Powerlink Queensland

Business Narrative

OCTOBER 2021

Introduction

In April 2020, Powerlink published its first business narrative. The purpose of this document was to provide broader context to our 2023-27 Revenue Proposal and describe, at a high level, 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 strategies and plans, as well as our 30 Year Network Vision.

Our narrative has been primarily developed to assist customers (directly-connected and end-user representatives) and stakeholders (government and industry) that participate in our engagement activities.

We received feedback from our customers as part of the development of our Revenue Proposal that they valued our business narrative. We have taken this feedback on board and intend to update our business narrative on a more regular basis (i.e. not just at the time of a Revenue Proposal), as part of our ongoing commitment to keep our customers informed of the key drivers that may impact our future business operations.

Our key business drivers

Powerlink's external business and operating environment is characterised by disruption and transformation with increased complexity and change. We have categorised our business drivers into eight key areas:

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

We have also provided a brief introduction to Powerlink, our purpose and organisational strategy for context.

Engagement on our business narrative

We provided a draft version of this document to our Customer Panel in early October 2021 for input and have integrated their views in the publication of this final version, where appropriate. Key items of input included:

- greater emphasis on risk to Powerlink's social licence to operate associated with future network development and operations;
- how transmission network development in other jurisdictions could potentially impact Powerlink's network;
- impacts of Powerlink's new pricing methodology; and
- update to reflect the AER Draft Decision stating that Powerlink's Revenue Proposal was capable of acceptance.

Our purpose and strategy

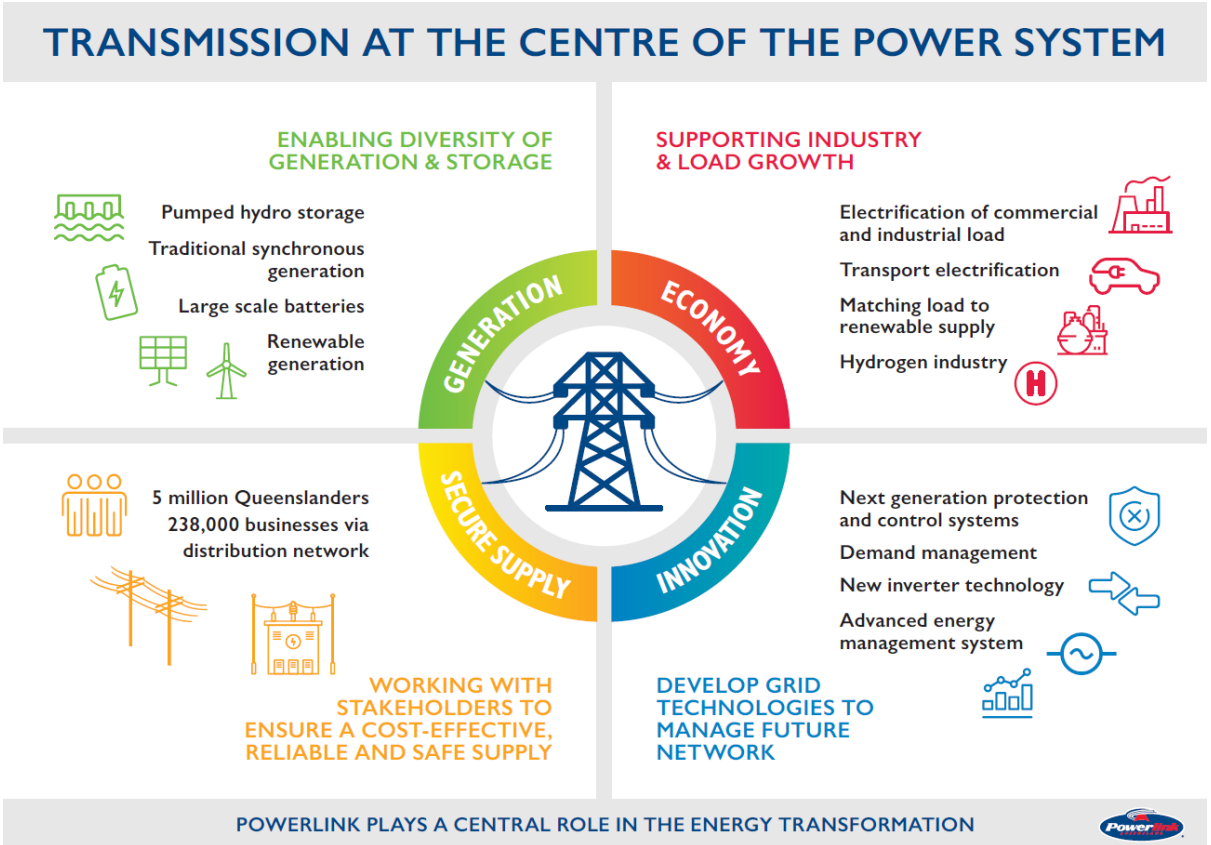
Powerlink is a leading Australian provider of high voltage electricity transmission network services, combining innovation with insight to deliver safe, secure, reliable and cost-effective energy/electricity. We are a Government Owned Corporation that owns, develops, operates and maintains the high voltage electricity transmission network in Queensland. Our network extends 1,700 kilometres from Cairns to the New South Wales border and we provide electricity to five million Queenslanders and 238,000 businesses.

In early 2021, we launched a new strategy with a clear purpose statement to ***connect Queenslanders to a world-class energy future***. Through our unique central position in the power system, we are guiding the market to help influence the energy system of the future that effectively balances customer needs, while transforming to a low carbon future comprising a diverse array of generation technologies, batteries and storage solutions, new grid technologies, and demand management.

Overall, our organisation is shifting to more of a 'learning' organisation, with greater importance placed on how we engage with our customers to gain insights and improve our decision-making. We are also encouraging an atmosphere of constructive discomfort in our business, which fosters further innovation and efficiency, through our commitments to no real growth in operating expenditure and a three per cent reduction in capital expenditure in our 2023-27 Revenue Proposal. The AER determined that Powerlink's Revenue Proposal was capable of acceptance in its Draft Decision released in September 2021.

Powerlink's network provides the platform to enable the provision of many energy services while maintaining a sharp focus on safety, affordability and reliability of supply for our customers.

Figure 1: Our role in the power system



Response to COVID-19

Our response to the COVID-19 pandemic is ongoing. We have adapted and matured a number of initiatives introduced in 2019/20, including flexible work arrangements, working from home and 'work families' for our critical workers.

To support the state's economic recovery, we continue to prioritise security of energy supply for Queensland while managing the long-term impacts of the COVID-19 pandemic. We have reprioritised our work and project delivery schedules to manage the pandemic-related impacts on our supply chain and work practices, to help keep the lights on for Queenslanders. To date, COVID-19 has not materially impacted our ability to deliver capital and operational works.

We have also taken a broad view on external factors affecting our operations, including the continuing impact of the pandemic on the changing needs of our customers, particularly customers in vulnerable circumstances, and the challenges encountered by our suppliers. We took specific precautions to proactively separate specialist resources, where these resources were critical to the delivery of our essential work.

Customer

Driving customer value is one of our strategic objectives. This means:

- driving operating and capital expenditure productivity across our business;
- keeping our Regulated Asset Base (RAB) aligned with grid energy demand;
- connecting customers, including renewable generators, to the grid in the most efficient way; and
- taking a 'whole of power system' view to guide the market to create value for customers and keep wholesale electricity prices at efficient levels.

Our customer engagement goal is to build a culture of trust, empowerment and accountability. We have a dedicated Customer Strategy to help drive our customer focus. 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 their 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. However, 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 interactions, Transmission Network Forum, webinars and other engagement forums.

Social licence to operate

We also recently released a Community Engagement Strategy, in recognition of the need to build strong, positive relationships with landholders and communities in which we operate across the life of our transmission infrastructure. With the sheer breadth of change that comes with the new energy future here in Queensland, a key risk to transmission businesses is maintaining a social licence to operate by engaging with communities impacted by energy infrastructure. In addition to impacts associated with our operating our existing infrastructure, we anticipate growth in the need for new transmission infrastructure as part of new generator connections or major regulated developments such as the Queensland-New South Wales Interconnector (QNI). Our Community Engagement Strategy is intended to be our 'north star' for how we

work and partner with local communities in a way that delivers long-term benefits and social licence to operate.

We are also a foundation signatory to the Energy Charter and publish an Energy Charter Disclosure Statement annually. 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.

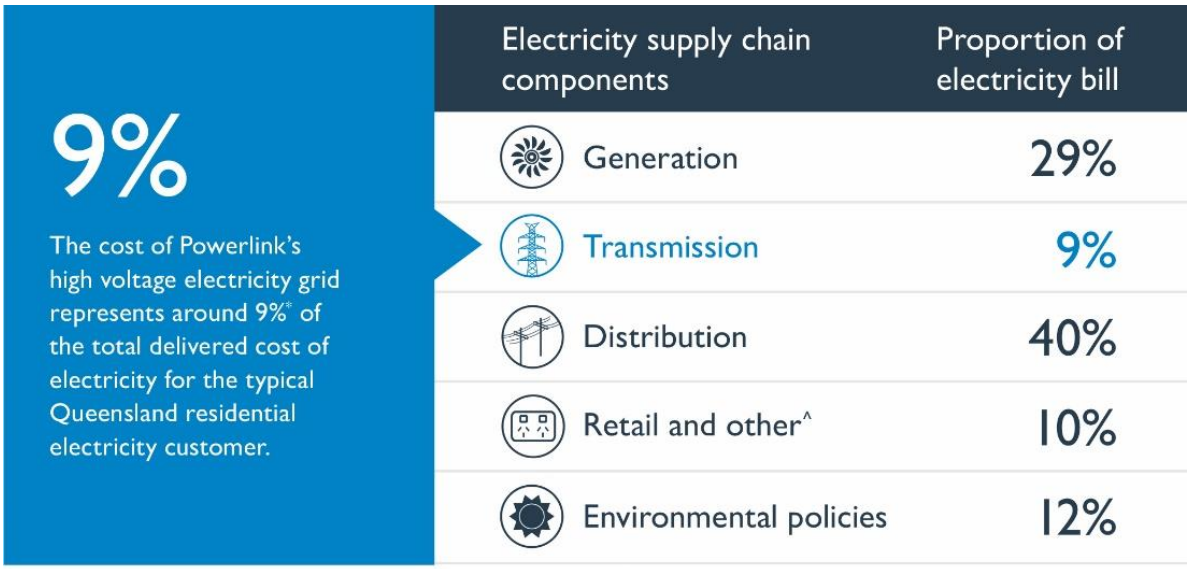
These initiatives include the development of a resource for board directors to ensure the customer voice is heard at the board level and a guideline for better practice landholder and community engagement.

Affordability

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).
Viewing affordability through both a direct and indirect customer lens will help drive long-term value through appropriate investment decisions.

The cost of electricity remains a key concern for customers. Our services represent around 9% of the electricity bill for typical Queensland residential or small business customers and this amount can be significantly higher for our directly-connected customers. All of our customers expect us to do what we can to place downward pressure on prices and deliver value for money.

Figure 2: Breakdown of typical Queensland household electricity bill



*2020 Residential Electricity Price Trends Report – SEQLD supply chain components 2021/22.
^Includes costs associated with retail, metering, 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 recognise 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.

As part of the economic assessment for major new transmission network investments, we analyse these potential benefits of improved operation of the wholesale market. In this way we seek an appropriate overall outcome for everyone who produces, transports and consumes electricity. We also support the goal of co-optimisation of generation and transmission development in the long-term interests of customers.

This is representative of our ongoing focus to ensure that regulated assets are prudently and efficiently managed, and that we only seek expenditure that is necessary to meet the future needs of the electricity transmission network. We also welcome input from our customers and stakeholders on our operations and processes and are committed to continuous improvement.

From a directly-connected customer perspective, we recognise that customers want price signals that better reflect the costs of using the transmission network at different times and in different locations. To help respond to customer expectations and encourage more efficient use of the network, we undertook a review of our transmission pricing arrangements and proposed one key change and several minor changes as part of our January 2021 Proposed Pricing Methodology. Our Proposed Pricing Methodology was lodged with our 2023-27 Revenue Proposal to the AER, after extensive consultation with our customers between April 2018 and November 2020. To manage price volatility and the 'winners and losers' effect that our customers would otherwise experience from more immediate changes, Powerlink has opted for a phased introduction of changes to its pricing methodology that focuses on gradual steps toward more efficient pricing signals.

Customer choice

Customers want a greater say in how they access, use and pay for electricity as our energy system transforms. Consistent with trends across all aspects of our daily lives, a 'one size fits all' model is not appropriate. Technologies such as Distributed Energy Resources (DER), battery storage and smart home automation systems have the potential to fundamentally transform the way households and communities manage their energy needs. This necessitates flexibility and adaptability in responding to these different needs, which could also change through time.

Delivery of a more flexible network has implications for our business. For example, the operation of our network is more complex due to added power system security constraints. We are exploring innovative technology applications to improve the flexibility of our operating practices in response to market changes, such as the use of Phasor Monitoring Units (PMUs) to improve our ability to monitor and respond to the changing characteristics of the power system as more Inverter-Based Resources (IBR) connect to the network.

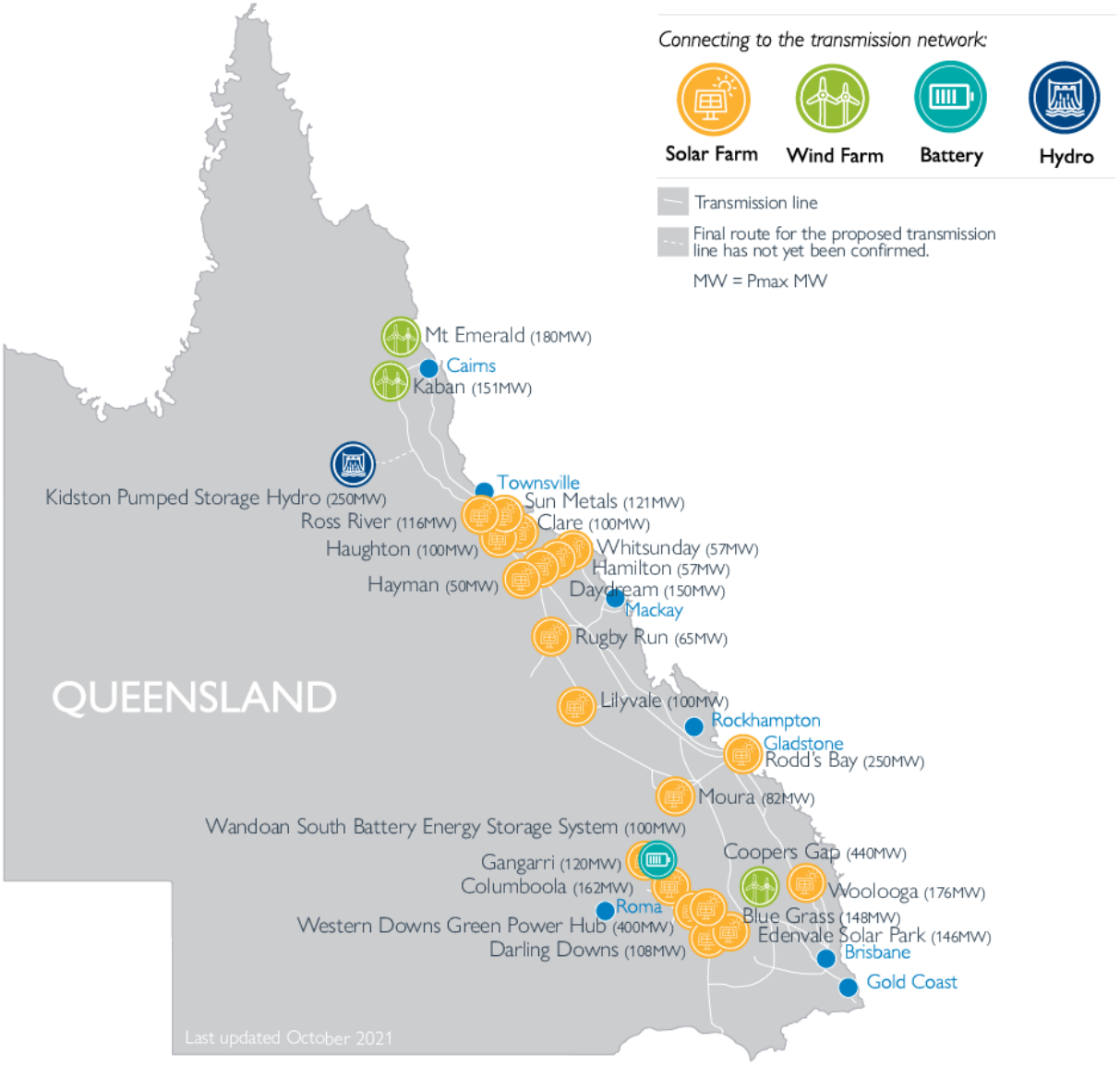
Customers will have a greater say in how they access, use and pay for electricity as part of the energy system transition to 2050. Our 30 year Network Vision has informed how we plan for and navigate changes that may occur and outlines a range of potential scenarios for the energy sector. We developed 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. While the Network Vision presented a range of high-level scenarios at a point in time, in reality the disruption and transformation occurring across the energy sector means these scenarios are ever-changing, which is why we need to continue to work with our customers and stakeholders to understand, analyse and respond to the rapid changes in the energy sector.

Network

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 1,900MW of large scale renewable generation capacity has been added to the transmission network alone. In addition, more than 4,000MW of rooftop solar has been installed at the distribution network level across Queensland.

Figure 3: Transmission connections – solar, wind, battery and hydro



The change in generation mix creates challenges in the operation of the network, such as increased constrained network flow and system strength limitations which result in constrained invertor-based generation. These constraints mean that the cheapest sources of electricity cannot always be delivered to customers. In addition, the stable operation of grid connected inverter-based generation relies on adequate system strength. While adequate system strength is delivered under system normal operating conditions this is not always the case under outage conditions. The ability to effectively manage necessary

outages on the network places pressure on how we can deliver the necessary capital investment, and operate and maintain the network.

We are working with customers, regulators, the Queensland Government, project proponents, suppliers and the Australian Energy Market Operator (AEMO) to identify, understand and appropriately respond to a range of challenges currently facing the energy sector. This includes:

- involvement in a joint working group with AEMO and Energy Queensland to study and propose actions to address broader power system challenges related to minimum demand;
- investigating mechanisms with Energy Queensland to address minimum demand and related voltage and reactive power control issues within the South East Queensland network, such as voltage control devices;
- joint research with AEMO to better understand the changing nature of customer load and develop models to more accurately determine the secure operating envelope of the power system and capability of power system assets; and
- partnership with proponents and Original Equipment Manufacturers (OEMs) to locate Battery Energy Storage Systems (BESS) in areas of the network where future power system needs and services can be most effectively leveraged. We recognise that as well as providing network support capabilities, large-scale BESS projects have the ability to provide positive outcomes for our customers and benefit the wider market energy transition.

We also continue to develop a range of integrated electricity pathways to explore key investment options for transmission, energy storage and renewable generation against a range of changing sensitivities such as rooftop solar installations, generation portfolios, load retirements and developments and future gas prices.

In addition, the development and uptake of pumped hydro and battery storage, electric vehicles, hydrogen production technology and the potential electrification of major industrial loads can all 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, pumped hydro and battery 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.

Renewable Energy Zones (REZs)

A REZ is a geographic area which has high quality renewable resources like wind and solar, and suitable topography and land available to support the connection of renewable projects. Development of a REZ has significant customer benefits, allowing multiple generators to connect to high capacity transmission infrastructure in the one location, producing cost-effective and streamlined renewable energy connections, together with associated scale-efficient system strength remediation.

We have advocated for the development of market-based REZs, which presents a major shift in planning the transmission network of the future.

The market-driven REZ model promotes the appropriate allocation of risk and cost, with a focus on project delivery through non-regulated funding. We do not consider that regulated customers, who are largely Queensland households and small businesses, should be the default funding option. This model differs from

the REZ approaches taken in other Australian states. We consider that regulated customers should only pay if there is a clear benefit to them.

We want to maximise generation capacity on our network at the lowest possible cost. Powerlink's REZ approach seeks to minimise long-term costs to customers, while maximising the use of existing assets.

Demand and energy

Solar and renewable uptake continue to drive 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 the 10-year demand and energy forecast, which is an important consideration when determining network expenditure that may be required.

In recent years, we have observed higher and shorter demand peaks occurring later in the day. These increases in peak demand put pressure on the maximum capacity of our network, which traditionally necessitates network augmentation investment. 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 risk for the power system is declining minimum demand. Demand patterns resulting from a range of factors including large scale photovoltaic (PV) generation and rooftop PV connecting to distribution networks are driving demand levels during the day to levels (approximately 3,000MW or lower). This impacts on the requirement for baseload generation throughout the day, but there is still a requirement for significant peak period generation to meet demand in the evening when solar output drops.

Conversely, delivered energy is expected to continue to decline over the next 10 years, primarily due to both the ongoing uptake of solar PV on Queensland residences and small business, as well as future solar and wind farms connecting directly to 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.

An emerging challenge is the potential electrification of large loads, for example driven by individual businesses responding to environmental, community and corporate expectations around carbon emissions or international treatment of exports with emissions expectations.

Currently, only approximately 20% of final energy consumption in Queensland is from electricity and this electrical energy is predominantly supplied from the interconnected power system. Therefore, if there is significant electrification of load historically supplied by the combustion of fossil fuels to various sectors of the economy (e.g. transport, agriculture, mining and manufacturing), this would pose a significant challenge to the adequacy of the transmission and distribution systems. Growth in grid-supplied electricity through electrification will, to some extent, be offset by reductions in grid-supplied energy due to decentralisation. However, the geospatial distribution of these two effects are not uniform and there may be areas where net demand for grid-supplied electricity is likely to significantly increase, and other areas where it is likely to decrease.

We are working to understand the future impacts of emerging technologies and electrification, and to work with AEMO so that these are accounted geospatially within future forecasts. This will allow transmission network services to be developed in ways that are valued by customers.

An increased spread between minimum and maximum demands also presents operational challenges for both AEMO and network businesses in managing the demand for various forms of system services. For

Powerlink, the increased spread is driving the need to install additional reactive power control devices to maintain power system voltages within secure operating limits.

We continue to investigate solutions to effectively manage potential future system strength issues on our transmission network. The Powerlink Cost-Effective System Strength Study undertaken with the Australian Renewable Energy Agency (ARENA), investigated technical, commercial and regulatory solutions to address system strength. This study explored the merit of several technical solutions and models, to facilitate lower cost solutions to benefit customers and streamline the connection process.

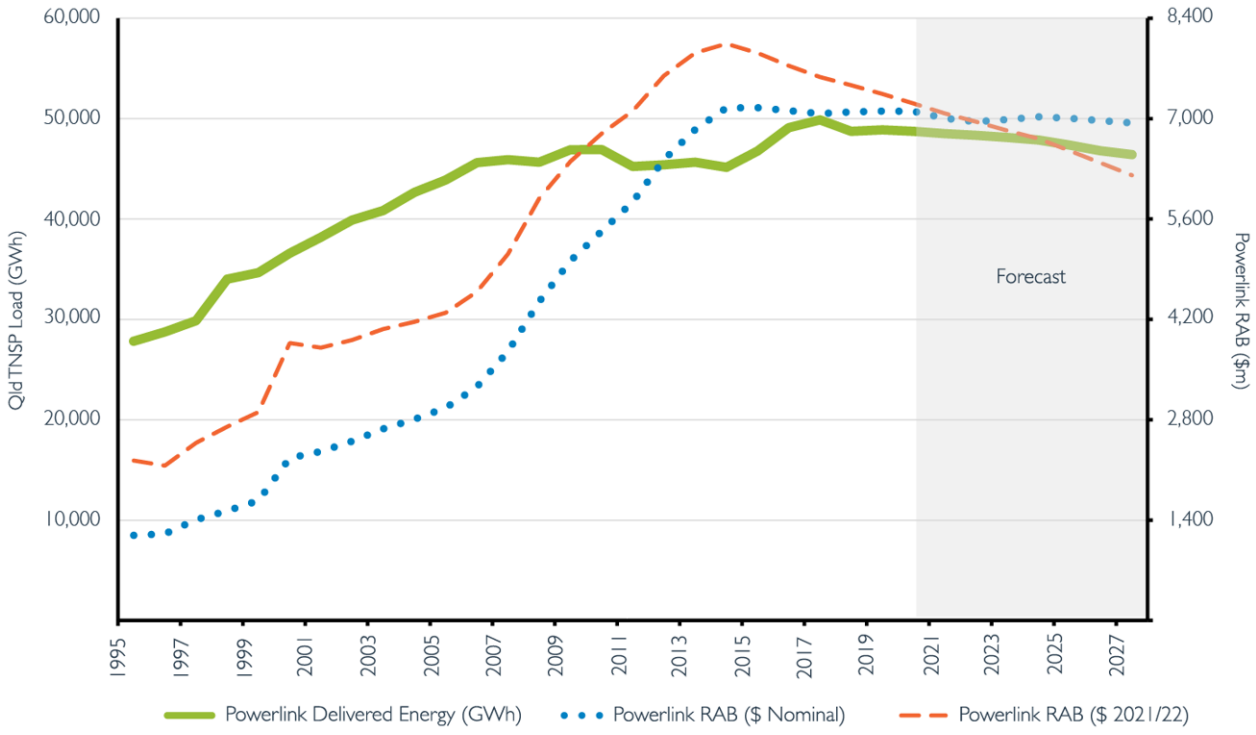
Network investment

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 existing transmission towers were constructed. Many of these transmission line assets, and other assets, are approaching the end of technical service life.

Consistent with our asset age profile, the bulk of the forecast capital expenditure in our current 2018-22 regulatory period, and into the 2023-27 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, network reconfigurations, decommissioning and other reinvestment opportunities that provide better customer value.

Our Regulated Asset Base (RAB) provides a reasonable indication of our prudent asset management and reinvestment approach. Our RAB is decreasing in both nominal and real terms and our aim is to continue to 'bend the RAB' to ensure it remains relatively consistent with energy growth. This is demonstrated by Figure 4.

Figure 4: Powerlink forecast delivered energy (GWh) versus RAB ($nominal and $real)



In line with customer and stakeholder expectations, we continue to ensure an appropriate balance between managing network condition risks and delivering asset reinvestment that considers enduring needs and most cost-effective options. As part of our continuous improvement, we recently committed to undertake a review of our network asset reinvestment approach, starting in 2022/23. We will work with our customers and other stakeholders to ensure their concerns and aspirations are understood and directly reflected in the alternatives developed through the review.

Future investment will also 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 better coordinate investment taking into account the impact of homes and businesses generating their own power, often referred to as Distributed Energy Resources (DER).

We are also mindful of AEMO's 2020 Integrated System Plan (ISP), which flags the potential need for greater interconnection between Queensland and the National Electricity Market (NEM) through 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 2020 ISP, but may become 'actionable' in future ISPs. The 2022 ISP is currently under development.

Queensland has historically exported energy to New South Wales and other National Energy Market states over the Queensland to New South Wales interconnector (QNI). The development of significant VRE resources in other states as well as Queensland has the potential to significantly alter the flows on both inter and intra connectors. For example, through the NSW Energy Infrastructure Roadmap (EIR), NSW is expecting to deliver around 12GW of additional renewables generation by 2030. If the NSW EIR is implemented to its full extent, southerly flows across QNI would materially reduce or potentially reverse.

Regulatory and policy

Regulation

Our regulatory environment continues to change significantly. Key reforms, reviews and Rule changes relevant to Powerlink's operations include:

- AEMO's Electricity Market Participant Fee Structure Review, which reallocates the recovery of some of the core NEM participant fees to Transmission Network Service Providers (TNSPs);
- Efficient Management of System Strength on the Power System Rule change, which requires TNSPs to provide system strength as a prescribed service to meet a new system strength standard at key network locations specified by AEMO;
- Energy Security Board Post 2025 Market Design reforms, which make a range of recommendations, for example that Energy Ministers adopt a principles-based interim REZ framework and that the ESB progress a number of wholesale market reforms;
- Transmission Planning and Investment Review, which will assess the effectiveness of the existing planning and investment frameworks that apply to large-scale transmission projects; and
- Transmission Ring Fencing Guideline Review, which may have further impact our operations across our regulated and non-regulated activities.

We proactively provide input to these processes from a transmission network perspective. However, the outcome of these reviews will be determined by the various bodies involved. We will implement the necessary changes as required.

Government policy

Government energy policies establish broad frameworks that 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.

Recent Queensland Government policies of relevance to our operations include:

- commitment of $145 million to deliver three Queensland Renewable Energy Zones (QREZ), as part of the Queensland Government's strategy to reach its 50% Renewable Energy Target (RET) by 2030. The first QREZ has been announced in Far North Queensland with the 157MW Kaban Wind Farm as its foundation generator and we are providing a connection to this wind farm;
- establishment of a $2 billion Renewable Energy and Hydrogen Jobs Fund to deliver new renewable connections and establish a Queensland hydrogen industry;
- $147 million towards the connection for Genex's 250MW Kidston pumped storage hydro project. We have been engaged by Genex to provide a 186km transmission line connection to the NEM for their pumped hydro facility;
- $22 million for investigations into the Borumba Pumped Hydro Energy Storage (PHES) project. We are leading the feasibility study on this project on behalf of the Queensland Government; and
- support for Copperstring 2.0, which would connect the North West Minerals Province to the national grid.

These initiatives largely rely on market-based responses. If these investments proceed, they may trigger a need for investment in the prescribed network in the future and we are working with the Queensland Government to understand and progress these initiatives as appropriate and required.

Economic and financial

The Reserve Bank of Australia (RBA) recently noted that the Australian economy was recovering faster than expected in 2021, driven by fiscal and monetary policy stimulus. However, recent COVID-19 outbreaks across various states have interrupted economy recovery and the near-term outlook remains highly uncertain[1].

In its 2021 State Budget, the Queensland Government noted Queensland's short-term economic growth outlook is 3.25% (2020-21) and 2.75% (2021-22). Gross State Product is forecast to grow by 3.25% in 2020-21. These growth factors may also be impacted by the volatility caused from COVID-19 outbreaks.

In Queensland, the resource sector remains stable, with a positive outlook driven by a favourable Australian dollar and international demand for base resources. Our network capital expenditure, outside of regulated asset reinvestment, is predominantly directed towards renewable generator connections.

From a financial perspective, Australia is in a period of volatile inflation and sustained low Government bond rates. Volatility in inflation and bond rates over the past 12 months reflects pressures such as economic reopening and fluctuating market optimism about the pace of economic recovery[2].

Inflation and the Government bond rate are both factors that impact our Rate of Return (sometimes known as the Weighted Average Cost of Capital), Maximum Allowed Revenue (MAR) and returns to shareholders.

[1] Reserve Bank of Australia, Statement on Monetary Policy, August 2021.
[2] *Ibid*.

Our lower MAR outlook is also impacted by our declining RAB, which is discussed further in the Network Investment section. Since 2014-15, Powerlink's RAB has been declining in real terms ($2021/22), 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.

Customers have raised concerns that, in the future, there could be increases in electricity prices if there is an increase in the Rate of Return, which is not directly in Powerlink's control. We acknowledge these concerns and agree we must continue to focus on making prudent and efficient decisions, particularly with respect to network capital investment, that are in the long-term interests of consumers.

Environment

Climate change, and the implementation of strategies to reduce climate change risk, is an area of significant focus for government, businesses and the energy sector. We take a long-term view to managing the risks of climate change, with our primary role being to ensure a strong and resilient network that enables the transition toward further renewable energy and a lower carbon future.

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 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.

Natural disasters in Australia and across the world have also placed upward pressure on our insurance premiums, and those of other Network Service Providers (NSPs). We engage directly with insurance underwriters to ensure they understand the circumstances related to our business to advise appropriate insurance policies, excess levels and premiums. We have also committed to engage with our customers if there are material changes to our insurance premiums.

Technology

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.

The transformation of data into information and then insights can improve business decision-making and reduce risks to our customers. Our investments in Business Information Technology (IT) and Operational Technologies (OT) are made to ensure we can deploy and access enhanced digital data analytics to support the business and the provision of services to customers. This includes digital interfaces with our customers, our suppliers and AEMO.

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

Over a longer period, the NGNO program 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, the second and third stages will focus on data, predictive technology and artificial intelligence to help us deliver better outcomes for our customers.

At a corporate IT level, we are also progressing the replacement of our legacy Enterprise Resource Planning system, which will support increasing digitisation and automation of routine business processes. We expect this to contribute to operational efficiencies in the medium to long-term.

Cyber security remains an important area of focus for Powerlink as a critical infrastructure provider. We have taken appropriate steps to ensure our operating technology and IT systems are resilient to the increasing risk of cyber-attack. We are committed to ensuring an appropriate level of cyber security risk management and maturity while maintaining alignment with the voluntary Australian Energy Sector Cyber Security Framework (AESCSF).

In December 2020, the Federal Government introduced the *Security Legislation Amendment (Critical Infrastructure) Bill 2020*. Formal consultation, led by the Federal Government, occurred on this Bill and related potential security and resilience rules for the electricity sector throughout 2021. If passed, this legislation would establish a new security and resilience regulatory regime on operators of critical infrastructure and we anticipate there would be elevated security obligations and standards on us.

We are keeping close track of the progress of the Bill and related requirements and will respond as appropriate. It remains uncertain at this point exactly what additional requirements will be put in place and what costs we may need to incur to meet these requirements.

Resource capability and capacity

To build the leadership capability of our staff, and consistent with our transition from a ‘technical’ to a ‘learning’ organisation, we recently developed our People Capability Framework. The objective of our People Capability Framework is to guide the development of our employees into a world-class workforce and centres around key leadership capabilities such as innovation, continuous learning, agility and the ability to foster inclusive and constructive relationships.

At a macro level, we are considering how the potential competition for scarce resources could impact on the delivery of our works in the short, medium and long-term. 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 through interconnectors, REZs and direct connections. This creates risks in terms of access to skilled resources and delivery. 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.

We have engaged with other TNSPs on how these risks can be managed, which could include:

- development of project timelines and resource requirements by skill sets;
- management of the balance between internal and external resources, as well as augmentation versus replacement works; and
- identification of the need for increased levels of specific skills, which can be addressed by apprenticeships and training programs.