

## Executive Summary

This Revenue Proposal sets out the Queensland Electricity Transmission Corporation Limited's (Powerlink's) revenue requirements for prescribed transmission services for our next regulatory period from 1 July 2022 to 30 June 2027.

We are a Government Owned Corporation that owns, develops, operates and maintains the electricity transmission network in Queensland. Our transmission network runs approximately 1,700km from north of Cairns to the New South Wales (NSW) border.

We lodge our Revenue Proposal with the Australian Energy Regulator (AER) every five years as part of our revenue determination process. We see this process as a once-in-a-five-year opportunity to build more trust with our customers, stakeholders and the AER. It is important as it sets about 80% of our annual revenue. This revenue funds the capital and operating expenditure we need to build, operate and maintain the prescribed (regulated) transmission network and is paid for by electricity customers across Queensland.

### Capable of acceptance approach

Our overarching goal has been to deliver a Revenue Proposal that is capable of acceptance by our customers, the AER and Powerlink. This goal targeted acceptance of our Revenue Proposal as an overall package by relevant stakeholders at the time we lodged our Revenue Proposal with the AER in January 2021. Importantly, it has been the guiding objective for our engagement and built on the strong foundations we undertake in the normal course of business.

We have undertaken extensive engagement with our customers, stakeholders, the AER and the AER's Consumer Challenge Panel (CCP23) on all key elements of our Revenue Proposal during its development. We recognised the need to adapt our engagement approach in light of stakeholder feedback, particularly where it would provide meaningful value to our customers. As it turns out, a key milestone in our engagement was one that was not on our plan at the start. That is, the development and publication of our draft Revenue Proposal in September 2020.

While not a formal requirement of the National Electricity Rules (the Rules), we decided to prepare and publish a draft version of our Revenue Proposal for input based on the constructive engagement we had with our customers and the AER during 2020. While we have actively encouraged input and participation every step of the way, the draft Revenue Proposal provided another, perhaps more formal opportunity for feedback.

In hindsight, we consider that this was an important step (albeit unplanned and challenging to deliver at the time), which demonstrated that we were serious about our capable of acceptance goal. It also reinforced our commitment to take a 'no surprises' approach to our engagement.

Our view is that overall, our Revenue Proposal is capable of acceptance.

### Our Revenue Proposal at a glance

The input we received through our engagement has directly shaped many of the positions put forward in our Revenue Proposal. In particular, our decision to propose a 3% reduction in our capital expenditure and to target no real growth in operating expenditure. These building-blocks, in addition to a significant reduction in our rate of return, has resulted in a forecast 15% decline in our Maximum Allowed Revenue (MAR).

Our prudent and efficient asset management approach has also led to a forecast decline in our Regulated Asset Base (RAB) in both nominal and real terms over the 2023-27 regulatory period<sup>1</sup>.

We recognise that affordability remains a key concern for customers and have committed to do what we can to ensure our services are affordable and deliver value.

Under our Revenue Proposal customers can expect to see a drop of 11% in average transmission prices in the first year of the next regulatory period (2022/23), and for price growth over the remainder of the regulatory period to be in line with inflation. For average residential and small business customers, this represents an estimated saving in the first year of \$13 and \$23, respectively. This is on the basis of assumed tariffs and consumption<sup>2</sup>.

<sup>1</sup> Based on a comparison of 1 July 2022 opening RAB to 30 June 2027 closing RAB.

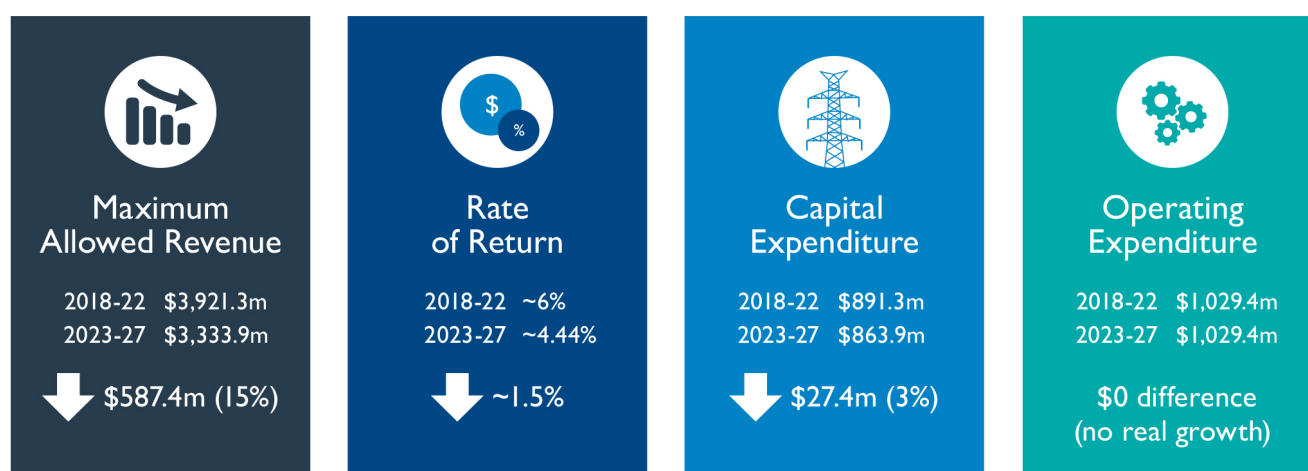
<sup>2</sup> The transmission component of electricity bills is based on information from the Australian Energy Market Commission (AEMC) Electricity Price Trends Report, December 2020. Assumed residential consumption is based on the Queensland Competition Authority's (QCA) annual Tariff 11 (residential) median energy usage of 4,061kWh p.a. Assumed small business consumption is based on the QCA's annual Tariff 20 (small business) median energy usage of 6,831kWh p.a.

We also recognise that our impact on customer affordability is not limited to the prices we charge for transmission services. As the platform that connects electricity generators with electricity customers, we play a key role in ensuring customers have access to the lowest cost electricity when they need it. Constraints and congestion on the transmission network can lead to higher wholesale prices as more expensive generation is required to operate to meet customer demand.

Overall, our Revenue Proposal demonstrates our commitment to being customer-focused, and to continue to provide safe, secure, reliable and cost-effective transmission services to our directly-connected customers and almost five million Queenslanders.

The key elements of our Revenue Proposal are shown in Figure 1.

Figure 1: Our Revenue Proposal at a glance



Notes:

- All figures are in \$m real, 2021/22 and are for the full five-year regulatory period.
- MAR is compared to the AER allowance for the 2018-22 regulatory period.
- Rate of return is nominal vanilla.
- Capital and operating expenditure are compared to the actuals/forecast for the 2018-22 regulatory period.
- Capital expenditure figures are net of disposals.
- Operating expenditure figures reflect underlying operating expenditure, which excludes movements in provisions, Network Capability Incentive Parameter Action Plan (NCIPAP) project costs, debt raising and network support costs.

## Changing business and operating environment

Our Revenue Proposal has been developed during a time of significant uncertainty and change in the economic environment and in the energy sector itself. We also see a shift in our focus to take a more active role in guiding the energy market in Queensland, in this highly dynamic and uncertain energy environment.

We have identified six key business and operating environment drivers which influence our day-to-day business, as well as elements of our Revenue Proposal. These are discussed briefly below and in more detail in Chapter 2 Business and Operating Environment:

- our customers;
- COVID-19;
- the energy market;
- the economy and financial markets;
- government policy and regulation; and
- the environment.

### Our customers

The cost of electricity remains a key concern for our customers. While our transmission network charges comprise around 9% of the average residential household bill, our focus does not stop there. We will continue to influence the external environment to minimise overall system costs for electricity users. In particular, we are well placed to help facilitate lower cost bulk supply electricity production, while the market transitions to a lower carbon future.

We understand that our directly-connected customers want price signals that better reflect the costs of using our network at different times and in different locations. We also know our customers are changing the way they use our network, as transformational changes take place throughout the energy market.

We engage with our directly-connected customers and a diverse range of stakeholders in the normal course of business. We have also consulted with our customers in the development of our Proposed Pricing Methodology. As a result of our Transmission Pricing Consultation we proposed to progressively transition customers to locational charges based on peak demand only. This transition will occur over the next two regulatory periods (or 10 years). This is discussed further in Chapter 16 Pricing Methodology.

## COVID-19

Additional challenges have been presented by the COVID-19 pandemic, not only for Powerlink but for our customers and stakeholders. It is impossible to predict the likely path and duration of the pandemic.

Our first and foremost commitment during the pandemic is the protection of the health, safety and wellbeing of our people, contractors and the communities in which we operate. The adversity of responding to COVID-19 has also provided further impetus for us to develop and implement new ways to manage our business and respond to challenges, as well as opportunities for innovation.

## The energy market

As the National Electricity Market (NEM) continues to transition toward a new energy future, we must navigate a highly dynamic and uncertain environment. The transmission system has changed from one which transports electricity from a small number of large centralised generators to major loads and distributors, to one that interconnects increasing numbers of generators, loads and storage and transports energy to where it is needed. The rapidly changing energy system is also a key issue of concern for our customers and stakeholders.

Between 2018 and 2020, we developed our 30 year Network Vision with input from customers, stakeholders and energy industry experts. We have further developed the broad themes of our Network Vision – changing electricity consumption patterns, a lower carbon future and decentralised energy sources – into the ‘four D’s’. These are discussed in detail in Chapter 2 Business and Operating Environment and include:

- **Decarbonisation** – the growth of large-scale renewable generation capacity on the transmission network presents technical challenges in keeping electricity supply and demand in balance and creates complexity in how we plan and operate the network. In particular, system strength has emerged as a prominent challenge in Queensland.
- **Decentralisation** – rapid installation of renewables and the forecast closure of ageing coal generation assets across the NEM have driven large changes in power flows across the network. This introduces a high degree of uncertainty around the need for investment in major transmission network flow paths.
- **Demand disruption** – Queensland is experiencing changes to its demand and energy patterns. Solar uptake at a household level is driving higher and shorter demand peaks and demand during the day has reduced to levels that impact on the technical capability of daytime baseload generation to operate. These opposing factors mean it is increasingly difficult to determine the optimal investment strategy for some assets, or whether they could potentially be decommissioned.
- **Digitisation** – the transformation of data into information, and then insights, can improve business decision-making and reduce risks to our customers. We are seeking ways to deploy and access enhanced digital data analytics to support the business and provide better services to our customers.

It is clear that as we transition to a new energy future, investment will need to take a ‘whole of system’ perspective. This will require greater coordination of investment strategies between generation, transmission and distribution businesses to deliver appropriate outcomes for customers. We are working with customers, regulators, project proponents, suppliers and the Australian Energy Market Operator (AEMO) to identify, understand and appropriately prepare for and respond to these challenges.

## The economy and financial markets

The COVID-19 pandemic is currently the dominant influence on the economy and financial markets and remains the main source of uncertainty for the economic growth outlook.

The Reserve Bank of Australia (RBA) describes the COVID-19 pandemic as the largest shock to the global economy in many decades<sup>3</sup>. There remains considerable economic uncertainty domestically and globally. This outlook has had a direct impact on the demand for electricity in the short-term, and may continue into the medium and long-term. It has also impacted key assumptions that underpin our Revenue Proposal such as inflation, labour cost escalators and elements of our rate of return.

<sup>3</sup> Statement on Monetary Policy August 2020, Reserve Bank of Australia, page 1.

We also expect there to be risks in terms of access to skilled resources and delivery over our next regulatory period. Australia has a limited pool of skilled labour for large electricity infrastructure investments, and there is a potentially significant period of transmission work to occur across the NEM. Competition for scarce resources may influence the cost of our projects, in particular capital projects, and we will need to manage this impact if it arises.

### Government policy and regulation

There are a number of key regulatory consultations underway that could significantly impact the provision of electricity transmission services. This includes the Coordination of Generation and Transmission Investment reforms, the Energy Security Board Post 2025 Market Design, Transmission Ring-Fencing Review and the Energy Security Board's consultation on planning rules for Renewable Energy Zones (REZs). The outcome of these regulatory reforms could have material impacts on our operations, such as changes to funding models for future network investment and the way revenue is collected.

Federal and Queensland Government policies establish broad frameworks that can have important implications for market participants and we have had regard to these policies in the development of our Revenue Proposal. This includes the Queensland Government's 50% Renewable Energy Target, the progressive increase to the Superannuation Guarantee rate and the recent introduction of the *Security Legislation Amendment (Critical Infrastructure) Bill 2020*, which would establish a new security and resilience regulatory regime on operators of critical infrastructure.

We are also working with the Queensland Government to understand and progress key initiatives related to the potential delivery of transmission infrastructure to support renewable energy developments.

### The environment

Extreme weather such as cyclones, bushfires and floods can have a significant impact on the transmission network. The increased prevalence and intensity of these events in recent years also creates broader challenges for the ongoing design, maintenance and operation of the network.

Our network has not been materially impacted by recent bushfires or other severe weather events and we have not forecast any capital expenditure to address weather-related risks over the forthcoming regulatory period. However, we are experiencing upward pressure on insurance premiums due to the impact of extreme weather events elsewhere in the domestic and international markets, which has impacted, and is forecast to continue to impact, our operating expenditure.

That said, we have consulted with our customers and the AER on our insurance and will continue to engage directly with insurance underwriters to ensure appropriate arrangements are put in place to manage these risks.

### Delivering on our commitments

During the 2018-22 regulatory period, we have delivered on our commitment to provide better value to our customers through increased efficiency and cost reduction while continuing to provide a safe, secure and reliable transmission network.

We are responding to customer affordability concerns through the forecast delivery of a 35% decrease in capital expenditure and a 7% decrease in operating expenditure compared to the 2013-17 regulatory period. As a result, in this regulatory period our RAB has decreased in both real and nominal terms<sup>4</sup>.

Our performance in this regulatory period is outlined briefly in the following sections and discussed in detail in Chapter 4 Historical Capital and Operating Expenditure.

### Capital expenditure

Our total actual/forecast capital expenditure over the 2018-22 regulatory period relative to the AER's allowance is shown in Table 1.

**Table 1:** Capital expenditure – allowance vs actual/forecast (\$m real, 2021/22)<sup>(1)</sup>

	2017/18	2018/19	2019/20	2020/21 (forecast)	2021/22 (forecast)	Total
Allowance	175.7	176.3	179.6	186.8	174.7	<b>893.1</b>
Actual/forecast	158.7	175.0	172.6	178.6	206.4	<b>891.3</b>

(1) This table is net of disposals.

<sup>4</sup> Based on a comparison of 1 July 2017 opening RAB to 30 June 2022 closing RAB.

Total capital expenditure is forecast to be \$1.8m (0.2% lower) than the AER's total capital expenditure allowance for the 2018-22 regulatory period. This is primarily due to some delays in the delivery of our capital works due to COVID-19 and lower non load-driven capital expenditure due to low demand growth and the emergence of system strength issues. This underspend has been offset, at least in part, by additional capital expenditure on ground clearance rectification works.

### Operating expenditure

Our total actual/forecast operating expenditure over the 2018-22 regulatory period relative to the AER's allowance is shown in Table 2.

**Table 2:** Operating expenditure – allowance vs actual/forecast (\$m real, 2021/22) <sup>(1)</sup>

	2017/18	2018/19	2019/20	2020/21 (forecast)	2021/22 (forecast)	Total
Allowance	206.8	205.9	205.0	204.3	204.2	1,026.1
Actual/forecast	198.1	206.6	208.3	212.9	209.6	1,035.6

(1) Figures are exclusive of debt raising costs

We expect total operating expenditure to be \$9.5m (0.9%) higher than the AER's total allowance for the 2018-22 regulatory period. This is primarily due to higher costs incurred in relation to the Australian Energy Market Commission (AEMC) Levy. The AEMC Levy is a cost recovered from Powerlink by the Queensland Government and is outside our control.

### Regulatory Asset Base

Our prudent and efficient asset management approach has led to a forecast decline in our RAB of \$111.0m in nominal terms and \$621.9m in real terms over the 2018-22 regulatory period<sup>5</sup>. The decline in our RAB also aligns with our flat or declining forecasts of delivered energy. From a reinvestment perspective, this trend demonstrates that where reinvestment is required to address a network need we consider a range of options and do not necessarily replace like-for-like.

### Benchmarking performance

We have had regard to our performance relative to other electricity Transmission Network Service Providers (TNSPs) in the development of our Revenue Proposal. We engaged HoustonKemp to provide an independent review of our relative performance, based on the AER's 2020 Benchmarking Report. HoustonKemp found that Powerlink, both in absolute and trend terms, is operating relatively efficiently when compared to our peers.

We have improved our operating expenditure productivity performance in the current regulatory period, primarily as a result of our operating expenditure reduction of approximately 7% between the 2013-17 and 2018-22 regulatory periods. Overall, our operating expenditure performance across major expenditure categories has been improving and is consistent with the key characteristics of our network relative to other stand-alone TNSPs.

We recognise we can continue to improve on our operating expenditure performance, which is why we have set a target of no real growth in operating expenditure between the current and next regulatory periods. This target is underpinned by a proposed real productivity growth of 0.5% per annum, which is higher than the current industry average of 0.3%, and no step changes.

### Network performance

Our overall performance under the Service Component (SC) and Network Capability Component (NCC) elements of the Service Target Performance Incentive Scheme (STPIS) for the 2018-22 period has been strong.

However, our performance under the Market Impact Component (MIC) component of the scheme has been impacted by changes in power flows and the emergence of system strength constraints, which is expected to continue into the 2023-27 regulatory period. We will continue to respond to these challenges to ensure that the needs of our customers are met and that we continue to meet our network security and reliability obligations.

We remain firmly of the view that the STPIS should be reviewed in light of the significant and rapid changes in the energy market to ensure it remains fit-for-purpose and continues to promote the long-term interests of consumers.

<sup>5</sup> Based on a comparison of 1 July 2017 opening RAB to 30 June 2022 closing RAB.

## Delivering further value

The business and operating environment for Powerlink, and for many of our customers, is one of change and uncertainty. Affordability, the impact of COVID-19 on the economy and the challenges presented by an energy system in transition are all key factors that have shaped our Revenue Proposal.

Our Revenue Proposal demonstrates our commitment to being customer-focused, and to continuing to provide safe, secure, reliable and cost-effective transmission services to our directly-connected customers and almost five million Queenslanders.

The following section provides a brief overview of the key elements of our Revenue Proposal – forecast capital expenditure, forecast operating expenditure, RAB and rate of return.

### Forecast capital expenditure

We received consistent feedback on our draft Revenue Proposal which highlighted that a 12% increase in capital expenditure, compared to the current regulatory period, was a serious concern for our customers. We have an ongoing focus on how we can more prudently and efficiently manage the transmission network while continuing to deliver safe, secure and reliable electricity transmission services for our customers. This means we continue to challenge ourselves on the need for proposed investments, and is now reflected in a proposed reduction in capital expenditure, compared to the current regulatory period.

A summary of our forecast capital expenditure for the 2023-27 regulatory period is presented in Table 3.

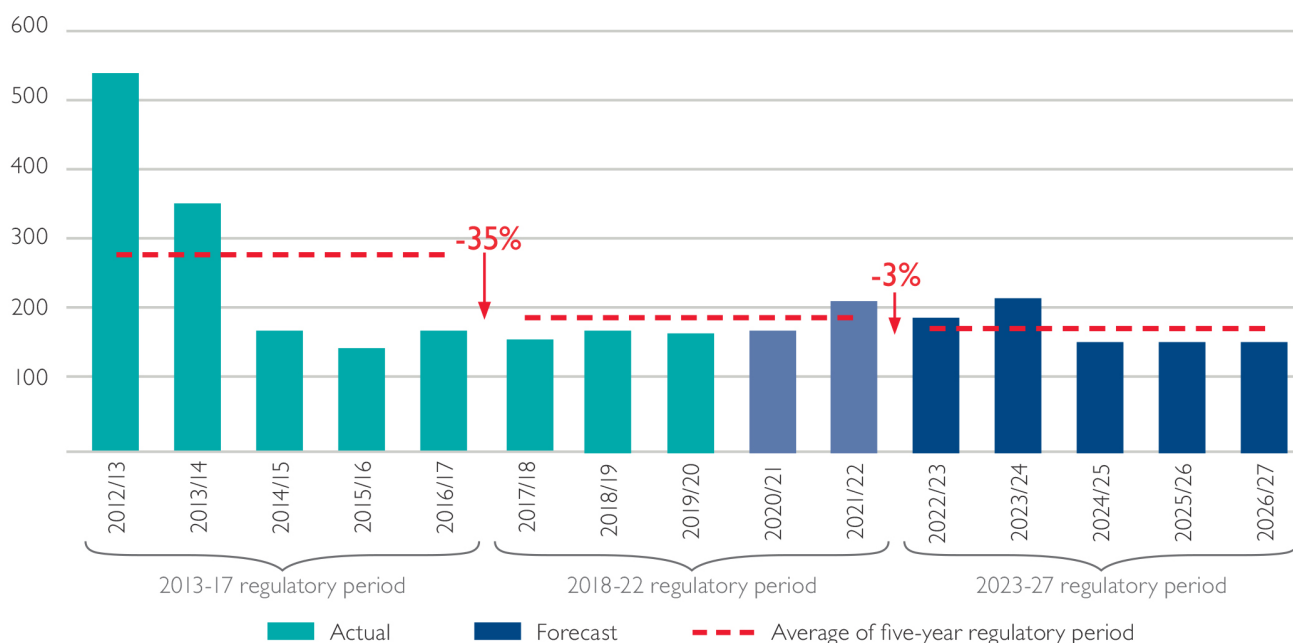
**Table 3:** Forecast capital expenditure (\$m real, 2021/22)<sup>(1)</sup>

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Total capital expenditure	190.9	209.4	157.2	152.4	154.0	863.9

(1) This table is net of disposals.

Figure 2 shows our total annual capital expenditure profile since 2012/13, including our forecast for the next regulatory period.

**Figure 2:** Actual and forecast total capital expenditure (\$m real, 2021/22)



Our total forecast capital expenditure for the 2023-27 regulatory period is \$863.9m, which is \$27.4m (3.1%) lower than actual/forecast expenditure for the 2018-22 regulatory period. The majority of this (\$726.1m or 84%) is non load-driven network expenditure.

The primary driver of our capital expenditure over the 2023-27 regulatory period is targeted reinvestment in the transmission network to maintain security, reliability and quality of supply as our assets continue to age. Our low demand growth environment means only \$2.4m of our capital expenditure forecast is driven by increased maximum demand.

As a result of the decline in minimum demand, we anticipate a need for further investment in additional reactive power control devices to maintain power system voltages within secure limits. Our forecast also includes \$22.5m for these devices to support prescribed transmission services.

To forecast our capital expenditure in the 2023-27 regulatory period we have built on the experience, input and feedback gained during our previous revenue determination process and have again applied a hybrid approach. This approach integrates top-down and bottom-up methods and includes the provision of project-specific supporting justification for over 70% of our total forecast capital expenditure, complemented by the top-down forecast for remaining assets.

Further detail is provided in Chapter 5 Forecast Capital Expenditure.

### Forecast operating expenditure

We have heard customer feedback on business productivity, affordability and the impacts of the current economic climate. Based on this feedback and our goal to have a Revenue Proposal that is capable of acceptance by our customers, the AER and Powerlink at the time we lodge our Revenue Proposal, we have committed to pursue a target of no real growth in operating expenditure compared to our actual/forecast operating expenditure over the current regulatory period<sup>6</sup>.

A summary of our forecast operating expenditure for the 2023-27 regulatory period is presented in Table 4.

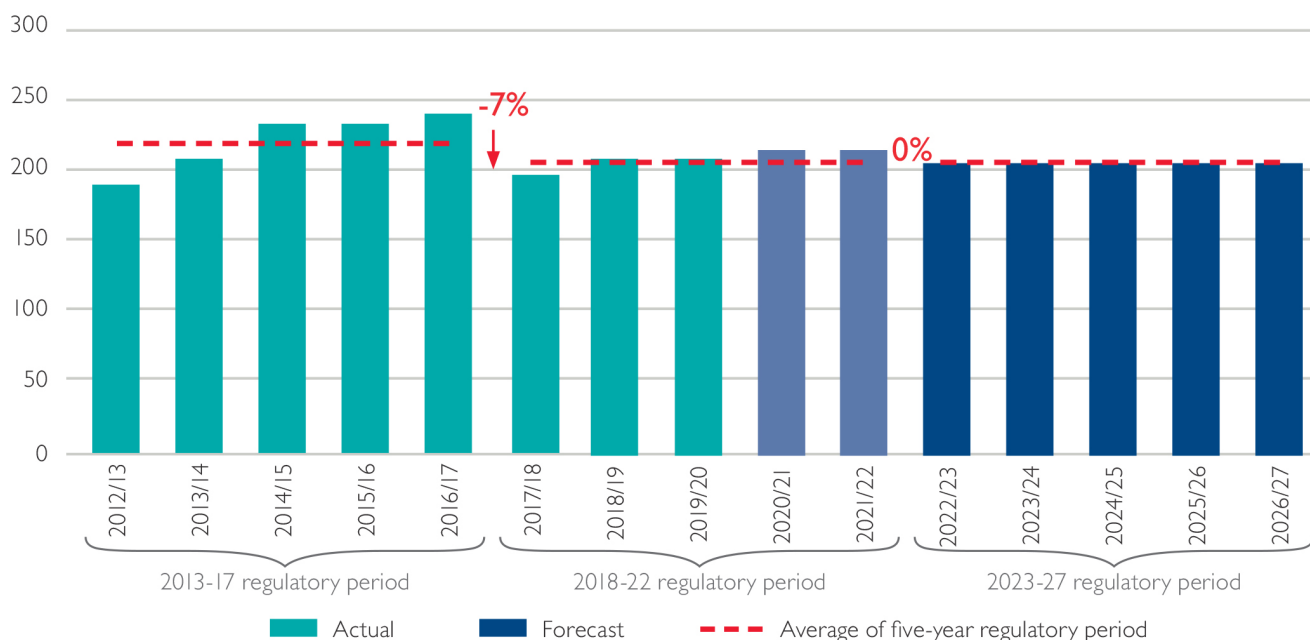
**Table 4:** Forecast operating expenditure (\$m real, 2021/22)<sup>(1)</sup>

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Total operating expenditure	203.9	206.3	205.8	206.5	206.9	1,029.4

(1) This table excludes debt raising costs. Our operating expenditure forecast is \$1,046.4m with debt raising costs included.

Figure 3 shows our underlying total annual operating expenditure profile since 2012/13, including the forecast for the 2023-27 regulatory period.

**Figure 3:** Actual and forecast total operating expenditure (\$m real, 2021/22)<sup>(1)</sup>



(1) Reflects underlying operating expenditure, excluding movements in provisions, debt raising, network support and NCIPAP costs.

Our total forecast operating expenditure of \$1,029.4m represents \$0 (no real growth) from underlying actual/forecast operating expenditure for the 2018-22 regulatory period.

<sup>6</sup> For clarification, underlying operating expenditure excludes movements in provisions, Network Capability Incentive Parameter Action Plan (NCIPAP) project costs which are part of the STPIS, debt raising costs and network support costs. This is explained further in Chapter 6 Forecast Operating Expenditure.



To achieve this target we have proposed, in combination, a higher than industry average productivity factor of 0.5% per annum and have not pursued any step changes.

The adoption of this approach represented a significant shift for our business during the development of our Revenue Proposal and it will be a challenge for us to meet this stretch target. However, on balance, we considered that we should rise to this challenge in the interests of customers and to drive our business hard to find further efficiencies and productivity improvements to become a world-class transmission service provider.

We have included a range of potential productivity initiatives in Chapter 6 Forecast Operating Expenditure that could be implemented to achieve this.

### Regulatory Asset Base

We will continue to apply our prudent and efficient asset management approach in the next regulatory period and forecast our RAB to continue to decline by \$19.4m in nominal terms and \$749.6m in real terms<sup>7</sup>.

We have also proposed to transfer in net terms, \$2.4m of prescribed assets out of our RAB at 30 June 2022. This is outlined further in Chapter 8 Regulatory Asset Base.

### Rate of return

We have applied the Australian Energy Regulator's (AER) binding 2018 Rate of Return Instrument to calculate the rate of return for our Revenue Proposal. This results in an estimated post-tax nominal rate of return of 4.44% in the first year of the 2023-27 regulatory period (2022/23), which is a substantial reduction from our current rate of return of approximately 6%. The main driver of our lower rate of return is the historically low risk free (Government bond) rate environment.

## Revenue requirement and price path

We have estimated our total building-block revenue requirement using the AER's Post-Tax Revenue Model (PTRM). The smoothed revenue requirement and resulting X-factors is summarised in Table 5.

Table 5: X-factors and smoothed MAR (\$m nominal)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Unsmoothed revenue requirement	700.2	693.4	711.3	724.5	735.0	3,564.4
X-factors	12.59%	0.57%	0.57%	0.57%	0.57%	
<b>Smoothed MAR</b>	<b>689.7</b>	<b>701.1</b>	<b>712.8</b>	<b>724.7</b>	<b>736.8</b>	<b>3,565.1</b>

In real terms, our smoothed revenue for 2022/23 is forecast to reduce by 12.59% compared to our forecast revenue in the 2021/22 year. In subsequent years of the regulatory period our annual revenue is forecast to reduce by 0.57% per annum in real terms.

Overall, the total MAR for the 2023-27 regulatory period is forecast to be 15% less than our allowed MAR for the current regulatory period.

### Price path

Our contribution to the average Queensland electricity bill is currently 9% for households and small businesses<sup>8</sup>. This equates to approximately \$118.5 per annum for residential customers<sup>9</sup> and approximately \$200.7 for small businesses<sup>10</sup>.

Based on our forecast revenue, the indicative impact on the transmission component of electricity prices in the first year of the next regulatory period (2022/23) would be:

- Residential: a nominal reduction of approximately \$13 (11%), real reduction of \$16 (13%).
- Small Business: a nominal reduction of approximately \$23 (11%), real reduction of \$26 (13%).

On average, price increases for residential customers and small businesses will remain in line with inflation (assumed forecast of 2.25%) for the remainder of the 2023-27 regulatory period.

<sup>7</sup> Based on a comparison of 1 July 2022 opening RAB to 30 June 2027 closing RAB.

<sup>8</sup> Residential Electricity Price Trends Report 2020, Australian Energy Market Commission, December 2020.

<sup>9</sup> Based on the Queensland Competition Authority's (QCA) annual Tariff II (residential) median energy usage of 4,061kWh per annum, March 2020.

<sup>10</sup> Based on the QCA's annual Tariff 20 (small business) median energy usage of 6,831kWh per annum, March 2020.



The estimated impact of our forecast MAR on the transmission component of average annual electricity bills in each year of the 2023-27 regulatory period is outlined in Table 6. The final year of the current regulatory period is included to show the change in the first year of the next regulatory period.

**Table 6:** Indicative electricity price impacts (\$ nominal)

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Residential annual bill	118.5	105.2	106.4	109.0	111.9	115.0
<b>Annual change</b>	-	<b>(13.3)</b>	<b>1.2</b>	<b>2.6</b>	<b>2.9</b>	<b>3.1</b>
Small business annual bill	200.7	178.2	180.3	184.7	189.6	194.8
<b>Annual change</b>	-	<b>(22.5)</b>	<b>2.1</b>	<b>4.4</b>	<b>4.9</b>	<b>5.2</b>