

Network Deliverability Strategy

In support of the Ergon Energy Network Regulatory Proposal

15 January 2024





Contents

1	Purp	Purpose of this document4				
	1.1	Scope of this document	4			
	1.2	Relationship to other documents	4			
2	Exe	Executive Summary4				
3	Our	ur Transforming Operating Environment6				
4	Сар	Capital Works Program Development6				
	4.1	Continous improvement	8			
5	2020–25 Regulatory Period Performance Expenditure10					
	5.1	Overview1	0			
	5.2	Case studies for delivery1	2			
	5.3	Key priorities & achievements1	5			
6	Capital Program in 2025–30 Period16					
	6.1	Proposed augex1	7			
	6.2	Proposed repex1	8			
	6.3	Proposed grid communications expenditure1	9			
	6.4	Proposed connex	0			
	6.5	Continuing our proven deliverability2	0			
7	Program of Work Management21					
	7.1	Resourcing approach and strategy2	2			
	7.2	Preparing for the 2025–30 period2	3			
	7.3	Building our internal workforce2	5			
	7.4	Strategic procurement	2			
	7.5	Quality, risk & compliance	4			
	7.6	Health, safety and environment	4			



List of Figures

Figure 1 – Augex, Repex and Connex	5
Figure 2: Our investment priorities for 2025-30	6
Figure 3: Development of PoW from Grid Investment plan to Delivery	7
Figure 4: Maturity Journey for Investment Optimisation	9
Figure 5: Network capital expenditure from 2010 - 2025	10
Figure 6: Combined Energex and Ergon capital expenditure from 2010 – 2025	11
Figure 7: Total repex (\$m, 2024 – 25)	13
Figure 8: Volumes for Poles, Pole Top Structures and Transformers	14
Figure 9: Net capex by Category (\$m, 2024 – 25)	16
Figure 10: Augex (\$m, 2024 – 25)	17
Figure 11: Repex (\$m, 2024 – 25)	18
Figure 12: Connex (\$m, 2024-25)	20
Figure 13: Gated Process for Lifecycle Management	21
Figure 14: Job Vacancies as a Share of Total Unemployment – Queensland (Source: Australian Bureau of Statistics, Deloitte Access Economics)	
Figure 15: Net Interstate Migration: 2019 to 2022 (Source: Australian Bureau of Statistics)	26
Figure 16: Internet Job Vacancies – Regional QLD (Source: Jobs and Skills Australia)	26
Figure 17: Growth in FTE	28
Figure 18: Tenure Distribution at EQL (2020 – 23)	30
Figure 19: Attrition across Engineering and Operations Division	30



1 PURPOSE OF THIS DOCUMENT

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

The key objectives of this Strategy are to:

- Describe the governance processes, tools and systems that support the full lifecycle 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 during the current regulatory period (Chapter 5), and how these initiatives will extend and endure into the future.
- Outline 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 regulated network capital expenditure (capex) associated with delivering prescribed Standard Control Services (SCS) in the 2025-30 regulatory period.

This Strategy excludes the deliverability of all network operational expenditure (opex) and nonnetwork 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 Ergon 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 2021-2025 period we plan to deliver \$3.11 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 \$1.05 billion more than we had delivered in the previous period, with a focus on defect related repex ensuring we continue to invest to meet the needs of our customers.

Over the 2025-2030 period, we expect a slight increase in expenditure over time for our connex. We plan to increase our repex and steadily increase augex to meet Queensland's economic growth, energy transformation and regional population increase.



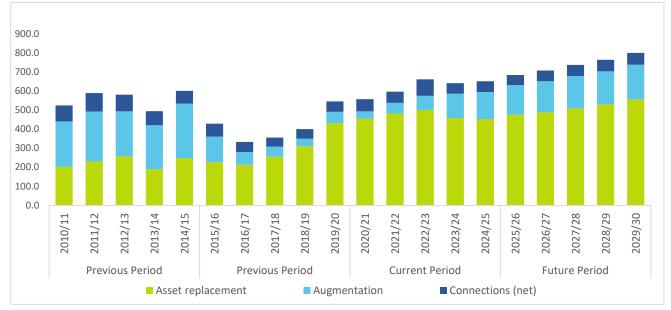


Figure 1 – Augex, Repex and Connex

In recent years we successively increased delivery of our replacement programs, addressing increasing pole failures and defects identified through our inspection programs through pole replacements and related equipment such as cross-arms, transformers, and switches.

We can maintain these levels of delivery and modestly increase them. We regularly update our procurement strategies, most importantly our procurement of poles to address supply of wood poles for our replacement and augmentation work and have several 'people initiatives' already in place to support our growing workforce.

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. During this regulatory control period we improved our Grid Investment planning cycle, with the introduction of a globally recognised asset investment planning and management tool, Copperleaf, to prioritise 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 FTE (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

Ergon Energy Network is committed to empowering an 'Electric Life' for Queensland's regional communities and customers. Throughout our regulatory proposal, we have outlined four key Investment Priorities, shown in **Error! Reference source not found.**

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 us 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 facilitate the energy transformation (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, efficient and aligns with our *Asset Management Policy and Objectives*.

The annual process ensures that the forward-looking Program of Work (PoW) is prioritised from a planning perspective to manage the network risk profile, and from a delivery perspective, considering risks and constraints related to labour, materials or accessibility.

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



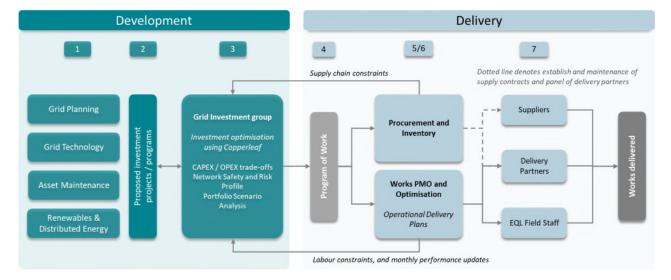


Figure 3: Development of PoW from Grid Investment plan to Delivery

- 1. Our SAMP operationalises the asset management objectives and provides direction for asset management activities to all engineering business units.
- 2. 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 via augmentation expenditure (augex)
 - Connecting residential and small Commercial & Industrial (C&I) customers to the network via our connection expenditure (connex)



- 3. Our Grid Investment and Optimisation team reconciles the proposed projects and programs against top-down expenditure targets and prioritises 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.
- 4. The prioritised PoW is finalised and approved by EQL's Board, prior to being executed by the Operations team and Delivery Partners (see Chapter 7).
- 5. 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.
- 6. Our Works Program Optimisation and Program Management Office (PMO) teams centrally coordinate the final round of prioritisation 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 planned and adjusted for. It serves as an additional opportunity to geographically bundle work across both Opex and Capex to minimise driving and establishment time, particularly for remote locations.
- 7. 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 Continous improvement

To ensure we deliver for our customers, we continuously improve 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 prioritisation process.

Using *Copperleaf* has demonstrated tangible improvements in efficiency and reduced the manual nature of our investment prioritisation 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. We have improved our ability to both identify and manage potential interdependencies and flow on impacts through the modelling capability of *Copperleaf*.

Our current state allows us to perform prioritisation across projects and programs based on the network risk profile and several constraints.

What is Copperleaf?

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

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

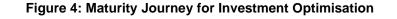
This is an iterative process as it is conducted in collaboration with the relevant business unit to confirm whether the proposed projects and programs are deliverable following prioritisation.

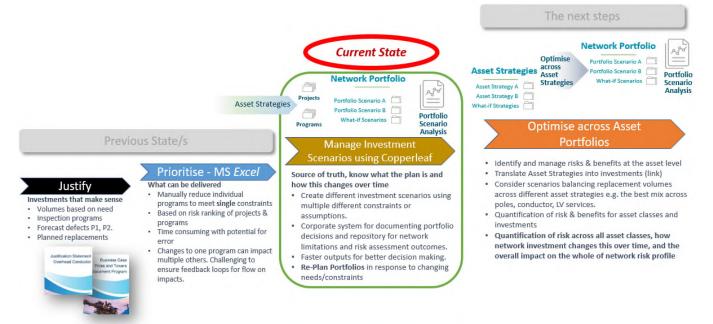


In our next step for maturing this process, we will be able to perform an additional optimisation stage further upstream at the asset level, integrating it with our *Asset Management Strategies*.

Optimisation at an asset level will ensure a granular assessment of risks and benefits across various investment options and scenarios. For example, this optimisation stage is on *how we treat the asset* – either replacing, refurbishing or additional monitoring. The Network portfolio stage prioritises 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.

Figure 4 provides an overview of our investment optimisation maturity journey.





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:

- Cross skilling our internal operations workforce, especially in regional areas to minimise travel and improved delivery efficiency (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

Ergon Energy Network is committed to maintaining the safety and reliability of our network while building resilience to changes driven by 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 \$3.11 billion of network capital expenditure for the current regulatory control period in the Ergon network. This is an increase on the 2015-2020 regulatory control period of \$1.05 billion, or 51%. Figure 5 shows our network expenditure across the most recent four periods.

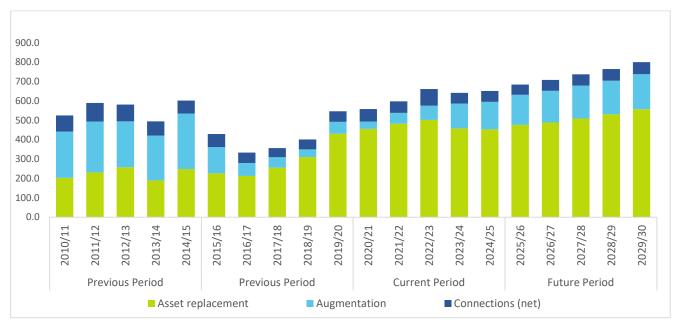


Figure 5: Network capital expenditure from 2010 - 2025

It is important to note that Ergon is part of the Energy Queensland group, and we have a related DNSP Energex. 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.



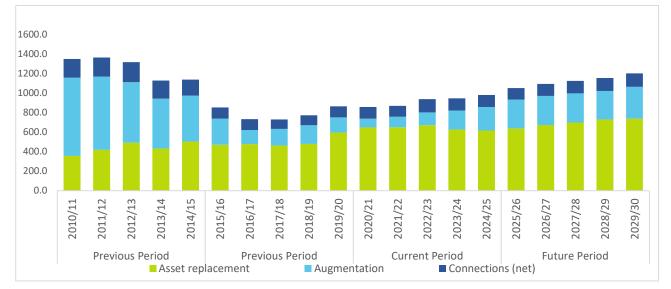


Figure 6: Combined Energex and Ergon capital expenditure from 2010 – 2025

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.

The nature of our regionally dispersed and rural network means that we are prone to several delivery challenges which can be exacerbated due to unforeseen events. COVID-19 impacted delivery early in the period, with three main impacts of 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.

Despite these initial challenges, we successfully scaled up our operations and maintained performance through the current 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

We have had several key areas of our program of work where we have demonstrated our ability to scale up our delivery mechanisms to achieve increased expenditure without impacting on the efficiency of our delivery.

5.2.1 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 our 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.

5.2.2 Repex

Over 2020-23, we have 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).



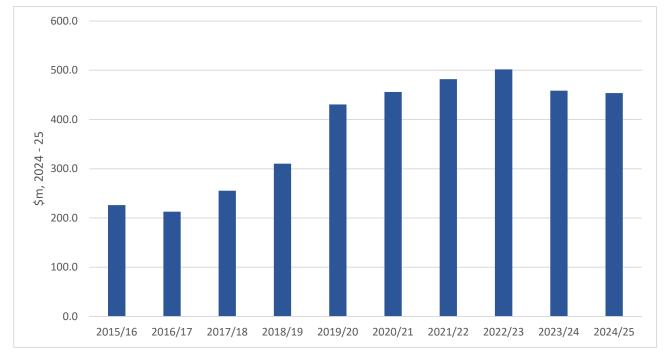


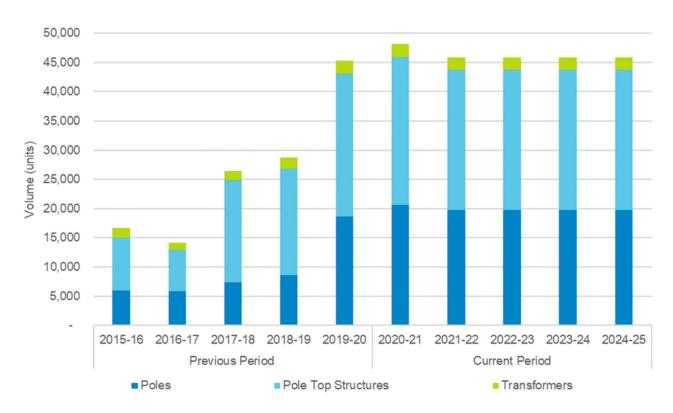
Figure 7: Total repex (\$m, 2024 – 25)

Figure 7 is a testament of our 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).



5.2.2.1 Increasing our wood pole repex

We increased our wood pole replacement volumes from 8,546 to 18,700 poles per annum from 2018 to 2020 – an increase of 119%. In addition, we have been able to maintain, on average, almost 20,000 replacements per annum for the last three years.





This increase was achieved via:

- Reallocation of EQL's total workforce as the repex program for Ergon Energy Network increased, the repex program for Energex decreased, providing access to more labour across EQL's total workforce.
- An increase in contractor spend to supplement the reallocated workforce outlined above.
- Engaging with our wood pole suppliers to secure an increasing forward-pipeline of stock, despite stock shortages driven by bushfire events in other states and weather-driven impacts to harvesting.

In 2019-20, our demand for wood pole replacements increased and coincided with a 3-month closure of harvesting due to extreme wet weather. This precipitated an extensive review of EQL's wood pole supply strategy.

Whilst hardwood is our preferred material (and lowest cost option), in March of 2020 we received Board endorsement to use alternatives including softwood, concrete and composite fibre to effectively manage our network risk in the face of hardwood shortages.

We worked with our primary hardwood suppliers to place bulk orders reflective of the anticipated increase in demand. We negotiated with Department Agriculture and Fisheries (DAF) to assist our supplier to bring forward orders from future years to access supply.



We worked with our secondary supplier, who historically prioritised our Energex contract but were able to marginally lift supply.

We worked with potential softwood providers across Australia and New Zealand, assessing options with former and new suppliers. We placed a large forward order with Koppers to secure a softwood supply. We put in place trials for composite material, and continued our orders for concrete poles, acknowledging these are more expensive and our desire is to use them sparingly in line with our commitment to affordability to our customers.

The Wood Pole Strategy has been revised for the 2025-30 period, as outlined in Chapter 7. This revision has reviewed and enhanced the initiatives that were effective in securing supply this period.

5.2.2.2 Increasing our overhead conductor repex

We increased our overhead conductor replacement program by 55% from 2019-20 to 2020-21. For the last three years we have maintained over 600 km of replacements per annum, leveraging our increasing internal workforce and our panel of contractors. During this period, the unit rate for delivery has also remained stable, despite some of the supply chain challenges over the past three years.

5.3 Key priorities & achievements

This period we experienced challenges related to the early impact of COVID-19 from travel restrictions and social distancing. We experienced supply challenges to our hardwood poles and benefitted from lessons learnt on delivery of current period Capex and driving improvement and/or change in forecast period to manage step changes and externalities.

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.

We have more than doubled our volume of overhead conductor replacement this period, and expect to have replaced over 3,100km of lines by 2024-25.

We have more than doubled the replacement volumes of our poles this period and expect to have replaced close to 100,000 poles by 2024-25.

We have achieved noticeable increases in replacement of service lines, pole top structures and underground cables.

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 manager peaks in workloads (see also section 7.1).

In 2022-23, the Grid Communications team added 2 Full Time Equivalent (FTE) positions, and there are plans to add another 5 FTE in 2023-24 in preparation for the growth in repex and augex in the forecast period (see section 6.3). These FTE positions are additional resources rather than new skillsets given that the increase in work will not require an uplift in capability.



6 CAPITAL PROGRAM IN 2025–30 PERIOD

In the next period, Ergon Energy Network 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 17%, to \$3.8 billion over the 2025-30 period to achieve this objective.

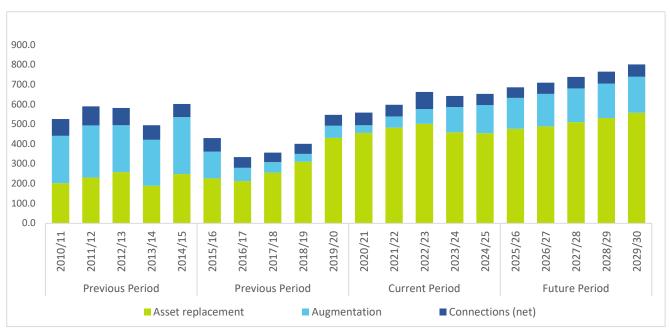


Figure 9: Net capex by Category (\$m, 2024 – 25)

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:

- Ongoing spend to address the risk of pole failures for the safety and reliability of our services to customers, with an increase in our reconductoring program over time to address our ageing conductor population.
- Growth and demand driven sub-transmission and substation augmentation works.
- Compliance driven clearance, protection and grid communication works.

We successfully delivered an increase in our works program for ageing pole and conductor replacements and augmentation on our network over 2018-23, see Figure 9. With the ongoing improvements to investment prioritisation, resourcing and workforce strategy and material procurement, we will be well-placed to efficiently deliver on:

- Similar levels of connex as experienced in the current period.
- A modest 12% increase to our repex, sustaining our level of wood pole replacements and refocusing on increased overhead conductor replacement repex via the strategies outlined in section 6.2.
- Increases to augex via the strategies outlined in section 6.1 and Chapter 7.

In addition to factors impacting the scale of our program, we are seeing challenges in resourcing across our regionally dispersed workforce and 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).

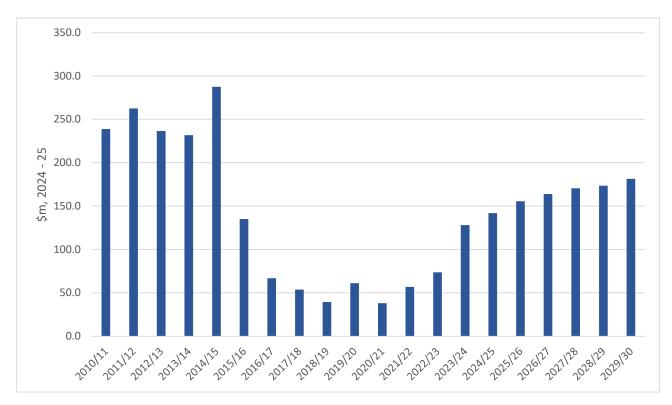
For some small, newer expenditure programs, we are engaging peer utilities and upskilling our current workforce.

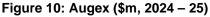
6.1 Proposed augex

As discussed in Chapter 3, Queensland is in a period of economic growth with population increasing in regional areas such as Blackwater, Townsville, Yeppoon and Bundaberg. These drivers have contributed to our expanding augex program which will be increasing over the 2025-30 period but will still remain less than historical delivery levels of the 2010-15 period.

We are forecasting a material step up of 142% in our augex relative to the current period. 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 10 shows the proposed total augex.





The increase in augex is primarily driven by growth projects and programs as we respond to our increasing population and economic growth in our regions.

To meet the challenges of this increased expenditure, we are growing our engineering and operational workforce. Section 7.2 outlines several 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.

There are other increases in grid communications and protection and reliability driven expenditure ensuring a safe and reliable network that is growing in capacity and resilience to meet the changing energy needs of customers. These are not as material in the overall PoW expenditure, but they require targeted strategies to ensure specific skillsets are available to meet delivery.

Supporting document 5.4.01 - 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 space, this requires an uplift of existing technology and assets to manage the increasing levels of complexity in our grid.

Through our suite of upskilling and cross-skilling initiatives (see Chapter 7), we are confident in meeting the needs of the future telecommunications and DER integration projects. Our Grid Communications team is in a strong position to deliver with a particularly high retention rate and longstanding careers.

6.2 Proposed repex

In the current period, we saw an increase in our repex by 64% mainly due to our defect-driven pole replacement program which also resulted in incidental replacements of cross-arms, transformers and switches with pole replacements.

We are forecasting a modest increase of 9% relative to the current period due to the continuation of the pole replacement and reconductoring program and ageing protection and grid communications assets across the network (Figure 11).

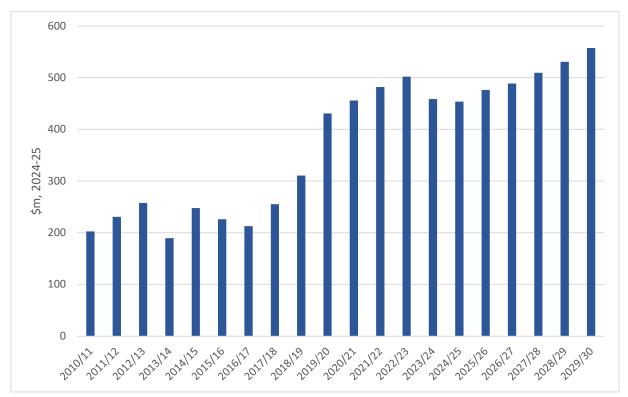


Figure 11: Repex (\$m, 2024 – 25)



We have sustained our delivery performance since 2019-20 and mitigated risks arising from global supply chain constraints, and resourcing challenges associated with our regionally dispersed network. We have demonstrated our capability to undertake the works program, as outlined in Chapter 5.

6.2.1 Proposed pole repex

We are forecasting an increase in volumes for poles and pole tops in our repex program. The increasing volumes of pole tops, which includes cross-arms and insulators, are due to the continuation of our increased reconductoring program (see section 6.2.2). Pole tops consist of cross-arms and insulators which are replaced as part of the reconductoring process.

Key delivery risks to the pole repex program are supply of wood poles, availability of labour and accessibility of the work site (through weather impacts or other locational factors).

Ensuring adequate forward supply of wood poles will be effectively managed by our procurement process and our Pole Strategy which has been reviewed and revised for the 2025-30 period (see section 7.4.2). Ensuring a sufficiently sized and capable workforce is addressed in section 7.2.

Pole repex remains a priority within the replacement programs, with Priority 1 and Priority 2 defects identified via our inspection process required to be completed within set timeframes (30 days and 26 weeks respectively). This metric is reported monthly to our WPC (see Chapter 7) ensuring work is quickly rescheduled where site access issues may arise.

We have sustained our delivery performance since 2018-19 and mitigated risks arising from global supply chain constraints, resourcing challenges associated with our regionally dispersed network and demonstrated our proven capability to undertake the works program, as outlined in Chapter 5.

6.2.2 Proposed overhead conductor repex

Our reconductoring program is forecast to increase in the next period. This is also causing an increase in pole top volumes (cross-arms and insulators) replaced as part of the reconductoring program.

Key delivery risks include ensuring our suppliers of materials – primarily cables and poles, availability of labour and accessibility of the work site (through weather impacts or other locational factors).

Through our industry-leading workforce and initiatives in place to build and grow our capability (Chapter 7), we are confident to deliver this ramp up in our reconductoring program. Our procurement and inventory strategies will ensure that the required materials are available for delivery.

6.3 Proposed grid communications expenditure

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 an increase 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 during this period. This saw supply times increase from two months to more than five months, and caused flow 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.

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.

These initiatives, in addition to securing contracts for critical infrastructure, will help us deliver an increase in augex and repex over the next period.

6.4 Proposed connex

With strong population forecasts and a growing economy, we foresee connection volumes increasing modestly over the next period.

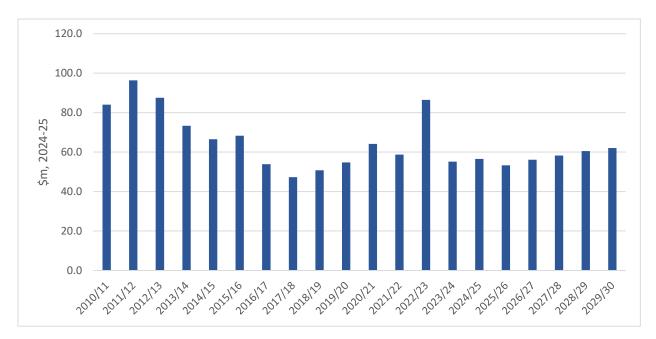


Figure 12: Connex (\$m, 2024-25)

We will maintain delivery performance of our connections program over the forecast period. While we will continue to utilise our internal field staff to deliver our connections program, we have measures in place to engage external contractors for delivery when we need them (see Chapter 7).

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 take 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 regional depots to improve delivery in areas where access is limited (see section 7.1).
- Utilising external contractors, in the order of 30-45% across our augex and repex programs (and to a far lesser extent, our connex work) 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).
- Ensuring sufficient supply of poles for our pole replacement and reconductoring programs through our Pole Strategy (see section 7.3).
- 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

Ergon Energy Network follow a gated process to develop, manage and deliver projects and programs. Our PoW consists of both programmatic work – high volumes of repeat tasks on our assets - and 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 the project lifecycle.

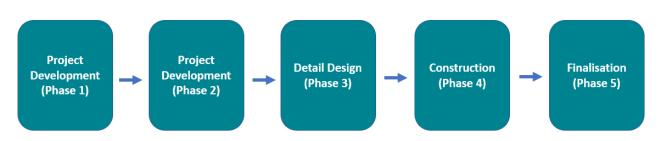


Figure 13: Gated Process for Lifecycle Management

Figure 13 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 section 7.1 for our resourcing approach). During this phase, we regularly report delivery performance to our Executive and Board through the Works Program Committee. 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.

Transparent communication and effective governance ensure that we manage our projects and programs in line with customer and community expectations. Despite disruptive periods including COVID-19 and extreme weather events (from floods to bushfires) impacting access to certain locations and restricting the mobility of our workforce, we were able to deliver a 50% increase in our network capex delivery for the 2019-20 to 2021-22 period, compared to the three years before that.

Our monthly PoW reporting to the Works Program Committee provides an ongoing line of sight to any course corrections and renewed areas of focus or priority for the business from Engineering to Operations.

The integrity of our approach to PoW management is assured by our internal and external audit function, regularly monitoring compliance to our corporate governance framework, risk management and internal control processes.

7.1 Resourcing approach and strategy

Our approach to resourcing for our complex Plan of Work (PoW) involves a mix of skilled internal workforce and external contractors.

We prioritise efficient utilisation of our internal workforce, engaging external contractors when workloads exceed their capacity or for specific projects. This blend of internal and external resourcing allows flexibility, especially during unplanned events, enabling us to efficiently deliver our PoW across a widespread regional network.

Currently, we allocate 3 million hours to internal crews and outsource around 500,000 hours of electrical capital works annually. As outlined in Chapter 4, our program of work is translated into quarterly Integrated Works Programs (IWP) and embedded into granular Operational Delivery Plans. Our asset-level works management team allocate the work to internal crews or external contractors based on the requirements of the ODPs.



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
- Where travel is required, minimise the time away from worker's primary location through standardisation of build (such as our increasing approach to building modular substation components) or ensure sufficient notice is provided to internal crews on travel requirements
- Utilise the external panel of contractors and delivery partners to fill in capacity gaps and ensure delivery is economically efficient.

Our Works PMO team utilises our in-house 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.

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.

While the Works PMO looks after the high-level

resourcing constraints, our asset-level works management team is accountable for granular arealevel deliverability. Risks and issues are escalated across the Operations team and up to the WPC, as required.

7.2 Preparing for the 2025–30 period

We will continue the resourcing approach that has been effective in delivering our current work program, and we will ensure continuous improvement to 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, to continue to successfully deliver our increasing PoW, we will be scaling up our workforce through:



Retention: Cross-skilling our internal workforce

To minimise travel of specialised and skilled labour, we upskill and cross-skill our locally based regional workforce to allow them to perform a variety of work types. For example, upskilling our regional linespersons to also perform substation switching which prevents the need for a substation specialist to travel to regional locations. We will continue to build this capability across our growing workforce to tackle new and upcoming DER technologies such as batteryenergy-storage-systems (**BESS**) and stand-alonepower-systems (**SAPS**).

Growth: Targeting internal workforce growth at our regional depots

Our network is regionally dispersed across Queensland and having locally based resources that can deliver our PoW and effectively respond to unplanned events improves our delivery efficiency and provides operational stability. Section 7.1 provides an overview of how we are attracting, building, and retaining our regional workforce.

Monitor: Maintaining a forward view of our delivery workforces

Using drones for lines inspection and maintenance

Ergon Energy uses drones to help crews restore power outages after natural disasters and string power lines in areas that are difficult to access.

Drones are a portable and costeffective tool for inspecting the network and carrying out repairs, which can be time consuming and challenging in areas where vehicle access has been impacted by fallen trees, flooding or muddy terrain.

We have more than 80 staff trained as certified drone pilots and this number will continue to increase as we set out to deliver our PoW.

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).

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.

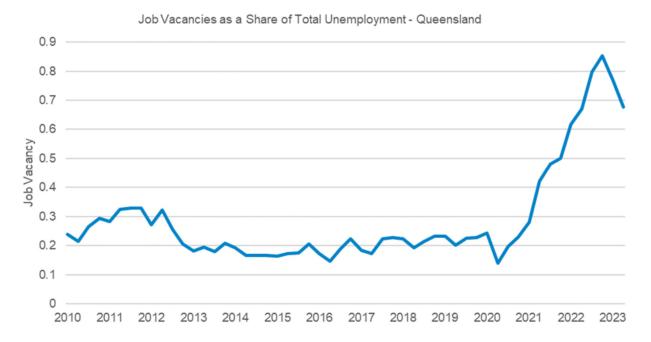


7.3 Building our internal workforce

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 Ergon Energy Networks' increasing program of work. 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 14 and highlighting the rise in risks of skills shortages and labour constraints across the Queensland economy.

Figure 14: Job Vacancies as a Share of Total Unemployment – Queensland (Source: Australian Bureau of Statistics, Deloitte Access Economics)



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





Figure 15: Net Interstate Migration: 2019 to 2022 (Source: Australian Bureau of Statistics)

Figure 16 shows the job vacancy growth across regional Queensland. In recent years the job vacancy growth has increased noticeably across Far North Queensland and Central Queensland, areas where Ergon Energy Network will need to build out our workforce over the next period.

As a result, we expect regional resourcing challenges to continue into the next period and have framed our labour strategies around addressing these challenges.

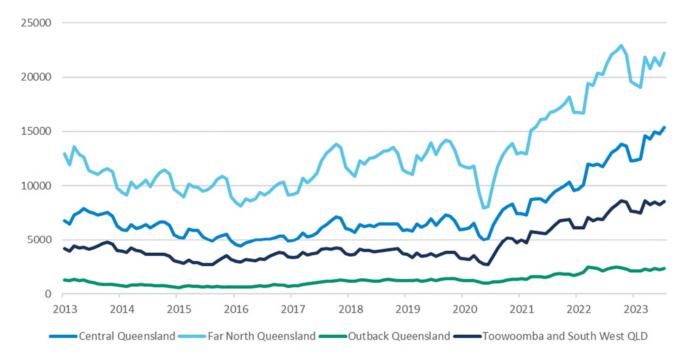


Figure 16: Internet Job Vacancies – Regional QLD (Source: Jobs and Skills Australia)



Our strategic workforce planning centres around nine primary capability domains:

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

Our delivery performance is dependent on our workforce capability in all these domains but in the next 5-10 years, our primary focus is on the areas key to our Capex program, the Engineering, Trades and Technical resource 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 7.2 (Growing our workforce) and Section 7.3.3 (Retaining and developing our workforce).



7.3.2 Growing our workforce

At Ergon Energy Network, our most important resource is our people. Growing and building our workforce remains a critical lever as our PoW grows in scale and complexity.

Our unique position as a subsidiary of Energy Queensland Limited provides us access to a combined workforce of close to 8,000 FTE across all businesses. For Ergon Energy Network, this means access to a combined engineering and operational workforce that can flex across the two distribution network service provider boundaries (Ergon Energy Network and Energex), as required.

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.

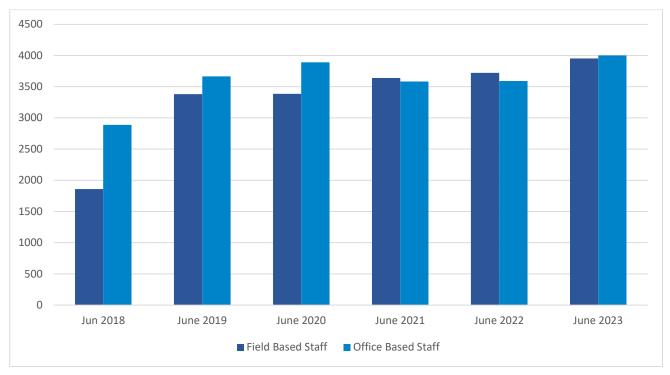


Figure 17: Growth in FTE

Figure 17 illustrates our workforce growth in response to program of work demands. Our bluecollar (or operational) workforce remains our key focus as we grow across our regional depots.

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.

Given extensive state-wide travel, local hiring near depots is our preference, offering work-life balance and boosting regional economies.

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 in the National Electricity Market.

We also currently have 35 graduates in our workforce. This program will only accelerate as the 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.



7.3.3 Retaining and developing our workforce

At EQL, we are proud to be one of the largest engineering, technical and trades employers 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 18) and low attrition rates (Figure 19). 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. This information allows us to plan for potential workforce retirements during the 2025-2030 period.

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.

Our apprenticeship program

We have one of the largest apprenticeship programs in the National Electricity Market (**NEM**) with the aim of increasing our intake by 10% per annum for the next 10 years.

In 2024, EQL recruited a record 160 new apprentices. Our apprentices get practical, on-the-job experience in their chosen trade over a 4-year fixed term.

At the end of 4 years, our apprentices are fully qualified in their chosen trade and we convert almost all our apprentices into permanent employees at EQL.



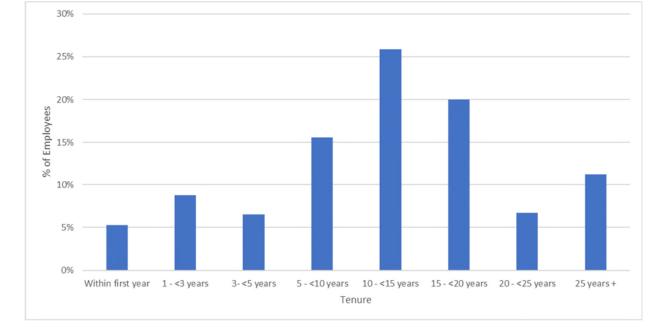


Figure 18: Tenure Distribution at EQL (2020 – 23)

Figure 19 highlights our consistent staff retention across the crucial Engineering and Operations divisions. In both 2021-22 and 2022-23, the successful expansion of our pole and conductor replacement program is attributed to our dedicated workforce.

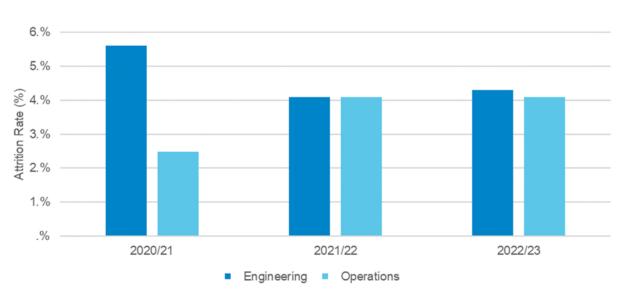


Figure 19: Attrition across Engineering and Operations Division



The following sections outline key initiatives for workforce development and 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 appropriate compensation commensurate with the responsibilities and capabilities we need to deliver on our commitments to customers. We regularly assess remuneration rates to balance market demands and reward the growth of our employees. For our regional workforce, we provide zone-based retention allowances, along with rental subsidies in remote areas, to alleviate the rising cost of living and ensure a workforce located where the work is needed. This also helps to ensure delivery efficiency, reducing the need to move staff across the state to deliver on particular projects.

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 program of work.

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 program of work 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 especially in remote locations with limited internal workforce availability.
- 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.

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 detailed in Chapter 5, our substantial pole and conductor replacement initiative in 2020 – 25 period will continue into 2025-30. The program's success hinged on acquiring a substantial amount of wood poles and related assets. Despite supply chain limitations, we effectively procured these materials and equipment, thanks to our resilient 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

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.

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.

Over the 2025-30 period, we expect to see continuing demand for wood poles, and increasing demand for conductors and copper cables due to our repex program (Chapter 6). Supply of wood poles will be a key focus area.

Restrictions on wood harvesting from Queensland's crown land and increasing global demand for copper cables pose supply challenges for us, compounded by higher fuel and transport costs.

To counteract these challenges, Ergon Energy Network has implemented strategies and mitigations, including:

- Developing a Pole Strategy to assess wood pole procurement, exploring alternatives like composite and concrete poles.
- Acquiring forestry land across Queensland to secure a supply of hardwood poles.
- Procuring larger quantities than needed to ensure material deliverability in the face of supply constraints.
- Optimising supplier engagement through streamlined tendering and onboarding
 processes, aiming to reduce the time for technical assessments and become a preferred
 'partner of choice'. It can currently take up to 2 years for a supplier technical assessment
 where sampling and testing is required, we are well underway to reducing this timeframe.



7.5 Quality, risk & compliance

Our delivery performance reflects our adeptness in managing compliance, adhering to risk management, and implementing effective systems for strategic and operational success.

Being a government-owned and regulated DNSP, we meet various compliance obligations through a Compliance Management Policy¹, ensuring corporate governance, ethics, and integrity while delivering our program of work.

Aligned with our Risk Management Policy² (Chapter 4), our investment planning adopts a riskbased approach, strengthening planning and work delivery through robust risk management.

EQL's proficient Management System drives strategic and operational objectives, supported by our Quality Policy³, enabling efficient PoW delivery.

7.6 Health, safety and environment

We aspire to be an industry leader in health and safety (H&S). It is a priority across Ergon Energy Network 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 level⁴.

Our People, Safety and Environment Board sub-committee⁵ 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 employees, contractors, customers and communities.

¹ Energy Queensland, Compliance Management Policy (2022).

² Energy Queensland, Risk Management Policy (n.d).

³ Energy Queensland, Business (Quality) Policy (2023).

⁴ Energy Queensland, *Health and Safety Policy* (2022).

⁵ Energy Queensland, *People, Safety and Environment Committee Charter* (2022).