Overview: Endeavour Energy Proposal for 2024-2029

January 2023

Endeavour Energy

POWER together

Contents

Endeavour Energy

Endeavour Energy acknowledges the Traditional Custodians of the lands on which we work — the people of the Dharawal, Dharug, Gundungarra, Wiradjuri and Yuin nations — and recognises their continuing connection to Country, cultures and community. We pay our respect to elders past, present and emerging.

Featured artwork: 'Powering A Brighter Future Together' by Rhonda Sampson

Purpose of this summary report

This report sets out a summary of the services and investments Endeavour Energy is proposing to deliver from 1 July 2024 to 30 June 2029 (2024-2029)[1] to continue to provide a safe, secure, reliable and sustainable electricity network for our customers.

Our Proposal for the 2024-2029 period has been developed through extensive customer and stakeholder engagement and has been submitted to the independent Australian Energy Regulator (AER) for review. The AER will consider feedback from interested parties and then decide the revenue we can recover from delivering services to our customers over 2024 to 2029. A copy of our full Proposal and supporting documents can be found on the **AER's website**.

This summary report provides an outline of:

- Endeavour Energy's network
- Key elements of the Proposal and the benefits for customers
- The context for our Proposal and the changing energy landscape
- How we engaged with our customers and stakeholders during the development of the Proposal
- What we have heard from customers and stakeholders and how we are responding to this feedback
- An overview of our Proposal, including our proposed expenditure and tariff strategy
- Key risks and opportunities for our Proposal and how we are proposing to mitigate these risks
- Next steps for our Proposal and how you can make comments.

[1] All references to years in this document refer to financial years. For example, "2024-2029" refers to the 2024/25 (FY25) financial year to the 2028/29 (FY29) financial year, while "2019-2024" refers to the 2019/20 (FY20) financial year to the 2023/24 (FY24) financial year.

A welcome from our CEO and Chair

We are pleased to share with you our Proposal for distribution energy services over the 2024 - 2029 period.

To make this Proposal, Endeavour Energy has conducted its longest and most comprehensive engagement program to ensure it is customer focused. We have been single-minded in our focus on the customers' interest. At a foundational level, that means affordability, whilst maintaining a safe, resilient, reliable electricity network, servicing the growth of our communities and increasingly facilitating new customer energy choices.

We are working hard to keep our distribution network costs stable and relatively consistent despite external factors beyond our control, like interest rates, which are increasing our costs.

We have consistently demonstrated restraint in our future investment plans for our customers. This has meant proposing modest but targeted investments in new areas we heard our customers most value.

In doing so, we have adhered to the principle of balance. Endeavour Energy is proposing future investments that appropriately balance our customers' future priorities with a sharp focus on affordability for all customers. We plan to efficiently deliver the clean energy future that our customers want including smart meters, batteries, electric vehicles and rooftop solar that will enable customers to generate, store, share and sell back electricity into the market.

We are also responding to a changing climate and increasing weather extremes to improve community resilience. We are delivering this transformation while enabling extraordinary growth in our regions as Greater Western Sydney transforms into a hub of industry and innovation to support the new Western Sydney International Airport.

We power our customers lives and businesses with over 2.7 million people living across our network. This will grow to 3 million by 2029. Even with this growth we plan to deliver significant efficiency gains through the costs that we can control, including a 15% real reduction in operating costs and an 8% real reduction in gross capital costs compared to 2019-2024.

Endeavour Energy's distribution network charges are some of the lowest in Australia, according to independent benchmarking by the AER.

We are proud to continue to be one of the best performing distribution networks in the country – engaging constantly with our very diverse customers to make sure we propose investments that look after their interests.

We encourage you to continue to engage with us as we continually shape our energy plans for your future.

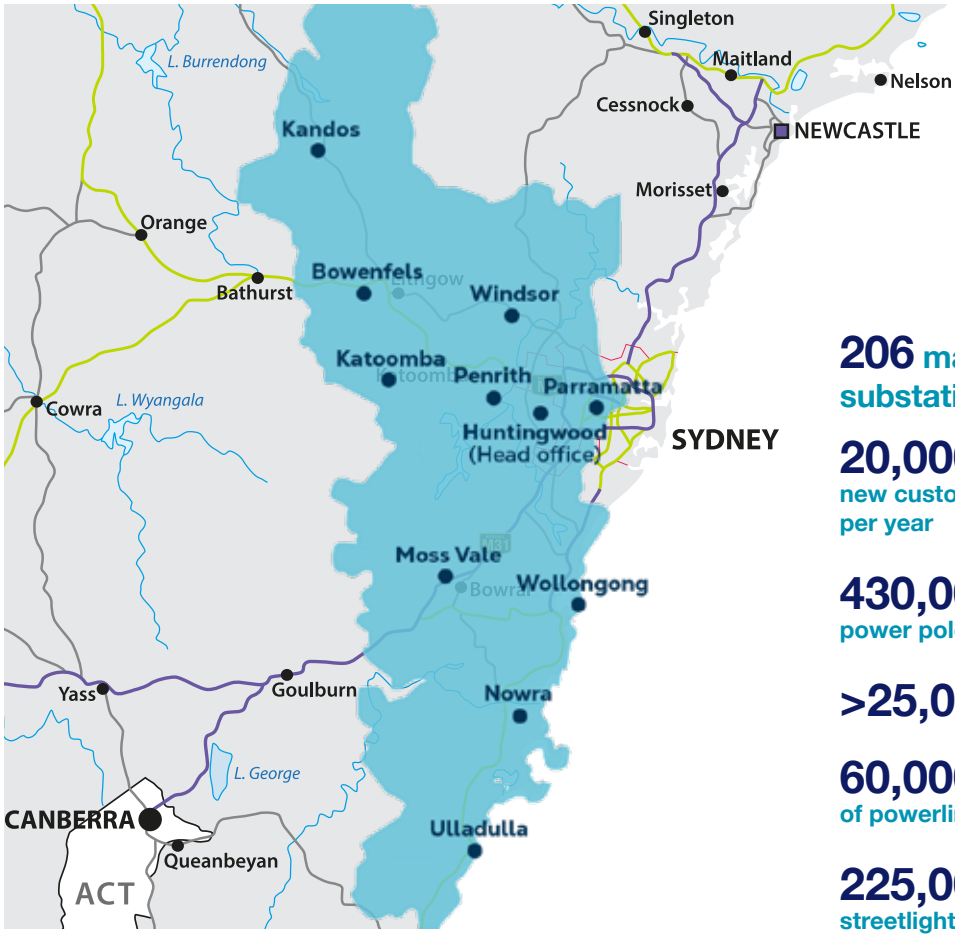
Guy Chalkley
Chief Executive Officer

Hon. Robert Webster
Chair

1. Introduction

Who we are

Endeavour Energy manages an electricity distribution network for 1.08 million customers in households and businesses across an area spanning Greater Western Sydney, the Blue Mountains, Southern Highlands, Illawarra and the South Coast of NSW. We power our customers' lives and businesses and support the economic and liveable urban development of our regions. Our enduring focus is providing affordable, safe, resilient, sustainable and reliable electricity to the 2.7 million people who live across our network, with our network to grow to 3 million people by 2029.



206 major substations

20,000+ new customers per year

430,000+ power poles

>25,000 km²

60,000+ km of powerlines

225,000 streetlights

225,000 customers with renewable energy

2.7m people

1m+ customers

32,000 life support customers

85% of our area is bushfire prone

We build and operate a network that transports electricity from the transmission system to homes and businesses and increasingly we are also distributing renewable energy from our customers' rooftop solar. We recover costs from customers through our network tariffs. Our costs make up less than a third of a typical customer's electricity bill. The other two-thirds consist of charges from electricity generation, transmission, your retailer and Government run renewable energy schemes. These costs, for different types of customers in our network, are shown below[2].

Each part of the average annual electricity bill	Wholesale (generation)	Transmission (Transgrid)	Distribution (Endeavour)	Retail	Green schemes	Total
Residential without electric hot water (4,900 kWh pa)	36%	4%	30%	22%	7%	**= $1,836**
Residential with electric hot water (7,400 kWh pa)	41%	4%	27%	19%	8%	**= $2,383**
Small business without electric hot water (10,000 kWh pa)	36%	4%	26%	24%	10%	**= $3,782**

Green schemes include the national Renewable Energy Target and NSW Climate Change Fund
Source: 2022-23 default market offer; Endeavour Energy analysis
Not all figures add to 100% due to rounding

[2] These costs are shown in nominal terms, which reflects the actual costs in 2022/23.

Customer Panel online deliberative forum, May 2022

RRG meeting, April 2022

Stakeholder Deep Dive, August 2022

Stakeholder Deep Dive, July 2022

2. Our Proposal at a glance

Endeavour Energy makes this Proposal following an extensive program of engagement and collaboration with customers and stakeholders, ensuring that our future services and investments meet the expectations of our diverse customers and are in their long-term interests.

Our distribution network charges make up less than a third of a typical customer's electricity bill and are some of the lowest in Australia[3]. Over 2024-2029 we will build on the efficiency improvements we have made over the last decade to keep our part of the electricity bill steady, while continuing to deliver safe and reliable electricity to our more than one million customers. Outlined below are the key elements of our Proposal for the 2024-2029 period (all figures in financial year 2023-2024 real terms):

2.7%

reduction in our Regulated Asset Base from $8.20bn in 2024 to $7.98bn in 2029. The Regulated Asset Base is the value of the infrastructure assets used to service your electricity supply.

7.9%

reduction in gross capital expenditure from $2.04bn over 2019-2024 to $1.88bn over 2024-2029. Capital expenditure is investments in new infrastructure, network and systems to support our new and existing customers.

15.3%

reduction in operational expenditure from $1.74bn over 2019-2024 to $1.48bn over 2024-2029. Operating expenditure is the cost of maintaining infrastructure assets, such as vegetation pruning near powerlines.

9.8%

increase in our revenue requirements from $4.68bn over 2019-2024 to $5.14bn over 2024-2029.

$48

increase in annual prices for residential customers from 2024 to the average over 2024-2029, which is equivalent to a 9.8% increase[4].

$86

increase in annual prices for small-medium business customers from 2024 to the average over 2024-2029, which is equivalent to a 9.8% increase[5].

10.5%

increase in customer numbers from 1.10m in 2024 to 1.22m in 2029.

5.3%

increase in energy supplied to customers from 16.8GWh in 2024 to 17.7GWh in 2029.

6,000 GWh

of additional renewable energy will be supplied from customers to the Endeavour Energy network over 2024-2029 by enabling excess energy to be exported.

71%

of customers to be transitioned onto cost-reflective tariffs by 2029.

[3] For further details, see the DNSP Operational Data in the AER's Electricity Network Performance Report 2022.
[4] This is based on an typical residential customer using 4.9 megawatt hours of electricity a year. This price increase is primarily being driven by economic factors outside of our control, including rising interest rates. Further details are set out in the 'Overview of our Proposal for 2024-2029' section of this report.
[5] This is based on an typical small-medium business customer using 10 megawatt hours of electricity a year. This price increase is primarily being driven by economic factors outside of our control, including rising interest rates. Further details are set out in the 'Overview of our Proposal for 2024-2029' section of this report.

Key benefits for our customers

We are focused on delivering outcomes that meet our customers' long-term interests at a cost they find affordable. Outlined below are the key benefits for our customers from the proposed services and investments in our Proposal for the 2024-2029 period.

Empowering customers

to take greater control of their energy use and save money through changes to Endeavour Energy's tariff strategy.

Empowering customers with access to the right information and tools to make bill savings by changing when they use energy throughout the day to take advantage of off-peak pricing

Lowering long-term costs for customers by reducing customer demand by almost one per cent in peak evening periods across the existing network over the next ten years

Improving equity and fairness for customers through efficient transitional tariffs designed for new technologies such as electric vehicles and batteries

$603m

on infrastructure replacements to maintain reliability and boost network resilience to extreme weather and adapt to a changing climate. This includes:

Replacing 212km of bare conductors, which can spark when branches fall on them, with covered conductors in bushfire prone areas

Raising 18 major overhead powerlines to improve resilience in flood-affected areas across the Hawkesbury, Camden, and Penrith local government areas

Replacing key cables to improve security of supply to the Parramatta CBD

$532m

for growth and connections, which includes support of the historic and unprecedented planned growth for Western Sydney as it becomes a hub of innovation and liveable places.

Facilitating more than **116,000 new customer** connections

Supporting the visionary growth of three of the six Greater Cities Commission's metropolis cities - Western Parkland City, Greater Paramatta and Metro Wollongong

Further developing the North-West and South-West Priority Growth Areas and the Greater Macarthur and West Lake Illawarra Growth Areas

$65m

to support customers to take up new technology, like electric vehicles, batteries and rooftop solar as part of the NetZero economy. This includes:

Enabling more customers to export solar energy to the grid and preparing for a significant increase in electric vehicles

Installing batteries to support the modern and efficient development of the grid

Establishing a $25m Innovation Allowance to help customers prepare for an accelerated energy transition through actions like trials of emerging technology

$129m

on information and communications technology and corporate digital investments to reduce costs and increase secure data access for customers.

Reducing operational expenditure by $70 per customer between 2024 and 2029

Investing $48m on cybersecurity to boost the reliability of the network and protect customer information

Our changing energy landscape

As we have developed our Proposal over the last two years with our customers and stakeholders, we have identified seven key emerging trends that are shaping our current and future operating environment

Customer centrality: More empowered customers are playing a more central role in how we operate our network

Trust, reputation and purpose: Empowered communities and individuals have more choices, louder voices, and expect us to align with their personal values

Greater Western Sydney regional growth: By 2036, half of Sydney's population will reside within the city's west, where the growth is the equivalent of building a new city from scratch

Economic volatility and cost of living pressures: International and domestic developments are leading to rising inflation and energy prices, with cost of living now a key focus for all customers

Climate change and extreme weather: Extreme weather events are forecast to increase in frequency and intensity, which will increase risks to the reliable supply of electricity

A changing grid in a low-carbon economy: The transition to a NetZero economy will transform the way we generate and consume energy as more customers take up technology like rooftop solar, batteries and electric vehicles and increasingly export electricity to the grid

Efficient and effective service in a digital age: Digital technologies are creating significant operational efficiencies, but advances in technology also come with the risk of more frequent and sophisticated cyberattacks

These emerging trends and customer engagement have affected our Proposal in the following ways:

Increased focus on value for money, with a focus on improving our long-term service quality and affordability

Increased focus on innovation and resilience, to support the transition to a low carbon economy and address the increased risk of extreme weather events

Commitment to ongoing engagement to ensure our plans continually reflect the ongoing interests of customers

We will continue to consider and respond to changes in our evolving operating environment to make sure our services and investments affordably meet the needs and priorities of our customers.

3. Our engagement process

Our customers' views have shaped the services and investments Endeavour Energy proposes to deliver between 2024 and 2029.

Led from the top, with ongoing engagement by the Endeavour Energy Board, Endeavour Energy set out in 2020 to develop and implement an authentic and transparent program of engagement. A specially established Regulatory Reference Group (RRG), comprising independent expert stakeholders and Endeavour Energy representatives, was set up to co-design, review and refine the way we undertook engagement. This included the topics we explored with different customers and stakeholders and the materials we developed to both deliver the engagement program and enhance customer and stakeholder understanding.

A wide variety of engagement methods and channels were used to ensure the overall program achieved both deep and broad engagement with a diverse cross-section of customers and stakeholders. Further detail on our engagement process for the development of our Proposal can be found in our Engagement Summary Report, available on our Your Say website here.

Deep engagement methods

- Customer Panel of 89 representative residential and small business customers who undertook an extended engagement process conducted online during the pandemic
- RRG engagement through ongoing regular workshops
- Engagement with Endeavour Energy's Peak Customer and Stakeholder Committee
- Workshops with stakeholders across a variety of segments

Broad engagement methods

- Survey of 1,266 residential and small-medium business customers
- Regular surveys with customers and stakeholders, including 'Voice of Customer' surveys with customers who have interacted with Endeavour Energy
- Exploratory focus groups with residential and small-medium business customers
- State of the Network forum with a broad range of stakeholders
- Joint stakeholder workshops and discussion papers with other distribution network businesses
- A 'Have Your Say' engagement portal linked to the Endeavour Energy website and a monthly 'Your Say' regulatory engagement newsletter
- Social media posts (LinkedIn and Facebook)

Targeted engagement methods

- Culturally and linguistically diverse in-language engagement
- Workshop with high-energy customers
- Local council workshops
- Meetings and workshops with retailers
- Meetings and workshops with retailers and new and emerging market participants such as market small generation aggregators and energy storage providers
- Meetings with commercial and industrial energy users

We have taken an agile approach, with feedback from each part of the process influencing the ongoing direction and design of the program.

The preferences and insights gathered from each initiative formed an individual pillar of evidence, with each pillar weighted, considered and reviewed by the RRG to ensure there remained a clear line of sight between what was heard from customers and stakeholders and the decision-making processes that sit behind our Proposal.

Because no single piece of feedback can provide a comprehensive picture, Endeavour Energy has considered all pillars of evidence to determine the most appropriate direction for the development of this Proposal.

Engagement Phases

Four phases of customer and stakeholder engagement have occurred in the development of this Proposal. We will now undertake a fifth 'Confirm Phase' to confirm any outstanding considerations arising from our Proposal.

Preparation

Oct 2020 – Mar 2021

A period of forward-planning to prepare Endeavour Energy for the launch of the regulatory cycle.

Phase 1 Discover

Apr 2021 – Sept 2021

A research period to better understand customer and stakeholder needs and preferences to help shape our engagement approach.

Phase 2 Explore

Oct 2021 – Apr 2022

A period of deeper exploration of key issues to help inform the development of our Preliminary Proposal.

Phase 3 Prioritise

May 2022 – Oct 2022

Broad and deep engagement on our Preliminary Proposal, identifying aspects of greatest importance to customers, leading to the development of our Draft Proposal.

Phase 4 Refine

Nov 2022 – Jan 2023

Developing and refining our Proposal using insights from the previous phase and delivering our Proposal to the AER.

Phase 5 Confirm

Feb 2023 – Oct 2023

Confirming our customers' priorities in the context of a changing external environment.

Engagement by numbers

2,400
hours of face-to-face engagement by Endeavour Energy

129
unique engagement events or opportunities

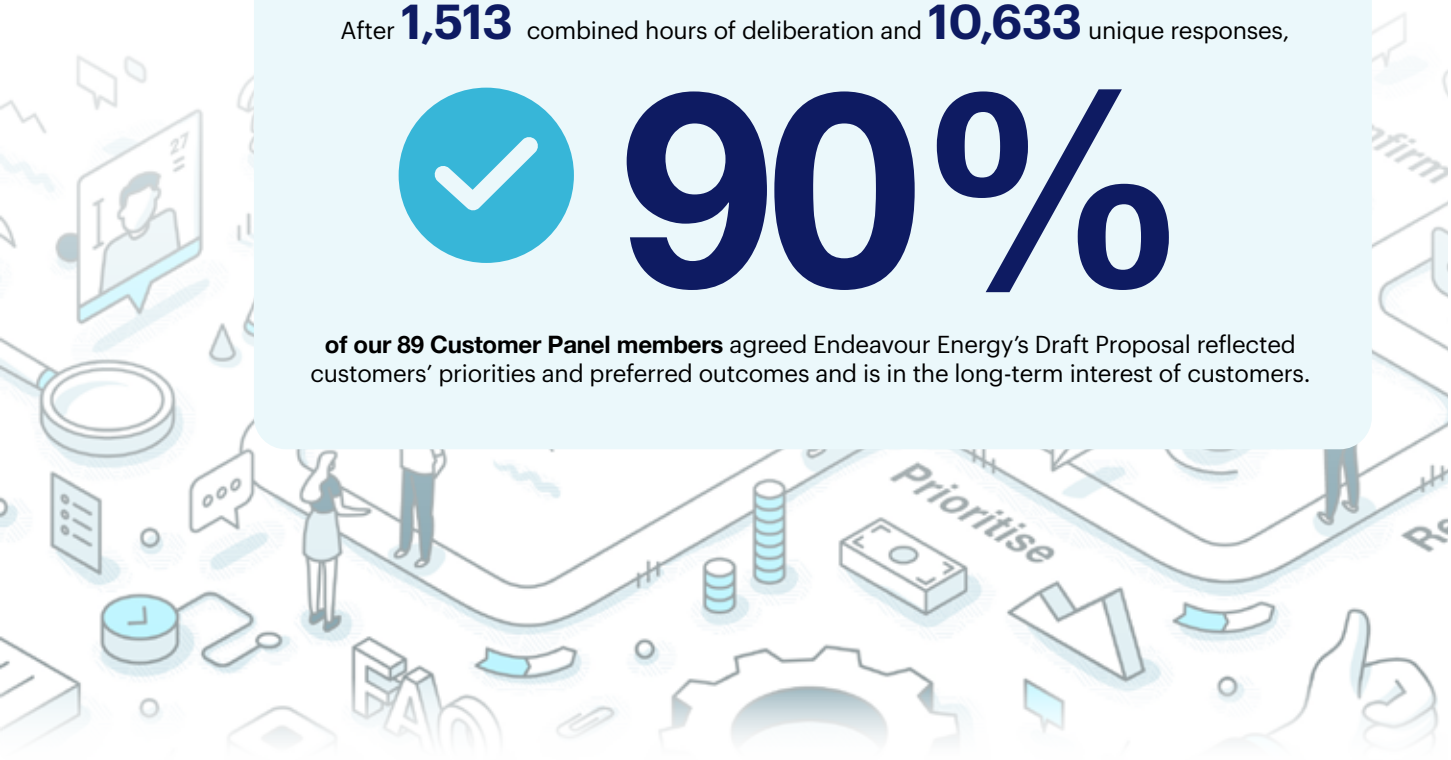
1,813 individuals and
124 organisations engaged
including 230 customers from Culturally and Linguistically Diverse backgrounds and 52 customers identifying as First Nation's people

Online reach to
41,743 Facebook and
40,075 LinkedIn users

After **1,513** combined hours of deliberation and **10,633** unique responses,

90%

of our 89 Customer Panel members agreed Endeavour Energy's Draft Proposal reflected customers' priorities and preferred outcomes and is in the long-term interest of customers.



4. What we have heard from our customers

Over the last two years Endeavour Energy has undertaken broad and deep consultation with our customers and stakeholders to understand what services they value and what they want from us in the future. As part of this process, we identified eight priority areas. Outlined below is what we heard from our customers and how we are responding in our Proposal on each priority area.

Priority area	What we heard	How we have responded
Affordability and value for money	• Customers and stakeholders wanted a safe and reliable supply of electricity at an affordable price. • They wanted Endeavour Energy to find ways to limit spending due to growing concerns about affordability from higher interest rates and cost increases from other parts of the energy supply chain. • Despite this focus on affordability, customers told us they would support a small cost increase to improve network resilience due to extreme weather events, and to enable greater innovation.	• We have adopted a restrained approach to investment in the delivery of priority customer services, tightly managing the costs we can control to keep our contribution to customer bills as low as possible despite rising external pressures driving up our costs including interest rates. • These decisions would mean the annual average price increase over 2024-2029 for a typical residential customer is limited to $48 (9.8% average increase on 2024 prices); and the average annual increase for small-medium businesses is limited to $86 (9.8% average increase on 2024 prices). These price increases are almost entirely driven by external factors, reflecting our commitment to ongoing customer affordability in the investment decisions we make on their behalf.
Reliability	• Most customers and stakeholders told us they would prefer the same level of reliability at a similar cost to today. Many customers also supported long term reliability improvements for customers with poor reliability.	• We are proposing investments to maintain reliability levels in keeping with customer preferences. We also propose $16m of targeted investments to support customers in the worst served areas of our network in accordance with our license conditions. • We will manage the increasing challenge of maintaining reliability by pursuing operational and technology efficiencies rather than additional investments that would drive up costs for customers.
Resilience	• Both customers and stakeholders wanted Endeavour Energy to take a more proactive approach to maintaining electricity supply during major weather events and other extremes such as cybersecurity threats and pandemics, and to work more closely with Government, other utilities and communities to improve community resilience.	• We are proposing additional capital expenditure of $28m to improve network and community resilience. • This will be invested in targeted initiatives that deliver value to impacted communities, including the replacement of 212km of bare conductors in bushfire prone areas; raising powerlines in flood-prone areas of the Hawkesbury Nepean catchments; and providing back-up power to critical infrastructure at community hubs in times of emergency.

Priority area	What we heard	How we have responded
Sustainable growth	• In servicing new developments, most customers wanted electricity infrastructure to be built at the same time as other utilities at a steady cost. • There were mixed views about the fairest way to fund new connections, with a majority of customers and stakeholders opting for the existing 'causer pays' approach in which new customers cover the cost of their connection.	• We continue to propose a 'just in advance' approach to the timing of investment to support new growth, in line with customer preferences. • In line with customer and stakeholder feedback, we are also proposing to maintain the 'causer pays' approach to fund new growth. • Despite an increase in connection growth and forecast costs, we plan to offset the additional connection costs compared to the current period through greater internal efficiencies.
Supporting customer choice and innovation	• Customers and stakeholders wanted us to support an accelerated transition to a low carbon economy and minimise limitations to customer exports of energy, like rooftop solar. • As well as a cleaner environment, they want to save through smarter, more efficient technologies and greater choice and control of their energy use.	• We propose to increase our focus on innovation by establishing a $25m Innovation Allowance, which will have oversight from a new customer reference group. The Innovation Allowance will be invested in technology trials to give customers the opportunity to participate in new energy markets. This will maximise the value of the energy they generate and the distribution of customer generated resources on the grid. • The Innovation Allowance will also be used in partnership with stakeholders to build community resilience and to innovate the delivery of our service, making it more resilient, sustainable and affordable.
Tariffs	• In-principle, customers are supportive of cost-reflective tariffs. Cost-reflective tariffs (which include off-peak and peak rates for electricity consumption) are considered fairer, because customers are charged for how and when they use the network. Refer to page 30 for further information. • The majority of customers preferred an opt-in approach to both cost-reflective and solar export tariffs as they prioritised choice and were concerned about the ability of customers to change their behaviour in response to different tariffs. • Most customers felt that a transition period and education would be important. • Other stakeholders were more supportive of mandating cost-reflective, solar export and new tariffs designed for emerging technologies under a faster timeframe.	• We are working with retailers to transition customers with smart meters to cost-reflective tariffs. We will support this change by conducting the transition over a two year period to help customers understand their energy usage and adjust their behaviour to take advantage of cost-reflective tariffs. We will do this by offering transitional tariffs to help customers make that adjustment and by working with retailers to understand what educational support customers need to make a smooth transition to cost-reflective tariffs. • We will work with retailers to introduce a solar export and reward tariff on an opt-in basis from 1 July 2024. However, from 1 July 2025, we will place all new and upgrading solar customers on the tariff as the default, which they can chose to opt-out of.

Priority area	What we heard	How we have responded
Keeping customers at the centre of our decision making	• Customers wanted to be kept informed of planned and unplanned outages to minimise disruptions. They also wanted improved access to data to manage their electricity usage and bills more actively. • Other stakeholders focused on embedding our improved engagement approach into business-as-usual activities.	• We are improving our communication and management of planned outages and carefully measuring and responding to customer satisfaction in general customer interactions, as well as in interactions relating to planned and unplanned outages. We are also increasing access to information for customers through our website and via social media channels. • Our increased commitment to customer and stakeholder engagement is also being adopted as part of our business-as-usual approach.
Smart cities and communities (streetlighting/ councils)	• Local councils want to partner with us on managing severe weather, particularly extreme heat; improving community resilience; and accelerating the transition to renewable energy. • Councils are also seeking to rapidly transition to more energy efficient public lighting.	• We will continue to collaborate with the Western Sydney Regional Organisation of Councils and will expand this approach with all 22 local councils across our supply area, focusing on resilience, sustainability and renewable technologies. • We are making new technology for public lighting more affordable, while also delivering significant energy savings to councils. • We have updated our Public Lighting Modelling approach to simplify it so that new technologies can be transparently priced and more quickly introduced over the course of a regulatory period.

5. Overview of our Proposal for 2024-2029

Our Proposal for 2024-2029 sets out our plans for the services and investments we propose to deliver to our customers and the revenue needed to fund them. This overview of our Proposal sets out the:

- Impacts for customer bills
- Our forecast revenue and expenditure
- Impacts for network performance
- Our tariff strategy
- How we have considered micro embedded generators and new market entrants

Impacts for customer bills

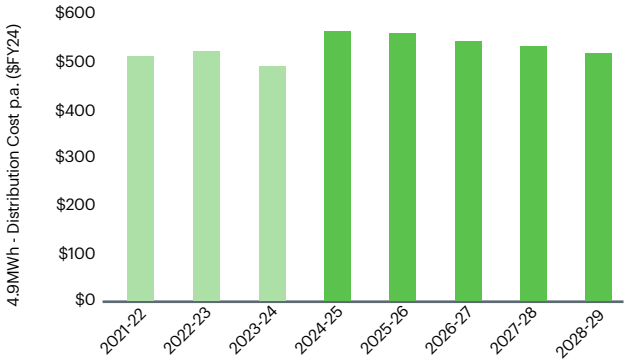
In developing our Proposal, we have focused on delivering on customer priorities while keeping our contribution to electricity bills as low as possible. There is a range of external cost pressures that are outside of our control, including rising interest rates, which are having an impact on energy affordability.

These external factors mean that even though we have made a Proposal to lower our operational and capital expenditure, prices are increasing because of rising interest rates and other external economic pressures.

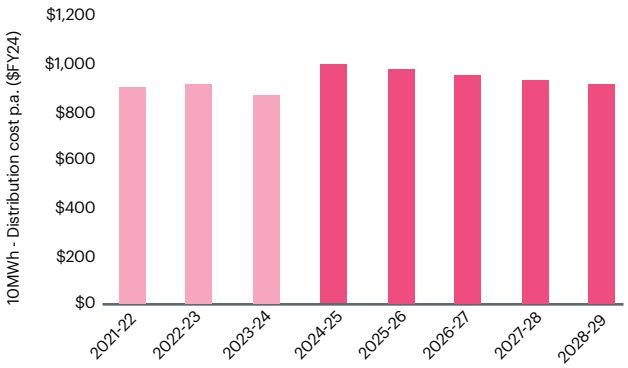
Our proposed revenue for 2024-2029 will mean an average increase in our annual prices from 2024 to the average over 2024-2029 of:

- **$48 for the average residential customer, which is equivalent to a 9.8% increase.**
- **$86 for the average small-medium business, which is equivalent to a 9.8% increase.**

Average residential distribution bill



Average small-medium business distribution bill



Our forecast revenue

Our forecast revenue is based on the capital costs and the operating costs of delivering services to our customers for the five-year period between 2024 and 2029. Our proposed revenue is based on:

Return on and of capital, which includes:

- The return on investment, which includes the costs of financing investments such as interest costs on debt and returns to shareholders.
- The depreciation costs of our assets, which enables us to recover the value of an asset over its useful life.

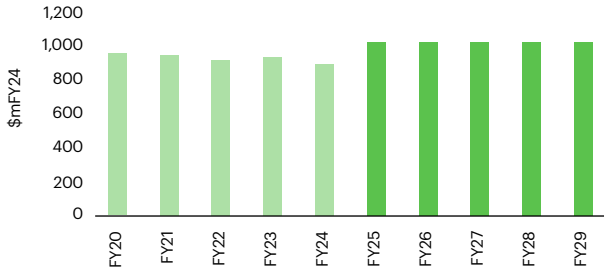
Operating expenditure, which includes the day-to-day costs of operating and maintaining our assets and operating the business, like the cost of sending a crew out to repair powerlines and customer service costs.

Financial incentives and/or penalties approved by the AER to drive improvements in efficiency, innovation and service quality.

Tax costs.

Endeavour Energy's proposed revenue over 2024-2029 is $5.1bn, which is 9.8% higher than our expected revenue in the current 2019-2024 period of $4.7bn.

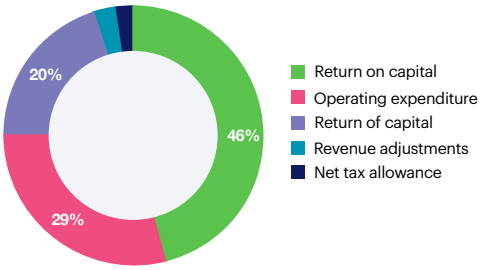
Endeavour Energy revenue (actual and forecast)



95% of the increase in our proposed revenue for 2024-2029 compared to 2019-2024 is due to factors outside our control.

As shown below, our proposed revenue for 2024 to 2029 is primarily being driven by our return on capital which is affected by economic factors outside our control, including rising interest rates, which are increasing the financing costs of our investments.

Forecast revenue breakdown



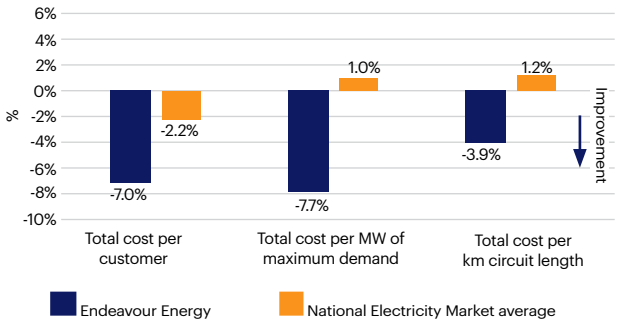
This increase in our proposed revenue would equate to around a 3% increase in a customer's total electricity bill, as distribution network costs comprise less than one third of the total electricity bill.

We are doing everything we can to mitigate the impact of external cost pressures on our customers while delivering the services customers have told us they want.

We are committed to keeping our capital and operating expenditure for the 2024-2029 period below our spending over the current 2019-2024 period. As a result, total expenditure per customer per annum is expected to decline by 22% from $650 in 2024 to $507 in 2029.

As shown below, over recent years we have made significant cost reductions across a number of key indicators, including total cost per customer, total cost for each megawatt of peak demand on the network, and total cost per kilometre of our powerlines. These efforts to keep our costs down mean Endeavour Energy now performs significantly better than average performance of other network businesses across the National Electricity Market.

Endeavour Energy's performance on key indicators over 2017 to 2021



Our productivity ranking for operating costs compared to other network businesses in the National Electricity Market has improved significantly from 10th in 2016 to 4th in 2021.

Our ambition is to remain one of the most efficient networks in the National Electricity Market, so we can continue to keep costs down for our customers while still delivering on the priorities and services they most value. We have made significant progress in achieving this objective, and we will continue to strive towards it.

Our forecast capital expenditure

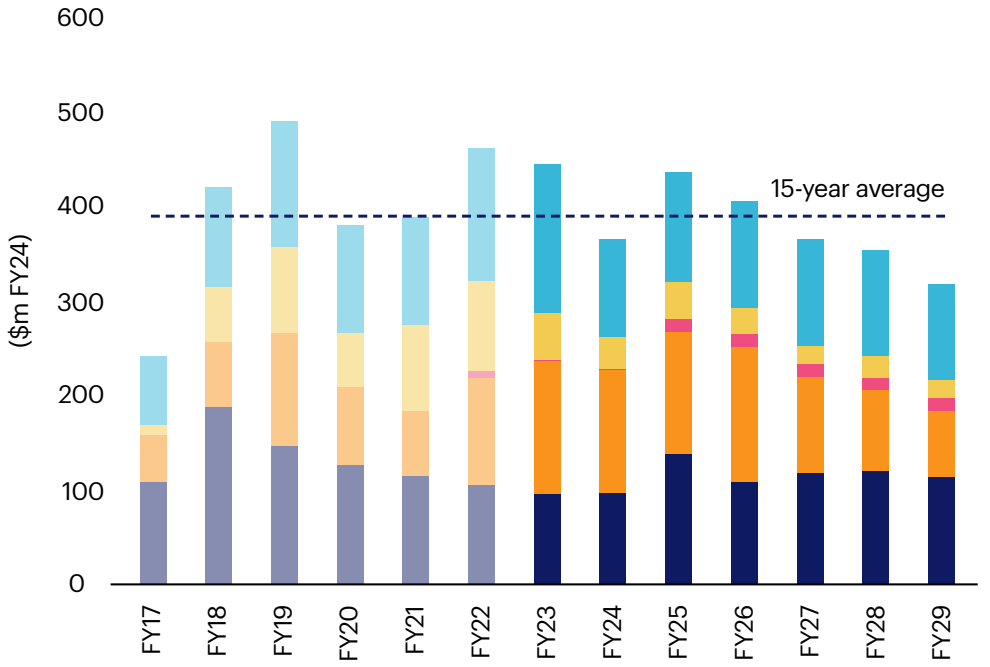
Capital expenditure is the investment required to maintain the safety, security and reliability of supply and to connect new customers (including their choice in new technologies) to the network. Our capital expenditure looks to deliver an efficient electricity service while managing increasing demands on the network, including:

- **Growth in peak demand[6]:** the peak demand for 2021-22 was 3,716 MW. We expect this growth to continue over the 2024-2029 period to a new record system peak demand of 5,014 MW[7] by 2028-29 due to new connections and increased industrial activity.
- **Growth in new technology uptake and energy exports by customers:** by the end of the 2024-2029 period, we expect the proportion of our customers with rooftop solar will double to 41% and that 16% of customers will own an electric vehicle and 9% will own a battery.
- **Increasing customer numbers:** we expect to connect an average of 23,000 new customers each year over the 2024-2029 period. New connections are particularly driven by the unprecedented commercial, industrial and residential growth in Greater Western Sydney and forecast economic recovery.
- **Increasing energy consumption:** over the period from 2024-2025 to 2028-29 we expect an annual average growth in electricity consumption of 1%, largely because of increased connections and increased commercial activity.

Endeavour Energy's proposed capital expenditure over 2024-2029 of $1.88bn is 8% lower than our expected capital expenditure in the current 2019-2024 period of $2.04bn. Despite increasing demands on our network, this reduction will be delivered through more efficient delivery of our services.

[6] This is the highest amount of energy being collectively consumed across our network net of embedded generation.
[7] Figure is based on a 50 percent probability of exceedance (POE) which is what is used for network planning purposes.

Endeavour Energy's actual and forecast capital expenditure



Our investments snapshot

▲116,000
new customer connections – 20% above current period

$554 million
12% less overheads and supporting systems (buildings, fleet etc.)

$129 million
60% less ICT and digital investment (returning to industry benchmarks)

$65 million
New customer technology hosting category (EV, PV and batteries)

$532 million
Supporting growth and connections

$603 million
Infrastructure replacement and resilience

The key drivers of our proposed capital expenditure for 2024-2029 are:

- $65m to support increased customer uptake of new technology including rooftop solar, batteries and electric vehicles. This is an increase of $55m compared to 2019-2024.
- $532m to support new growth and connections, particularly in the Greater Western Sydney region, with a 20% increase in new connections expected across the network compared to the current 2019-2024 period. This is a slight decrease of $3m compared to 2019-2024.
- $603m to support replacement of existing assets to maintain reliability of supply and boost community resilience to extreme weather as we adapt to a changing climate. This is an increase of $58m compared to 2019-2024.

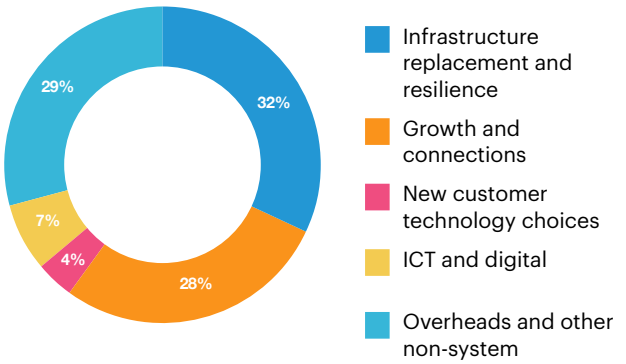
Deep customer engagement has identified increasing expectations for these resilient and modern services, and our capital expenditure, which responds to customer preferences, has been validated by independent economic, climate and risk analysis.

We have been able to propose modest, targeted increases in capital expenditure through improved efficiencies in asset planning and use of existing assets, strategic partnerships and by actively forecasting increasing demand by new customers. This includes new embedded generators, which are customers with any type of individual electricity generation unit that is connected to the electricity distribution network - such as solar panels or batteries. In some cases, this has resulted in slight increases in short term operating expenditure to reduce or defer capital expenditure.

Increases in proposed capital expenditure in these areas have been offset by proposed reductions in investment in:

- Information, communications and technology and digital investments, with $129m proposed, a decrease of $197m compared to 2019-2024.
- Overheads and supporting systems (e.g. buildings, vehicle fleet), with $554m proposed, a decrease of $76m compared to 2019-2024.

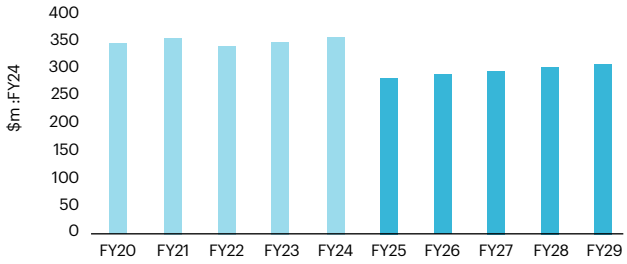
Proposed capital expenditure breakdown for 2024-2029



Our forecast operating expenditure

Operating expenditure is the day-to-day costs of operating and maintaining our distribution network. Our operating expenditure allows us to continue to provide a safe and reliable supply of electricity, through the maintenance and inspection of existing assets.

Endeavour Energy's existing allowance and forecast operating expenditure



The key drivers of our proposed operating expenditure for 2024-2029 are:

- Insurance, as climate change and recent large-scale bushfires in Australia and the United States have increased costs in the global insurance market
- Changes to the way we manage our network to better support customer uptake of technology, like rooftop solar and smart meters, and changes to the way we manage customers exporting energy to the network.

These increases in proposed operating expenditure, targeted to specific outcomes most valued by our customers, have been offset by proposed significant reductions in investment in information, communications and technology costs.

Endeavour Energy's proposed operating expenditure over 2024-2029 of $1.48bn is 15.3% lower than our allowed operating expenditure in the current 2019-2024 period of $1.74bn.

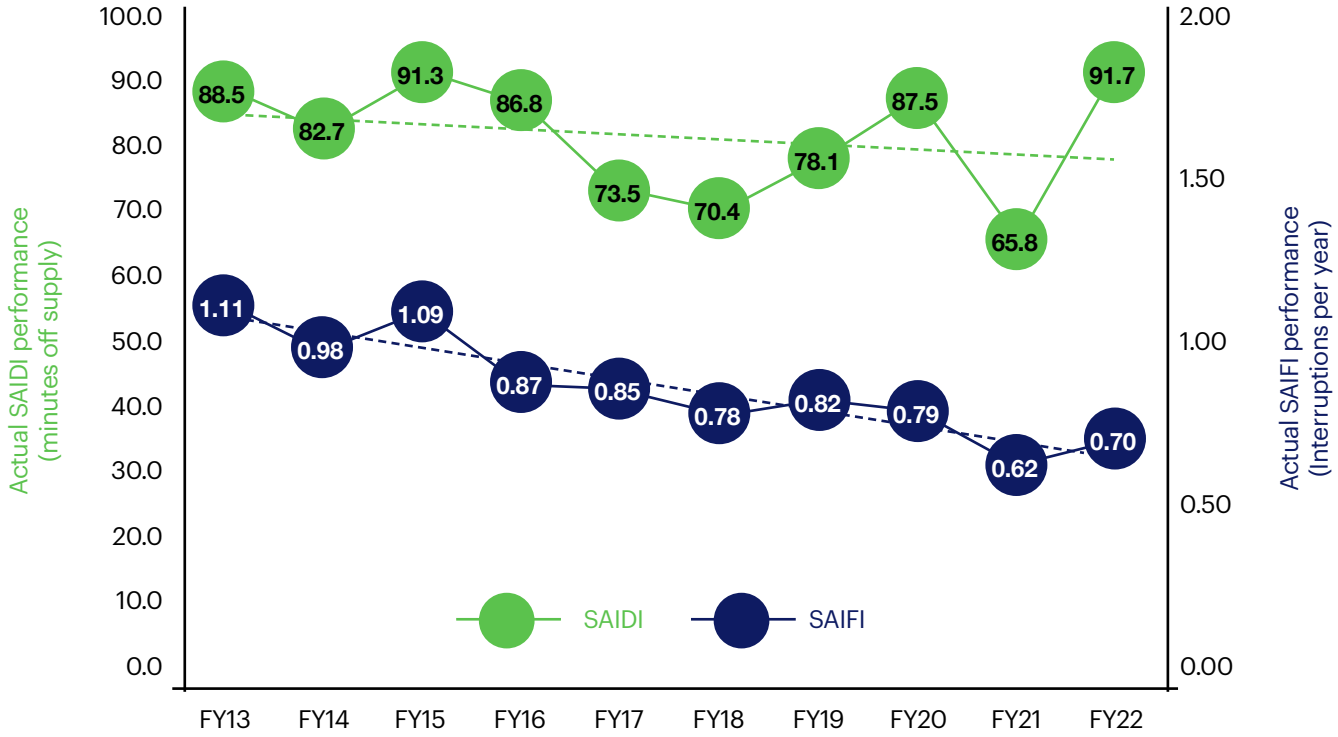
Impacts for network performance

The proposed expenditure in our Proposal is intended to maintain reliability levels for our customers, consistent with the feedback we have received during our engagement program. We are also proposing to invest $16m to improve reliability for customers in the worst served areas of our network, who are typically at the edge of the grid.

As shown below, our reliability performance demonstrates a steady improvement over recent years.

The System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI), which measure the average duration and number of unplanned outages that our customers experience, have both progressively reduced since 2013. Increases in the average duration of outages in the last year (SAIDI), are due to an unprecedented increase in the impacts of major adverse weather events, including the Hawkesbury Nepean floods.

Our normalised reliability performance from 2013 to 2022



We are also proposing changes to our AER-approved incentive scheme to improve our management of planned and unplanned outages and customer satisfaction. This reflects the feedback we received from our customers who identified information on planned outages as a priority future service.

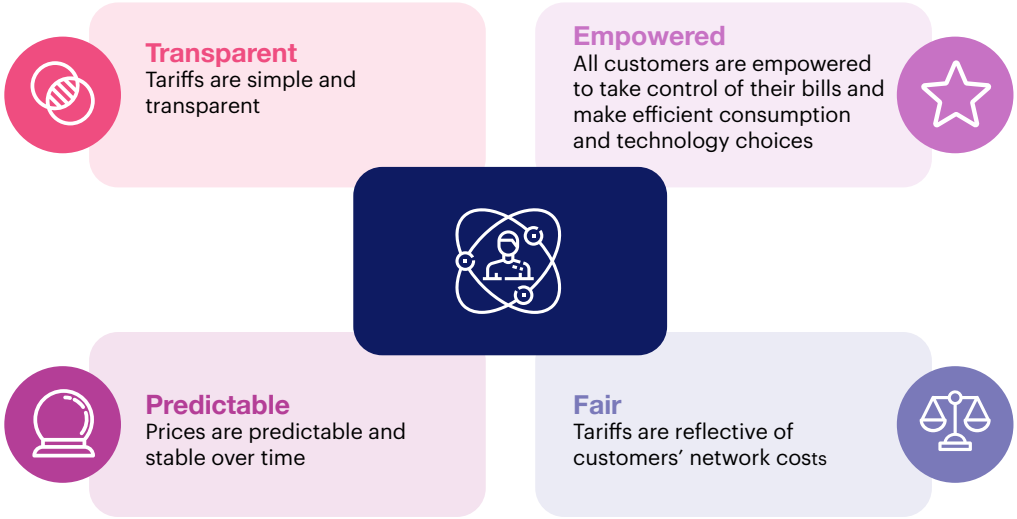
We are proposing targets that would reward performance for exceeding, or penalise performance for falling below these measures:

- 25.8% of planned outages starting within 30 minutes of the communicated start time to customers
- 22.4% of actual outages finishing within one hour of the planned duration communicated to customers
- Customer satisfaction scores of:
  - 4.7 for unplanned outages
  - 6.0 for planned outages
  - 7.6 for general enquiries.

Our tariff strategy

Network tariffs are how customers are charged for their network service and energy usage. Distribution networks like Endeavour Energy charge network tariffs to retailers, who then pass them onto customers. These tariffs enable Endeavour Energy to recover the revenue needed to build, operate and maintain our network to transport electricity to and from our customers. It is important that Endeavour Energy works with retailers and other market bodies, as ultimately retailers decide how to pass on efficient tariffs to customers in their long-term interest.

The underlying principles of our approach to tariffs are outlined below.



In developing our tariff strategy and tariff structure statement, we have engaged with a range of stakeholders and customers. This has also included holding several workshops with retailers, large Battery Energy Storage System (BESS) providers and other market participants such as Small Generation Aggregators (SGA), who can pool and sell energy generated and exported back to the distribution network by our customers from rooftop solar, batteries or electric vehicles.

Efficient network pricing requires a clear and causal link between customer network use and the costs that this use imposes. We engaged with our stakeholders on our long-term capital and operating costs and how these could be most efficiently reflected in and impacted by tariffs. As a result, we propose to incorporate both import and export price signals into our tariffs. This requires an estimation of the forward-looking efficient costs, or long-run-marginal-cost (LRMC), for both imports and exports. Our estimates of LRMC include those components of forward-looking network expenditure that could be avoided through a change in the timing of a customer's consumption or generation.

For our proposed export tariffs, we are also required to offer a basic export level to customers without charge, which allows a retail customer to export to our network up to this level at no additional charge. This basic export level is closely linked to the pre-existing, inherent export hosting capacity of our network and reflects the baseline level of export power flows that can be supported without the need for additional network expenditure.

Although we have not proposed changes to the funding arrangements in our Connection Policy based on our engagement, our Connection Policy has been updated to reflect new types of connection arrangements including dynamic operating envelopes (DOE), static zero export limits, stand-alone-power systems (SAPS), and small resource aggregators.

Further details on these tariffs and considerations are provided in our Tariff Structure and Explanatory Statement on the **AER's website**.

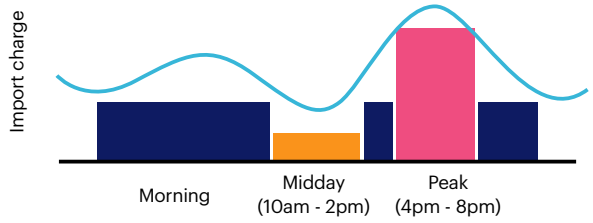
Cost-reflective tariffs

For the 2024-2029 period, Endeavour Energy is proposing to accelerate the transition of customers to cost-reflective tariffs, which better reflect the costs of distributing electricity on our network at different times of the day and year. Cost-reflective tariffs (which include off-peak and peak rates) are considered fairer because customers are charged for how and when they use the network. Cost-reflective tariffs also allow customers to make better decisions about how to manage their electricity consumption, enabling them to save on their bills.

As cost-reflective tariffs better reflect the costs of distributing electricity on the network, they can also encourage more efficient use of the network by customers. When thousands of customers make small changes to how they use the network, this can help to reduce peak demand in the evenings. Over time, this will help to reduce how much additional investment is required to deliver a reliable service, helping to keep network costs down for all customers.

Cost-reflective tariffs will result in lower prices in the middle of the day during 10am-2pm when demand for electricity and use of the network is low and exports of rooftop solar to the network are highest. Conversely, there will be higher prices in the evening on weekdays from 4pm-8pm when the demand for electricity is high and the network is at its busiest as people come home from work and school.

Cost-reflective energy tariff structure



Tariff structures and times remain constant between high and low seasons. All prices are based on energy (c/kWh). Peak prices change between seasons.

Export tariffs

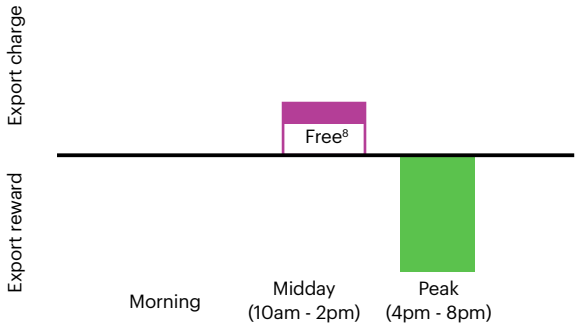
Export tariffs or "prosumer tariffs" relate to how customers are rewarded or charged for exporting excess energy that they generate back to the network, for example from rooftop solar. Export tariffs are cost-reflective tariffs that can help to improve how the network is used and encourage more customers to purchase new technologies. This can help to avoid the need for additional inefficient investment in the network.

For the 2024-2029 period, Endeavour Energy is proposing to enable existing customers to opt-in to an export tariff from 1 July 2024. From 1 July 2025, new and upgrading customers who export energy back to the grid would be moved onto the export tariff but would be able to opt-out if they choose.

We are proposing to charge for energy exports to the network in excess of a minimum 2kW threshold from 10am-2pm in the middle of the day to encourage customers to use the electricity they are generating rather than export it to the network. This will help to limit pressure on the network's stability from excess solar generation and reduce the need for upgrades to the system, which would pass further costs onto all customers.

Conversely, we are proposing to reward customers for exporting electricity during times of high electricity demand from 4pm-8pm on weekdays to encourage customers to export the excess energy they are generating for other customers to use when it is most needed. The reward proposed for customers exporting energy at periods of high demand in the evening is significantly greater than the charge proposed for customers exporting excess energy above the minimum threshold during the middle of the day.

Export energy tariff structure



[8] Free exports apply up to a 2kW threshold. Charges will apply during the 10am-2pm window for exports in excess of 2kW.

Efficient large energy storage and embedded network tariffs

We are in a unique position to rethink our large-scale commercial tariffs to better accommodate new and emerging technology. We are looking to efficiently incentivise large and community scale grid-connected batteries to connect to our network with cost and reward mechanisms, as well as fast electric vehicle charging.

We have also reassessed our approach to charging embedded networks (privately owned and managed electricity networks that often supply all premises within a specific area or building), which will ensure all customers pay for their fair use of the network.

Our Proposal looks to incentivise these connections while ensuring they make a fair contribution to network costs.

Impact of our proposed tariff strategy

Over 2024-2029, we forecast our tariff strategy will lead to:

- 71% of our customers being on cost-reflective tariffs by 2029, up from 8% in 2022. The forecast growth in customers on cost-reflective tariffs will be affected by the roll-out of smart meters to customers.
- More efficient integration of electric vehicle charging, batteries and increased rooftop solar exports to the grid through new tariff structures. This will encourage customers to move their electricity usage to times of lower network demand and generation to times of higher network demand, saving all customers money over the long-term.
- An almost 1% reduction in maximum demand by 2029 from existing connections across our network, which will reduce costs for all customers over the long-term.

These forecast benefits will depend on the extent to which retailers pass through our cost-reflective tariffs to customers. We will continue to work closely with retailers to understand what support customers may need to facilitate the transition to cost-reflective tariffs and to ensure that customers can benefit from the long-term savings these tariffs can provide.

How cost-reflective tariffs impact different customers

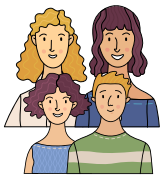
To help customers better understand how cost-reflective tariffs will work, during our engagement program we developed a range of examples to show how cost-reflective tariffs could impact different customers.

For each customer below, we have outlined the:

- Current flat tariffs in 2025 (not cost-reflective)
- Impact of cost-reflective tariffs compared to the current flat tariffs
- Impact of shifting use from peak periods (evenings) into off-peak periods (in the middle of the day or overnight), assuming a 10% shift in consumed energy from peak to off-peak periods
- The total impact of cost-reflective tariffs and moving energy use away from peak periods compared to current flat tariffs.

In the example, some customers with solar are paying more, since their consumption in the evening peak remains high and this reflects the costs they place on the network.

The impacts below demonstrate the annual distribution network costs for different customers (which account for less than one third of their total electricity bill). The table below assumes these customers have not changed the overall amount of energy they consume – only the time they consumed it. If they also reduced the amount of energy they used, they would be able to achieve lower bills. It is important to note these examples are illustrative only and not every customer will make savings with cost-reflective tariffs. Actual cost impacts will depend on a variety of factors, such as how, when and how much electricity each customer uses.

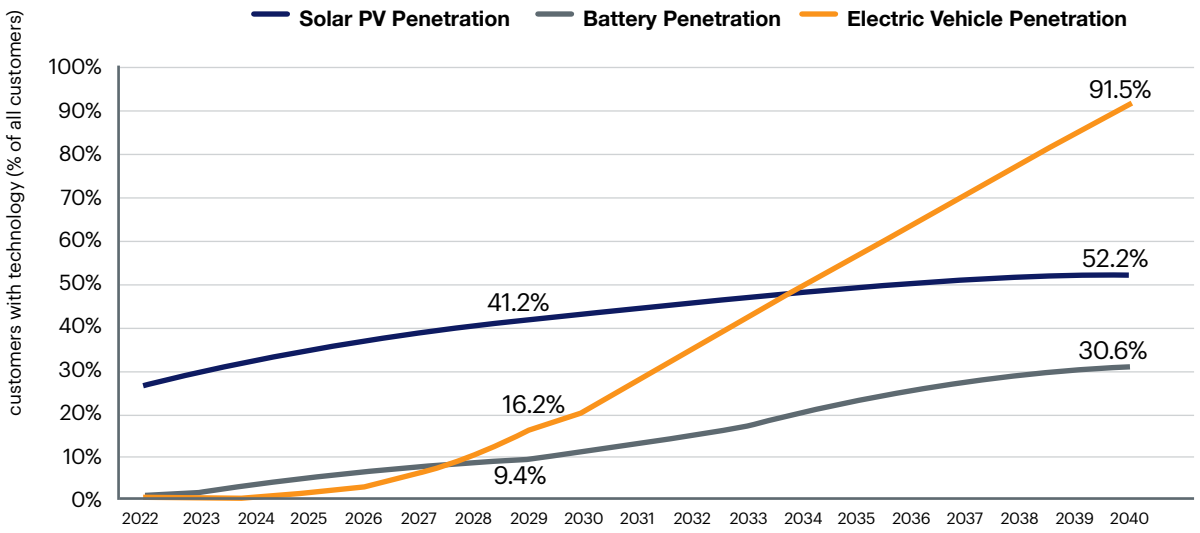
Who	**Lynette and Ian** Pensioners from Shellharbour **1,600kWh/year** **Without solar**	**The Hanlons** Renewable energy family from the Blue Mountains **1,800kWh/year** **With solar**	**The Williams** Family of four from Cranebrook **4,800kWh/year** **With solar**	**The Patels** Young family from Seven Hills **6,000kWh/year** **Without solar**	**Downtown Dry Cleaning** Dry cleaner from Parramatta **13,100kWh/year** **Without solar**	**Jamberoo farmer** Producer from Jamberoo **13,500kWh/year** **With solar**
						
Current flat tariff	**$378**	**$396**	**$696**	**$803**	**$1,713**	**$1,552**
Cost-reflective tariff	-$6 saving	$20 cost	$16 cost	-$6 saving	-$427 saving	-$8 saving
Change in timing of energy use away from peak periods	-$4 saving	-$7 saving	-$15 saving	-$18 saving	-$3 saving	-$34 saving
Total impact of cost-reflective tariff and change in timing of energy use	**$10 saving** **$368**	**-$13 cost** **$409**	**-$1 cost** **$697**	**$24 saving** **$780**	**$430 saving** **$1,283**	**$42 saving** **$1,510**

How we have considered micro embedded generators and other new market entrants

Micro embedded generators are rooftop solar and other small generators. If you have solar panels on your roof for example, you are a 'micro embedded generator'. Micro embedded generators are increasing across our network as the transformation of the energy sector accelerates. Energy flows are increasingly becoming two-way as customers export more energy into the network and take a more active role in their energy generation and consumption.

Our overall approach to providing network capacity for exports from increasing levels of micro embedded generation is consistent with the Value of Distributed Energy Resources framework and the AER's DER Integration Expenditure guidance note which provides guidance on how networks should value investments that alleviate DER curtailment.

Forecast solar PV, battery and electric vehicle take up across the Endeavour Energy network*



*Further details are available in Chapter 7 of the full Proposal.

In forecasting demand for both large and micro embedded generators over 2024-2029, we have engaged with stakeholders on the development of a Network Technology Master Plan. This allows us to assess the commercial likelihood of non-traditional network support options such as embedded generation Virtual Power Plants, grid-scale batteries, commercial direct load control and residential behavioural demand response to help customers and the network make the best use of the energy generated from their technologies.

The growth in micro embedded generation, combined with increasing new market entrants willing to partner with Endeavour Energy to deliver innovative and efficient grid technologies, has allowed us to defer tens of millions of dollars of traditional network investment across five sites in our network over the next five years including at:

- South Penrith Zone Substation
- North Bomaderry Zone Substation
- Culburra Beach Zone Substation
- Catherine Park Zone Substation Stage 2
- Calderwood Zone Substation Stage 2.

Further, to test this growth in micro embedded generation and the potential of new market entrants, we engaged with several stakeholders, and a future-grid reference group on potential alternatives to this forecast and its associated network expenditure. This included a focus on the structure of our tariffs to support small and large-scale aggregation of customer generation, including through battery tariff structures, and the need for longer-term projections of our expenditure to support the commercial viability of alternative market-based approaches. Whilst there were no direct alternative proposals from this engagement, it highlighted the need for ongoing business-as-usual engagement to best support customer choices as they evolve. Further information, including our 2030 and beyond future-grid roadmap are detailed further in our Future Grid Strategy attached to the Proposal.

Based on this, we have proposed an additional operating expenditure amount of $4m over five years to fund commercial support contracts with potential market providers. We are also proposing an Innovation Allowance of $25m which will be partially used to fund work to help provide our customers with access to new energy markets, further improving the efficiency of the network, driving down long-term costs for all customers.

6. Key risks for our Proposal

Outlined below are the key risks associated with our Proposal and the ways we will seek to manage them. Further detail on key risks is set out in our Proposal.

Risks	Ways we will manage these risks
External environment uncertainty Potential changes in energy markets, potential regulatory changes and ongoing economic uncertainty may affect forecast capital and operating expenditure, cost of debt, electricity demand and energy, and the services we are required to provide.	We will closely monitor our external environment and work with all stakeholders across the energy supply chain to minimise, where feasible, any unexpected costs for customers. Where there are any unexpected significant changes in the external environment, we will inform and work with the AER to ensure the impacts on customers can be efficiently managed. We will also continue to monitor the markets and make updates to our hedging strategies where required.
Demand risk If electricity demand is lower than forecast, network prices may need to increase to allow us to recover the allowed network revenue needed to deliver services to customers. Conversely, if electricity demand is higher than forecast, additional capital expenditure may be required to service the higher demand.	We will continue to work closely with our key development and Government stakeholders to ensure we have the best information possible when finalising our demand forecasts for 2024-2029. Our tariff strategy and structures have been developed to efficiently accommodate new demand for energy.
Increasing penetration of solar, electric vehicles and batteries not catered for It is becoming increasingly important for Endeavour Energy to forecast energy exports from our customers to the grid. We need to further understand the hosting capacity of our network and through recent regulatory changes, value and plan for investments that limit the curtailment of customer exports. Forecasting this area, particularly around the uptake of electric vehicles remains uncertain, however we have used the best available information to support customer choice and limit the curtailment of customer exports.	We will continue to work closely with our key energy, independent and Government stakeholders to ensure we have the best information possible when finalising our demand forecasts for 2024- 2029. We will continue to re-prioritise our investments and set leading indicators for change. Our tariff strategy and structures have been developed to efficiently accommodate customer uptake of new technology.
Operating expenditure is higher than expected Potential operating cost increases due to changes in costs by third parties (e.g. increased insurance costs) may affect our forecast operating expenditure.	We will closely monitor our operating costs and work to minimise, where feasible, any unexpected costs for customers.
Impacts of cost-reflective tariffs are lower than forecast We have forecast that 71% of our customers will be on cost-reflective tariffs by 2029 under our proposed tariff strategy. If retailers do not pass-through our cost-reflective tariff structures to customers, the impact on the network may be lower than forecast. In the long term, this could result in network investment needing to be brought forward or require additional investment.	We are undertaking further work to understand how customers can make the smoothest possible transition to cost-reflective tariffs and exploring opportunities with retailers to improve education. We will continue to work closely with retailers to facilitate tariff reform.
Extreme weather risk beyond our forecasts In recent years, our customers have experienced extreme weather events, with climate-related weather events expected to increase in frequency and intensity. This will increase risks to the reliable supply of electricity, affect our network performance and may require additional network expenditure.	We are proposing targeted additional capital expenditure of $28m to improve network and community resilience in response to the increased risk of extreme weather events (above our normal long-run averages). This additional funding was supported by our customers and stakeholders during the engagement process on the Proposal. We will also continue to work with Governments, other utilities and the community to understand how we can improve community resilience to extreme weather and minimise impacts on our customers.

7. Next steps

How to have your say on this Proposal

This document provides a summary of our Proposal for the revenue required to operate our network from 2024-2029. A copy of our full Proposal is available at the **AER's website**. We welcome feedback on our Proposal, including this summary report.

This Proposal is now being considered by the AER. As part of its review, the AER will publish an issues paper, hold a public forum and invite submissions on our Proposal from customers and other stakeholders. These submissions will be considered by the AER before it publishes a draft decision in October 2023. There will then be a further opportunity to comment on the AER's draft decision.

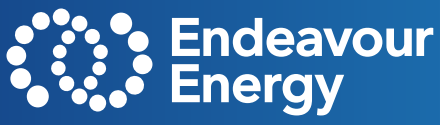
You can register to stay involved or provide your feedback directly to Endeavour Energy at:
https://yoursay.endeavourenergy.com.au/

Western Sydney site tour, May 2022

Stakeholder Deep Dive, August 2022

Stakeholder Deep Dive, July 2022

Western Sydney site tour, May 2022



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