Essential Energy

10.01.01 System Deliverability Plan 2024–29

December 2022

Table of Contents

1. Executive summary

Essential Energy's System Deliverability Plan 2024–29 details the resourcing considerations and strategies for successfully delivering the works portfolio for the 2024–29 regulatory period.

The scope of the system portfolio includes standard control services (SCS) capital expenditure (capex) and operating expenditure (opex) programs, as detailed within individual asset management and investment plans identified by Essential Energy. The proposed level of network investment for SCS for the regulatory control period is $2,296 million in opex and $2,696 million in capex (real $FY24).

Forecast network-related opex is relatively constant with the current period with a 3 per cent increase. Opex is forecast to remain stable year on year across the regulatory period.

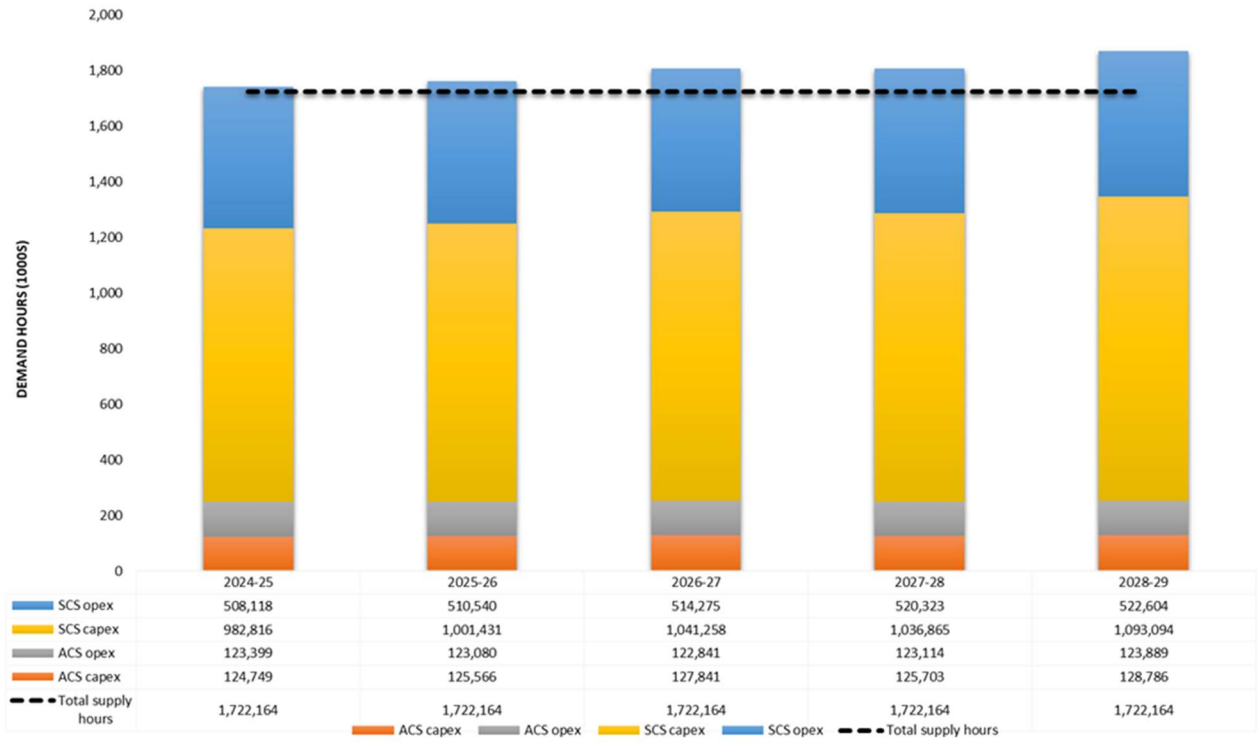
Network-related capex is forecast to increase by 5 per cent from the current period, due to increased spend on resilience projects and a transition to composite poles for condition-based replacements. Our network capex portfolio has been optimised to deliver outcomes defined through extensive customer engagement and provides a dynamic and resilient network fit for the future.

Alternative control services (ACS) are also considered in the demand profile as most of these services are part of the portfolio delivered by the Operations divisions.

Essential Energy has reviewed the demand requirements and resource availability to deliver the works portfolio as contained within this plan and considered program-level network investment, reviewed delivery constraints and examined internal and external resourcing options.

Delivery of the network-related capital works planned for 2019–24 has been significantly impacted by widespread bushfires, numerous flood events and Covid-19. This has resulted in a 9 per cent overspend of opex and a 2 per cent underspend of the capex allowance provided by the Australian Energy Regulator (AER).

Figure 1 details the internal resource supply and demand hours required to deliver the works portfolio for 2024–29. Note the supply line does not include an allowance for overtime.



	2024-25	2025-26	2026-27	2027-28	2028-29
SCS opex	508,118	510,540	514,275	520,323	522,604
SCS capex	982,816	1,001,431	1,041,258	1,036,865	1,093,094
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ACS capex	124,749	125,566	127,841	125,703	128,786
Total supply hours	1,722,164	1,722,164	1,722,164	1,722,164	1,722,164

Figure 1 – Total supply and demand hours for capex, opex and ACS programs

Across the 2024–29 period, Essential Energy will continue to implement productivity and efficiency initiatives

to improve delivery performance, minimising costs to electricity consumers. We will continue to look for opportunities to revise and adjust strategies to ensure the portfolio is delivered safely and efficiently.

Essential Energy has assessed the total network-related works portfolio and we are confident we can deliver on the works portfolio under normal operating conditions.

2. Introduction

Essential Energy manages and operates one of the largest electricity distribution networks in Australia, delivering electricity to more than 880,000 customers across regional NSW and parts of southern Queensland. As a network provider, our core business is to build, operate and maintain electricity infrastructure while providing safe and reliable electricity supply to residents and businesses.

The role of the electricity network and services provider is changing and will continue to evolve over the coming decade. Essential Energy is committed to meeting the challenges associated with these changes, while providing a service that reflects network users' needs and expectations. Throughout this period of change, the role of our network in facilitating the exchange of energy between points of generation and consumption will continue, meaning that ongoing maintenance and investment will be as important as ever. We will continue to prioritise improvements to maintenance and investment programs.

Essential Energy's customers are central to informing and shaping business decisions. This means our strategic direction has been fully informed by customer and stakeholder feedback on electricity affordability, and the role they see the electricity network playing in meeting their needs, values and expectations. Based on the feedback, we are rolling out stand-alone power systems (SAPS) and microgrids, and actively improving our resilience to climate change (see **Attachment 4.02 – How engagement informed our Proposal**).

Essential Energy's 2024–29 System Deliverability Plan ensures the works program is resourced to provide safe and effective services and electricity supply that meet customer expectations. This entails assessing resource capacities and capabilities, prioritising and validating work programs, and adopting delivery strategies to ensure work is delivered as efficiently as possible, providing the greatest value to customers.

The Assets and Operations division develops and delivers Essential Energy's opex and capex projects and programs. The unit has internal and external delivery streams and supporting functional areas that are responsible for day-to-day operations and management of the network.

The main operational functions include program and project management, contract management and governance, design, risk management, work scheduling and maintenance packaging, operational performance reporting and construction across transmission and distribution services.

Each financial year, based on the AER's allowance, an approved Statement of Work (SOW) for capex and opex programs is formally agreed between the relevant operational divisions, with delivery milestones, expenditure and accountabilities clearly defined and monitored.

The SOW includes a detailed list of defined programs and projects for completion in the financial year. The Operations division manages works delivery in line with Essential Energy's Network Investment Governance framework (**Attachment 10.01.07**) and other applicable procedures and work practices.

The objective of this document is to assure resource availability and therefore the deliverability of the works portfolio in an efficient and safe manner for the 2024–29 period. Assumptions used to develop the demand and supply forecast are captured in Appendix 1.

3. Purpose

This Plan supports Essential Energy's 2024–29 Regulatory Proposal to the AER and should be reviewed in conjunction with the suite of supporting documents.

It is based on the consolidated system-related works programs. This includes direct control services (SCS and ACS) system capex and opex, and estimated customer-funded work. This Plan covers the portfolio of work proposed during the 2024–29 period, identifying delivery constraints and strategies required to ensure the supply of resources matches the demand for them.

The System Deliverability Plan framework is structured around ensuring each works program is provided efficiently, achieves safety excellence and is delivered to approved service standards, expenditure and milestones.

The key objectives of this Plan are to:

- develop the network works portfolio for the 2024–29 period
- forecast resource requirements to complete the proposed works portfolio
- assess internal workforce supply capacity and skills
- identify deliverability constraints and resourcing gaps
- support a more detailed, rolling two-year work program forecast
- align delivery and workforce resourcing strategies.

This Plan is robust, taking these objectives into consideration.

4. Historical information

This section provides historical information that has informed the development of the Plan for 2024–29. It compares current and previous periods, and includes organisational changes, reforms and initiatives aimed at more efficient delivery of the works portfolio.

Since 2012, Essential Energy has been on a journey of transformation to increase efficiency and productivity for the long term. This journey is ongoing, with further productivity improvements to be implemented during the 2024–29 period. Bundling assigned work tasks that consider travel time and an extensive review and revision of the asset health catalogue are examples of these ongoing improvements.

The current period (2019–24) works portfolio consists of a range of defined replacement expenditure (repex) and augmentation expenditure (augex) programs and projects, using internal and external delivery resources across opex and capex programs. Delivery of the planned portfolio has been impacted by COVID-19, widespread bushfires and flooding across our region. Pass-through events have led to $123 million in adjustments in our opex and capex allowance for this period. Even with the significant weather events, we are forecasting an underspend of only 2 per cent in SCS capex for the current period.

Opex for the current period is forecast to be 9 per cent above the AER allowance, for the same reasons capex is underspent. Black Summer bushfires (2019–20), major flooding events in 2021 and 2022, and Covid-19 have significantly disrupted planned maintenance works. Overtime in the past three years equated to approximately 15 per cent of total capacity.

For the 2024–29 period, we are committed to building workforce capability and capacity to meet future supply needs and fill vacancies caused by an ageing workforce by:

- recruiting trainees and apprentices under the Field Based Early Talent Pathways program
- creating at least 30 new apprentice positions each year, with up to 96 apprentices and trainees approved for recruitment in 2023.

Essential Energy's delivery performance across the current and prior regulatory periods demonstrates capability in delivering extensive programs of work. This performance, along with implementation of delivery improvements, provides a solid foundation and assurance of our ability to deliver the investment levels proposed for the 2024–29 regulatory period.

5. Development process

This section explains the process used to develop the 2024–29 System Deliverability Plan.

First, the consolidated works portfolio was developed by identifying the work activities across opex, capex and ACS investment categories in the Regulatory Proposal. These work activities were then categorised by current delivery method to identify those provided by internal field resources. The resource categories of 'overhead', 'underground' and 'transmission services' were applied to the identified work activities to assist with options analysis. Work programs, projects, investment cases and budgets were scrutinised to estimate the associated volume of each activity for each year of the regulatory period.

ACS is included in the assessment to ensure the review reflects a holistic approach to works delivery, as the resources required to deliver these services are often the same as those required to deliver capex and opex programs for SCS.

Total resourcing demand for the works portfolio is calculated by using the estimated hours and volume of each work activity based on historical performance, investment cases and forecasts.

Figure 2 summarises the process used to develop this Plan.

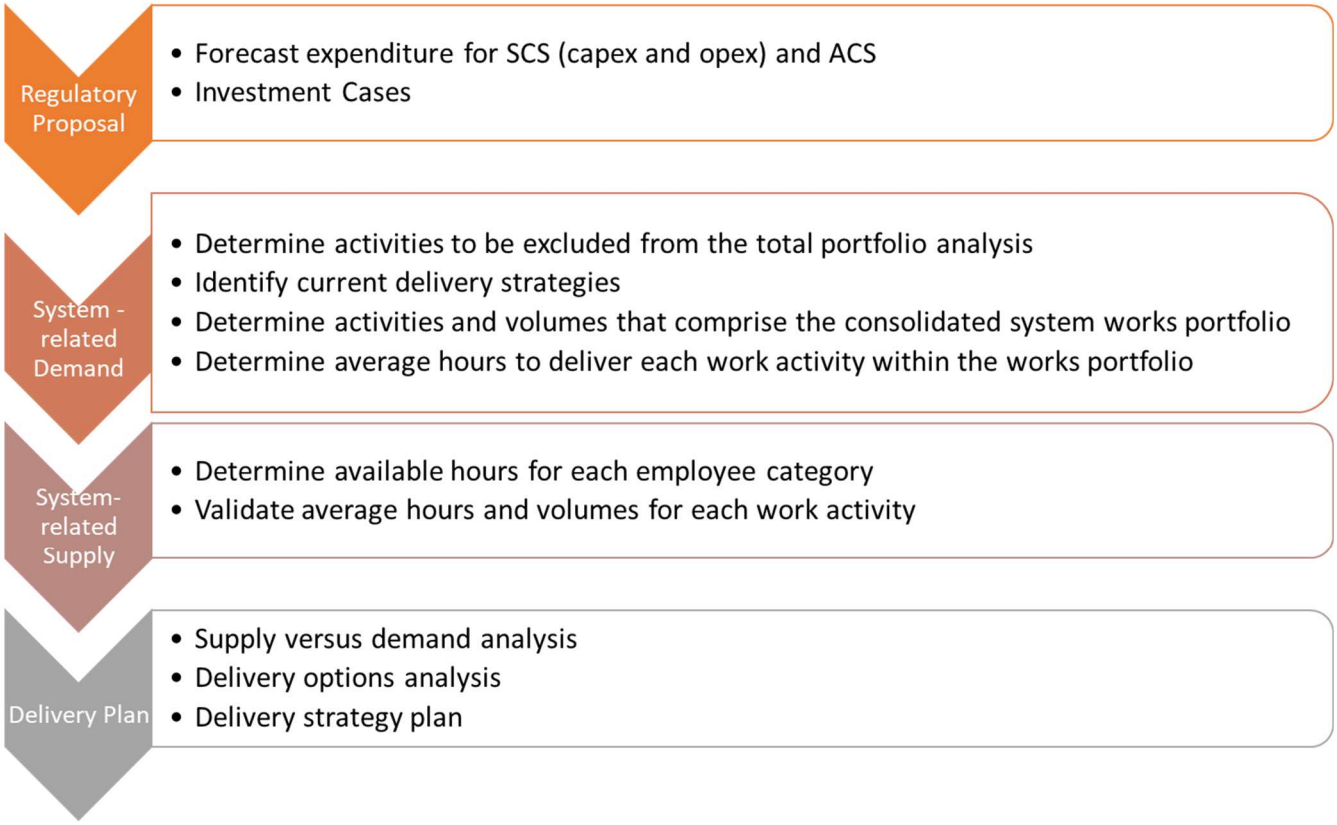


Figure 2 – System Deliverability Plan process

6. Operating and capital program 2024–29

This section provides an overview of SCS capex and opex, including a comparison against historical and forecast values. Costs include materials, labour and plant, and are shown in real $FY24 including overheads.

6.1 Network operating program 2024–29

The SCS opex is forecast to increase by $59 million or 3 per cent between the current and 2024–29 regulatory period. Figure 3 compares completed and forecast total SCS operating investment between 2009 and 2029.

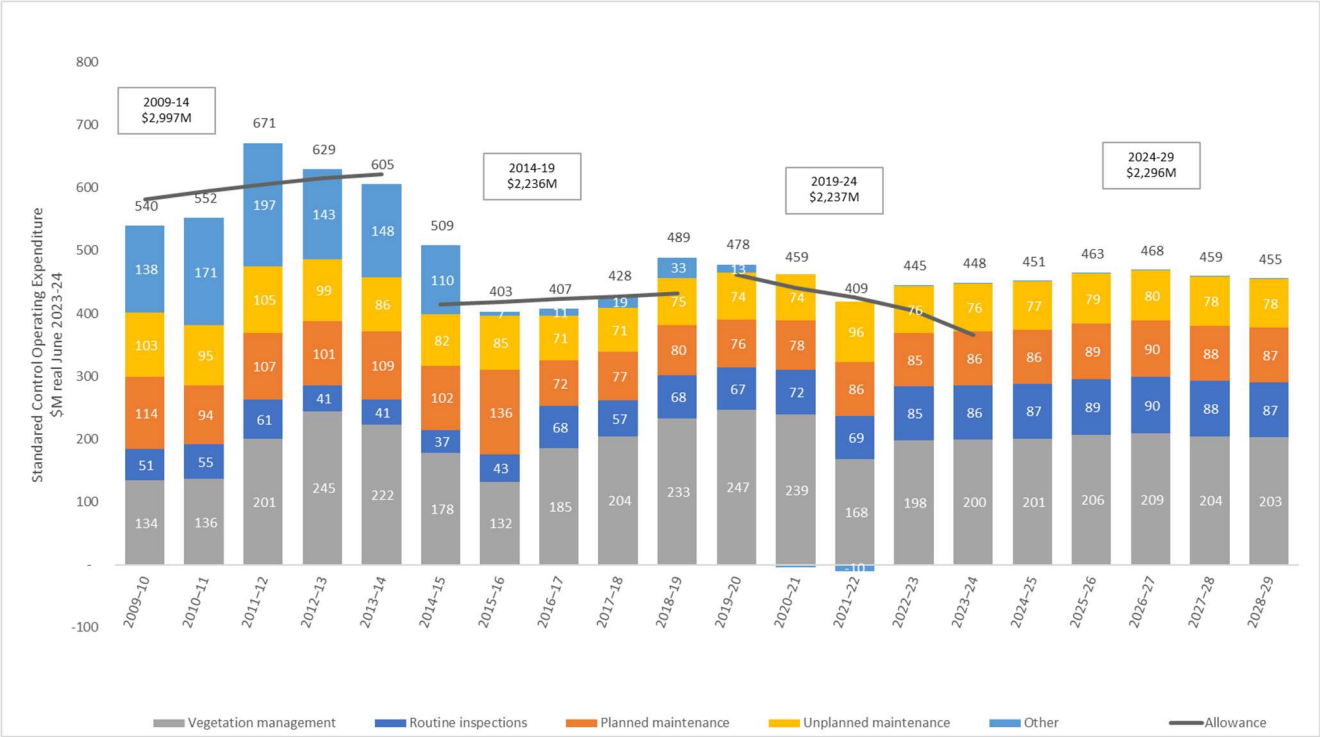


Figure 3 – Opex by category 2009–29 ($m, real FY24 including overheads)

The opex by system maintenance program is shown in Figure 4.

Vegetation management is the largest opex program and accounts for around 45 per cent of network-related maintenance expenditure. The program is delivered through a collaborative partnership between authorised contractors and internal Essential Energy resources.

Planned inspections and maintenance accounts for around 38 per cent of the opex portfolio with the remaining 17 per cent for unplanned and/or emergency works.

We are not anticipating volume changes for operating activities delivered internally compared to the current period as increases in opex forecast will not significantly affect demand requirements as they do not relate to providing frontline services.

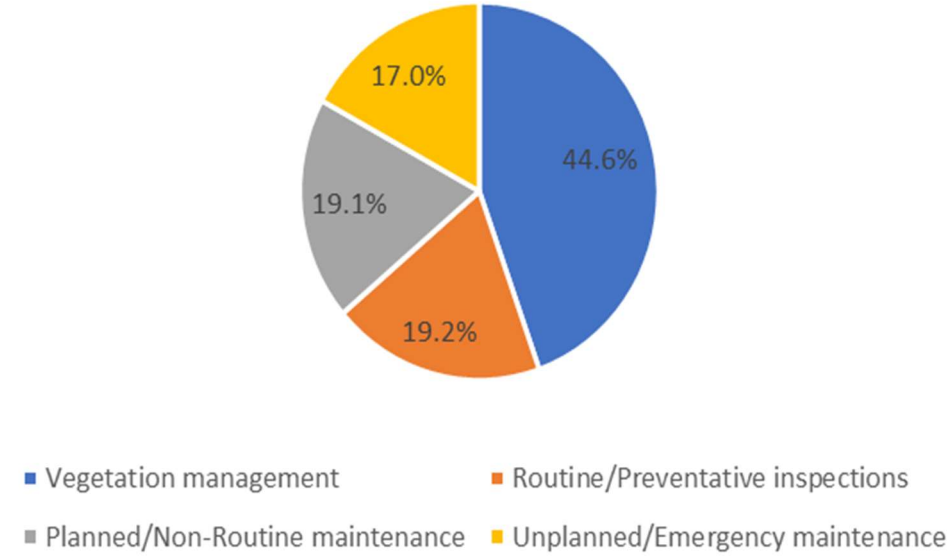


Figure 4 – System opex by category 2024–29 (%)

6.2 Network capital program 2024–29

Essential Energy's capex for the regulatory period is considered at a category investment level. Figure 5 compares completed and forecast total SCS capital investment between 2009 and 2029.

The 2024–29 capex forecast includes increases in augex (including connections) and repex across the period compared to the current regulatory period. The main drivers for the increase in 2024–29 capex program are resilience and Consumer Energy Resources (CER) enablement. Repex is increasing due to transitioning to composite poles, spending on resilience for high-risk locations and installation of SAPS.

A new category for Export Services has been included this period in response to the changing electricity environment. Spending on Export Services (or CER enablement) is spread across augex, non-system and opex categories.

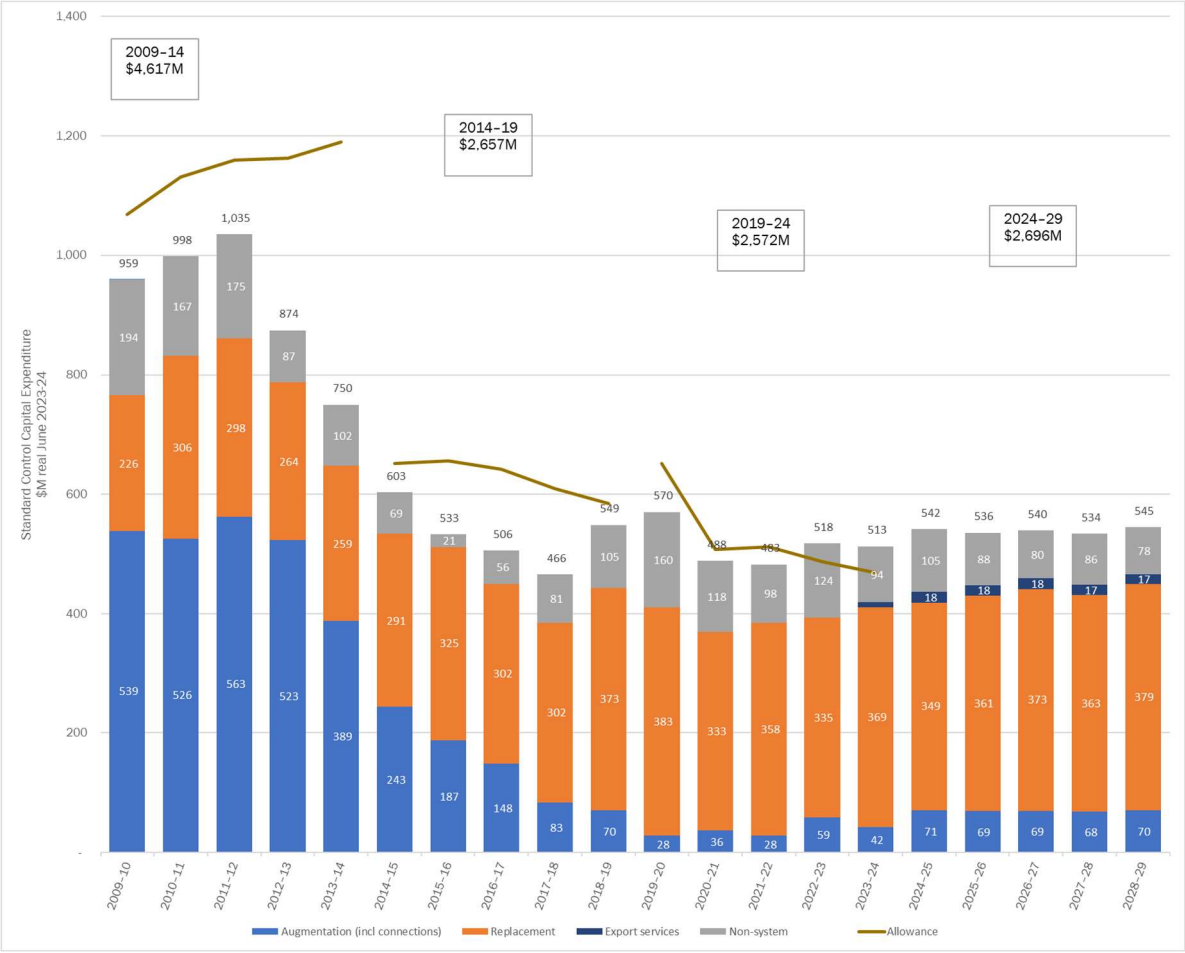


Figure 5 – Capex by category 2009–29 ($m, real FY24 including overheads)

Figure 6 provides a breakdown of allocations across the system's capital portfolio categories that are relevant to this Plan. More than 80 per cent of system-related capex is attributed to asset repex, such as pole and pole-top equipment replacement.

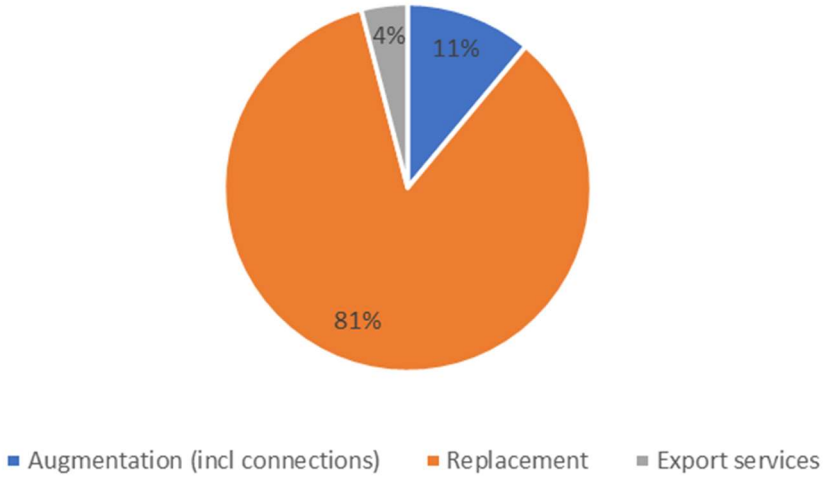


Figure 6 – System capex by category (%)

Several capex programs, such as pole staking, are delivered by external service providers, in support of the strategic delivery objectives.

7. Alternative control services 2024–29

ACS is included in the deliverability assessment as resources who deliver the services are from the same pool as those delivering the operating and capital budgets. Projected volumes of work associated with ACS are expected to increase slightly compared with the 2019–24 period due to the inclusion of major connections in ACS.

ACS categories included in the works portfolio are:

- ancillary network services
- metering services
- public lighting services
- major connection services

7.1 Ancillary network services

Ancillary network services are customer-initiated works that can be attributed to individual customers and are supplied on an as-needed basis.

Essential Energy's provides these services across the network to facilitate customer needs. As these services are generated by customer demand, the forecast volumes of these services are based on historical estimates rather than network investment. Typically, the resources required to deliver these services form part of the local resource pool, which is assigned across a variety of delivery tasks.

Ancillary network services include:

- non-routine meter reading services
- Accredited Service Provider (ASP) inspections and compliance
- vehicle escort services
- outage facilitation and network commissioning for ASP Level 1 construction work.

For the forthcoming regulatory period, we have forecast that ancillary network services will account for around 71,000 labour hours per year.

7.2 Metering services

Metering services includes maintaining and testing customer metering equipment (Type 5 and 6 meters) that is being phased out. Essential Energy is responsible for the basic meters until they are replaced by smart meters.

We forecast that around 55 per cent of our remaining basic meters will be replaced during the 2024–29 regulatory period, which will reduce demand on resources over time.

The Australian Energy Market Commission's recently published *Review of the Regulatory Framework for Metering Services: Draft Report* recommends a much faster uptake of smart meters than we have forecast. We will monitor the progress of this review and include any relevant changes in our final Regulatory Proposal to the AER in late 2023.

Metering services include:

- meter inspections and testing
- a meter maintenance program

For the 2024–29 regulatory period, we have forecast that metering services will account for around 27,000 labour hours per year.

7.3 Public lighting services

Public lighting services includes bulk lamp replacement and maintenance programs. Typical customers are Roads and Maritime Services and local councils but can include other government organisations. Currently, there are around 160,000 public lighting assets. This number is expected to increase by about 2,900 (or 1.7 per cent) annually due to new assets being installed in customer-funded subdivisions.

Public lighting services include:

- spot luminaire replacement
- bulk luminaire replacement program
- bracket and pole replacements
- the Council LED program.

Public lighting programs that are categorised as low risk, such as bulk lamp replacement works, are typically undertaken by external contractors, where these works may be more effectively packaged and delivered in bulk to gain competitive rates. This allows internal staff to focus on public lighting maintenance and repairs, which are completed as needed.

For the 2024–29 regulatory period, we have forecast that public lighting services will account for approximately 44,000 labour hours per year.

7.4 Major connection services

Essential Energy provides connections services such as major connection commissioning and non-basic negotiated connection services - where work is not contestable for safety/risk reasons as per **Attachment 13.01.01 ANS Service Schedule.** Services include but not limited to:

- commissioning
- work deemed non-contestable due to safety or system supply security reasons i.e. within a zone substation
- inspection, maintenance, and testing (including fault and emergency) of customer assets including HV assets
- includes both sub transmission and distribution assets.

For the 2024–29 regulatory period, we have forecast that connection services will account for approximately 108,000 labour hours per year.

8. Works program demand in 2024–29

Total demand for internal resources in the works portfolio for the 2024–29 regulatory period is estimated at 8.9 million hours. This represents annual demand of 1.74 million hours of work in FY25 increasing to 1.87 million by FY29.

Analysis has been conducted at the portfolio level for the purposes of this assessment. Separately, and on an annual basis we undertake a granular assessment of resource requirements as part of our Statement of Work process This analysis considers variability in the demand requirements at the depot level that is also impacted by weather events and customer funded work requests.

This granular variability is managed by employing the resourcing strategies detailed in section 10 of this document.

Figure 7 shows the forecast internal demand by financial category for the 2024–29 regulatory period.

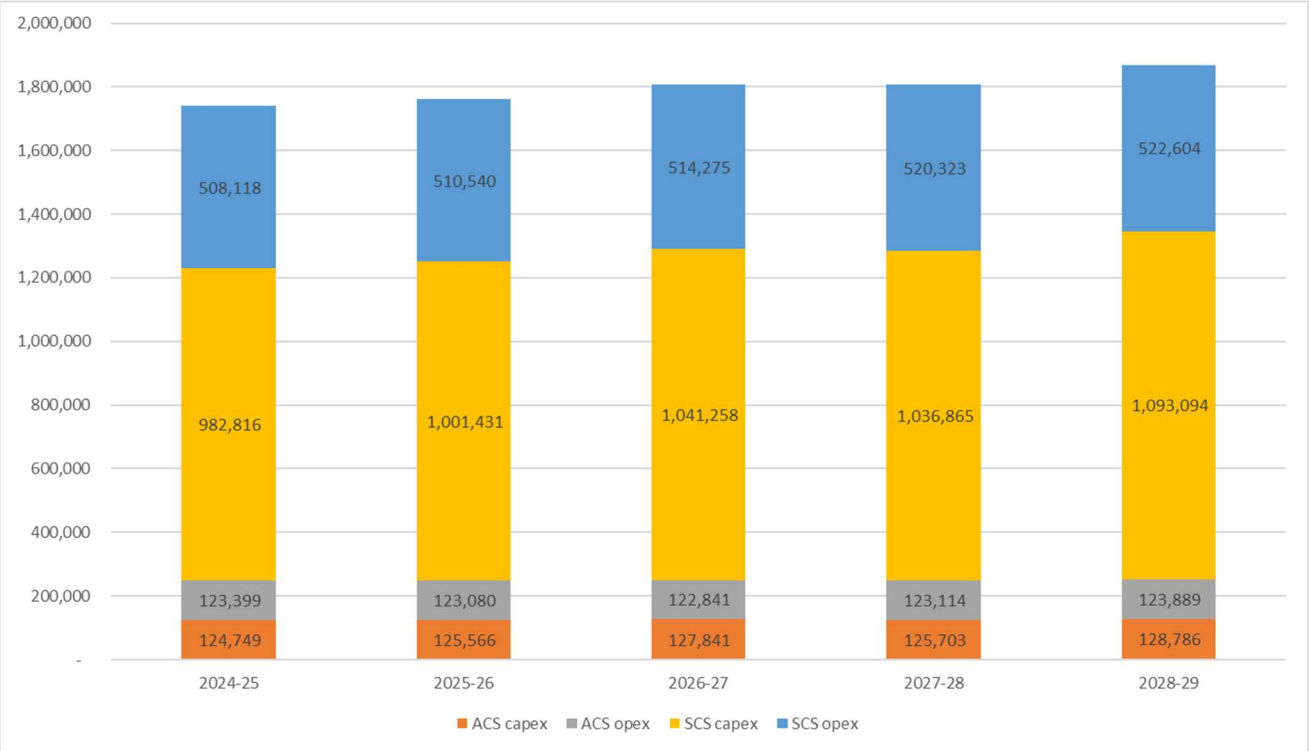


Figure 7 – Works program demand forecast 2024–29

9. Supply of internal employees

Essential Energy employs 1,205 frontline staff members. For the purposes of this analysis, they are categorised into 'distribution overhead', 'distribution underground' and 'transmission services' resource types. The supply hours (FTE available hours) have been adjusted to reflect time available to carry out construction, maintenance and activities relevant to the works portfolio.

Each distribution employee contributes an average of 1,420 hours per year to the pool of supply hours, with transmission services employee contribution slightly less at 1,409 hours per year. This is calculated after allowances for public holidays, leave provisions, mandatory training and non-system support activities, which are excluded from this model. No allowance for overtime has been made in the baseline availability assessment.

The formula used to calculate the average supply hours per year per resource is:

Supply hours per employee equals full-time equivalent (FTE) annual hours minus public holiday and estimated leave hours, and minus support and training hours

1,886 – 331 – 135 = 1,420 for distribution employees

1,886 – 331 – 146 = 1,409 for transmission service employees

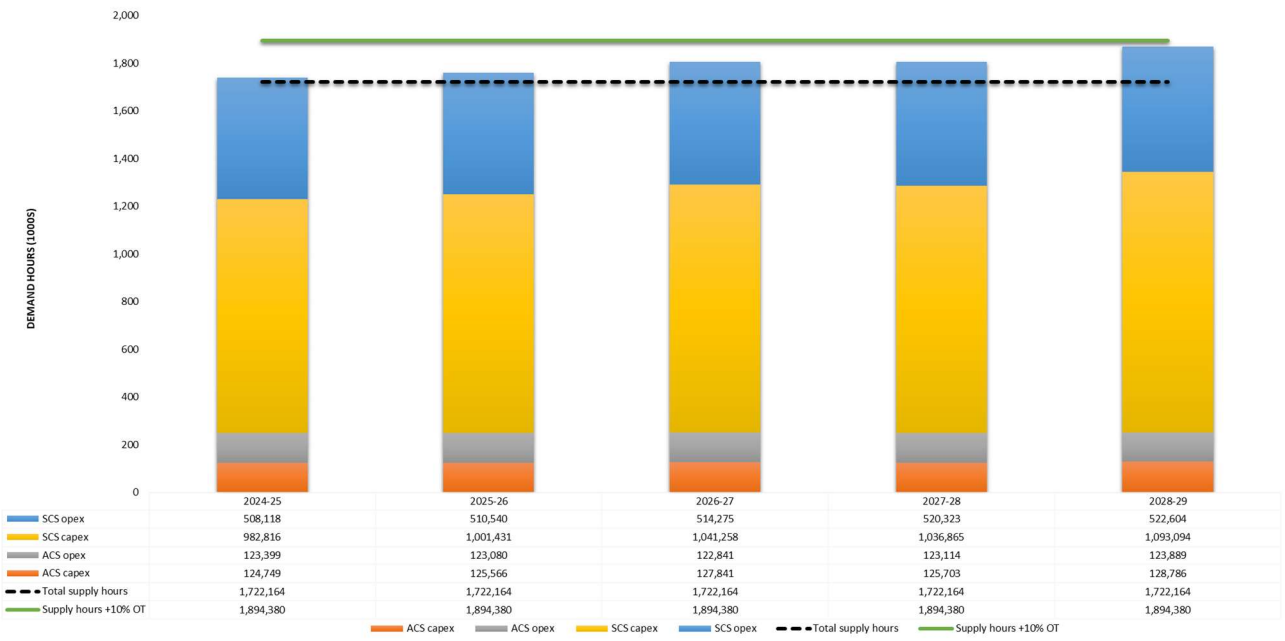
Table 1 – Available internal supply hours

Resource type	Available hours per year
Overhead	1,379,573
Underground	122,787
Transmission services	219,804
Total hours	**1,722,164**

Essential Energy's internal frontline resource capacity is approx. 1.72 million hours per year. This will ensure core functions can be performed for fault and emergency response, maintenance, construction and works management tasks.

We will maintain an optimal internal workforce capacity, which is fundamental to the safe and efficient delivery of critical programs of work. Where additional resources are required, we will continue to develop core skillsets through targeted recruitment and apprenticeship programs and provide multiskilling training for existing employees.

Figure 8 shows the additional supply (green line) with 10% overtime added to supply hours.



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Total supply hours	1,722,164	1,722,164	1,722,164	1,722,164	1,722,164
Supply hours +10% OT	1,894,380	1,894,380	1,894,380	1,894,380	1,894,380

Figure 8 – Works program demand and supply (+10% overtime) forecast 2024–29

10. Delivery strategies

Essential Energy uses a range of strategies that are tailored to meet the needs of each project or program. These include:

- making full use of our internal workforce and maximising its productivity through initiatives and new technology
- increasing the number of apprenticeships to meet future demand
- increasing internal workforce capacity through targeted overtime

- levelling out areas of oversupply and undersupply (peaks and troughs) within delivery programs and across depot areas
- developing a capable and multiskilled workforce that suits Essential Energy's diverse requirements.

We develop our strategies to ensure safe and efficient programs across the whole works portfolio.

10.1 Multiskilled and experienced internal workforce

Essential Energy's internal workforce is located across a large geographic area, with many assets and a low customer density. Staff are deployed in small, medium-sized and large depots to efficiently match the local works programs and provide effective fault and emergency responses.

Due to Essential Energy's geographically dispersed network, employees are often required to perform a wide range of tasks across maintenance, capital (repex and augex) programs, fault emergency response, customer connections and service work (as per ring-fencing guidelines). In many cases, employees acquire skills that are well beyond their specialisation.

For example, Essential Energy's distribution powerline workers often perform tasks for asset groups and disciplines such as subtransmission, distribution augmentation and maintenance. This occurs across overhead and underground networks and includes network switching, commissioning, and service connection and replacement tasks. This increases flexibility and efficiency because staff members can be redirected between work programs to meet needs.

Increasing the productivity and utilisation rate of our workforce is one of our key strategies.

10.2 Resource sharing

Having internal staff members who can be sent to work in neighbouring depots or regions makes it easier to adapt during periods of peak workloads, for example, for emergency responses or planned upgrades. Work pools are often formed to complete larger maintenance or repex projects, where efficiencies mean more is achieved per planned outage. This reduces the frequency of outages and their impact on customers.

Sharing staff also provides flexibility, enabling the deployment of teams with quiet schedules to areas or regions with peak workloads.

10.3 Apprenticeship program

Essential Energy's apprenticeship program develops core skills to meet future needs. Each year, we take on more powerline worker apprentices than any other single group of skilled workers. We are increasing our apprentice intake in the 2024–29 regulatory period to replace forecast natural attrition due to an ageing workforce.

10.4 Overtime

We target our use of overtime to areas where it provides the greatest value. In the planned project design and establishment phase, we assess suitability for overtime. Targeted overtime increases internal FTE capacity and provides flexibility for managing variations in workflow and addressing changes to local works programs. Using targeted overtime can also increase productivity by minimising repetitive travel and project planning costs e.g. avoiding travel again next day for a couple of hours work. Where planned overtime is used, justification and approval processes are followed to ensure it represents value for money.

Overtime is also used to deliver after-hours fault and emergency responses.

Overtime usage over the last three years has been in the order of 15 per cent per annum.

10.5 Outsourcing and contract services

Essential Energy may use a combination of external labour and external services for work projects and programs. The decision to engage external services is made at a project or program level, based on specific requirements and/or our strategic objectives. The complexity of the work and safety risks are key factors in

determining suitability for external delivery or outsourcing.

The use of external resources increases flexibility and adaptability because the work program varies by type and location. External delivery also increases our options and capacity during periods of peak workloads.

Several factors influence the decision to engage external resources, including the market maturity, procurement and contractor management arrangements, the volume and consistency of work, and the geographic spread of work across our network.

Outsourced programs are typically non-core, variable, low-risk or high-volume, or require specialist services that are more effectively packaged and delivered in bulk to gain competitive rates.

External resourcing is considered when:

- our workforce cannot meet peak demand requirements
- our workforce does not have the capability to deliver specialised work
- non-core specialised services are required
- value for money is provided and the project is low in risk or complexity
- contract delivery supports our strategic objectives.

Outsourced services are delivered under contractual arrangements. We take a strategic approach to sourcing and procuring external service suppliers to enhance competition and achieve greatest value for money. We will continue to use such arrangements for non-core, low-risk programs or where partnerships meet our strategic objectives.

We will continue to review our performance to identify further potential options for outsourcing.

10.6 Pre-qualified supplier panels

Essential Energy uses pre-qualified supplier panel contractors for goods and services, and for agency staff we require over a specific period. These panels streamline the process of engaging external services and reduce administration time and costs.

Panel suppliers must meet Essential Energy's mandatory requirements for insurances; work health and safety, and environment policies and practices; and technical specifications. This ensures our suppliers are 'fit for purpose', reducing delivery and safety risks.

Outsourced programs and projects are packaged to maximise management and delivery efficiencies. For example, tasks may be packaged into smaller jobs (such as frequency injection relay replacements) or single large projects (such as design and construction of a zone substation).

Types of services provided under pre-qualified supplier arrangements include:

- design services – transmission, distribution and optic fibre
- project management
- engineering – civil and electrical
- electrical contracting – transmission, distribution and construction of service mains
- transmission services – substation construction
- civil works – trenching and under boring
- plant wet and dry hire
- surveying
- environmental services
- pole reinforcement
- traffic management
- vegetation management
- bulk service mains replacement
- load control relay replacement

- installation and maintenance of SAPS
- meter reading – routine and non-routine.

11. Assessment of deliverability of 2024–29 program

Essential Energy has reviewed the deliverability of the 2024–29 works program. This section identifies delivery demand and details the mitigation strategies for successfully delivering it.

The delivery plan was developed using the lessons and experience gained in the current and previous regulatory periods. It embraces productivity gains through innovative technologies, the application of industry best practices and a commitment to continuous review and improvement.

Essential Energy successfully completed large and complex network-related opex and capex programs in the current regulatory period. Although this could be seen as a precursor to similar achievements in 2024–29, our profile and forecast levels of investment have changed, requiring an assessment to determine our future needs.

Our analysis confirms that Essential Energy can deliver the network-related works portfolio in 2024–29 by using a combination of our internal workforce and external labour and services when deemed necessary.

11.1 Total resource requirements

Essential Energy has carefully assessed the proposed levels of investment and completed a detailed analysis of supply and demand resourcing requirements. We included core skills and roles associated with the Operations Division.

Our modelling analysed program investment levels (capex, opex and ACS) by delivery stream (distribution and transmission) and applied historical actual unit labour hours to determine average delivery hours associated with completing the works programs. Changes to work practices are also factored into the estimated demand; for example, requirements when transporting wood poles. An important consideration in relation to increases in expenditure is that they don't always equate to rising demand, as the labour component can remain constant or fall in a given situation (for example, in relation to the transition to composite poles).

We also accounted for staff attrition rates, workforce experience, utilisation rates and multiskilled roles. Efficiency initiatives that increase productivity and reduce labour demands were also considered.

We rigorously assessed the results of our workforce supply and demand analysis because it is a vital factor in ensuring we can successfully deliver the overall works program. As a result, our model optimises the use of resources to ensure we deliver the proposed works portfolio safely, efficiently and in a sustainable manner.

We have forecast the average number of employees we will need (demand) for the network-related program of work for the regulatory period. Any potential shortfalls in supply can be managed by using the strategies we've outlined in Section 10, such as overtime to deal with short-term issues.

Figure 9 shows the works portfolio of internal supply and demand in hours over the 2024–29 period.

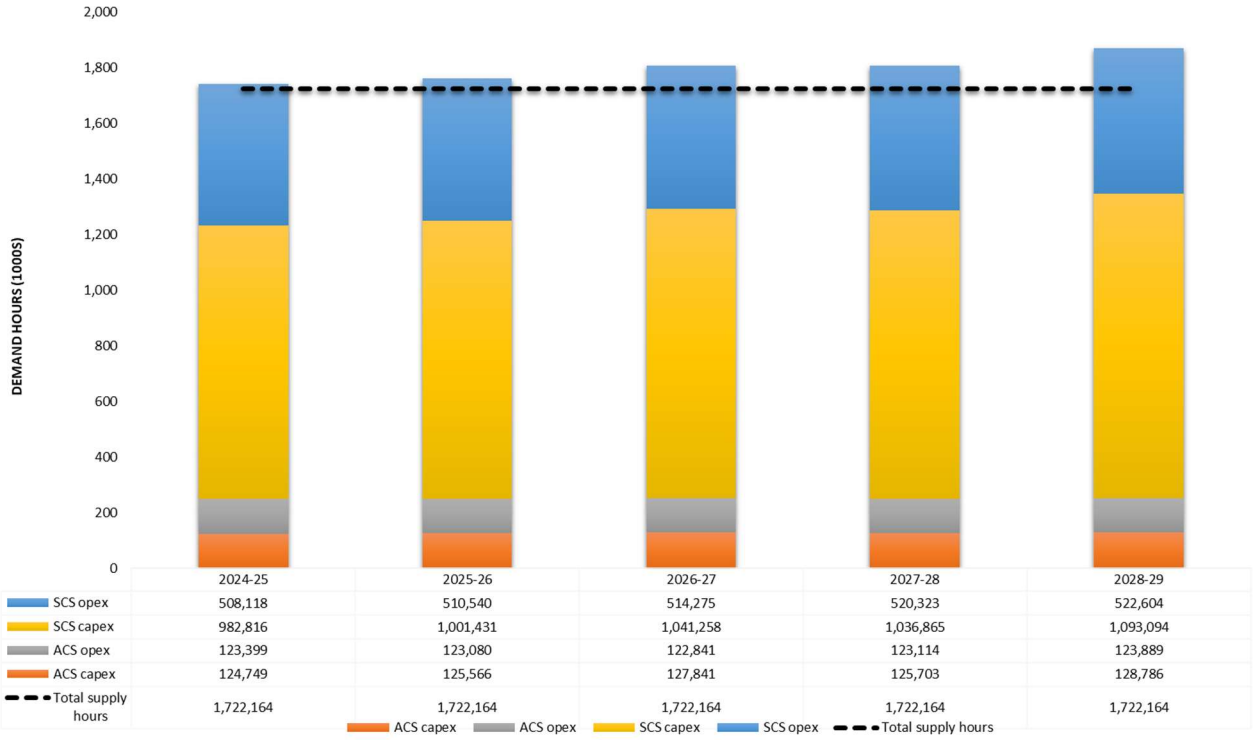

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Figure 9 – Total supply and demand hours for capex, opex and ACS programs

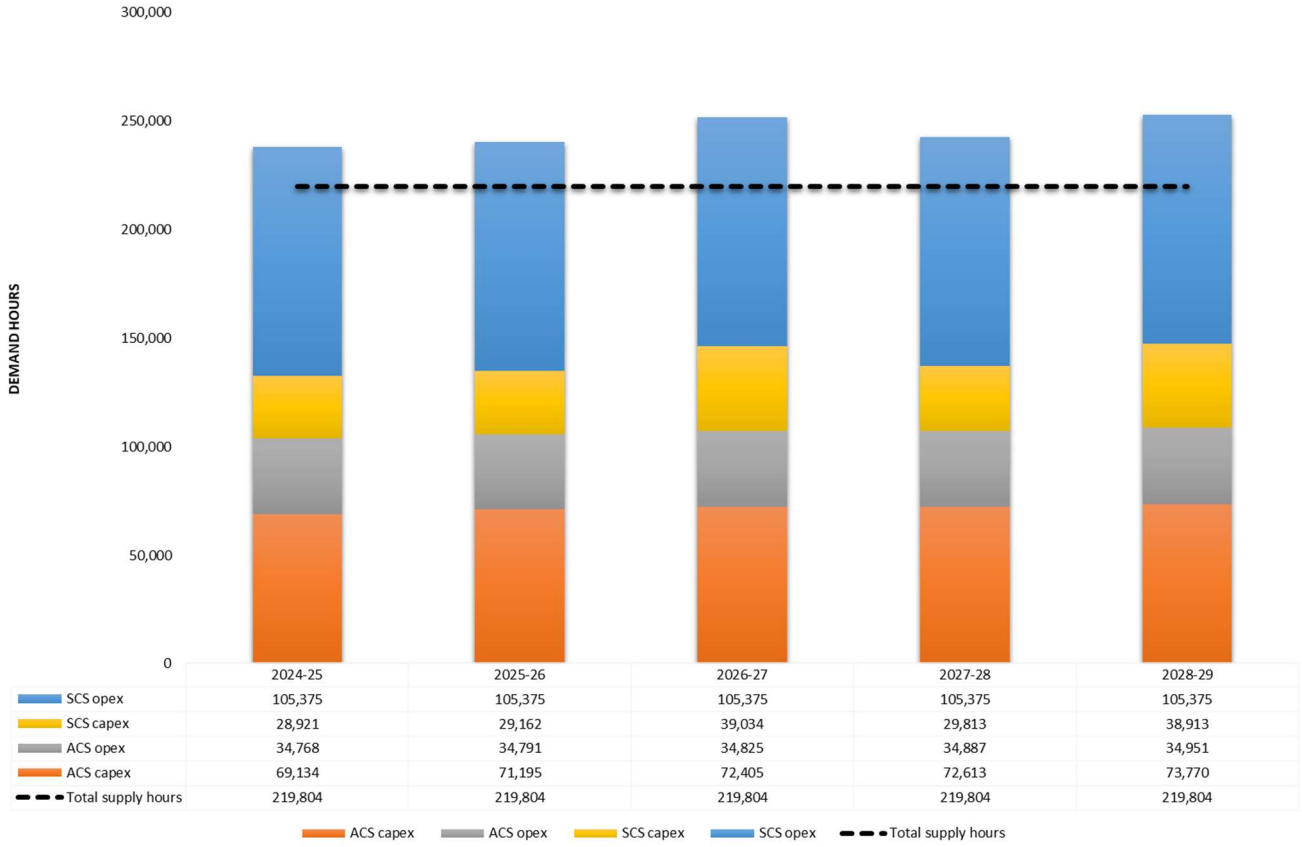
11.2 Transmission services supply and demand

Our forecasts for transmission services show increased demand hours across the period. We have also considered customer-driven projects that are non-contestable, such as for large-scale generation (renewables), within resource demand. This is because these projects require considerable resources to facilitate the connection of electrical equipment to the transmission or distribution networks.

A comprehensive risk assessment is conducted for each non-contestable project to determine if outsourcing is required to deliver the work.

Essential Energy has assessed that demand requirements can be managed through overtime and by moving newly qualified apprentices to key positions as staff members leave or retire with the added flexibility of outsourcing. An increase in resource levels may be deemed necessary if overtime or outsourcing become unviable options in the future.

Figure 10 shows the transmission services supply and demand in hours over the 2024–29 period.



	2024-25	2025-26	2026-27	2027-28	2028-29
SCS opex	105,375	105,375	105,375	105,375	105,375
SCS capex	28,921	29,162	39,034	29,813	38,913
ACS opex	34,768	34,791	34,825	34,887	34,951
ACS capex	69,134	71,195	72,405	72,613	73,770
Total supply hours	219,804	219,804	219,804	219,804	219,804

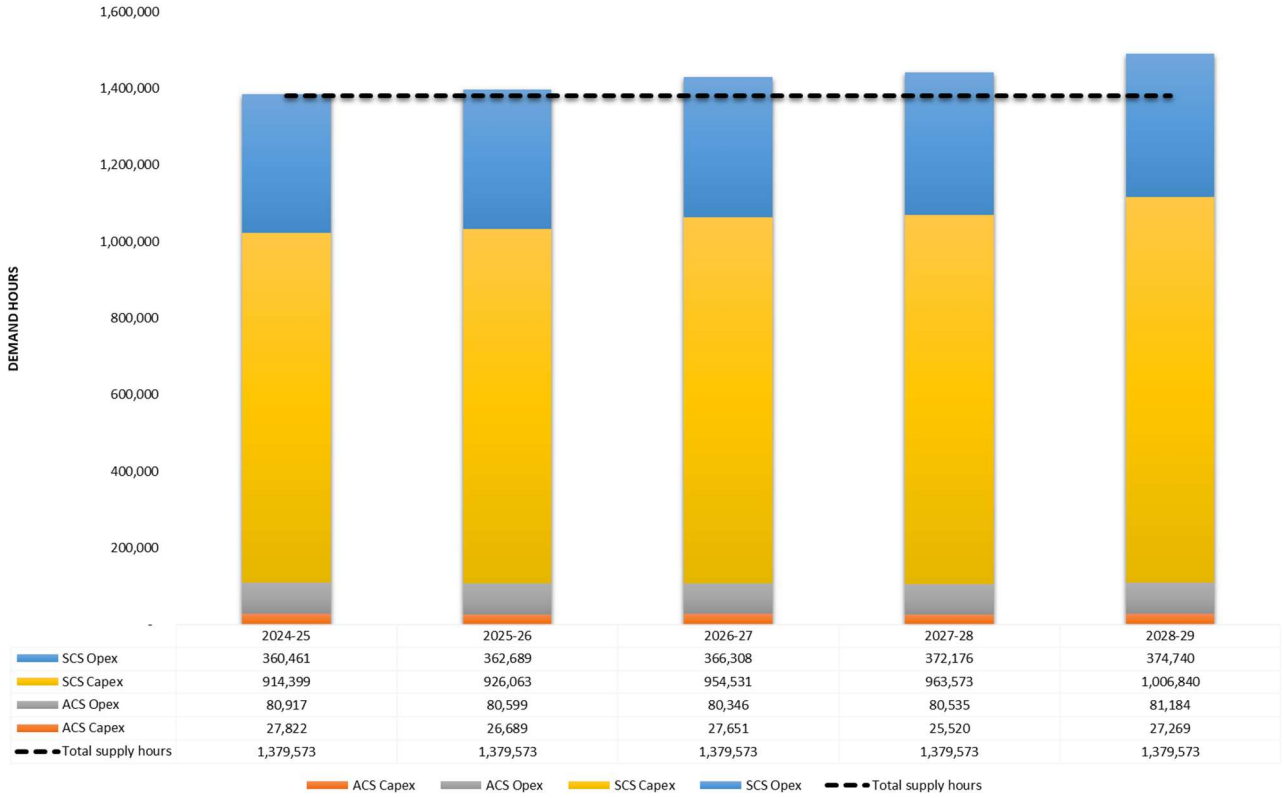
Figure 10 – Transmission services resource hours 2024–29

11.3 Distribution services – overhead supply and demand analysis

The total resource demand within overhead distribution services is increasing across the 2024–29 regulatory period primarily due to an increase in proactive resilience expenditure and repex spend related to an ageing network. The strategies outlined in Section 10 will be used to address this forecast imbalance.

We have assessed levels of individual skills and trades in distribution services against supply and demand to highlight where supply shortfalls may occur. Powerline workers account for the biggest proportion of demand, at around 60 per cent. This critical group requires a consistent level of FTEs across the period to successfully deliver the distribution works program.

Figure 11 shows distribution services' overhead supply and demand in hours over the 2024–29 regulatory period.



	2024-25	2025-26	2026-27	2027-28	2028-29
SCS Opex	360,461	362,689	366,308	372,176	374,740
SCS Capex	914,399	926,063	954,531	963,573	1,006,840
ACS Opex	80,917	80,599	80,346	80,535	81,184
ACS Capex	27,822	26,689	27,651	25,520	27,269
Total supply hours	1,379,573	1,379,573	1,379,573	1,379,573	1,379,573

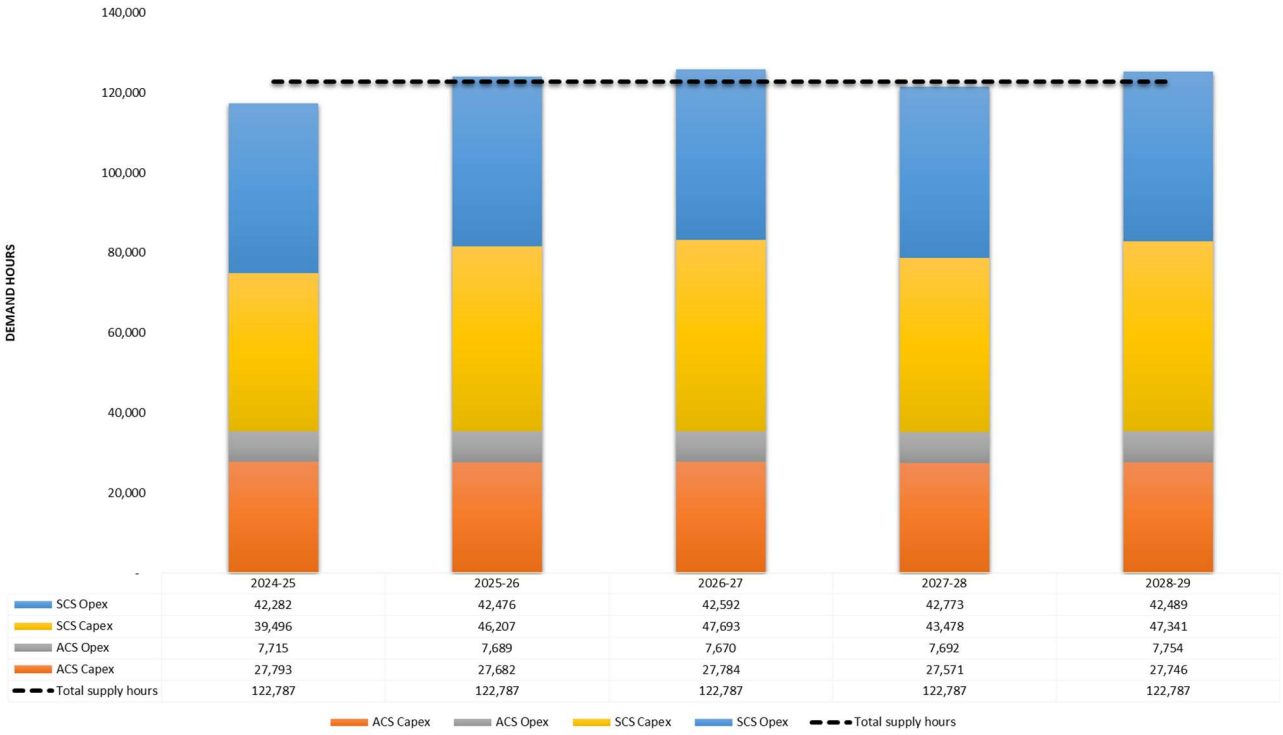
Figure 11 – Distribution services' overhead resource hours 2024–29

11.4 Distribution services – underground supply and demand analysis

The total resource demand within underground distribution services is slightly increasing across the 2019–24 regulatory period. The strategies outlined in Section 10 will be used to address this forecast imbalance.

We have assessed levels of individual skills and trades in distribution services against supply and demand to highlight where supply shortfalls may occur. The supply of underground cable jointers will require careful management to meet demand associated with underground asset programs, particularly in repex.

Figure 12 shows distribution services' underground supply and demand in hours over the forthcoming regulatory period.



	2024-25	2025-26	2026-27	2027-28	2028-29
SCS Opex	42,282	42,476	42,592	42,773	42,489
SCS Capex	39,496	46,207	47,693	43,478	47,341
ACS Opex	7,715	7,689	7,670	7,692	7,754
ACS Capex	27,793	27,682	27,784	27,571	27,746
Total supply hours	122,787	122,787	122,787	122,787	122,787

Figure 12 – Distribution services underground resource hours 2024–29

12. Conclusion

The proposed level of investment for SCS for the 2024-29 regulatory control period is $2,296 million in opex and $2,696 million in capex (real $FY24) which equates to an internal resource demand of an average 1.8 million hours per annum.

The experience gained in the current and previous regulatory periods in managing both planned projects and unplanned events demonstrates our capability in delivering large portfolios of work. Our frontline employees are dedicated members of the communities in which they live and regularly show their commitment to restoring power in adverse weather conditions.

Essential Energy is confident in our ability to successfully deliver the 2024–29 works program using a combination of the delivery strategies available to us, supported by continuous improvements initiatives underway that will continue to improve delivery efficiencies. Our analysis confirms that Essential Energy can deliver the network-related works portfolio in 2024–29 by using a combination of our internal workforce and external labour and services when deemed necessary.

References

Doc no.	Document name	Relevance
1	4.02 How engagement informed our Proposal	Reference material, justification
2	6.03.01 Corporate Risk Management Procedure	Reference material, justification
3	10.01.07 Network Investment Governance	Reference material
4	11.01 Forecasts of customer number, energy consumption and demand - Frontier	Reference material
5	13.01.01 ANS Service Schedules	Reference material

Glossary

Term or acronym	Definition
Real $FY24 and ($m, real FY24)	Real dollars in 2023–24. This denotes the dollar terms as at 30 June 2024
2014–19 Regulatory Period	The period commencing 1 July 2014 and ending 30 June 2019
2019–24 Regulatory Period	The period commencing 1 July 2019 and ending 30 June 2024
2024–29 Regulatory Period	The period commencing 1 July 2024 and ending 30 June 2029
ACS	Alternative control services: User-requested services
AER	Australian Energy Regulator
ASP	Accredited Service Provider
Augex	Augmentation expenditure, a subcategory of Capex
Capex	Capital expenditure: funds used to buy or upgrade physical assets
CER	Consumer Energy Resources such as photovoltaic solar
DNSP	Distribution Network Service Provider
Export Services	New financial category for enablement of CER
FTE	Full-time equivalent: the paid hours worked by one full-time employee
Opex	Operating expenditure
NER	National Electricity Rules
Repex	Replacement expenditure, a subcategory of capex
SAPS	Standalone power systems
SCS	Standard control services: Essential Energy's core activities when providing customers with access to electricity

Appendix 1 – Assumptions

1. **Opex demand**
    a. The FY23 statement of work for opex was used as a demand baseline
    b. Inspection regimes will remain consistent with the current period, noting a pilot underground inspection regime during the current period has been extended into the next period at 8 hours per site
    c. Majority of vegetation management will continue to be outsourced as per current arrangement
    d. Planned asset inspections not included in demand analysis as delivered by dedicated resource pool
    e. Works already deemed to be delivered by external resources are excluded from the demand analysis

2. **Capex demand**
    a. The reset Regulatory Information Notice for 2024–29 was used as the capex demand baseline
    b. Installation and maintenance of SAPS will be outsourced during the 2024–29 regulatory period, with internal resources conducting commissioning and connection services
    c. Removal of the overhead network following a SAPS installation is allocated to distribution services' overhead resources with option to outsource pending internal resource capacity at the time
    d. Works already deemed to be delivered by external resources are excluded from the demand analysis
    e. No frontline demand is required for connection expenditure in SCS
    f. Non-network capex tasks (ie. Property and Fleet) are not included in the development of the works program

3. **ACS demand**
    a. The reset Regulatory Information Notice for 2024–29 was used as the ACS demand baseline
    b. There is no metering capex due to the transition to smart meters, which is not funded by DNSPs
    c. In the event of a rule change to speed up the smart meter rollout, the metering opex demand may be reduced from transmission services
    d. Works delivered by external resources and ASPs are excluded from the demand analysis
    e. Based on Frontier Economic forecasts (**Attachment 11.01**), major connections will be constant across the period
    f. FY25-FY29 non-contestable construction for distribution is split 70 per cent for underground and 30 per cent overhead
    g. Customer-funded connections assumes 15 per cent of estimated hours for transmission services commissioning
    h. Does not include demand for renewable energy zone developments
    i. Does not include demand for NSW special activation precincts developments

4. **Resource supply**
    a. Only frontline employees (distribution services' overhead, distribution services' underground and transmission services) have been included in this analysis
    b. An allowance for public holidays, leave and mandatory training has been deducted from the supply hours
    c. An allowance for internal activities not funded through SCS or ACS such as Property or Fleet maintenance has been deducted from the available supply hours
    d. Where distribution services' resources need to be split, overhead is 92 per cent and underground is 8 per cent of estimated total hours
    e. Where a full resource split is required, overhead is 79 per cent, underground is 8 per cent and transmission services is 13 per cent of estimated total hours