

# Business Narrative to support Powerlink's 2023-27 Revenue Proposal

April 2020



## Purpose

This business narrative has been developed to provide a broader context to Powerlink's 2023-27 Revenue Proposal, including our long-term view about our operations, challenges and opportunities and how we plan to deliver better value for our customers. It is informed by a range of different internal and external plans and strategies, as well as our [30 Year Network Vision](#).

The narrative has been primarily developed to assist customers (directly-connected and end-user representatives) and stakeholders (government and industry) that will participate in engagement activities or provide input that will influence our Revenue Proposal.

The pace and complexity of change within the energy sector has increased in recent years and we need to ensure that we are putting in place measures to adapt and be flexible within this increasingly uncertain operating environment. This uncertainty has increased due to the COVID-19 pandemic.

Changes are occurring across a range of different key drivers that will influence our 2023-27 Revenue Proposal, such as:

- Customers
- COVID-19 pandemic
- Network
- Regulatory and policy
- Financial and economic
- Environment
- Technology
- Resource capability and capacity.

A brief introduction about our Mission and Vision, the objectives of the 2023-27 Revenue Proposal and outcomes from Powerlink's previous Revenue Determination is also included for context.

## Our mission and vision

For more than 50 years Powerlink, and our predecessor companies, have kept the lights on to homes, businesses and industry in Queensland.

As owner and operator of the transmission system in Queensland, we know we have an important responsibility to provide safe, cost-effective and reliable power to more than four million Queenslanders.

We work to drive outcomes that meet our mission to ***enrich lifestyles and power economic growth through electricity transmission and associated solutions*** and our vision to ***be innovative and customer focused with a stronger business and reputation***.

Our Mission recognises the key role that Powerlink plays for the Queensland economy and the importance of reliable and affordable electricity for customers. Our Vision shows our commitment to being a customer focused organisation that will strive to deliver better outcomes through innovation.

These statements are our strategic compass as a business and guide everything we do.

## 2018-22 Revenue Determination outcomes and 2023-27 Revenue Proposal objectives

### 2018-22 Revenue Determination outcomes

Powerlink's contribution to the average household electricity bill reduced by a third from the 1 July 2017, due to:

- Capital expenditure reduced by 35% (or \$455m<sup>1</sup>) compared to actual capital expenditure in the previous regulatory period.
- Operating expenditure reduced by 7% (or \$63m<sup>1</sup>) compared to actual operating expenditure in the previous regulatory period.
- Maximum Allowed Revenue (MAR) reduced by 24% or \$1.15bn<sup>1</sup>.
- Rate of return reduced from 8.61% to ~6%.

### 2023-27 Revenue Proposal objectives

- Deliver a Revenue Proposal that is capable of acceptance by our customers, the Australian Energy Regulator (AER) and Powerlink.
- Balance the needs of:
  - a reasonable price for customers
  - expenditure to manage the network
  - appropriate returns to shareholders.
- Meaningfully engage with our customers and stakeholders.
- Ensure the 30 Year Network Vision is considered within determination forecasts and plans.
- Improve efficiency and robustness of determination process for Powerlink, customers, stakeholders and the AER.

## Customer drivers

### *Engagement*

Our engagement goal is to build a culture of trust, empowerment, accountability and customer focus, internally and with our external customers. We have a dedicated Customer Strategy to help drive a customer-centric culture.

Our organisation is shifting from a 'technical' organisation to a 'learning' organisation, with greater importance placed on how we engage with our customers to gain insights and improve our decision making.

We aim to build relationships with customers connected directly to the transmission network, through a dedicated team that manages those relationships and works to meet those customers' needs.

Our relationships with households and small business (our indirect customers) have traditionally been less visible due to our position in the energy system behind retailers and the distribution networks. We are working hard to increase the level of customer involvement in our business, through important business-as-usual activities such as our Customer Panel, Transmission Network Forum, webinars and other engagement forums.

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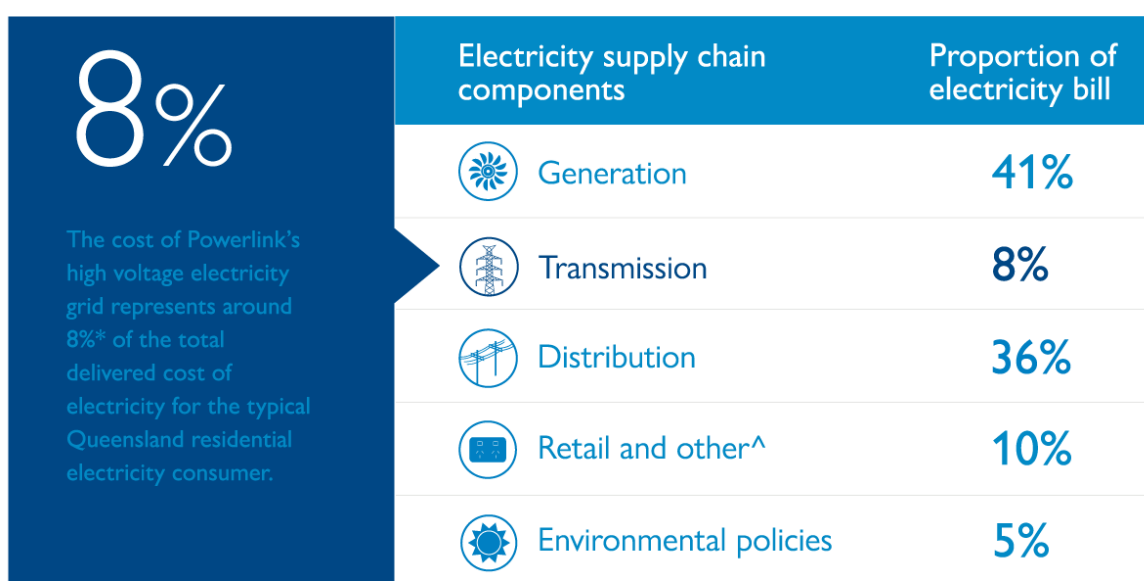
<sup>1</sup> Figures in \$16/17.

We are also a foundation signatory to the [Energy Charter](#) and recently published our first [Energy Charter Disclosure Statement](#). The Energy Charter has seen businesses across the energy supply chain come together and commit to a disclosure framework to deliver a more affordable, reliable and sustainable energy system. We are also committed to working across the sector on a range of “Better Together” initiatives, which are intended to improve customer service across the energy supply chain.

## Affordability

The cost of electricity remains a key concern for customers. Customers expect us to do what we can to place downward pressure on prices and deliver value for money, including through our Revenue Proposal process.

### Breakdown of typical Queensland household electricity bill



\*2020 Residential Electricity Price Trends Report

^Includes costs associated with retail, losses and errors in the estimated value of all other supply chain cost components, the AEMC 2020 Residential Price Trends Report refers to this overall component as residual.

We have an ongoing focus to ensure that regulated assets are effectively and efficiently managed and that our Revenue Proposal only requests prudent and efficient expenditure that is necessary to meet the future needs of the electricity network. We expect and welcome input from our customers and the AER throughout the Revenue Proposal process to ensure that we have a proposal that is capable of acceptance.

Viewing affordability through both a direct and indirect customer lens will help drive long-term value through appropriate investment decisions. Our direct customers are large loads and generators directly connected to our network. Our indirect customers are connected to the distribution network (households and smaller business).

From a directly-connected customer perspective, they are wanting pricing signals that better reflect the costs of using the transmission network at different times and in different locations. To that end, we are considering, and consulting with our customers, on transmission pricing arrangements that:

- provide stronger signals to customers to encourage more efficient use of the network and, therefore, lower future network costs; and
- enable customers to reduce their costs by changing their network usage.

## *Customer choice*

Customers will have a greater say in how they access, use and pay for electricity as part of the energy system transition to 2050. Our [30 year Network Vision](#) is helping us plan for and navigate changes that may occur and outlines a range of potential scenarios for the energy sector.

We developed the Network Vision, with input from customers, stakeholders and energy industry experts, to provide a long-term view across a range of plausible scenarios and understand what services future customers will value. This Vision will directly influence our approach to our Revenue Proposal.

## **COVID-19 pandemic**

The COVID-19 pandemic is impacting our current business operations and may impact a range of different factors within the Revenue Proposal.

This could include, but is not limited to:

- lower demand and energy, which may impact a range of things including timing of projects (including ISP projects) and network utilisation;
- deferral of capex in the current year and the potential knock-on effect of this in future years;
- the base year which Powerlink uses for the purposes of forecasting opex, plus impacts on opex rate of change elements (e.g. output, price and productivity growth);
- potential further upward pressure on insurance premiums
- incentive scheme performance;
- AER benchmarking results; and
- ability to effectively engage, both within the business and externally, on the Revenue Proposal.

The short- and long-term potential impacts of COVID-19 remain too uncertain to appropriately consider at this time. Powerlink will undertake this work once these impacts are better understood.

## **Network drivers**

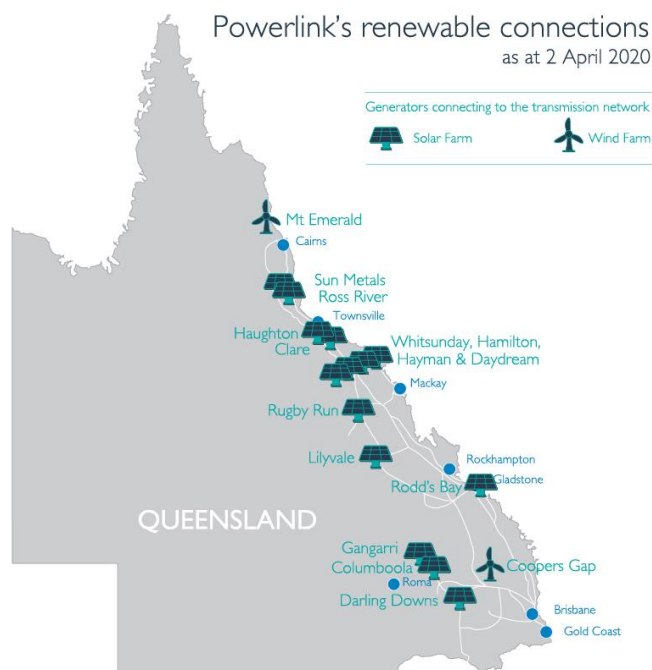
### *Evolution and change in the network*

Customer uptake of rooftop solar and growth in large-scale renewable generation has changed how the transmission network operates. Since 2016, more than 1,600MW of large scale renewable generation capacity has been added to the transmission network alone. In addition, more than 3,000MW of rooftop solar has been installed at the distribution network level across Queensland.

The change in generation mix creates challenges in the operation of the network. In particular, there is increased constrained network flow from Central Queensland to Southern Queensland. These constraints mean that the cheapest sources of electricity cannot always be delivered to customers. They also impact our ability to effectively manage necessary outages on the network and place pressure on how we can deliver the necessary capital investment, and operate and maintain the network. We are also experiencing system strength impacts, particularly in North Queensland, as well as impacts on reactive power capability and the ability to manage inertia.

We are working with customers, regulators, project proponents, suppliers and the Australian Energy Market Operator (AEMO) to identify, understand and appropriately respond to these challenges. For Revenue Proposal purposes, this may include:

- potential capital or operating expenditure to ensure safe, cost-effective and reliable supply of power; and
- consideration of how system strength limitations and other constraints impact the network's ability to perform under the Service Target Performance Incentive Scheme (STPIS) and what impact this could have on customers. Our view is that a review of STPIS is needed to ensure it is fit-for-purpose and can adapt to a rapidly changing operating environment.



We are working with customers, the AER and other key stakeholders to understand and appropriately respond to such challenges.

From a longer term perspective, our Network Vision will inform how we develop the future network with customer interests front of mind. For example, in the future, development and uptake of battery storage, electric vehicles and hydrogen production technology will impact the network. Although the exact timing and impact of these evolving technologies on the network is uncertain and creates greater complexity, we need to consider these future needs as part of our long-term investment decision-making.

The network of the future will need to achieve a balance between customer needs, generation diversity, batteries and storage solutions, demand management and greater interconnection. We see our role in the future as being a platform to enable the provision of these, and many other, energy services for customers.

### *Demand and energy*

Solar and renewable uptake is also driving changes to our demand and energy patterns. Our [Transmission Annual Planning Report \(TAPR\)](#) provides detailed information about key factors that impact network development and operations. This includes our 10-year demand and energy forecast, which is an important consideration when determining network expenditure that may be required.

In February 2019, a new demand record of 10,044MW was set on the transmission network. Maximum demand growth is expected to be relatively flat, increasing by an average annual rate of 0.5% over the next 10 years (based on a medium economic outlook). There is also a trend of a shorter duration, but higher, maximum demand later during the day. This trend creates challenges for how we plan and develop the network in the future, as we want to ensure we do not augment the network to meet demand levels that are present for a few hours a day, on only a few days a year.

Another emerging risk for the power system which we are considering is how to best manage minimum demand levels. Demand patterns resulting from a range of factors including large scale PV generation

and rooftop PV are driving demand levels during the day to levels (approximately 3,500MW or lower) that impacts on the capacity for baseload generation through the day, but still requires significant peak period generation to meet demand.

Conversely, delivered energy is expected to decline at an average annual rate of 0.7% over the next 10 years, primarily due to current and proposed future solar and wind farms connecting directly to the distribution networks. Reduced energy delivered across our network can increase customer prices, due to the cost of our network being shared across a smaller consumption base.

We are considering a range of options to address the potential short and long-term issues presented by declining energy consumption and minimum system demand. For example, to respond to declining energy, we are investigating better pricing signals and, in collaboration with Energy Queensland, how to ensure appropriate timing of charging of electric vehicles.

### *Network investment*

A significant portion of Powerlink's assets were built between the 1960s and 1980s. This includes an intense period of interconnection over a four year period between 1978 and 1981, during which 20 per cent of Queensland's transmission towers were constructed. Many of these transmission line assets, and other assets, are approaching the end of technical service life.

In line with our asset age profile, the bulk of the forecast capital expenditure in our current regulatory period, and into the next regulatory period, is on reinvestment works for transmission lines. As part of our reinvestment works, we don't just replace 'like for like', but look at alternatives such as non-network solutions, decommissioning and other reinvestment opportunities that provide better customer value.

We are also considering how to progress significant reinvestment projects where timing and/or scope is uncertain, including potentially including some projects in the Revenue Proposal as contingent reinvestments. We intend to propose this as a regulatory 'sandbox' to the AER and our customers.

In line with customer and stakeholder expectations, emphasis will continue to be on an appropriate balance between managing network condition risks and delivering asset reinvestment that considers enduring needs and most cost-effective options. We will continue to ensure robust assessment and analysis of all potential investments, that appropriate customer protections are put in place and that risks (and costs) are placed with those who can best manage them.

Future investment will need to take a 'whole of system' perspective, with greater coordination of investment strategies between generation, transmission and distribution businesses to deliver reasonable outcomes for customers. A particular focus will be how transmission and distribution can coordinate investment taking into account the impact of homes and businesses generating their own power, often referred to as Distributed Energy Resources (DER).

A focus of AEMO's [2020 Integrated System Plan \(ISP\)](#) is the potential need for greater interconnection between Queensland and the National Electricity Market (NEM). This document highlights the potential need for further expansion of the transfer capacity on the interconnector between Queensland and New South Wales (QNI Medium Project), with the potential for larger upgrades in the future.

It also identifies other potential projects, including augmentation of the northern Queensland network, upgrade of Central Queensland to Southern Queensland (CQ-SQ) lines and reinforcement of the network around Gladstone. These additional projects are not identified as 'actionable' under the ISP.

The ISP also identifies numerous potential Renewable Energy Zones (REZs) in various areas across the state including Western Downs, Fitzroy and Far North Queensland.

We will consider all Queensland projects identified within the ISP as part of development of the Revenue Proposal.

## **Regulatory and policy drivers**

### *Regulation*

Our regulatory environment is also changing significantly. Key consultations underway include [Transmission Ring Fencing](#), the [Coordination of Generation and Transmission Investment \(COGATI\)](#) reforms and the [Energy Security Board Post 2025 Market Design](#).

The outcomes of these regulatory reforms could have material impacts on our operations, such as formal or legal separation of regulated and non-regulated activities, changes to funding models for future network investment and the way revenue is collected.

We proactively provide input into these processes from a transmission perspective, however the outcome will be determined by the various bodies involved. We will implement the necessary changes as required.

Within the context of the Revenue Proposal, we are discussing with our customers and the AER how the regulatory framework can enable better consideration of uncertainty. We are interested in exploring the concept of contingent replacement projects for those projects that have a degree of uncertainty related to investment and needs.

### *Government policy*

Government energy policies such as the Queensland Government's 50% Renewable Energy Target (RET) and Powering Queensland Plan, and the Federal Government's Fair Deal on Energy policy, establish broad frameworks which can have important implications for market participants and customers.

As a Government Owned Corporation, Powerlink must also be responsive to any specific requirements and policy settings of its shareholder, the Queensland Government.

## **Economic and financial drivers**

In its recent [Mid-Year Economic and Financial Review \(MYEFR\)](#), the Queensland Government noted that international and national economic conditions have weakened recently, with Gross Domestic Product (GDP) growth slowing to its lowest rate since the Global Financial Crisis (GFC). Queensland's short-term economic growth outlook is 2.5% (2019-20) and 2.75% (2020-21). Economic growth factors are an important consideration in Powerlink's forecast of flat electricity demand growth.

From a financial perspective, Australia is in an extended period of low inflation and low Government bond rates, both of which are key factors that impact Powerlink's Rate of Return, Maximum Allowed Revenue (MAR) and returns to its shareholders.

An additional factor contributing to Powerlink's lower MAR outlook is Powerlink's Regulated Asset Base (RAB). Since 2014-15, Powerlink's RAB has been declining in real terms (\$21/22), and is forecast to



continue declining into the future. This is primarily due to reduced augmentation of the network occurring as a result of lower electricity demand growth.

We are considering the implications of the low Rate of Return environment and MAR during the development of the Revenue Proposal. Related to this, customers have raised concerns that, after the 2023-27 regulatory period, there could be increases in prices if Government bond rates rise in the future. Powerlink is also considering the implications of the low Weighted Average Cost of Capital environment on returns to its shareholders over the next regulatory period.

Powerlink had initial discussions with customers and the AER about whether there is interest in exploring the potential opportunity to 'smooth' revenue impacts over multiple regulatory periods, while ensuring reasonable returns for shareholders. This discussion was in response to customer concerns of material price increases in the future and in the context of the current low risk free rate environment. Customers were supportive of this early engagement and Powerlink undertook further analysis to explore options and ideas. Following this analysis and further discussions with our Revenue Proposal Reference Group, it was decided to not progress this concept as part of the Revenue Proposal process, due to rule changes being required, regulatory risks and minimal customer benefits.

## **Environment drivers**

Extreme weather events do create challenges for the operation of the transmission network. The impact of cyclones, bushfires, flooding and other climate events can have significant short-term impacts for customers in terms of loss of supply.

Transmission network businesses do design and construct their assets to manage exposure to the forecast risks. Changes to the physical environment, including higher bushfire probability and exposure will potentially require network owners to change design and/or maintenance practices. Customers are interested in how these risks impact Powerlink, for example whether any additional expenditure is required in the next regulatory period.

To date, Powerlink's network has not been impacted by the recent bushfires or other weather events, and we are not currently anticipating any forecast capital expenditure to be required to address weather-related risks over the forthcoming regulatory period.

From an operating expenditure perspective, weather events such as the Australian bushfires and global events such as the California fires, are likely to place upward pressure on insurance premiums. A challenge for businesses seeking insurance is when a range of significant weather events occur, either in Australia or overseas, and the insurance market generally responds to this holistically with corresponding market movements. Individual businesses like Powerlink seek to engage directly with insurance underwriters to ensure clear understanding of the circumstances related to our business to advise appropriate insurance policies, excess levels and premiums. We will work to understand the potential impact and discuss this with our customers and the AER.

## **Technology drivers**

In the future, the services provided by Powerlink to customers will need to be even more tailored to align with different customer needs and expectations. Technology will give customers more choice and control in their energy decisions, with the opportunity for networks to provide differentiated service levels.

An important long-term project already underway, which will assist us to manage the complex and significant changes to our network, is our Next Generation Network Operations (NGNO) project.

The first stage of this project is underway and involves implementation of an advanced Energy Management System (EMS) to replace our current EMS, which will no longer be viable past December 2022. The replacement EMS underpins 24/7 management and operation of the transmission network across the state.

Over a longer, 15-year period, the NGNO project will transform our system, people and processes to ensure we are well placed to operate our network into the future. Rolling out in three stages of five years each, the second and third stages will focus on data, predictive technology and artificial intelligence to help us deliver better outcomes for our customers.

We also need to ensure our operating and IT systems are resilient to the increasing risk of cyber-attack. We are working with AEMO and other TNSPs as part of the Australian Energy Sector Cyber Security Framework (AESCSF) in this regard and will consider what cyber security expenditure may be needed in our Revenue Proposal.

Powerlink, similar to many other NSPs, is also undertaking a significant program of work to transfer some of its business IT licences and applications to cloud-based technology. We are exploring how best to facilitate this and the potential capex/opex trade-off this may present.

## **Resource capability and capacity**

Australia has a limited resource pool for large electricity infrastructure investments, and there is a potentially significant period of transmission work to occur across the NEM if proposed projects within the Draft ISP proceed as planned. This work is in addition to existing capital and operating expenditure work.

Powerlink will be considering how potential competition for scarce resources could impact on delivery of the 2023-27 capital and operating expenditure programs and what implications this could have in terms of project timings and costs.

## **Conclusion**

Our operating environment is changing rapidly and this business narrative only reflects a portion of the challenges and opportunities facing our business.

We will engage with customers on this narrative, and update it as more information becomes available to inform the basis of our 2023-27 Revenue Proposal, due in January 2021.