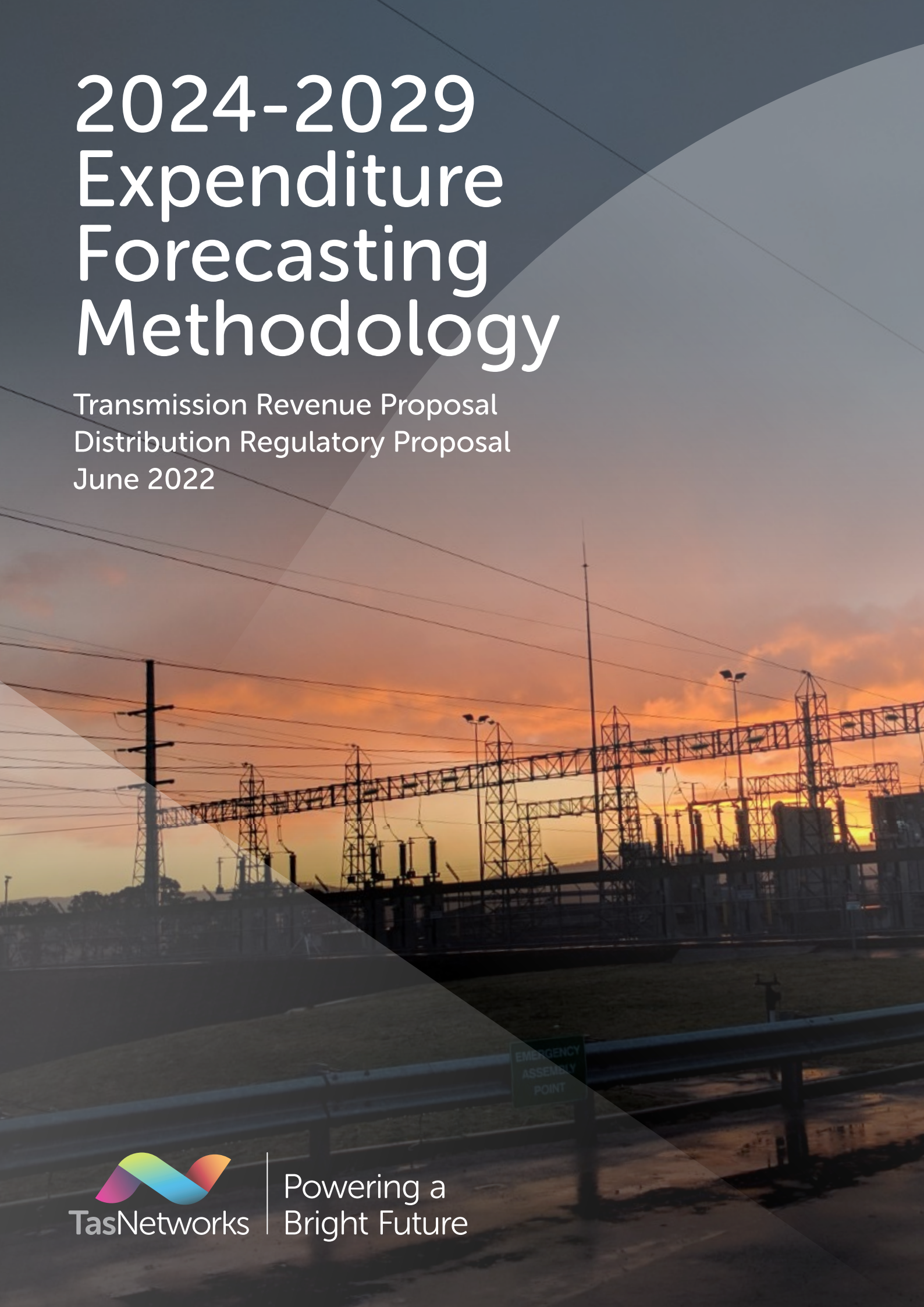
2024-2029 Expenditure Forecasting Methodology

Transmission Revenue Proposal
Distribution Regulatory Proposal
June 2022



TasNetworks | Powering a Bright Future

Executive Summary

The Expenditure Forecasting Methodology outlines the methods that TasNetworks intends to utilise to prepare our forecast capital and operational expenditure in the 2024-2029 Transmission Revenue Proposal and Distribution Regulatory Proposal (Combined Proposal). This document has been prepared in accordance with the requirements of the National Electricity Rules (the Rules).

TasNetworks performs a critical role in the security, social and economic wellbeing of Tasmanians. Our expenditure forecasts are guided by our Shareholder Statement of Expectations, the National Electricity Objective (**NEO**) and the Rules. We not only have an ambition but also a responsibility to help fulfil Tasmania's and Australia's transition to renewable energy.

As the energy transition occurs, the way our customers use and produce electricity is changing. These factors are creating new drivers of expenditure on our networks such as the need to integrate Distributed Energy Resources (**DER**) and Renewable Energy Zones (**REZ**) in Tasmania. The need to support the transition to renewable energy, meet our customer's changing needs, and maintain a safe, reliable and secure electricity supply in an environment of uncertainty will influence our expenditure forecasts for the 2024-2029 regulatory period.

TasNetworks is continually improving our investment governance practices to ensure efficient investment in our network so that Tasmanian electricity prices remain as low as sustainably possible. Our expenditure forecasts are developed by first identifying specific needs and then undertaking robust options analysis, including net present value analysis of all feasible options to select a preferred option. We also undertake a holistic review of our expenditure forecast to determine where (among other things):

- our forecast aligns with customer and stakeholder requirements; and
- we can achieve synergies in scope and works delivery.

The Expenditure Forecasting Methodology builds on the ongoing engagement with our customers. It is intended to provide visibility to and facilitate continued engagement with our customers, the Australian Energy Regulator (**AER**) and other key stakeholders on how we forecast expenditure. Further details about our forecasting methodology, including inputs and key assumptions, will be included in our Combined Proposal. Any changes to our proposed methodology will also be explained in our Combined Proposal.

We welcome feedback on our Expenditure Forecasting Methodology.

Feedback can be provided to:

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TasNetworks acknowledges the palawa (Tasmanian Aboriginal community) as the original owners and custodians of lutruwita (Tasmania). TasNetworks, acknowledges the palawa have maintained their spiritual and cultural connection to the land and water.
We pay respect to Elders past and present and all Aboriginal and Torres Strait Islander peoples.

Contents

Abbreviations

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
BST	Base-Step-Trend
Capex	Capital Expenditure
Combined Proposal	2024-2029 Transmission Revenue Proposal and 2024-2029 Distribution Regulatory Proposal
DER	Distributed Energy Resources (e.g. rooftop solar, household batteries, electric vehicles)
ICT	Information and Communications Technology
Investment Framework	TasNetworks' Gated Investment Framework
ISP	Integrated System Plan
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
OSS	Operational Support Systems
Opex	Operational expenditure
REZ	Renewable Energy Zones
the Rules	National Electricity Rules

1. Introduction

TasNetworks owns, operates and maintains the Tasmanian electricity transmission and distribution networks. Our purpose is "Powering a bright future" by enabling the move to a more sustainable electricity system and ensuring the delivery of safe, reliable and affordable electricity for all customers.

We supply more than 295,000 residential, commercial and industrial customers and are owned by the State of Tasmania. We operate as a commercial business with assets around $3.5 billion and facilitate the transfer of electricity between Tasmania and Victoria via Basslink, the sub-sea electricity interconnector.

Fundamental change is occurring in Australia's energy sector, with the closure of coal-generation power plants and the increase of dispersed solar, wind and hydro renewable energy. More investment in interconnection and the transmission network will be required to transport energy generated in Tasmania's REZs to the mainland and ensure continued safe, secure and reliable electricity supply to customers with the increasing intermittent renewable generation.

As the energy transition occurs, the way our customers use and produce electricity is changing. As the cost of technology declines, cheaper batteries are expected to result in a greater uptake by residential homes and businesses, more electric vehicles are expected on our roads and we expect a greater uptake of DER as customers evolve from pure consumers to active prosumers.

We understand that TasNetworks is the key link between electricity generators and electricity customers, sitting at the heart of the energy system, and the decisions we make today about our electricity network and connecting customers lays the foundations for this energy future. In an environment of uncertainty, we are influencing the fundamental change in the Australian electricity market, driving our operations to deliver more value to our customers and our shareholders, meeting government targets and delivering better outcomes for Tasmanians.

The Rules require TasNetworks to forecast capital and operational expenditure for the 2024-2029 regulatory period that we consider is required to:

- meet or manage the expected demand for regulated services over the regulatory period;
- comply with all applicable regulatory obligations or requirements associated with the provision of regulated services;
- maintain the quality, reliability and security of supply of regulated services (or otherwise satisfy an applicable regulatory obligation); and
- maintain the reliability, safety and security of the transmission and distribution system through the supply of regulated services.

Our objective is to ensure that our forecast expenditure complies with the Rules, addresses our customers' needs and is capable of acceptance by the AER, our customers and stakeholders. By 31 January 2023, we will submit a Combined Proposal to the AER setting out our expected costs and forecast revenue requirements for the five year period commencing on 1 July 2024. The AER will then assess our Combined Proposal and determine our revenues for the five year period in accordance with the National Electricity Law (**NEL**) and the Rules.

This document outlines:

- TasNetworks Gated Investment Framework and the expenditure drivers that will impact our Combined Proposal;
- our capital expenditure forecasting methodology; and
- our operating expenditure forecasting methodology.

Further details about our expenditure forecasting methodology, including inputs and key assumptions, and any changes to our proposed methodology will be included in our Combined Proposal that will be submitted to the AER in January 2023.

2. Gated Investment Framework

TasNetworks' investments are governed by our Gated Investment Framework (Investment Framework).

The Investment Framework:

- ensures that TasNetworks' investment expenditure is managed to deliver the most effective and efficient use of capital and operational funds;
- ensures a consistent and integrated approach for the governance of investments and their risks; and
- provides overarching guidance for how all investments are validated, assessed, implemented and the value realised within the organisation (the investment lifecycle).

Figure 1: Gated Investment Framework Process

Needs Analysis and Investment Evaluation are key steps in the development of our expenditure forecasts for the 2024-2029 period. Learnings and feedback from the Review and Close stage are key inputs into the Investment Framework process.

2.1 Needs Analysis

Analysis of the drivers that underpin the need for expenditure are critical to future forecasts. Proposed investments are assessed against expenditure drivers, customer feedback and preferences, alignment to business strategies and risk appetite and our regulatory and legal obligations to validate the need for investment prior to moving to investment evaluation.

Expenditure drivers fundamental to TasNetworks forecasts include:

- connecting customers and meeting future customer demand;
- security, performance, resilience and reliability needs of customers;
- maintaining service reliability and quality;
- managing changing risk as the condition our network and non-network assets deteriorate and become susceptible to faults due to factors such as age, utilisation, safety, environmental conditions and lifecycle maintenance;
- planning for and transitioning to an intelligent future network;
- meeting compliance obligations in regards to safety, security, environmental, service, pricing and other legislation and a regulations; and
- investing in modern technology, systems and tools to efficiently design, operate and monitor our network and business and deliver services to our customers.

Emerging drivers of expenditure for the 2024-2029 period include:

- the connection of Renewable Energy Zones (**REZs**) in Tasmania and the expanding role of Tasmania in the National Electricity Market (**NEM**) enabled by Marinus Link;
- the emergence of hydrogen and bioenergy as alternative energy sources;
- climate change and resilience;
- cyber security and digital trust;
- the increased uptake of electric vehicles and DER; and
- the rise of the Prosumer, customers who both consume and generate electricity, and changing customer expectations around the timeliness and quality of network reliability and energy usage information they can access and how they access it.

2.2 Investment Evaluation

2.2.1 Options Analysis

Once a need is validated, we undertake robust options analysis to forecast our expenditure by identifying and assessing the feasible options to address that need. Trade-offs between operational, capital and non-network solutions are considered during the options analysis, as well as consideration of customer feedback and preferences.

Long term costs, benefits and risks are quantified where possible and used as inputs in the economic evaluation of the options to determine the option that provides the greatest net benefit to our customers. Detail on TasNetworks' methodology to forecast capital and operational expenditure can be found in sections 3 and 4 of this document.

2.2.2 Preferred Option

Application of the needs assessment and options analysis identify the option that delivers the lowest sustainable prices while providing a safe, reliable and secure electricity supply to our customers.
This option becomes the preferred option to proceed to optimisation.

The preferred option may be purely capital expenditure or a mix of capital expenditure and operating expenditure, and may involve a range of treatments.
If the preferred option meets the definition of a contingent project then it is excluded from the expenditure forecast due to the uncertainty.
More information on contingent projects can be found in section 2.4.

2.3 Expenditure Forecast Optimisation

Optimisation of TasNetworks total expenditure forecast is undertaken by considering all the preferred options within our investment portfolios and:

- comparing different investments to assess whether there are opportunities for aligning timing to achieve synergies in scope and works delivery. As a result some forecast investments may be deferred or bought forward in time;
- cross-checking our forecasts against the AER's assessment techniques set out in its Expenditure Forecast Assessment Guideline, including assessing our expenditure against the AER's expenditure models, top-down testing and trend analysis;
- re-assessing the forecast for alignment to expenditure drivers and the needs assessment;
- assessing the overall costs, benefits and risk outcomes across the portfolio; and
- assessing the deliverability of the forecast given our forecast delivery strategy and resource mix. This may result in investments being reprioritised or changes to the resource mix required to support delivery.

2.4 Contingent Projects

Contingent projects are projects where the need, timing or cost of significant network augmentation is uncertain, but probable, and dependent on a set of circumstances or events (triggers) that are beyond TasNetworks' control. Contingent projects are identified separately in our Combined Proposal and do not form part of the revenue requirement in the AER's determinations. They may become part of the revenue requirement within the five year regulatory period if the trigger events occur.

TasNetworks' Investment Framework identifies projects that meet the definition of contingent projects in the Rules.

3. Capital Expenditure Forecasting Methodology

The Rules require us to present our expenditure forecasts with reference to well accepted categories of expenditure. We also recognise that our forecasts should be presented in a manner that assists the AER, customers and stakeholders in the review process.

Our total capital expenditure (capex) forecast is developed through the aggregation of expenditure forecasts derived for each category of expenditure. Figure 2 summarises our capex categories and sub-categories.

Figure 2: Capex categories

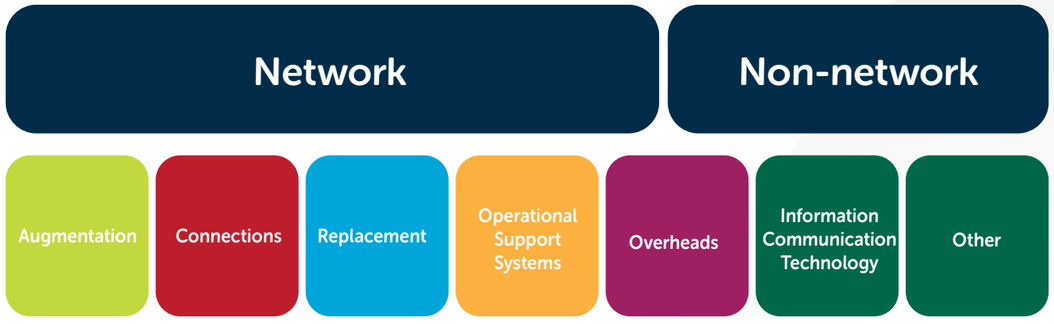
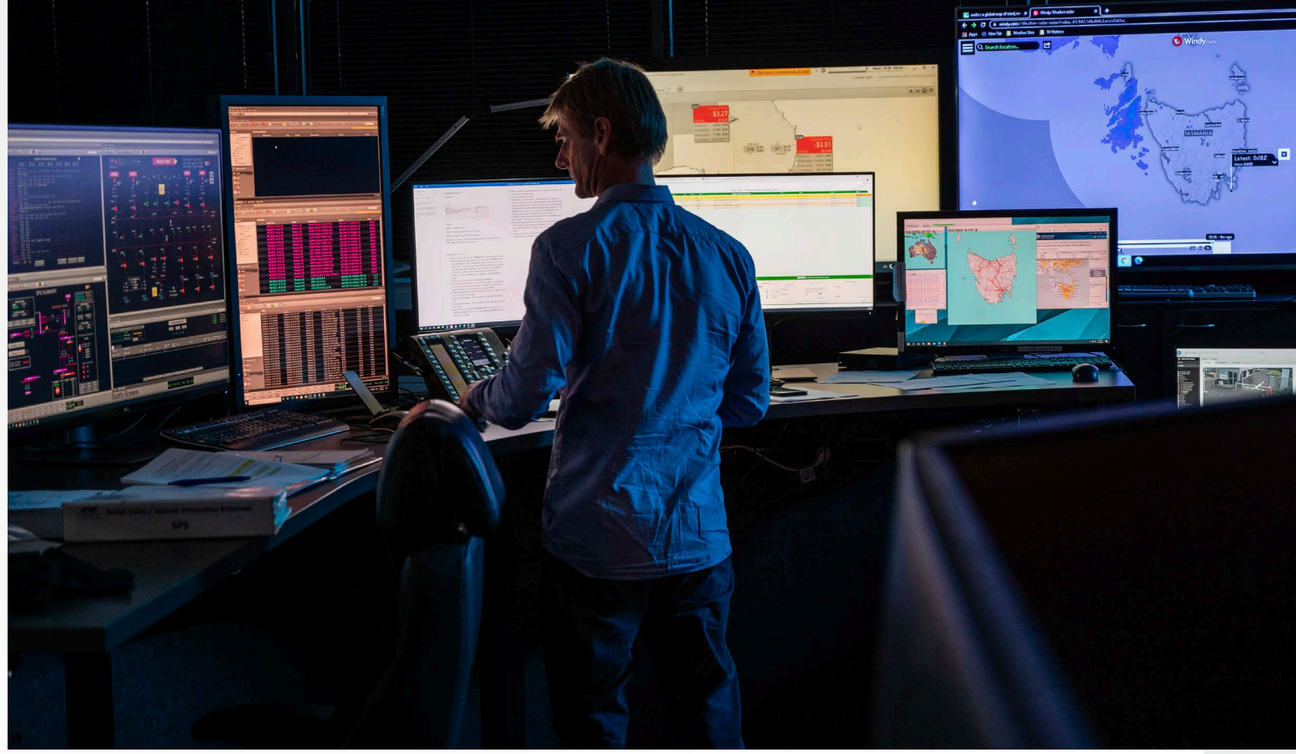


Table 1 outlines the forecasting methodology for each of the capex sub-categories.

Table 1 Capex forecasting methodology

Sub-category	Key inputs	Forecasting Approach
Augmentation Expenditure associated with ensuring sufficient capacity to meet compliance obligations and network demand, maintaining the reliability, security and capability of the network and addressing network constraints that provide a market benefit. This includes the strategic acquisition of land for future network development.	Australian Energy Market Operator (**AEMO**) load forecasts Equipment utilisation Network performance (reliability, supply quality and security) AEMO's Integrated System Plan (**ISP**)	Expenditure forecasts are developed using: • Identified projects in alignment with needs and TasNetworks strategies and detailed cost estimates; and • Recurrent programs with historical trends in conjunction with demand forecasts and historical expenditure.
Connections Expenditure associated with the connection of new customers to the distribution network or of additional connection points of the distribution network to the transmission network and changes to existing distribution connections.	Building industry forecasts Load forecasts Customer Connection Policy	Expenditure forecasts are developed using: • Identified projects in alignment with needs and TasNetworks strategies and detailed cost estimates; and • Recurrent programs with historical trends by connection type in conjunction with building industry forecasts and historical expenditure.
Replacement Expenditure associated with replacing existing assets to maintain the reliability and quality of supply, to treat increasing risks associated with assets and to meet regulatory obligations and compliance requirements. This includes the purchase of strategic spares.	Strategic Asset Management Plan and individual asset management plans Asset information Asset condition reports Asset performance Network performance (reliability, supply quality and security) Quantified risk assessment	Expenditure forecasts are developed using: • Identified projects in alignment with needs and TasNetworks strategies, quantified risk assessment and detailed cost estimates; and • Recurrent programs with historical trends in conjunction with asset life and failure rate modelling, quantified risk assessment and historical expenditure
Operational Support Systems (OSS) Expenditure associated with maintaining, upgrading or replacing operational support systems which are required for the efficient, safe, secure and reliable operation and control of the network.	Strategic Asset Management Plan and individual asset management plans Digital Transformation Strategy	Expenditure forecasts are developed using: • Identified projects in alignment with need and TasNetworks strategies and detailed cost estimates; and • Recurrent programs with historical trends in conjunction with vendor support requirements, upgrade releases and historical expenditure.



Sub-category	Key inputs	Forecasting Approach
Overheads Expenditure associated with network and corporate overheads that are not directly attributable.	Labour costs Cost escalators	Forecasts have been developed assuming a similar balance of works and capital expenditure as the 2019-2024 regulatory control period.
Information Communication Technology (ICT) Expenditure associated with maintaining, upgrading or replacing ICT equipment to ensure reliability, security and resilience of our business operations. This includes investment in cyber security.	Strategic Asset Management Plan and individual asset management plans Digital Transformation Strategy	Expenditure forecasts are developed using: • Identified projects in alignment with need and TasNetworks strategies and detailed cost estimates; and • Recurrent programs with historical trends in conjunction with vendor support requirements, upgrade releases and historical expenditure.
Other Expenditure associated with procuring, replacing or upgrading non-network assets including land, buildings, vehicles and minor assets in line with business needs and requirements.	Strategic Asset Management Plan and individual asset management plans Asset information Asset condition reports Asset performance Fleet strategy	Expenditure forecasts are developed using: • Identified projects in alignment with needs and TasNetworks strategies, asset condition and utilisation and detailed cost estimates; and • Recurrent programs with historical trends in conjunction with asset condition and utilisation and historical expenditure.

4. Operating Expenditure Forecasting Methodology

Our operating expenditure (opex) forecasting methodology follows the base-step-trend (BST) approach. This is consistent with the AER's preferred approach outlined in its Expenditure Forecast Assessment Guideline and adopted in recent revenue decisions. An overview of the BST approach is provided at Figure 3.

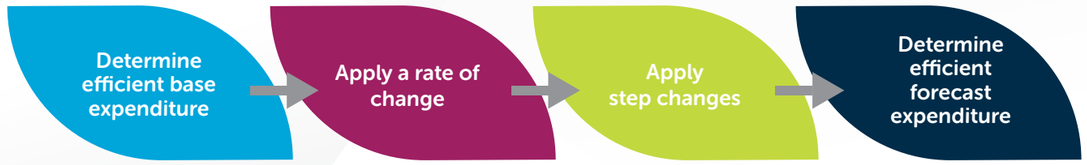


Figure 3: Overview of the Base-Step-Trend Approach

4.1 Base Expenditure

The first step in preparing a BST operational expenditure forecast is to select a base year that represents a realistic expectation of the efficient and sustainable on-going level of expenditure that is required to provide network services in the next regulatory period. This will be the most recent financial year for which audited financial accounts are available.

We understand the AER will assess base year operational expenditure against our own past performance and other network service providers. We expect that the assessment will support the view that the base year is appropriate.

4.1.1 Base Year Adjustments

We will make adjustments to our base year forecast if there are one-off factors that impact the efficiency of our base year.

One-off factors may be included in our operational forecast as 'category specific forecasts'. The approved category specific forecasts in our 2019 2024 were debt raising costs, guaranteed service level payments, Tasmania's electrical safety inspection levy and a NEM levy. We will reconsider category specific forecasts for inclusion in our 2024-2029 Combined Proposal.

We will also make a base year adjustment to estimate our final year expenditure. This adjustment will be consistent with the AER's Expenditure Forecast Assessment Guidelines and is provided at Figure 4.

Estimated final year (2023-24) opex

= 2023-24 opex allowance
- (opex allowance base year-actual opex base year)
+ non recurrent efficiency gains in the base year

Figure 4: Estimated Final Year Operating Expenditure

4.2 Rate of Change

TasNetworks will apply a 'rate of change' to the estimated final year operating expenditure to calculate the operating expenditure requirements for the 2024-2029 regulatory period as per the AER's Expenditure Forecast Assessment Guideline. The rate of change is provided in Figure 5.

Rate of change = output growth + real price growth - productivity growth

Output growth (network size) – expected changes in customer numbers, maximum demand, circuit length and energy delivered

Real price change – includes movements in both labour (internal and contractors) and non-labour (materials, vehicle expenses, tools etc.) costs

Productivity growth – improvements expected over the 2024-2029 period due to efficiency and transformation initiatives

Figure 5: Overview of the Rate of Change

4.3 Step Changes

Step changes account for cost changes expected during the 2024-2029 regulatory period that are not captured in the 'base expenditure' and 'rate of change' forecasts. We will only submit step changes where there has been a 'material' increase or decrease in forecast expenditure.

4.4 Efficient Forecast Expenditure

TasNetworks applies a top-down assessment and benchmarking of our total operating expenditure forecast. The purpose of the assessment is to test and verify that the forecast reasonably reflects:

- the efficient costs of achieving the operating expenditure objectives set out in the Rules;
- the costs that a prudent operator would require to achieve the operating expenditure objectives; and
- a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.

Questions & Contact

This document is the responsibility of the Revenue Reset Team, Tasmanian Networks Pty Ltd, ABN 24 167 357 299.

TasNetworks welcomes feedback and enquiries on any of the matters raised in this document.

Please send feedback and enquiries to:

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Visit our Talk with TasNetworks page to find out more about our revenue reset
https://talkwithtasnetworks.com.au/tasnetworks-r24

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