



31 January 2023

Attachment 2.2: Key assumptions and director certification of key assumptions

Ausgrid's 2024-29 Regulatory Proposal

Empowering communities for a resilient, affordable and net-zero future.



Contents

- 1. Introduction 3
- 2. Background 4
- 3. Key assumptions 5
- 4. Basis of key assumptions 6
- 5. Director’s certification of key assumptions 10

1. Introduction

1.1 This document's purpose

This document sets out the key assumptions that underlie Ausgrid's forecasts of capital and operating expenditure for standard control services, the process that Ausgrid adopted to identify them, and provides the basis for the reasonableness of these assumptions.

This document also provides a director's certification of the reasonableness of the key assumptions. Together, this addresses the information compliance requirements in clauses S6.1.1 and S6.1.2 of the *National Electricity Rules (NER)*.

1.2 This document in context

This document should be read with Chapters 5 and 6 of our regulatory proposal document, and the suite of supporting attachments to our regulatory proposal document. In some cases, we have referred to a specific attachment in this document where further information or evidence has been provided.

1.3 Document overview

This document:

- Provides background to the relevant NER requirements and provides an explanation of how we have interpreted these requirements;
- Identifies each key assumption, including how it relates to our forecast expenditure, and the basis on which we have adopted these key assumptions; and
- Provides a signed director's certification of the key assumptions identified as part of this document.

2. Background

2.1 Regulatory requirements

The NER require the AER to make a constituent decision on whether to accept, or reject and substitute, the forecast capital expenditure (**capex**) and forecast operating expenditure (**opex**) that Ausgrid sets out in its building block proposal for standard control services (NER clauses 6.12.1(3) and 6.12.1(4), respectively).

To enable the AER to make its constituent decision, Ausgrid's building block proposal must include the total forecast capex and opex for the relevant regulatory control period which Ausgrid considers is required in order to achieve the capital expenditure objectives¹ and operating expenditure objectives.²

The NER requires a distribution network service provider's (**DNSP**) building block proposal to contain information and matters relating to capital expenditure (**capex**) and operating expenditure (**opex**). This includes:

- **NER clause S6.1.1(4)-(5):** The key assumptions that underlie the capital expenditure forecast and a certification of the reasonableness of the key assumptions by the directors of the DNSP; and
- **NER clause S6.1.2(5)-(6):** The key assumptions that underlie the operating expenditure forecast and a certification of the reasonableness of the key assumptions by the directors of the DNSP.

This document meets these requirements by identifying the key assumptions that underlie the capital capex and opex forecasts for our building block proposal and providing a basis for the certification of the reasonableness of those key assumptions by the directors of Ausgrid.

2.2 Interpretation of 'key assumption'

The term 'key assumption' is not a defined term in the NER or in the National Electricity Law (**NEL**). The relevant secondary materials (including determinations published by the Australian Energy Market Commission (**AEMC**)) do not provide any clear guidance on its interpretation. The term also does not have any well-established legal meaning.

In light of this, Ausgrid has given the terms their ordinary meanings and interpreted them in their context – that is, the term 'key assumption' has two components:

1. **An assumption that underpins the forecast capex and opex** – According to its ordinary meaning and in the context of forecasting expenditure for the 2024-29 period, an assumption is something accepted to be true for the purposes of forecasting expenditure. An assumption can be a fact or circumstance that forms the basis of the forecast; and
2. **That assumption must be 'key' to the forecast capex and opex.**

Our interpretation is that, for an assumption to be a 'key' assumption, it must be an assumed fact or circumstance that is of crucial importance to the forecasting of expenditure requirement for the 2024-29 period. Not all assumptions underpinning the expenditure forecast must be outlined for the purposes of Schedule 6.1 of the NER – only the 'key' (i.e. critical) assumptions without which the forecast expenditure cannot be made.³

We have minimised our reliance on assumptions in our Regulatory Proposal by using the best available forecasts in relation to anything that we consider could be key or crucial to our forecast expenditure for the 2024-29 period. This has reduced the length of our key assumptions list from our last reset.

¹ NER, cl 6.5.7(a).

² NER, cl 6.5.6(a).

³ Our response to the AER's Reset Regulatory Information Notice (**RIN**) dated 26 October 2022 sets out and describes all *material* assumptions relied upon for the purposes of preparing Ausgrid's regulatory proposal (as required by RIN 4.2.1(b), 4.2.2). We have interpreted 'key assumption' to be a higher threshold than 'material assumption'.

2.3 Reasonableness of key assumptions

The NER also require the Directors to certify the reasonableness of the key assumptions identified. While the concept of ‘reasonableness’ does not have a definition in the NER or the NEL, it is well understood as a legal concept, as being supported by logical reasons and/or evidentiary basis.

In accordance with the above interpretation, Ausgrid has undertaken a process where we identified assumptions underpinning our forecast opex and capex (or categories of capex) and assessed the criticality of each assumption to ensure that only key assumptions are captured. Reasons for each key assumption adopted are outlined to demonstrate their reasonableness.

3. Key assumptions

The table below lists the key assumptions which we consider are of crucial importance to the forecasting of our proposed capex and opex for the 2024-29 regulatory period. These assumptions can be categorised as assumptions that are relevant to both forecast capex and opex and those that are specific to forecast capex or opex estimates.

In **section 4** below, we set out the reasons underlying the assumptions made.

Figure 3.1 Summary of key assumptions

Category	Key assumption	Applicability
1. Regulatory obligations	Our forecast capital and operating expenditure for the 2024-29 regulatory period are based on current legislative and regulatory obligations. It is assumed that – except for the potential regulatory changes discussed in section 4.1 below – there will be no new substantive regulatory obligations and/or major change in scope of current regulatory obligations.	Capex and opex
2. Demand and customer connections	The forecast growth (augmentation and connection) capex and forecast opex are based on certain assumptions regarding spatial peak demand and customer connections over the 2024-29 period, as set out in Attachments 5.6 – Maximum demand forecast and 8.12 – Demand forecast volumes and customer numbers .	Capex and opex
3. Base year opex	Ausgrid’s forecasting approach adopts the AER’s preferred method, which assumes that the amount of opex required to meet the opex objectives over the 2024-29 period will broadly reflect current opex requirements, with adjustments to reflect changes in input costs, outputs delivered, productivity and step changes.	Opex

4. Basis of key assumptions

In the following sections, we set out the reasons for adopting each of the above key assumptions and why each key assumption is reasonable.

4.1 Key assumption 1 – Regulatory obligations

It is assumed that – except for the potential regulatory changes discussed below – there will be no new substantive regulatory obligations and/or major change in scope of current regulatory obligations over the 2024-29 period.

As a network service provider in the National Electricity Market (**NEM**), Ausgrid is required to comply with a range of legislative and regulatory obligations. These regulatory obligations are one of the key drivers of Ausgrid's capital and operating expenditure.

The principal regulatory obligations Ausgrid is subject to as a network operator are derived from:

- The *Electricity Supply Act 1995* (NSW) (**Electricity Supply Act**) and Regulations, in particular the *Electricity Supply (Safety and Network Management) Regulation 2014* (NSW) (**Safety and Network Management Regulation**). The Electricity Supply Act requires Ausgrid to hold a distributor's licence which in turn imposes a range of conditions on Ausgrid. The Safety and Network Management Regulation imposes a key obligation to prepare and operate the network in accordance with a safety management system which meets the requirements of the regulation
- The NEL and NER regulate the way in which Ausgrid operates its network and participates in the National Electricity Market; and
- The National Energy Retail Law and Rules regulate the provision of customer connection services to retail customers.

Ausgrid's obligations include meeting a range of safety, reliability, security, planning, access and customer service requirements. In addition, Ausgrid is subject to the full range of general work health and safety, environmental, property and privacy requirements in operating and maintaining the network and has obligations under various other legislative instruments and follows various industry standards (including accounting standards).

Ausgrid is not anticipating any new substantive regulatory obligations and/or major change in scope of the regulatory obligations we are currently obliged to comply with. If there is, and this results in a material change in costs, we would seek a cost pass through.

Subject to the below exceptions, the forecasts for capital and operating expenditure in our Regulatory Proposal for 2024-29 reflect an assumption that Ausgrid's regulatory obligations will not materially change. This is a reasonable assumption given that at the time these forecasts were prepared we were not anticipating any major government policy decisions that would be expected to affect Ausgrid's operations and investment needs in the 2024-29 regulatory period.⁴ In addition there were no major proposed rule changes being considered by the AEMC that would materially impact on Ausgrid's operations.

Exception 1 – Preliminary assumption that 'emissions reduction' will be added to the National Electricity Objective

Our regulatory obligations are likely to change materially over the course of the 2024-29 period when 'emissions' is added to the *National Electricity Objective* (**NEO**) during the period:

- In August 2022, state and federal energy ministers agreed to include emissions in the NEO under the National Energy Transformation Partnership.
- On 20 December 2022, the Department of Climate Change, Energy, the Environment and Water (**DCCEEW**) published its [Consultation Paper on Incorporating an emissions reduction objective into the national energy](#)

⁴ We note we have taken the AEMC's [Review of the Regulatory Framework for Metering Services Draft Report](#) (3 November 2022) into account in developing our metering forecasts for the forthcoming regulatory period.

[objectives \(Consultation Paper\)](#) and draft amendment – the *National Energy Laws Amendment (Emissions Reduction Objectives) Bill 2023*. The Consultation Paper includes the following summary of key next steps, which suggests emissions reduction will be incorporated into the NEO – in some form to be determined – by early in the forthcoming 2024-29 period:

Key Steps	Dates
Consultation on Draft Bill	20 December 2022 – 7 February 2023
Refine Bill following consultation	February 2023
Final Bill provided to Ministers for approval	First Quarter 2023
South Australian Cabinet and Parliament processes for Bill introduction	As soon as possible following approval; first half of 2023
Act Commencement	On a day to be fixed by proclamation, suggested six months after Assent

This change will make it clear that the long-term interests of consumers include emissions reduction alongside affordability, reliability and security in the operation of Australia’s energy markets and will have a wide-ranging impact on the operation of energy bodies and market participants. The Consultation Paper states:

The focus of the amendments is to provide greater clarity to Australia’s three energy market bodies – the Australian Energy Market Commission (AEMC), the Australian Energy Market Operator (AEMO) and the Australian Energy Regulator (AER) (and a small number of other decision makers under the laws) to explicitly consider emissions reduction in how each market body undertakes its respective powers and functions. The amendment will also send a clear signal to wider industry, market participants, investors and the public, of governments’ commitment to work together to manage the transformation of the energy sector to achieve a decarbonised, modern and reliable grid.

We have included emissions in our cost-benefit analysis for some of our forecasts (including fleet and CER integration capex) on a preliminary assumption that ‘emissions reduction’ will be incorporated in the NEO by 1 July 2024.

Exception 2 – Ausgrid’s security obligations will increase during the forthcoming regulatory control period

Our cyber capex forecast includes a ‘scope’ adjustment that assumes the government will increase our cyber security regulatory obligations during the forthcoming regulatory control period. This assumption is based on the dynamic nature of cyber security threats which means that the minimum level of regulatory compliance is likely to increase in scope over the 2024-29 regulatory period, as governments implement new requirements to address changes in technology and evolution in the cyber security threat landscape.

4.2 Key assumption 2 – Demand and customer connections

The forecasts of growth (augmentation and connection) capex and forecast opex are based on a set of assumptions regarding peak demand and new customer connections over the 2024-29 period. These assumptions are set out in detail in **Attachments 5.6 – Maximum demand forecast** and **8.12 – Demand forecast volumes and customer numbers**. These assumptions are crucial as they underly our forecast growth capex and opex and they are also a key input for deriving the optimal timing for major replacement projects. We consider our peak demand and customer connections forecasts to be reasonable as they are based on the best available data and our process for forecasting is based on standard practices.

Peak demand forecasts set out the expected increase in peak demand on locations of our network, and include the expected impact of new customer connections. Our approach to forecasting peak demand is based on our share of the inputs and assumptions in AEMO’s 2022 Integrated System Plan (ISP). AEMO has identified the Step Change scenario as the most likely scenario in AEMO’s 2022 ISP. Our 2022 forecast is based on the AEMO ‘Step Change’ scenario assumptions applied to Ausgrid’s customer demographic and network. Overall network demand growth is predicted to rise due to EV demand impacts along with customer connection activity outweighing negative demand drivers such as energy efficiency and embedded generation.

In aligning our forecast with AEMO's 2022 ISP, we have assumed a percentage share of AEMO's NSW NEM region for key post-model adjustments, materially:

- **Assumed Ausgrid total rooftop solar capacity:** ~25% in 2022 (based on historical postcode data for NSW aggregated to the Ausgrid network area), increasing to 30% of AEMO's NSW forecast by 2029 (projection of current install trends in Ausgrid and modelled forecast uptake by 2029). Whilst Ausgrid's share of the NSW NEM region increases over the period it is reasonable to assume a lower overall share of NSW rooftop solar in comparison to other NSW DNSPs due to higher density residential housing and greater proportion of renters residing in the Ausgrid network area; and
- **Assumed electric vehicle allocation:** ~66% in 2022 of vehicles garaged in the Ausgrid network area, declining to 55% of AEMO's NSW forecast by 2029 as uptake spreads to more suburban and regional areas. The decline to 55% is consistent with current allocation of internal combustion vehicles across NSW and it is reasonable to assume that overall vehicle allocation would revert to current spatial trends over time.

In respect of the reasonableness of our peak demand forecasts, we note:

- Ausgrid's method relies on historical peak demand recorded at each of our 217 zone areas, and this provides an indication of trends in demand growth at different points in the network. Importantly, Ausgrid's forecast process is capable of excluding spot loads from trend growth, considering new connections in the short term, econometric adjustments in the long term, and weather correcting;
- Our forecasting methodology has been reviewed by an independent demand forecast expert KPMG.⁵ In its review, KPMG noted:

'Ausgrid's methodology for maximum demand forecasting is comprehensive. It accounts for all major contributors that significantly affect future demands. Ausgrid has a strong understanding of the driving forces for each contributor, and they regularly test their assumptions on currency and applicability'; and

- In developing our capex forecasts for the 2024-29 period, we have applied our methodology using most recent available historic data.

In respect of our customer connections forecasts, we note:

- **Residential customers:** The residential customer number forecast is based on data from the NSW Housing Industry Association (HIA) spring 2021 outlook and the NSW Government's household projections. Historically, the change in the number of new residential customers in the Ausgrid region follows a similar trend to the NSW state-wide new dwelling starts. We therefore consider the HIA to be a suitable indicator for forecasting residential customer numbers.

The historical trend shows that there is approximately a 1-year lag between the start of dwelling construction and the connection of electricity (i.e. a new customers for Ausgrid). Our residential customer forecast uses HIA until FY25 (with the application of a 1-year lag) given the HIA spring 2021 outlook only has new dwelling starts forecast until FY24. From FY26 onwards, the year-on-year change in residential customer numbers is assumed to increase to reach the year-on-year increase in the household projections of NSW Department of Planning and Environment in 2029.

- **Commercial customers:** The number of commercial customers is assumed to grow in line with the recent historical trends. An annual growth rate is applied to the current number of business connections (NMI) which is based on the observed change between FY16 and FY22.⁶ We consider that this is reasonable given the year on year trend after 2016 is stable.

Further information on our demand forecast methodology including customer number forecasts and the load growth by location can be found in **Attachments 5.6 – Maximum demand forecast** and **8.12 – Demand forecast volumes and customer numbers**.

⁵ See: **Attachment 5.6.1 – Ausgrid Maximum Demand Forecast and DER Integration Model Review**.

⁶ This is based on actual NMI count on non-residential tariffs.

4.3 Key assumption 3 – FY2022/23 underlying opex provides a reasonable baseline for forecasting efficient costs of achieving the opex objectives

We have used the 'base-step-trend' methodology to forecast the majority of our opex requirement over the 2024-29 regulatory period. We consider that this approach (in preference to other methodologies, such as a zero-based or 'bottom-up' build of costs) is reasonable because it is:

- The approach preferred by the AER in assessing DNSPs' proposed forecast opex – as stated in its Expenditure Forecast Assessment Guideline, Distribution November 2013. Specifically for Ausgrid's 2024-29 Regulatory Proposal, the AER has stated that it intends to apply this assessment guideline in its review of Ausgrid's proposed expenditure forecast for the 2024-29 period;⁷
- Simple and transparent; and
- Used by other DNSPs to forecast opex.

The 'base-step-trend' methodology requires an assumption regarding the 'baseline' level of expenditure – that is, the base from which step changes and trend adjustments are to be applied. Under the AER's base-step-trend methodology, the baseline is based on the level of expenditure in a chosen 'base year'. Inherent in the selection of the base year is an assumption that this provides a reasonable basis for forecasting the efficient costs of achieving the opex objectives over the forthcoming regulatory period.

The 'base year' (or baseline) assumption is a key assumption underlying the forecast using a base-step-trend methodology. Without this assumption the forecast cannot be made.

For the base year we have used our estimated underlying opex for FY2022/23. We selected FY2022/23 as the base year for our opex forecasts for 2024-29 because:

- It is the most recent regulatory year for which audited regulatory accounts and other financial information will be available when the AER makes its final decision in April 2024;
- We consider it best represents our underlying operating conditions in the current 2019-24 period, and the conditions we expect for the 2024-29 period. To date, it has not included unusual events or factors that indicate it will not be reflective of our normal operating environment; and
- While we do not yet know our actual opex in FY23, our base year estimate is our latest forecast. We have used the AER's opex roll forward models, and the latest benchmarking results, to estimate whether our base year can be considered efficient, or not materially inefficient, according to the AER's preferred methodology.

⁷ AER (2022), [Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy](#), pp 2, 51-52.
9 | Attachment 2.2: Key assumptions and director certification of key assumptions

5. Director's certification of key assumptions

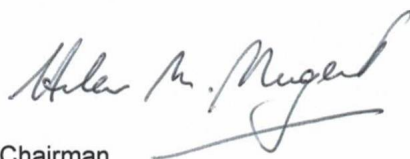
Certification under clauses S6.1.1(5) and S6.1.2(6) of the National Electricity Rules

The undersigned Chairman of Ausgrid certifies that:

- In accordance with clause S6.1.1 (5) of the *National Electricity Rules*, the key assumptions that underlie the capital expenditure forecast as set out in this document are reasonable.
- In accordance with clause S6.1.1 (6) of the *National Electricity Rules*, the key assumptions that underlie the operating expenditure forecast as set out in this document are reasonable.

The key assumptions that underly the capital expenditure and operating expenditure forecasts referred to above are attached to this certification.

Signed in accordance with a resolution of directors.


Chairman

18 January 2023

Dated