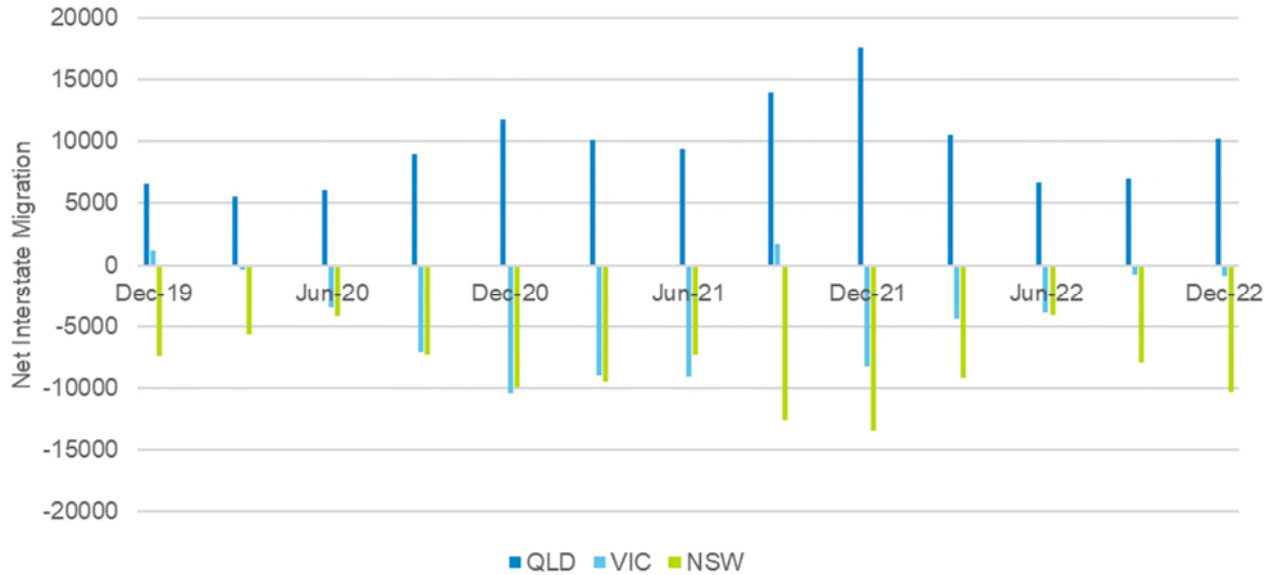
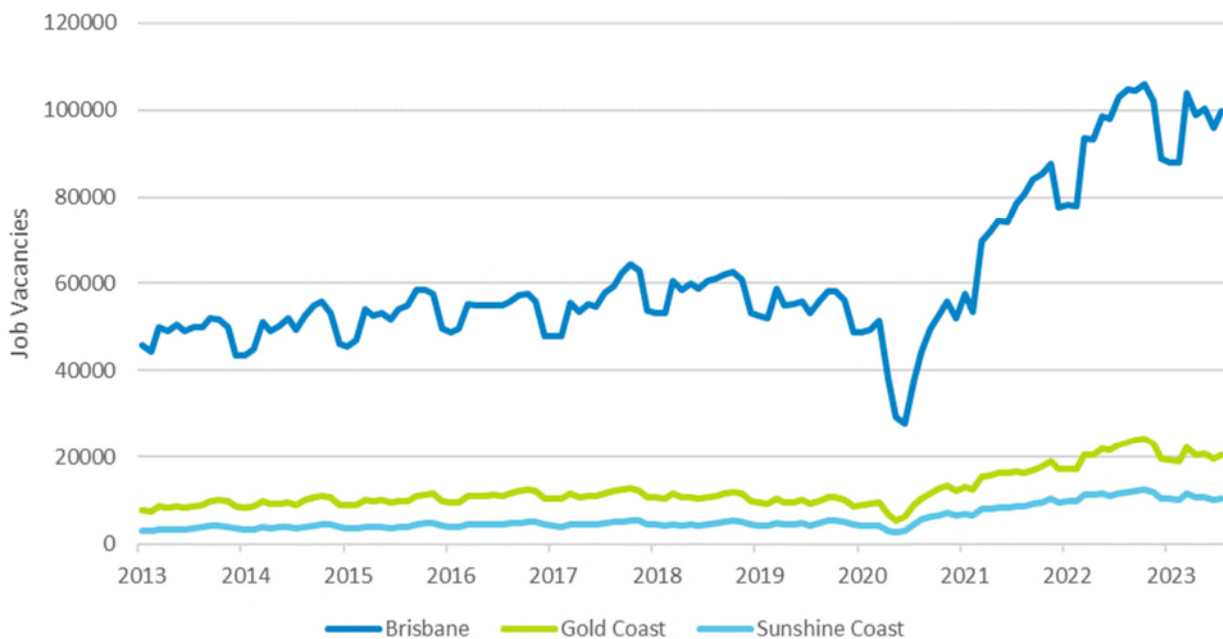


Figure 15 shows the job vacancy growth across south-east Queensland. In recent years the job vacancy growth in Brisbane has far outpaced those in Gold Coast and Sunshine Coast. This shows the increasingly competitive labour market in Brisbane where Energex will need to build out its workforce over the next period. Our resourcing strategies are framed to mitigate the challenges of building out our workforce with the utilisation of our external contractor panel as required (see section 7.1).

**Figure 15 – Internet Job Vacancies – South-East Queensland (Source: Jobs and Skills Australia)**





At EQL, our workforce planning centres around nine primary capability domains:

- |                              |                              |
|------------------------------|------------------------------|
| 1) <i>Engineering</i>        | 6) <i>Leadership</i>         |
| 2) <i>Technical</i>          | 7) <i>Customer</i>           |
| 3) <i>Trades</i>             | 8) <i>Commercial</i>         |
| 4) <i>Big Data Analytics</i> | 9) <i>Corporate Services</i> |
| 5) <i>Digital/ICT</i>        |                              |

Our deliverability performance is dependent on our workforce capability in all these domains but in the next 5-10 years, we are anticipating challenges in attracting resources in the Engineering, Trades and Technical domains.

Across these three domains, we have experienced or foresee challenges in:

- **Regional areas** – Attracting talent and growing our workforce in regional areas and depots especially in central and western Queensland in an increasingly competitive market.
- **Digital upskilling** – Technology and digitisation which will drive automation and augmentation in the EQL workforce. The energy transformation is becoming more digitised which will require upskilling and reskilling of our current workforce.
- **Renewables upskilling** – Growth in renewables, BESS and other innovative technologies in the energy transformation will require new skills and flexibility in our workforce to respond to these changes.
- **Long lead times** – There is a long lead time to build the right level of skills and capabilities to adequately perform Technical and Engineering roles.
- **Knowledge transfer** – The average age of the EQL workforce is 44 years which is slightly above industry average. This presents a risk to knowledge transfer for future DSO and renewables capabilities.

To mitigate and respond to these challenges, we have a suite of strategies and plans in place to ensure that we attract, grow and retain our workforce, as further described in Section 7.3.2 (Growing our workforce) and Section 7.3.3 (Retaining and developing our workforce).

Despite these challenges, we have a suite of strategies and plans in place across EQL to ensure that we attract, grow and retain our workforce to effectively deliver our PoW and achieve our ambition of an ‘Electric Life’ by 2030.

### 7.3.2 Growing our workforce

At Energex, our most important resource is our people. Growing and building our workforce has been and always will be a critical lever to deliver our PoW as it grows in scale and complexity. The previous sections have demonstrated the challenges we face from an external market perspective and evolving operating environment. Over the last 5-6 years, we have seen a distinct growth in our workforce to deliver a ramp up in our PoW and prepare for the future as we accelerate towards an ‘Electric Life’ by 2030.

Figure 16 shows how we grew our workforce in response to the needs of our PoW. There was a slight decrease in our FTE numbers in 2020-21 due to the impact of COVID-19 but we have sustained our workforce in subsequent years. Our blue-collar workforce is a key focus area for the business to deliver our works program in 2025-30.

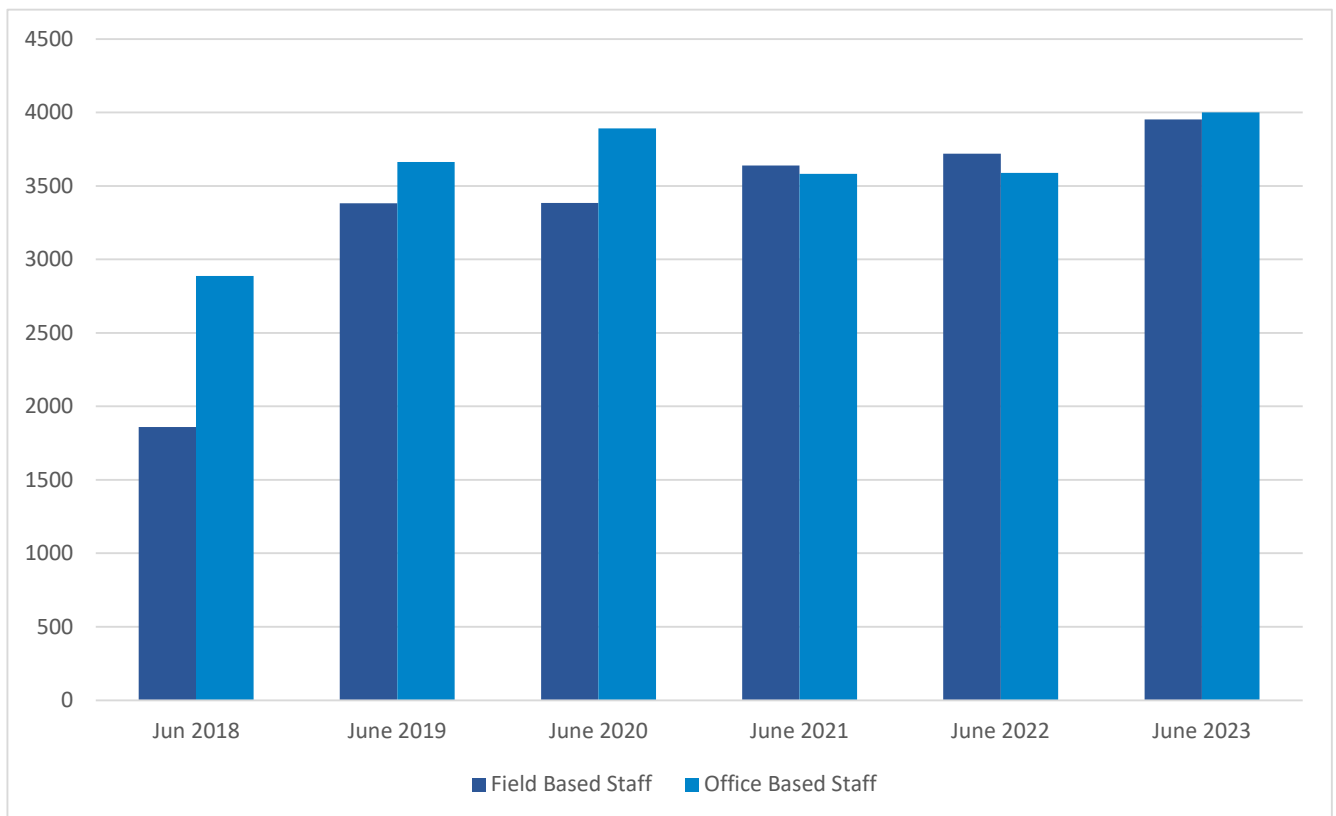
Our teams rely on the integrated works program - which articulates the quantity of resources, skillsets, qualifications, and locations - to feed into our 12-18 month forward planning recruitment process.

Our network is located in the prime location of south-east Queensland which is an attractive prospect for potential employees.

Our forward-looking approach includes industry-leading graduate and apprenticeship programs. With 467 apprentices, we stand as a major employer among Distribution Network Service Providers (DNSP) in the National Electricity Market.

We also currently have 35 graduates in our workforce. This program will only accelerate as we build our future workforce to tackle the challenges outlined in Section 7.2.1. Our annual scholarship program for Engineering and Data Science students is a consistent source of future graduates for EQL.

**Figure 16 – Growth in FTE**



### 7.3.3 Retaining and developing our workforce

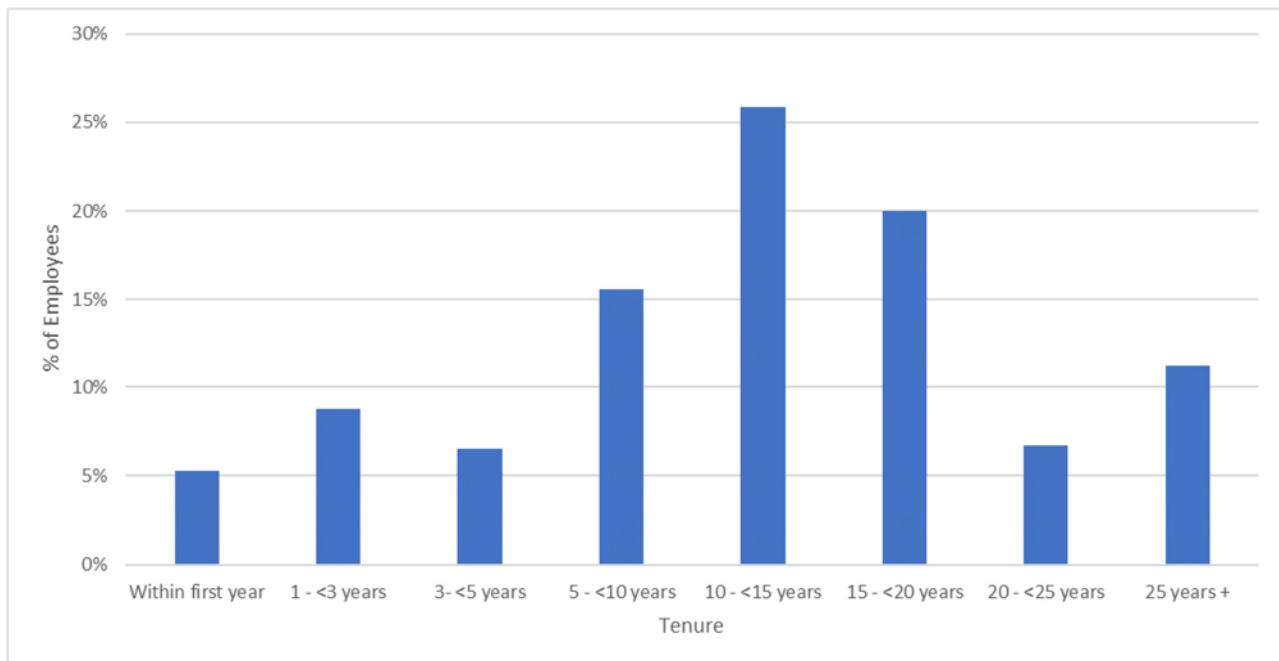
At EQL, we are proud to be one of the largest engineering, technical and trades employer in Queensland.

We attract and retain talent across domains through exceptional initiatives that enhance the employee experience and foster professional growth, resulting in a workforce that excels and leads. Our impressive retention is evident in an average tenure of 10-15 years (Figure 17) and low attrition rates (Figure 18). In addition, currently, 76% of our 'near blue' field workers are less than 55 years of age, and 86% of 'blue' field workers are less than 55 years of age. While this does demonstrate an ageing workforce constraint that we will have to manage carefully, in the 2025-2030 period there is a low likelihood of workforce retirements, rather this will be a risk for future regulatory control periods.

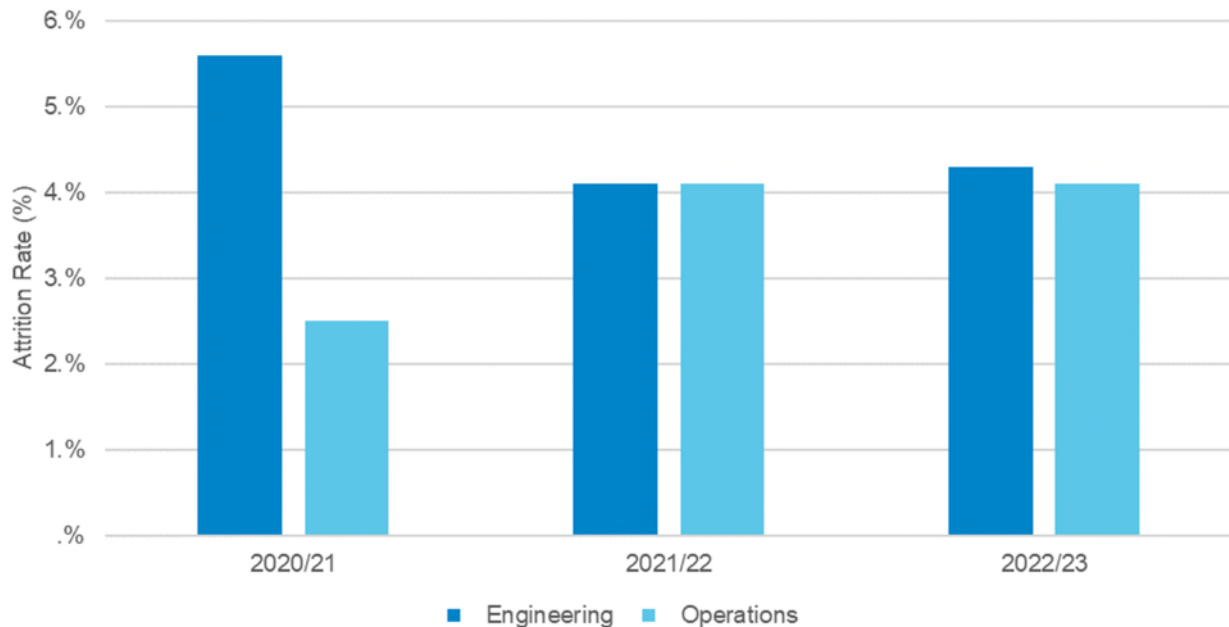
We mitigate against potential knowledge transfer challenges by actively enrolling graduates, paraprofessional trainees, and apprentices, ensuring readiness for future grid demands. Paired with our retention performance, this foundation of skills and experience underpins successful past and future PoW delivery.

Figure 18 highlights our consistent staff retention across the crucial Engineering and Operations divisions across varying workloads. In both 2021-22 and 2022-23, the successful expansion of our pole and conductor replacement program is attributed to our dedicated workforce.

**Figure 17 – Tenure Distribution at EQL (2020–23)**



**Figure 18 – Attrition across Engineering and Operations Division**



The next few sections provide an overview of some of the initiatives we have in place to develop our workforce and drive employee satisfaction.

### ***‘Growing our own’***

At EQL, we prioritise developing our workforce through upskilling, reskilling, and cross-skilling initiatives to align with the evolving needs of our PoW. We continually invest in the development of our existing workforce by identifying critical roles for the present and future.

In domains like Engineering, Trades, and Technical fields, we offer study assistance for tertiary qualifications such as Advanced Diplomas, Associate Degrees, and Graduate Degrees in Engineering. With a significant portion of our long-standing workforce having over 15 years of experience in traditional distribution grids, we're reskilling them to excel in decentralised grids with renewable technologies. For instance, we're training our mechanical/diesel fitters in areas like BESS, hydrogen, biofuel, and solar PV.

Our Registered Training Organisation (RTO) oversees training program delivery to equip our workforce with the necessary skills for our expanding PoW. Additionally, as discussed in section 7.1, we're cross-skilling our regional workforce to foster development and reduce travel requirements.

We're evolving into a 'grey collar' workforce – individuals possessing both technical and physical skills, particularly in Trade and Technical domains. Our internal upskilling, reskilling, and cross-skilling efforts are driving this shift, with roles like Field Construction Officer and Work Group Officer exemplifying the blend of technical expertise and soft skills.

### ***Investing in our future leaders***

Many of our current leaders began as apprentices, graduates, or young professionals at EQL, growing into their roles through our industry-leading leadership development programs.

We are intentional in developing our people and equipping them with leadership capabilities through our industry-leading leadership development program.

Our leadership program is split across corporate and field leadership. While the core competencies are the same, the program is contextualised to ensure the scenarios accurately reflect the challenges faced by corporate and field leaders.

Our graduate and apprenticeship programs are not just a 2-4-year investment, we are intentional that we are investing in the leaders of the future.

### ***Ensuring appropriate remuneration***

In a competitive labour market with persistent skills shortages, we ensure our workforce receives market-leading compensation. We regularly assess remuneration rates to balance market demands and reward the growth of our employees. For our regional workforce, we provide zone-based and retention allowances, along with rental subsidies in remote areas, to alleviate the rising cost of living.

Collectively, these initiatives position us strongly to confront future challenges, equipped with the right skills, capabilities, and leaders for successful PoW delivery from 2025 to 2030.

## **7.4 Strategic procurement**

### **7.4.1 Procurement of external workforce**

The previous sections have demonstrated that we prioritise the productive utilisation of our internal workforce to deliver our PoW.

If local availability, travel constraints, or specialised skills are an issue, our preferred contractors ensure safe and efficient execution. Robust procurement, transaction, contract administration, and performance management processes govern contractor selection. Procurement establishes contractual arrangements forming a delivery partner panel. Our Procurement team present the annual detailed PoW scope to contractors for competitive tenders based on work type and volume.

Pricing and contractual arrangements differ based on the type and volume of work, for example:

- Programs such as CTG and CTS consist of long-standing contracts with delivery partners due to the certainty of the work. Terms for these contracts are between 5-9 years.
- Repex programs including pole and conductor replacements are usually priced based on the package of work and current market value, presented to the panel for competitive tendering. This approach is the most economically efficient option due to the planned nature of the work.
- Our augex and connex work is delivered based on external resourcing requirements as per the ODPs. Where work cannot be delivered by our internal resources, we engage our panel of contractors.

The challenge in the 2025-30 period will involve securing skilled contractors. We are making significant progress in growing and upskilling our internal staff (see section 7.2), while always needing contractors for flexibility.

Current and planned initiatives to mitigate labour-related delivery risks for the 2025-30 period include:

1. Continually monitoring the external market for resources and delivery partners.
2. Regularly measuring performance against agreed KPIs and auditing in-field delivery performance for our existing contractual arrangements.
3. Being members of the Olympics Steering Committee to manage contractor and resource availability across other Government owned or run entities.
4. Undertaking price reviews at the end initial contract terms to assess market value ensuring we are providing the best outcomes for our customers and communities,
5. Ensuring the availability of resources by including minimum resource commitments in our contracts with delivery partners.
6. Adding more qualified contractors on our panel to diversify our mix and improve prospects of resource availability.
7. Providing greater visibility on the project and/pr program requirements to our delivery partners.
8. Becoming the 'partner of choice' for our contractors to establish long-standing relationships and commitments.

#### **What's our Pole Strategy?**

*Our Pole Strategy outlines the short and medium-term plans to ensure the supply of power poles meets EQL's demand to support delivery of the PoW now and into the future.*

*We examine different material profiles of poles and assess costs and benefits of each in terms of our forecast demand.*

We are confident we have effective measures in place to mitigate the risks of the competitive labour market and deliver our proposed works program in 2025-30 similarly to previous years.

#### **7.4.2 Procurement of materials and equipment**

As shown in Chapter 5, we delivered a ramp up in our repex program in 2020-25 due to delays and deferrals from the previous period. The successful delivery of this repex program was contingent on the procurement of the required materials and equipment. Despite global supply chain constraints, we successfully procured these materials and other equipment as per the PoW requirements due to the robust nature of our procurement systems and processes.

Our Procurement, Supply Chain, and Inventory units collaborate to secure and manage material and equipment supply contracts. After creating a 12-month PoW via Grid Investment Planning (Chapter 4), requirements are converted into stock codes, and volume projections rely on historical procurement data. Inventory management contributes by overseeing material supply and demand through direct supplier interaction.

Mirroring our approach with delivery partners, we maintain enduring agreements with key suppliers to ensure steady material and equipment provision. This is particularly crucial for poles, conductors, and transformers due to significant costs tied to supplier changes, favouring sustained (long-standing) agreements.

#### **7.5 Quality, risk and compliance**

Our deliverability performance is representative of our ability to effectively manage our compliance obligations, adhere to our risk management framework and implement effective management systems across EQL to deliver on our strategic and operational objectives.

As a government owned and regulated DNSP, we are subject to various compliance obligations. We have a Compliance Management Policy<sup>1</sup> in place to manage these obligations and deliver our PoW in an environment of good corporate governance, ethics and integrity.

As outlined in Chapter 4, we take a risk-based approach to investment planning in adherence to our Risk Management Policy<sup>2</sup>. Our approach to planning and delivery work is underpinned robust risk management.

EQL have implemented an effective Management System that supports all activities that achieve our strategic and operational objectives. Our Quality Policy<sup>3</sup> sets out this principle and allows us to deliver effectively and efficiently our PoW.

## 7.6 Health, safety and environment

At Energy Queensland, we aspire to be an industry leader in health and safety (H&S). It is a priority across Energex that we have systems and processes in place to fulfil compliance obligations, to set and track objectives and targets that improve H&S outcomes and have assurance activities that promote continuous improvement. Our H&S policy sets out these objectives at a corporate level<sup>4</sup>.

Our People, Safety and Environment Board sub-committee<sup>5</sup> has oversight of key issues pertaining to health, safety and environment matters.

In our efforts to deliver our PoW, we make no compromises in the H&S of our employee, contractors, customers and communities.

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<sup>1</sup> Energy Queensland, *Compliance Management Policy* (2022).

<sup>2</sup> Energy Queensland, *Risk Management Policy* (n.d).

<sup>3</sup> Energy Queensland, *Business (Quality) Policy* (2023).

<sup>4</sup> Energy Queensland, *Health and Safety Policy* (2022).

<sup>5</sup> Energy Queensland, *People, Safety and Environment Committee Charter* (2022).