



Leading the energy **transition towards 2032**

EQL Strategic Plan 2032





Acknowledgement of Country

Energy Queensland acknowledges the traditional custodians of the land on which we live and work, and recognise their continuing connection to land, waters and community. We would also like to pay our respects to Elders past and present for they hold the memories, the traditions, the culture and hopes of First Nations people. We also acknowledge that the lands and waters beneath the poles and wires that stretch across the communities where we live and work, was and always will be traditional Aboriginal and/or Torres Strait land.



Foreword

Energy Queensland (EQL) is integral to the energy ecosystem in Queensland, and will lead the renewables transformation to a cleaner, greener future for generations to come.

The energy ecosystem is undergoing complex, rapid and profound change with the proliferation of renewable energy sources targeting net zero emissions. The increased availability of distributed energy resources (DER), such as rooftop solar, provides significant opportunities for decarbonising the economy and empowering customers to both produce and consume energy. In Queensland, the accelerated adoption of renewable energy has seen 1 in 3 households now generating electricity on their rooftop.

Furthermore, this consumer-led transformation means that customers will be personalising services to empower them with choice, control, and convenience. We will enable the lifestyles and energy freedoms of our customers and communities through an enhanced customer experience. The integration of renewables and provision of value-add services and products will equitably benefit all Queenslanders.

This energy transition is not without challenges. Renewable energy is variable (for example, cloudy days, no wind), which makes it challenging to manage the alignment of supply and demand. We must remain vigilant in developing our capabilities to ensure the delivery of safe, secure, affordable and sustainable energy.

Our people are central to the energy transition. We know our business, our customers and we know our capabilities, which places us in a privileged position to deliver on our commitments to 2032. We seek to attract, develop and retain a future-fit workforce that is agile and passionate about the exciting opportunities ahead. Furthermore, as a large-scale employer, we are committed to continuing to support employment in regional Queensland, and sustainable regional economic growth.



In 2022, the Queensland Government released the Queensland Energy and Jobs Plan (QEJP) which aims to deliver a climate positive Brisbane 2032 Olympic and Paralympic Games, 70% renewable energy by 2032, 80% renewable energy by 2035 and net zero emissions by 2050. As we approach the QEJP milestones, the Queensland energy system will undergo even further change as we continue to electrify and decarbonise as our energy habits evolve. Through the capabilities in our portfolio, Energex, Ergon Energy Network, Ergon Energy Retail and Yurika we will deliver on our QEJP commitments. We will contribute to improving the lives of Queenslanders through constructing new energy infrastructure, such as batteries and electric vehicle (EV) charging stations, that will deliver safe, secure and sustainable electricity for Queensland communities.

We are in a period of unprecedented change, and the way we respond determines the impact we will have on the future sustainability of current and future generations. The 2032 Energy Queensland Strategic Plan is for all of us at EQL, as well as our customers and communities. It defines 'how' we will achieve our sustainable commitments towards 2032. This is a strategic journey that will propel us towards an Electric Life.

Peter Scott
Chief Executive Officer,
Energy Queensland

Introduction

The energy sector in Australia will be transformed over the next decade, and beyond on the back of significant advancements in energy technologies and the rapid adoption of renewables. By 2032 society will have moved to an 'electric life' and Energy Queensland, in direct support of our Vision, Purpose and Values, will be at the forefront of this transition.

We are working towards empowering an Electric Life in 2032. We see a future where business and residential energy consumers are enthusiastically embracing existing and emerging technologies to support the delivery of low emission energy provision. It is a future that could see double the amount of solar energy, and over one million electric vehicles connected to our networks.

Our challenge is to stay a step ahead to ensure we can deliver for our customers, and the broader community. To do this, we're evolving to be not only part of the energy transformation, but a leader.

There are many implications for the business in establishing and maintaining a leadership position. However, in our favour, we have both the potential and existing requisite capabilities to immediately commence this journey. Where capability gaps emerge or become evident over time, the business will rapidly adapt and respond to overcome obstacles and leverage the many opportunities.

An Electric Life is where households and businesses are in the driver's seat, and our subsidiary businesses are trusted partners delivering secure, affordable and sustainable energy solutions. We must stay a step ahead to ensure we can deliver electrification through an integrated and agile energy system. To deliver on our commitments for a clean energy future, we must implement strategies that define our purpose and embed our role in the lifestyles of our customers and communities.

We envision a future where we help customers to evolve their energy habits to participate in the energy system and electrify, whilst continuing to provide a safe, reliable and resilient energy network throughout the energy transition.

In a dynamic, fast-changing world, establishing effective strategic initiatives and plans is challenging given the inherent uncertainties. We recognise that we must continue to evolve to a new, better and sustainable future where we can continue to thrive. The Energy Queensland Strategic Plan sets out the strategies to achieve the 2032 outcomes. This is a strategic journey that will launch us towards an Electric Life.



Our Operating Environment

Led by Australian consumers' desire for lower cost and low emission energy, our traditional poles and wires business is rapidly transforming towards a decentralised, two-way power system. The increasing number of households and businesses investing in solar photovoltaic (PV) generation and energy storage capabilities is driving a more complex energy system. Forecasts indicate that this trend will accelerate into the future, presenting new challenges to network businesses including rapidly declining 'minimum peak demand', significant reverse power flows (from traditional one way flows) across some parts of the distribution network as well as system security, stability and operational risks.

The energy system has been undergoing complex, rapid and widespread change with the proliferation of renewable energy sources targeting net zero emissions. The increased availability of DER, such as rooftop solar, provides significant opportunities for decarbonising the economy and empowering customers to both produce and consume energy.

The transition has also introduced challenges. The power grid was originally designed for central power generation, where large generators produce power which is then transmitted in a one-way flow to users. This centralised design of the grid was not designed for the distributed nature of renewable energy sources. Renewable energy is also variable, which makes it even more challenging to manage the alignment of supply and demand.

The contextual environment of the dynamic energy industry in Queensland, and more broadly across Australia, highlights the following drivers of change:

- Queensland target to achieve net zero commitment by 2050, with 80% renewables by 2035
- Rising household and business energy bills
- Small energy retailers exiting the market resulting in lack of customer choice
- Coal-fired generators approaching retirement and transforming into clean energy hubs
- Customers increasingly adopting the new DER future evidenced through the continuing installation of solar in parallel with increasing EV connections
- All customers being part of the energy transition, including geographically dispersed customers and isolated communities
- Dynamic and volatile markets threatening affordability and reliability.

Customers and Communities

Our customers and communities are directly impacted by our operations, which could support or affect their lifestyles. The following are several key areas of identified concern for our customers and communities, which have been considered when determining our strategic direction:

- Energy affordability and value
- Health, safety and well-being
- Disaster response
- Trust and transparency
- Customer service experience
- Security and reliability of supply
- The transformation to a low carbon future
- Supporting all customers through the change - leave no one behind
- Economic development and jobs
- Advancement in technology.

Furthermore, the transformation is rapidly accelerating with several behavioural observations influencing and shaping the energy future:

- The cost of centrally generated electricity is increasingly volatile
- Interest in DER and EVs has been growing around the world
- Increased interest and take up of EVs. In the past 12 months to 30 June 2023, EVs represented 8.6% of all new car registrations in Queensland. This is a 147% increase from the 3.5% in 2021/22
- Advancements in Digital technologies, including powerful mobile devices, are creating opportunities for new customer offerings (e.g., peer-to-peer trading of energy, virtual power plants (VPP))
- Increased investment in clean energy, capacity of renewable generation and storage, and generation of renewable electricity, suggest the possibility of a future with fast advancement in renewable technologies
- Increasing availability of big data, coupled with the development of the Internet of Things (IoT) and emerging Smart Grids, have the potential to transform the energy industries
- Battery storage and solar PV are becoming increasingly affordable and efficient.



Distributed Energy Resources (DER) Integration

The DER ecosystem is becoming increasingly complex with a range of technologies, capabilities and potential value pools. The emerging DER ecosystem must enable and integrate multifaceted and technically diverse technologies and infrastructure seamlessly to ensure reliability of supply is maintained in a highly electrified future. To optimise the management of the energy system, it is critical for us to improve the visibility of the low voltage (LV) network, particularly in a high DER future. Therefore, we can support consumers to benefit from their DER investment without compromising the reliability and security of supply overall.

- **Rooftop Solar PV**

Across Queensland there has been a rapid proliferation of rooftop solar PV with a 55% per annum growth since 2009. Almost one million individual rooftops have been connected. Sustained low technology costs and government incentive schemes has played a key role in the increase in rooftop solar PV.

- **Embedded Storage**

Renewable energy sources, such as wind and solar, are variable and rely on weather conditions, making energy storage an important tool to aid in managing the grid. In addition, recent years have seen battery costs decline substantially. For example, lithium-ion battery costs have fallen by 79% since 2010. Community-scale and neighbourhood batteries have also increased, with EQL committing to delivering one network battery per month up to 2032.

- **Microgrids**

Successful integration of new generation micro grids (supported by wind and solar energy) is addressing the increasing energy needs of consumers and their concerns about the environment. There are significant future opportunities for these technologies to help reduce prices and improve customer outcomes by avoiding asset maintenance costs such as the replacement of poles and powerlines.

Electric Vehicles

EV volumes have grown relatively slowly in Australia compared to countries such as the United Kingdom, United States and Canada, and particularly slowly compared to countries such as China and Norway. EV penetration is also much lower in regional Queensland than in south-east Queensland, however it is forecast that there could be one million EVs on Queensland roads by 2032. Historically, primary barriers to the adoption of EVs in Queensland and Australia has been the availability of suitable/affordable models, and anxiety with regards to charging and vehicle driving range.

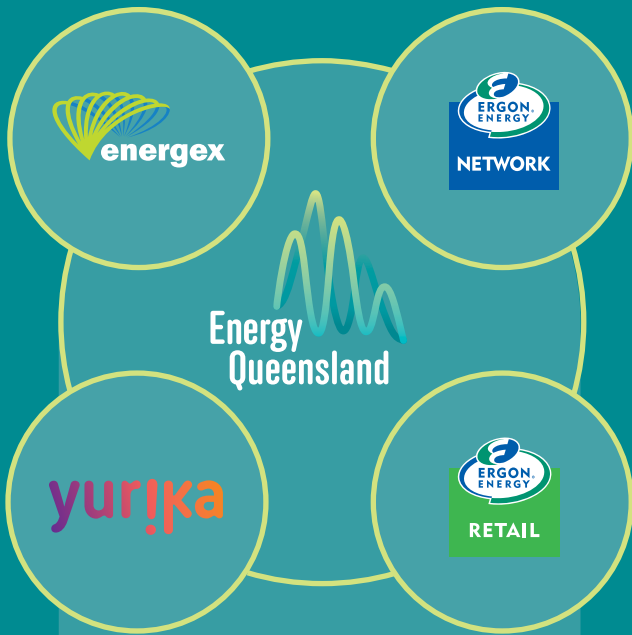
Queensland Energy and Jobs Plan (QEJP)

The QEJP lays out the actions needed to transform the State's energy system and create the jobs through new industries to service the renewable energy transition. The QEJP aims to achieve a climate positive Brisbane 2032 Olympic and Paralympic Games, 70% renewable energy by 2032, 80% renewable energy by 2035 and net zero emissions by 2050.

We are integral to Queensland's energy ecosystem. Our role is not only to deliver on the QEJP actions but to make it real for the millions of Queenslanders we interact with directly through our portfolio businesses Ergon Energy Network, Energex, Ergon Energy Retail and Yurika. We must engage with households, businesses, and communities so we can deliver an energy system that enables all Queenslanders to benefit from the energy transition regardless of where they are.

By leading or directly supporting 13 of the 23 QEJP actions, we will contribute to improving the lives of Queenslanders through more affordable energy bills, building new energy infrastructure like electric vehicle charging stations and hiring more graduates and apprentices that will help keep the lights on.





Our Energy Queensland

Energy Queensland is Australia's largest, wholly government-owned electricity company.

Yurika provides integrated solutions in energy and infrastructure, energy supplies, metering, telecommunications, and digital services to connect its customers to a sustainable energy future.

Our retailer, Ergon Energy Retail, sells this electricity to its 766,000 customers throughout regional Queensland, with generation, energy trading and retailing capabilities. Our customer numbers make us the fourth largest retailer in the National Electricity Market (NEM).

Our 'poles and wires' businesses, Ergon Energy Network and Energex deliver electricity across Queensland. We supply more than five million Queenslanders through more than 200,000 kilometres of electricity networks, and 33 isolated systems, such as Thursday Island.

We energise Queensland communities from Tweed River to Torres Strait and from Brisbane across to Birdsville, and through Yurika's services, to a growing national footprint.

Our statistics

8,200
EMPLOYEES

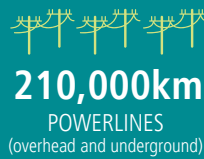


500+

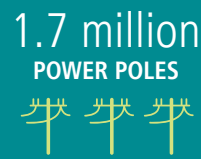
GRADUATES AND APPRENTICES



210,000km
POWERLINES
(overhead and underground)



1.7 million
POWER POLES



34
POWER STATIONS
(including network-connected Barcaldine)



1.7M
km²

Service area



36,600GWH
electricity distributed (a year)

\$29.2
billion
asset base



UNPLANNED OUTAGES
Energex 0.66
Ergon Network 2.15
(average per customer a year)



4.9M
VIEWS OF OUR
OUTAGE INFO



1 million
appliances under load control



2.3M
Connected customers



766,000
RETAIL CUSTOMERS



1 MILLION
phone calls answered



3 network control centres



5 customer solutions centres



800,000
SOLAR ENERGY SYSTEMS CONNECTED



43
LARGE-SCALE SOLAR ENERGY CONNECTIONS



5.6GVA
SOLAR CAPACITY CONNECTED



ENERGEX

5,221 MW network-wide peak/maximum demand
237 MW network-wide minimum demand



ERGON NETWORK

2,637 MW network-wide peak/maximum demand
799 MW network-wide minimum demand



Source: Energy Queensland Annual Report 2022-23

Our Strategic Framework

We have a unifying Vision, Purpose, and set of Values that guide everything we do at Energy Queensland. Our Vision helps us to understand where we're heading, our Purpose is what we do (our core role), and our Values are how we do it.

Our Vision

#electriclife2032
We energise Queensland communities

Our Purpose

To safely deliver secure, affordable, and sustainable energy solutions with our communities and customers

Our Strategic Areas of Focus



Powering tomorrow

The fusion of a smart, safe and secure energy system



Experience excellence

Setting new standards for customers in their energy transition



Sustainable future

Leading the charge for a successful, greener tomorrow



Anchored in strength

Striving for operational excellence and creating a future-fit employee experience

Our Values

WE'RE SAFE

We prioritise the physical safety and mental wellbeing of our people, customers, and communities

WE BELONG

We embrace diversity, empower all to excel, and unite to become stronger together

WE GROW

We foster both personal growth for collective success and innovation to build Queensland's energy future

WE DELIVER

We deliver on personal commitments to build our shared achievements





BY 2032, WE WILL BE KNOWN FOR:



Driving a greener, Net Zero future for generations to come through advocacy, investment, innovation, and the enabling of renewables.



Achieving the global leading commitments in the Queensland Energy and Jobs Plan (QEJP), including the climate positive 2032 Brisbane Olympic and Paralympic Games, decarbonisation of isolated communities and electrification of transport.



Being the national leader in the energy industry built on the foundation of operational excellence, commercial acumen and values driven success.



Leading as an employer of choice who attracts, develops and retains highly skilled employees by offering exciting career options, working with new and emerging technologies and making a positive impact on the environment, communities and economy.



Powering the economy by providing trusted and sustainable energy solutions that improve people's lives and livelihoods by maximising lifestyle, employment, business and financial freedoms.



Providing affordable tariff and energy solutions that deliver value for customers and communities so that no one is left behind in the energy transition.



Excelling as a forward-thinking leader that embraces emerging digital and energy technologies in pursuit of delivering positive outcomes for communities and customers.



Delivering as a socially responsible organisation that adds long-term value to the community, promotes social equality in the energy transition, and is an energy leader in environmental sustainability.

We're enabling electrification for Queenslanders

This 2032 Strategic Plan defines how we will enable customers and communities to live an 'electric life'.

The Plan is aligned closely with the Queensland Government's Queensland Energy and Jobs Plan. The Vision, Purpose, Values and Strategic Areas of Focus aim to deliver and support efforts for a climate positive Brisbane 2032 Olympic and Paralympic Games, 70% renewable energy by 2032, 80% renewable energy by 2035 and net zero emissions by 2050.

By leading or directly supporting 13 of the 23 QEJP actions, our businesses will contribute to improving the lives of Queenslanders through affordable energy bills, building new energy infrastructure like electric vehicle charging stations and hiring more graduates and apprentices that will help keep the lights on. The actions identified align with our Electric Life vision to provide safe, secure and affordable renewable energy, and in doing so support more jobs in Queensland.





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