Addressing capex objectives, criteria, and factors in the NER

2025-30 Regulatory Proposal

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Part of Energy Queensland

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1 PURPOSE AND SCOPE

The National Electricity Rules (NER) provide a framework for the Australian Energy Regulator's (AER) assessment of Energex and Ergon Energy Network forecast operating expenditure (opex) and capital expenditure (capex).

Clause 6.5.7 sets out the objectives, criteria, and factors for our forecast capex for Standard Control Services (SCS) and clause 6.5.6 details equivalent matters for our forecast opex.

The purpose of this document (Document Reference 5.01) is to show how the capex forecasts in our Regulatory Proposals promote the objectives and criteria, having regard for the factors. We identify relevant attachments to our Regulatory Proposals that provide further support for how we address these requirements. Document 6.01 provides the equivalent details for the opex forecasts.

Unless otherwise stated, this paper applies equally to the Energex and Ergon Energy Network capex forecasts.

2 CAPITAL EXPENDITURE OBJECTIVES

The capex objectives in clause 6.5.7(a) of the NER are:

(1) to meet or manage the expected demand for standard control services over that period;

(2) comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;

(3) to the extent that there is no applicable regulatory obligation or requirement in relation to:

(i) the quality, reliability or security of supply of standard control services; or

(ii) the reliability or security of the distribution system through the supply of standard control services,

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of standard control services; and

(iv) maintain the reliability and security of the distribution system through the supply of standard control services; and

(4) maintain the safety of the distribution system through the supply of standard control services.

Section 5.1 of our Regulatory Proposal describes our six capex activities and their drivers – replacement expenditure (Repex), connections (Connex), augmentation expenditure (Augex), non-network, capitalised network overheads and capitalised corporate overheads. The following table details the role each capex activity has in promoting the capex objectives.

Table 1: Alignment of capex categories to capex objectives

Capex Category	Alignment to capex objectives
Repex	This includes investment in the replacement or refurbishment of network assets to maintain the reliability, security and safety of the distribution network. This expenditure supports capital expenditure objectives 2, 3 and 4.
Connex	This includes investment to provide a reliable and secure supply of energy to a new customer. Driven by individual customer expectations of the shape, quantum and timing of their expected load. This expenditure supports capital expenditure objectives 1, 2 and 3.
Augex	This includes investment in network capacity increases to meet growth in localised area peak demand, while also ensuring compliance with power quality and network performance requirements. This expenditure supports capital expenditure objectives 1, 2 and 3.
Non-network	This includes investment in non-network capacity and capability in buildings, fleet, tools and equipment and ICT. Non-network investment supports all four capex objectives.
Capitalised network overheads	This includes investment associated with the planning and management of our network infrastructure. This expenditure supports all four capital expenditure objectives.
Capitalised corporate overheads	This includes investment associated with corporate functions such as human resource management, corporate communications and our learning and development function. Investment in these functions provides necessary support to our network activities. This expenditure supports all four capital expenditure objectives.

The capex forecasting methodology detailed in our Expenditure Forecasting Methodology (Document Reference 5.2.02) was used to develop a capex program on a project-by-project basis that meets our network requirements, customer expectations and community needs. We assessed individual projects for non-network alternatives. We have reconciled our forecast against NER requirements and network risk profile tolerances to ensure prudent and efficient investment.

This approach includes the following steps:

- **Needs Analysis** – establish network performance outcomes to deliver organisational targets, including in areas such as safety performance, responsibilities to the environment, financial outcomes and commitments to customers, as well as obligations to the community.
- **Demand Analysis** – critically review key inputs such as asset condition information, network demand growth and new technology against established performance outcomes to determine the area requiring intervention.
- **Needs Solutions** – prepare capital projects and programs that address the identified needs. This step includes capex opex trade-offs and investigations of non-network solutions with the potential to defer the timing of major projects.
- **Portfolio Optimisation** – reconcile projects and programs against top-down expenditure targets and optimise having regard for a tolerable network risk profile.

3 CAPITAL EXPENDITURE CRITERIA

In making its capex decision, the AER must be satisfied that our forecast capex reasonably reflects:

(1) the efficient costs of achieving the capital expenditure objectives; and

(2) the costs that a prudent operator would require to achieve the capital expenditure objectives; and

(3) a realistic expectation of the demand forecast, and cost inputs required to achieve the capital expenditure objectives.

The forecast network capex for the 2025-30 regulatory control period has been developed using Ergon Energy Network and Energex's common approach to investment planning to meet the capex criteria. The key elements of our approach for network assets are set out in our Expenditure Forecasting Methodology (Document Reference 5.2.02) and Cost Benefit Framework and Principles (Document Reference 5.2.05).

Our estimation system is used to develop project and program estimates based on specific material, labour and contract resources required to deliver a scope of work. The consistent use of the estimation system is essential in producing an efficient capex forecast by enabling:

- Option analysis to determine preferred solutions to network constraints
- Strategic forecasting of material, labour and contract resources to ensure deliverability
- Effective management of project costs throughout the program and project lifecycle, and
- Effective performance monitoring to ensure the program of work is being delivered effectively.

The unit costs that underpin our forecast have also been reviewed to ensure that they are comparable with others in the NEM (Document Reference 5.2.08).

The prudency of our capex forecast is demonstrated through the application of our common frameworks put in place to effectively manage investment, risk, optimisation and governance of the Network Program of Work. An overview of these frameworks and how they apply to network assets is set out in our Network Risk Framework (Document Reference 5.2.06) and our Strategic Asset Management Plan (Document Reference 5.2.04). The governance processes for our non-network program of work are set out in the relevant Property Plan (Document Reference 5.9.01), Fleet Plan (5.9.08 Energex and 5.9.06 Ergon) and our ICT Plan (Document Reference 5.8.01).

Forecasting is a critical element of our network planning and is essential to the development of our investment plans. Electrical demand forecasts are used to identify emerging local network limitations and network risks needing to be addressed by either supply side or customer-based solutions. Our peak demand forecasting methodology employs a bottom-up approach reconciled to a top-down evaluation, to develop the ten-year zone substation peak demand forecasts. Our forecasts use validated historical peak demands and expected load growth based on demographic and DER (Distributed Energy Resources factors – solar PV Generation, electric vehicles and un-aggregated battery energy storage systems). Demand reductions, delivered via load control tariffs, known block loads and load transfer information are included in these forecasts. This provides us with accurate forecasts on which to plan. Refer to Chapter 4 of our Regulatory Proposal for more information.

We consider the prudency of our forecast methods, the high-level checks we have undertaken, and our engagement with customers has resulted in forecast capex that meets the criteria. Chapter 5 of the Regulatory Proposal for each of Energex and Ergon Energy Network includes the capital expenditure forecast for each category. This is supported by asset management plans, and business cases for capital investments referenced in that chapter.

4 CAPITAL EXPENDITURE FACTORS

In deciding whether the AER is satisfied with a DNSP reflecting the capital expenditure criteria, the AER must have regard to the following capital expenditure factors.

Table 2 demonstrates how we have addressed each capex factor. We note that factors 1 to 3 are no longer part of the NER.

Table 2: Addressing the capex factors

Capex Factor	How we address the capex factor
Capex Factor 4 - The most recent annual benchmarking report that has been published under rule 6.27 and the benchmark capital expenditure that would be incurred by an efficient Distribution Network Service Provider over the relevant regulatory control period.	We have reviewed the AER's 2023 annual benchmarking report. Energex has remained stable while Ergon Energy Network has slightly decreased its rating compared to other DNSPs. Both DNSPs sit in the middle band of DNSPs on a MTFP basis with Ergon ranked 6th and Energex ranked 9th. On a capital MPFP basis both DNSPs are ranked higher with Ergon currently ranked 3rd and Energex ranked 7th. While we consider that no single benchmark measure can fully capture all of the factors which influence a business' relative capital expenditure efficiency and productivity, we will continue work to improve our performance where appropriate.
Capex Factor 5 - the actual and expected capital expenditure of the Distribution Network Service Provider during any preceding regulatory control periods	As discussed in chapter 1.3 of our Regulatory Proposals, both Energex and Ergon Energy Network have forecast an overspend against the AER forecast for the 2020-25 period, due to several drivers. Capex for the previous, current and forthcoming periods are presented in detail in chapter 5 of our Regulatory Proposals.
Capex Factor 5A - The extent to which the capital expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the Distribution Network Service Provider in the course of its engagement with electricity consumers.	We engaged extensively with customers during the preparation of our Regulatory Proposals. This is detailed in chapter 2 of our Regulatory Proposal where we detail how customer concerns have shaped our capex forecasts. Our customers and communities expect Energex to maintain the reliability, resilience and safety of our network, while meeting the needs of a growing economy and population and facilitating opportunities in the renewable energies transition. To meet our customer expectations, we must invest in our network to ensure there is enough capacity to supply every household and business on the days when electricity demand is at its maximum, no matter where they are located across our distribution area. In addition, we need to have enough capacity to accept the growing distributed solar energy that our customers export each day. We must also continue to invest in the safety and performance of our network and be ready to respond to emergencies and major weather events, as well as invest in the business systems and related infrastructure required to ensure that our daily operations run smoothly and efficiently. At the same time, in response to customer concerns about affordability, we are focused on driving down the controllable aspects of our capex program without compromising the safety or reliability of the network.
Capex Factor 6 - The relative prices of operating and capital inputs.	The opex and capex forecasts for both Energex and Ergon Energy Network rely on historical data as a basis for forecasting expenditure, providing for a consistent approach to pricing opex and

Capex Factor	How we address the capex factor
	capex inputs. We have applied consistent values for real changes in input labour costs, taking the midpoint between the independent Oxford Economics and the forecast of the AER's economic expert (as sourced from recent AER determinations). This is explained in chapter 6 of our Regulatory Proposal.
Capex Factor 7 - The substitution possibilities between operating and capital expenditure.	We have not identified any material capex/opex substitutions which would require a step change in our opex forecast. Non-network alternatives, such as demand management through load reductions, are always considered in our sub-transmission planning and, where applicable, non-network alternative options for replacement are investigated through the Regulatory Investment Test for Distribution (RIT-D) process. Further information on the application of non-network alternatives is discussed in the Distribution Annual Planning Report (DAPR) (Document Reference 5.2.03).
Capex Factor 8 - Whether the capital expenditure forecast is consistent with any incentive scheme or schemes that apply to the Distribution Network Service Provider under clauses 6.5.8 or 6.6.2 to 6.6.4.	Our forecast capex has been prepared in a manner consistent with the AER's Framework & Approach paper for the 2025-30 regulatory control period, in which the AER proposed the application of the following schemes: • a service target performance incentive scheme (STPIS) • an efficiency benefit sharing scheme (EBSS) • a demand management incentive scheme (DMIS) • a demand management innovation allowance mechanism (DMIAM), and • a capital expenditure sharing scheme (CESS). We have not proposed the application of the Customer Service Incentive Scheme (CSIS) or the Export Service Incentive Scheme (ESIS) for the 2025-30 period. More information on the incentive schemes is available in chapter 7 of our Regulatory Proposal.
Capex Factor 9 - The extent the capital expenditure forecast is preferable to arrangements with a person other than the Distribution Network Service Provider that, in the opinion of the AER, do not reflect arm's length terms.	We have not identified capex that does not reflect arm's length terms.
Capex Factor 9A - Whether the capital expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6.6A.1(b).	Our proposed capex does not include an amount relating to a project that should be more appropriately included as a contingent project.

Capex Factor	How we address the capex factor
Capex Factor 10 - The extent the Distribution Network Service Provider has considered, and made provision for, efficient and prudent non-network options or SAPS options.	We include consideration of non-network solutions as a part of our routine planning processes in both Energex and Ergon Energy Network.
Capex Factor 11 - Any relevant final project assessment report (as defined in clause 5.10.2) published under clause 5.17.4(o), (p) or (s).	Any relevant final project assessment reports are published on the Energex or Ergon Energy Network websites.
Capex Factor 12 - Any other factor the AER considers relevant and which the AER has notified the Distribution Network Service Provider in writing, prior to the submission of its revised regulatory proposal under clause 6.10.3, is a capital expenditure factor.	The AER has not notified either Energex or Ergon Energy Network of any other factor.