Ausgrid

Expenditure Forecasting Methodology

JUNE 2022

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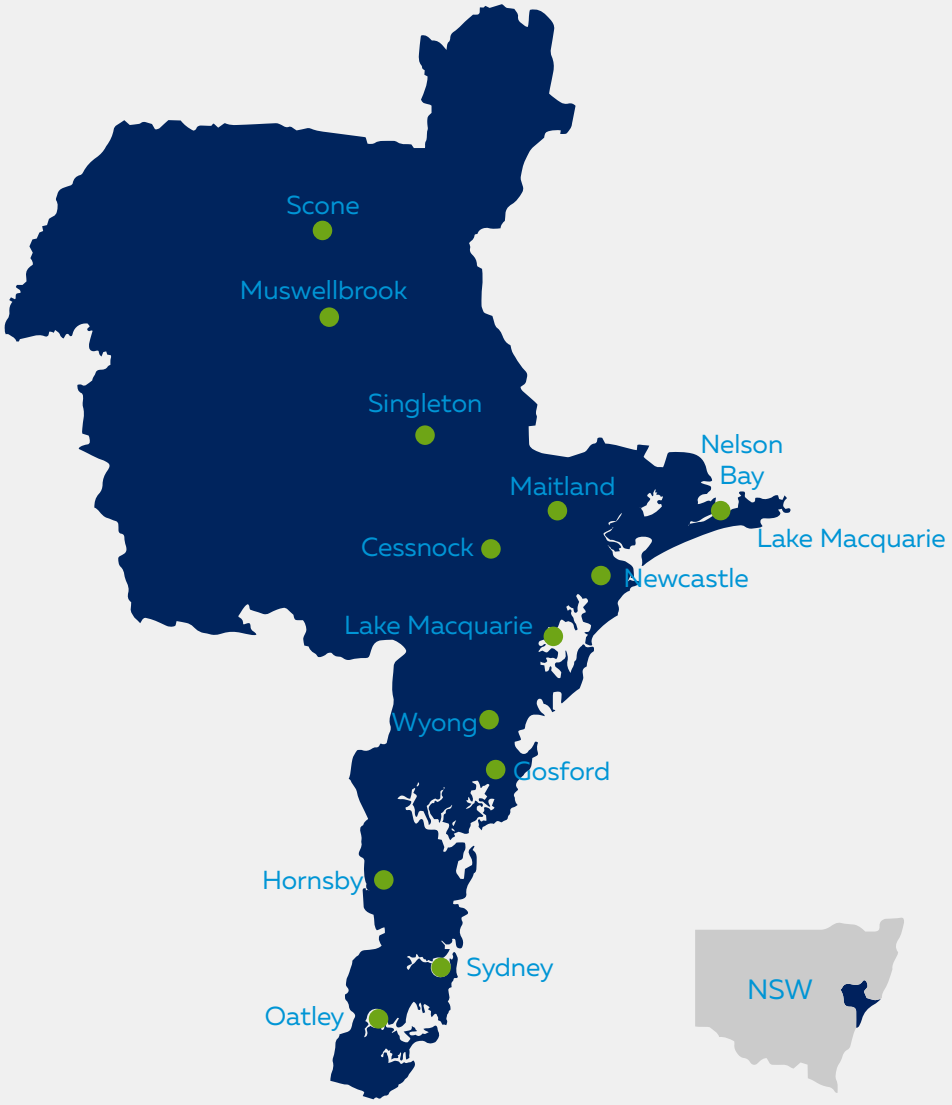
About Ausgrid

We are the largest distributor of electricity on Australia's east coast, providing power to 1.8 million customers. Our network is made up of substations, powerlines, underground cables and power poles, spanning 22,275 square kilometres throughout Sydney, the Central Coast and the Hunter Valley.

As a large electricity distributor, responsible for delivery of an essential service, we actively manage our expenditure to support affordable electricity services for our customers. Over the past decade we have reduced our expenditure to limit the growth of our regulated asset base (**RAB**), deliver operating and maintenance efficiencies, and put downward pressure on the costs of our services.

Our vision is for communities to have the power in a resilient, affordable, Net Zero future.

Our network area



What is the purpose of this document?

We are required to submit our Expenditure Forecasting Methodology to the AER before lodging our 2024-29 Regulatory Proposal. The purpose of this document is to outline the forecasting methods we will use to develop the capital expenditure (capex) and operating expenditure (opex) for standard control services (SCS). This will assist our customers and other stakeholders in engaging with our Regulatory Proposal due to be submitted to the AER in January 2023.

How is this document structured?

Our approach to forecasting is set out in the following sections:

1. **Expenditure objectives and drivers** – which sets out in detail the factors that are driving our expenditure, as well as how our objectives and strategies shape our forecasts.
2. **Capex forecasting** – which sets out how we forecast our capex.
3. **Opex forecasting** – which sets out how we forecast our opex.

How can you provide feedback on this methodology?

Ausgrid welcomes feedback on this Expenditure Forecasting Methodology from customers, stakeholders and the wider community. You can provide feedback directly to us by:

- Emailing us at **yoursay@ausgrid.com.au**
- Making comments on our Facebook page at **www.facebook.com/Ausgrid**
- Making comments on our Twitter stream at twitter.com/ausgrid

Alternatively, you can also provide comments on our reports to the AER (**www.aer.gov.au**).

Expenditure objectives and drivers

1.1 What is our vision and purpose in the energy system?

Our network is a critical part of our electricity supply system which is expanding in importance. While historically our role was one of a distribution network operator, which facilitated the delivery of electricity as an essential service for customers, our role is evolving as we transition to becoming a 21st century Distribution System Operator (**DSO**).

As these changes take place, our vision is for communities to have the power in a resilient, affordable, Net Zero future. This means delivering safe, resilient, reliable and affordable services for our customers that meet their evolving needs and expectations at an efficient cost.

1.2 How are we responding to customer needs?

We are developing our 2024-29 Regulatory Proposal in partnership with our customers and other stakeholders. To do this, we are working closely with the Reset Customer Panel (RCP) to understand their expectations on four key workstreams:

1. Value for money
2. Ausgrid experience
3. Sustainability and Future Grid
4. Network investment

The RCP has an Independent Chair and is supported by an innovative, best practice customer advocate engagement model (**Figure 1**). This includes our Pricing Working Group (**PWG**) and Network Innovation Advisory Committee (**NIAC**).

Our commitment to genuine engagement is reflected in the work Ausgrid has done to improve outcomes for energy customers (see the next page).

In terms of affordability, over the past decade reductions in our expenditure and declines in the cost of capital have put downward pressure on the cost of our services. The impact of this and Ausgrid's initiatives for customers is set out in **Figure 2**.

Figure 1. Our engagement approach

Customer Advocate Engagement Model

Figure 2

We are working hard to improve outcomes for our energy customers by making Ausgrid safer, smarter and more sustainable.

2014 Reducing customer costs:

Savings:
$228

Since 2014, we have reduced our annual network charges for **households** by an average of $228.

Savings:
$321

Since 2014, we have reduced our annual network charges for **small businesses** by an average of $321.

2020

Community battery trial:

Savings up to:
$200 per year

In 2020, we commenced a trial of three community batteries to help customers maximise the value of their solar and support the grid; these batteries are expected to save participants up to $200 per year off their electricity costs by enabling them to use more of their own solar.

Virtual Power Plant trial:

750 sites

= Over **3MW** of combined power

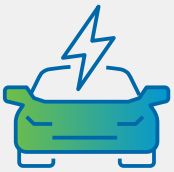
We increased our Virtual Power Plant trial participation to 750 sites, with combined power of over 3MW (about 10-15% of customer batteries in Ausgrid's area).

2020

Voice of the Community:

In 2020, we launched our 'Voice of the Community' engagement program to better understand our performance across 25 different services, channels and market segments.

2021



Supporting EV charging:

In 2021 we established our partnership with JOLT to provide electric vehicle charging from our electricity kiosks.

Cyber Security:

We are continuing to enhance our cyber security controls to keep our systems safe while more employees and customers work from home.

Emissions reductions:

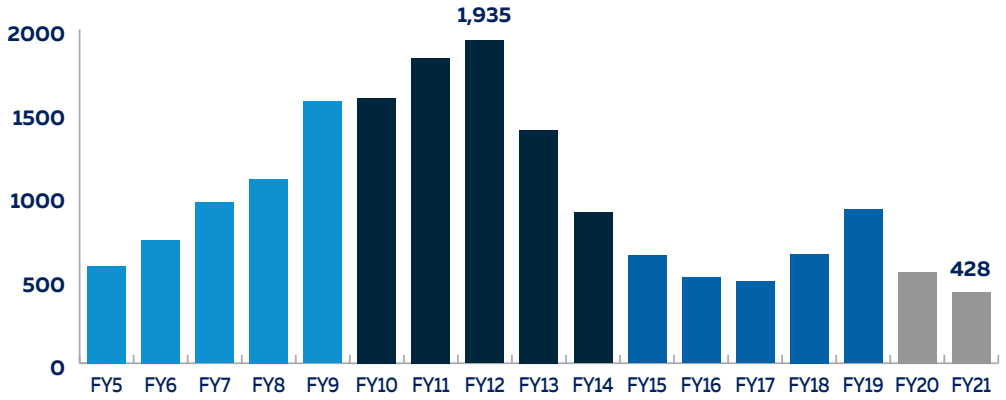
Our emissions reduction target is 8% by 2023-24 and Net Zero by 2050.

So far we are ahead of our plan with a 13% reduction achieved.

Network Resilience Plan:

We are rethinking our approach to network resilience and are implementing strategies to better respond as extreme weather events occur more often. For example, we are developing a network resilience plan so our network can better withstand these events.

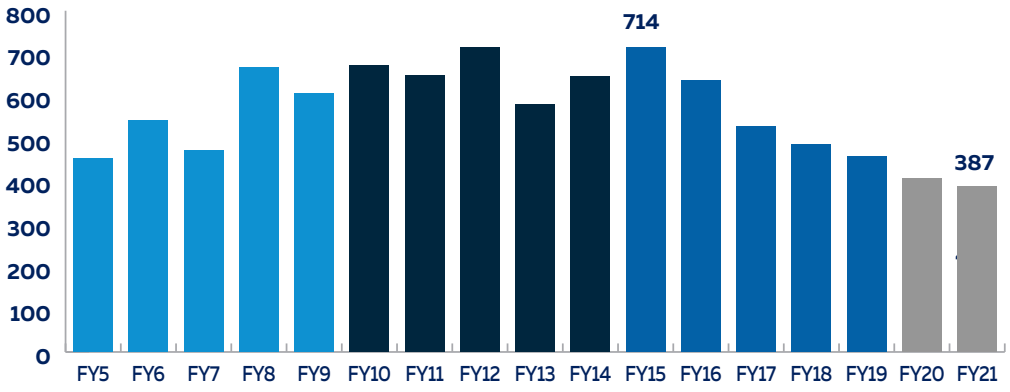
Figure 3. Total Capex FY20-21 ($m)



Over the past decade we have materially reduced our annual capex (**Figure 3**) as peak demand softened following a period of rapid growth. In reducing our annual capex, we have put downward pressure on the costs of electricity distribution services for customers within our network, in keeping with our focus on improving affordability.

Since 2020 our capex has also been lower than planned due to several unforeseen factors including the COVID19 pandemic, protected industrial action, storms and the need to pause live work to ensure the safety of our field crews.

Figure 4. Total Opex FY20-21 ($m)



We have continued to reduce our opex over the past five years and sought to realise operating efficiencies to put downward pressure on costs. As set out in **Figure 4** our opex has trended downwards, reflecting our focus on realising efficiency opportunities.

This focus on sustainably managing our expenditure has put downward pressure on the costs of delivering services. This has allowed for a reduction in network charges for the typical household by $228 per annum since 2014.

1.3 What is driving our expenditure?

As a regulated essential service, we have obligations to ensure that our network operates safely for the community and our people. We are also required to connect customers within our network footprint and to provide a reliable and secure supply of electricity.

Our expenditure is driven by several key factors including the need to manage risk on our network and our customers changing expectations about service delivery, including that we deliver fairness by improving access to reliable energy regardless of where they live.

Delivering fairness – responding to our customers expectations. Through the Voice of Community panel our customers told us that they want us to promote fairness by improving access to reliable energy regardless of where they live.

Responding to developments in the energy sector – responding to customer expectations and needs, as Distributed Energy Resources (DER), solar PV, batteries and electric vehicles are increasingly adopted.

Safeguarding the security of our network – in the face of increasing cyber threats we invest in ICT security to maintain the operations of our network.

Responding to climate change – by progressing the path to Net Zero, responding to the expected increase in extreme weather events through prudent asset investment decisions, and collaborating with others in support of community resilience.

Maintaining the health of the network – as electricity assets have a finite technical life, we manage our network and mitigate risks to maintain safety and reliability. We apply a risk-based approach to our asset management decisions and repair, augment or replace our assets where cost-effective.

Equipping our workforce – as the buildings, vehicles and equipment that our teams use have a finite life, we invest in new assets to maintain safety and suppport our operations.

Meeting the demand for electricity – where customer demand is forecast to grow beyond the capacity of our network we first look for demand management opportunities. We only incur capex if needed to meet the demand and there is a net benefit to customers from investing.

Complying with reliability standards – we invest to ensure that the reliability across our network remains within set levels, where reliability is at risk of falling below regulated requirements.

What do we spend money on?

Most of our expenditure relates to network activities including maintaining, replacing and installing new electrical assets. Between FY17-21 over $1.65 billion was spent on replacing assets to deliver network services. As part of our maintenance programs, we also keep vegetation clear of our electrical infrastructure to maintain reliability, and to avoid fires and other safety incidents.

Over the same period, we invested $180 million to augment the network and meet customer demand. A further $263 million was invested in information and communications technology to support the delivery of services.

1.4 What is guiding our forecasting?

Our forecasting is guided by several overarching frameworks, that in turn are supported by detailed strategies and internal operational documents. The table below provides a summary.

	National Electricity Objective (NEO) – sets out the key policy objective of investing in electricity infrastructure.
	National Electricity Rules – sets out the overarching regulatory and legal framework that guides our investment.
	Australian Energy Regulator Guidance – provides guidance on how to comply with the National Electricity Rules.
	Risk Appetite Statements (RAS) – aligns our collective risk appetite and provides overarching guidance on our approach to risk, to improve our decision making.
	**Corporate Strategy** – details how we respond to emerging risks and opportunities. It is supported by detailed organisational plans that have been developed with feedback from the RCP and customers. These plans include our network, DSO, DER, climate resilience and Net Zero strategies.
	Decision Making and Risk Management Strategy – provides detailed guidance on our approach to managing risk, including our framework for assessing and analysing risks and making operational decisions.
	Value Framework – details how risk is monetised to support quantitative risk assessments. Using a common set of dimensions and metrics allows us to make investment decisions across a common base and optimise them to reflect our customer, corporate and asset management objectives. The value framework provides a translation of the RAS into value dimensions and metrics to support the determination of economic and social values, and in turn underpin our standardised net present value (NPV) model.
	Cost Allocation Methodology – details how we calculate the portion of our total costs that are allocated to SCS.

These key documents and regulatory requirements, in conjunction with detailed organisational strategies form the basis for our forecasting. In developing our strategies, we take a holistic approach and draw upon several key inputs, which are detailed in the next section. At a high level, our strategies are informed by our forecasts, customer behaviour, customer responsiveness to tariffs through tariff trials, and customer expectations.

By developing strategies with our customers at the centre we can better design our projects and programs to reflect customer needs and expectations. For example, we are codesigning a resilience investment framework with the RCP to guide the assessment of potential resilience investments. In taking this approach, we can also improve the robustness of our forecasting by grounding it in our customers' behaviour and their lived experience in using the network.

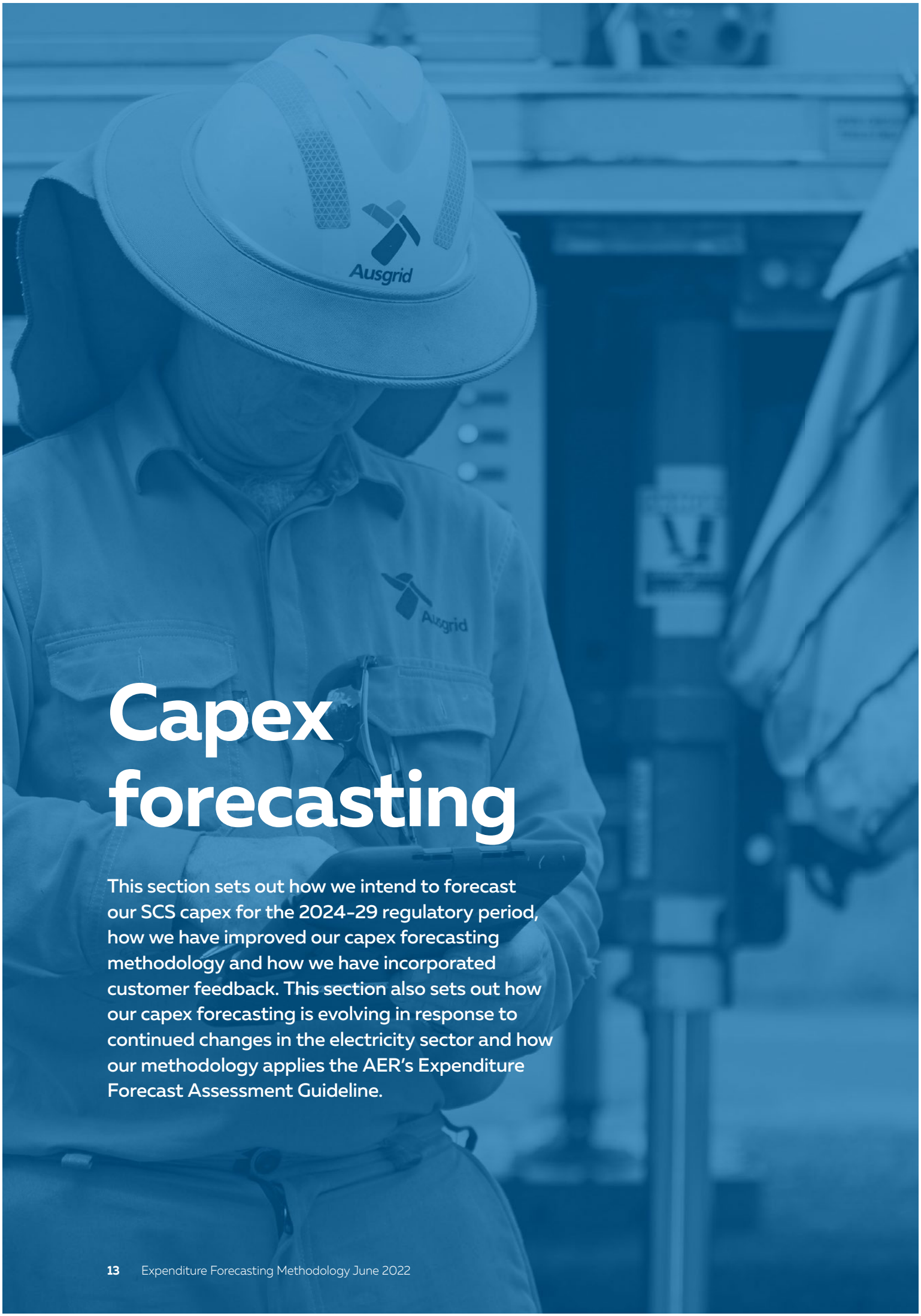
1.5 What are the inputs underlying our forecast methods?

Our method to develop expenditure forecasts for the 2024-29 period will rely on several key inputs as identified below.

Key input	Description
Stakeholder engagement feedback	We consulted with our customers on our expenditure forecasting methodology. The feedback received from RCP members is set out throughout this document.
Customer insights and tariff response	We seek to leverage customer insights from primary and secondary research to better understand customer behaviour. By better understanding our customers and what drives their use of the network we can improve our forecasting of customer demand for services. We have been increasing the number of our customers on cost reflective tariffs. By moving to cost reflective tariffs we encourage the efficient use of the network. In addition, we continue to refine the way we estimate the effectiveness of price signals on customer demand to improve our forecasting of demand. For example, we are undertaking tariff trials to understand how customers respond to prices and to facilitate the design of efficient tariffs.
Opex/capex substitution possibilities	We examine what combination of operating or capital options is least cost to address a need over the long term. This includes the least cost blend of network and non-network solutions to meet a need. For example, we have considered whether we can defer or prevent the need for capital investment in network capacity by operating the network more efficiently through allocating funding to opex for demand management strategies.
Peak demand and customer connection forecasts	When forecasting peak demand, we have leveraged data from internal supervisory control and data acquisition (**SCADA**) and metering systems, government agencies and the Australian Energy Market Operator (**AEMO**), to support an up-to-date forecast of peak demand for the 2024-29 regulatory period. When forecasting peak demand across our network, we draw on: • Expected residential and commercial customer connections based on planning and housing forecasts; • Economic and energy price forecasts; • Customer take-up data and behaviour, including responsiveness to tariffs and trends for DER including solar PV, batteries, electric vehicles, demand response, storage hot water and virtual power plants; • Major industrial and commercial connections eg. renewable generators, grid scale batteries, hydrogen, data centres, road and rail infrastructure; • State and Federal policies and plans that mandate higher standards, encourage energy efficiency or peak demand performance (e.g. the NSW Government's Net Zero plan) and trends for the electrification of gas appliances.

continued

Key input	Description
Cost-benefit analysis for projects	Where practical to do so, we use cost-benefit analysis to analyse the value and timing of capital projects. In applying our cost-benefit framework, Ausgrid uses a standardised NPV model, which allows us to identify the benefits and costs of projects for customers and to rank and prioritise our investments to maximise benefits for customers. In line with our commitment to continuous improvement we are continually refining our approach to cost-benefit analysis. Where practicable and there is uncertainty regarding potential future network conditions, we develop scenarios to assess alternative possible futures and undertake sensitivity testing for our inputs. These are then applied to potential investments to determine whether there is a material impact from differing conditions, and then weighted to develop a forecast of likely conditions to inform our capex proposals.
Unit and cost escalation	We develop unit cost estimates for our network capital projects and programs where appropriate. The method we apply to derive unit costs varies depending on the type of project. Methods we apply to derive unit rates include: • Site-specific costs for major projects, that reflect the location and complexity of the project; • Bottom-up estimates for replacement projects monitored against historical actuals to determine accuracy and delivery performance; • Historical costs, for high volume repetitive tasks with little delivery variance. In developing our unit costs, we also consider available information on benchmarking of costs. In developing our forecasts, we use economic advice to support us to build escalators to apply to our labour costs to ensure accurate forecasts of our opex and capex.



Capex forecasting

This section sets out how we intend to forecast our SCS capex for the 2024-29 regulatory period, how we have improved our capex forecasting methodology and how we have incorporated customer feedback. This section also sets out how our capex forecasting is evolving in response to continued changes in the electricity sector and how our methodology applies the AER's Expenditure Forecast Assessment Guideline.

2.1 Why is capex important to customers?

Capex refers to the investments that we make in network assets (e.g. poles and wires) as well as supporting non-network assets (ICT systems, property, motor vehicles) that provide value over multiple years.

Capex is a significant driver of the network component of electricity prices and customer bills. The assets we invest in today can remain in service for more than half a century. Throughout the life of these assets, we receive income to compensate for the cost of raising finance and to recover the value of the investment.

The availability of new technologies is leading to changes in what our customers expect from our service. As the electricity sector continues to transform, we need to make capital decisions that meet the needs of our current and future customers.

2.2 How do we intend to forecast our capex?

We develop a rolling forecast of capital works each year, including a 10-year network forecast. At a high level our forecasting involves:

1. Examining investment drivers at a holistic level
2. Identifying potential solutions and options
3. Developing a prioritised ten-year investment portfolio

In the lead up to submitting our regulatory proposal and throughout the reset process, we engage with our customers to understand their preferences and expectations. This occurs via the RCP and through deep engagement with a broad range of customers via our Voice of the Community deliberative forum.

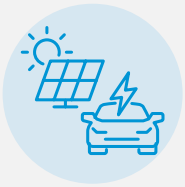
1 Examining investment drivers at a holistic level

When we develop our long-term capex forecasts, we adopt a holistic approach that looks at our expenditure drivers and then develop an overarching strategic framework that informs our detailed capex plans. Our aim is to consider all the relevant information and evidence on the investment need and develop strategies that meet the identified risks.

The key factors and drivers of our investment

Asset condition and network performance

Growth in peak demand on the network from existing and new customers



Increasing penetration of embedded generation, electric vehicles and distributed energy resources

Broader changes in the energy sector e.g. Net Zero

Climate change and increased network risk

Regulatory changes

Customer behaviour and preferences

Cyber security threat environment

In developing our capital forecasts, we undertake a detailed review of internal information concerning the state of the network and risks that it faces. This information is then used to determine the extent to which further investment is necessary to ensure that the network can continue to meet existing service levels.

Alongside this process we undertake a broad review of scenario, forecasts, customer preferences and responsiveness to tariffs, and external drivers, and develop targeted strategies. For example, in recent years the frequency and severity of extreme weather events, linked to climate change, has increased. In engaging with this driver, we are developing targeted investment programs to mitigate network risk and deliver the greatest long-term value at least cost.

We are also responsive to technological changes. For example in recent years, some software solutions have changed from being a one-off capital investment, to an ongoing subscription or opex. This, combined with regulatory changes in the form of updated accounting standards, has had the impact of shifting costs that historically would be reported as capex, to opex.

2 Identifying potential projects and programs

Following our analysis of drivers, we identify options for projects and programs. In doing this, we align our asset categories with those adopted by the AER. These are:

- **Replacement** – capital works associated with replacing an existing asset;
- **Augmentation** – capital works to install new assets on our shared network to meet additional demand at peak times or to meet reliability conditions;
- **Connections** – capital works to install new assets on the shared network in response to a specific customer connection application that necessitates investment on the shared network;
- **Non-network** – capital works for IT, non-network property, fleet and plant that support our network activity, reduce risk (e.g. cyber security), meet corporate obligations or drive efficiency.

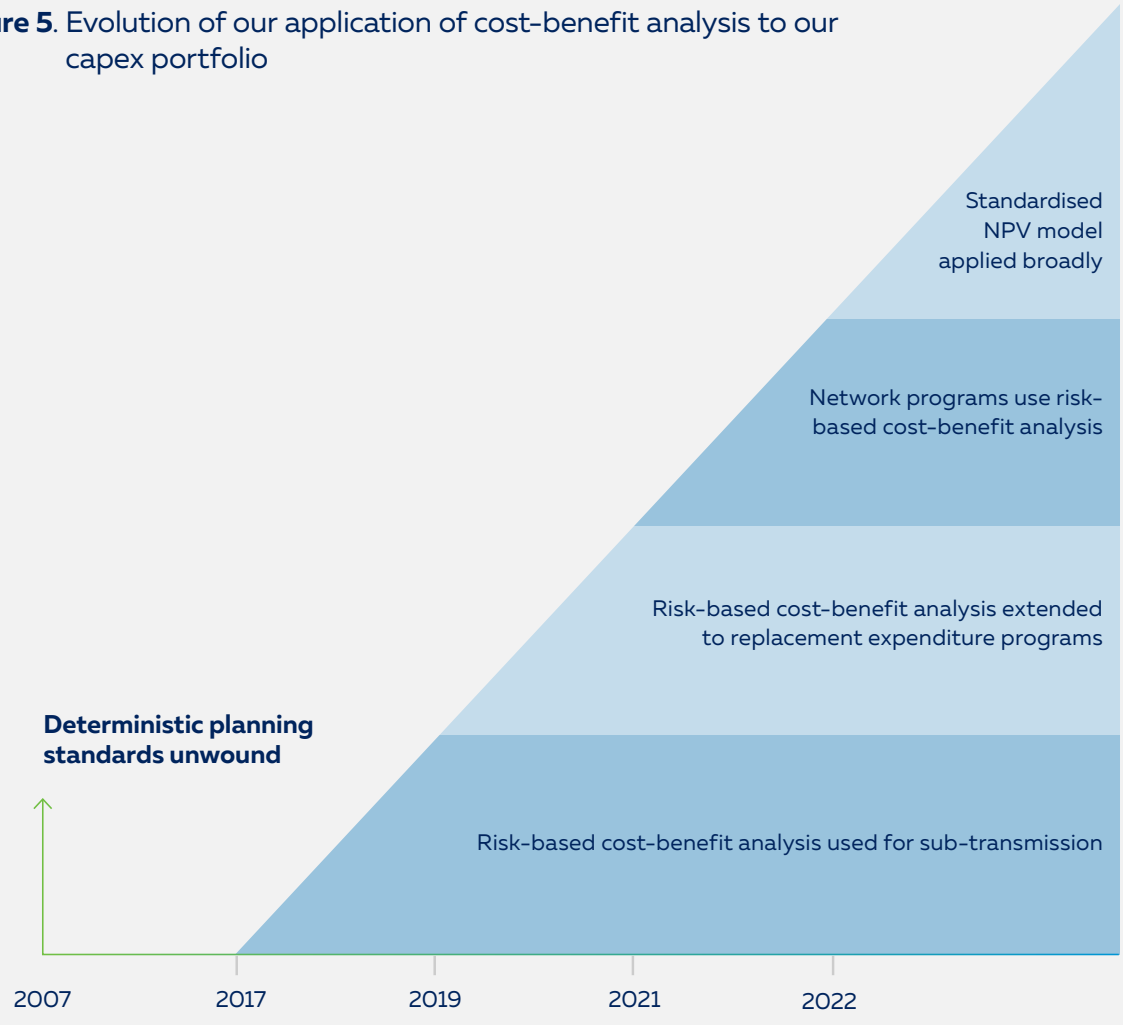
When we identify an investment need, we consider all credible options and, consistent with the regulatory framework the AER administers, select the path forward which unlocks the most net economic benefits for all those who produce, consume and transport electricity.

When we develop our forecasts, we apply a risk-based approach to identify the need for investment. For example, in forecasting our replacement capex program we examine the risk profile of existing assets and key risk drivers to forecast the need for investment across our network.

Our journey to comprehensive use of risk-based modelling techniques

Net economic benefits are identified using cost-benefit analysis. The extent to which we have used quantitative risk-based modelling to perform this task has expanded in recent years. This is set out in **Figure 5** below.

Figure 5. Evolution of our application of cost-benefit analysis to our capex portfolio



Today the majority of our investment decisions are covered by cost-benefit analysis. Where projects form part of a broader program of work (e.g. replacing poles) cost-benefit analysis is applied at the program level. There are also some investments which are not well-suited to cost-benefit analysis. These are generally of a recurrent nature, such as the periodic replacement of laptops, which can be forecast using more practicable techniques given the nature of the investment (e.g. trend analysis).

Our cost-benefit analysis approach

Cost-benefit analysis allows us to monetise the consequences of unmanaged risks and therefore quantify the benefits arising from different investment options. In monetising non-market benefits, we are seeking to apply a standard unit of value to allow for the comprehensive assessment of the relative costs and benefits of alternative investments.

Using our standardised NPV model to undertake this task, we apply a common set of dimensions across all investment decisions that reflects our corporate and asset management objectives. In applying our standardised NPV model we calculate the value of future benefits and costs derived from our cost-benefit analysis in present day terms.

Our cost-benefit analysis approach is summarized below. Both the inputs (**Figure 6**) and cost-benefit evaluation method (**Figure 7**) will be independently reviewed.

Figure 6. Cost-benefit analysis monetised risk inputs

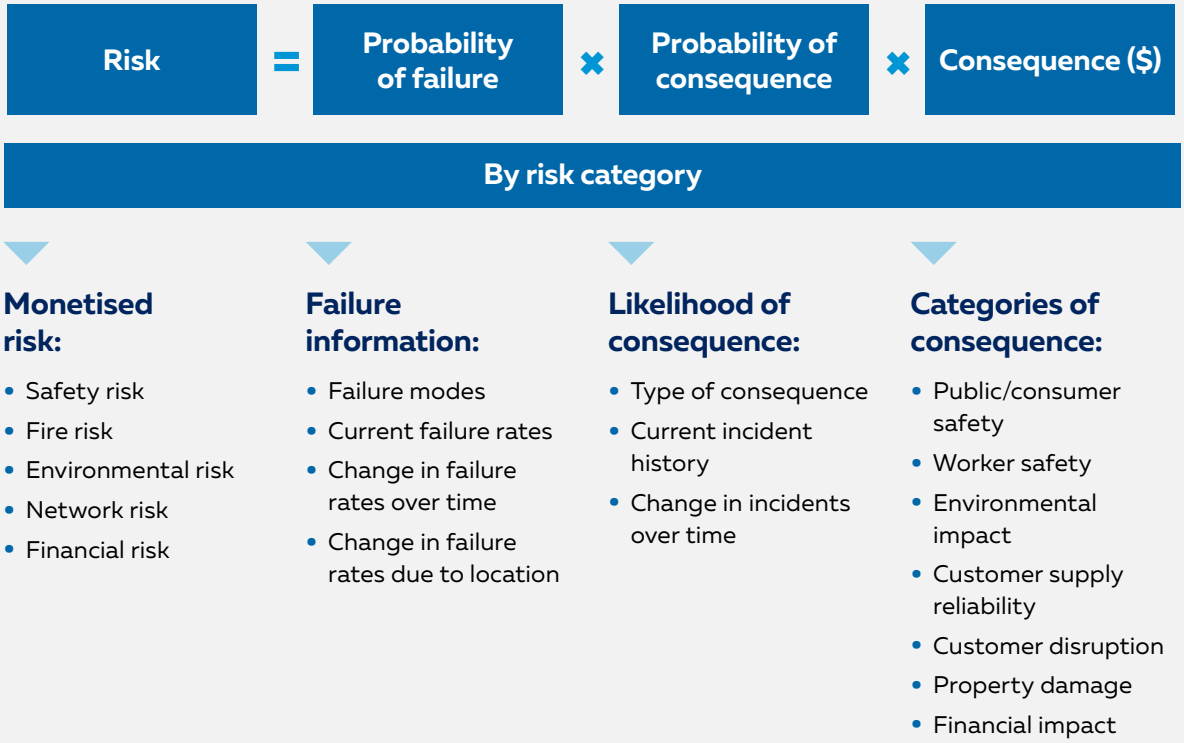


Figure 7. Cost-benefit evaluation method

We apply a common set of value dimensions across our entire capex program. These values are applied to every capital investment decision using our standardised NPV model.

Standardised NPV model

We use the same risk-based modelling across our capex program. From poles and wires to digital investments, motor vehicles and property – the same NPV model is used.

3 Developing a prioritised ten-year investment portfolio

The final step in our process of developing our capex forecasts is the prioritisation and consolidation of projects and programs into a ten-year capex portfolio.

We prioritise potential projects based on the value that they offer, by applying our standardised NPV model.

Our goal is to identify the highest value projects and programs prioritised over those that offer lower value, which are either deferred or not undertaken. In line with our commitment to continuous improvement, we are continually refining our approach to cost-benefit analysis.

✔

Apply a standardised NPV model

to facilitate the comparison of the benefits and costs of projects and to support ranking of projects based on the net benefits that they offer. As part of this process we deprioritise, defer or reject lower value projects;

✔

Test categories of capex relative to AER models

we check our forecast capex against the AER's models (e.g. repex model). Where there are material differences we review our projects and analyse the cause of difference;

✔

Check against historic capex

we check our forecast capex against historic spend for more recurrent capex;

✔

Remove any potential overlap in programs

we check whether there is overlap in project and program scope. Where there is overlap, we review and revise project and program scope;

✔

Allocation of costs

we check to ensure that capex is only allocated to SCS where appropriate to do so and that our cost allocation is consistent with the AER's approved cost allocation method, connection policy and capitalisation policy.

As part of this process, our goal is to prioritise our programs and projects from highest to lowest NPV. This process allows us to compare the benefits and costs of projects across our business and develop a risk-adjusted prioritised investment plan (PIP).

At times we may deviate from this approach and prioritise a project if it has strategic value. For example, projects involving innovation may have strategic value and initially uncertain benefits but provide long term value (e.g. community battery trials).

We develop a detailed delivery plan to support delivery of the PIP. In recent times we have sought to strengthen this element of our forecasting method to ensure that we have sufficient resources to support delivery.

2.3 How have we sought to improve our capex forecasting?

To ensure that capital investments represent value for customers, we have sought to improve our capex forecasting in multiple ways, as outlined below.

Refinements to our business cases: ensuring sound project proposals

Following the 2019-24 regulatory submission we commissioned a review of our approach to business case development.

We noted that our business cases at times did not clearly outline the core problem or underlying business need that they were seeking to address. This meant that for some of our proposed projects, the linkage between the project and the impact on customer service outcomes and our strategy was less clear than it could have been.

In refining our approach to developing business cases, we have sought to:

- More clearly articulate the link between a proposed investment and customer outcomes;
- Set out the links between individual projects, programs of investment, and our broader strategy for meeting customer needs;
- Drive transparency by stating key assumptions and design criteria for options, to ensure that it is clear why options have been rejected in some instances (e.g. unacceptable cyber security risk).

Standardised NPV model: consistency in valuing our projects

Following the last regulatory period, we reviewed our framework for prioritising capex projects, and sought feedback and advice on how to strengthen our prioritisation framework to better reflect customer value. As part of this process, we took steps to enhance our approach to cost-benefit analysis for capex projects.

We have adopted a standardised NPV model, which generates a consistent approach that measures the benefits and costs of potential projects and programs. By moving to a standardised model, we have sought to improve the robustness of our internal modelling, reduce the scope or potential for error, and ensure a consistent approach to quantifying the benefits of our projects across our capex portfolio.

The standardised NPV model allows us to directly compare the relative merits of otherwise disparate investment, and facilitates the prioritisation of projects based on their value. The standardised NPV model also allows for the identification and de-prioritisation of marginal projects that have the risk of reducing value for Ausgrid and customers.

Enhancing our investment governance framework

We maintain an investment governance framework (IGF) that provides clear guidance and accountability with respect to the development, determination and approval of all investments, including network and non-network. The IGF supports the selection of investments that deliver value for our customers and provides the basis for making transparent and efficient investment decisions.

In enhancing our IGF we have adopted a framework of tiered review, with potential projects facing increasing scrutiny and challenge as their value increases. In taking this approach we apply increasingly stringent assessments to make sure that investments we undertake are prudent and efficient.

Our IGF takes a full life cycle approach to investments to provide assurance to our board, customers and stakeholders that our investment decisions are prudent, efficient, and consistent with our strategic vision. As part of our IGF there are several embedded stages of internal review of projects to ensure that proposals are appropriately scrutinised.

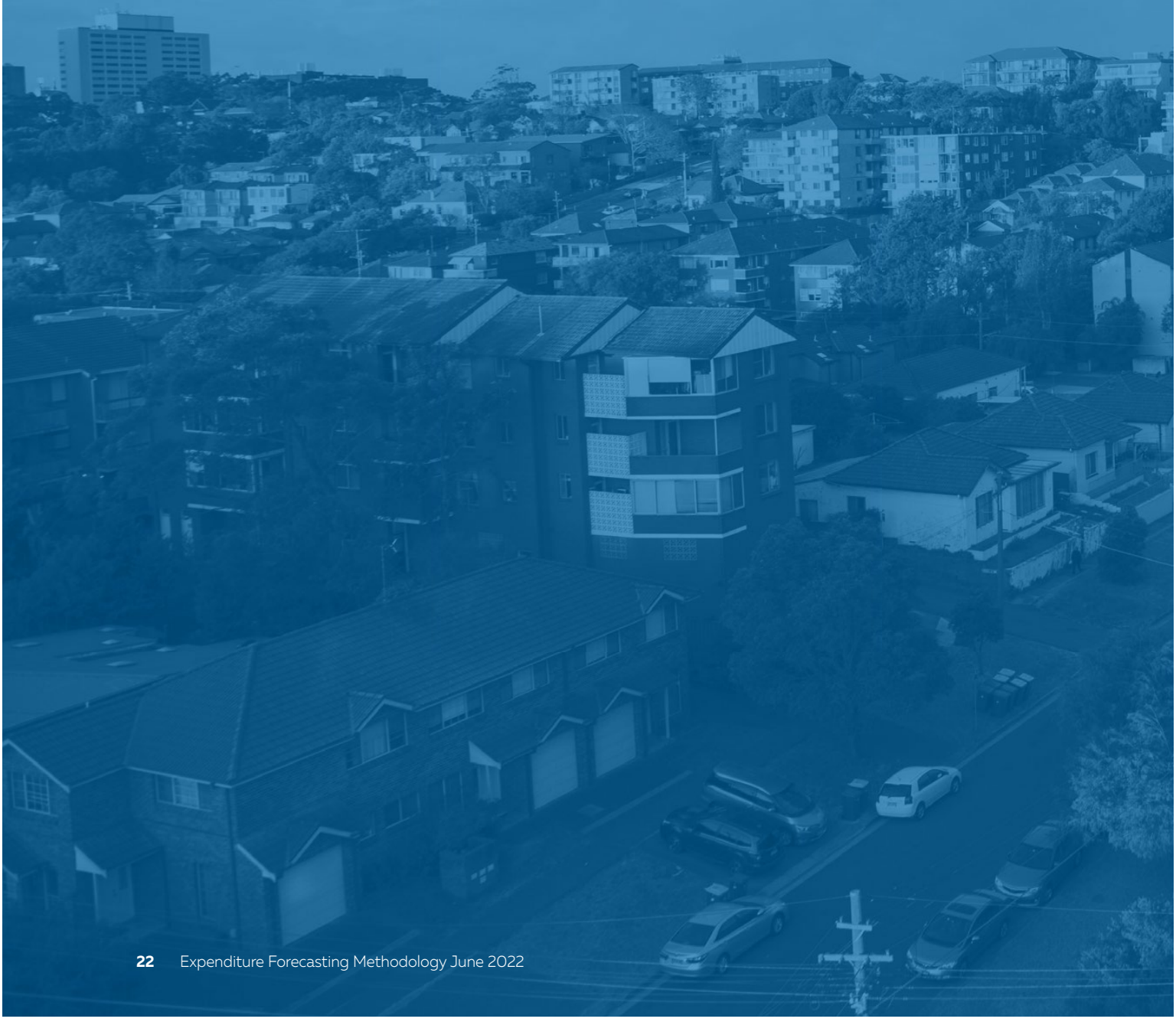
Strengthening our delivery planning

In recent years we have faced significant unforeseen delivery challenges due to the COVID-19 pandemic and live work pause. The impact of the pandemic on our ability to deliver capital projects was profound. Although we have begun to catch up on project delays in recent months, we are continuing to strengthen our project planning to make sure that we limit delivery risks in the next regulatory period.

We are addressing delivery risks by engaging in longer term workforce planning, building external workforce capability, and developing our internal capability through investing in training and graduate programs.

Opex forecasting

This section sets out how we intend to forecast our opex for the 2024-29 regulatory period, including how we have improved our forecasting methodology and processes for testing the prudence and efficiency of our forecasts.



3.1 Why is opex important to customers?

Opex refers to the maintenance and other non-capital costs we incur in delivering distribution services. Our opex includes items that are generally recurrent in nature and consistent over time, for example labour costs and vegetation management.

3.2 How do we intend to forecast our opex?

In keeping with the AER's preferred approach to forecasting the majority of opex categories, we apply the base-step-trend method, as set out in the AER's Expenditure Forecast Assessment Guideline. For all other opex categories, such as demand management and debt raising costs, we apply a specific or bottom-up approach, which more accurately reflects these costs.

Base-step-trend

The base-step trend method involves:

1

Selecting a base year of opex that we consider is reflective of efficient operating costs

The first stage of forecasting our estimated opex is to select a base year of opex that we consider reflects our efficient operating costs. For the 2024-29 regulatory period Ausgrid is proposing to select FY23.

2

Adjusting for one-off-events

Once the efficient base year is selected, we adjust the opex from that year to account for any non-recurrent (one-off) costs if there are any. Non-recurrent costs can arise due to organisational changes, or differences in AER service classifications.

3

Making step-changes, positive or negative

The next stage is to consider whether there are any expected step changes to our opex over the regulatory period. Step changes are changes in costs from the amount in the base year required to provide standard control services during a regulatory period. For example, if regulatory standards for cyber-security risk management are increased, this would drive an increase in the cost of providing standard control services, and a step change would be needed to ensure that sufficient funding is available to meet new requirements.

When a step change is identified, the efficient base year opex is adjusted to account for the change. Importantly, step changes can be positive or negative, e.g. if a regulatory requirement is removed or relaxed this may reduce opex. In general, we will forecast step-changes where we expect a change in regulatory requirement or other external factors outside of management control, or where there is an efficient trade-off between opex and capex. Further, all step changes will be explored with customer advocates and will not double count other expenditure. These criteria align with the Expenditure Forecasting Assessment Guideline and Better Resets Handbook.

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Rolling forward the adjusted base year over the 2024-29 regulatory period

Finally, we trend the base year forward to account for:

- **Output growth** – Expected changes in customer numbers, peak demand, circuit length and other relevant factors may drive changes in our activity levels;
- **Real cost escalation** – forecast labour costs above or below inflation. This is done to ensure that our costs reflect the expected future price of labour cost inputs;
- **Productivity gains** – forecast improvements in our productivity, e.g. due to developments in technology or the skillset of our workforce. We commit to including the minimum required productivity gain of 0.5%, with further discussion to be had over the regulatory reset process regarding overall productivity.

Forecasting other operating costs

While we apply the base-step-trend approach to most opex costs, we use alternative approaches to forecast some costs where these are more appropriate. These approaches include:

- **Benchmarking of debt raising costs** – we forecast our debt raising cost by applying a benchmark debt raising unit rate to the debt proportion of our regulated asset base, in accordance with the AER method.
- **Bottom-up method for demand management activities** – this method derives the forecast opex by considering all the inputs and factors that drive the cost of an activity (e.g cost types required to perform each task, such as labour and materials, the cost of these inputs and the number of tasks required to perform an activity). The bottom-up approach is similar to our capital forecasting approach which also builds cost estimates up based on inputs and is undertaken on a case-by-case basis.

The classification of some costs is changing

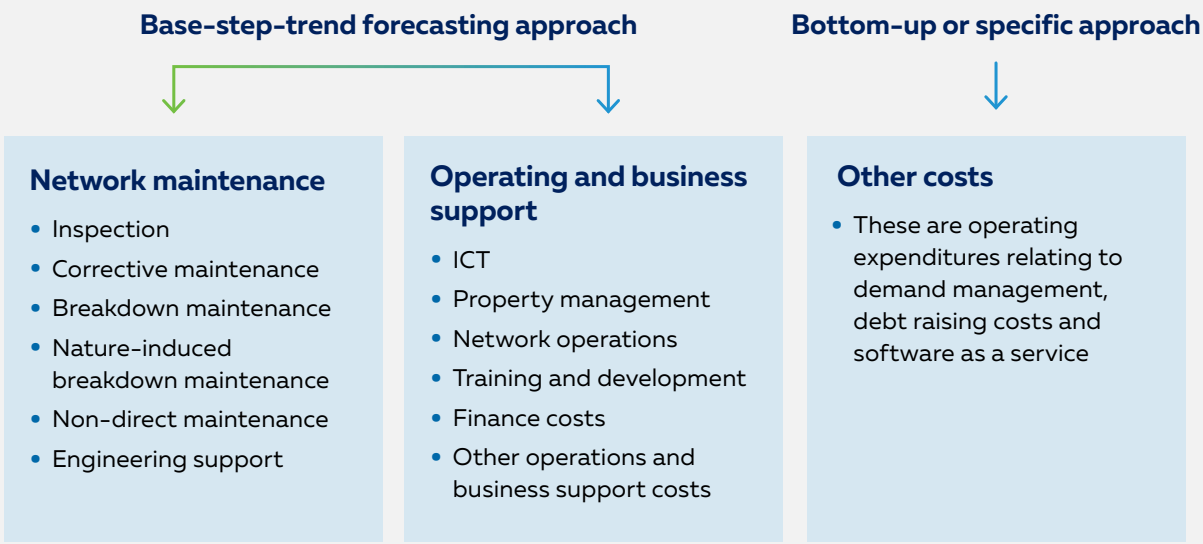
In April 2021, the International Financial Reporting Standards Interpretation Committee (**IFRIC**) issued a decision (**IFRIC Decision**) on the accounting treatment of implementing Software as a Service (**SaaS**) IT solutions.

The IFRIC concluded that the costs associated with configuring and customising SaaS IT solutions cannot be capitalised as an asset if an entity does not control the software. This is a change from our previous accounting treatment where such costs have historically been capitalised. These costs now need to be recognised as opex. As these costs are non-recurrent or one-off, we will forecast the cost of implementing SaaS IT solutions using a bottom-up method.

3.3 What operating costs are we forecasting?

Ausgrid's forecast opex falls into three broad categories: network maintenance, operating and business support, and other costs. **Figure 8** shows the different types of opex.

Figure 8. Types of opex by forecasting approach



Network maintenance

Our network maintenance opex cost category includes:

Inspection

Work associated with undertaking planned appraisal and routine preventative maintenance tasks, including monitoring tasks and vegetation management.

Corrective maintenance

All work associated with correcting defects that have not yet resulted in a breakdown. Corrective maintenance occurs when an asset fails to meet the threshold criteria set to ensure it remains in working order until the next inspection maintenance cycle.

Breakdown maintenance

All work associated with equipment that has ceased to perform its intended function (excluding nature-induced breakdown).

Nature-induced breakdown maintenance

All work associated with equipment that has ceased to perform its intended function due to factors beyond the equipment's design capability (for example, storm damage). These failures cannot be managed through normal maintenance activities.

Non-direct maintenance

The testing of plant, tools and equipment that are used to deliver the different maintenance activities defined above and training and development required to deliver maintenance activities.

Engineering support

Work associated with local project planning, scheduling and coordination of maintenance works.

Operating and business support

This opex cost category includes the expenditure required to support the operation of our network, as well as costs that would typically exist in any business. The table below provides a summary.

Information, communication and technology

Costs relating to the operation and maintenance of the IT technologies and telecommunication systems required for the effective operation of Ausgrid's infrastructure and day-to-day operations.

Property management

Costs of various activities inherent in the ownership of properties (land and building) including the cost of complying with legal obligations pertaining to ownership such as land registration, land tax payments and council rates.

Network operations

Costs of activities undertaken for network connections. These include:

- **Customer operations** – facilitating new connections, responding to complaints and general enquiries concerning the distribution network, inspecting installations and emergency response to installation and network safety issues;
- **Network control** – 24 hour / 7 days a week monitoring and control of Ausgrid's infrastructure, including emergency and incident management;
- **Engineering, planning and connections** – centralised activities associated with preparing asset engineering and investment standards, maintenance analysis, investigations, equipment ratings, technical regulatory reports and large customer connections.

Finance costs

- Corporate accounting and reporting;
- Budgeting, forecasting, commercial services, investment analysis and business support;
- Treasury, taxation and cash management;
- Regulatory reporting and fixed asset management and reporting.

Training and development

Costs relating to centralised coordination and delivery of the technical, regulatory and professional development needs for Ausgrid's employees and compulsory training related to network access for contractors who work on the network.

Other operations and business support costs

- Security;
- Legal;
- Environmental;
- Contact centre and data operations;
- Fleet and logistics management;
- Insurance and self-insurance;
- Human resources management;
- Work health and safety;
- Regulation;
- Management including the Board of Directors, Chief Executive Officer and Executive Leadership Team.

3.4 How have we sought to improve our opex forecasting?

Following the forecast of our estimated opex, we undertake a series of checks and reviews of our forecasts to ensure that they reflect an efficient level of opex. Reviewing our opex forecasts and engaging with our customers on our forecast opex is a critical part of testing whether the forecasts are accurate and reflect value for customers.

As part of this process we:

- engage with the RCP to get their views on whether our proposal reflects customer expectations and preferences;
- analyse Ausgrid's performance in the AER's partial productivity analysis and benchmarking.

These checks inform the development of our opex forecast and indicate whether our opex is efficient. Where these checks identify opportunities to refine or improve our forecasting, we revise our forecasts in consultation with our customers.

Contact us

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