UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 18-K/A

For Foreign Governments and Political Subdivisions Thereof

AMENDMENT NO. 2
to
ANNUAL REPORT
of
QUEENSLAND TREASURY CORPORATION
(registrant)

a Statutory Corporation of

THE STATE OF QUEENSLAND, AUSTRALIA
(co-registrant)
(names of registrants)

Date of end of last fiscal year:
June 30, 2021

SECURITIES REGISTERED
(As of the close of the fiscal year)

Title of Issue	Amounts as to which registration is effective	Names of exchanges on which registered
Global A$ Bonds	A$—	None (1)
Medium-Term Notes	US$—	None (1)

(1) This Form 18-K/A is being filed voluntarily by the registrant and co-registrant.

Names and addresses of persons authorized to receive notices and communications on behalf of the registrants from the Securities and Exchange Commission:

Philip Noble
Chief Executive
Queensland Treasury Corporation
Level 31, 111 Eagle Street
Brisbane, Queensland 4000
Australia

Leon Allen
Under Treasurer of the State of Queensland
Level 38, 1 William Street
Brisbane, Queensland 4000
Australia

EXPLANATORY NOTE

The undersigned registrants hereby amend the Annual Report filed on Form 18-K for the above-noted fiscal year by attaching hereto as Exhibit (c)(ix) Queensland Treasury Corporation Annual Report for the Fiscal Year Ended June 30, 2022, as Exhibit (c)(x) the Queensland Energy and Jobs Plan, as Exhibit (c)(xi) the Queensland Energy and Jobs Plan Announcement, and as Exhibit (g)(ii) the consents of Mr. Philip Noble, Chief Executive, Queensland Treasury Corporation; Mr. Damien Frawley, Chair, Queensland Treasury Corporation; and Mr. Brendan Worrall, as Auditor-General, State of Queensland.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, at Brisbane, Australia, on the 5th day of October, 2022.

QUEENSLAND TREASURY CORPORATION

By: /s/ Philip Noble
Name: Philip Noble
Title: Chief Executive

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, at Brisbane, Australia, on the 5th day of October, 2022.

GOVERNMENT OF QUEENSLAND

By: /s/ Dennis Molloy
on behalf of
Name: The Honourable Cameron Dick MP
Title: Treasurer and Minister for Trade and Investment

INDEX TO EXHIBITS

EXHIBIT (c)(ix)

Queensland Treasury Corporation Annual Report for the Fiscal Year Ended June 30, 2022

FORWARD-LOOKING STATEMENTS

This exhibit contains forward-looking statements. Statements that are not historical facts, including statements about the Queensland Treasury Corporation's (the "Corporation" or "QTC") and the State of Queensland's (the "State" or "Queensland") beliefs and expectations, are forward-looking statements. These statements are based on current plans, budgets, estimates and projections and therefore you should not place undue reliance on them. The words "believe", "may", "will", "should", "estimate", "continue", "anticipate", "intend", "expect", "forecast" and similar words are intended to identify forward-looking statements. Forward-looking statements speak only as of the date they are made, and neither the Corporation nor the State undertake any obligation to update publicly any of them in light of new information or future events.

Forward-looking statements are based on current plans, estimates and projections and, therefore, undue reliance should not be placed on them. Although the Corporation and the State believe that the beliefs and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such beliefs and expectations will prove to have been correct. Forward-looking statements involve inherent risks and uncertainties. We caution you that actual results may differ materially from those contained in any forward-looking statements.

A number of important factors could cause actual results to differ materially from those expressed in any forward-looking statement. Factors that could cause the actual outcomes to differ materially from those expressed or implied in forward-looking statements include:

- the international and Australian economies, and in particular the rates of growth (or contraction) of the State's major trading partners;
- the effects, both internationally and in Australia, of any subsequent economic downturn, as well as the effect of ongoing economic, banking and sovereign debt risk;
- the effect of natural disasters, epidemics and geopolitical events, such as the novel coronavirus (COVID-19) pandemic and the Russia-Ukraine conflict;
- increases or decreases in international and Australian domestic interest rates;
- changes in the State's domestic consumption;
- changes in the State's labor force participation and productivity;
- downgrades in the credit ratings of the State and Australia;
- changes in the rate of inflation in the State;
- changes in environmental and other regulation; and
- changes in the distribution of revenue from the Commonwealth of Australia Government to the State.

2021–22

ANNUAL REPORT

QUEENSLAND TREASURY CORPORATION

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CONTENTS

Level 31, 111 Eagle Street
Brisbane Queensland Australia

Telephone: +61 7 3842 4600
Email: enquiry@qtc.com.au

19 August 2022

The Honourable Cameron Dick
Treasurer and Minister for Trade and Investment
GPO Box 611
Brisbane QLD 4001

Dear Treasurer and Minister for Trade and Investment

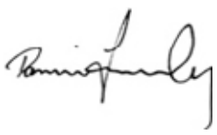
I am pleased to present the Annual Report 2021–22 and financial statements for Queensland Treasury Corporation.

I certify that this Annual Report complies with:

- the prescribed requirements of the *Financial Accountability Act 2009* and the *Financial and Performance Management Standard 2019*, and
- the detailed requirements set out in the *Annual Report requirements for Queensland Government agencies*.

A checklist outlining the annual reporting requirements can be found at page 68 of this Annual Report.

Sincerely



Damien Frawley
Chair

LEVEL 31, 111 EAGLE STREET, BRISBANE QUEENSLAND AUSTRALIA 4000
GPO BOX 1096, BRISBANE QUEENSLAND AUSTRALIA 4001
T: 07 3842 4600 , F: 07 3221 4122

QUEENSLAND TREASURY CORPORATION

Queensland Treasury Corporation (QTC) has a statutory responsibility to advance the financial position and development of the State. Established under the Queensland Treasury Corporation Act 1988, QTC is a corporation sole, reporting through the Under Treasurer to the Treasurer and the Queensland Parliament.

Vision

Protecting and advancing Queensland's financial interests

Mission

To deliver optimal financial outcomes through sound funding and financial risk management

2021–25 Strategic Goals

1 Sustainable funding

2 State and client value

3 Organisational excellence

Values

Client focus

We build strong partnerships with our clients to deliver simple and well-designed solutions that achieve quality outcomes for Queensland.

Team spirit

We work as one team, taking joint responsibility for achieving our vision and collaborating to achieve outstanding performance.

Excellence

We aim for excellence using flexible and agile processes to continuously improve.

Respect

We show respect by recognising contributions, welcoming ideas, acting with honesty, being inclusive and embracing diversity.

Integrity

We inspire trust and confidence in our colleagues, clients, stakeholders and investors by upholding strong professional and ethical standards.

ROLE AND RESPONSIBILITIES

QTC is the central financing authority for the Queensland Government and provides financial resources and services for the State. We manage the State's funding program in the global capital markets to deliver sustainable and cost-effective borrowings for the Queensland Government departments and agencies, local governments, and other related entities (our clients).

With a statutory role to advance the financial interests and development of the State, we work in partnership with Queensland Treasury and our clients to solve complex commercial, policy and economic issues. We help to deliver innovative, long-term solutions that contribute to the growth of Queensland's economy.

We protect Queensland's financial interests and deliver better financial outcomes by centralising the management of our clients' borrowings, cash investments, and financial risks. We play an integral role in managing the State's finances, working closely with our clients on their balance sheet management and helping to identify opportunities to minimise costs and risks.

At QTC, we are committed to protecting and advancing the financial interests of Queensland.

CHAIR'S REPORT

DAMIEN FRAWLEY
CHAIR

On behalf of the Queensland Treasury Corporation Capital Markets Board, I am pleased to present Queensland Treasury Corporation's Annual Report for 2021–22, following my appointment as Chair on 1 July 2022.

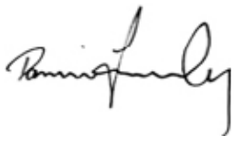
It is a privilege to be appointed Chair of QTC, an organisation with a legacy of sound financial stewardship for the State of Queensland. I am fortunate that, through my former role as Chief Executive of QIC, I have had the opportunity to work with QTC's Chief Executive and observe the organisation's strong relationships with, and extensive knowledge of, both the Queensland Government and global financial markets.

In the year under review, QTC raised $15.3 billion to fund the State's borrowing program, and delivered solutions for clients that helped manage their financial risks, created economic benefits and enhanced the State's fiscal position. QTC also delivered $464.2 million of returns to Queensland Government stakeholders through debt management and Cash Fund returns.

With its dedicated leadership team and high-performing workforce, I am confident that QTC will continue to provide the funding and financial risk management advice to support the key financial decisions that underpin Queensland's economic recovery and future growth.

As I begin my Chairmanship with QTC, I would also like to extend my sincere gratitude to former Chair, Gerard Bradley AO, for his leadership and service to QTC and the State of Queensland.

In the coming year, the Board will be committed to guiding QTC to deliver its strategic objectives as the State's central financing authority. I look forward to working with my fellow Board members and the Executive Leadership Team to set a continued successful path for QTC in the future.



D J FRAWLEY
Chair
19 August 2022

CHIEF EXECUTIVE'S REPORT

PHILIP NOBLE
CHIEF EXECUTIVE

In 2021–22, QTC faced challenging market conditions with central banks increasing interest rates to combat elevated inflation and significant yield movements. This was coupled with extreme volatility in the bond markets that was higher than during the European Sovereign Debt Crisis and on-par with the outset of the COVID-19 shock.

Despite this backdrop, QTC's established reputation as a leading semi-government issuer supported its ability to achieve $15.3 billion issuance during the year. QTC delivered $464.2 million of returns to its Queensland Government stakeholders, including a $404.6 million interest rate reduction through debt management and $59.6 million in Cash Fund returns.

This year, QTC continued its ongoing alignment with Queensland Treasury to support the delivery of the Government's priorities and help identify opportunities for our clients to minimise their costs and risks.

QTC's ability to navigate the complex market environment, and protect and advance Queensland's financial interests, was underpinned by its strong operational performance. QTC has continued to be recognised in the industry and won a national '2022 5-Star Employer of Choice' award for its third consecutive year from Human Resources Director.

At the close of the 2021–22 financial year, we welcomed Damien Frawley as the new Chair of the QTC Capital Markets Board. His appointment followed the retirement of former QTC Board Chair, Gerard Bradley AO on 30 June 2022. QTC extended its sincere thanks to Mr Bradley for his significant contribution and service to QTC from 2012–2022.

Funding the State

$15.3 billion issuance to fund the State

$404.6 million interest rate reduction to the State through debt management

$59.6 million returns through the Capital Guaranteed Cash Fund

QTC continued to demonstrate its reputation as a highly regarded bond issuer through the execution of term debt issuance in what has been a volatile year in bond markets. QTC's liquidity position remained strong over the year with all debt servicing obligations met as required. The strength of QTC's liquidity was recognised by the credit rating agencies when they assessed the State's credit position during the year.

In 2021–22, QTC completed its borrowing program of $14.3 billion, ahead of schedule, and raised an additional $1.0 billion of funding. The issuance was executed through $6.5 billion in syndicated deals, $3.5 billion in seven tenders and $5.3 billion via reverse enquiry. This included the establishment of three new bond lines, including a $3.0 billion 1.50% 2 March 2032 CBI certified Green Bond, a $1.5 billion 2.00% 22 August 2033 benchmark bond, and a $2.0 billion 3m BBSW+1bp 3 March 2026 floating rate note.

The Queensland Government and QTC continued to provide transparent and regular updates to the market on Queensland's fiscal position and borrowing program throughout the year. QTC's borrowing program was reduced by $3.1 billion to $14.3 billion following the Queensland 2021–22 Budget Update released on 16 December 2021. The reduction was a result of lower client borrowings and general government revenue uplifts.

Following the Queensland 2022–23 State Budget, released on 21 June 2022, QTC estimates it will borrow $14.4 billion of term debt in the 2022–23 financial year.

ESG initiatives

QTC worked closely with its stakeholders and the Queensland Government to deliver initiatives that support environmental, social and governance (ESG) outcomes for Queensland. This included collaborating with the Queensland Government on the development of the inaugural Queensland Sustainability Report with information about the State's ESG commitments and outcomes.

In September 2021, QTC issued $3.0 billion of a new 1.50% 2 March 2032 Green Bond, supporting Queensland's pathway to climate resilience and an environmentally sustainable economy. This was the fourth and longest tenor Green Bond for QTC, further diversifying funding alternatives and continuing to build QTC's Green Bond curve.

Operating results

QTC continued to protect client's interest rate risk with effective management activities. For the year under review, QTC's management of the State's debt enabled an interest rate reduction equivalent to $404.6 million.

QTC's asset management strategy to provide protection against rising outright yields and widening credit spreads allowed QTC to deliver $59.6 million (2020–21: $71.0 million) in investment returns to its government clients through the QTC Capital Guaranteed Cash Fund (the Cash Fund). The Cash Fund retained its position as one of the largest managed cash funds in Australia with $9.6 billion under management at 30 June 2022 and outperformed the Bloomberg AusBond Bank Bill Index by 52 basis points.

In 2021–22, QTC reported an operating loss after tax from its capital markets operations of $36.2 million (2020–21: $115.1 million profit after tax). While QTC earns a profit in most years, it also holds capital in reserve to cover potential financial losses. The loss incurred this financial year was a result of a reduction in the mark-to-market value of the securities held in the Cash Fund. The Cash Fund operations have been set-up to enable QTC to provide clients with stable returns on their investments over the medium term.

QTC's retained earnings balance of $555.4 million, demonstrates its continued strong financial position with retained earnings closely monitored to ensure QTC's Board prescribed capital requirements are met.

Over the past five years, the returns from debt management have lowered the State's costs by a total of $728.7 million. In addition, QTC's net earnings have contributed to the payment of $150.0 million in dividends to the State. QTC's dividend payments to Treasury are made on a needs basis, with no dividend required in 2021–22.

Value delivered for the State

QTC worked closely with Queensland Treasury to support the Queensland Government's priority initiatives with advisory work focused on enhancing the institutional and financial strength of the State.

Highlights during the year included projects to support the Government to meet its energy policy commitments, the development of the SEQ Waste Management Plan, the identification of financial sustainability and efficiency initiatives for agencies delivering community and social services, and the provision of ongoing support for the Government's COVID-19 response.

QTC continued to assist Queensland's government-owned corporations and local governments with a range of advisory work in risk management, forecasting, asset and debt strategies and financial sustainability.

QTC also helped enhance financial capability across the public sector through its education collaboration with the University of Queensland. This year, the program has reached 2,900 participants from across the State.

Credit and ESG ratings

In the year under review, Standard & Poor's and Moody's Investors Service reaffirmed Queensland's and QTC's credit ratings. Fitch upgraded Queensland's credit rating in December 2021. QTC is rated AA+/A-1+/Stable, Aa1/P-1/Stable and AA+/F1+/Stable by Standard & Poor's, Moody's Investors Service and Fitch Ratings respectively. These stable ratings are a key reason for continued demand from domestic and global investors for QTC debt, and for QTC's ability to meet the larger issuance requirements through the COVID-19 period.

In addition, Queensland is currently rated AA for ESG by MSCI*.

Organisational excellence

With its ongoing focus on organisational excellence, QTC met its statutory obligations, completed core business activities on time and delivered initiatives focused on continuous improvement. QTC continued its focus on talent, engagement and development practices that support a high-performance workforce.

Independent recognition of QTC's leadership and culture continued in 2021–22 and for the third consecutive year, QTC was recognised as one of Australia's best places to work, receiving the '2022 5-Star Employer of Choice' award from Human Resources Director.

Positioned for ongoing success

QTC's achievements in the 2021–22 financial year have demonstrated significant performance outcomes against each of its strategic goals—to deliver sustainable funding, State and client value and organisational excellence. QTC is well positioned to continue its focus on strong issuance and asset management, prudent financial risk management, and supporting the government's priority projects.

P C NOBLE
Chief Executive
19 August 2022

**As of June 2022, the State of Queensland received a MSCI ESG Rating of AA, ESG Trend Negative. Certain information ©2022 MSCI ESG Research LLC. Data reproduced with permission from MSCI ESG Research LLC. No use or distribution without written consent. Data provided "as is" without any warranties. MSCI ESG Research LLC and affiliates assume no liability for or in connection with the data.*

ACHIEVING SUSTAINABLE ACCESS TO FUNDING

Issued approx. $9.0 billion of benchmark bonds

Recognised for $3.0 billion 2032 Green Bond in the 2021 FinanceAsia Deal Achievement Awards*

Issued $2.0 billion inn a new floating rate note

Liquidity in QTC bonds with approximately $128.0 billion traded in the secondary market**

Collaborated with the Queensland Government on the development of the Queensland Sustainability Report 2021

In 2021–22, QTC raised $ 15.3 billion in an environment of elevated volatility in bond markets. QTC continued to attract a diversified investor base, further supported by the establishment of three new bond lines, including a $ 3.0 billion, 2 March 2032 Green Bond, which is the largest AUD Green Bond deal to date.

Meeting the State's funding requirements

QTC is a highly regarded bond issuer in global fixed-income markets and raises the funds needed by the State each year, often ahead of time, with its bond issues consistently over-subscribed. On 15 June 2021, following the release of the 2021–22 State Budget, QTC announced it would raise $ 17.4 billion to meet the State's term debt borrowing requirement. On 16 December 2021, the requirement was decreased by $3.1 billion to $ 14.3 billion, following the Queensland 2021–22 Budget Update. The reduction was a result of lower client borrowings and general government revenue uplifts.

QTC met its borrowing requirement of $ 14.3 billion and raised an additional $1.0 billion that was used to reduce the 2022–23 term debt borrowing requirement. The issuance during the year was executed through $ 6.5 billion in syndicated deals, $3.5 billion across seven tenders and $ 5.3 billion via reverse enquiry.

QTC's well-managed funding program and reputation for high-quality debt issuance, means Queensland can access the funds it needs at cost-effective rates. To attract a broad investor base, QTC offers investors a diverse range of high-quality financial securities.

2021–22 funding highlights included:

- $ 3.0 billion 1.50% 2 March 2032 CBI certified Green Bond
- $ 1.5 billion 2.00% 22 August 2033 benchmark bond
- $ 2.0 billion 3m BBSW+1bp 3 March 2026 floating rate note, and
- $ 3.5 billion of issuance through seven tenders.

In 2021–22, QTC maintained the State's strong liquidity position, which supports the State's credit rating and provides reserves during periods of market volatility.

On 21 June 2022, QTC announced its indicative $ 14.4 billion term debt borrowing requirement for 2022–23.

Funding performance

QTC's proactive management of its borrowing program and the management of its client funding and balance sheet activities helped to smooth its maturity profile, reducing its refinancing risk by achieving more evenly distributed maturities across the curve. All fixed rate debt issued in 2021–22 was in maturities 2027 and longer.

In 2021–22, QTC continued to keep the market informed with open and transparent information provided to investors on QTC's funding activity and the Queensland Government's economic and fiscal strategy. This included regular engagements through its Funding and Markets Division, digital communication channels, and virtual and face-to-face meetings. At the start of the year, in an environment of restricted travel, QTC utilised virtual channels to engage with both onshore and offshore investors. During the second half of the year, both domestic and international borders reopened and QTC was able to begin in-person activities.

**In the 2021 FinanceAsia Deal Achievement Awards in Australia and New Zealand for the Best Local Bond Deal and Best Sustainable Finance Deal for a Financial Institution.*

***Turnover for period 1 July 2021 to 30 June 2022.*

Sustainable finance

The global Green Bond market has continued to grow rapidly with a record amount issued in 2021. In September 2021, QTC issued its fourth Green Bond line, extending QTC's Green Bond curve for investors—with maturities of 2024, 2029, 2031 and 2032. The $3.0 billion issuance of QTC's new 2032 Green Bond was QTC's largest Green Bond deal to date, demonstrating a growing demand from investors for Green Bonds. More than 40 per cent of the new 2032 Green Bond deal was allocated to offshore investors and this deal also attracted a number of first-time investors. QTC received recognition for its 2032 Green Bond in the 2021 FinanceAsia Deal Achievement Awards in Australia and New Zealand for the Best Local Bond Deal and Best Sustainable Finance Deal for a Financial Institution.

QTC remains a leading semi-government issuer of Green Bonds in Australia, with $6.98 billion in Green Bonds on issue as at 30 June 2022. The size of the current eligible project and asset pool allows QTC to remain a regular Green Bond issuer. QTC continues to actively look for ways to further grow and diversify its pool, and support the State in highlighting Queensland's pathway to climate resilience and an environmentally sustainable economy.

In 2021, QTC also collaborated with the Queensland Government on the development of the Queensland Sustainability Report 2021 with information about the State's environmental, social and governance (ESG) commitments and outcomes.

Funding instruments

QTC has a diverse range of funding instruments in a variety of markets and currencies. The majority of QTC's funding is sourced through long-term debt instruments, with QTC's AUD benchmark bonds being the principal source of funding. As at 30 June 2022, QTC's total debt outstanding was approximately $125.0 billion at face value.

OVERVIEW AS AT 30 JUNE 2022		SIZE (AUDM)	MATURITIES	CURRENCIES
Short-term	Domestic T-Note	Unlimited	7–365 days	AUD
	Euro CP	USD10,000	1–364 days	Multi-currency
	US CP	USD10,000	1–270 days	USD
Long-term	AUD Bond	Unlimited	13 benchmark lines and a range of non-benchmark lines with various maturities*	AUD
	Euro MTN	USD10,000	Any maturity subject to market regulations	Multi-currency
	US MTN	USD10,000	9 months–30 years	Multi-currency

** See QTC's website for further details on non-benchmark bond lines.*

CREATING VALUE FOR THE STATE AND CLIENTS

In 2021–22, QTC partnered with Queensland Treasury and its Queensland Government clients to deliver financial, economic and social outcomes to enhance Queensland's future and economic prosperity. This work delivered cost-savings, economic benefits and analysis to inform enhanced decision-making. The positive outcomes generated for clients were achieved through delivering financial advisory and project implementation services; and providing high-quality services for borrowing, debt and cash management, and foreign exchange.

Financial advice for the State's public sector

In the year under review, QTC worked closely with Queensland Treasury to deliver a program of work aligned with government priorities to provide the maximum financial and social outcomes for the State.

In 2021–22, QTC delivered a broad range of financial advisory assignments for Queensland Treasury and its public sector clients that address financial risk management issues and assist in making pragmatic business decisions.

QTC supports its clients to implement significant transformation projects within their own environments and enhance their project delivery capability. In 2021–22, QTC's advisory work centred around projects that would enable significant benefits to the financial health of the State, with particular focus on local governments and government-owned corporations (GOCs).

Supporting the government's priorities

QTC focuses on supporting its clients to implement projects that deliver maximum value to the State in terms of minimising risk, increasing revenue and reducing costs, while delivering broader social and economic benefits. The key priority projects QTC delivered include:

- **Queensland Sustainability Report 2021:** QTC collaborated with the Queensland Government on the development of the inaugural Queensland Sustainability Report 2021 with information about the State's environmental, social and governance (ESG) commitments and outcomes.
- **Energy reforms:** QTC supported Queensland Treasury and other agencies with market modelling and research to assist the Queensland Government meet its energy policy commitments.
- **SEQ Waste Management Plan:** On behalf of the 11 councils in South-East Queensland, QTC developed the SEQ Waste Management Plan—a 10-year roadmap that identifies the sequence of levers and investments required to improve the economics of waste management operations, encourage economic development and deliver social and environmental benefits for the region. QTC has now established a project management office with the councils to implement the recommendations.
- **Queensland Police Service:** QTC supported the Queensland Police Service (QPS) by providing insights into financial sustainability.
- **Financial Provisioning Scheme:** In a multi-year project, QTC has continued to provide ongoing support to the Financial Provisioning Scheme Manager and ongoing implementation of the Financial Provisioning Scheme, which supports the assessment of the estimated rehabilitation cost of mining activities to enable risk assessed decisions.
- **COVID-19:** QTC provided resources to support the Government's COVID-19 response initiatives.

Financial risk management for government owned corporations

QTC has assisted Queensland's GOCs with a range of advisory work in risk management, forecasting, asset and debt strategies and commercial evaluations. This includes continuing the core GOC performance reviews for Queensland Treasury as part of QTC's annual credit review process. QTC combines its deep quantitative and technical skills with a unique combination of equity and debt perspectives, to deliver timely commercial advice. This advice was leveraged during the extreme volatility experienced in electricity pricing this year where QTC provided strategic, market and credit advice to Queensland Treasury on energy pricing to support their critical decision-making framework.

Fostering strong relationships with local government

QTC has continued to work closely with local governments and key stakeholders to help deliver positive community outcomes in a financially responsible way. This work included delivering and embedding capability improvements and assisting councils progress efficiency initiatives. QTC has also supported economic development initiatives and provided advice about financially managing the complexities of community requirements in regional centres.

In 2021–22, QTC delivered a number of initiatives for the Department of State Development, Infrastructure, Local Government, and Planning (DSDILGP) to support financial sustainability and expanding capabilities in local government.

QTC was engaged by the DSDILGP and the Electoral Commission of Queensland to assess the viability of the proposed boundary change between Livingstone Shire Council and Rockhampton Regional Council. QTC worked with both councils to estimate the financial impacts, including how the change could affect council rates.

During the year, QTC delivered economic updates for councils, bespoke workshops for elected members and council officers, and a Local Government Finance Professionals forum and masterclass with a focus on assisting local governments understand the demand-supply imbalance and its implications on their council's operations and regional industries.

High-quality debt, cash and risk management products and services

QTC has continued to work closely with Queensland Treasury and its government clients to improve whole-of-State balance sheet outcomes. QTC continued to provide low-cost loans and high-performing investment facilities throughout 2021–22.

Debt and risk management

In the year under review, QTC continued to successfully deliver its core mandate of providing clients with a low cost of funds by capturing the significant economies of scale and scope in the issuance, management and administration of the State's debt.

QTC's active management of the State's debt provided a reduction of $132.0 million in the market value of Queensland Treasury's borrowings, equivalent to a 0.06% decrease in the notional book interest rate.

Since late 2019, the combined duration of the Treasury Core and Super-Long Portfolio-Linked Loans (PLL) has been progressively lengthened at relatively low interest rates. This has resulted in the PLL book rate being further protected from the increase in yields that began in September 2021.

$9.6 billion in funds under management in QTC's Cash Fund

Finance education courses provided to more than 2,900 participants

QTC has proactively managed the timing of drawdowns, use of facilities and book rate reviews to capture the above value in FY2022–23 interest costs paid by Treasury. This contributed to a cash flow saving for General Government of $102.0 million against the projected budgeted interest cost for the full financial year. This benefit is now crystalised into the Treasury Core PLL book rate providing a stable book rate for the upcoming FY2022–23 financial year and expected to deliver more cash flow savings against budgeted interest costs.

Proactive GOC refinancing and interest rate risk management generated savings of $13.3 million. QTC also completed a number of financial assessments on behalf of government, relating to requests by Queensland local governments for financial assistance to help fund the costs of proposed significant water infrastructure.

Cash management

QTC offers cash management products that enable its clients to maximise the value of their surplus funds, including Fixed Rate Deposits, a Working Capital Facility and a Capital Guaranteed Cash Fund (the Cash Fund).

In 2021–22, the Cash Fund delivered $59.6 million in investment returns to its government clients during the year and retained its position as one of the largest managed cash funds in Australia with $9.6 billion under management at 30 June 2022. The Cash Fund provided strong relative returns and outperformed the Bloomberg AusBond Bank Bill Index by 52 basis points.

Throughout the year, QTC focused on an asset management strategy to provide protection against rising outright yields and widening credit spreads. This asset strategy included shortening asset duration at very tight levels due to the end of the Reserve Bank of Australia liquidity support programs. The Cash Fund's security is underpinned by the asset's investment profile, with 100 per cent of the Cash Fund invested in entities rated 'BBB+' or higher by Standard & Poor's Global Ratings at 30 June 2022.

Throughout the year, QTC continued to meet with clients to provide insights into the Cash Fund's structure, strategy and performance, and dynamically managed credit and money market positions in a challenging environment due to higher inflation and rising interest rates.

Foreign exchange

QTC's foreign exchange (FX) services, including its online platform, enable its public sector clients to access wholesale market rates and hedge against currency fluctuations. In 2021–22, the FX service has continued to grow its transaction volumes. QTC continued to work with agencies to increase cost saving opportunities through dual currency pricing for the procurement of goods sourced from offshore.

In addition, this year QTC enhanced its FX online platform with new functionality that allows QTC clients to manage their foreign rate risk online with FX Forward contracts that are executed via QTC's FX Dealing Desk. The management of these contracts online allows clients to draw down on their FX Forwards to facilitate foreign currency payments electronically, streamlining their payment processes. QTC does not retain any FX exposure as a result of FX activities.

Economic research

QTC provided clients with a variety of economic publications, including a Weekly and Monthly Economic Review, and published research articles on the demand-supply imbalance, inflation, the possible path for the RBA's cash rate, as well as the potential for recession risks in the US.

Enhancing financial capability in Queensland's public sector

QTC provides education services to enhance financial decision-making and support effective engagement with its clients. Since 2017, the QTC Education Program collaborates with the University of Queensland (UQ) to facilitate the design and delivery of specialised content to public sector employees across the State. In 2021–22, the QTC Education Program delivered financial workshops to more than 2,900 participants through a combination of workshops, webinars, and masterclass sessions.

Key outcomes were achieved through delivering custom training programs to several Hospital and Health Services, the Department of State Development, Infrastructure, Local Government, and Planning (DSDILGP), and the Department of Health over the course of the past twelve months. Additionally, the QTC Education Program reached a wide range of public sector employees in a variety of different financial literacy topics.

The QTC webinar series continues to provide new and returning learners complimentary experiences to expand their understanding of financial management concepts. In the past twelve months, the QTC Education Program has seen record return rates with learners continuing to access the webinar content live and on-demand.

The QTC Education Program collaboration has been extended for another three years. This program aims to improve its educational offerings by revising the content and introducing a new dispersed learning model that will provide learners multiple touchpoints with educators throughout their development journey. Additionally, the education program will endeavour to increase learning opportunities through maximising regional travel opportunities; providing multiple packaged training events to regional, rural, and remote areas.

Loans to clients

	TOTAL DEBT OUTSTANDING (MARKET VALUE) 30 JUNE 22 A$000	TOTAL DEBT OUTSTANDING (MARKET VALUE) 30 JUNE 21 A$000
General Government*	**44 146 056**	49 276 839
Energy	**25 791 568**	27 140 983
Water	**12 785 013**	14 915 274
Local governments	**6 192 908**	6 883 658
Transport	**4 804 668**	5 257 510
Education	**624 475**	878 616
Other	**237 560**	258 349
Total	**94 582 248**	104 611 229

** General Government includes Queensland Treasury and Arts Queensland.*
** The large decrease in Market Value has been driven by market yields.*

ACHIEVING ORGANISATIONAL EXCELLENCE

QTC's performance in 2021–22, and its ability to manage ongoing disruption from COVID-19 and external market forces, was underpinned by its operational excellence, risk management, high performance workforce, and culture. QTC is committed to maintaining high organisational standards to enable an environment where corporate goals can be achieved, and organisational risks are actively monitored and managed.

Operational excellence

Throughout the year, QTC has continued its ongoing focus on continuous improvement of its organisational capability through system enhancements, data governance, and the supplier ecosystem. These improvements have optimised the foundation of how QTC's core funding and advisory functions are delivered and provide the platform for our organisation to maximise the delivery of value to the State.

In response to COVID-19, QTC has enhanced its readiness for business disruption, moving from a dedicated disaster recovery site to a more practical facility that can also be used as a project office when required. The new site was leveraged during the lockdown period in 2021 to enact a separated core business team at the height of the pandemic response in Queensland. QTC also continued to enhance its virtual capabilities and led key engagements using virtual channels with investors, clients and employees.

Technology, system and process enhancements

In the year under review, QTC settled $354.3 billion in transaction volume, with no cost of errors and implemented a number of initiatives to automate process, simplify reporting and improve data quality.

QTC renewed its contract with its primary information technology service provider with a commercial agreement for core IT services for a further three years.

QTC performed three updates to its core finance system and implemented a new reporting process to report on QTC's payment times to small businesses, in-line with the requirements of the *Payment Times Reporting Act 2020*.

QTC enhanced its client transaction portal, allowing faster and improved access for clients to their data and reports. In addition, client reporting improvements have enabled increased flexibility for clients to generate loan statements and streamline monthly reporting processes.

Data governance

Following the review of QTC's Enterprise Data Strategy, QTC developed a roadmap to realise its target state data architecture through a Strategic Data Program. Detailed program planning is underway, with consideration of resourcing and capability requirements, and a cost versus benefit analysis.

In 2021–22, QTC implemented new frameworks to guide the governance of its evolving systems and data platforms. This included a data governance solution to help manage and govern data locations and a new governance framework for the use of the Microsoft Power Platform.

Corporate risk management and efficiency

QTC continues to cultivate a healthy risk environment, with a proactive approach to identifying and mitigating risks within enterprise-wide risk management. This includes developing a risk appetite statement that establishes clear boundaries within which QTC's material risks are managed. The framework incorporates key internal controls, and through periodic attestation by control owners, assurance is given to management and the Board that these controls are operating effectively. Throughout 2021–22, QTC managed its portfolio market risk exposures, including interest rate, foreign exchange and counterparty risk, within its Board-approved risk management framework. QTC continues to hold a portfolio of diverse, liquid financial securities to meet the State's liquidity requirements, consistent with policy requirements.

The outcome of the 2021–22 internal audit program was positive with 13 internal audits conducted and completed successfully, with ratings demonstrating a well-controlled environment.

QTC manages its operational cyber risk through continual improvement and the coordination of four key elements: people, process, technology, and threat monitoring. This year, QTC enhanced its cyber security awareness program and training, and conducted workshops to identify opportunities to improve its resilience in a threat environment that is becoming increasingly sophisticated. A range of activities to assess and test its defences were undertaken, and infrastructure upgrades were also implemented in the period to improve detection and protection capabilities.

The benefits of QTC's new Enterprise Design Committee (established in 2020–21) were realised in 2021–22 and resulted in improved prioritisation of organisational initiatives, and efficiencies for their implementation. The committee's key objectives are to ensure a current state view of QTC's Enterprise Architecture is maintained and to approve and prioritise change initiatives impacting people, technology, data and information and process. Change initiatives undertaken during the past year predominantly related to the maintenance and enhancement of QTC's technology and data environments.

QTC prides itself on its high standards of integrity and ethics and has a comprehensive compliance training program designed to ensure QTC staff are risk aware and understand their obligations. In addition to mandatory online compliance training, QTC staff also participated in face-to-face conduct training that provided guidance on ethical matters and expected conduct, including market conduct. The training also highlighted the importance of speaking up and protections available to staff under the *Public Interest Disclosure Act 2010 (Qld)*.

QTC employees also completed an ongoing program of mandatory compliance training with an emphasis on code of conduct, workplace health and safety, financial crime awareness, and privacy. Annual targeted and tailored training is completed by all employees to ensure they are continuously informed of their compliance obligations.

High-performance workforce

QTC's talent, engagement and development practices continue to support a high-performance workforce.

QTC competes in the global financial industry to attract and retain its high calibre employees. Under the *Queensland Treasury Corporation Act 1988*, QTC employees are hired on individual contracts, with employment practices aligned to the financial markets in which it operates.

QTC's remuneration framework is a key driver of attracting and retaining our high-performing employees and enabling our culture. Employees' total compensation packages are comprised of fixed and variable remuneration elements (with entitlement to the variable component based on eligibility). Total compensation is benchmarked against remuneration data from the Financial Institutions Remuneration Group Inc (FIRG), which provides salary survey data for the Australian finance industry. QTC's variable remuneration element of total compensation provides an opportunity for an annual short-term incentive for eligible employees, designed to ensure market competitiveness and reward outstanding organisational and individual performance. The QTC Board approves the entitlement to, and the quantum of, the annual review of fixed remuneration and variable short-term incentives.

The Board regularly reviews QTC's remuneration framework to ensure that it aligns to the financial services market and meets its strategic priorities. This year was the first year following an independent review of the framework with key changes implemented to the mix of fixed and variable remuneration, short-term incentive (STI) percentage targets, and simplified STI elements to ensure that remuneration elements continued to align to the market.

The current employment market has been influenced by the impacts of COVID-19 and the strength in the broader economy. In 2021–22, QTC has experienced a higher turnover rate and has implemented a variety of retention and engagement strategies to combat these challenges and minimise workforce and culture risk.

QTC continued its professional development strategy, offering employees opportunities for individual growth and career development aligned to the capabilities required to meet future business objectives. To deliver on this strategy and strengthen organisational capability, QTC has continued to focus on leadership, talent and professional development.

QTC values employee feedback and regularly initiates 'listening' channels. In September 2021, QTC conducted a Mercer Culture Survey with results demonstrating strong cultural alignment and engagement. Opportunities for continual improvement were also identified, which has provided valuable data to inform QTC's future people strategies and initiatives.

In the year under review, there have been multiple ways of working, with all non-critical employees working off-site during lockdowns, and then able to access flexibility to work from home or in the office as circumstances required. QTC has actively managed in-office COVID-19 cases and activated ongoing employee communication initiatives to ensure staff health and business continuity.

In 2021–22, key people initiatives included:

- aligning employees with strategic initiatives and providing further clarity on the organisation's purpose through a range of staff forums and workshops
- continuing strategic workforce planning to align to our organisational vision and strategy, while incorporating the consideration of the future of work, digital transformation, and impacts of automation
- introducing performance indicators aligned to QTC's cultural pillars and 'how' employees deliver performance outcomes
- enhancing employee benefits and the options available for employees to manage their work and life responsibilities
- focusing on leadership development and leadership excellence, including a senior leaders' development program and a leading-self program
- delivering development programs with a focus on individual development and resilience, encouraging a risk aware culture, and team culture and effectiveness
- providing on-demand professional development resources via our learning platforms
- providing employees with project opportunities embedded within client organisations
- driving active talent management and succession planning programs, and
- continuing the Chief Executive Awards recognition program—aligned to QTC's values.

Organisational culture

In 2021–22, QTC continued to embed and elevate its culture strategy based on the three cultural pillars of clarity, candour, and connection. The strategy is focused on ensuring the alignment of focus and purpose, direct and healthy challenge, and increased collaboration. QTC continues to cultivate a risk culture that ensures issues and risks in the business environment are anticipated and any impacts for QTC and stakeholders are managed effectively. This has been further strengthened by a focus on candour as part of QTC's cultural development strategy.

For the third consecutive year, QTC was recognised as one of Australia's best places to work, receiving the '2022 5-Star Employer of Choice' award from Human Resources Director (HRD). In winning this award, HRD acknowledged QTC's exceptional leadership, employee benefits, professional development programs and culture.

Diversity and wellbeing

QTC's Inclusion and Diversity Strategy recognises that diversity of perspective and experience improves performance, manages risk, and enhances decision making. In 2021–22, under the strategy's priority streams of gender and inclusion, QTC:

- continued its partnership with Stepping Stone, supporting people living with mental illness
- continued its partnership with the Australian Network on Disability, as part of QTC's intern program
- continued its range of mental and physical health programs to support employee wellbeing
- supported flexible and adaptive working, by offering a range of working arrangements to enable business outcomes and remain responsive and agile
- raised awareness for inclusivity and diversity by supporting a number of initiatives, including a walking tour visiting significant cultural sites in Brisbane City during National Reconciliation Week
- elevated employees understanding of the benefits of an inclusive working environment, and the neuroscience of inclusion, to highlight the importance inclusion at work
- embraced community giving by continuing our support of FareShare with QTC employees helping to prepare free and nutritious meals for people in need, and
- initiated new outreach with secondary school students to provide information about the Banking and Finance Industry, to encourage gender equal interest in STEM subjects and future careers in the industry.

QTC wins HRD's '2022 5-Star Employer of Choice'

For the third consecutive year, QTC was recognised as one of Australia's best places to work, receiving the '2022 5-Star Employer of Choice' award from Human Resources Director (HRD) as an employer that provides outstanding initiatives for career growth with learning and development opportunities, recognition programs and an all-encompassing, constructive culture.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE COMMITMENT

In 2021–22, QTC worked closely with its stakeholders to deliver key Environmental, Social and Governance (ESG) initiatives, including:

- providing institutional investors with green investment opportunities
- supporting the Queensland Government to deliver initiatives that support ESG outcomes for Queensland
- ESG reporting of QTC's Capital Guaranteed Cash Fund (the Cash Fund), and
- providing organisational contributions that benefit the community.

Supporting the development of the inaugural Queensland Sustainability Report 2021

QTC collaborated with the Queensland Government on the development of the inaugural Queensland Sustainability Report 2021. The report contains information about the State's ESG commitments and outcomes. It provides information on identified ESG focus areas, the policies supporting the management of those focus areas and relevant reporting data, and public non-financial data for a broader range of relevant ESG factors.

Supporting ESG outcomes for Queensland

QTC supported Queensland Treasury and other agencies with projects to enhance environmental outcomes for the State, including working on behalf of South-East Queensland's councils to develop the SEQ Waste Management Plan, and assisting the Queensland Government with market modelling and research to support its energy policy commitments.

QTC has also worked closely with its clients on initiatives that support social outcomes for the State, including projects to support the Government and industries through COVID-19, significant outcomes to improve health services, and building solutions for children's social services and regional local governments.

QTC has continued to support the financial governance of the State by providing accounting and administration services to the Queensland Treasury Holdings Group and the State Investment Operations Board in its oversight of the Land Restoration Fund and the State's Long-Term Assets.

Expanding QTC's Green Bond issuance

QTC Green Bonds support Queensland's pathway to climate resilience and an environmentally sustainable economy. In September 2021, QTC issued $3.0 billion of a new 1.50% 2 March 2032 Green Bond. This was the fourth and longest tenor Green Bond for QTC, further diversifying funding alternatives and continuing to build QTC's Green Bond curve. QTC received recognition for its 2032 Green Bond in the 2021 FinanceAsia Deal Achievement Awards in Australia and New Zealand for the Best Local Bond Deal and Best Sustainable Finance Deal for a Financial Institution.

QTC is currently the largest Australian semi-government, Climate Bonds Initiative (CBI) Certified, Green Bond issuer with $6.98 billion on issue as at 30 June 2022.

Helping to manage Queensland's emissions

To support the Department of Environment and Science (DES) with the administration of the Land Restoration Fund (LRF), QTC acts as the Trustee and is responsible for the transaction processes and management reporting for the LRF. In 2021–22, QTC provided support in relation to the LRF $35.0 million investment to launch the Queensland Natural Capital Fund.

ESG reporting for QTC's Capital Guaranteed Cash Fund

In 2021–22 QTC reported on the Cash Fund's ESG profile, using the globally recognised ESG reporting provider Morgan Stanley Capital International (MSCI). The Cash Fund's monthly ESG score is based on the weighted average ESG score of each of the Cash Fund's bond investments. The Cash Fund's ESG score is reported monthly in the Cash Fund client report.

Contributing to our community

In 2021–22, QTC contributed at an organisational, team and individual level to a number of social and community initiatives. QTC employees can access one day of paid leave each year to volunteer with its recognised charity.

QTC continued its partnership with Stepping Stone and the Australian Network on Disability, and supported a range of diversity and inclusion initiatives, including National Reconciliation Week during NAIDOC Week, RUOK Day, Harmony Day and International Women's Day.

QTC employees volunteered at FareShare and raised money for the Wesley Mission through the Red Bag Appeal.

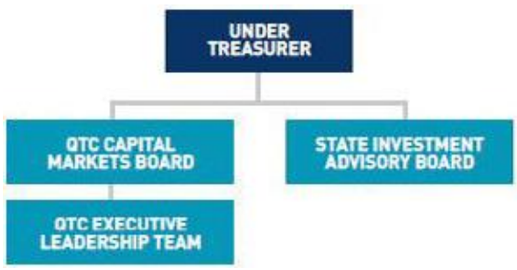
CORPORATE GOVERNANCE

QTC is committed to maintaining high standards of corporate governance to support its strong market reputation, ensure that organisational goals are met, and manage and monitor risks. QTC's corporate governance practices are continually reviewed and updated in line with industry guidelines and standards.

QTC and its Boards

QTC was established by the *Queensland Treasury Corporation Act 1988* (the QTC Act) as a corporation sole (ie, a corporation that consists solely of a nominated office holder). The Under Treasurer of Queensland is QTC's nominated office holder and has delegated QTC's powers to its two Boards:

- the Queensland Treasury Corporation Capital Markets Board (the Board), which was established in 1991 and manages all of QTC's operations except those relating to certain superannuation and other long-term assets, and
- the State Investment Advisory Board, which was established in July 2008 to manage the State's long-term assets.



QTC Capital Markets Board

The Under Treasurer, as QTC's corporation sole, and the QTC Capital Markets Board have agreed the terms and administrative arrangements for the exercise of the powers that the corporation sole has delegated to the Board.

The Board operates in accordance with its charter, which sets out its commitment to various corporate governance principles and standards, its roles and responsibilities (based on its delegated powers), and the conduct of meetings. The charter provides that the role and functions of the Board are to:

- lead and oversee QTC
- approve the strategic direction and significant strategic initiatives of QTC
- approve Board-owned policies and charters
- oversee organisational culture, values, behaviours and risk
- ensure compliance with relevant legal, tax and regulatory obligations
- approve the annual financial statements and the annual report
- approve the annual administration budget and the total full-time equivalent complement
- approve major contracts and agreements
- approve the Corporate Plan, including the corporate performance measures
- approve the annual assessment of corporate performance
- approve the Remuneration Framework, the remuneration pool and short-term incentive targets
- approve the appointment/reappointment/dismissal of the Chief Executive and assess the Chief Executive's performance against annual performance objectives
- approve the appointment of the internal audit partner and oversee the annual Internal Audit Plan
- oversee the external audit program, and
- evaluate Board and Board committee performance.

The Board typically holds nine meetings each year and may, whenever necessary, hold additional meetings.

Board appointments

The Board comprises members who are appointed by the Governor-in-Council, pursuant to section 10(2) of the QTC Act. Consideration is given to each Board member's qualifications, experience, skills, strategic ability and commitment to contribute to QTC's performance and achievement of its corporate objectives. QTC's Board is constituted entirely of non-executive directors.

Conflict of interest

Board members are required to monitor and disclose any actual or potential conflicts of interest. Unless the Board determines otherwise, a conflicted Board member may not receive any Board papers, attend any meetings or take part in any decisions relating to declared interests.

Performance and remuneration

To ensure continuous improvement and to enhance overall effectiveness, the Board conducts an annual assessment of its performance. Board members' remuneration is determined by the Governor-in-Council (details are disclosed in QTC's financial statements).

Board committees

The Board has established three committees, each with its own charter, to assist it in overseeing and governing various QTC activities. The complete roles and responsibilities of each committee are outlined in the charters available on the QTC website.

Funding and Markets Committee

The Funding and Markets Committee is a decision-making and advisory body responsible for overseeing and assisting the Board with:

- funding and markets-related key policies and compliance with relevant legislation
- the alignment of funding and markets activities with QTC's policies and risk appetite
- QTC's risk appetite, risk tolerance and risk mitigation strategies for funding and markets activities
- assessing QTC's ability to access suitable funding markets to meet the State's borrowing requirements and maintain appropriate levels of liquidity
- liquidity pool performance, and
- Cash Fund and Asset Liability Management Portfolio performance.

The Funding and Markets Committee must have at least three members and meet at least four times a year.

Human Resources Committee

The Human Resources Committee is a decision-making and advisory body responsible for overseeing and assisting the Board with:

- human resources-related key policies and compliance with relevant legislation
- the framework for remuneration and performance reviews
- the integrity and consistency of QTC's corporate culture
- succession planning for the executive leadership team, executive development and talent pipeline risks
- strategic workforce planning and operational resource planning, and
- people material risks.

The Human Resources Committee must have at least three members and meet at least three times a year.

Risk and Audit Committee

The Risk and Audit Committee is a decision-making and advisory body responsible for overseeing and assisting the Board with:

- the appropriateness and effectiveness of QTC's enterprise-wide risk management system (including the enterprise-wide risk management framework, the risk appetite statement, and risk management strategies and policies) and the internal control framework
- risk and risk management, including carriage of the risks attributed to the Risk and Audit Committee
- the effectiveness of internal control processes
- the integrity of the financial statements and associated year-end and interim processes, and
- the adequacy and effectiveness of audit activities.

The Risk and Audit Committee must have at least three members and meet at least four times a year.

During the year, the Risk and Audit Committee recommended the adoption of annual financial statements, reviewed external and internal audit reports and the progress in implementing the recommendations from those reports, approved QTC's Internal Audit Plan and reviewed the Queensland Audit Office's External Audit Plan.

Meetings held

	BOARD		FUNDING AND MARKETS COMMITTEE		HUMAN RESOURCES COMMITTEE		AUDIT COMMITTEE RISK AND	
ORDINARY MEETINGS HELD	9		4		4		5	
	ATTENDED	ELIGIBLE TO ATTEND	ATTENDED	ELIGIBLE TO ATTEND	ATTENDED	ELIGIBLE TO ATTEND	ATTENDED	ELIGIBLE TO ATTEND
Gerard Bradley[1] – Chair	9	9	4	4	4	4	1	1
Leon Allen[2]	8	9	3	4	-	-	-	-
Neville Ide[3]	9	9	4	4	-	-	5	5
Anne Parkin	7	9	-	-	3	4	5	5
Karen Smith-Pomeroy	9	9	-	-	4	4	5	5
Jim Stening	8	9	4	4	-	-	-	-
Rosemary Vilgan	9	9	-	-	4	4	-	-

1 *Gerard Bradley retired from the QTC Board, effective 30 June 2022. Damien Frawley was appointed as the QTC Board Chair from 1 July 2022.*

2 *Leon Allen's appointment is an ex officio appointment within Queensland Treasury.*

3 *Neville Ide was reappointed from 1 October 2021 to 30 September 2025.*

QTC'S CAPITAL MARKETS BOARD

as at 30 June 2022

GERARD BRADLEY AO

BCOM, DIPADVACC, FCA, FCPA, FAICD, FIML

Chair

Appointed 10 May 2012.
Tenure to 30 June 2022.

Board Committees

- Member, Human Resources Committee
- Member, Funding and Markets Committee

Prior to his appointment as the Chair of QTC's Board, Mr Bradley was the Under Treasurer and Under Secretary of the Queensland Treasury Department, a position he held from 1998 to 2012. He was also a QTC Board member from 2000–2007.

Mr Bradley has extensive experience in public sector finance gained in both the Queensland and South Australian treasury departments. He was Under Treasurer of the South Australian Department of Treasury and Finance from 1996 to 1998, and of Queensland's Treasury Department from 1995 to 1996. Mr Bradley held various positions in Queensland Treasury from 1976 to 1995, with responsibility for the preparation and management of the State Budget and the fiscal and economic development of Queensland.

He is currently a Non-Executive Director of Star Entertainment Group Ltd, Pinnacle Investment Management Group Limited and the Winston Churchill Memorial Trust, a Member of the Queensland regional selection committee for Churchill fellowships, and a Director of the Pinnacle Charitable Foundation.

LEON ALLEN

BA (HUM), GRAD DIP PUBLIC POLICY, MAICD

Appointed 16 July 2020.
Tenure to 30 June 2023.

Board Committees

- Member, Funding and Markets Committee

Leon Allen was appointed Under Treasurer of Queensland Treasury in September 2021, having joined the Department as Deputy Under Treasurer in May 2020, with responsibility for economic, fiscal and commercial policy.

Mr Allen's appointment came after 13 years with the Institutional Banking and Markets division of the Commonwealth Bank of Australia where he held senior leadership positions both domestically and internationally.

Mr Allen's career also includes periods with the Australian Government's Department of Finance, Queensland Treasury and Ergon Energy. In addition to his role on the QTC Capital Markets Board, Mr Allen is a member of the State Investment Advisory Board.

NEVILLE IDE

BBUS (ACCTG), MCOMM (ACCTG AND FIN), FCPA, FAICD

Appointed 1 October 2018.
Tenure to 30 September 2025.

Board Committees

- Member, Risk and Audit Committee
- Member, Funding and Markets Committee

Neville Ide has more than 40 years' experience in finance and treasury management having held executive roles in the government, finance and banking sectors, including Queensland Treasury Corporation for 12 years and as Group Treasurer at Suncorp Metway Limited.

Mr Ide's industry knowledge and experience covers banking, insurance, infrastructure and corporate treasury management, including debt and equity capital markets, balance sheet structuring and financial risk management.

Mr Ide has served as a Non-Executive Director on several public and private company boards since 2006, including appointments to Queensland Motorways Limited, RACQ Insurance, RACQ Bank, Retech Technology Limited, SunWater Limited, and as a previous QTC Board member. He is currently a Director of QBANK.

ANNE PARKIN

B SCIENCE (HONS), DIP ED, GRAD DIP SEC, MBA, MAICD, F FIN

Appointed 1 July 2016.
Tenure to 30 September 2022.

Board Committees

- Member, Risk and Audit Committee
- Member, Human Resources Committee

Anne Parkin has more than 25 years' international management and board level experience across Asia-Pacific banking and financial services.

Ms Parkin has held diverse leadership roles in domestic and global broking and banking, superannuation administration, retail management and education in both the public and private sectors. At an executive level, she has experience operating in highly regulated businesses including banking with Credit Suisse and UBS, and in Australian superannuation.

Ms Parkin is currently the Chair of an SME in the energy sector. She is the former Chair of a start-up company and a former Non-Executive Director of both Credit Suisse Securities Malaysia and Credit Suisse Securities Philippines. Ms Parkin was also the Executive Director of the Hong Kong Control Committee, responsible for oversight of operational risk for Credit Suisse Hong Kong and its affiliates, and the executive in charge of operational matters with local regulators, including the Hong Kong Monetary Authority and Hong Kong Securities and Futures Commission.

KAREN SMITH-POMEROY

ADIP (ACCOUNTING),
GAICD, FIPA, SF FIN

Appointed 9 July 2015.
Tenure to 30 September 2022.

Board Committees

- Chair, Risk and Audit Committee
- Member, Human Resources Committee

Karen Smith-Pomeroy is an experienced financial services senior executive with a specialty in risk and governance.

Ms Smith-Pomeroy held senior executive roles with Suncorp Group Limited from 1997 to 2014, including Chief Risk Officer Suncorp Bank from 2009 to 2013, and Executive Director, Suncorp Group subsidiary entities from 2009 to 2014. She has also held non-executive roles on a number of Government and commercial boards and committees including CS Energy Limited and Tarong Energy Corporation Limited.

Ms Smith-Pomeroy is currently Chair of National Affordable Housing Consortium Limited and the Regional Investment Corporation, and a Non-Executive Director of Stanwell Corporation Limited and Kina Securities Limited. She is also an Independent Chair of the Audit and Risk Committee of South Bank Corporation and an Independent Audit Committee member of the Department of State Development, Infrastructure, Local Government and Planning.

JIM STENING

DIP FIN SERV, FAICD

Appointed 13 November 2014.
Tenure to 30 June 2023.

Board Committees

- Chair, Funding and Markets Committee

Jim Stening has more than 30 years' experience in financial markets in the fixed income asset class, including hands-on trading and investing in Australian and global capital markets.

Mr Stening has extensive experience in debt markets, business development, executive management and corporate governance across a diverse range of economic cycles. He has held senior roles at NAB, Merrill Lynch and Banco Santander.

Mr Stening is the founder and Managing Director of FIIG Securities Limited, Australia's largest specialist fixed-income firm and a Non-Executive Director of related companies, and a Fellow of the Australian Institute of Company Directors.

ROSEMARY VILGAN

BBUS, DIP SUPN MGT,
FAICD, FASFA

Appointed 1 October 2020.
Tenure to 30 September 2023.

Board Committees

- Chair, Human Resources Committee

Rosemary Vilgan is an experienced Non-Executive Director, with expertise in financial services and business leadership and transformation. She was the Chief Executive of QSuper, a global financial services business with $90.0 billion in accounts, from 1998 until 2015.

Ms Vilgan is currently the Chairperson of the Commonwealth Bank Group Staff Superannuation Fund, a Member of the Board of the Guardians of New Zealand Superannuation and a Member of the Cambooya Investment Committee. Her former roles include Chairperson of the Federal Government's Safety, Rehabilitation and Compensation Commission, a member of the Board of the Children's Hospital Foundation (Qld) and a Queensland Council member of AICD. She is a former Councillor, Deputy Chancellor and Chairperson of the Audit and Risk Committee at Queensland University of Technology (QUT), and a former director and Chair of the Board of the Association of Superannuation Funds of Australia (ASFA).

In 2013, Ms Vilgan was named the Telstra Australian Businesswoman of the Year. She holds qualifications in business and superannuation and is a Fellow of both AICD and ASFA and a Member of Chief Executive Women.

New Chair appointed 1 July 2022

DAMIEN FRAWLEY

Chair

Appointed 1 July 2022.
Tenure to 30 June 2025.

Board Committees

- Member, Funding and Markets Committee
- Member, Human Resources Committee

Damien Frawley was appointed Chair of the QTC Capital Markets Board on 1 July 2022, following the retirement of Gerard Bradley AO.

Mr Frawley has more than 35 years' experience in the financial services sector, both domestically and internationally. From 2012 to 2022, he was the Chief Executive of Queensland Investment Corporation (QIC), responsible for more than $88.0 billion in assets under management for a range of government, domestic and global institutional investors.

Prior to QIC, Mr Frawley was Blackrock's Australian Managing Director and Chief Executive Officer from 2010 to 2012, after joining as their Head of Institutional and Retail in 2007. He also held senior roles at Merrill Lynch Investment Management, Barclays Global Investors and Citibank.

Mr Frawley is also the Independent Chair of Hostplus, a Non-Executive Director of Mirvac Group, an Alternate Director of The North Australian Pastoral Company Pty Ltd, a Director and the Chair of AMPS Agribusiness Limited, and a Director of Blue Sky Beef.

QTC Executive Leadership Team

The responsibility for the day-to-day operation and administration of QTC is delegated by the Board to the Chief Executive and the Executive Leadership Team. The Chief Executive is appointed by the Board and executives are appointed by the Chief Executive. Executive Leadership Team appointments are made on the basis of qualifications, experience, skills, strategic ability, and commitment to contribute to QTC's performance and achievement of its corporate objectives.

QTC's Executive Leadership Team as at 30 June 2022

Philip Noble	Chief Executive
Grant Bush	Deputy Chief Executive and Managing Director, Funding and Markets
Mark Girard	Managing Director, Clients
Rupert Haywood	Managing Director, Corporate Services and Chief Risk Officer
Jane Keating	Managing Director, Finance, Data and Compliance

Internal audit

The Financial and Performance Management Standard 2019 (Qld) (Standard) governs the operation of QTC's internal audit function. QTC outsourced its independent internal audit function to EY for the 2020–21 financial year. Internal audit reports to the Risk and Audit Committee and is conducted under an Internal Audit Policy, consistent with the relevant audit and ethical standards. The role of internal audit is to support QTC's corporate governance framework by providing the Board (through the Risk and Audit Committee) with:

- assurance that QTC has effective, efficient and economical internal controls in place to support the achievement of its objectives, including the management of risk, and
- advice with respect to QTC's internal controls and business processes.

Internal audit is responsible for:

- developing an annual audit plan, based on the assessment of financial and business risks aligned with QTC's strategic goals and objectives, as well as material risks, and approved by the Risk and Audit Committee
- providing regular audit reports and periodic program management reports to the management team and the Risk and Audit Committee, and
- working constructively with QTC's management team to challenge and improve established and proposed practices and to put forward ideas for process improvement.

In the year under review, EY completed its internal audits in accordance with the approved annual audit plan.

External audit

In accordance with the provisions of the *Auditor-General Act 2009*, the Queensland Audit Office is the external auditor for QTC. The Queensland Audit Office has the responsibility for providing Queensland's Parliament with assurances as to the adequacy of QTC's discharge of its financial and administrative obligations.

All audit recommendations raised by the Queensland Audit Office that were due during the reporting period were addressed.

State Investment Advisory Board

The State Investment Advisory Board (SIAB) was established in 2008 as an advisory Board of Queensland Treasury Corporation under section 10 of the QTC Act. SIAB was established to manage long-term assets for the State by a board independent of QTC's capital markets operations. The long-term assets have no impact on QTC's capital markets operations and there is no cash flow affect for QTC.

In 2021–22, with power delegated from QTC, the SIAB was responsible for:

- providing governance oversight of the financial assets set aside by the Queensland Government to meet future employee liabilities and other long-term obligations of the State
- providing governance oversight of the financial assets set aside to support long term initiatives of the Queensland Government
- providing investment governance assistance in connection with the Financial Provisioning Fund established under the *Mineral and Energy Resources (Financial Provisioning) Act 2018* and the National Injury Insurance Scheme Fund, Queensland.

The SIAB members are appointed by the Governor-in-Council, pursuant to section 10(2) of the QTC Act. Remuneration for the SIAB members is determined by the Governor-in-Council. In 2021–22, the members of the SIAB were:

	POSITION	ATTENDED	ELIGIBLE TO ATTEND
Board meetings held: 4			
Leon Allen[1], Acting Under Treasurer	Chair	3	4
William Ryan[2], Queensland Treasury	Member	3	4
Philip Graham, External member	Member	4	4
Tony Hawkins, External member	Member	4	4
Maria Wilton, External member	Member	4	4

[1] The Chair of SIAB is an ex officio role. Leon Allen's term ended on 30 June 2022 and Mr Allen was reappointed from 7 July 2022 to 30 September 2025.
[2] This position is an ex officio appointment within Queensland Treasury. William Ryan's term ended on 30 June 2022 and Mr Ryan was reappointed from 7 July 2022 to 30 September 2025.
[3] Philip Graham's term ended on 30 June 2022 and Mr Graham was reappointed from 7 July 2022 to 30 September 2024.
[4] Tony Hawkins' term ended on 30 June 2022. Catherine Wood was appointed from 7 July 2022 to 30 September 2025.
[5] Maria Wilton's term ended on 30 June 2022 and Ms Wilton was reappointed from 7 July 2022 to 30 September 2024.

SIAB Board Members

as at 30 June 2021

LEON ALLEN

BA (HUM), GRAD DIP PUBLIC POLICY, MAICD
Chairman Appointed 29 April 2021.
Tenure to 30 June 2025.

Leon Allen was appointed Under Treasurer of Queensland Treasury in September 2021. He joined as Deputy Under Treasurer, Queensland Treasury in May 2020 with responsibility for economic, fiscal and commercial policy.

Mr Allen's appointment came after 13 years with the Institutional Banking and Markets division of the Commonwealth Bank of Australia where he held senior leadership positions both domestically and internationally.

Mr Allen's career also includes periods with the Australian Government's Department of Finance, Queensland Treasury and Ergon Energy. He is also a member of the QTC Capital Markets Board.

WILLIAM RYAN

BBUS (BANKING AND FIN), GRAD CERT POLICY ANALYSIS
Appointed 19 November 2020.
Tenure to 30 June 2025.

William Ryan is the Head of Fiscal, Queensland Treasury, with responsibilities for managing the State's budget and balance sheet, and ensuring the long-term sustainability of Queensland's fiscal position. He forms part of Queensland Treasury's Senior Leadership Team and serves as a member of the Queensland Government Insurance Fund Governance Committee.

Prior to his current role, Mr Ryan held senior leadership roles in Queensland Treasury over a 20-year career. These roles have included developing investment programs, financial assurance modelling, infrastructure program and economic policy analysis.

PHILIP (PHIL) GRAHAM

BA (ECON, HONS), MCOM (FIN, HONS), CFA, GAICD
Appointed 4 July 2019.
Tenure to 30 June 2024.

Phil Graham has extensive experience in investment management, financial markets, and economic policy. He is an independent member of the Lonsec Asset Allocation Committee and a consultant to AustralianSuper.

Mr Graham was Senior Portfolio Strategist and Deputy Chief Investment Officer at Mercer from 2007–2018. He also held senior roles at QIC and Access Capital Advisors, and prior to this he worked for the Reserve Bank of Australia and the ANZ Banking Group.

Mr Graham is a past-President of the CFA Society of Melbourne and was the Presidents Council Representative for the CFA Asia Pacific North and Oceania region in 2015–2019. He currently serves on the CFA Disciplinary Review Committee.

TONY HAWKINS AM

B COMM, DIP OF FIN MGT, FCPA, GAICD
Appointed 4 July 2019.
Tenure to 30 June 2022.

Tony Hawkins has more than 45 years' experience in the insurance, financial services, mining, building and construction industries. He was the CEO of WorkCover Queensland from 1998–2016 and was responsible for a turnover of $1.5 billion.

Prior to this, Mr Hawkins held management positions at AXA Australia, National Mutual and Australian Casualty and Life.

Mr Hawkins is currently a Director at Lexon Insurance Pty Ltd and the Operations Manager at KA Hawkins Constructions Pty Ltd. He has previously held directorships at QSuper Limited and the Queensland Workplace Health and Safety Board.

MARIA WILTON AM

BEC, CFA, FAICD, FAIST
Appointed 4 July 2019.
Tenure to 30 June 2024.

Maria Wilton has more than 30 years' experience in the financial services industry. Ms Wilton was Chair and Managing Director of Franklin Templeton Investments Australia from 2006–2018. She previously held roles with BT Financial Group, County Investment Management, JP Morgan Investment Management and Commonwealth Treasury.

Ms Wilton is a member of the Global Board of Governors of the Chartered Financial Analyst Institute and Vice Chair of Infrastructure Victoria. She is a Director of Post Super Ltd, Dexus Wholesale Property Fund, VFMC and the Confident Girls Foundation.

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FINANCIAL STATEMENTS

For the year ended 30 June 2022

Statement of comprehensive income

For the year ended 30 June 2022

	NOTE	2022 $000	RESTATED 2021 $000
CAPITAL MARKETS OPERATIONS			
Net gain/(loss) on financial instruments at fair value through profit or loss			
(Loss) on financial assets	3	**(12 367 842)**	(243 309)
Gain on financial liabilities	3	**12 324 996**	354 846
		(42 846)	111 537
Other income			
Fee income		**96 525**	91 879
		96 525	91 879
Expenses			
Administration expenses	4	**(76 442)**	(78 493)
Depreciation of right-of-use assets	14	**(1 919)**	(1 713)
		(78 361)	(80 206)
(Loss)/profit from Capital Markets Operations before income tax		**(24 682)**	123 210
Income tax expense	5	**(11 552)**	(8 065)
(Loss)/profit from Capital Markets Operations after income tax		**(36 234)**	115 145
STATE INVESTMENT OPERATIONS			
Net return from investments			
Net change in fair value of unit trusts		**1 602 754**	4 676 076
Net change in fair value of fixed rate notes		**1 073 122**	(2 653 028)
Interest on fixed rate notes		**(2 446 413)**	(1 864 990)
Management fees		**(229 463)**	(158 058)
Profit/(loss) from State Investment Operations		**-**	-
Total net (loss)/profit for the year after tax		**(36 234)**	115 145
Total comprehensive (loss)/income attributable to the owner		**(36 234)**	115 145
Total comprehensive (loss)/income derived from:			
Capital Markets Operations		**(36 234)**	115 145
State Investment Operations		**-**	-
Total comprehensive (loss)/income		**(36 234)**	115 145

The accompanying notes form an integral part of these financial statements.

See Note 2(a) for details regarding the restatement as a result of a change in accounting policy.

Throughout these financial statements the Capital Markets Operations and the State Investment Operations have been disclosed separately to distinguish between QTC's main central financing authority role and its additional responsibilities following the transfer of the State's superannuation and other long term investment assets (refer Note 1).

Balance sheet

As at 30 June 2022

	NOTE	2022 $000	RESTATED 2021 $000
ASSETS – CAPITAL MARKETS OPERATIONS			
Cash and cash equivalents	6	**5 247 278**	11 803 213
Receivables		**6 448**	7 262
Financial assets at fair value through profit or loss	7	**28 529 672**	14 958 589
Derivative financial assets	8	**297 945**	336 836
Onlendings	9	**94 582 248**	104 611 229
Property, plant and equipment	13	**2 277**	2 967
Right-of-use assets	14	**7 026**	8 278
Intangible assets		**2 838**	8 410
Deferred tax asset		**3 944**	4 893
		128 679 676	131 741 677
ASSETS - STATE INVESTMENT OPERATIONS			
Financial assets at fair value through profit or loss	16	**40 372 412**	37 814 711
		40 372 412	37 814 711
Total Assets		**169 052 088**	169 556 388
LIABILITIES – CAPITAL MARKETS OPERATIONS			
Payables		**25 458**	26 263
Derivative financial liabilities	8	**300 604**	238 187
Financial liabilities at fair value through profit or loss			
- Interest-bearing liabilities	10(a)	**119 347 440**	122 755 935
- Deposits	10(b)	**8 431 220**	8 107 683
Lease liabilities	14	**12 823**	15 165
Other liabilities		**6 727**	6 806
		128 124 272	131 150 039
LIABILITIES – STATE INVESTMENT OPERATIONS			
Financial liabilities at fair value through profit or loss	16	**40 372 412**	37 814 711
		40 372 412	37 814 711
Total Liabilities		**168 496 684**	168 964 750
NET ASSETS		**555 404**	591 638
EQUITY – CAPITAL MARKETS OPERATIONS			
Retained surplus		**555 404**	591 638
		555 404	591 638
EQUITY – STATE INVESTMENT OPERATIONS*			
Retained surplus		**-**	-
		-	-
Total Equity		**555 404**	591 638

The accompanying notes form an integral part of these financial statements.

Statement of changes in equity

For the year ended 30 June 2022

	NOTE	CAPITAL MARKETS OPERATIONS RETAINED SURPLUS $000	STATE INVESTMENT OPERATIONS RETAINED SURPLUS $000	TOTAL EQUITY $000
Balance at 1 July 2020		526 723	-	526 723
Net effect of change in accounting policy		(230)	-	(230)
Restated balance at 1 July 2020		**526 493**	**-**	**526 493**
Restated profit for the year		115 145	-	115 145
Transactions with owners in their capacity as owners:				
Dividend provided for or paid	24	(50 000)	-	(50 000)
Restated balance at 30 June 2021		**591 638**	**-**	**591 638**
Balance at 1 July 2021		591 638	-	591 638
Loss for the year		(36 234)	-	(36 234)
Transactions with owners in their capacity as owners:				
Dividend provided for or paid	24	-	-	-
Balance at 30 June 2022		**555 404**	**-**	**555 404**

The accompanying notes form an integral part of these financial statements.

Statement of cash flows

For the year ended 30 June 2022

	NOTE	2022 $000	RESTATED 2021 $000
CAPITAL MARKETS OPERATIONS			
Cash flows from operating activities			
Interest received from onlendings		**2 889 314**	3 190 892
Interest received from investments and other sources		**530 119**	279 835
Fees received		**95 051**	93 390
Net GST		**(294)**	208
Interest paid on interest-bearing liabilities		**(3 847 128)**	(2 800 272)
Administration expenses paid		**(74 713)**	(72 280)
Interest paid on deposits		**(55 913)**	(64 617)
Income tax paid		**(8 607)**	(7 153)
Net cash (used in)/provided by operating activities	15(a)	**(472 171)**	620 003
Cash flows from investing activities			
Proceeds from sale of investments		**27 200 288**	33 681 434
Payments for investments		**(41 161 982)**	(26 578 979)
Net client onlendings		**(5 323 857)**	(9 977 168)
Payment for intangibles		**-**	(83)
Payments for property, plant and equipment		**(709)**	(13)
Net cash used in investing activities		**(19 286 260)**	(2 874 809)
Cash flows from financing activities			
Proceeds from interest-bearing liabilities		**35 113 381**	40 285 045
Repayment of interest-bearing liabilities		**(22 233 304)**	(27 908 582)
Net client deposits		**322 419**	(755 875)
Dividends paid		**-**	(50 000)
Net cash provided by financing activities	15(b)	**13 202 496**	11 570 588
Net (decrease)/increase in cash and cash equivalents held		**(6 555 935)**	9 315 782
Cash and cash equivalents at 1 July		**11 803 213**	2 487 431
Cash and cash equivalents at 30 June	6	**5 247 278**	11 803 213

The accompanying notes form an integral part of these financial statements.

Notes to the Financial Statements

For the year ended 30 June 2022

Contents

1 General information

Queensland Treasury Corporation (QTC) is the Queensland Government's central financing authority. It also provides a range of financial services to State public sector entities, local governments and universities.
QTC is constituted under the *Queensland Treasury Corporation Act 1988* (the Act), with the Under Treasurer designated as the Corporation Sole under section 5(2) of the Act. QTC is domiciled in Queensland, Australia, with its principal place of business being 111 Eagle Street, Brisbane, Queensland. QTC's ultimate parent is the State of Queensland.

QTC's business operations are made up of two segments, namely Capital Markets Operations and State Investment Operations (SIO).

Capital Markets Operations

The remit of Capital Markets Operations includes debt funding, cash management, financial risk management advisory and specialist public finance education.

These services are undertaken on a cost-recovery basis with QTC lending to its clients at an interest rate based on its cost of funds plus a loan administration fee to cover the cost of administering the loans. QTC passes on the returns of asset management to its clients and retains the unrealised gains/losses associated with credit spread movements on its balance sheet until the sale of the asset or its maturity. The gains/losses associated with QTC's management of these loans is passed on annually to the State Consolidated Fund.

Capital Markets Operations also generates a net return from financial markets instruments held for capital and liquidity purposes.

In undertaking its capital markets activities, QTC maintains adequate capital to manage its risks having regard to its Capital Policy.

State Investment Operations

SIO consists of portfolios of assets that were transferred to QTC by the State Government.

The assets of this segment are held in unit trusts managed by QIC Limited (QIC) and overseen by the State Investment Advisory Board (SIAB). These assets are invested in two portfolios, the Long Term Assets (LTA) portfolio and the Queensland Future Fund (QFF) portfolio. Each portfolio has its own investment management agreement. In the case of the Long Term Assets portfolio, a number of sub portfolios exist.

Long Term Assets Portfolio

The LTA portfolio consists of assets that were transferred to QTC by the State and invested in several sub-portfolios:

(a) Endowment Portfolio

In 2008, the State transferred assets to fund the State's superannuation and other long-term obligations and in April 2022, $2.5 billion in cash was transferred into the portfolio.

(b) State Initiatives Portfolio

In June 2021, assets worth $2.0 billion were transferred to support a number of Government initiatives.

(c) Government Holdings Portfolio

The State transferred $118.6 million in securities of strategic holdings in April 2022.

Queensland Future Fund

The QFF and its sub portfolio, the Debt Retirement Fund (DRF) were established as funds under the *Queensland Future Fund Act 2020*. The DRF was set up to support both the State's credit rating and generate returns to reduce the State's debt burden.

Withdrawals from the DRF are limited to amounts to reduce the State's debt, and fees or expenses associated with administering the fund by the *Queensland Future Fund Act 2020*.

Fixed Rate Notes

A Fixed Rate Note (FRN) has been issued by QTC for each of the portfolios of SIO in return for the transfer of assets from the State.

The FRN issued to match the LTA portfolio has an interest rate of 6.5% per annum (2021: 6.5%) which accrues on the book value of the FRN and is for the benefit of the State's Consolidated Fund.

The FRN issued in return for the initial transfer of assets to the QFF is for the benefit of Queensland Treasury. Interest at a rate of 6.5% per annum (2021: 6.5%) accrues on the book value of this FRN.

Recognising the direct relationship between the FRNs and the assets of SIO, any difference between the return paid by QTC on the FRNs and the return received by QTC on the invested assets is recognised in the financial statements annually as a market value adjustment to the value of the FRNs. Any market value adjustment does not impact QTC's Capital Markets Operations or its ability to meet its obligations.

SIAB members include representatives from Queensland Treasury and external members with experience in investment management and governance. SIAB has been delegated all responsibility for overseeing SIO within a framework provided by the State Government. This includes determining an appropriate investment strategy, monitoring investment performance and the performance of the investment manager (QIC), and monitoring compliance with relevant internal controls, standards and legislation. The formulation of strategic asset allocation, performance and monitoring of SIO's assets is therefore distinct from QTC's Capital Markets Board and day-to-day Capital Markets Operations and is the responsibility of SIAB and its appointed investment manager (QIC).

Each year, QTC's Capital Markets Board receives relevant information about the assets of SIO in order to prepare financial statements in accordance with Australian Accounting Standards and other prescribed requirements. QIC is responsible for assisting SIAB to provide this relevant information to the QTC Capital Markets Board.

Notes to the Financial Statements

For the year ended 30 June 2022

2 Significant accounting policies and other explanatory information

The principal accounting policies adopted in the preparation of the financial report are set out below and in the relevant notes to the financial statements.

(a) Basis of preparation

These general purpose financial statements for the year ended 30 June 2022 have been prepared in accordance with Australian Accounting Standards and Interpretations adopted by the Australian Accounting Standards Board (AASB), the *Financial Accountability Act 2009*, the *Financial and Performance Management Standard 2019*, and the Financial Reporting Requirements for Queensland Government Agencies (as applicable to statutory bodies) for reporting periods beginning on or after 1 July 2021.

Compliance with International Financial Reporting Standards

QTC's financial statements comply with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. QTC has elected to comply with the requirements of IFRS as if it is a for-profit entity.

Changes in accounting policy, disclosures, standards and interpretations

New accounting standards and interpretations

During the year, QTC revised its accounting policy in relation to upfront configuration and customisation costs incurred in implementing Software as a Service (SaaS) arrangements in response to the IFRS Interpretations Committee agenda decision clarifying its interpretation of how current accounting standards apply to these types of arrangements. This has resulted in QTC changing its accounting policy for the recognition of intangible assets.

The below section shows the restatement of each line of the historical financial information affected by this change in accounting policy.

	ACTUAL 2021 $000	CHANGE IN ACCOUNTING POLICY ADJUSTMENT $000	RESTATED 2021 $000
STATEMENT OF COMPREHENSIVE INCOME (EXTRACT)			
Capital Markets Operations			
Expenses			
Administration expenses	(77 770)	(723)	(78 493)
Total Expenses	(79 483)	(723)	(80 206)
Income tax expense	(8 282)	217	(8 065)
Profit from capital Market Operations after income tax	**115 651**	**(506)**	**115 145**
BALANCE SHEET (EXTRACT)			
Capital Markets Operations			
Intangible assets	9 462	(1 052)	8 410
Total Assets	131 742 729	(1 052)	131 741 677
Payables	26 579	(316)	26 263
Total Liabilities	**131 150 355**	**(316)**	**131 150 039**
Net Assets	**592 374**	**(736)**	**591 638**
STATEMENT OF CHANGES IN EQUITY (EXTRACT)			
Balance at 1 July 2020	526 723	(230)	526 493
Capital Markets Operations			
Profit for the year	115 651	(506)	115 145
Balance as at 30 June 2021	**592 374**	**(736)**	**591 638**
STATEMENT OF CASH FLOWS (EXTRACT)			
Cash flows from operating activities			
Administration expenses paid	(71 654)	(626)	(72 280)
Net cash provided by operating activities	620 629	(626)	620 003
Cash flows from investing activities			
Payment for intangibles	**(709)**	**626**	**(83)**
Net cash used in investing activities	**(2 875 435)**	**626**	**(2 874 809)**

Standards and interpretations not yet adopted

Certain new accounting standards and interpretations have been issued that are not mandatory for the current reporting period. The future adoption of Australian Accounting Standards and Interpretations issued but not yet effective are not expected to have a material impact on QTC's financial statements, however they may result in minor changes to how information is currently disclosed.

Basis of measurement

These financial statements are prepared on the basis of fair value measurement of assets and liabilities except where otherwise stated. Fair value is the amount for which an asset could be exchanged, or liability settled between knowledgeable, willing parties in an arm's length transaction.

Functional and presentation currency

These financial statements are presented in Australian dollars, which is QTC's functional currency.

Classification of assets and liabilities

The balance sheet is presented on a liquidity basis. Assets and liabilities are presented in decreasing order of liquidity and are not distinguished between current and non-current.

Notes to the Financial Statements

For the year ended 30 June 2022

2 Significant accounting policies and other explanatory information continued

(b) Foreign currency

Foreign currency transactions are initially translated into Australian dollars at the rate of exchange applying at the date of the transaction. At balance date, amounts payable to and by QTC in foreign currencies have been valued using current exchange rates after considering interest rates and accrued interest. Exchange gains/losses are brought to account in the statement of comprehensive income.

(c) Collateral

QTC enters into a range of transactions with counterparties, which require the lodgement of collateral subject to agreed market thresholds. Where these thresholds are exceeded, QTC may be required to either pledge assets to, or be entitled to receive pledged assets from the counterparty to secure these transactions. The assets pledged or received are primarily in the form of cash.

(d) Financial assets and liabilities

Financial assets on initial recognition are classified at fair value through profit or loss and include:

- cash and cash equivalents
- financial assets at fair value through profit or loss
- derivative financial instruments, and
- onlendings

Financial liabilities are measured at fair value through profit or loss and include:

- interest-bearing liabilities
- deposits, and
- fixed rate notes

Financial assets and liabilities are recognised on the balance sheet when QTC becomes party to the contractual provisions of the financial instrument, which is the settlement date of the transaction. A financial asset is derecognised when the contractual rights to the cash flows from the financial assets expire or are transferred and no longer controlled by QTC.

A financial liability is derecognised when the obligation specified in the contract is discharged, cancelled or expires. Financial assets and liabilities are measured at fair value through profit or loss by reference to quoted market exit prices where available. If quoted market prices are not available, then fair values are estimated on the basis of pricing models or other recognised valuation techniques.

QTC uses mid-market rates as the basis for establishing fair values of quoted financial instruments with offsetting risk positions. In general, the risk characteristics of funds borrowed, together with the financial derivatives used to manage interest rate and foreign currency risks, closely match those of funds on-lent. In all other cases, the bid-offer spread is applied where material.

Gains and losses on financial assets and liabilities at fair value through profit or loss are brought to account in the statement of comprehensive income.

(e) Offsetting financial instruments

QTC offsets financial assets and liabilities where there is a legally enforceable right to set-off, and there is an intention to settle on a net basis or to realise the asset and settle the liability simultaneously (refer note 11(c)(iv)).

(f) Repurchase agreements

Securities sold under agreements to repurchase at an agreed price are retained within the financial assets at fair value through profit or loss category while the obligation to repurchase is disclosed as a financial liability at fair value through profit or loss.

(g) Fee income

Fee income includes:

- management fee income, which represents income earned from the management of QTC's onlendings and deposits, and is recognised over time when the service has been provided in accordance with client mandates
- other fees, which are recognised in the period the services are provided to the extent that it is probable that the economic benefits will flow to QTC and can be measured reliably, and
- revenue on financial guarantees, which is recognised on an ongoing basis over the contract term. The probability of default on a financial guarantee is extremely low due to counter indemnities and therefore, revenue receivable is reflective of fair value.

(h) Profits/losses

Unless otherwise determined by the Governor in Council, the *Queensland Treasury Corporation Act 1988* requires that all profits shall accrue to the benefit of the State Consolidated Fund and all losses shall be the responsibility of the State Consolidated Fund. Return of profits to the State Consolidated Fund is made by way of dividends, which are provided for following approval by the Board after considering QTC's capital requirements.

(i) Receivables

Receivables are measured at amortised cost, which approximates their fair value at reporting date. Trade debtors are recognised at the amounts due at the time of sale or service delivery i.e. the agreed purchase/contract price. Other debtors generally arise from transactions outside the usual operating activities of the corporation and are recognised at their assessed values with terms and conditions similar to trade debtors.

(j) Intangible assets

Intangible assets are carried at cost less accumulated amortisation and accumulated impairment losses. Amortisation is recognised on a straight-line basis over their estimated useful lives, which is usually between three and seven years. The useful lives of these assets are reviewed at least at the end of each financial year, and any change accounted for prospectively as a change in accounting estimate.

Costs incurred to acquire on premise computer software licences and for the development of software code that enhances, modifies, or creates additional capability to these systems and meets the definition of and recognition criteria for an intangible asset are recognised as intangible assets.

Software-as a-Service (SaaS) arrangements are service contracts providing QTC with the right to access the provider's application software over the contract period. Costs incurred to configure or customise, and the ongoing fees to obtain access to the cloud provider's application software, are recognised as operating expenses when the services are received.

(k) Impairment

Where an impairment is recognised the following methodology is applied:

Receivables: The loss allowance for trade and other debtors reflects lifetime expected credit losses and incorporates reasonable and supportable forward-looking information. Economic changes impacting QTC's debtors and relevant industry data form part of QTC's impairment assessment. No loss allowance is recorded for receivables from Queensland Government agencies or Australian Government agencies on the basis of materiality.

Where there is no reasonable expectation of recovering an amount owed by a debtor, the debt is written off by directly reducing the receivable against the loss allowance. If the amount of debt written off exceeds the loss allowance, the excess is recognised as an impairment loss.

Non-financial Assets: The carrying value of non-financial assets is reviewed at each reporting date or where there is an indication of impairment. If an indication of impairment exists, the asset's recoverable amount is determined. Any amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss. The asset's recoverable amount is determined as the higher of the asset's fair value less cost of disposal or value in use.

(l) Employee benefits

A liability is recognised for employee benefits including salaries, superannuation, annual leave, long service leave and short-term incentives where there is a present or constructive obligation as a result of past service. The liability is based on the amount expected to be paid provided that the obligation can be measured reliably. These are measured on an undiscounted basis where the amounts are expected to be paid within the next 12 months. For amounts where the payment date is expected to exceed 12 months, such as long service leave, future pay increases are projected and then discounted using the Australian Government Bond Generic Yield Rates. As sick leave is non-vesting, this is recognised as and when this leave is taken.

(m) Rounding

Amounts have been rounded to the nearest thousand dollars except as otherwise stated.

(n) Comparative figures

Comparative figures have been restated to account for the change in accounting policy as detailed in Note 2(a).

(o) Judgements and assumptions

The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts in the financial statements. Management evaluates its judgements, estimates and underlying assumptions on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised and in any future period affected. The areas involving a higher degree of judgement or complexity, or areas where assumptions or estimates may be significant to the financial statements are shown below:

Fair value of financial assets and financial liabilities

Financial assets and financial liabilities (including derivatives) are measured at fair value by reference to quoted market prices where available. The fair value of financial instruments that are not traded in an active market is determined by reference to market quotes for similar instruments or by use of valuation techniques. Valuation techniques may include applying trading margins to the swap curve or counterparty credit spreads for similar instruments, adjusted for changes in the credit worthiness of the counterparty. A margin may be applied based on the original purchase margin where an instrument is not actively traded.

Judgement may be applied in selecting valuation methods or assumptions where an active market quote is not available (refer notes 12 and 18).

Investments in Queensland Treasury Holdings Pty Ltd (QTH)

Queensland Treasury holds a 60% beneficial interest in QTH and 76% of the voting rights. The remaining 40% beneficial interest and 24% voting rights is held by QTC. QTC does not apply the equity method to its investment in QTH as it does not have control or significant influence over the entity, exposure or rights to variable returns or the power to affect those returns. Queensland Treasury controls the significant transactions and bears all the risks and benefits of QTH and accordingly, QTH is consolidated into the financial statements of Queensland Treasury.

COVID-19 and other Environmental, Social, and Governance (ESG) related impacts

The majority of QTC's assets (onlendings and cash and cash equivalents) are valued daily at fair value and therefore no further adjustment is required as a result of COVID-19, climate change, changes to laws and regulations or other policies adopted by governments or regulatory authorities. Counterparty credit risk and credit risk associated with QTC's clients is separately monitored by QTC (refer note 11(c)). ESG and other sustainability risks are key considerations in determining credit ratings. The majority of QTC's onlendings are guaranteed by the State, including lending to carbon intensive businesses.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

3 Net (loss)/gain on financial instruments at fair value through profit or loss

Accounting Policy

Gain/(loss) on financial assets and financial liabilities at fair value through profit or loss includes:

- net interest income and expense recognised under the accrual basis
- net realised gain/(loss) resulting from market rate movements recognised on settlement date from the sale of investments and the pre-redemption of borrowings, and
- net unrealised gain/(loss) resulting from market rate movements from investments, certain onlendings and borrowings.

	2022 $000	2021 $000
Net (loss)/gain on financial assets at fair value through profit or loss		
Cash and cash equivalents	**15 026**	16 690
Financial assets at fair value through profit or loss	**(241 375)**	81 683
Derivatives	**323 965**	30 951
Onlendings	**(12 465 458)**	(372 633)
	(12 367 842)	(243 309)
Net gain/(loss) on financial liabilities at fair value through profit or loss		
Derivatives	**292 155**	(87 578)
Financial liabilities at fair value through profit or loss		
- Short-term	**(142 743)**	169 285
- Long-term	**12 240 121**	354 350
Deposits	**(54 031)**	(62 922)
Other	**(10 506)**	(18 289)
	12 324 996	354 846

During the year ended 30 June 2022, long term yields rose leading to a decline in the market value of financial assets and in particular QTC's onlendings. This loss was offset by a decrease in the market value of financial liabilities.

4 Administration expenses

	2022 $000	RESTATED 2021(1) $000
Salaries and related costs	**43 427**	44 803
Superannuation contributions	**3 374**	3 603
Contractors	**854**	1 863
Consultants' fees	**2 721**	1 107
Information and registry services	**3 516**	3 380
Depreciation on property, plant and equipment	**733**	680
Amortisation and impairment on intangible assets (1)	**5 572**	5 498
Office occupancy	**1 202**	1 967
Information and communication technology	**11 312**	12 295
Other administration expenses	**3 731**	3 297
	76 442	78 493

(1) The amounts have been restated for the change in accounting policy set out in Note 2(a) in relation to upfront configuration and customisation costs incurred in implementing SaaS arrangements.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

5 Income tax expense

Accounting Policy

QTC is exempt from the payment of income tax under section 50-25 of the *Income Tax Assessment Act 1997* (as amended). QTC makes a payment in lieu of income tax to the State Consolidated Fund. The calculation of the income tax liability is based on the income of certain activities controlled by QTC's Capital Markets Operations. No income tax is payable on the SIO segment or a large part of the net gain/(loss) on financial instruments.

	2022 $000	RESTATED 2021[1] $000
Current tax	**10 617**	8 389
Deferred tax (income)/expense	**935**	(324)
Total income tax expense recognised in the year	**11 552**	8 065
Numerical reconciliation between income tax expense and pre-tax accounting profit		
(Loss)/profit for the year before tax	**(24 682)**	123 210
Less (loss)/profit from non-taxable portfolios:		
- Capital Markets Operations	**(63 159)**	96 022
- State Investment Operations	**-**	-
Operating profit from taxable portfolios	**38 477**	27 188
Tax at the Australian tax rate of 30% on taxable portfolios	**11 543**	8 156
Effect of non-deductible items	**9**	(91)
Income tax expense	**11 552**	8 065

[1] *The amounts have been restated for the change in accounting policy set out in Note 2(a) in relation to upfront configuration and customisation costs incurred in implementing SaaS arrangements.*

6 Cash and cash equivalents

Accounting Policy

Cash and cash equivalents include cash on hand and on demand deposits which are highly liquid investments and readily convertible to cash.

	2022 $000	2021 $000
Cash at bank	**5 247 278**	11 803 213
	5 247 278	11 803 213

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

7 Financial assets at fair value through profit or loss

Accounting Policy
Financial assets are recognised on the balance sheet when QTC becomes party to the contractual provisions of the financial instrument with gains and losses recognised in the income statement.

All financial assets are measured at fair value by reference to quoted market exit prices where available. If quoted market prices are not available, then fair values are estimated on the basis of pricing models or other recognised valuation techniques.

	2022 $000	2021 $000
Discount securities	**9 015 293**	1 404 764
Commonwealth and state securities [1]	**2 137 752**	1 840 526
Floating rate notes	**8 772 443**	8 254 147
Term deposits	**7 940 159**	2 776 061
Other investments	**664 025**	683 091
	28 529 672	14 958 589

[1] QTC maintains holdings of its own stocks. These holdings are netted off and therefore excluded from financial assets and financial liabilities at fair value through profit or loss.

As at 30 June 2022, $8.6 billion (2021: $9.4 billion) of financial assets will mature after 12 months.

8 Derivative financial assets and derivative financial liabilities

Accounting Policy
All derivatives are measured at fair value through profit or loss with gains and losses recognised in the income statement. Derivatives are carried on the balance sheet as assets when the fair value is positive and as liabilities when the fair value is negative.

QTC uses derivative financial instruments to hedge its exposure to interest rate, foreign currency and credit risks as part of its asset and liability management activities. In addition, derivatives may be used to deliver long term floating rate or long term fixed rate exposure.

	2022 $000	2021 $000
Derivative financial assets		
Interest rate swaps	**183 379**	224 737
Cross currency swaps	**19 761**	49 657
Foreign exchange contracts	**86 132**	59 924
Futures contracts	**8 673**	2 518
	297 945	336 836
Derivative financial liabilities		
Interest rate swaps	**(169 475)**	(177 299)
Cross currency swaps	**(75 901)**	(51 758)
Futures contracts	**(55 228)**	(9 130)
	(300 604)	(238 187)
Net derivatives	**(2 659)**	98 649

As at 30 June 2022, derivatives with a net liability position of $58.5 million have maturity dates exceeding 12 months (2021: net liability position of $38.9 million).

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

9 Onlendings

Accounting Policy

QTC borrows on behalf of its clients and lends at an interest rate based on QTC's cost of funds plus an administration fee to cover the cost of QTC's operations.

Onlendings are initially recognised at the amount drawn-down. Following initial recognition, onlendings are included in the balance sheet at fair value by reference to either the underlying debt portfolio, or in the case of fixed rate loans, on a discounted cash flow basis.

	2022 $000	2021 $000
Government departments and agencies	**43 704 767**	48 965 762
Government owned corporations	**27 123 470**	28 609 158
Statutory bodies	**17 222 205**	19 744 887
Local governments	**6 192 908**	6 883 658
QTC related entities (1)	**101 339**	102 898
Other bodies (2)	**237 559**	304 866
	94 582 248	104 611 229

(1) QTC related entities includes DBCT Holdings Pty Ltd.
(2) Other bodies include loans advanced under the Industry Support Package.

At 30 June 2022, client deposits of $2.4 billion were placed in redraw facilities and offset the value of onlendings in the balance sheet (2021: $2.3 billion). The gross value of onlendings at 30 June 2022 was $97.0 billion (2021: $106.9 billion).

As at 30 June 2022, $94.7 billion of principal repayments of a total book value of $101.1 billion is expected to be received after 12 months (2021: $91.6 billion of a total $95.7 billion).

The State continues to provide financial assistance in the form of loans and grants to various Queensland private sector entities. This program is called the Industry Support Package (ISP) and was established to enable entities to trade through the COVID-19 pandemic and facilitate a period of recovery. At 30 June 2022, $25.3 million (2021: $36.5 million) remained outstanding on loans advanced under the ISP. Each loan in this package was negotiated individually and contains different terms and conditions and is guaranteed by the State. The maximum term for the ISP loans was 10 years from inception, with the final repayments from a loan in the program due on 17 September 2030.

10 Financial liabilities at fair value through profit or loss

(a) Interest-bearing liabilities

Interest-bearing liabilities mainly consist of short-term treasury notes, Australian bonds and floating rate notes. Australian bonds include QTC's domestic, capital indexed and public bonds.

	2022 $000	2021 $000
Interest-bearing liabilities		
Short-term		
Treasury notes	**4 778 349**	3 174 801
Commercial paper	**1 474 609**	2 460 771
	6 252 958	5 635 572
Long-term		
AUD Bonds	**100 868 073**	105 388 979
Floating rate notes	**10 858 377**	10 082 630
Medium-term notes	**936 475**	1 276 180
Other	**431 557**	372 574
	113 094 482	117 120 363
Total interest-bearing liabilities	**119 347 440**	122 755 935

QTC borrowings are guaranteed by the Queensland Government under the *Queensland Treasury Corporation Act 1988*. As at 30 June 2022, $102.8 billion (2021: $114.6 billion) of debt securities are expected to be settled after more than 12 months.

Instruments denominated in foreign currency are fully hedged resulting in no net exposure to any foreign currency. Details of QTC's exposure to foreign currencies and the derivatives used to hedge this exposure are disclosed in note 11(a)(i).

QTC's Green Bond program supports the State's pathway to a low carbon, climate resilient and environmentally sustainable economy. As at 30 June 2022, QTC has issued Green Bonds with a market value of $5.93 billion (2021: $4.13 billion).

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

10 Financial liabilities at fair value through profit or loss continued

(a) Interest-bearing liabilities continued

The difference between the carrying amount of financial liabilities and the amount contractually required to be paid at maturity to the holder of the obligation is set out in the following table:

AS AT 30 JUNE 2022	FAIR VALUE $000	REPAYMENT AT MATURITY $000	DIFFERENCE $000
Interest-bearing liabilities			
Short-term			
Treasury notes	**4 778 349**	**4 810 000**	**(31 651)**
Commercial paper	**1 474 609**	**1 481 324**	**(6 715)**
	6 252 958	**6 291 324**	**(38 366)**
Long-term			
AUD Bonds	**100 868 073**	**105 892 029**	**(5 023 956)**
Floating rate notes	**10 858 377**	**10 825 000**	**33 377**
Medium-term notes	**936 475**	**1 020 241**	**(83 766)**
Other	**431 557**	**459 720**	**(28 163)**
	113 094 482	**118 196 990**	**(5 102 508)**
Total interest-bearing liabilities	**119 347 440**	**124 488 314**	**(5 140 874)**

AS AT 30 JUNE 2021	FAIR VALUE $000	REPAYMENT AT MATURITY $000	DIFFERENCE $000
Interest-bearing liabilities			
Short-term			
Treasury notes	3 174 801	3 175 000	(199)
Commercial paper	2 460 771	2 594 228	(133 457)
	5 635 572	5 769 228	(133 656)
Long-term			
AUD Bonds	105 388 979	115 650 611	(10 261 632)
Floating rate notes	10 082 630	10 292 668	(210 038)
Medium-term notes	1 276 180	1 486 560	(210 380)
Other	372 574	376 977	(4 403)
	117 120 363	127 806 816	(10 686 453)
Total interest-bearing liabilities	122 755 935	133 576 044	(10 820 109)

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

10 Financial liabilities at fair value through profit or loss continued

(b) Deposits

Client deposits are accepted to either the QTC Cash Fund or Working Capital Facility. Income derived from the investment of these deposits accrues to depositors daily. The amount shown in the balance sheet represents the market value of deposits held at balance date.

Collateral held and securities that are sold under agreements to repurchase are disclosed as deposits.

	2022 $000	2021 $000
Client deposits		
Local governments	**4 691 689**	4 029 212
Statutory bodies	**3 131 029**	3 404 693
Government departments and agencies	**93 862**	78 308
Government owned corporations	**42 074**	144 543
QTC related entities (1)	**101 288**	114 683
Other depositors	**224 978**	189 180
	8 284 920	7 960 619
Collateral held	**146 300**	147 064
Repurchase agreements	**-**	-
	146 300	147 064
Total deposits	**8 431 220**	8 107 683

(1) QTC related entities include Queensland Treasury Holdings Pty Ltd and its subsidiaries Brisbane Port Holdings Pty Ltd, DBCT Holdings Pty Ltd and Queensland Lottery Corporation Pty Ltd.

As at 30 June 2022, $8.3 billion (2021: $8.0 billion) will mature within 12 months.

11 Financial risk management

QTC's activities expose it to a variety of financial risks including market (including foreign exchange risk and interest rate risk), funding, liquidity and credit risk. QTC's financial risk management focuses on minimising financial risk exposures and managing volatility and seeks to mitigate potential adverse effects of financial risks on the financial performance of QTC and its clients. To assist in managing financial risk, QTC uses derivative financial instruments such as foreign exchange contracts, interest rate swaps and futures contracts.

Robust systems are in place for managing financial risk and compliance. Adherence to financial risk policies is monitored daily. To ensure independence, measurement and monitoring of financial risks is performed by teams separate to those transacting.

All financial risk management activities are conducted within Board-approved policies, as set out in the Financial Markets Risk Policy with new financial instruments approved by the QTC Executive Leadership Team under delegated authority from the Board. All breaches of the Financial Markets Risk Policy are escalated to management, the Chief Executive and the Funding and Markets Committee and presented at the next Board meeting.

QTC ensures that in undertaking its capital markets activities it has regard to its Capital Policy. QTC has no legal, regulatory or accounting requirement to hold capital however, its Capital Policy sets out how QTC should manage its capital. QTC endeavours to maintain adequate capital to support its business activities risk profile and risk appetite.

(a) Market risk

Market risk is the risk of incurring losses in positions arising from adverse movements in financial market prices. QTC is exposed to market risk arising from the impact of movements in foreign exchange rates and interest rates. QTC's exposure to market risk is through its borrowing and investment activities. This includes borrowing in advance of requirements to ensure Queensland public sector entities have ready access to funding when required and to reduce the risk associated with refinancing maturing loans.

As a consequence of market price movements, there are residual risk positions that may result in realised and unrealised accounting gains or losses being recorded during the year. Depending on whether these transactions are held to maturity, the unrealised gains or losses may be reversed in subsequent accounting periods.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

11 Financial risk management continued

(a) Market risk continued

(i) Foreign exchange risk

QTC has funding facilities that allow for borrowing in foreign currencies. At times, QTC's Cash Fund invests in foreign currency assets. QTC enters into both forward exchange contracts and cross currency swaps to hedge the exposure of foreign currency borrowings and offshore investments from fluctuations in exchange rates. The following table summarises the hedging effect, in Australian dollars, that cross currency swaps and forward exchange contracts have had on the face value of offshore borrowings and investments.

	BORROWINGS		OFFSHORE INVESTMENTS		DERIVATIVE CONTRACTS		NET EXPOSURE	
	2022 $000	2021 $000	2022 $000	2021 $000	2022 $000	2021 $000	2022 $000	2021 $000
USD	**(1 481 325)**	(2 311 346)	**-**	-	**1 481 325**	2 311 346	-	-
CHF	**(167 333)**	(158 715)	**-**	-	**167 333**	158 715	-	-
JPY	**(159 877)**	(180 376)	**-**	-	**159 877**	180 376	-	-
EUR	**(693 031)**	(721 451)	**75 990**	79 106	**617 041**	642 345	-	-

(ii) Interest rate risk

QTC lends to clients based on a duration profile specified in the client mandates. QTC then manages any mismatch between the duration profile of client loans and QTC's funding within an Asset and Liability Management Portfolio. Duration is a direct measure of the interest rate sensitivity of a financial instrument or a portfolio of financial instruments and quantifies the change in value of a financial instrument or portfolio due to interest rate movements. All costs or benefits of managing any mismatch between client loans and QTC's funding are passed on to the State, ensuring that QTC is effectively immunised from interest rate risk with respect to these portfolios.

QTC's interest rate risk, which results from borrowing in advance and investing surplus funds in high credit quality, highly liquid assets, is managed with consideration given to duration risk, yield curve risk, basis risk and Value-at-Risk (VaR).

QTC uses a Board-approved VaR framework to manage QTC's exposure to market risk complemented by other measures such as defined stress tests. The VaR measure estimates the potential mark-to-market loss over a given holding period at a 99% confidence level. QTC uses the historical simulation approach to calculate VaR with a holding period of ten business days.

To manage the risk of non-parallel yield curve movements, QTC manages portfolio cash flows in a series of time periods so that the net interest rate risk in each time period can be measured. QTC enters into interest rate swaps and futures contracts to assist in the management of interest rate risk.

In QTC's Funding and Liquidity portfolios, interest rate swaps may be utilised to change the interest rate exposure of medium to long-term fixed rate borrowings into that of a floating rate borrowing. Also, at times, floating to fixed swaps may be undertaken to generate a fixed rate term funding profile. QTC is exposed to basis risk when interest rate swaps are used in the Funding and Liquidity portfolios. Basis risk represents a mark-to-market exposure due to movements between the swap curve, as well as cash, bank bill and bond futures contracts and QTC's yield curve.

Client deposits in the QTC Cash Fund are invested on behalf of clients and returns received from these investments are passed onto QTC's clients except for mark-to-market gains or losses from credit spread movements. QTC generally holds these investments to maturity and therefore any mark-to-market impacts from credit spread changes are typically reversed over the life of the assets.

(iii) Commodity price risk

QTC is not directly exposed to commodity price changes.

(b) Funding and liquidity risks

QTC has a robust internal framework whereby extensive liquidity scenario analysis and forecasting is undertaken to understand assumption sensitivities to ensure there is appropriate forward looking visibility of the State's liquidity position.

QTC debt is a Level 1 (prudentially required) asset for Australian banks under Basel III reforms with a zero per cent capital risk weighting. Even in difficult market circumstances, this generally ensures QTC debt is in high demand. Demand is further supported by the fact that QTC borrowings are guaranteed by the Queensland Government, (QTC has been rated AA+/Aa1/AA+ by ratings agencies Standard & Poors, Moody's and Fitch respectively) and that QTC benchmark bonds are Reserve Bank of Australia (RBA) repurchase agreement eligible (repo eligible). The ability to readily issue debt is considered a potential source of liquidity.

QTC maintains appropriate liquidity to meet minimum requirements as defined by the Board. Limits are set by the Board and reviewed annually for the following liquidity metrics:

- QTC Liquidity Coverage Ratio – QTC must maintain a minimum liquidity balance sufficient to cover a stressed liquidity requirement over a set horizon.
- Standard & Poor's Liquidity Ratio – QTC must maintain a minimum ratio of liquid assets to debt servicing requirements at all times over a rolling 12 month horizon.
- Cash Flow Waterfall – QTC must maintain positive cash equivalents net of all inflows and outflows over a set horizon.

In addition to adhering to Board-approved liquidity metrics, QTC holds contingent liquid assets in the form of public sector entity deposits and investments owned by SIO.

QTC maintains its AUD benchmark bond facility as its core medium to long-term funding facility and its domestic treasury note facility as its core short-term funding facility. In addition, QTC has in place a Green Bond Program, Euro and US medium-term note facilities and Euro and US commercial paper facilities to take advantage of alternative funding opportunities in global markets. These facilities ensure that QTC is readily able to access both the domestic and international financial markets.

Deposits on account of the Cash Fund and Working Capital Facility are repayable at call while deposits held as security for stock lending and repurchase agreements are repayable when the security is lodged with QTC.

Except for deposits and payables, the maturity analysis for liabilities has been calculated based on the contractual cash flows relating to the repayment of the principal (face value) and interest amounts over the contractual terms.

Except for cash and receivables, the maturity analysis for assets has been calculated based on the contractual cash flows relating to repayment of the principal (face value) and interest amounts over the contractual terms.
In relation to client onlendings, certain loans are interest only with no fixed repayment date for the principal component (i.e. loans are made based on the quality of the client's business and its financial strength). For the purposes of completing the maturity analysis, the principal component of these loans has been included in the greater than five-year time band with no interest payment assumed in this time band.

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Capital Markets Operations

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11 Financial risk management continued

(b) Funding and liquidity risks continued

The following table sets out the contractual cash flows relating to financial assets and financial liabilities held by QTC at balance date.

CONTRACTUAL MATURITIES AS AT 30 JUNE 2022	3 MONTHS OR LESS $000	3 - 6 MONTHS $000	6 - 12 MONTHS $000	1 - 5 YEARS $000	MORE THAN 5 YEARS $000	TOTAL $000	FAIR VALUE $000
Financial assets							
Cash and cash equivalents	**5 247 278**	**-**	**-**	**-**	**-**	**5 247 278**	**5 247 278**
Receivables	**6 448**	**-**	**-**	**-**	**-**	**6 448**	**6 448**
Onlendings (1)	**2 985 180**	**1 324 708**	**1 325 159**	**15 229 417**	**97 015 633**	**117 880 097**	**94 582 248**
Financial assets at fair value through profit or loss	**13 820 378**	**4 669 322**	**1 766 746**	**7 033 406**	**4 074 183**	**31 364 035**	**28 529 672**
Total financial assets	**22 059 284**	**5 994 030**	**3 091 905**	**22 262 823**	**101 089 816**	**154 497 858**	**128 365 646**
Financial liabilities							
Payables	**(25 458)**	**-**	**-**	**-**	**-**	**(25 458)**	**(25 458)**
Deposits	**(8 320 769)**	**(2 416)**	**(23 235)**	**(7 378)**	**(92 327)**	**(8 446 125)**	**(8 431 220)**
Financial liabilities at fair value through profit or loss							
- Short-term	**(2 600 043)**	**(3 191 282)**	**(500 000)**	**-**	**-**	**(6 291 325)**	**(6 252 958)**
- Long-term	**(9 018 229)**	**(145 184)**	**(4 618 907)**	**(53 511 926)**	**(72 518 410)**	**(139 812 656)**	**(113 094 482)**
Total financial liabilities	**(19 964 499)**	**(3 338 882)**	**(5 142 142)**	**(53 519 304)**	**(72 610 737)**	**(154 575 564)**	**(127 804 118)**
Derivatives							
Interest rate swaps	**5 978**	**(10 003)**	**(13 969)**	**(31 233)**	**82 323**	**33 096**	**13 904**
Cross currency swaps	**1 020**	**(6 886)**	**(20 141)**	**(112 388)**	**(458 418)**	**(596 813)**	**(56 140)**
Foreign exchange contracts	**61 007**	**26 846**	**-**	**-**	**-**	**87 853**	**86 132**
Futures contracts	**8 851 400**	**-**	**-**	**-**	**-**	**8 851 400**	**(46 555)**
Net derivatives	**8 919 405**	**9 957**	**(34 110)**	**(143 621)**	**(376 095)**	**8 375 536**	**(2 659)**
Net (liabilities)/assets	**11 014 190**	**2 665 105**	**(2 084 347)**	**(31 400 102)**	**28 102 984**	**8 297 830**	**558 869**
Cumulative	**11 014 190**	**13 679 295**	**11 594 948**	**(19 805 154)**	**8 297 830**	**-**	**-**

(1) A large proportion of QTC's onlendings are based on the quality of the business and financial strength of the client. Funds are on-lent on the basis of these businesses being going concerns and continuing to meet key credit metric criteria such as debt to capital and interest coverage ratios. Accordingly, a significant portion of the onlendings portfolio has a loan maturity profile that is greater than five years with the interest rate risk of these loans being managed based on the client's business risk such that the funding is structured on the underlying business profile. Despite QTC's attempt to structure funding that matches the underlying business profile, QTC's liability maturity profile can be shorter than the asset maturity profile. While interest rate risk mismatches are hedged with swap and futures contracts, this approach requires QTC to undertake periodic refinancing of its liabilities.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

11 Financial risk management continued

(b) Funding and liquidity risks continued

CONTRACTUAL MATURITIES AS AT 30 JUNE 2021 RESTATED[2]	3 MONTHS OR LESS $000	3 - 6 MONTHS $000	6 - 12 MONTHS $000	1 - 5 YEARS $000	MORE THAN 5 YEARS $000	TOTAL $000	FAIR VALUE $000
Financial assets							
Cash and cash equivalents	11 803 213	-	-	-	-	11 803 213	11 803 213
Receivables	7 262	-	-	-	-	7 262	7 262
Onlendings[1]	1 133 459	1 108 672	1 284 119	14 068 787	95 460 106	113 055 143	104 611 229
Financial assets at fair value through profit or loss	2 529 589	2 450 967	698 604	6 831 173	3 908 991	16 419 324	14 958 589
Total financial assets	15 473 523	3 559 639	1 982 723	20 899 960	99 369 097	141 284 942	131 380 293
Financial liabilities							
Payables[2]	(26 263)	-	-	-	-	(26 263)	(26 263)
Deposits	(7 779 197)	(377 209)	(20 809)	(9 013)	(92 327)	(8 278 555)	(8 107 683)
Financial liabilities at fair value through profit or loss							
- Short-term	(3 715 528)	(1 903 701)	(150 000)	-	-	(5 769 229)	(5 635 572)
- Long-term	(1 811 267)	(78 646)	(4 334 921)	(49 840 758)	(71 741 222)	(127 806 814)	(117 120 363)
Total financial liabilities	(13 332 255)	(2 359 556)	(4 505 730)	(49 849 771)	(71 833 549)	(141 880 861)	(130 889 881)
Derivatives							
Interest rate swaps	6 103	(6 027)	5 147	(27 875)	72 267	49 615	47 438
Cross currency swaps	(1 198)	(5 928)	(19 058)	(108 264)	(432 061)	(566 509)	(2 101)
Foreign exchange contracts	2 350	-	-	-	-	2350	59 924
Futures contracts	(1 536 000)	-	-	-	-	(1 536 000)	(6 612)
Net derivatives	(1 528 745)	(11 955)	(13 911)	(136 139)	(359 794)	(2 050 544)	98 649
Net (liabilities)/assets	612 523	1 188 128	(2 536 918)	(29 085 950)	27 175 754	(2 646 463)	589 061
Cumulative	612 523	1 800 651	(736 237)	(29 822 217)	(2 646 463)	-	-

(1) A large proportion of QTC's onlendings are based on the quality of the business and financial strength of the client. Funds are on-lent on the basis of these businesses being going concerns and continuing to meet key credit metric criteria such as debt to capital and interest coverage ratios. Accordingly, a significant portion of the onlendings portfolio has a loan maturity profile that is greater than five years with the interest rate risk of these loans being managed based on the client's business risk such that the funding is structured on the underlying business profile. Despite QTC's attempt to structure funding that matches the underlying business profile, QTC's liability maturity profile can be shorter than the asset maturity profile. While interest rate risk mismatches are hedged with swap and futures contracts, this approach requires QTC to undertake periodic refinancing of its liabilities.

(2) The amounts have been restated for the change in accounting policy set out in Note 2(a) in relation to upfront configuration and customisation costs incurred in implementing SaaS arrangements.

(c) Credit risk

(i) Financial markets counterparties

Financial markets credit exposure is estimated as the potential loss at balance date associated with QTC's investments in the cash fund and other direct investments in financial instruments. In addition, QTC has credit exposure in the form of derivative contracts. Credit risk is the risk that these counterparties are not able to meet the payment obligations associated with QTC's investments.

The credit exposure for non-derivative investments is calculated daily based on the higher of the market value or face value of the instrument. In contrast, exposure to derivative contracts is based only on a notional 'add-on' factor applied to the value of the instrument. Derivatives are marked-to-market daily with zero thresholds under all QTC's credit support annexes. QTC uses collateral arrangements to limit its exposure to counterparties with which it trades derivatives (refer (iv) master netting arrangements).

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

11 Financial risk management continued

(c) Credit risk continued

(i) Financial markets counterparties continued

The following tables represent QTC's exposure to credit risk at 30 June:

BY CREDIT RATING (1) 30 JUNE 2022	AAA $000	AA+ $000	AA $000	AA- $000	A+ $000	A $000	OTHER(2) $000	TOTAL $000
Cash & cash equivalents	-	-	-	5 247 278	-	-	-	5 247 278
Financial assets(3)	2 769 577	1 115 703	371 200	18 889 841	3 043 093	1 784 349	514 661	28 488 424
Derivatives	-	-	-	34 523	14 390	-	-	48 913
	2 769 577	1 115 703	371 200	24 171 642	3 057 483	1 784 349	514 661	33 784 615
	8%	3%	1%	72%	9%	5%	2%	100%

BY CREDIT RATING (1) 30 JUNE 2021	AAA $000	AA+ $000	AA $000	AA- $000	A+ $000	A $000	OTHER(2) $000	TOTAL $000
Cash & cash equivalents	-	-	-	11 803 213	-	-	-	11 803 213
Financial assets(3)	2 069 924	1 083 854	451 715	7 456 454	2 957 201	797 203	-	14 816 351
Derivatives	-	-	-	48 403	12 795	-	-	61 198
	2 069 924	1 083 854	451 715	19 308 070	2 969 996	797 203	-	26 680 762
	8%	4%	2%	72%	11%	3%	0%	100%

(1) Credit rating as per Standard & Poor's or equivalent agency.

(2) Includes long-term ratings of A- and BBB+, or a short-term rating of A-1+ & A-2.

(3) Financial assets are based on unsettled face value and consist mainly of discount securities, Commonwealth & State securities, floating rate notes and term deposits.

QTC has a significant concentration of credit risk to the banking sector and in particular, the domestic banking sector. At 30 June 2022, QTC's exposure to systemically important domestic banks (which are rated AA-) was approximately 61% (2021: 40%). The exposure to domestic banks reflects the structure of the Australian credit markets, which are themselves dominated by issuance from these entities. Key characteristics of these entities are continuously monitored including their regulatory requirements, additional capital buffers, type of issuance and the impact of exigent developments.

QTC adopts a conservative approach to the management of credit risk with a strong bias to high credit quality counterparties. QTC has a requirement to invest with counterparties rated BBB+ or better, and that have their head offices in politically stable countries with strong legal and regulatory frameworks associated with financial institutions and financial markets.

QTC's Board establishes maximum counterparty dollar value and term limits related to issuer credit ratings. Actual limits for individual counterparties will be within these Board limits and depend on the country of domicile, performance against key credit metrics and other factors related to asset quality, level of capital and size of funding program.

Ratings agencies are used as the prime source of credit ratings information by QTC's credit team. This information is supported by the credit team's own credit analysis methodology and practice for exposure monitoring and reporting.

(ii) Onlending counterparties

QTC is also exposed to the credit risk associated with onlendings to clients. Except for some small exposures to private companies and exposures as part of the ISP (refer Note 9) portfolio, QTC on-lends funds to Queensland Government sector entities (including Queensland Treasury, statutory bodies and Government owned corporations) and non-State Government entities (including, local governments, universities and grammar schools).

Most of QTC's onlendings (72.2% in 2022 and 72.0% in 2021) are explicitly guaranteed by the State, including the loans that form the ISP and all debt held by clients operating in key Environmental, Social and Governance (ESG) impacted areas such as coal-based power generation. QTC is directly exposed to credit default risk to the extent of its non-guaranteed lending of approximately $26.5 billion at 30 June 2022 (2021: $29.6 billion).

QTC's outstanding client onlending exposures are actively monitored in accordance with an approved Client Credit Procedure. This procedure includes regular Credit Reviews and covenant monitoring to ensure all counterparties maintain adequate debt serviceability and long term financial stability.

QTC has a robust credit assessment and ratings methodology in place that informs its onlending recommendations to the State. This methodology includes analysis of quantitative and qualitative factors (industry, regional, demographic, and economic characteristics) across a number of years. An assessment of a client's performance against key credit metrics is made and borrowing recommendations are appraised by an independent Credit Committee prior to being communicated to the State.

QTC adopts a cautious risk appetite to ensure onlendings are provided to clients with satisfactory credit profiles. The majority of QTC's onlending clients maintain an adequate financial buffer to manage short term financial shocks, though longer term financial impacts may adversely affect their performance. Of the non-guaranteed onlending, 99 per cent has been provided to clients that have been assigned a credit rating of Moderate or above by QTC. QTC's Moderate credit rating approximates to an Investment Grade rating used by the major Rating Agencies.

(iii) Fair value attributable to credit risk of QTC's liabilities

QTC's borrowings are largely guaranteed by the State Government. As a result, credit risk is not a significant factor in the determination of fair value. Changes in fair value are mainly attributable to the market fluctuations.

(1) As noted in Note 9, during the year ended 30 June 2021, the State provided financial assistance in the form of loans and grants to various Queensland private sector entities. This program was called the ISP.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

11 Financial risk management continued

(c) Credit risk continued

(iv) Master netting arrangements

QTC enters into all derivative transactions under International Swaps and Derivatives Association (ISDA) Master Agreements. QTC does not currently have any master netting arrangements where a default event has occurred, and therefore presents all derivative financial instruments on a gross basis in the statement of comprehensive income. QTC also has Credit Support Annexes (CSAs) in place with each ISDA, under which collateral is transferred every business day. This further reduces QTC's credit exposure.

The following table presents the financial instruments that are offset, or subject to enforceable master netting arrangements and other similar agreements but not offset. The column 'net amount' shows the impact on QTC's balance sheet if all set-off rights were exercised.

		RELATED TO AMOUNTS NOT SET OFF IN THE BALANCE SHEET		
	GROSS AND NET AMOUNTS ON THE BALANCE SHEET $000	FINANCIAL INSTRUMENTS COLLATERAL $000	CASH COLLATERAL RECEIVED OR GIVEN $000	NET AMOUNT $000
2022				
Derivative assets: - subject to master netting arrangements	**297 945**	**-**	**(275 954)**	**21 991**
Derivative liabilities: - subject to master netting arrangements	**(300 604)**	**-**	**300 604**	**-**
Net exposure	**(2 659)**	**-**	**24 650**	**21 991**
2021				
Derivative assets: - subject to master netting arrangements	336 836	-	54 880	391 716
Derivative liabilities: - subject to master netting arrangements	(238 187)	-	(147 060)	(385 247)
Net exposure	98 649	-	(92 180)	6 469

12 Fair value hierarchy

Financial instruments measured at fair value have been classified in accordance with the hierarchy described in AASB 13 *Fair Value Measurement*. The fair value hierarchy is categorised into three levels based on the observability of the inputs used.

Level 1 – quoted prices (unadjusted) in active markets that QTC can access at measurement date for identical assets and liabilities.
Level 2 – inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
Level 3 – inputs for the asset or liability that are not based on observable market data (unobservable inputs).

All QTC's financial instruments at fair value through profit or loss are valued with reference to either quoted market prices or observable inputs, with no significant adjustments applied to instruments held. QTC holds no Level 3 financial instruments.

Financial assets classified as Level 1 consist primarily of short-term and tradeable bank deposits, Commonwealth and semi-government bonds and futures contracts where an active market has been established.

Financial assets classified as Level 2 include non-actively traded corporate and semi-government bonds, certain money market securities, floating rate notes, term deposits, QTC onlendings and all over the counter derivatives. The principal inputs in determining fair value include benchmark interest rates such as interbank rates, quoted interest rates in the swap, bond and futures markets, trading margins to the swap curve and counterparty credit spreads for similar instruments adjusted for changes in the credit worthiness of the counterparty. A margin may be applied based on the original purchase margin where the instrument is not actively traded. QTC onlendings are priced based on the underlying liability portfolio.

Financial liabilities classified as Level 1 consist of QTC benchmark bonds.

Financial liabilities classified as Level 2 include commercial paper, treasury notes, medium-term notes, floating rate notes, and client deposits. The principal inputs in determining fair value include benchmark interest rates such as interbank rates and quoted interest rates in the swap and bond markets. Valuations may include a fixed margin to LIBOR or swap curve. Client deposits are principally held in the QTC Cash Fund, which is capital guaranteed.

Over the counter derivatives are typically valued as Level 2 and include FX forwards, FX swaps, interest rate and cross currency swaps. The principal inputs in determining fair value include quoted interest rates in the swap market, spot FX rates and basis curves.

QTC applies mid-market pricing as a practical and consistent method for fair value measurements within the bid-ask spread.

Classification of instruments into fair value hierarchy levels is reviewed annually and where there has been a significant change to the valuation inputs and a transfer is deemed to occur, this is effected at the end of the relevant reporting period.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

12 Fair value hierarchy continued

AS AT 30 JUNE 2022	QUOTED PRICES LEVEL 1 $000	OBSERVABLE INPUTS LEVEL 2 $000	TOTAL $000
Financial assets			
Cash and cash equivalents	**5 247 278**	**-**	**5 247 278**
Financial assets through profit or loss	**14 879 212**	**13 650 458**	**28 529 671**
Derivative financial assets	**8 674**	**289 272**	**297 945**
Onlendings	**-**	**94 582 248**	**94 582 248**
Total financial assets	**20 135 164**	**108 521 978**	**128 657 142**
Financial liabilities			
Derivative financial liabilities	**55 228**	**245 376**	**300 604**
Financial liabilities through profit or loss			
- Short-term	**-**	**6 252 958**	**6 252 958**
- Long-term	**90 548 996**	**22 545 486**	**113 094 482**
Deposits	**-**	**8 431 220**	**8 431 220**
Total financial liabilities	**90 604 224**	**37 475 040**	**128 079 264**

AS AT 30 JUNE 2021	QUOTED PRICES LEVEL 1 $000	OBSERVABLE INPUTS LEVEL 2 $000	TOTAL $000
Financial assets			
Cash and cash equivalents	11 803 213	-	11 803 213
Financial assets through profit or loss	9 042 835	5 915 754	14 958 589
Onlendings	-	104 611 229	104 611 229
Derivative financial assets	168	336 668	336 836
Total financial assets	20 846 216	110 863 651	131 709 867
Financial liabilities			
Financial liabilities through profit or loss			
- Short-term	-	5 635 572	5 635 572
- Long-term	100 786 473	16 333 890	117 120 363
Deposits	-	8 107 683	8 107 683
Derivative financial liabilities	9 129	229 058	238 187
Total financial liabilities	100 795 602	30 306 203	131 101 805

QTC holds no Level 3 financial instruments.

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

13 Property, plant and equipment

Accounting Policy

Items with a cost or other value equal to or exceeding $5,000 are reported as property, plant and equipment. Items with a lesser value are expensed in the year of acquisition. Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment losses. Depreciation is calculated on a straight line basis over the estimated useful life of the assets. Depreciation rates are as follows:

Asset class	Depreciation rate
Information technology & office equipment	6 – 40%

The assets' residual values, useful lives and depreciation methods are reviewed and adjusted, if appropriate, at each financial year end.

Reconciliations of the carrying amounts for property, plant and equipment are set out below:

	2022 $000	2021 $000
Cost at balance date	**5 645**	5 765
Accumulated depreciation and impairment	**(3 368)**	(2 798)
Net carrying amount	**2 277**	2 967
Movement		
Net carrying amount at beginning of the year	**2 967**	3 633
Additions	**43**	14
Depreciation expense	**(733)**	(680)
Net carrying amount at end of the year	**2 277**	2 967

14 Right-of-use assets and lease liabilities

Accounting Policy

All leases, other than short-term leases and leases of low value assets, are recognised on balance sheet as lease liabilities and right-of-use assets.

On initial recognition the carrying amount of the lease liability is measured at the present value of the current leasing commitments. Lease payments are discounted at the rate implicit in the lease or at QTC's incremental borrowing rate if the implicit interest rate cannot be readily determined.

Right-of-use assets are initially measured at cost comprising the following:

- The amount of the initial measurement of the lease liability
- Lease payments made at or before the commencement date and any lease incentives received
- Initial direct costs incurred, and
- The initial estimate of restoration costs.

Depreciation is calculated on a straight-line basis over the estimated useful life of the assets. Depreciation rates are as follows:

Asset class	Depreciation rate
Lease property	7%

Carrying amounts of right-of-use assets and the movements during the year are set out below:

	2022 $000	2021 $000
Cost at balance date	**12 368**	11 702
Accumulated depreciation and impairment	**(5 342)**	(3 424)
Net carrying amount at end of the year	**7 026**	8 278
Movement		
Net carrying amount at beginning of the year	**8 278**	9 991
Additions	**667**	-
Depreciation expense	**(1 919)**	(1 713)
Net carrying amount at end of the year	**7 026**	8 278

Set out below are the carrying amounts of lease liabilities and the movements during the year:

	2022 $000	2021 $000
Net carrying amount at beginning of the year	**15 165**	17 826
Additions	**667**	-
Interest	**233**	270
Lease repayments	**(3 242)**	(2 931)
Net carrying amount at end of the year	**12 823**	15 165

Notes to the Financial Statements

Capital Markets Operations

For the year ended 30 June 2022

15 Notes to the statement of cash flows

(a) Reconciliation of profit after tax to net cash provided by operating activities

	2022 $000	RESTATED 2021[1] $000
(Loss)/profit for the year[1]	**(36 234)**	115 145
Non-cash flows in operating surplus		
Gain on interest-bearing liabilities	**(14 660 103)**	(3 552 597)
Gain on deposits held	**(273)**	(838)
Loss on onlendings	**15 348 389**	3 550 453
Loss on financial assets at fair value through profit or loss	**382 210**	176 137
Depreciation and amortisation[1]	**8 225**	7 891
Changes in assets and liabilities		
Decrease/(increase) in financial assets at fair value through profit or loss	**47 292**	(25 626)
Decrease/(increase) in deferred tax asset	**949**	(303)
Decrease in onlendings	**4 449**	12 743
Decrease/(increase) in receivables	**880**	(1 042)
(Decrease)/increase in interest-bearing liabilities	**(1 566 051)**	334 558
Increase/(decrease) in deposits	**1 390**	(857)
(Decrease)/increase in payables and other liabilities[1]	**(3 294)**	4 339
Net cash (used in)/provided by operating activities	**(472 171)**	620 003

[1] The amounts have been restated for the change in accounting policy set out in Note 2(a) in relation to upfront configuration and customisation costs incurred in implementing SaaS arrangements.

(b) Reconciliation of liabilities arising from financing activities

AS AT 30 JUNE 2022	OPENING BALANCE $000	CASH FLOWS $000	FAIR VALUE MOVEMENT $000	FOREIGN EXCHANGE MOVEMENT $000	OTHER NON-CASH MOVEMENT $000	CLOSING BALANCE $000
Interest-bearing liabilities [1]	**122 994 122**	**12 880 077**	**(14 758 621)**	**98 518**	**(1 566 052)**	**119 648 044**
Deposits	**8 107 683**	**322 419**	**(273)**	**-**	**1 391**	**8 431 220**
Dividend paid	**-**	**-**	**-**	**-**	**-**	**-**
	131 101 805	**13 202 496**	**(14 758 894)**	**98 518**	**(1 564 661)**	**128 079 264**
AS AT 30 JUNE 2021						
Interest-bearing liabilities [1]	113 835 698	12 376 463	(3 318 628)	(233 969)	334 558	122 994 122
Deposits	8 865 253	(755 875)	(838)	-	(857)	8 107 683
Dividend paid	-	(50 000)	-	-	50 000	-
	122 700 951	11 570 588	(3 319 466)	(233 969)	383 701	131 101 805

[1] Includes derivatives.

Notes to the Financial Statements

State Investment Operations

For the year ended 30 June 2022

16 Financial instruments at fair value through profit or loss

Accounting Policy – Classification and measurement

Financial instruments on initial recognition are classified into the following categories:

- Financial assets at fair value through profit or loss, and
- Financial liabilities at fair value through profit or loss.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include investments held in unit trusts managed by QIC. These investments include cash, international equities and other diversified products, which are measured at market value based on a hard close unit price quoted by QIC (adjusted for fees outstanding on the account and net of any GST recoverable) for the end of the financial year.

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss consist of FRNs issued to the State in exchange for portfolios of assets. The FRNs were initially recognised at a value that equated to the fair value of the financial assets contributed by the State. The FRNs will terminate upon the greater of 50 years from the initial transaction date or the date that the FRNs are repaid in full. The market value of the FRNs is payable by QTC to the State. Interest on the FRNs is capitalised monthly. The FRN interest rate may be varied by the State under the terms of their corresponding agreements.

Recognising the direct relationship between the FRNs and the assets of SIO, financial liabilities at fair value through profit or loss are determined by reflecting the changes (including market value movements) in the value of the invested assets of the portfolio, as equivalent market value movements in the FRNs. That is, any difference between the return paid by QTC on the FRNs and the return received by QTC on the invested assets is recognised as a market value adjustment to the value of the FRNs, eliminating any accounting mismatch between the financial assets and liabilities in this segment.

FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS	2022 $000 LTA[1]	2022 $000 QFF[2]	2022 $000 TOTAL STATE INVESTMENT OPERATIONS
Investments in unit trusts and other holdings - QIC:			
Movement during the year:			
Opening balance	**30 072 492**	**7 742 219**	**37 814 711**
Deposits [3]	**3 202 792**	**-**	**3 202 792**
Withdrawals [3]	**(2 018 382)**	**-**	**(2 018 382)**
Fees paid	**(181 302)**	**(48 161)**	**(229 463)**
Net change in fair value of unit trusts	**1 578 792**	**23 962**	**1 602 754**
Closing balance	**32 654 392**	**7 718 020**	**40 372 412**

[1] The LTA are assets held to fund the defined benefit superannuation and other long term obligations of the State as well as assets to support other State initiatives.

[2] At 30 June 2022, the only sub fund of the QFF is the DRF. The DRF was established to support both the State's credit rating and generate returns to reduce the State's debt burden.

[3] For every investment deposited or withdrawal from the LTA or QFF, there is an equivalent increase or decrease to the corresponding FRN.

FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS	2021 $000 LTA[1]	2021 $000 QFF[2]	2021 $000 TOTAL STATE INVESTMENT OPERATIONS
Investments in unit trusts and other holdings - QIC:			
Movement during the year:			
Opening balance	26 216 930	-	26 216 930
Deposits [3]	2 747 056	6 195 724	8 942 780
Transfers	(1 500 000)	1 500 000	-
Withdrawals [3]	(1 863 018)	-	(1 863 018)
Fees paid	(155 387)	(2 671)	(158 058)
Net change in fair value of unit trusts	4 626 911	49 166	4 676 077
Closing balance	30 072 492	7 742 219	37 814 711

[1] The LTA are assets held to fund the defined benefit superannuation and other long term obligations of the State as well as assets to support other State initiatives.

[2] At 30 June 2022, the only sub fund of the QFF is the DRF. The DRF was established to support both the State's credit rating and generate returns to reduce the State's debt burden.

[3] For every investment deposited or withdrawal from the LTA or QFF, there is an equivalent increase or decrease to the corresponding FRN.

Notes to the Financial Statements

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For the year ended 30 June 2022

16 Financial instruments at fair value through profit or loss continued

FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS	2022 $000 LTA[1]	2022 $000 QFF[2]	2022 $000 TOTAL STATE INVESTMENT OPERATIONS
Comprised of the following asset classes:			
Defensive assets			
Cash	**3 128 932**	**1 095 673**	**4 224 605**
Fixed interest	**1 449 208**	**511 381**	**1 960 589**
Growth assets			
Equities	**8 572 442**	**2 969 947**	**11 542 389**
Diversified alternatives	**5 648 794**	**532 557**	**6 181 351**
Unlisted assets			
Infrastructure	**7 807 543**	**1 748 002**	**9 555 545**
Private equity	**3 749 903**	**403 795**	**4 153 698**
Real estate	**2 297 570**	**456 665**	**2 754 235**
	32 654 392	**7 718 020**	**40 372 412**

FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS	2021 $000 LTA[1]	2021 $000 QFF[2]	2021 $000 TOTAL STATE INVESTMENT OPERATIONS
Comprised of the following asset classes:			
Defensive assets			
Cash	2 069 345	2 731 104	4 800 449
Fixed interest	3 689 262	584 512	4 273 774
Growth assets			
Equities	8 207 274	2 116 604	10 323 878
Diversified alternatives	4 439 721	-	4 439 721
Unlisted assets			
Infrastructure	7 097 897	1 605 433	8 703 330
Private equity	3 252 069	359 610	3 611 679
Real estate	1 316 924	344 956	1 661 880
	30 072 492	7 742 219	37 814 711

(1) The LTA are assets held to fund the defined benefit superannuation and other long term obligations of the State.

(2) At 30 June 2022, the only sub fund of the QFF is the DRF. The DRF was established to support both the State's credit rating and generate returns to reduce the State's debt burden.

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State Investment Operations

For the year ended 30 June 2022

16 Financial instruments at fair value through profit or loss continued

FINANCIAL LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS	2022 $000 LTA [1]	2022 $000 QFF [2]	2022 $000 TOTAL STATE INVESTMENT OPERATIONS
Fixed rate notes			
Movement during the year:			
Opening balance	**30 072 492**	**7 742 219**	**37 814 711**
Increases [3]	**3 202 792**	**-**	**3 202 792**
Interest	**1 944 485**	**501 928**	**2 446 413**
Decreases [3]	**(2 018 382)**	**-**	**(2 018 382)**
Net change in fair value of the fixed rate note [4]	**(546 995)**	**(526 127)**	**(1 073 122)**
Closing balance	**32 654 392**	**7 718 020**	**40 372 412**

FINANCIAL LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS	2021 $000 LTA [1]	2021 $000 QFF [2]	2021 $000 TOTAL STATE INVESTMENT OPERATIONS
Fixed rate notes			
Movement during the year:			
Opening balance	26 216 930	-	26 216 930
Increases [3]	2 747 056	6 195 724	8 942 780
Transfers	(1 500 000)	1 500 000	-
Interest	1 838 728	26 263	1 864 991
Decreases [3]	(1 863 018)	-	(1 863 018)
Net change in fair value of the fixed rate note [4]	2 632 796	20 232	2 653 028
Closing balance	30 072 492	7 742 219	37 814 711

[1] The LTA are assets held to fund the defined benefit superannuation and other long term obligations of the State.

[2] At 30 June 2022, the only sub fund of the QFF is the DRF. The DRF was established to support both the State's credit rating and generate returns to reduce the State's debt burden.

[3] For every investment deposited or withdrawal from the LTA or QFF, there is an equivalent increase or decrease to the corresponding FRN.

[4] The net change in the fair value of the fixed rate notes was negative in 2022, reflecting the lower returns achieved on the assets invested when compared to the interest paid by QTC on the FRN of 6.5%. In the previous year, the return on assets invested was positive, reflecting higher returns achieved on the assets invested when compared to the interest paid on the FRN of 6.5%.

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17 Financial risk management

QTC also holds a portfolio of assets that were transferred to QTC by the State Government but are managed by QIC on behalf of SIAB. SIAB members include representatives from Queensland Treasury and three external members with experience in investment management and governance.

The assets of SIO are invested in unlisted unit trusts held with QIC. The trusts hold investments in a variety of financial instruments including derivatives, which expose these assets to credit risk, liquidity risk and market risk. Market risk arises due to changes in interest rates, foreign exchange rates, property prices and equity prices. However, as these investments are long-term in nature, market fluctuations are expected to even out over the term of the investment.

SIAB determines the investment objectives, risk profiles and strategy for the invested assets of the SIO segment within the framework provided by the State Government. It is responsible for formulating a strategic asset allocation to achieve the objectives of the investments in line with the required risk profile. The invested assets of the SIO segment are therefore distinct from QTC's Capital Markets Board and day-to-day Capital Markets Operations and are the responsibility of SIAB and its appointed investment manager (QIC).

QIC provides assistance to SIAB in discharging its responsibilities. As the Queensland Government's

investment manager, QIC is responsible for implementing the investment strategy of each portfolio of invested assets of the SIO segment. QIC's role includes recommending investment product objectives, risk profiles and strategic asset allocations to achieve objectives within the targets and risk controls set. SIAB oversees QIC's implementation and monitors adherence to the targets, risk controls and limits under which QIC is approved to manage the invested assets of the SIO segment.

QIC has established risk management policies to identify and analyse risk, and to set risk limits and controls that comply with SIAB's instructions. QIC's risk control framework is confirmed in a GS 007 report signed by the Auditor-General of Queensland.

The interest rate applicable on the FRN liabilities of QTC for both the LTA and the QFF portfolios is set at 6.5% per annum on the book value of the notes.

(a) Market risk

The assets of SIO expose QTC to market risk, including interest rate risk, foreign currency risk, property price risk and equity price risk, resulting from its investments in unit trusts and the underlying movement in the net asset values through these trusts. While the portfolios do not have direct exposure to interest rate, foreign currency and credit risk, the unit price of the fund in which the assets are invested will change in response to the market's perception of changes in these underlying risks.

Market risk is mitigated through diversified portfolios of investments in unit trusts held with QIC in accordance with the investment strategies approved by SIAB. The investment strategy targets a diversified portfolio across a broad range of asset classes.

QIC adheres to prudential controls contained in the Investment Management Agreement for each portfolio of assets. Under these agreements, derivative products are not permitted to be used for speculative purposes but are used as hedging instruments against existing positions or for efficient trading and asset allocation purposes to assist in achieving the overall investment returns and volatility objectives of the portfolio.

A sensitivity analysis for the key types of market risk that apply to the investments of the funds has been undertaken by QIC. QIC has provided a range of reasonably possible changes in key risk variables including the S&P/ASX 200 Index, the MSCI World ex Australia Equities Index, the Reserve Bank of Australia official cash rate, the US Federal Reserve official cash rate and real estate capitalisation rates.

QTC's foreign currency exposure is managed at a whole of portfolio level rather than at an individual asset class level. For this reason, sensitivity to foreign exchange rate movements has been shown as a currency overlay on the whole portfolios.

Based on these changes to key risk variables and applying a range of valuation methodologies, a reasonably possible change in value of applicable investments held at 30 June is as follows:

	2022 CHANGE		2022 PROFIT/EQUITY		2021 CHANGE		2021 PROFIT/EQUITY	
	Low %	High %	Decrease $000	Increase $000	Low %	High %	Decrease $000	Increase $000
Cash and fixed interest [1]	**-3%**	**3%**	**(187 149)**	**187 149**	-4%	4%	(350 837)	350 837
Equities	**-10%**	**10%**	**(1 154 239)**	**1 154 239**	-10%	10%	(1 032 629)	1 032 629
Diversified alternatives [2]	**-10%**	**10%**	**(617 948)**	**617 948**	-10%	10%	(444 076)	444 076
Infrastructure	**-10%**	**10%**	**(955 940)**	**955 940**	-10%	10%	(870 536)	870 536
Private equities	**-10%**	**10%**	**(415 244)**	**415 244**	-9%	9%	(325 283)	325 283
Real estate	**-13%**	**16%**	**(343 605)**	**444 914**	-22%	35%	(367 115)	578 903
Currency overlay	**-10%**	**10%**	**(876 129)**	**876 129**	-10%	10%	(732 642)	732 642
			(4 550 254)	**4 651 563**			(4 123 118)	4 334 906

[1] Cash and fixed interest includes exposure to interest rate and inflation overlays on hedging instruments.
[2] Diversified alternatives include exposure to both price and interest rate risk.

(b) Liquidity risk

No external cash flows are generated by QTC from SIO. Deposits and withdrawals from SIO result in a corresponding change to the value of the FRNs. Interest owing to Treasury on the FRNs is capitalised, as are returns and fees to the SIO. As such, daily movements in these cash flows do not expose QTC to liquidity risk.

(c) Credit risk

QIC is responsible for implementing the investment strategy for SIO. The investment strategy targets a widely diversified portfolio of assets across a broad range of asset classes, helping to minimise credit risk.

Notes to the Financial Statements

State Investment Operations

For the year ended 30 June 2022

18 Fair value hierarchy

Financial instruments have been classified in accordance with the hierarchy described in AASB 13 *Fair Value Measurement*, as per note 12.

AS AT 30 JUNE 2022	OBSERVABLE INPUTS LEVEL 2 $000	UNOBSERVABLE INPUTS LEVEL 3 $000	TOTAL $000
Financial assets			
Cash	**4 224 605**	**-**	**4 224 605**
Fixed interest	**1 960 589**	**-**	**1 960 589**
Equities	**11 542 389**	**-**	**11 542 389**
Diversified alternatives	**2 115 368**	**4 065 983**	**6 181 351**
Infrastructure	**-**	**9 555 545**	**9 555 545**
Private equities	**-**	**4 153 698**	**4 153 698**
Real estate	**-**	**2 754 235**	**2 754 235**
Total financial assets	**19 842 951**	**20 529 461**	**40 372 412**
Financial liabilities			
Fixed rate note - LTA	**-**	**32 654 392**	**32 654 392**
Fixed rate note - QFF	**-**	**7 718 020**	**7 718 020**
Total financial liabilities	**-**	**40 372 412**	**40 372 412**

AS AT 30 JUNE 2021			
Financial assets			
Cash	4 800 449	-	4 800 449
Fixed interest	4 273 774	-	4 273 774
Equities	10 323 878	-	10 323 878
Diversified alternatives	1 290 496	3 149 225	4 439 721
Infrastructure	-	8 703 330	8 703 330
Private equities	-	3 611 679	3 611 679
Real estate	-	1 661 880	1 661 880
Total financial assets	20 688 597	17 126 114	37 814 711
Financial liabilities			
Fixed rate note- LTA	-	30 072 494	30 072 494
Fixed rate note- QFF	-	7 742 217	7 742 217
Total financial liabilities	-	37 814 711	37 814 711

Investments in unit trusts are valued by QIC using fair value methodologies adjusted for fees outstanding. QIC reports the net asset value based on the unit price at measurement date.

Notes to the Financial Statements

State Investment Operations

For the year ended 30 June 2022

18 Fair value hierarchy continued

(a) Level 3 financial assets and liabilities - valuation techniques utilising significant unobservable inputs

Valuations of investments in unit trusts that are Level 3 in the fair value hierarchy are based on the prices of the assets underlying these unit trusts. Investments in unlisted externally managed investment schemes are valued by QIC based on the latest available net asset value advised by the fund manager. Where the fund invests in illiquid assets, the investments are priced by independent valuers as there is no readily observable market price.

In some instances, the prices advised by QIC are based on unaudited valuation statements provided by the external managers of underlying investments that relate to a date prior to 30 June 2022. QIC continues to monitor and provide updated advice to QTC on the potential impact on the value of these investments arising from the subsequent receipt of updated valuations from external managers and audited financial statements.

While QTC utilises the unit price of investments provided by QIC at the relevant reporting date to report the fair value of the investments, the table below shows the valuation techniques used to calculate the unit price for the Level 3 fair values and the significant unobservable inputs used.

CLASS	VALUATION TECHNIQUE	UNOBSERVABLE INPUTS
Diversified alternatives	Based on valuations provided by an independent external valuer or external manager in accordance with relevant industry standards	The valuation model considers the future net cash flows expected to be generated from the asset and are discounted using a risk adjusted discount rate
Infrastructure	Based on valuations provided by an independent external valuer or external manager in accordance with industry standards	The valuation model considers the future net cash flows expected to be generated from the asset and are discounted using a risk adjusted discount rate
Private equities	Based on valuations provided by an independent external valuer or external manager in accordance with International Private Equity and Venture Capital Valuation Guidelines	The valuation model considers the future net cash flows expected to be generated from the asset and are discounted using a risk adjusted discount rate
Real estate	Based on valuations provided by an independent external valuer or external manager in accordance with Australian Property Institute's valuation and Property Standards	The valuation model considers the future net cash flows expected to be generated from the asset and are discounted using a risk adjusted discount rate
Fixed Rate Notes	Based on the value of the corresponding portfolio of assets in the SIO segment	The valuation is based on the fair values of the related assets which are derived using level 3 inputs

(b) Reconciliation of Level 3 fair value movements

The table below shows the breakdown of gains and losses in respect of Level 3 fair values.

30 JUNE 2022 ASSET CLASS	OPENING BALANCE $000	DISTRIBUTIONS(1) $000	UNREALISED MARKET MOVEMENTS(1) $000	SETTLEMENTS(1) $000	CLOSING BALANCE $000
Diversified alternatives	**3 149 225**	(513 803)	466 868	963 693	**4 065 983**
Infrastructure	**8 703 331**	(107 211)	1 308 889	(349 464)	**9 555 545**
Private equities	**3 611 679**	(453 054)	941 950	53 123	**4 153 698**
Real estate	**1 661 880**	-	(20 469)	1 112 824	**2 754 235**

30 JUNE 2021 ASSET CLASS	OPENING BALANCE $000	DISTRIBUTIONS(1) $000	UNREALISED MARKET MOVEMENTS(1) $000	SETTLEMENTS(1) $000	CLOSING BALANCE $000
Diversified alternatives	**4 882 357**	(870 939)	91 042	(953 235)	**3 149 225**
Infrastructure	**3 190 411**	(79 420)	402 922	5 189 418	**8 703 331**
Private equities	**2 799 276**	(392 689)	1 433 742	(228 650)	**3 611 679**
Real estate	**1 939 790**	(12 339)	(396 182)	130 611	**1 661 880**

(1) Data in the above table is based on movements in the unit trusts that hold the assets.

FRN movements are disclosed in note 16.

(c) Level 3 – Sensitivity Analysis

Note 17 provides the impact to a change in market prices in respect of all asset classes including those categorised as Level 3.

Notes to the Financial Statements

Other information

For the year ended 30 June 2022

19 Contingent liabilities

The following contingent liabilities existed at balance date:

- QTC has provided guarantees to the value of $2.8 billion (2021: $2.5 billion) to support the commercial activities of various Queensland public sector entities. In each case, a counter indemnity has been obtained by QTC from the appropriate public sector entity.

20 Related party transactions

QTC's related parties are those entities that it controls, is controlled by, under common control or can exert significant influence over. This includes controlled entities of the State of Queensland, being Queensland Treasury, government departments, statutory bodies (excluding universities) and Government owned corporations, and also includes QTC's key management personnel and their related parties. Along with universities, local governments are not considered as related parties of QTC.

(a) Ultimate controlling entity

The immediate controlling entity is the Under Treasurer of Queensland as the Corporation Sole of QTC and the ultimate controlling entity is the State of Queensland. No remuneration is payable by QTC to the Under Treasurer in relation to this role.

(b) Key management personnel

Disclosures relating to key management personnel are set out in note 21.

(c) Investments in companies

Details of investments in associates and other companies are set out in note 23.

(d) Transactions with related parties

Transactions undertaken with related parties during the year include:

- loans $90.9 billion (2021: $93.8 billion) and interest received $2.5 billion (2021: $2.7 billion)
- investment of cash surpluses $1.9 billion (2021: $1.9 billion) and interest paid $11.4 million (2021: $14.3 million)
- fees received $75.4 million (2021: $71.9 million)
- No dividends were declared or paid to Queensland Treasury during the year (2021: $50 million)
- $118.6 million investment in the Dalrymple Bay Coal terminal was transferred from the Backing Queensland Investment Fund to the LTA portfolio, and
- The State transferred $2.5 billion to the LTA portfolio of the SIO segment.

QTC may from time to time indirectly hold a small amount of investments in QTC Bonds via its investments in unit trusts managed by QIC. QTC does not have direct legal ownership of these assets and therefore, no adjustment has been made in the financial statements. QTC through SIO has paid $236.7 million in management fees to QIC (2021: $157.5 million) and $0.5 million (2021: $0.5 million) to Queensland Treasury for board secretariat services to SIAB.

The nature and amount of any individually significant transactions with principal related parties are disclosed below.

- QTC sometimes acts as an agent to government entities in the procurement of advice from consultants. In these situations, QTC does not bear any significant risks or benefits associated with the advice and is generally reimbursed for the costs of the consultant by the government entity. The funds received as reimbursement offset consultant costs in the financial statements providing a nil net effect. The amount of costs reimbursed to QTC during the financial year totalled $1.4 million (2021: $6.0 million).
- QTC has a shareholding in QTH and its associated entities (QTH group). The QTH group hold deposits of $101.3 million (2021: $114.1 million) and loans of $101.3 million (2021: $102.9 million) with QTC that are provided on an arm's length basis and are subject to QTC's normal terms and conditions. QTC also provides company secretariat services to the QTH group on a cost recovery basis and received fees of $0.4 million (2021: $0.3 million) for the provision of these services.

(e) Agency arrangements

QTC undertakes the following agency arrangements on behalf of its clients.

- QTC provides services on behalf of Queensland Treasury under a GOC Cash Management Facility. QTC is not exposed to the risks and benefits of this facility and therefore does not recognise these deposits on its balance sheet. QTC charges a fee for this service. The balance of deposits under this facility at year end was $1.0 billion (2021: $1.1 billion).
- QTC may enter into derivative transactions from time to time on behalf of its clients. These arrangements have back to back contracts between QTC and the client and QTC and the market. In this way QTC is not exposed to the risks and benefits of these contracts and does not recognise these on-balance sheet. The notional value of these derivative arrangements at year end was $31.4 million (2021: $36.7 million).

Notes to the Financial Statements

Other information

For the year ended 30 June 2022

21 Key management personnel

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of QTC, being members of the Board and the Executive Leadership Team.

(a) QTC's Boards

QTC has delegated its powers to its two boards, the Capital Markets Board and SIAB. Both boards are appointed by the Governor-in-Council, pursuant to section 10(2) of the *Queensland Treasury Corporation Act 1988*.

(b) Remuneration principles

Capital Markets Board - Directors

Any changes to Board remuneration require consideration by Queensland Treasury and the Department of the Premier and Cabinet to ensure remuneration is commensurate with government policy. Cabinet endorsement of any changes is required prior to approval by the Governor in Council. Remuneration was last increased effective 1 July 2012.

State Investment Advisory Board - Directors

When the Long Term Asset Advisory Board was renamed and reconstituted as SIAB on 4 July 2019, new external Board members were appointed who were entitled to remuneration. Remuneration for the new Board members was set by Queensland Treasury in consultation with the Department of the Premier and Cabinet prior to approval by the Governor in Council.

Executives and employees

QTC employees (including the Executive Leadership Team) are employed on individual contracts and are appointed pursuant to the *Queensland Treasury Corporation Act 1988*. As the majority of QTC's employees are sourced from the financial markets in which it operates, QTC's employment practices are competitive with these markets. The remuneration framework comprises both fixed and variable remuneration (in the form of an annual short-term incentive (STI) opportunity), which are approved by the QTC Board annually. The fixed remuneration component is market-competitive and the variable remuneration component is linked to performance.

Remuneration governance

The Human Resources Committee of the Board is responsible for governance of remuneration practices and arrangements, with the Board maintaining absolute responsibility and decision making for remuneration matters. QTC receives annual industry benchmarking data from the Financial Institutions Remuneration Group (FIRG), which captures remuneration data from organisations within the financial services industry. QTC uses a subset of the data mapped to relevant organisations within the FIRG membership. Analysis and advice are obtained from external consultants to ensure that QTC continues to align roles to the market.

Total compensation

The total compensation fixed remuneration of each QTC employee is reviewed each year and is benchmarked against the FIRG remuneration data. Total compensation levels are set around the FIRG market median position of a relevant sub-set of the FIRG database. Role scope and complexity, knowledge experience, skills and performance are considered when determining the remuneration level of each employee.

Variable remuneration – short-term incentives for employees

QTC's variable remuneration framework provides an annual short-term incentive opportunity for eligible employees, aligned to financial year performance. This opportunity is designed to differentiate and reward outstanding organisational and individual performance, and to align performance at these levels with incentive outcomes. It also aims to ensure market competitiveness, with 'target' STI outcomes aligned to the relevant market position of the FIRG database (i.e. the median incentive potential for FIRG members within QTC's peer group) and approved at Board level each year. For the year ended 30 June 2022, STI payments will be made to eligible staff in September 2022.

Variable remuneration – short term incentives for the Executive Leadership Team

For the year ended 30 June 2022, where the Executive Leadership Team performed strongly against corporate and individual KPIs, they were eligible to receive a short-term incentive payment based on a percentage of their total fixed remuneration. Short term incentives are at risk with no payment made for underperformance and additional premiums of up to 30% of the target paid for above expected performance.

The outcomes for the Executive Leadership Team are aligned to achievements measured against corporate and individual KPIs. For 2021-22, short-term incentive 'targets' for the Executive Leadership Team ranged between 40% and 60% of their total fixed remuneration. The proportion of each executive's short-term incentive 'target' opportunity is based on corporate and individual performance, and the achievement of targets set out in QTC's Strategic Plan 2021-25.

QTC's overall performance for 2021-22, documented in the annual performance assessment reviewed and approved by QTC's Board, was assessed as exceeding benchmark. This reflects a strong performance across QTC's whole-of-State, client, funding and operational activities. This performance assessment led to short-term incentives for the Executive Leadership Team of between 46% and 71% of fixed remuneration.

Notes to the Financial Statements

Other information

For the year ended 30 June 2022

21 Key management personnel continued

(c) Remuneration by category

	2022 $	2021 $
Capital Markets Operations		
Directors		
Short-term employment benefits [1]	**350 563**	332 066
Post-employment benefits [4]	**21 350**	21 391
Total	**371 913**	353 457
Executive Leadership Team		
Short-term employment benefits [2]	**4 031 798**	3 961 409
Long-term employment benefits [3]	**81 437**	60 059
Post-employment benefits [4]	**128 063**	108 890
Termination benefits	**141 424**	-
Total	**4 382 722**	4 130 358

	2022 $	2021 $
State Investment Operations		
Directors		
Short-term employment benefits [1]	**100 653**	100 653
Post-employment benefits [4]	**10 065**	9 561
Total	**110 718**	110 214

[1] Directors' short-term benefits include Board member and committee fees, and in relation to the Chairman of the Capital Markets Board,also includes the provision of a car park.

[2] Executive management personnel's short-term benefits include wages, annual leave taken, short-term incentives and non-monetary benefits such as car parks and motor vehicle benefits (where applicable).

[3] Long-term employment benefits relate to long service leave.

[4] Post-employment benefits include superannuation contributions made by the Corporation.

Capital markets operations

(i) Directors

Details of the nature and amount of each major element of the remuneration are as follows:

	SHORT-TERM EMPLOYMENT BENEFITS		POST-EMPLOYMENT BENEFITS		TOTAL	
	2022 $	2021 $	2022 $	2021 $	2022 $	2021 $
Gerard Bradley – Chair [1]	**137 069**	130 176	**-**	2 213	**137 069**	132 389
Leon Allen [2][3]	**-**	-	**-**	-	**-**	-
Anne Parkin	**43 856**	44 360	**4 386**	4 214	**48 242**	48 574
Karen Smith-Pomeroy	**45 362**	45 362	**4 536**	4 309	**49 898**	49 671
Jim Stening	**40 210**	38 709	**4 021**	3 677	**44 231**	42 386
Neville Ide	**43 856**	43 856	**4 386**	4 166	**48 242**	48 022
Rosemary Vilgan [4]	**40 210**	29 603	**4 021**	2 812	**44 231**	32 415
Total	**350 563**	332 066	**21 350**	21 391	**371 913**	353 457

(1) Term expired 30 June 2020, reappointed 16 July 2020 and resigned effective 30 June 2022.

(2) Appointed 16 July 2020.

(3) No remuneration is payable to the Queensland Treasury representative.

(4) Appointed 1 October 2020.

Notes to the Financial Statements

Other information

For the year ended 30 June 2022

21 Key management personnel continued

(c) Remuneration by category continued

(ii) Executive Leadership Team

Details of the nature and amount of each major element of the remuneration of the executive management personnel are as follows:

	SHORT-TERM EMPLOYMENT BENEFITS			POST-EMPLOYMENT BENEFITS	LONG-TERM BENEFITS	TERMINATION BENEFITS	TOTAL
30 JUNE 2022	BASE $	SHORT-TERM INCENTIVE $	NON-MONETARY $	$	$		$
Chief Executive	**752 689**	**492 085**	**17 273**	**25 630**	**22 532**	**-**	**1 310 209**
Deputy Chief Executive and Managing Director, Funding and Markets	**600 627**	**446 030**	**18 887**	**25 601**	**17 475**	**-**	**1 108 620**
Managing Director, Client	**396 972**	**220 980**	**17 273**	**25 630**	**11 646**	**-**	**672 501**
Managing Director, Corporate Services and Chief Risk Officer	**391 541**	**191 820**	**15 036**	**25 601**	**16 381**	**-**	**640 379**
Managing Director, Finance, Data and Compliance	**295 512**	**157 800**	**17 273**	**25 601**	**13 403**	**141 424**	**651 013**
Total	**2 437 341**	**1 508 715**	**85 742**	**128 063**	**81 437**	**141 424**	**4 382 722**

	SHORT-TERM EMPLOYMENT BENEFITS			POST-EMPLOYMENT BENEFITS	LONG-TERM BENEFITS	TOTAL
30 JUNE 2021	BASE $	SHORT-TERM INCENTIVE $	NON-MONETARY $	$	$	$
Chief Executive	738 627	449 410	17 767	21 778	18 277	1 245 859
Deputy Chief Executive and Managing Director, Funding and Markets	583 564	424 710	19 842	21 778	14 459	1 064 353
Managing Director, Client	393 486	203 800	17 767	21 778	9 685	646 516
Managing Director, Corporate Services and Chief Risk Officer	368 475	185 600	16 047	21 778	9 078	600 978
Managing Director, Finance, Data and Compliance	348 467	176 080	17 767	21 778	8 560	572 652
Total	2 432 619	1 439 600	89 190	108 890	60 059	4 130 358

State Investment Operations

(iii) Directors

Details of the nature and amount of each major element of the remuneration are as follows:

	SHORT-TERM EMPLOYMENT BENEFITS		POST-EMPLOYMENT BENEFITS		TOTAL	
	2022 $	2021 $	**2022** $	2021 $	**2022** $	2021 $
Leon Allen - Chair [1]	**-**	-	**-**	-		-
William Ryan [1]	**-**	-	**-**	-		-
Maria Wilton	**33 551**	33 551	**3 355**	3 187	**36 906**	36 738
Philip Graham	**33 551**	33 551	**3 355**	3 187	**36 906**	36 738
Tony Hawkins	**33 551**	33 551	**3 355**	3 187	**36 906**	36 738
Total	**100 653**	100 653	**10 065**	9 561	**110 718**	110 214

(1) Queensland Treasury representative. No additional remuneration is paid for this appointment.

(d) Other transactions

QTC's Capital Markets Board members' directorships are disclosed in the corporate governance section of the Annual Report. No remuneration is paid or payable by QTC to the Under Treasurer as QTC's Corporation Sole.

There were no transactions between QTC and entities controlled by key management personnel or loans to/from key management personnel during the financial year.

Notes to the Financial Statements

Other information

For the year ended 30 June 2022

22 Auditor's remuneration

The external auditor (Auditor-General of Queensland) does not provide any consulting services to QTC. Details of amounts paid or payable to the auditor of QTC (GST exclusive) are shown below:

	2022 $	2021 $
Audit services		
Audit and review of QTC financial statements	**387 000**	368 000

23 Investments in companies

Investments in the following companies are held at cost:

NAME	PRINCIPAL ACTIVITIES
Queensland Treasury Holdings Pty Ltd (QTH)	Holding company for several subsidiaries and strategic investments held on behalf of the State of Queensland
Queensland Lottery Corporation Pty Ltd	Holds the Golden Casket lottery licence and trademarks
DBCT Holdings Pty Ltd	Holds the bulk coal terminal tenure and facilities at Dalrymple Bay near Mackay, which it has leased under a long term lease arrangement
Queensland Airport Holdings (Mackay) Pty Ltd	Owns the Mackay airport land and infrastructure, which it has leased under a 99 year lease arrangement
Queensland Airport Holdings (Cairns) Pty Ltd	Owns the Cairns airport land and infrastructure, which it has leased under a 99 year lease arrangement
Brisbane Port Holdings Pty Ltd	Owns the Port of Brisbane tenure and infrastructure, which it has leased under a 99 year lease arrangement

QTH is incorporated and domiciled in Brisbane, Australia. QTH holds a 100% beneficial interest in the companies listed above. QTC does not apply the equity method to its investment in QTH (refer note 2(o) Judgments and assumptions).

24 Dividends

Each year the Board determines the appropriate level of dividends to be declared taking into consideration the financial situation of the Corporation. No dividend was declared or paid during the year. A dividend of $50 million was paid to the Queensland Government in June 2021.

25 Events subsequent to balance date

In early July 2022 $906 million of invested assets which previously belonged to the Residential Tenancies Authority were transferred to the Queensland General Insurance Fund investment account of the LTA. In return for these assets the LTA FRN will be increased by the corresponding amount.

There are no matters or circumstances that have arisen since the end of the financial year that have significantly affected or may significantly affect the Capital Markets Operations segment of QTC, the results of these operations or the state of affairs of QTC's Capital Markets Operations segment in future years.

Certificate of the Queensland Treasury Corporation

The foregoing general purpose financial statements have been prepared pursuant to section 62(1) of the Financial *Accountability Act 2009* (the Act), section 39 of the *Financial and Performance Management Standard 2019* and other prescribed requirements.

The Directors draw attention to note 2(a) to the financial statements, which includes a statement of compliance with International Financial Reporting Standards.

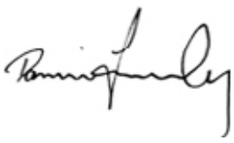
In accordance with section 62(1)(b) of the Act we certify that in our opinion:

(i) the prescribed requirements for establishing and keeping the accounts have been complied with in all material respects, and

(ii) the foregoing annual financial statements have been drawn up so as to present a true and fair view of Queensland Treasury Corporation's assets and liabilities, financial position and financial performance for the year ended 30 June 2022.

We acknowledge responsibility under section 7 and section 11 of the *Financial and Performance Management Standard 2019* for the establishment and maintenance, in all material respects, of an appropriate and effective system of internal controls and risk management processes with respect to financial reporting throughout the reporting period.

The financial statements are authorised for issue on the date of signing this certificate which is signed in accordance with a resolution of the Capital Markets Board.



D J FRAWLEY
Chair

P C NOBLE
Chief Executive

Brisbane
19 August 2022

Independent Auditor's report

Queensland Audit Office
Better public services

INDEPENDENT AUDITOR'S REPORT

To the Capital Markets Board of Queensland Treasury Corporation (QTC)

Report on the audit of the financial report

Opinion

I have audited the accompanying financial report of Queensland Treasury Corporation.

In my opinion, the financial report:

a) gives a true and fair view of the entity's financial position as at 30 June 2022, and its financial performance and cash flows for the year then ended

b) complies with the *Financial Accountability Act 2009,* the Financial and Performance Management Standard 2019 and Australian Accounting Standards

c) also complies with International Financial Reporting Standards as disclosed in Note 2(a).

The financial report comprises the balance sheet as at 30 June 2022, the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, notes to the financial statements including summaries of significant accounting policies and other explanatory information, and the management certificate given by the Chairman and Chief Executive.

Basis for opinion

I conducted my audit in accordance with the *Auditor-General Auditing Standards,* which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of my report.

I am independent of the entity in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the financial report in Australia. I have also fulfilled my other ethical responsibilities in accordance with the Code and the *Auditor-General Auditing Standards*.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key audit matter

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the financial report of the current period. These matters were addressed in the context of the audit of the financial report as whole, and in forming the auditor's opinion thereon, and I do not provide a separate opinion on these matters.

Queensland Audit Office
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Valuation, presentation and disclosure of financial assets at fair value through profit or loss for State Investment Operations (S1O) ($40.4 billion as at 30 June 2022)

(Refer Notes 16, 17 and 18)

Key audit matter	How my audit addressed this key audit matter

Financial assets at fair value through profit or loss held by SIO (which incorporates the Long Term Assets (LTA) and the Queensland Future Fund (QFF)) represent investments in unlisted unit trusts ('the trusts') managed by QIC Limited (QIC). The trusts in turn invest in various asset classes, some of which are illiquid in nature ('underlying investments').
 	
The fair value of these underlying investments is based on the pre-distribution exit prices as at 30 June 2022 as advised by QIC to OTC on 8 August 2022.
 	
In some instances, the prices advised by QIC are based on unaudited valuation statements provided by the external managers of the underlying investments that relate to a date prior to 30 June 2022. Significant judgement is required to determine whether the unaudited valuations advised by QIC are materially consistent with the fair value as at 30 June 2022, or if an adjustment is required.
 	
QIC continues to monitor and provides updated advice to QTC on the potential impact on the value of these investments arising from the subsequent receipt of updated valuations from external managers and audited financial statements.
 	
Additionally, there is a high level of subjectivity in classifying the investments in the appropriate level within the fair value hierarchy for the following reasons:
a. some of the underlying assets are considered illiquid in nature (i.e., these are not readily convertible to cash)
b. SIO is the sole investor in some of the trusts, and as a result there are restrictions that may be imposed by QIC on SIO to liquidate the investments.
	My procedures included but were not limited to:
	• evaluating the audited assurance report on controls over investment management services for the year 1 July 2021 to 30 June 2022 to confirm that the controls at QIC are appropriately designed and implemented, and operated effectively.
	• assessing the representation letter provided by QIC to QTC confirming the following processes were performed by QIC:
	  • checks performed over pricing of the underlying assets at 30 June 2022 and
	  • checks performed post balance date on prices for highly illiquid investments.
	• confirming the value of the investments reported at 30 June 2022 by:
	  • agreeing the reported value in QIC's confirmation to the financial statements
	  • obtaining a confirmation from QIC on any changes to the value initially reported and assessing the impact of changes in value to the financial statements. Where the change in prices is materially different to the prices initially determined at 30 June 2022, we request management to recognise the change in the prices to reflect the correct valuation.
	• obtaining an understanding of the underlying investments in the trusts and the pricing mechanism adopted by QIC. This in turn determines the appropriate fair value hierarchy disclosure in the financial statements of OTC under AASB13 *Fair Value Measurement*.
	• evaluating the fair value hierarchy disclosure in note 18 to ensure the classification is in accordance with my understanding of the underlying investment and pricing mechanism, and in accordance with AASB 13 *Fair Value Measurement*.

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Other information

Other information comprises financial and non-financial information (other than the audited financial report).

Those charged with governance are responsible for the other information.

My opinion on the financial report does not cover the other information and accordingly I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial report, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or my knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact.

I have nothing to report in this regard.

Responsibilities of the Board for the financial report

The Board is responsible for the preparation of the financial report that gives a true and fair view in accordance with the *Financial Accountability Act 2009*, the Financial and Performance Management Standard 2019 and Australian Accounting Standards, and for such internal control as the Board determines is necessary to enable the preparation of the financial report that is free from material misstatement, whether due to fraud or error.

The Board is also responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless it is intended to abolish the entity or to otherwise cease operations.

Auditor's responsibilities for the audit of the financial report

My objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the entity.

Queensland Audit Office
Better public services

- Conclude on the appropriateness of the entity's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. I base my conclusions on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

From the matters communicated with the Board, I determine those matters that were of most significance in the audit of the financial report of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on other legal and regulatory requirements

Statement

In accordance with s.40 of the *Auditor-General Act 2009,* for the year ended 30 June 2022:

a) I received all the information and explanations I required.

b) I consider that, the prescribed requirements in relation to the establishment and keeping of accounts were complied with in all material respects.

Prescribed requirements scope

The prescribed requirements for the establishment and keeping of accounts are contained in the *Financial Accountability Act 2009,* any other Act and the Financial and Performance Management Standard 2019. The applicable requirements include those for keeping financial records that correctly record and explain the entity's transactions and account balances to enable the preparation of a true and fair financial report.

22 August 2022

Brendan Worrall
Auditor-General

Queensland Audit Office
Brisbane

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APPENDICES

Appendix A – Statutory and mandatory disclosures

QTC is required to make various disclosures in its Annual Report. QTC is also required to make various disclosures on the Queensland Government's Open Data website in lieu of inclusion in its Annual Report. This appendix sets out those mandatory disclosure statements that are not included elsewhere in the report or made available on the Open Data website.

QTC is committed to providing accessible services to Queensland residents from culturally and linguistically diverse backgrounds. QTC did not receive any requests for interpreters and there was no overseas travel in 2021–22.

Information systems and record keeping

Information and Data are vital assets and QTC is committed to continuously improving and maintaining information and data management practices that meet its business needs, legislative requirements and stakeholder expectations. QTC adheres to the *Public Records Act 2002* and the General Retention and Disposal Schedule with respect to information and records management.

QTC continues to evolve its electronic document and information management systems for improved management of both digital and physical records particularly in relation to expanding cloud technologies. QTC has also transitioned its paper based records in its core operations division to digital record keeping. QTC is maturing its information security capabilities to protect internally and externally accessible records.

QTC has not experienced any serious breaches and continues to place focus on education, communication and evolving our technical environment to manage information and data security risk.

Public Sector Ethics Act

QTC provides the following information pursuant to obligations under section 23 of the *Public Sector Ethics Act 1994* (Qld) to report on action taken to comply with certain sections of the Act.

QTC employees are required to comply with QTC's Code of Conduct, which aligns with the ethics principles and values in the *Public Sector Ethics Act 1994* (Qld), as well as the Code of Conduct and market standards established by the Australian Financial Markets Association of which QTC is a member. Both codes are available to employees via QTC's intranet. A copy of QTC's Code of Conduct can be inspected by contacting QTC's Human Resources Group (see Appendix D for contact details). Appropriate education and training about the Code of Conduct, expected standards of conduct and ethical issues has been provided to all new and existing QTC staff.

QTC's human resource management and corporate governance policies and practices ensure that QTC:

- acts ethically with regard to the conduct of its business activities and within appropriate law, policy and convention, and
- addresses the systems and processes necessary for the proper direction and management of its business and affairs.

QTC is committed to:

- observing high standards of integrity and fair-dealing in the conduct of its business, and
- acting with due care, diligence and skill.

QTC's Compliance Policy requires that QTC and all employees comply with the letter and the spirit of all relevant laws and regulations, industry standards, and relevant government policies, as well as QTC's own policies and procedures.

Human Rights Act

QTC's strategic and operational plans are in line with the objectives of the *Human Rights Act 2019* (the Act). The plans aim to ensure QTC is respecting, protecting and promoting human rights in decision making and actions.

The Act requires QTC to consider human rights when performing functions of a public nature and only limit human rights after careful consideration. QTC's internal policies and practices are aligned to the Act, as guided by external advice.

Remuneration: Board and Committee

For the year ending 30 June 2022, the remuneration and committee fees of the QTC Capital Market Board members (excluding superannuation contributions and non-monetary benefits) were as follows:

Board		Committee	
Chairperson	$100, 527	Chairperson	$6,658
Member	$33,551	Member	$5,152

The total remuneration payments made to the members of the QTC Capital Markets Board was $356,761 and the total on-costs (including travel, accommodation, car parking and professional memberships for members) was $22,642.

For the year ending 30 June 2022, the remuneration and committee fees of the QTC State Investment Advisory Board members (excluding superannuation contributions and non-monetary benefits) were as follows:

Board	
Member	$33,551

The total remuneration payments made to the members of the QTC State Investment Advisory Board was $110,718 and the total on-costs (including travel, accommodation, car parking and professional memberships for members) was $1,382.

Related entities

The related entities in Note 23 are not equity accounted in the financial report of the Queensland Treasury Corporation. These entities are consolidated into Queensland Treasury's financial report.

Appendix B – Glossary

Basis point: One hundredth of one per cent (0.01 per cent).

Bond: A financial instrument where the borrower agrees to pay the investor a rate of interest for a fixed period of time. A typical bond will involve regular interest payments and a return of principal at maturity.

Budget Update: Mid-Year Fiscal and Economic Review.

CP (commercial paper): A short-term money market instrument issued at a discount with the full face value repaid at maturity. CP can be issued in various currencies with a term to maturity of less than one year.

Credit rating: Measures a borrower's creditworthiness and provides an international framework for comparing the credit quality of issuers and rated debt securities. Rating agencies allocate three kinds of ratings: issuer credit ratings, long-term debt and short-term debt. Issuer credit ratings are among the most widely watched. They measure the creditworthiness of the borrower including its capacity and willingness to meet financial obligations.

Fixed Income Distribution Group: A group of financial intermediaries who market and make prices in QTC's debt instruments.

Floating rate notes (FRNs): A debt instrument which pays a variable rate of interest (coupon) at specified dates over the term of the debt, as well as repaying the principal at the maturity date. The floating rate is usually a money market reference rate, such as BBSW, plus a fixed margin. Typically the interest is paid quarterly or monthly.

GOC: Government-owned Corporation.

Green Bonds: QTC Green Bonds on issue are guaranteed by the Queensland State Government, issued under the AUD Bond Program with Rule 144A capability and certified by the Climate Bonds Initiative (CBI). Proceeds from QTC Green Bonds are allocated against eligible projects and assets in accordance with QTC's Green Bond Framework. Eligible projects and assets are those funded, entirely or in part, by the Queensland Government, State-Government related entities and local governments that support Queensland's pathway to climate resilience and an environmentally sustainable economy. QTC's Green Bond Framework is aligned with the CBI Climate Bonds Standard 3.0 and the International Capital Market Association (ICMA) Green Bond Principles 2018 allowing QTC to issue both CBI certified Green Bonds and ICMA aligned Green Bonds. An independent third party provides assurance of QTC's framework, eligible project and asset pool and Green Bonds on issue.

Issue price: The price at which a new security is issued in the primary market.

Liquid: Markets or instruments are described as being liquid, and having depth, if there are enough buyers and sellers to absorb sudden shifts in supply and demand without price distortions.

Market value: The price at which an instrument can be purchased or sold in the current market.

MTN (Medium-Term Note): A financial debt instrument that can be structured to meet an investor's requirements in regards to interest rate basis, currency and maturity. MTNs usually have maturities between nine months and 30 years.

QTC: Queensland Treasury Corporation.

RBA: Reserve Bank of Australia.

T-Note (Treasury Note): A short-term money market instrument issued at a discount with the full face value repaid at maturity. T-Notes are issued in Australian dollars with a term to maturity of less than one year.

Appendix C – Compliance checklist

SUMMARY OF REQUIREMENT		BASIS FOR REQUIREMENT	ANNUAL REPORT REFERENCE
LETTER OF COMPLIANCE	A letter of compliance from the accountable officer or statutory body to the relevant Minister/s	ARRs – section 7	Page 2
ACCESSIBILITY	Table of contents	ARRs – section 9.1	Page 1
	Glossary	ARRs – section 9.1	Appendix B
	Public availability	ARRs – section 9.2	Page 1 , Appendix D
	Interpreter service statement	*Queensland Government Language Services Policy* ARRs – section 9.3	Appendix D
	Copyright notice	*Copyright Act 1968* ARRs – section 9.4	Back cover
GENERAL INFORMATION	Introductory information	ARRs – section 10	Page 3-7
NON-FINANCIAL PERFORMANCE	Government's objectives for the community	ARRs – section 11.1	Pages 8-13
	Agency objectives and performance indicators	ARRs – section 11.2	Pages 4, 6-13
FINANCIAL PERFORMANCE	Summary of financial performance	ARRs – section 12.1	Pages 6-7, Notes to Financial Statements: Pages 30-58
GOVERNANCE – MANAGEMENT AND STRUCTURE	Organisational structure	ARRs – section 13.1	Pages 18-22
	Executive management	ARRs – section 13.2	Page 22
	Public Sector Ethics	*Public Sector Ethics Act 1994* ARRs – section 13.4	Page 15, Appendix A
	Human Rights	*Human Rights Act 2019* ARRs – section 13.5	Appendix A
GOVERNANCE – RISK MANAGEMENT AND ACCOUNTABILITY	Risk management	ARRs – section 14.1	Pages 14-15
	Audit committee	ARRs – section 14.2	Page 19
	Internal audit	ARRs – section 14.3	Page 22
	Information systems and record keeping	ARRs – section 14.5	Appendix A
GOVERNANCE – HUMAN RESOURCES	Strategic workforce planning and performance	ARRs – section 15.1	Pages 15-16
OPEN DATA	Statement advising publication of information	ARRs – section 16	Appendix A
	Consultancies	ARRs – section 33.1	Appendix A
	Overseas travel	ARRs – section 33.2	Appendix A
	Queensland Language Services Policy	ARRs – section 33.2	Appendix A
FINANCIAL STATEMENTS	Certification of financial statements	FAA – section 62 FPMS – sections 38, 39 and 46 ARRs – section 17.1	Page 59
	Independent Auditor's Report	FAA – section 62 FPMS – section 46 ARRs – section 17.2	Pages 60-63

***Note**: This checklist excludes reference to any requirements that do not apply to QTC for the current reporting period.*

FAA: Financial Accountability Act 2009.

FPMS: Financial and Performance Management Standard 2019.

ARRs: Annual report requirements for Queensland Government agencies.

Appendix D – Contacts

Queensland Treasury Corporation

Level 31, 111 Eagle Street
Brisbane Queensland Australia

GPO Box 1096
Brisbane Queensland
Australia 4001

Telephone: +61 7 3842 4600
Email: enquiry@qtc.com.au

If you would like a copy of a report posted to you, please call QTC's reception on +61 7 3842 4600. If you would like to comment on a report, please complete the online enquiry form located on our website.

	Telephone
Queensland Treasury Corporation (Reception)	+61 7 3842 4600
Stock Registry (Link Market Services Ltd)	1800 777 166

QTC is committed to providing accessible services to Queensland residents from culturally and linguistically diverse backgrounds. If you have difficulty understanding this report, please contact QTC's reception on +61 7 3842 4600 and we will arrange for an interpreter to assist you.

Information for institutional investors

Core to its key funding principles, QTC is committed to being open and transparent with investors and its partners in the financial markets.

Through its website, QTC provides a range of information for institutional investors on its various funding instruments, its indicative term debt borrowing requirement (including daily outstandings) and its Fixed Income Distribution Group. The website also provides information and links about Australia and Queensland to help investors gain a better understanding of:

- the different levels of government in Australia
- the forms of fiscal support the Australian Government provides to the states and territories
- relevant governance practices, legislation and policies
- financial data and budget information, and
- economic and trade data.

QTC also offers institutional investors the ability to subscribe from its institutional investor section of the website to quarterly funding and market announcement updates, and QTC's weekly AUD Bond Outstandings report.

Bloomberg ticker: qtc

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QUEENSLAND
TREASURY
CORPORATION

GPO Box 1096
Brisbane QLD
Australia 4001
T: +61 7 3842 4600

EXHIBIT (c)(x)

Queensland Energy and Jobs Plan

FORWARD-LOOKING STATEMENTS

This exhibit contains forward-looking statements. Statements that are not historical facts, including statements about the State of Queensland's (the "State" or "Queensland") beliefs and expectations, are forward-looking statements. These statements are based on current plans, budgets, estimates and projections and therefore you should not place undue reliance on them. The words "believe", "may", "will", "should", "estimate", "continue", "anticipate", "intend", "expect", "forecast" and similar words are intended to identify forward-looking statements. Forward-looking statements speak only as of the date they are made, and neither the Corporation nor the State undertake any obligation to update publicly any of them in light of new information or future events.

Forward-looking statements are based on current plans, estimates and projections and, therefore, undue reliance should not be placed on them. Although the Queensland Treasury Corporation and the State believe that the beliefs and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such beliefs and expectations will prove to have been correct. Forward-looking statements involve inherent risks and uncertainties. We caution you that actual results may differ materially from those contained in any forward-looking statements.

A number of important factors could cause actual results to differ materially from those expressed in any forward-looking statement. Factors that could cause the actual outcomes to differ materially from those expressed or implied in forward-looking statements include:

- the international and Australian economies, and in particular the rates of growth (or contraction) of the State's major trading partners;
- the effects, both internationally and in Australia, of any subsequent economic downturn, as well as the effect of ongoing economic, banking and sovereign debt risk;
- the effect of natural disasters, epidemics and geopolitical events, such as the novel coronavirus (COVID-19) pandemic and the Russia-Ukraine conflict;
- increases or decreases in international and Australian domestic interest rates;
- changes in the State's domestic consumption;
- changes in the State's labor force participation and productivity;
- downgrades in the credit ratings of the State and Australia;
- changes in the rate of inflation in the State;
- changes in environmental and other regulation; and
- changes in the distribution of revenue from the Commonwealth of Australia Government to the State.


QUEENSLAND
ENERGY AND JOBS PLAN
Power for generations
70%
Renewable Energy
by 2032
Cleaner
Affordable
Energy
For Everyone
100,000 jobs
OVERVIEW | September 2022
Queensland
Government

"My Government has a long standing commitment of 50 per cent renewable energy by 2030, and now we are accelerating our progress. We are committing an extra $4 billion to our energy transformation and setting two new renewable energy targets of 70 per cent renewable energy by 2032 and 80 per cent by 2035. We will showcase our clean energy credentials to the world as we prepare to deliver a climate positive Olympic and Paralympic Games in 2032."

Annastacia Palaszczuk
Premier of Queensland and Minister for the Olympics

"Cleaner energy will enable exciting new industries like renewable hydrogen which could represent billions in exports and thousands of new clean energy jobs, mostly in our regions."

Steven Miles
Deputy Premier, Minister for State Development, Infrastructure, Local Government and Planning and Minister Assisting the Premier on Olympics Infrastructure

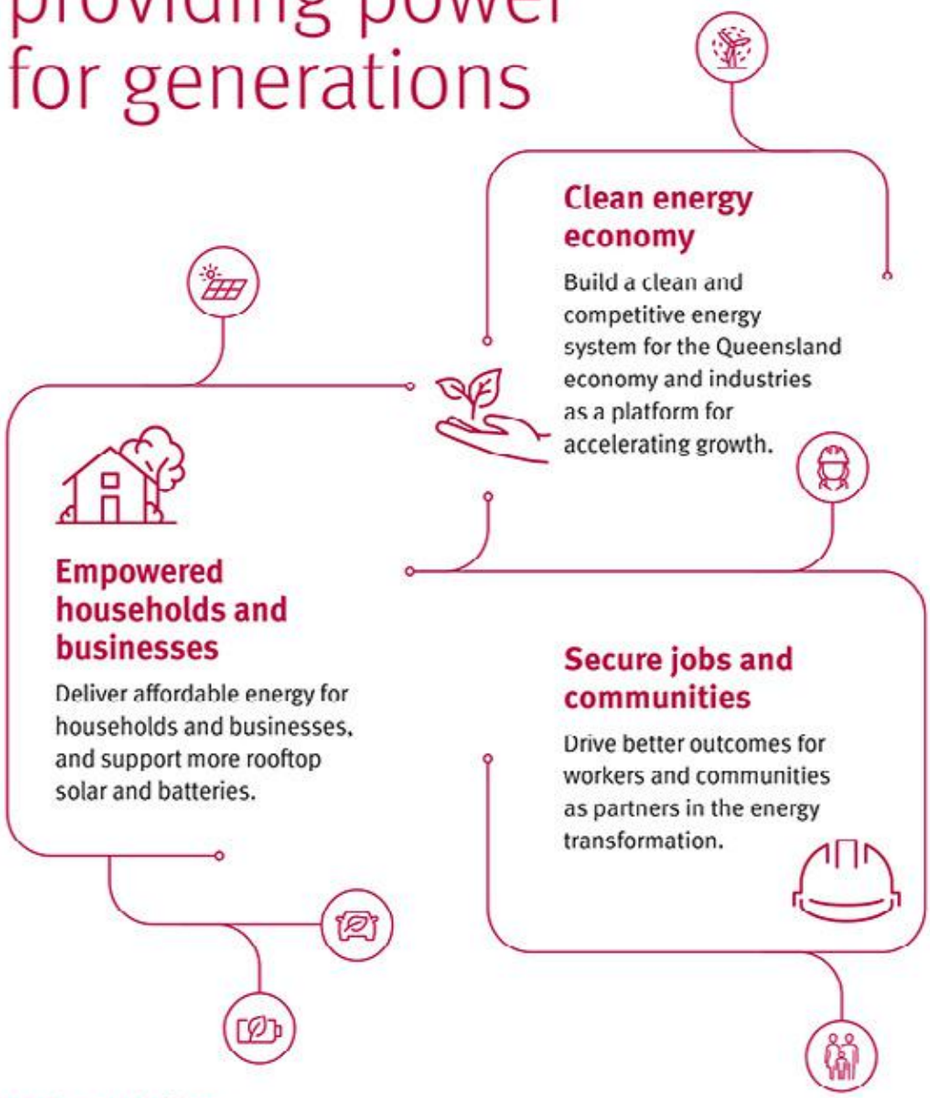
"Through this Plan, we will keep public ownership of our energy system, with 100% ownership of transmission, 100% ownership of deep storage, and majority ownership of generation."

Cameron Dick
Treasurer and Minister for Trade and Investment

"This Plan will build the new 'Queensland SuperGrid' – the renewable energy, storage and network infrastructure we need to power our industries, businesses and homes."

Mick de Brenni
Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement

Queensland's **SuperGrid** providing power for generations

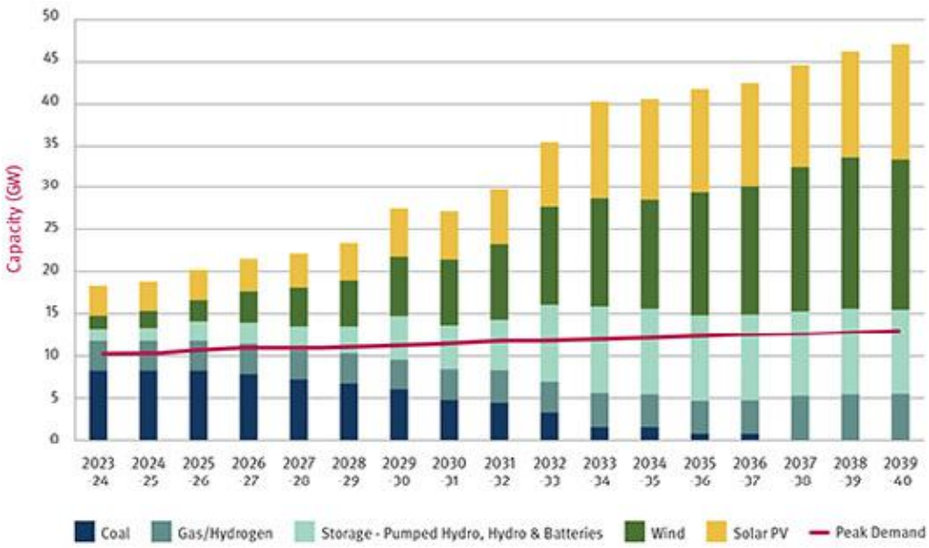


A Plan to deliver

More jobs | *More industries* | *Affordable power* | *Lower emissions* | *Stronger growth*

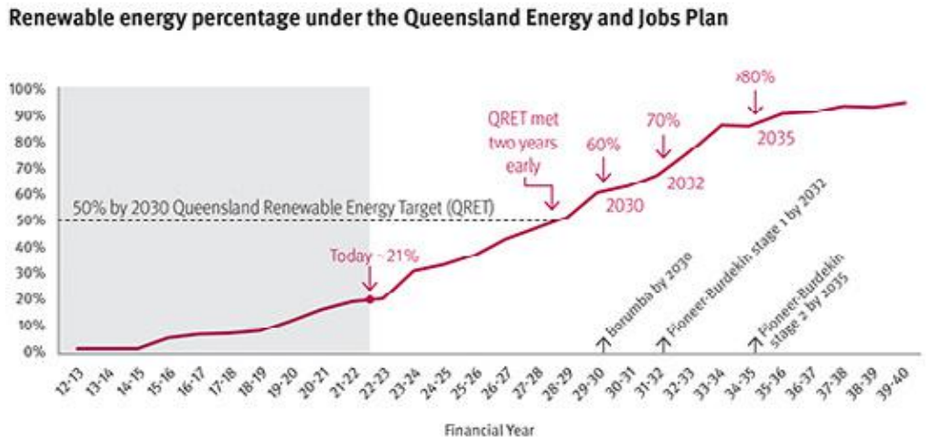
Queensland’s SuperGrid will deliver clean, reliable and affordable power

Queensland’s generation mix will transform over time to include more wind, solar and storage to ensure we always have enough energy to meet Queensland’s energy demand including at peak times.



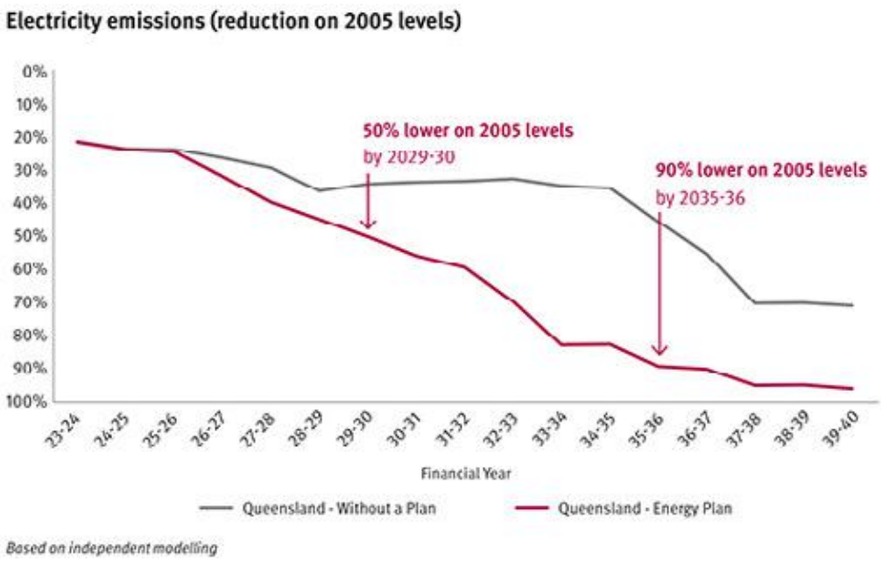
Based on independent modelling

Under the Plan Queensland beats the 50 per cent renewable energy target

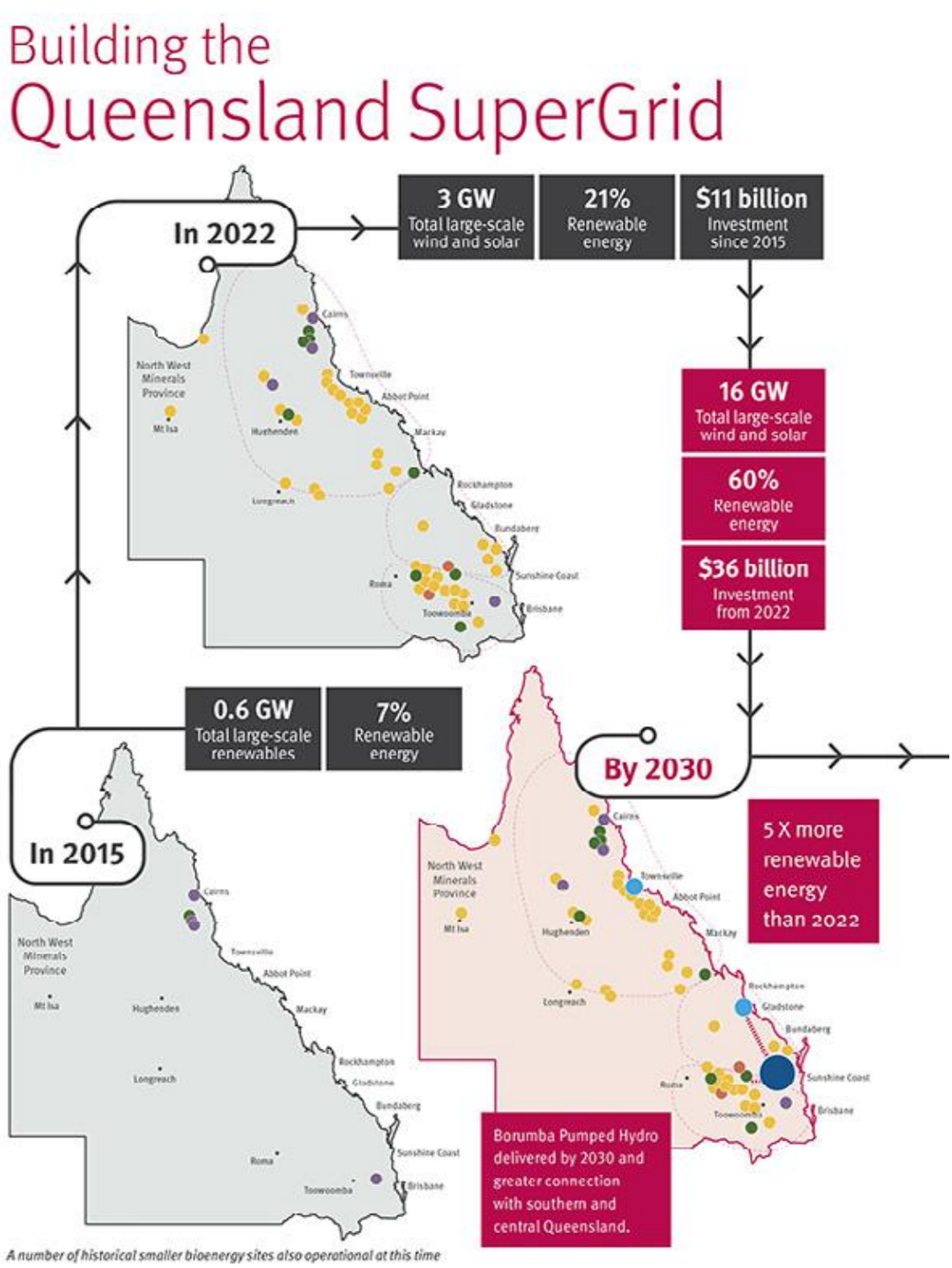


And reduces electricity emissions

Lower electricity emissions – **90 per cent lower** by 2035-36

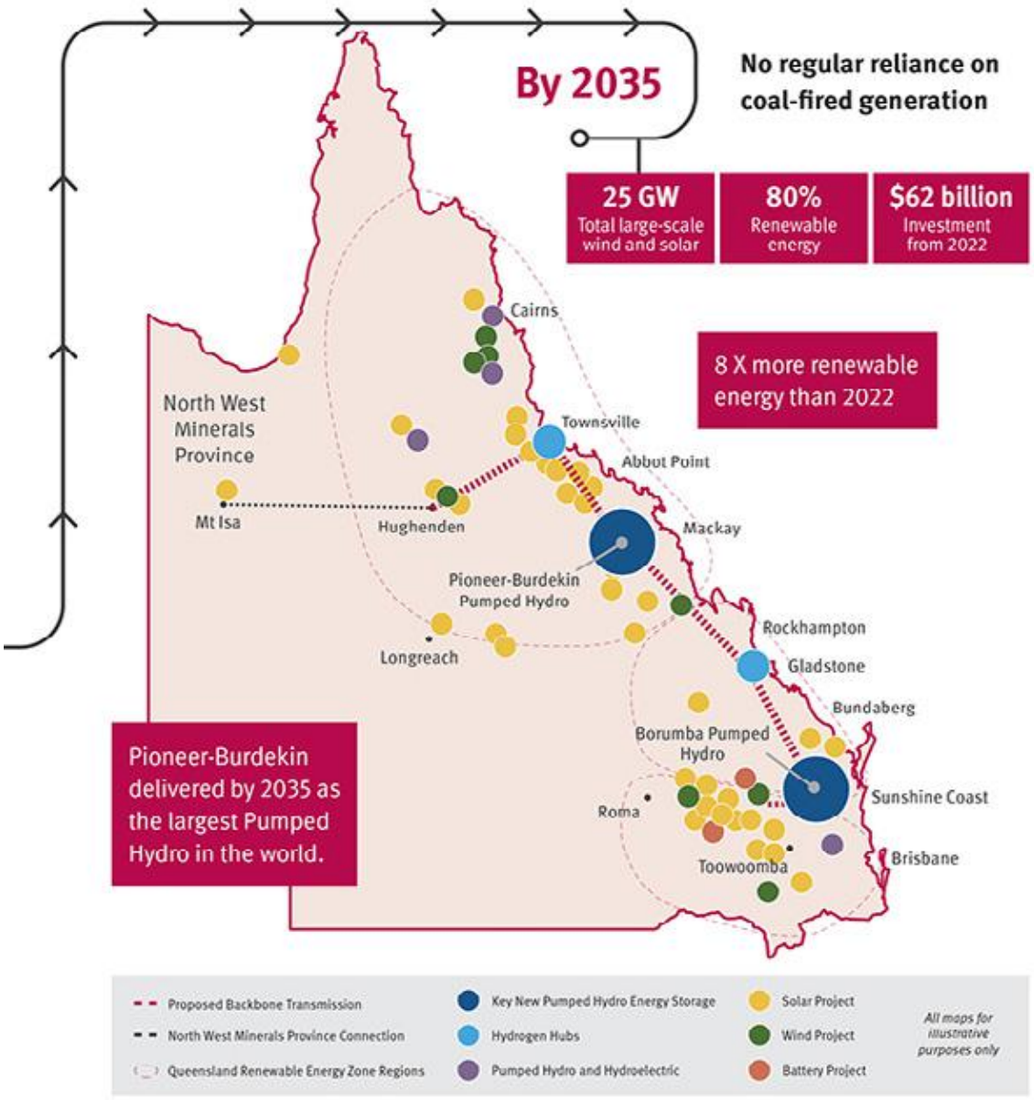


Based on independent modelling


Building the
Queensland SuperGrid
In 2022
3 GW
Total large-scale wind and solar
21%
Renewable energy
$11 billion
Investment since 2015
16 GW
Total large-scale wind and solar
60%
Renewable energy
$36 billion
Investment from 2022
By 2030
5 X more renewable energy than 2022
0.6 GW
Total large-scale renewables
7%
Renewable energy
In 2015
North West Minerals Province
Mt Isa
Hughenden
Longreach
Cairns
Townsville
Abbot Point
Mackay
Rockhampton
Gladstone
Bundaberg
Sunshine Coast
Roma
Toowoomba
Brisbane
Borumba Pumped Hydro delivered by 2030 and greater connection with southern and central Queensland.
A number of historical smaller bioenergy sites also operational at this time

What is the Queensland SuperGrid?

The SuperGrid is all of the elements in the electricity system, including the poles, wires, solar, wind and storage that will provide Queenslanders with clean, reliable and affordable power for generations.



The Queensland Government has outlined the optimal infrastructure pathway in the *Queensland SuperGrid Infrastructure Blueprint*.

Projections informed by independent modelling and internal analysis

This Plan represents an extra $4 billion down payment on Queensland's energy transformation

$2.5 billion boost to the Queensland Renewable Energy and Hydrogen Jobs Fund to make it a **$4.5 billion Fund**, including $500 million for grid and community batteries, and a hydrogen-ready gas peaker

Queensland's energy system will remain **majority owned by the people of Queensland**

$285 million to start building the SuperGrid and Powerlink to invest **$365 million** for Central Qld Grid Reinforcement

25 GW wind and solar by 2035

$20 million to supercharge future hydrogen hubs

64,000 jobs from building the SuperGrid including direct and indirect jobs by 2040*

36,000 more jobs by 2040 across key sectors of the economy than without a Plan including direct and indirect jobs*

$150 million Job Security Guarantee and **$90 million** for two new training hubs

Over $270 million to progress two world-class Pumped Hydros

$200 million Regional Economic Futures Fund

All publicly owned coal-fired power stations operating as clean energy hubs by 2035

Queensland's economy is **$25.7 billion** bigger by 2040 than without a Plan*

Electricity emissions **50% lower by 2030** and 90% lower by 2035 on 2005 levels*

Household retail bills **$150 lower in 2032** than without a Plan*

New household savings programs to lower electricity bills

$4 million to advance the bioenergy sector

$42 million for integrating electric vehicles

$35 million for a business savings and transformation program

Wholesale electricity prices **15% lower** on average to 2040 than without a Plan*

Key sectors of the economy like **renewable hydrogen, manufacturing and new economy minerals growing faster** than without a Plan*

$11.6 million to grow local supply chains and support manufacturers

*Based on independent modelling

Clean energy economy

Actions

- **1.1: Begin building the SuperGrid**

  Begin building Queensland's SuperGrid with $285 million to develop new backbone transmission that will connect more renewable energy and storage across the state.

- **1.2: Develop two world-class Pumped Hydros**

  Over $270 million committed to progress the Pioneer-Burdekin Pumped Hydro near Mackay, which could be the world's largest, and the Borumba Pumped Hydro. Together, these projects could deliver up to 7 GW of long duration storage for Queensland.

- **1.3: Invest in more batteries and storage**

  The Queensland Government will invest $500 million as part of the boosted Queensland Renewable Energy and Hydrogen Jobs Fund (QREHJF) for government-backed grid-scale and community batteries. The Government will also develop an energy storage strategy for a reliable and resilient system.

- **1.4: Build more renewable energy and connect an additional 22 GW by 2035**

  Boost the QREHJF to $4.5 billion with an injection of $2.5 billion from coal royalties. Powerlink will also invest $365 million for grid upgrades in Central Queensland, and the Government will prepare legislation and a long-term roadmap on Queensland Renewable Energy Zones (QREZ) to connect 22 GW of renewables by 2035.

- **1.5: Ensure reliability with low to no emissions gas**

  Invest in a new 200 MW hydrogen-ready gas peaking power station at Kogan Creek and the delivery of new low to no emissions gas, including hydrogen, for Queensland's SuperGrid.

- **1.6: Grow the future renewable hydrogen industry**

  Commit $20 million to supercharge Queensland's renewable hydrogen hubs, review the *Queensland Hydrogen Industry Strategy* in 2023 and investigate a potential new renewable hydrogen gas target.

- **1.7: Deliver sustainable liquid fuels**

  Deliver a fuels strategy that sets out the vision for developing and using sustainable liquid fuels to support decarbonisation.

- **1.8: Switch to renewable energy with new targets**

  Prepare legislation to establish the Government's renewable energy targets in law including, 50 per cent renewable energy by 2030, 70 per cent by 2032 and 80 per cent by 2035. The Government will also work towards 100 per cent renewable electricity for all large government sites by 2030.

- **1.9: Advance Queensland's bioenergy future**

  Invest $4 million to advance Queensland's bioenergy future by working with industry to investigate options for expanding generation from biomass waste streams and support innovation.

- **1.10: Establish a new technical board for expert advice**

  Establish a new Queensland Energy System Advisory Board to provide technical advice to Government on the energy transformation, including advice on how to accelerate progress and ensure affordability, reliability and security is maintained. This will include providing advice on updates to the *Queensland SuperGrid Infrastructure Blueprint* every two years from 2025.

Empowered households and businesses

Actions

- **2.1: Deliver a smarter grid that benefits all Queenslanders**

  Progress a range of initiatives to build a smarter grid and effectively integrate customer energy resources such as rooftop solar, home batteries and electric vehicles to ensure businesses and households can get the most out of their investments.

- **2.2: Deliver a new household program**

  The Government will establish a new program to support households to manage their energy use and save on electricity bills.

- **2.3: Support to reduce household bills**

  Support trusted non-government organisations with $10 million in funding to improve access to energy efficiency advice and devices for hard to reach customer cohorts, like those experiencing vulnerability, to help them manage their energy use and reduce electricity bills.

- **2.4: Drive savings for small businesses**

  Establish a new $35 million Queensland Business Energy Saving and Transformation (QBEST) program to help businesses save money on their electricity bills.

- **2.5: Integrate Queensland's zero emissions vehicles**

  Invest $42 million to deliver charging infrastructure and trials to support efficient integration of electric vehicles into the grid.

- **2.6: Enable savings for commercial buildings with Environmental Upgrade Agreements**

  Enable the use of Environmental Upgrade Agreements to deliver energy savings for commercial business owners and tenants, including ensuring the right regulatory environment is in place.

- **2.7: Ensure affordable electricity in regional and south east Queensland**

  Continue to implement the Uniform Tariff Policy to ensure all Queenslanders pay a similar price for electricity no matter where they live, for 2022–23 this represents $638.5 million in the State Budget. The Government will also keep prices affordable in south east Queensland with a review of the regulatory market, new initiatives to reduce electricity bills and supporting more rooftop solar.

Secure jobs and communities

Actions

- **3.1: Invest to modernise Queensland's publicly owned coal-fired power stations for the future**

  Queensland's publicly owned coal-fired power stations will continue to play a vital role in the energy system, with Government reserving back-up capacity, repurposing critical infrastructure and reinvesting into these sites as clean energy hubs, supported by the $4.5 billion QREHJF. All publicly owned coal-fired power stations will be operating as clean energy hubs by 2035.

- **3.2: Support workers with a Job Security Guarantee**

  A new $150 million Job Security Guarantee, backed by a fund and an *Energy Workers' Charter*, will support workers in publicly owned coal-fired power stations by guaranteeing opportunities to continue their careers within these energy businesses or pursue other career pathways.

- **3.3: Prepare Queensland's workforce and regions for growth**

  Develop a *Future Energy Workforce Roadmap* during 2023 and invest $90 million to establish two new regional transmission and training hubs. The Government will also establish a new Energy Industry Council and a Queensland Renewable Energy Jobs Advocate to provide advice on the future skills, opportunities and training pathways required.

- **3.4: Grow the renewable energy supply chain in Queensland**

  Invest $11.6 million to help build capacity in the Queensland manufacturing sector, and deliver a grant program that supports up to 400 manufacturers to increase their competitiveness in a low carbon future.

- **3.5: Clean energy for remote and First Nations communities**

  Work to reduce emissions in remote and First Nations communities with a $10 million Queensland Microgrid Pilot Fund to improve network resilience. The Government will also co-design a clean energy strategy with First Nations communities to achieve net zero electricity emissions in communities supported by Energy Queensland power stations.

- **3.6: Partner with industries and communities to maximise benefits from the energy transformation and drive regional economic opportunities**

  Deliver real and lasting benefits for regional communities through a new $200 million *Regional Economic Futures Fund* to support economic and community development initiatives and a new *Regional Energy Transformation Partnerships Framework* with $35 million for strategic planning and community engagement activities.


Learn more about
the Plan
During 2023 the Queensland Government will be consulting on key initiatives in this Plan.

How does Pumped Hydro work?

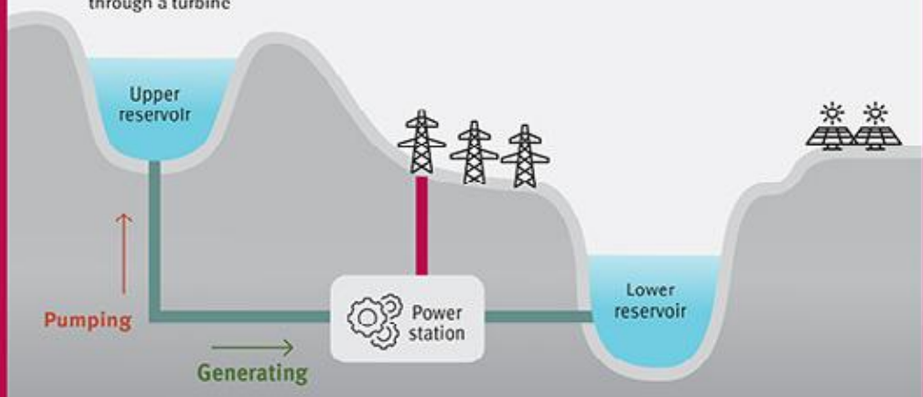
Pumped Hydro acts like a giant battery:

- it uses electricity from the grid or nearby renewables to pump water from a lower reservoir into an upper reservoir when energy prices are low
- when energy is needed, water is released from the upper reservoir into the lower reservoir, generating energy as it passes through a turbine
- hydroelectricity can be generated almost immediately and at any time, so power can be fed into the grid when it is needed.

Drives reliable power for a clean energy economy

Stores renewable energy like solar and wind

Provides on demand power when we need it



Two sites in Queensland

- Borumba close to both central and southern Queensland
- Pioneer-Burdekin the battery of the north – the largest in the world

Megawatt (MW) and Gigawatt (GW): A measure of output from a generator (1000 MW = 1 GW this is enough to power around 300,000 homes).

Demand: The amount of power consumed at any time.

Electricity grid: Often referred to as 'the grid', this includes the transmission and distribution networks that carry electricity from generators to energy users.

Dispatchable generation: Sources of electricity that can be switched on and off and ramp their power output up and down based on market needs.

Renewable energy: Energy that comes from renewable sources, such as sun and wind.

Hydrogen: A clean, renewable fuel that can be used in transport, power supply and a range of industrial processes.

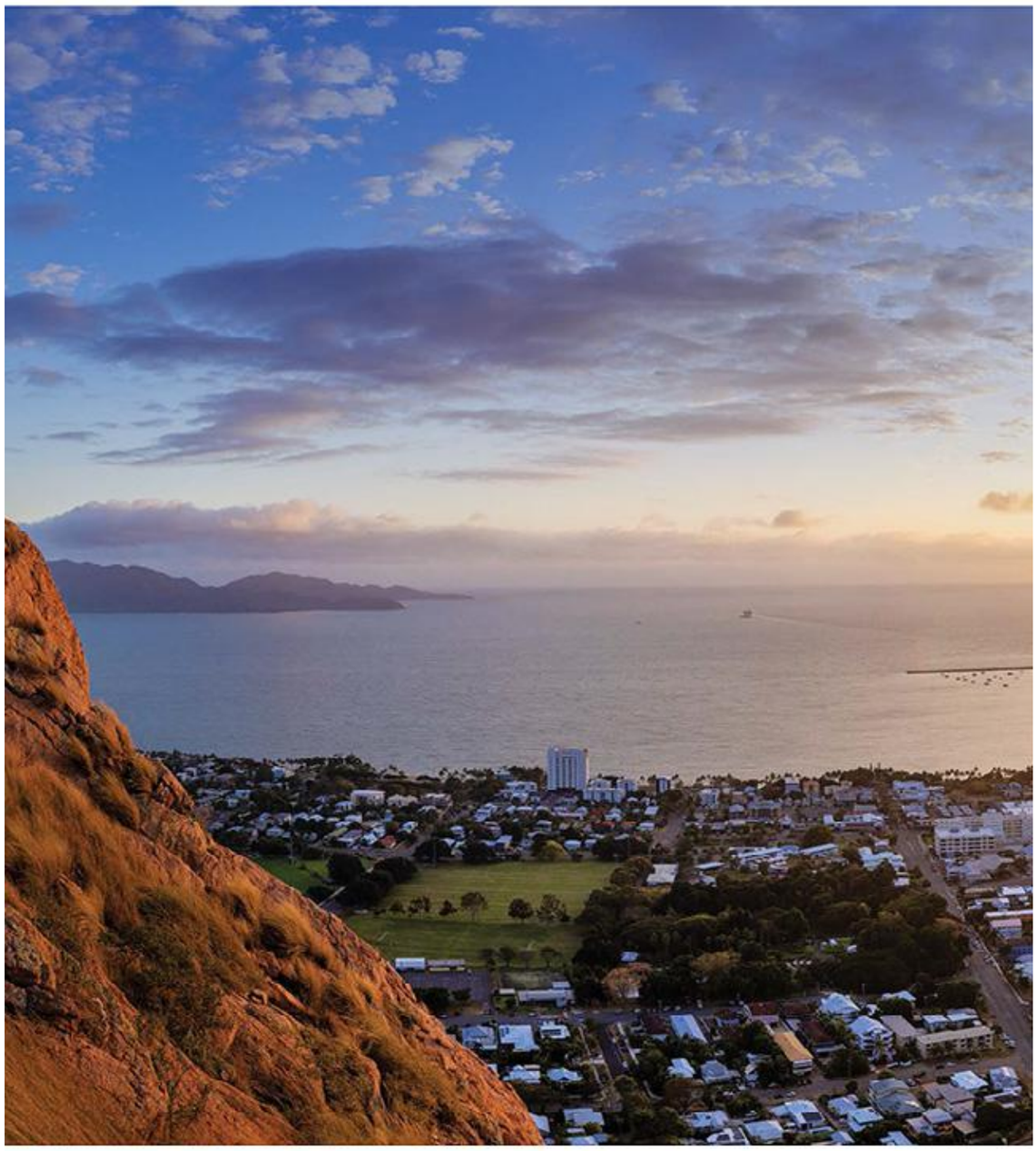
QUEENSLAND ENERGY AND JOBS PLAN

Power for **generations**

13 QGOV (13 74 68) @EnergyQld

2022


QUEENSLAND
ENERGY AND JOBS PLAN
Power for generations
70%
Renewable Energy
by 2032
Cleaner
Affordable
Energy
For Everyone
100,000 jobs
September 2022
Queensland
Government



In the spirit of reconciliation, the Queensland Government acknowledges the Traditional Custodians of country throughout Queensland and their connection to land, sea and sky.

We pay our respects to their Elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander people today.

The Queensland Government acknowledges the continuous living culture of First Nations Queenslanders – their diverse languages, customs and traditions, knowledge and systems.

The Queensland Government acknowledges the role that First Nations people had in the delivery of Queensland's current energy system and is committed to ensuring they benefit from the new energy system. As we work together to deliver a clean, reliable and affordable energy system for Queensland, the Queensland Government is committed to genuine partnerships and meaningful engagement with Queensland's First Nations people.

Premier’s message

I believe that there is no other place in the world as well positioned as Queensland to lead the clean energy revolution.

That is why Queensland is already at the forefront of becoming a renewables, hydrogen and clean energy manufacturing superpower.

In 2015, I committed my government to reaching 50 per cent renewable energy by 2030.

Since then, we have facilitated around $11 billion of investment delivering 50 new Queensland projects and over 7900 constructions jobs across the state. We are well on our way, now powering over 20 per cent of our electricity needs with renewable energy.

We are delivering on more investment and more jobs, with world class infrastructure and our highly skilled workforce to meet the growing demand for cleaner energy both here at home and across the globe.

We will showcase our clean energy credentials to the world as we prepare to deliver a climate positive Olympic and Paralympic Games in 2032.

To accelerate our progress, my government is setting new targets for our clean energy system of 70 per cent renewable energy by 2032 and 80 per cent by 2035.

Queensland’s Energy and Jobs Plan builds on our investment to date and positions Queensland to have a thriving clean energy economy. It is a Plan that works. Delivering more jobs and creating clean, reliable and affordable energy to provide power for generations.

Annastacia Palaszczuk MP

Premier of Queensland and Minister for the Olympics

Foreword

Queensland is a state blessed with incredible natural resources and whilst we're known as the Sunshine State, it's our people – Queenslanders themselves, that are our greatest asset.

The Queensland Energy and Jobs Plan will harness the skills, ambition and energy of Queenslanders to deliver nation building infrastructure and drive more investment in renewable energy, create more jobs, and meet our 50 per cent renewable energy target by 2030.

We will build Australia's largest energy SuperGrid, delivering clean, reliable and affordable energy to power Queensland homes and industry. The Queensland SuperGrid will create around 100,000 jobs by 2040, with 95 per cent of investment in regional Queensland.

It's important that workers and communities benefit from our energy transformation. We will invest in our publicly owned power stations by converting them into clean energy hubs – keeping our electricity system secure and reliable.

A landmark agreement with energy unions for a new Job Security Guarantee will give energy workers certainty about their future, as well as choices and opportunities for them and their communities.

Because we have kept our energy assets in public hands, Queensland has the power like no other State to ensure a secure transition to renewable energy and to guarantee good jobs for our energy workers.

Importantly, we will retain public ownership of our energy system, with 100 per cent ownership of transmission, 100 per cent ownership of deep storage, and majority ownership of generation.

Cleaner energy will deliver exciting new industries like renewable hydrogen with the potential to create thousands of decent, secure jobs in regional Queensland.

At the core of our Plan are the people of Queensland. Our initiatives will deliver lower electricity prices for Queensland households, more secure jobs for Queenslanders and a cleaner energy future.

Steven Miles MP
Queensland Deputy Premier and Minister for State Development, Infrastructure, Local Government and Planning

Cameron Dick MP
Queensland Treasurer and Minister for Trade and Investment

Mick de Brenni MP
Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement

Vision

Clean, reliable and affordable energy providing power for generations.

Our Energy and Jobs Plan

Queensland's electricity system in 2035

At least 25 GW new and existing renewable energy

Gladstone grid reinforcement to support heavy industry to switch to renewable energy and decarbonise their operations

All publicly owned coal-fired power stations operating as clean energy hubs by 2035, supported by a legislated Job Security Guarantee for energy workers

Two new world-class pumped hydro projects that together could deliver up to 7 GW of long duration storage

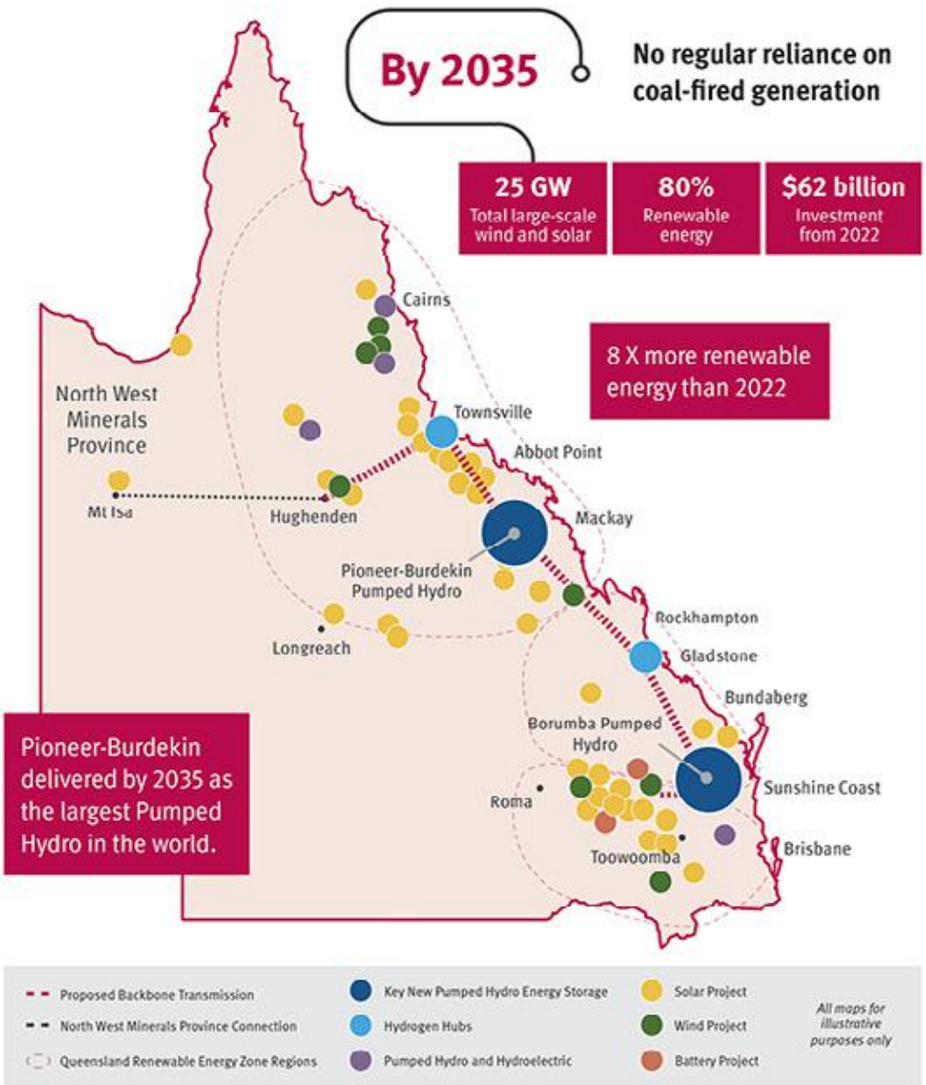
Around 1500km of new high voltage backbone transmission to move more power around the state

Up to 3 GW of low to zero emissions gas generation for periods of peak demand and backup security

A smarter grid to support over 11 GW of rooftop solar and around 6 GW of batteries in homes and businesses

What is the Queensland SuperGrid?

The SuperGrid is all of the elements in the electricity system, including the poles, wires, solar, wind and storage that will provide Queenslanders with clean, reliable and affordable power for generations.



The Queensland Government has outlined the optimal infrastructure pathway in the *Queensland SuperGrid Infrastructure Blueprint.*

Projections informed by independent modelling and internal analysis

Jobs and economy

The Queensland Government engaged independent expert modelling to support the development of the Queensland Energy and Jobs Plan and understand the benefits for Queensland.

Energy Workers' Charter

A tripartite Queensland Energy Workers' Charter (the Charter) has been agreed by the Queensland Government, energy sector unions and employers.

The Charter sets out an enduring framework to support and provide confidence for workers through the energy transformation.

More Jobs – building **clean energy infrastructure** and **powering growth**

Modelling estimates the Plan will deliver more jobs in the energy sector and across the Queensland economy including:

- **64,000 jobs** in clean energy infrastructure including new skilled direct jobs to build the SuperGrid in construction of transmission and renewable energy projects, jobs in manufacturing and ongoing operations, and indirect jobs in the services industry that supports the energy sector
- **36,000 more jobs** in green growth opportunities including direct and indirect jobs, than without a Plan, across key sectors like renewable hydrogen, battery manufacturing, resource mining and metal refining.

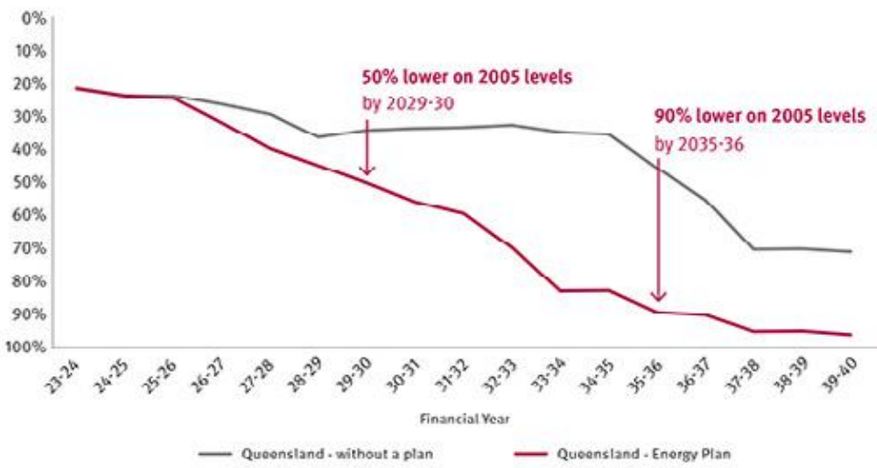
Larger economy generating green growth

Modelling estimates that the state economy will experience up to **$25.7 billion more growth by 2040** than without a Plan. Key sectors like renewable hydrogen, battery manufacturing, resource mining and metal refining will be growing at a faster rate, with Queensland a globally competitive investment destination.

Electricity emissions reductions

Lower electricity emissions – **90 per cent lower** by 2035-36

Electricity emissions (reduction on 2005 levels)



This will support Queensland delivering a climate positive Olympic and Paralympic Games in 2032.

Lowering bills and more energy independence

Lower prices – **$150 lower** retail bills in 2032 for households and **$1,495 lower** for small business

The Plan will put downward pressure on wholesale electricity prices in the longer-term, with more investment into cheap renewable energy and storage. Independent modelling indicates that under the Plan, lower wholesale electricity prices will flow through to lower retail bills, with the average annual bill for a household projected to be $150 lower in 2032 and $1,495 lower for a small business, than without a Plan.

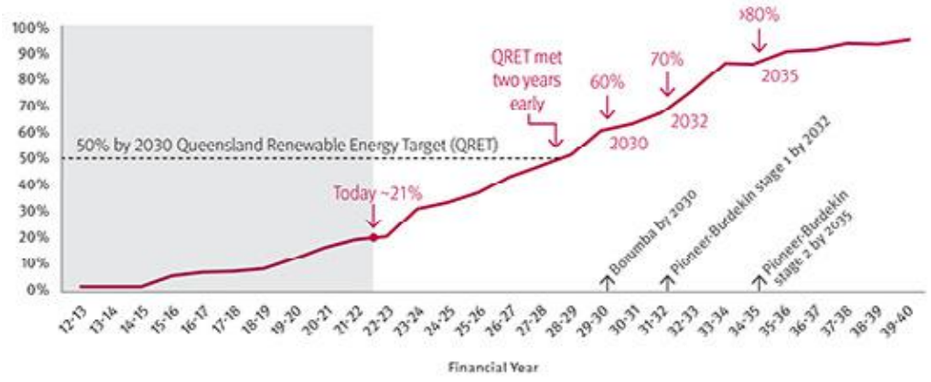
In mid 2022, electricity prices across Australia rose due to the impacts of volatile global markets and instability. Under this Plan, more renewable energy and more storage in Queensland will help to protect Queenslanders from these globally driven price shocks.

Modelling suggests wholesale prices, on average, will be 15 per cent lower to 2040 than without a Plan. The Plan increases Queensland energy independence and reduces exposure to future high prices. This will drive savings for Queensland households and businesses.

Queensland's public ownership position also supports lower electricity bills, with previous asset ownership dividends from publicly owned energy businesses going to Queensland customers to lower their bills.

Beat our renewable energy target

Renewable energy percentage under the Queensland Energy and Jobs Plan

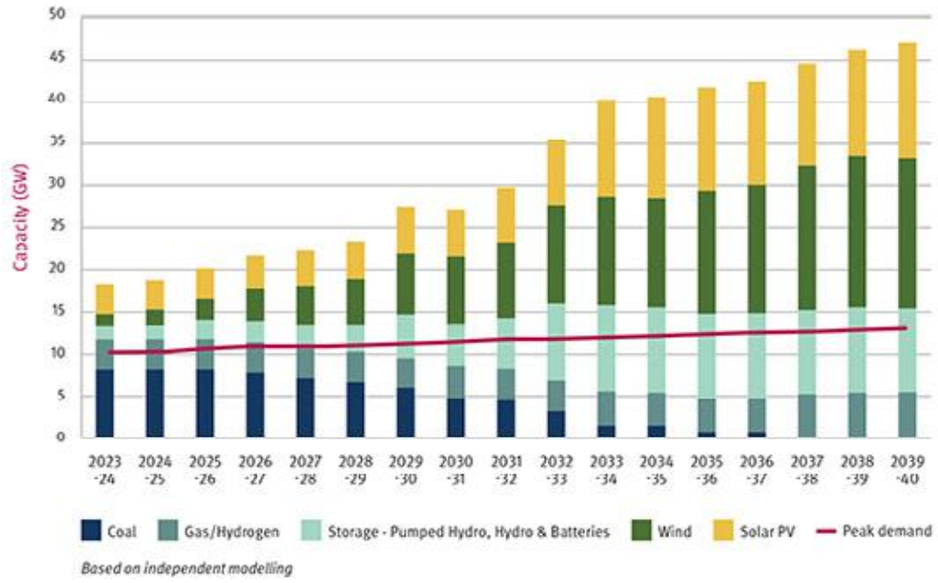


Based on independent modelling

A clear plan to transition to renewables

Queensland Energy and Jobs Plan capacity mix (GW)

Queensland's generation mix will transform over time to include more wind, solar, and storage to ensure we always have enough energy to meet Queensland's energy demand including at peak times.



Investing in the future of our power stations

Queensland's publicly owned coal-fired power stations will continue to play an important role in our future energy system as clean energy hubs. We will not shut the gate on these power stations, their workers, or communities who will play a leading role in the energy transformation.

These power stations are located in strong parts of the Queensland network with strategic advantages like grid connection, a highly skilled workforce, established community relationships, and land. The Government will work with publicly owned energy businesses to develop proposals to reserve, repurpose and reinvest to modernise coal-fired power stations into future clean energy hubs. The Government will work directly with publicly owned energy businesses to develop proposals for clean energy hub investment backed by the boosted $4.5 billion Queensland Renewable Energy and Hydrogen Jobs Fund.

Reserve:

The Government will reserve capacity, including seasonal operation (during periods of sustained low electricity demand on the network). These changes will be phased to ensure Queensland always has enough energy to meet demand.

Repurpose:

The Government will gradually repurpose generating units over time, including conversions to synchronous condensers, ensuring system security and reliability.

Reinvest:

The Government will reinvest in these coal-fired power stations with new renewable energy, renewable hydrogen, storage and system strength infrastructure leveraging the strategic advantages of each site.

This process will occur in accordance with the Infrastructure Blueprint.

Benefits for Queensland

Keeping **majority public ownership** of Queensland's energy system

Wholesale electricity prices will be 15% cheaper on average to 2040 and average household bills will be $150 lower in 2032 than without a plan

New programs to reduce electricity bills

$42 million to integrate zero emissions vehicles

64,000 jobs to build the SuperGrid and 36,000 more jobs across key sectors of the economy by 2040, most in regional Queensland

Invest **$500 million** for grid and community batteries

Growing Queensland's renewable hydrogen industry by investing $20 million to supercharge renewable hydrogen hubs and build awareness for the industry

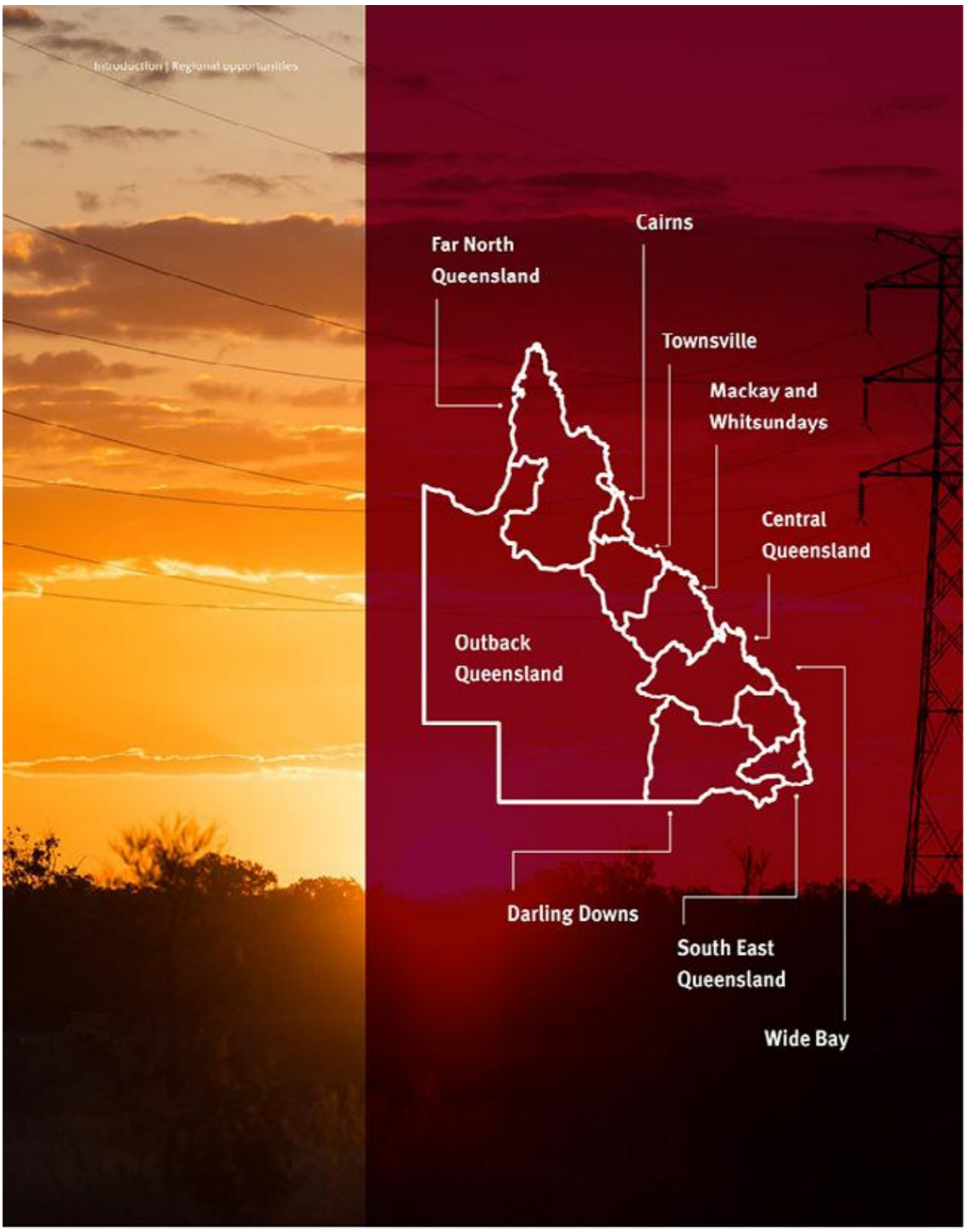
Apprentices will access **two new training hubs** in regional Queensland

Workers at Queensland's publicly owned coal-fired power stations will have a **Job Security Guarantee** and more choice

Renewable energy projects can connect in the Queensland Renewable Energy Zones more easily and **partner with Queensland's public energy businesses**

A **$2.5 billion** boost to the Queensland Renewable Energy and Hydrogen Jobs Fund to deliver on publicly owned renewables, storage and network investments

A new **$200 million** Regional Economic Futures Fund


Introduction | Regional opportunities
Far North Queensland
Cairns
Townsville
Mackay and Whitsundays
Central Queensland
Outback Queensland
Darling Downs
South East Queensland
Wide Bay

Regional opportunities

Far North Queensland and Cairns

- Since 2015, around $900 million investment in around 400 MW of large-scale renewable energy, creating approximately 600 construction jobs (operational and in the pipeline)
- Estimated additional $6.6 billion investment in electricity infrastructure by 2040

Townsville

- Since 2015, around $800 million investment in over 400 MW of large-scale renewable energy, creating more than 900 construction jobs (operational)
- Estimated additional $1.4 billion investment in electricity infrastructure by 2040
- In addition, the connection to Mount Isa represents a unique opportunity to support a clean energy industrial ecosystem from the North West Minerals Province to Townsville, growing opportunities for jobs in the clean energy economy

Mackay and Whitsundays

- Since 2015, around $1.5 billion investment in around 1 GW of large-scale renewable energy, creating around 1400 construction jobs (operational and in the pipeline)
- Estimated additional $7.8 billion investment in electricity infrastructure by 2040

Central Queensland

- Since 2015, more than $800 million investment in around 500 MW of large-scale renewable energy, creating around 900 construction jobs (operational and in the pipeline)
- Estimated additional $9.2 billion investment in electricity infrastructure by 2040

Outback Queensland

- Since 2015, around $300 million investment in more than 100 MW of large-scale renewable energy, creating approximately 300 construction jobs (operational)
- Estimated additional $1.1 billion investment in electricity infrastructure by 2040

Wide Bay

- Since 2015, there has been around $1.1 billion in investment in around 600 MW of large-scale renewable energy, creating approximately 1000 construction jobs (operational and in the pipeline)
- Estimated additional $3 billion investment in electricity infrastructure by 2040

Darling Downs

- Since 2015, around $5 billion in investment in more than 2800 MW of large-scale renewable energy, creating more than 2600 construction jobs (operational and in the pipeline)
- Estimated additional $9.9 billion investment in electricity infrastructure by 2040

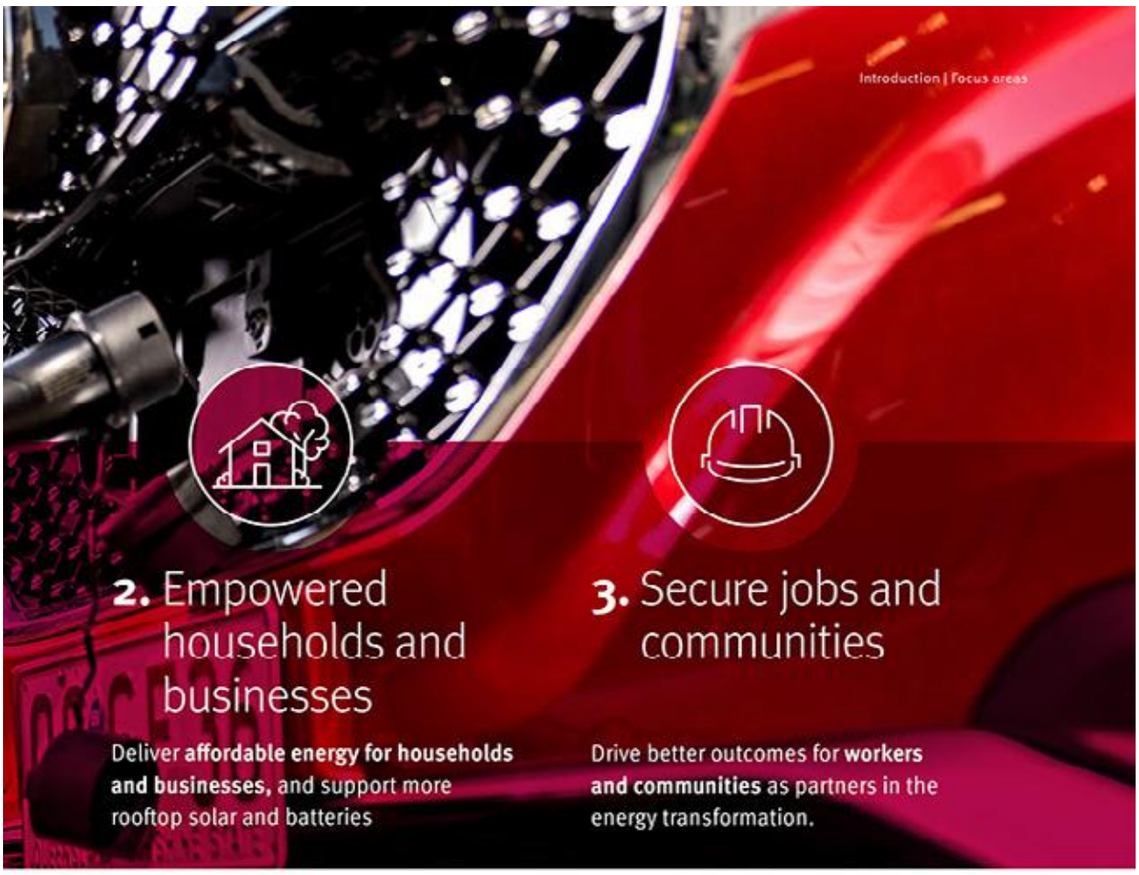
South East Queensland and Toowoomba

- Since 2015, there has been almost $500 million in investment in more than 200 MW of large-scale renewable energy, creating around 500 construction jobs (operational)
- Estimated additional $1.6 billion investment in electricity infrastructure by 2040

The estimated additional investment in electricity infrastructure for each region to 2040 has been drawn from independent modelling, commissioned to support development of the Plan.

Actions

- **1.1:** Begin building the SuperGrid
- **1.2:** Develop two world-class pumped hydros
- **1.3:** Invest in more batteries and storage
- **1.4:** Build more renewable energy and connect an additional 22 GW by 2035
- **1.5:** Ensure reliability with low to no emissions gas
- **1.6:** Grow the future renewable hydrogen industry
- **1.7:** Deliver sustainable liquid fuels
- **1.8:** Switch to renewable energy with new targets
- **1.9:** Advance Queensland's bioenergy future
- **1.10:** Establish a new technical board for expert advice



Actions

- **2.1:** Deliver a smarter grid that benefits all Queenslanders
- **2.2:** Deliver a new household program
- **2.3:** Support to reduce household bills
- **2.4:** Drive savings for small businesses
- **2.5:** Integrate Queensland's zero emissions vehicles
- **2.6:** Enable savings for commercial buildings with Environmental Upgrade Agreements
- **2.7:** Ensure affordable electricity in regional and south east Queensland

Actions

- **3.1:** Invest to modernise Queensland's publicly owned coal-fired power stations for the future
- **3.2:** Support workers with a Job Security Guarantee
- **3.3:** Prepare Queensland's workforce and regions for growth
- **3.4:** Grow the renewable energy supply chain in Queensland
- **3.5:** Clean energy for remote and First Nations communities
- **3.6:** Partner with industries and communities to maximise benefits from the energy transformation and drive regional economic opportunities

1. Clean energy economy

Build a clean and competitive energy system for the Queensland economy and industries as a platform for accelerating growth.

Focus area 1: Clean energy economy

Queensland will deliver clean, reliable, and affordable energy that grows the economy, boosts employment and attracts investment to the state.

The Queensland SuperGrid will be Queensland's modern electricity system. It will consist of new foundational Pumped Hydro Energy Storage (PHES) assets, new backbone transmission, more renewables in Queensland Renewable Energy Zones (QREZ), more batteries, and low to zero emission gas. This infrastructure will allow us to reliably generate, store and transport cleaner electricity across the state with greater energy independence.

By 2040, under the Plan it is expected Queensland's economy will be $25.7 billion larger than without the Plan, and wholesale electricity prices 15 per cent lower on average. A cleaner energy system will be a platform for accelerating economic growth and unlocking opportunities renewable hydrogen, battery manufacturing, resource mining and metal refining. It will also allow Queensland to capitalise on global demand for green products.

Competitive clean energy will make **Queensland** an **investment destination of choice**

ACTION 1.1: Begin building the SuperGrid

Queensland's publicly owned transmission network is the highway system for electricity, transporting vast amounts of power across long distances from the southern Queensland border up to Cairns and beyond.

New backbone transmission will be the foundation of the new SuperGrid, connecting energy storage and renewables to industry, businesses and consumers across the state.

The SuperGrid backbone transmission has four priority projects commencing from 2022:

- Connect Borumba PHES.
- Expand the connection of Southern Queensland to Central Queensland.
- Connect the Pioneer-Burdekin PHES into Central and Northern Queensland.
- Connect Hughenden and Townsville, unlocking more renewables – a critical step to connecting Mount Isa to the grid.

The government will **invest $285 million to undertake early works on the first two stages of the backbone transmission.**

The Queensland Government is also working on developing a **Government-led model for the connection to Mount Isa and the North West Minerals Province.**

The Queensland Government will investigate opportunities to partner with the Australian Government on this infrastructure project.

Implementation activities

#	Description	Lead/s	Delivery
a.	Progress early design and planning for the SuperGrid backbone transmission	Powerlink	2022-24
b.	Investigate appropriate legislative models to support backbone transmission	EPW	2023

ACTION 1.2: Develop two world-class pumped hydros

To provide 24/7 reliable power, Queensland's SuperGrid will need a mix of energy storage. Excess renewable energy can be stored until it is needed so Queensland's industries, businesses and households always have secure and reliable electricity.

Long-duration storage, like PHES, is critical because it means Queensland can be confident in having reliable energy supply even during times when renewable energy generation from wind and solar is low.

PHES is a proven technology, and a foundational investment for Queensland's SuperGrid. The Queensland Government is investigating two sites:

- **Borumba pumped hydro:** Located near Imbil, this site has been undergoing detailed design and cost analysis, and consultation with the local community.
- **Pioneer-Burdekin pumped hydro:** Initial studies are underway for this site which has the potential to be the largest PHES in the world at 5 GW, with potential generation capacity 2.5 times that of Snowy 2.0.

The Government has set aside **$273.5 million – including $203.5 million new funding** – to advance consideration of the Borumba and Pioneer-Burdekin PHES projects. This funding will support detailed engineering and environmental investigations, community engagement, and some early access works.

Environmental, including water, approvals are key for these projects. Engagement with community is vital and environmental, cultural, community and technical factors will all be considered before proceeding.

The Government will **establish a new publicly owned entity, 'Queensland Hydro',** to develop government PHES assets. These foundational investments will be owned by Queensland and managed in the best interest of Queensland electricity consumers.

Implementation activities

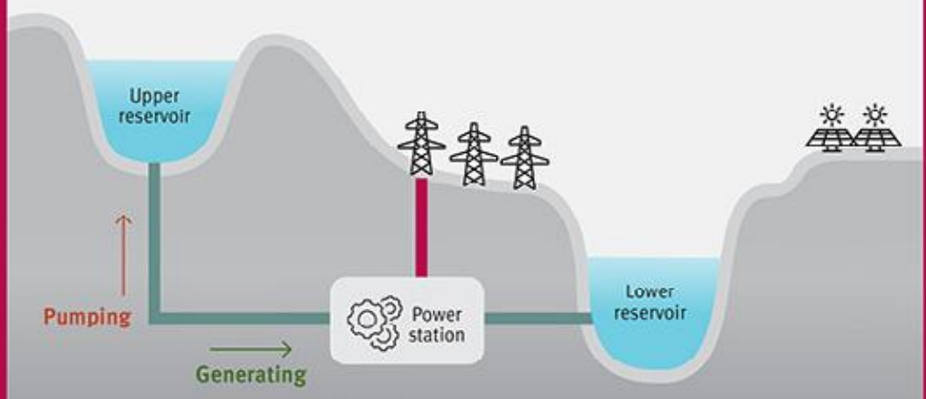
#	Description	Lead/s	Delivery
a.	Establish "Queensland Hydro" to deliver Queensland's world-class large-scale PHES assets	QT Powerlink	2022
b.	Progress assessment and some early works for Borumba PHES	EPW QLD Hydro	2023
c.	Progress planning, analytical studies and community consultation for the Pioneer-Burdekin PHES site	EPW QLD Hydro	2024-26

How does Pumped Hydro work?

Pumped hydro acts like a giant battery.

- it uses electricity from the grid or nearby renewables to pump water from a lower reservoir into an upper reservoir when energy prices are low
- when energy is needed, water is released from the upper reservoir into the lower reservoir, generating energy as it passes through a turbine
- hydroelectricity can be generated almost immediately and at any time, so power can be fed into the grid when it is needed.

- **Drives reliable power for a clean energy economy**
- **Stores renewable energy like solar and wind**
- **Provides on demand power when we need it**



Two sites in Queensland

- Borumba close to both central and southern Queensland
- Pioneer-Burdekin the battery of the north – the largest in the world

ACTION 1.3: Invest in more batteries and storage

As Queensland progresses toward its renewable energy target, batteries, firming and other storage options will become increasingly important for a reliable system.

The Queensland Government will **develop an Energy Storage Strategy for release in 2024.** This will outline Queensland's storage and firming infrastructure needs, and encourage private sector investment in storage and firming, to maintain a reliable and resilient electricity system through the energy transformation. This strategy will focus on how much storage the energy system needs.

Battery storage also represents an opportunity to build manufacturing capacity in Queensland, and support more secure and local skilled jobs.

The Queensland Government is developing a new **Queensland Battery Industry Strategy.** The strategy will help grow Queensland's local industry for battery minerals, chemicals and advanced manufacturing. This strategy is focused on growing Queensland's role in the battery supply chain.

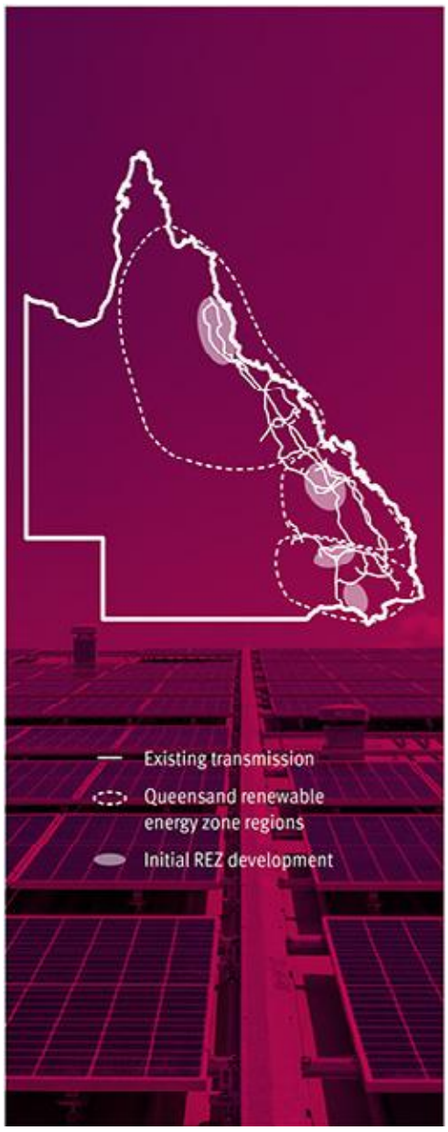
To start delivering the storage required now, the Queensland Government will **invest $500 million for more large-scale and community batteries.** This new funding will be available through the Queensland Renewable Energy and Hydrogen Jobs Fund (QREHJF) for Queensland's publicly owned energy businesses to invest in battery projects across the state that maximise local content.

This will support deployment of network batteries of different scales to provide additional energy storage to store excess rooftop solar and improve network resilience. This means that more Queenslanders will benefit from the abundant solar energy in the system and there will be more opportunities for local manufacturing.

This new $500 million investment builds on the $200 million already being invested by Energy Queensland for distribution scale batteries, including network and pole-mounted batteries, helping to provide reliable electricity supply.

Implementation activities

#	Description	Lead/s	Delivery
a.	Deliver $500 million from the boosted QREHJF for investment in batteries by publicly owned energy businesses	QT EPW Energy GOCs	2022-26
b.	Release the Queensland Battery Industry Strategy	DSDILGP	2023
c.	Release the Energy Storage Strategy	EPW	2024



ACTION 1.4: Build more renewable energy and connect an additional 22 GW by 2035

To transform the energy system, modelling indicates that Queensland will need 25 GW of renewable energy by 2035. This means **connecting an additional 22 GW wind and solar** on top of the existing 3 GW currently operational in the Queensland system.

The Queensland Government has established three regions for developing Queensland Renewable Zones (QREZ) in Northern, Central and Southern Queensland. These areas have high quality renewable resources, like strong wind and solar, which can be developed in a coordinated way to achieve Queensland's targets.

In these regions, the Queensland Government will work with communities to identify targeted areas are the most prospective for renewable development, balancing other land uses and strategic objectives. These smaller areas will be a declared REZ within each region. **A new framework, that is intended to legislated, will enable Powerlink to develop declared REZ** with coordinated transmission infrastructure to connect more renewable energy.

There are three phases for developing the three QREZ regions:

- **Phase 1:** Building on strong foundations (2022–2024).
- **Phase 2:** Scaling and expanding opportunities (2024–2028).
- **Phase 3:** Preparing for net zero (post 2028).

As part of Phase 1, the Queensland Government has worked closely with Powerlink to make initial strategic investments through the $145 million QREZ commitment made in 2020. Investments through the existing QREHJF have also been targeted in QREZ regions.

To further support renewable development, Powerlink will invest in the Central QREZ region with **$365 million for the Gladstone Grid Reinforcement.** This investment is essential for supporting heavy industries in the region to decarbonise and ensuring more renewable energy can flow into Gladstone.

Gladstone is a critical location for future clean industrial growth and the renewable hydrogen industry. This investment will form the foundation for further growth and connection of more renewable energy.

$2.5 billion boost to QREHJF for more publicly owned renewables

To deliver more publicly owned renewable energy, the Government is boosting the QREHJF to $4.5 billion, with a $2.5 billion injection from coal royalties. This funding will ensure publicly owned energy businesses can continue to invest in renewable energy, storage and hydrogen projects in the QREZ regions.

This additional funding will help deliver on the long-term targets for these regions to reach at least 25 GW of total renewable energy (3 GW operational and 22 GW additional).

6 GW in Northern Queensland:

- **Phase 1**- Initial investment into upgrades between Cairns and Townsville is delivering 500 MW capacity in the Far North Queensland REZ supporting the 157 MW Kaban Wind Farm representing $370 million in investment.

8 GW in Central Queensland:

- **Phase 1**- The foundational Gladstone Grid Reinforcement will help establish the Banana Range REZ and Fitzroy REZ. The Government will also back Central Queensland wind farms as part of QREHJF.

11 GW in Southern Queensland:

- **Phase 1** - Initial investment to deliver 1,500 MW new capacity in the Southern Downs REZ with the connection of the MacIntyre Precinct which includes the MacIntyre and Karara Wind Farms worth $2 billion in investment and 1026 MW.
- Through the QREHJF, the Government is also backing new wind farms for the Darling Downs worth almost $1 billion (including Tarong West and the Wambo Wind Farm).

Working with Powerlink, the Queensland Government will develop a longer-term ‘QREZ Roadmap’ in consultation with communities during 2022 and 2023.

This Roadmap will chart future development including strategic land use analysis to identify the best locations for renewable development, and provide details on the phased approach for QREZ regions for renewable investors and the community. Regional Reference Groups will be established for each QREZ to provide input.

This work will inform and complement Regional Infrastructure Plans and Regional Plans.

Implementation activities			
#	**Description**	**Lead/s**	**Delivery**
a.	Prepare legislation on the framework for QREZ development	EPW	2023
b.	Establish Powerlink as the Designated Planning Body for transmission in QREZ regions (subject to legislation)	EPW Powerlink	2023
c.	Undertake stakeholder consultation on QREZ Roadmap	EPW Powerlink	2023
d.	Deliver the Central Queensland Gladstone Grid reinforcement	Powerlink	By 2026

ACTION 1.5: Ensure reliability with low to no emissions gas

Gas is a vital energy source for Queensland's industrial and mining sectors. Into the future, the SuperGrid will require around 3 GW of low to no emission gas to generate electricity at peak times, and to provide storage, firming and dispatchable capacity (as detailed in the Infrastructure Blueprint). Blending hydrogen with natural gas in the short term will provide lower emissions gas. In the long term, the objective is to shift towards renewable hydrogen (a zero emissions gas) to provide dispatchable power.

This is an important insurance policy for the state to make sure Queensland can meet electricity demand during peak times. It also creates a domestic demand source for a growing renewable hydrogen industry.

The Queensland Government will invest **in a new 200 MW hydrogen-ready gas peaking power station at Kogan Creek** from the QREHJF to be developed by CS Energy in partnership with Iberdrola.

This asset will complement CS Energy's existing renewable hydrogen demonstration plant and 100 MW/200 megawatt hours battery at the Kogan Creek clean energy hub, diversifying the assets at this power station site for the future.

This investment into Kogan Creek is an example of how the Government will work with publicly owned energy businesses to modernise coal-fired power stations for the future.

It will be critical that Queensland's gas supply can be relied on over the short to medium term. To maintain a reliable and affordable gas supply, the Queensland Government is working with industry and the Australian Government to explore options for secure gas to meet Queensland's electricity needs (storage and firming) and investigate the role of renewable hydrogen in gas-fired power stations.

Artist impression of CS Energy Renewable Hydrogen Demonstration Plant

Implementation activities

#	Description	Lead/s	Delivery
a.	A joint venture to build, own and operate a new 200 MW hydrogen-ready gas peaking power station at Kogan Creek	CS Energy	2026
b.	Work collaboratively with industry and national bodies to help address gas supply shortfalls	EPW DoR	Ongoing
c.	Work with industry to investigate options for connecting the Bowen Basin to the East Coast Gas market and options to secure additional gas storage for electricity needs	DoR	Ongoing

ACTION 1.6: Grow the future renewable hydrogen industry

The Queensland Government has a long-standing commitment to the development of an economically sustainable and competitive renewable hydrogen industry to create new jobs and diversify Queensland's economy.

A renewable hydrogen industry has the potential to grow demand for renewable energy, assist in domestic supply for decarbonisation, and create the opportunity to export Queensland's renewable resources to the world. The **Queensland Hydrogen Industry Strategy 2019-2024** has a range of actions to increase Queensland's global competitiveness as a trusted supplier of renewable hydrogen.

To help realise the huge potential of the renewable hydrogen industry in the state, the Queensland Government will:

- commit up to **$15 million to supercharge, coordinate and further plan for renewable hydrogen hubs** in key locations across the state.
- review the *Hydrogen Development – Guidance for Local Government*
- review the Queensland Hydrogen Industry Strategy and release a revised strategy to support the sector's growth
- invest up to **$5 million to rollout a renewable hydrogen awareness program, including community hubs, over three years** to inform communities about the uses and benefits of hydrogen
- investigate the potential for a renewable hydrogen gas target, in consultation with industry.

Implementation activities

#	Description	Lead/s	Delivery
a.	Review the Hydrogen Development – Guidance for Local Government	DSDILGP	2022
b.	Complete technical and economic studies to supercharge domestic renewable hydrogen hubs	EPW DSDILGP	2023-2025
c.	Roll out a Renewable Hydrogen Awareness Program to share information with the community and build awareness	EPW DSDILGP	2022-2025
d.	Prepare legislation to support effective regulation of hydrogen development and use	EPW	2023
e.	Release an update of the Hydrogen Industry Development Strategy to cover 2024-2028	DSDILGP EPW	2023

ACTION 1.7: Deliver sustainable liquid fuels

Queensland is already leading the way and seizing opportunities in sustainable liquid fuels, boosting the E10 and the biodiesel supply chains with biofuels mandates. Sustainable liquid fuels will play an important role as both a transition fuel while alternatives such as hydrogen and electrification mature, and as a key ongoing energy source for hard-to-abate sectors.

To unlock this opportunity, the Queensland Government will collaborate with industry, the Australian Government, customers, and other key stakeholders to accelerate the uptake of sustainable liquid fuels which will support industry development.

The Queensland Government will also develop a Fuels Strategy that sets out the vision for developing and using sustainable liquid fuels.

Implementation activities

#	Description	Lead/s	Delivery
a.	Collaborate with industry, Australian Government and customers to support development of sustainable liquid fuels	EPW	Ongoing
b.	Deliver a Fuels Strategy to accelerate the uptake of sustainable liquid fuels on the pathway towards net zero and beyond	EPW	2024

ACTION 1.8: Switch to renewable energy with new targets

As Queensland's energy system transforms, the Government can demonstrate leadership and move faster to drive more renewable energy into the system.

The Queensland Government has a long-standing commitment of 50 per cent renewable energy by 2030. This Plan will ensure Queensland not only achieves this target, but also continues to support higher levels of renewable energy in the system.

To make the Queensland Government ambition clear, the Government will prepare legislation to enshrine the **existing 50 per cent renewable energy target by 2030 in law, and two new renewable energy targets — 70 per cent by 2032 and 80 per cent by 2035.**

The Queensland Government is also committing to work towards **100 per cent renewable electricity for large government sites by 2030.** This includes Queensland's hospitals, schools, police stations, museums and libraries throughout the state.

Implementation activities

#	Description	Lead/s	Delivery
a.	Prepare legislation for the Queensland Government's renewable energy targets	EPW	2023
b.	Source 100 per cent renewable energy for all large government sites by 2030	All Departments	2030

ACTION 1.9: Advance Queensland's bioenergy future

Energy from biomass and organic waste has played an important role in Queensland's energy supply for many decades, with current installed capacity of around 500 MW in the state.

A diverse energy mix, supplemented with bioenergy, will help to deliver the clean, reliable and affordable energy system needed to both meet Queensland's renewable energy targets and enable new industry growth, particularly in regional Queensland.

This supports industries (such as the sugarcane industry) to modernise bioenergy generation and use waste products for bioenergy.

The Queensland Government is **investing $4 million to work with industry** to investigate options and pathways **to expand generation from under utilised biomass waste streams and support technology innovation.**

Implementation activities

#	Description	Lead/s	Delivery
a.	Register of Interest for feasibility and technical studies	DSDILGP	2023
b.	Finalise feasibility and technical studies to identify options and pathways to expand bioenergy generation and support technology innovation in the bioenergy sector	DSDILGP	2023-26

ACTION 1.10: Establish a new technical board for expert advice

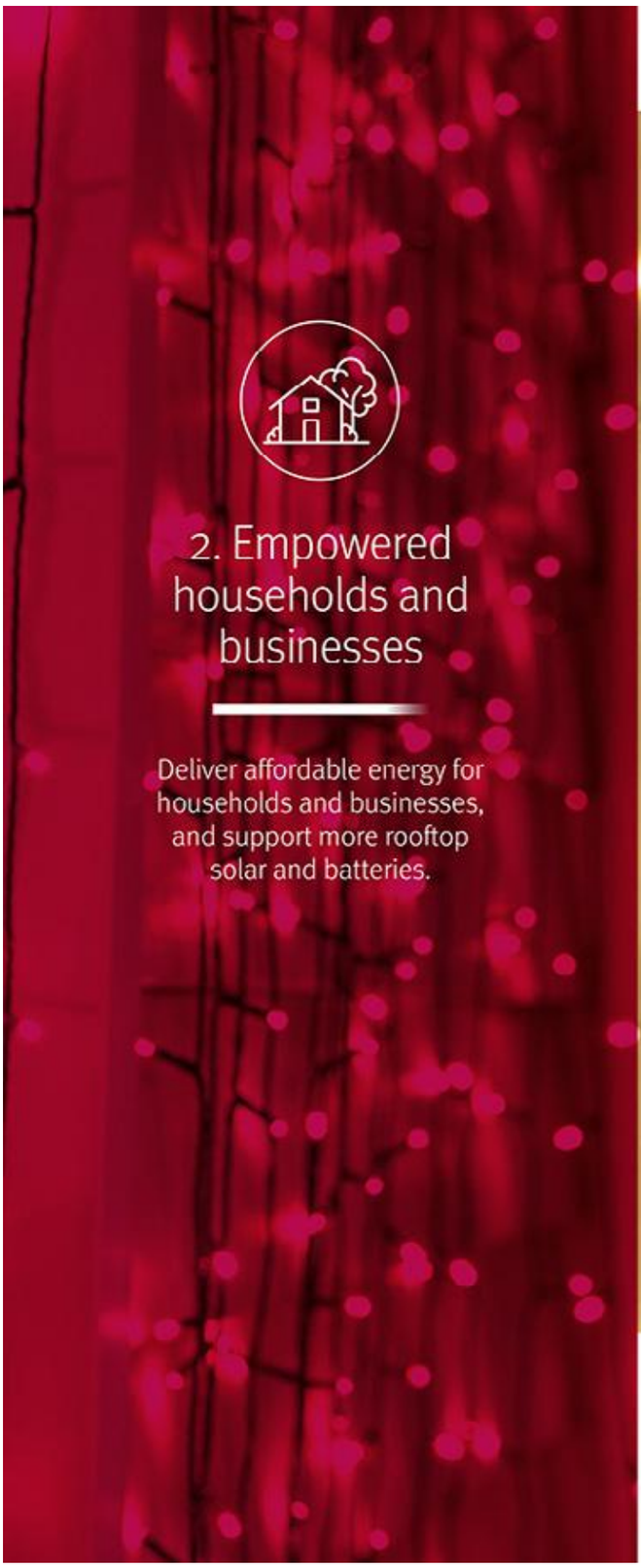
The Queensland Government will establish new governance arrangements to ensure a smooth energy transformation, support delivery of the *Queensland SuperGrid Infrastructure Blueprint* and to meet the new renewable energy targets.

A new Queensland Energy System Advisory Board (QESAB) will be established to provide expert technical advice to Government on the energy transformation including updates to the Infrastructure Blueprint every two years from 2025 and an annual market snapshot.

Legislation will be prepared to support the establishment and operation of the QESAB. Refer to the implementation, accountability and transparency section for more information.

Implementation activities

#	Description	Lead/s	Delivery
a.	Prepare legislation to establish the Queensland Energy System Advisory Board	EPW QT	2023
b.	Prepare first annual market snapshot	QESAB	2023-24
c.	Prepare first *Queensland SuperGrid Infrastructure Blueprint* update	EPW QT QESAB	2025



2. Empowered households and businesses

Deliver affordable energy for households and businesses, and support more rooftop solar and batteries.

Focus area 2: Empowered households and businesses

Access to affordable electricity is essential to ease cost-of-living pressures for Queensland households and businesses.

Queenslanders have embraced rooftop solar and demonstrated to the world the benefits of a more decentralised energy system – one where the decisions of individuals shape real change.

Collectively, the energy produced by Queensland rooftops is already the largest renewable generator in the state.

Rooftop solar, battery storage and new devices like electric vehicles can all play a role in keeping electricity affordable and improving outcomes in the energy system for everyone.

ACTION 2.1: Deliver a smarter grid that benefits all Queenslanders

More Queenslanders are now investing in new smart technologies and generating electricity on their rooftops, storing this electricity in home batteries and using it to power their electric vehicles.

To enable more households to optimise their energy use, Queensland will need a smarter grid. Creating a smarter, integrated electricity system will require innovation, new technologies, regulatory reform, new data requirements and markets. It will be important to expand access to the benefits of these technologies to more Queenslanders in the process.

The effective integration of rooftop solar, home batteries and electric vehicles, which are (collectively referred to as Customer Energy Resources (CER),) means businesses and households can get the most out of their investments.

To accelerate the effective integration of CER for all customers, the Queensland Government will:

- target **100 per cent penetration of smart meters by 2030**
- encourage the **inclusion of electric vehicle charging infrastructure** in buildings
- increase the rollout of **dynamic connection arrangements** for customers
- increase network access and enable orchestration of CER
- **review the regulatory framework** for retail supply to remove barriers to delivering innovative products and services

Dynamic Connection Agreements are the future of energy connections in Queensland

More and more Queensland households and businesses own and use CER such as rooftop solar, household batteries, and electric vehicles. These technologies play a significant role in Queensland's energy ecosystem.

A dynamic connection agreement will allow households and businesses to access new and emerging market opportunities (via a retailer or aggregator) such as energy trading or Virtual Power Plants as they become available. Dynamic connections will allow more households to install rooftop solar and batteries while improving outcomes for everyone.

Dynamic connections will provide our network operators with data they can use to manage the 'two-way flow' of energy in 'real time'. This will help them ensure the safe and reliable supply of electricity to all customers.

Implementation activities			
#	**Description**	**Lead/s**	**Delivery**
a.	Target 100 per cent penetration of smart meter devices with appropriate data sharing arrangements by 2030 by leveraging reforms by the Australian Energy Market Commission and other jurisdictional levers	EPW EQL	2030
b.	Develop and evolve a smart connections framework to streamline households and businesses connecting technologies to the network	EPW EQL	Ongoing
c.	Define the roles and responsibilities of Queensland's Distribution System Operator (DSO) in advance of the appointment of Energy Queensland as DSO to better coordinate energy use and supply to customers	EPW	2023-24
d.	Encourage the inclusion of electric vehicle charging infrastructure in buildings	EPW	Ongoing
e.	Increase rollout of dynamic connection arrangements for customers	EQL	Ongoing
f.	Increase network access and enable orchestration of CER	EPW EQL	Ongoing
g.	Review regulatory framework for retail supply to remove barriers to delivering innovative products and services	EPW	2023-25
h.	Publish updated technical and connection standards	EQL	Ongoing

ACTION 2.2: Deliver a new household program

The Queensland Government has a strong record of delivering affordable energy for Queenslanders. The state's public ownership position has meant that the dividends of Queensland's energy businesses can be passed through to Queenslanders as the owners of these businesses.

This year, the Queensland Government announced a $175 cost of living rebate for Queenslanders, with this applied to bills from September 2022. This is the sixth household energy rebate that the Queensland Government has delivered since 2018, and brings the total electricity bill relief to more than $1 billion.

The Queensland Government recognises that electricity costs are a key pressure for Queenslanders, and is committed to doing more to help households manage their energy use and bills. The Queensland SuperGrid will deliver clean, reliable and affordable power for generations. Independent modelling estimates, that with the Plan, typical household retail bills will be $150 lower in 2032 than without a Plan.

The Queensland Government will also develop a new household program, including support for batteries, to further support Queenslanders manage their electricity use and bills.

ACTION 2.3: Support to reduce household bills

The Queensland Government will invest **$10 million** to help households save on their electricity bills.

Funding will support non government organisations to improve access to energy efficiency advice and devices for hard to reach customer cohorts, to help them manage their energy use and reduce electricity bills.

Queenslander's experiencing vulnerability and those who have historically had limited engagement with the energy system (e.g. renters) will be prioritised.

This will help bring down the cost of electricity for customers who would benefit from additional assistance.

Implementation activities

#	Description	Lead/s	Delivery
a.	Applications from eligible non-government organisations open	EPW	2023
b.	Deliver energy efficiency advice, assessments, and install smart and efficient equipment to reduce customer bills	Awarded non-government organisations	2023-26

ACTION 2.4: Drive savings for small businesses

The Queensland Government will deliver a program to save businesses money on their electricity bills with the **$35 million Queensland Business Energy Saving and Transformation (QBEST)** program targeting small to medium sized businesses.

The QBEST program will deliver support for businesses to purchase energy efficient equipment, smart technology (e.g. fans, pumps, HVAC) and to implement energy management systems.

This investment will help business to reduce their energy bills so they can spend money on other important aspects of their business, and expand to employ more people in rural and regional Queensland.

Implementation activities

#	Description	Lead/s	Delivery
a.	Applications open for QBEST	EPW	2023-25
b.	Successful applicants awarded and QBEST delivered	EPW	2023-25

ACTION 2.5: Integrate Queensland's zero emissions vehicles

The Queensland *Zero Emission Vehicle Strategy and Action Plan 2022–2030* will help to drive the uptake of electric vehicles across Queensland.

The Queensland Government will invest **$12 million for charging infrastructure** and trials to support efficient integration of electric vehicles into the electricity system and **$30 million to make government buildings ZEV ready.**

This $42 million commitment is on top of already significant commitments, including $45 million for rebates towards new electric vehicle purchases and $10 million to support more public charging options.

This action will also support the replacement of government fleet vehicles (to seed the second-hand electric vehicle market) and updates to regulations and tariffs.

Implementation activities

#	Description	Lead/s	Delivery
a.	Replace all eligible government fleet vehicles with electric vehicles as leases expire, and where a suitable alternative is available and appropriate for business needs	QFleet	2026
b.	Establish a customer portal to provide information and advice to households and businesses on optimal electric vehicle charging timings and tariffs	EPW	2023
c.	Electric vehicle charging infrastructure delivered in public places at congested areas of the network and explore innovative "smart" integration and management of electric vehicle charging	EQL EPW	2023-26
d.	Deliver ZEV ready government buildings	EPW	2023-26

ACTION 2.6: Enable savings for commercial buildings with Environmental Upgrade Agreements

Energy savings for commercial building owners and tenants in Queensland can be supported with the adoption of **Environmental Upgrade Agreements (EUAs),** which will ultimately also help them save on their electricity bills.

EUAs can contribute to Queensland's emissions reduction targets by upgrading existing commercial buildings with energy-efficiency features. Local governments have an important role to play in supporting EUAs.

An EUA is a legal agreement between a commercial property owner, the local government and a finance provider. EUAs are usually long-term loans offered by a financier to the property owners with fixed interest and secured via a local government charge on land.

The loan is progressively paid back by the property owner via the council rates system. This initiative will be established and implemented following public consultation and consideration of amendments in the legislation.

Implementation activities

#	Description	Lead/s	Delivery
a.	Finalise the EUA framework through public consultation	EPW	2023
b.	Prepare legislative amendments to the Local Government Act 2009 and the City of Brisbane Act 2010 to enable the operation of EUAs	DSDILGP EPW	2024

ACTION 2.7: Ensure affordable electricity in regional and south east Queensland

Regional Queensland covers most of the state's land mass but is home to only around one third of Queensland's population. This can present challenges to ensuring regional Queenslanders can access affordable energy.

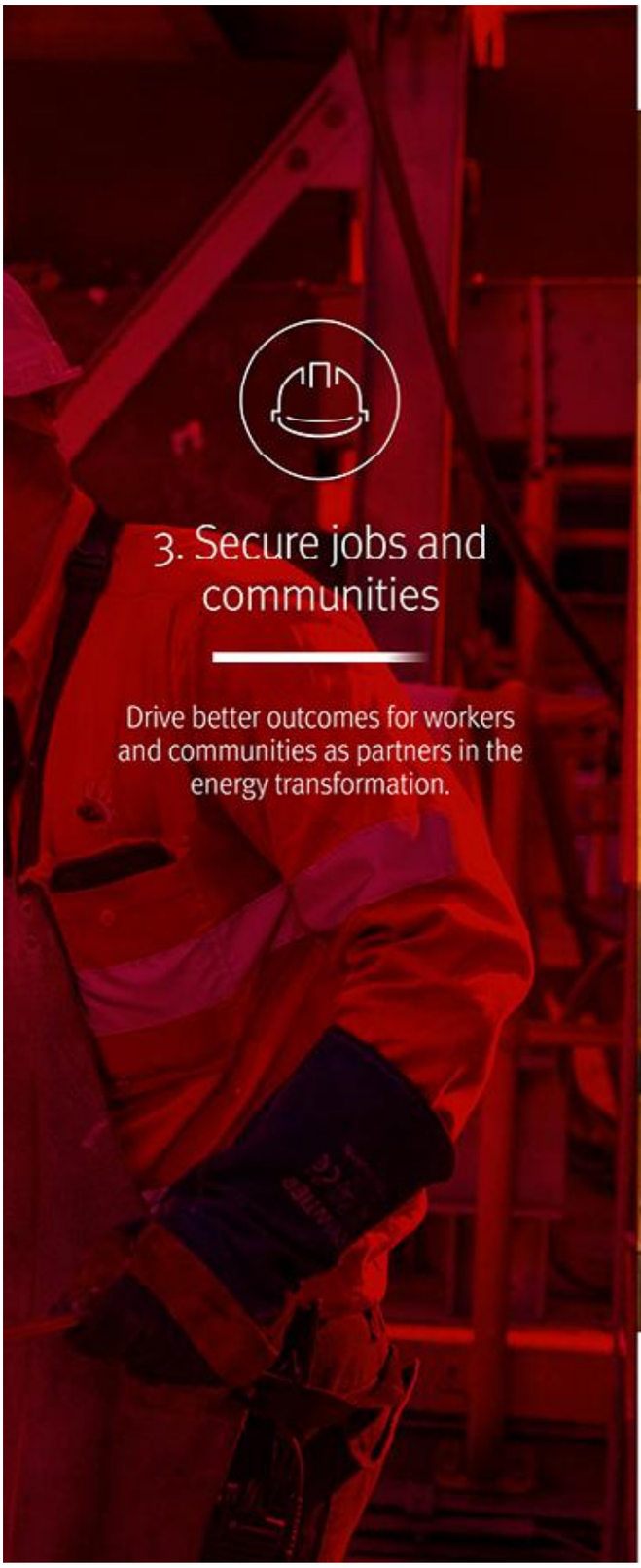
This is why the Queensland Government continues to implement its **Uniform Tariff Policy to ensure all Queenslanders pay a similar price for electricity no matter where they live.**

To continue delivering the longstanding Uniform Tariff Policy, the Government is providing combined support of **$638.5 million in the 2022–23 State Budget,** comprised of $635.2 million in Community Service Obligation payments for Ergon Energy Retail customers and $3.3 million in tariff rebates for Origin Energy customers in the Goondiwindi area.

The Queensland Government is also working to keep prices affordable in south east Queensland, with a review of the regulatory market, new initiatives to help Queenslanders reduce their electricity bills and supporting more rooftop solar, supporting overall downward pressure on prices.

Implementation activities

#	Description	Lead/s	Delivery
a.	Continue current Unform Tariff Policy arrangements	EPW QT	Ongoing
b.	Annual revision of Community Service Obligation Deed	EPW QT	Ongoing



3. Secure jobs and communities

Drive better outcomes for workers and communities as partners in the energy transformation.

Focus area 3: Secure jobs and communities

The energy transformation will drive investment and new opportunities into regional areas with 70 per cent of future clean energy jobs expected to be in regional Queensland. As the generation mix changes, the Queensland Government will support communities and workers to be partners in the energy transformation, to capture new opportunities to diversify local economies and create secure, ongoing, good jobs.

ACTION 3.1: Invest to modernise Queensland's publicly owned coal-fired power stations for the future

Queensland's publicly owned coal-fired power stations are the bedrock of the state's energy system and will play an important role in the future energy system. These power stations are in strong parts of the network with excellent grid connections, a highly skilled workforce, established community relationships, and land and other qualities providing strategic advantages.

The Queensland Government will progressively **convert all publicly owned coal-fired power stations into clean energy hubs by 2035.** Clean energy hubs will provide critical system services to the electricity grid, which may include new generation, storage and firming, or renewable hydrogen assets. This will be done by **reserving** back-up capacity so Queensland has the power it needs as the system transforms, **repurposing** existing infrastructure and **reinvesting** into new clean energy infrastructure backed by the boosted $4.5 billion QREHJF.

These changes will occur gradually from 2027 to ensure Queensland always has enough energy to meet demand. The Government will work directly with publicly owned energy businesses to develop proposals for clean energy hub investment.

Because the Queensland Government has kept its energy assets in public hands, Queensland has unprecedented control over its destiny. The Government will guide the transformation of the energy system and listen to the advice of experts to ensure that the system always remains secure and reliable.

Implementation activities

#	Description	Lead/s	Delivery
a.	CS Energy and Stanwell to invest in clean energy hubs	Energy GOCs	2035

ACTION 3.2: Support workers with a Job Security Guarantee

The Queensland Government will ensure workers in Queensland's publicly owned coal-fired power stations have a secure future, choices, and clear employment pathways and opportunities.

To do this, the Government will implement a new **$150 million Job Security Guarantee**. This will support all workers in publicly owned coal-fired power stations and ensure no worker will be out of a job. The Guarantee will be backed by a fund and a new tripartite **Energy Workers' Charter** between unions, government and employers.

These workers will have guaranteed opportunities to continue their careers within publicly owned energy businesses or pursue other career pathways. The Government will do this by supporting workers to:

- undertake additional training or skills development to secure opportunities in the future energy sector or emerging industries
- transfer between publicly owned energy corporations to secure new, ongoing employment opportunities
- extend their career, where eligible, to support Queensland's safe, reliable, and secure energy system
- seek advice on career options with dedicated future pathway managers within Queensland's publicly owned energy businesses.

A Job Security Guarantee is an investment in Queensland's energy talent and will help to deliver Queensland's clean energy future.

The Government intends to prepare legislation for this Guarantee to create an enduring framework and certainty for workers.

Implementation activities

#	Description	Lead/s	Delivery
a.	Implement the Queensland Energy Workers' Charter and the Job Security Guarantee Fund	EPW	2023
b.	Prepare legislation to support implementation of the Job Security Guarantee	EPW	2023
c.	Establish dedicated future pathway managers to assist workers to develop their career pathway	Energy GOCs	2023
d.	Leverage existing workforce programs and training programs to support delivery of the Job Security Guarantee	Energy GOCs	Ongoing

ACTION 3.3: Prepare Queensland's workforce and regions for growth

Queensland will need the right skills to build new clean energy infrastructure and industries. To successfully position Queensland workers and regional communities to capitalise on the pipeline of clean energy investment, the Queensland Government will:

- establish a new **Energy Industry Council** to provide advice to Government on new opportunities and pathways for workers and their communities.
- appoint a new **Queensland Renewable Energy Jobs Advocate** to provide advice to Government and champion future secure jobs in the renewable energy sector
- develop a **Future Energy Workforce Roadmap** which will outline steps to build and develop workforce capacity and capability, while making sure the right training is available in the right locations
- working with Powerlink, invest $90 million to establish two new regional transmission and training hubs for critical skills that will be needed in the energy transformation.

Implementation activities

#	Description	Lead/s	Delivery
a.	Establish two new regional transmission and training hubs for critical skills development, including employment of apprentices	Powerlink	2023-26
b.	Deliver the Future Energy Workforce Roadmap	DESBT	2023
c.	Appoint a Queensland Renewable Energy Jobs Advocate	EPW	2023-24
d.	Establish the Energy Industry Council to provide advice to government	EPW	2023-24

ACTION 3.4: Grow the renewable energy supply chain in Queensland

The clean energy infrastructure outlined in this Plan to build the SuperGrid will create a pipeline of investment to help expand Queensland's share of the renewable energy supply chain and increase the use of local content on projects.

By 2035, approximately 12 GW of new large-scale wind and 10 GW of new large-scale solar is set to be developed in the QREZ regions. This represents around 2,000 to 3,000 potential turbines and 36 million solar panels.

New household, community and utility scale batteries will also be deployed across the state, and could be manufactured in Queensland guided by the Queensland Battery Industry Strategy and leveraging Queensland's competitive advantages in recycling and processing of critical minerals.

To maximise opportunities for more local manufacturing and jobs from renewable investment, the Queensland Government is committed to 'Buy Local' to provide local businesses with access to the government market and stimulate regional economies.

Building Queensland's SuperGrid will support onshore manufacturing of components for renewable energy, storage and transmission infrastructure to create more jobs in regional communities. Procurement by energy government owned corporations will be in accordance with the Government's *Buy Queensland* Policy.

The Government will also commit **$11.6 million to help build capacity in the manufacturing sector and encourage local content** in Queensland to supply future projects. This commitment will include undertaking detailed local supply chain studies across priority renewable technologies and QREZ regions.

Funding will also help investigate end-of-life recycling and manufacturing of renewable energy components. This will complement the Advanced Manufacturing 10-Year Roadmap and Action Plan 2022–26 to support manufacturers to grow with more local content on renewable energy projects.

Of the $11.6 million, **$7.1 million will be invested to deliver a grant program for up to 400 Queensland manufacturing small and medium enterprises** to increase their competitiveness in a low carbon future. Grants are for energy efficiency measures that reduce energy costs and operational emissions.

Implementation activities

#	Description	Lead/s	Delivery
a.	Release local content targets to develop renewable energy supply chains and outline relevant policy mechanisms to improve investment certainty	EPW	2023-24
b.	Deliver detailed studies for priority technologies (e.g., wind)	EPW	2023-24
c.	Build capacity in the manufacturing sector including end-of-life and recycling opportunities	DSDILGP	2024
d.	Build capacity to manufacture components for priority technologies (e.g., wind, batteries, electrolyser)	DRDMW and DSDILGP	2023
e.	Publish guidelines and open the $7.1 million grant program for energy efficiency grants to manufacturers	DRDMW	2023
f.	Award successful applicants for grant program	DRDMW	2024

ACTION 3.5: Clean energy for remote and First Nations communities

Ensuring that regional and remote communities, including First Nations communities, can share the benefits of clean, reliable and affordable energy into the future is a critical part of an inclusive SuperGrid. In June 2022, the Queensland Government committed **$10 million to deliver a Queensland Microgrid Pilot Fund** to improve network resilience of these communities.

The Government is committed to zero net electricity emissions across Energy Queensland's isolated power stations. To achieve this commitment, an inclusive **Remote and First Nations clean energy strategy will be co-designed** by remote First Nations communities and the Queensland and Australian governments. Energy Queensland will be directed to update its *Isolated Networks Strategy 2030* taking into account the Australian Government initiatives to chart a pathway to net zero.

Implementation activities

#	Description	Lead/s	Delivery
a.	Implement national reforms on third party owned microgrids and standalone power systems adapted to the Queensland context as neccessary	EPW	2024
b.	Queensland Microgrid Pilot Fund guidelines released	EPW	2022
c.	Energy Queensland to update their Isolated Networks Strategy 2030 and complete feasibility studies to decarbonise isolated power stations in each community.	EPW	2023-2025
d.	Scope, consult and co-design on Remote and First Nations Clean Energy Strategy	EPW	2023-25
e.	Remote and First Nations Clean Energy Strategy released	EPW	2026

ACTION 3.6: Partner with industries and communities to maximise benefits from the energy transformation and drive regional economic opportunities

At the heart of the energy transformation is Queensland's communities. The Queensland Government is committed to partnering with communities to maximise benefits and regional opportunities.

The Queensland Government is establishing **a new $200 million Regional Economic Futures Fund (REFF) to support economic and community development initiatives.** This fund will target areas like Central Queensland. The Government will work with communities during 2023 to outline the approach for delivering this fund.

The Queensland Government is also publishing a ***Regional Energy Transformation Partnerships Framework*** to maximise the local benefits from clean energy driven by this Plan. Through the Partnerships Framework, communities, industry, and local and state government will work together on priority actions to support the energy transformation in regional Queensland. The Partnerships Framework is being released in draft to provide Queenslanders with an opportunity to further shape our clean energy future.

Community consultation from late 2022 will help to identify further actions as well as inform the design of the REFF.

To underpin initial actions within the Partnerships Framework, **$35 million** from the Queensland Government's $145 million commitment to develop the QREZ will be allocated to deliver on improving strategic planning for QREZ, new functions under proposed legislation, and community support for renewable development.

Initial actions developed to deliver on the key principles for the energy transformation include:

- commencing a review of the planning framework for renewable energy development
- developing policies for offshore wind, end-of-life and recycling of renewable components
- preparing a range of guidance materials to promote best practice
- enhancing co-existence outcomes for renewable energy development including opportunities for development at unused mine sites
- establishing an ongoing community survey to provide robust evidence to Government
- investigating initiatives to enhance benefits from QREZ development including opportunities for enhanced services (e.g. internet connectivity)
- working directly with communities to support locally led planning and resilience
- delivering on other initiatives in this Plan that support local benefits and better community outcomes.

Principles for the energy transformation are:

- **Principle 1: Drive genuine and ongoing engagement**

  Demonstrate an inclusive approach to engaging and working with communities as partners in the energy transformation.

- **Principle 2: Share benefits with communities**

  Deliver on opportunities to share the financial and other benefits of energy development with local communities.

- **Principle 3: Buy local, build local**

  Expand local procurement, manufacturing, and supply chain opportunities from energy development, and work with local businesses to enable greater participation.

- **Principle 4: Increase local jobs and secure work**

  Prioritise the employment of local people wherever possible including the development of training opportunities, promoting greater workforce diversity, and embedding improved standards for secure work.

- **Principle 5: Preserve Queensland's environment**

  Ensure the development of clean energy maximises opportunities for positive co-existence, preserves the local environment and promotes greater biodiversity.

- **Principle 6: Empower First Nations peoples**

  Empower First Nations peoples as part of the energy transformation, underpinned by inclusive engagement to enhance opportunities for employment and business participation.

- **Principle 7: Build local capacity**

  Build the capacity of local communities to realise the benefits from clean energy development, and positively manage changes associated with the energy transformation.

The Partnership Framework will empower local voices and local choices, and position communities to see real and lasting benefits from increased economic development in their regions. The Queensland Government will consult on the Framework and partner with communities to shape it and identify additional actions for maximising benefits from the energy transformation.

Implementation activities

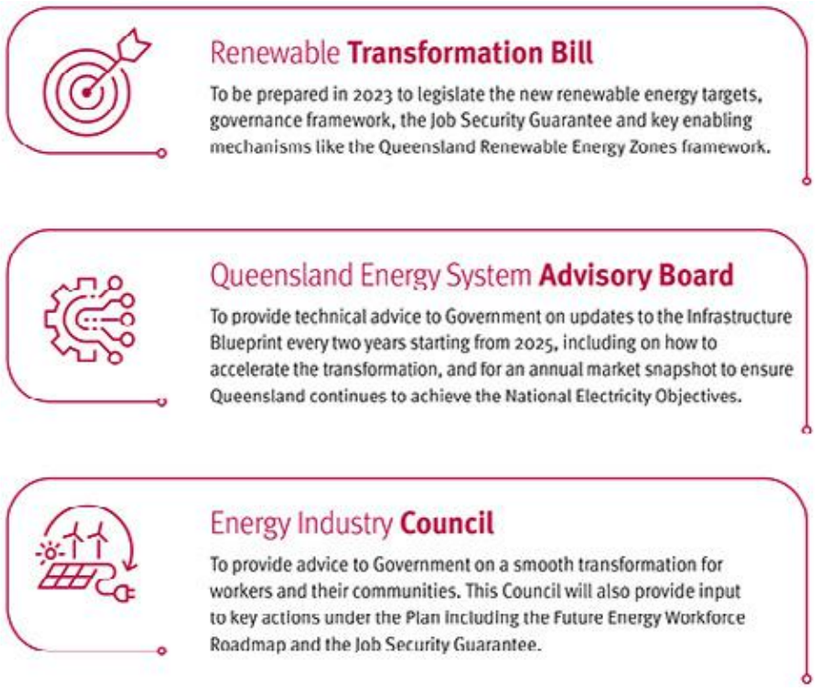
#	Description	Lead/s	Delivery
a.	Develop and publish funding guidelines for the Regional Economic Futures Fund	DSDILGP	2023
b.	Consult on the draft Regional Energy Transformation Partnerships Framework	EPW	2022-23
c.	Deliver initial actions as part of the Regional Energy Transformation Partnerships Framework	EPW	2023-26
d.	Outline additional actions for the Regional Energy Transformation Partnerships Framework identified through community consultation	EPW	2023-26

Implementation, accountability and transparency

The **Queensland Government** will work across agencies to **deliver** and **monitor progress** against the **Plan.**

This will include the release of a biennial updates to the Infrastructure Blueprint from 2025 and annual progress reports. To ensure Queensland stays on track to meet the targets and respond to changing market conditions and technology innovations, the Queensland Government will establish new energy transformation governance frameworks.

This framework includes a new:



Take part

The Queensland Government will consult with communities during late 2022 and 2023 on key implementation activities in the Plan including:

- a **QREZ Roadmap** on the long-term development of QREZ regions to deliver at least 22 GW of new renewable energy
- the draft **Regional Energy Transformation Partnerships Framework** to deliver real and lasting benefits in communities from the energy transformation.
- a **Future Energy Workforce Roadmap** to provide the training and skills needed for the future energy system
- an **Energy Storage Strategy** to incentivise more investment in batteries, storage and firming technologies

September 2022

Queensland Energy and Jobs Plan released.
Queensland SuperGrid Infrastructure Blueprint released.

From late 2022

Community consultation

- Cairns
- Thursday Island
- Townsville
- Mount Isa
- Mackay
- Emerald
- Kingaroy
- Rockhampton
- Gladstone
- Biloela
- Gympie
- Toowoomba
- Brisbane
- Gold Coast

From 2023

Publish key implementation documents

- QREZ Roadmap
- Additional actions identified from community consultation under the Regional Energy Transformation Partnerships Framework
- Future Energy Workforce Roadmap
- Energy Storage Strategy

Globally competitive clean energy will make **Queensland** an **investment destination of choice**

Queensland is building a SuperGrid – this is the new generation, storage and transmission needed to deliver clean, reliable and affordable power to Queenslanders.

Megawatt (MW) and Gigawatt (GW): A measure of output from a generator (1000 MW = 1 GW this is enough to power around 300,000 homes)

Demand: The amount of power consumed at any time.

Electricity grid: Often referred to as 'the grid', this includes the transmission and distribution networks that carry electricity from generators to energy users.

Baseload power: Generating units that typically produce power continuously and provide most of the power used by consumers.

Dispatchable generation: Sources of electricity that can be switched on and off and ramp their power output up and down based on market needs.

Peaking plants: Generators that run when demand is high. For example, gas-fired generators that can respond quickly.

Renewable energy: Energy that comes from renewable sources, such as sun and wind.

Hydrogen: A clean, renewable fuel that can be used in transport, power supply and a range of industrial processes.

QUEENSLAND ENERGY AND JOBS PLAN

Power for **generations**

13 QGOV (13 74 68) @EnergyQld

2022

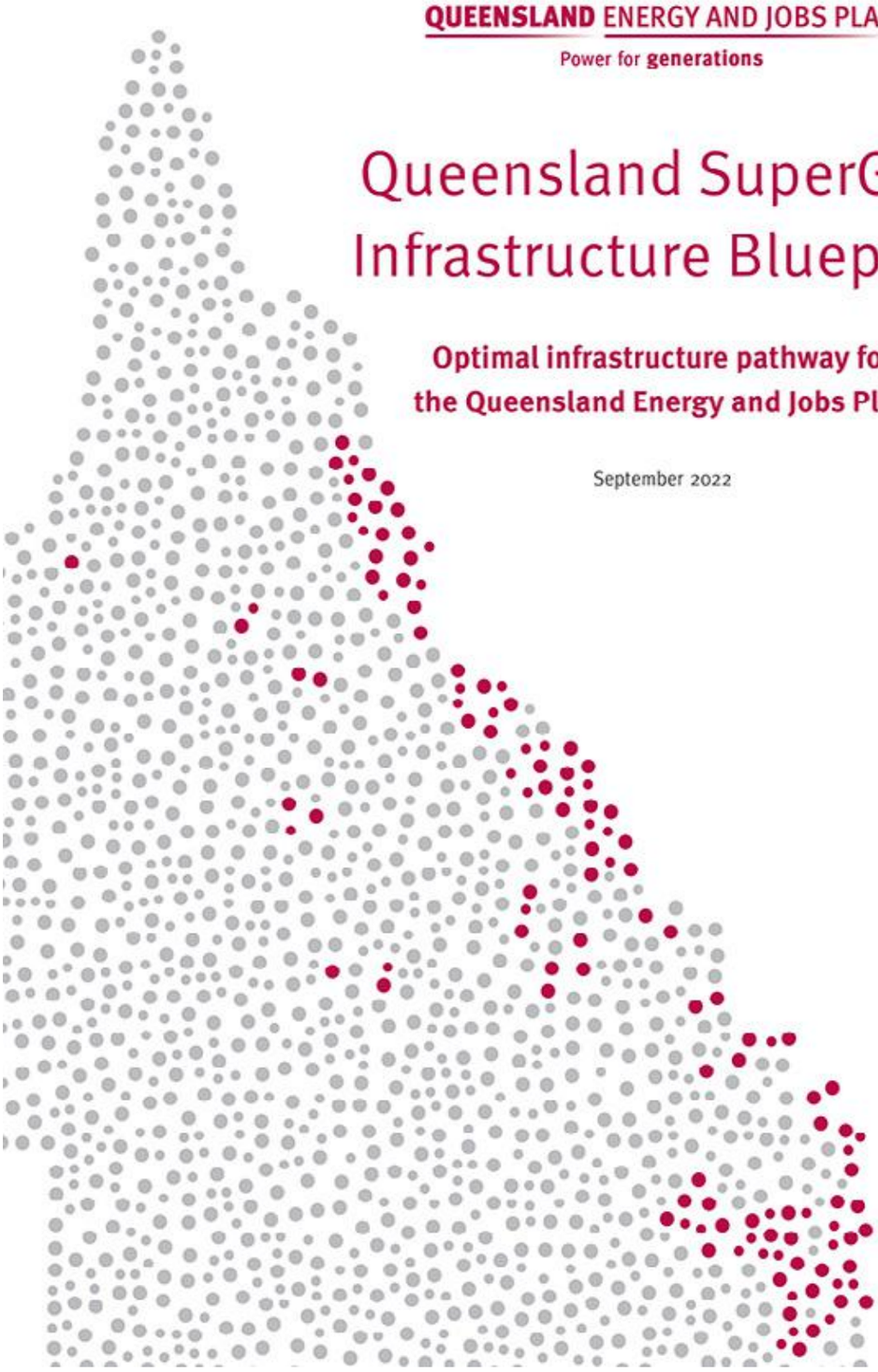
QUEENSLAND ENERGY AND JOBS PLAN

Power for generations

Queensland SuperGrid Infrastructure Blueprint

Optimal infrastructure pathway for the Queensland Energy and Jobs Plan

September 2022



Queensland Government

Executive summary

International investors, large industrial customers, small businesses, and households are all seeking access to clean, reliable and affordable electricity. Queensland can deliver this with timely, coordinated investments in renewable generation, storage and transmission infrastructure that transform the electricity system.

The Queensland SuperGrid Infrastructure Blueprint is designed to implement the foundational infrastructure to enable Queensland to decarbonise the existing electricity system and load in Queensland. It acknowledges major new loads are likely to eventuate, which will impact the optimal infrastructure pathway and includes a section on how these new loads and energy requirements can be incorporated into future Infrastructure Blueprints.

This Blueprint outlines the optimal infrastructure pathway to transform Queensland's electricity system. It has been developed based on energy market modelling and expert advice, and follows these principles:

- Achieve the Queensland Government's 50 per cent Queensland Renewable Energy Target by 2030 (QRET) and support continued growth of renewable energy generation.
- Support achievement of the Queensland Government's 30 per cent economy-wide emissions reduction target on 2005 levels by 2030.
- Deliver a reliable, secure system with competitively priced energy.
- Ensure publicly owned coal-fired power stations continue to play a role in the energy system, with sites progressively becoming clean energy hubs that provide critical system strength, storage, and firming services rather than coal-fired generation.
- Provide confidence to capital markets and investors that Queensland has a clear pathway to transform the electricity system.

To transform Queensland's electricity system, investments will be delivered across four key large-scale infrastructure areas:

1. **Renewable investments:** Substantial new renewable generation is critical to transform Queensland's electricity system and deliver affordable, reliable and clean power. Given the variable nature and capacity factors of renewable generation, around 25,000 megawatts (MW) of large-scale renewable generation (total) and around 7,000 MW of new rooftop solar generation is required to meet forecast demand in 2035 (without reliance on coal-fired generation).

   Significant large-scale renewable generation, beyond the 25,000 MW, will be required to support large new loads, including the emergence of an export-scale hydrogen industry or high electrification scenarios.

   Queensland Renewable Energy Zones (QREZ) are a key government lever to support the coordinated, efficient connection of the 25,000 MW of required large-scale renewable generation. Phase 1 developments in all three QREZ regions are underway, and will support the connection of an initial 6,000 MW of renewable capacity. Further developments will occur across all regions to progressively unlock additional capacity.

2. **Storage, firming and dispatchable capacity:** Queensland will need at least 6,000 MW of long duration storage[1] for a highly renewable system, complemented by approximately 3,000 MW of grid-scale storage and up to 3,000 MW of new low-to-zero emission gas-fuelled plant[2] to cover 'dunkelflaute'[3] conditions.

   Large-scale, long duration assets (e.g. pumped hydro energy storage (PHES)) have long planning, construction and delivery times, high development and capital costs, significant approval requirements and uncertainty, and therefore are unlikely to be developed by the private sector on a merchant basis. Such assets are of high strategic importance to the Queensland energy system, through the provision of strategic storage reserves and will support Queensland's macro-economic strategy. The Queensland Government, subject to final investment decisions, will develop and deliver the 2,000 MW/24—hour Borumba PHES in southern Queensland by 2030 and a second PHES in northern Queensland — the Pioneer-Burdekin PHES.

   There are numerous smaller capacity and shorter duration (generally less than 12 hours) pumped hydro projects proposed and being developed by the private sector which are expected to form an important role in firming renewable generation.

3. **Major network transmission and system strength:** Queensland's electricity system will become increasingly decentralised, and the transmission network must evolve to transport renewable energy around the state to when and where it is needed. Four new high-voltage (up to 500kV) backbone transmission projects will be constructed by the mid-2030s, connecting the two 24-hour PHES assets and areas of strong renewable resources with Queensland's demand centres. This includes:

   1. two transmission connections of 80 and 60 kilometres (km) each (140km total) to connect Borumba to the grid in southern Queensland
   2. a 290km line to move more energy between southern and central Queensland
   3. a 750km line to connect central Queensland to a north Queensland 24-hour PHES and north Queensland load
   4. a 370km line to connect Townsville to Hughenden (there is an opportunity to extend this connection to the North West Minerals Province).

[1] Based on independent internal and external assessments, at current consumption levels, at least 6 GW of long duration storage will be required when renewables reach 90-95 per cent market penetration. The independent modelling includes 5.3 GW of new long duration storage by 2032. Long duration storage is considered as having the ability to operate at maximum capacity for a period of 24 hours or longer.

[2] This is in addition to the existing 1745 MW of open cycle gas turbines installed in Queensland as at July 2022.

[3] Dunkelflaute – a word coined in Europe to describe periods of time, usually in winter in which little to no renewable energy generation is possible by wind or solar. Literally – *dark doldrums or dark wind lull*.

These new high-voltage transmission lines will allow the huge volumes of renewable and stored energy to be moved between northern and southern Queensland more efficiently and will ultimately unlock the renewable energy resources at Hughenden. The optimal transmission staging and delivery timing, for lowest cost outcomes, is linked to PHES delivery.

There is also the growing role of distributed and customer energy resources in the electricity system, led by consumers installing more solar on their rooftops, growing interest in home battery systems and the uptake of electric vehicles. To obtain the best value from these customer energy resources, changes are also needed at the distribution network level.

4. **Clean energy hubs:** Coal-fired power stations provide critical dispatchable power and system services, keeping the state's energy system reliable and secure. In the future, renewable energy generators, PHES, batteries and low emissions gas-fuelled plant will collectively provide the dispatchable capacity currently provided by coal. The Queensland Government will invest to repurpose publicly owned coal-fired power stations into clean energy hubs, capitalising on their skilled workforces, strong network connections and existing infrastructure. This reinvestment and repurposing of coal-fired power stations will occur in a coordinated manner, ensuring energy security for all Queenslanders.

Government investments will fund new technology and the conversion of existing assets to provide critical storage, firming and system strength services to support the increasing amounts of renewable generation in the Queensland system. Investment has already commenced, with grid-scale battery projects approved for installation at multiple power station sites. To avoid the possibility of energy security risks, initial generator conversions will be reversible, and units will only be converted to synchronous condensers once sufficient replacement renewable generation, storage, and transmission is in place to ensure ongoing reliability in the system.

Managing risks and uncertainty

Queensland's energy system is rapidly transforming, and the optimal pathway outlined in this Blueprint will need to adapt and evolve over time to address changes in the market outlook, emerging risks and new opportunities. Each of the infrastructure investments identified and proposed in this Blueprint will be subject to contemporary assessment along the transformation program, and this may result in the adjustment of scope or timing of existing investments and potentially the incorporation of new infrastructure investments.

To manage the uncertainty in the outlook, and to address emerging risks and opportunities, the Blueprint will be updated on a biennial basis. Appropriate governance arrangements will also be implemented (as detailed in the Queensland Energy and Jobs Plan).

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Introduction

Purpose

This document (the Blueprint) is a key supporting document for the Queensland Energy and Jobs Plan (the Plan). It is a technical document that outlines the major electricity infrastructure investments required to transform the system – investments to achieve the Queensland Government's 50 per cent Queensland Renewable Energy Target (QRET), support emissions reduction outcomes, and support continued renewable energy growth, while maintaining an affordable, reliable electricity supply. The investments outlined in this document will build Queensland's SuperGrid.

The Blueprint:

- describes the Queensland context and development of the optimal infrastructure pathway
- describes the optimal infrastructure pathway to transform Queensland's electricity system, based on a least cost approach
- describes the options and considerations for increased load development

This Blueprint is a point-in-time document and updates will occur on a biennial basis to reflect new infrastructure investments, changing market conditions and the market outlook, with the first update released in 2025.

The Blueprint is predominantly designed to implement the foundational infrastructure to enable Queensland to decarbonise the existing system and load in Queensland. It acknowledges major new loads are likely to eventuate, which will impact the optimal infrastructure pathway – these changes are contemplated in the 'Increased load development' section.

This document does not outline the investments and policies required in the distribution network to support greater coordination and integration of customer energy resources and devices.

While social, environmental and community impacts have informed and will continue to inform Queensland Government planning, the Blueprint itself is not intended to comment on these aspects.

While social, environmental and community impacts are not addressed in the Blueprint, small-scale infrastructure and demand side measures do contribute to a decarbonised energy system and form an integral part of the broader Plan.

Objectives

The optimal infrastructure pathway has been developed based on energy market modelling and expert advice and is structured to achieve the following objectives:

- Achieve the Queensland Government's 50 per cent Queensland Renewable Energy Target by 2030 (QRET) and support continued growth of renewable energy generation.
- Support achievement of the Queensland Government's 30 per cent economy-wide emissions reduction target on 2005 levels by 2030.
- Deliver a reliable, secure system with competitively priced energy.
- Ensure publicly owned coal-fired power stations continue to play a role in the energy system, with sites progressively becoming clean energy hubs that provide critical system strength, storage, and firming services rather than coal-fired generation.
- Provide confidence to capital markets and investors that Queensland has a clear pathway to transform the electricity system.

Methodology

The Queensland Government commissioned energy market modelling to understand the optimal pathway to decarbonise Queensland's electricity system. This modelling is based on the Australian Energy Market Operator's (AEMO) *Step Change* demand forecast for 2022 which sees demand increasing over the next 10-year window.

Refinements to the modelled infrastructure pathway have been made based on operational and technical input and advice from experts to form an optimal infrastructure pathway.

Specifically, this Blueprint has been prepared to meet the objectives listed above, using the following inputs:

- Energy market modelling to identify the generation and storage capacity needed to decarbonise the electricity system (independent market and economic modelling).
- Analysis from Powerlink and the Department of Energy and Public Works (EPW) on the scope, size, timing, and cost of delivering the PHES projects.
- Analysis from Aurecon on the feasibility of converting coal-fired power stations to synchronous condensers (Aurecon: Synchronous Condenser Conversions of Coal Fired Units, February 2022).
- Analysis from Powerlink and the EPW on the location, sizing, and timing of QREZs.
- Analysis from Powerlink on the future transmission investments required to support the energy transformation, including connecting potential new generation, storage, and firming assets.
- Information gathered from relevant technical experts.

The Blueprint is flexible and proposed mechanisms have been built in to allow for regular updating and oversight to adapt to changes in both supply and demand for electricity over time.

Context

Queensland's electricity system

Queensland's electricity system has historically consisted of mainly 'dispatchable generation'. Dispatchable generation is generation that can be scheduled on or off and increased or decreased on command to ensure supply always meets demand. It includes coal-fired generators, gas turbines and hydro-electric plants. In Queensland, there is around 8,100 MW of coal-fired generation and approximately 3,000 MW of gas-fired generation. In 2021–22, the grid-supplied maximum demand (as generated)[4] was 10,100 MW.

Figure 1 depicts Queensland's coal-fired and gas-fired generators, which have been predominately located near the resource basins (i.e. coal-fired generators (maroon icons) located near the coal fields and gas-fired generators (grey icons) located on gas fields).

Figure 1: Queensland's coal-fired and gas-fired generators

With substantial dispatchable generation, there has been limited need for storage in Queensland. Energy can be stored in the coal stockpiles and gas pipelines. The energy system is now evolving. There is increasing amounts of variable renewable energy generation which must be complemented with storage and firming to ensure that increasingly intermittent supply matches demand. Additionally power system demand is forecast to increase significantly due to electrification, including electric vehicles and growth in domestic and export hydrogen.

[4] 'as generated' is the energy output at the individual generator terminals. It does not include internal consumption, demand that is offset by rooftop solar or transmission losses.

Increasing renewable generation

Renewable generation is variable in nature – it is entirely dependent on the weather to operate and is volatile on a day-to-day basis. Figure 2 shows the normalised annual output profile of large-scale wind and solar generation in Queensland. It is much more volatile on a day-to-day basis (Figure 3).

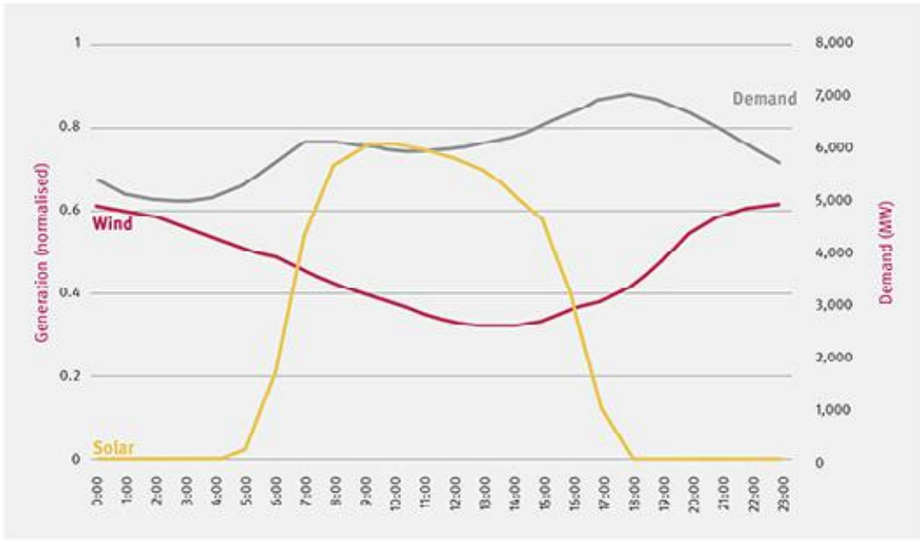


Figure 2: The normalised annual output profile of large-scale wind and solar generation in Queensland. Wind generation peaks overnight and solar generation peaks in the mid-morning, both outside times of peak Queensland electricity demand.

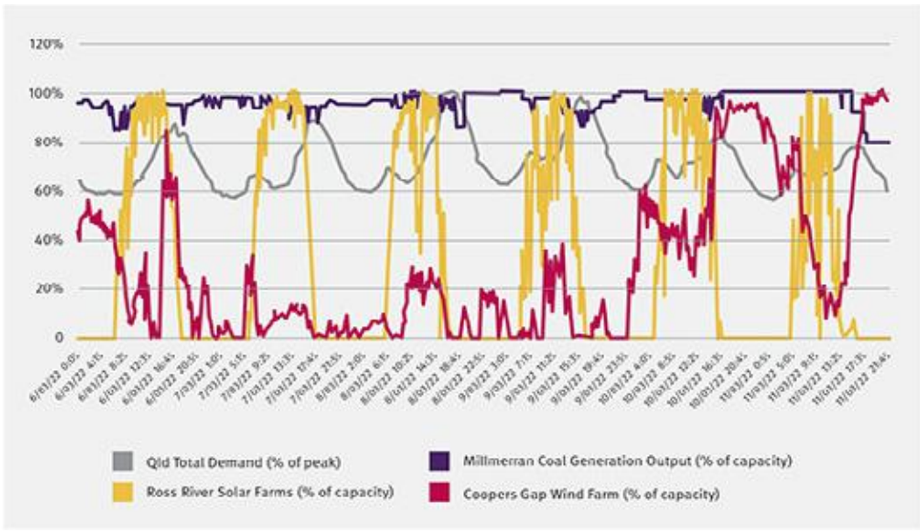


Figure 3: The historical output of different energy sources during a high demand week (the actual output from representative generators). This demonstrates the day-to-day volatility of renewable generation.

Renewable generation characteristics

The characteristics of renewable generation will influence the design and operation of Queensland's future clean energy system.

1. Solar generators only export power when the sun is shining, and the amount of generation varies considerably based on the season. Generally, large-scale solar generators have a maximum potential annual capacity factor[5] of around 25 to 33 per cent. This means large-scale solar generators are, on average, producing around 25 to 33 per cent of their nominal capacity. Further, solar output in Queensland does not typically coincide with peak demand which is usually between 6pm and 7pm after the sun has gone down[6]. Solar output can also be below 10 per cent (e.g. due to widespread cloud) for extended periods, as occurred in Queensland in early 2022.

2. Wind has higher annual capacity factors than solar (i.e. 32 to 53 per cent depending on the location) and, in Queensland, has a more nocturnal characteristic output profile (windier at night than day). This means wind sometimes contributes to peak capacity but, as shown in Figure 3, is still variable. As with solar generation, wind output can be close to zero for extended periods in some weather conditions (e.g. heatwaves).

Extended periods of extremely low wind and solar output are infrequent, but not rare. The term 'dunkelflaute' translates to *dark doldrums or dark wind lull* and is used in Germany to describe multi-day periods of very little wind and solar generation. In Australia, this same phenomenon is often referred to as a *renewable drought*. Regardless of the terminology used, it is important that any renewables-based system has a way to deal with these periods.

To meet Queensland's current maximum demand of around 10,100 MW, Queensland will need a substantial amount of installed renewable generation capacity (much more than if this demand was met from dispatchable generation capacity). With a combined average capacity factor of 33 per cent for wind and solar, Queensland would need a minimum of 24,000 MW of variable renewable generation to supply the equivalent energy of the current 8,000 MW of coal-fired capacity. This factor of three is a minimum or 'best case'. It assumes that Queensland will store all the variable renewable generation produced and use it exactly when needed. In practice, some over-build of renewable capacity will be required, resulting in a level of 'energy spill' from time to time.

[5] Capacity factor is the ratio of actual output over a given period of time to the maximum potential output over that period.

[6] The peak demand period has shifted from the middle of the day to early evening, which has been driven by the uptake of rooftop solar.

Firming and storage

As renewable energy is variable in nature, it needs to be ‘firmed’ and this means it must be stored when available and discharged when it is needed. The concept of ‘firming’ means matching the variable output of renewable generators to instantaneous demand. This can occur via battery storage systems and fast start dispatchable generation that can be ‘switched on’ as required to meet demand. Deep or long duration storage that effectively holds large amounts of energy in reserve for use during extended periods of low or no wind and solar generation is also required in a renewables-based system.

Firming and storage can take several forms:

- **Intra-day storage** – Batteries are ideal for providing intra-day storage. They can absorb 'excess'[7] solar energy from the grid throughout the day, store it, and discharge it later to meet demand. The time between storage and discharge could be minutes or even hours. Battery technology is most competitive in the one-to-four hour duration range. Medium duration PHES assets (4–12 hours duration) are also competitive in this intra-day space and are currently being developed by multiple private sector proponents in Queensland.

- **Long duration storage** – Long duration PHES (typically 24 hours or longer), coordinated batteries or multiple medium duration storage facilities (4 to 12 hours duration), provide this type of long duration storage. Long duration storage stores energy while renewable generation is plentiful and discharges it when there is insufficient instantaneous generation to meet demand – this may be for several days during wind and solar drought conditions. Long duration storage can also provide intra-day storage benefits, plus the ability to manage short-term low renewable generation such as rainy days or periods of windless nights, along with the ability to contribute to managing extended renewable droughts.

- **Dispatchable and peaking generation** – this refers to types of generation that can be quickly switched on to provide firming or backup capacity to support variable renewable generation. Gas-fuelled generators provide dispatchable generation as they can generate at peak periods or during extended renewable generation drought conditions. Gas-fuelled generators can start up and respond far more rapidly than coal-fired power stations. They can also run longer – indefinitely as long as there is a gas supply – and are lower in capital cost to build and maintain than PHES assets.

  Gas-fuelled generators, such as open cycle gas turbines and gas-fuelled reciprocating engines have comparatively high marginal running costs, but the cost of installed capacity is low. They currently represent the lowest capital cost per megawatt way to provide backup and peaking generation[8] to a renewables-based system[9].

  In the future, Queensland may convert existing turbines and install new gas turbines that can be fuelled by renewable hydrogen or a renewable hydrogen blend, further reducing emissions.

- **Transmission interconnection** – large capacity transmission interconnection to other states can provide supplementary firming capacity. This interconnection capacity can transfer generation from other states that is either dispatchable or has diverse weather characteristics compared to Queensland's renewable generation.

Based on current demand forecasts[10] and energy market modelling, Queensland is expected to need at least 6,000 MW of long duration storage for a highly renewable system, complemented by up to 3,000 MW of grid-scale storage, and up to 3,000 MW of new low-to-zero emission gas-fuelled generation and the existing interconnection to New South Wales to meet demand.

[7] 'excess' is a colloquial term for energy that would otherwise be constrained off or spilled.

[8] Peaking generation refers to the 'last' megawatt required to meet demand at any point in time. At times of very high demand, this is usually met by the highest operating cost generator.

[9] CSIRO Gencost 2021-22 Final Report.

[10] The Australian Energy Market Operator's Step Change demand assumptions in the 2022 Draft Integrated System Plan.

Applications of storage

Different energy storage technologies provide different market services.

- **Short (or shallow) duration storage** includes grid-connected energy storage with durations less than four hours. The value of this category of storage is more for capacity, fast ramping, and frequency control ancillary services (FCAS) than for its energy value.
- **Medium duration storage** includes energy storage with durations between four and 12 hours (inclusive). In addition to providing many of the same services as short duration storage, medium duration storage provides additional value in its intra-day energy shifting capabilities, driven by the daily shape of energy consumption by consumers, and the diurnal solar generation pattern.
- **Long duration (or deep) storage** includes energy storage with durations typically of 24 hours or more. In addition to the services provided by medium duration storage, long duration storage is able to manage short term periods of low renewable generation, such as rainy day or windless night, contribute to meeting demand in renewable droughts and provides smoothing of energy over weeks or months.

PHES assets provide inertia and other services that support power system security and are ‘dispatchable’ plants that can switch on as required.

PHES sites in Queensland

The Queensland Government investigations into suitable PHES sites identified potential medium duration and long duration storage sites. This is based on:

- medium duration sites typically having energy storage of 4-12 hours, with capacity ranging from 300 to 1,000 MW or more
- long duration sites assessed having generation capacity of more than 1,000 MW and storage duration of at least 24 hours.

There are also other projects in between these typical sizes, and all these projects could perform an important role in the broader storage requirements for Queensland.

Medium duration sites can provide several services to the electricity system including the 'time shifting' of energy daily and the provision of system strength and reliability services. The shorter storage duration (typically 4-12 hours at maximum generation capacity) means these sites are generally not able to provide significant capacity in the event of regular shortfalls in variable renewable generation, including renewable energy droughts.

Medium duration sites are of the size considered to be commercially viable by the private sector and developers have proposed several projects of this size in Queensland. These projects typically rely on selling electricity to the grid as an arbitrage product and as such provide a more limited replacement of dispatchable, baseload generation to support high volumes of renewable output.

Long duration sites can provide the system services offered by medium sized projects, but their longer storage duration (24 hours compared to 4-12 hours typical of medium-sized projects) means they also provide strategic storage reserves to the system. These projects have long lead times (8 to 10 years), greater approval complexity and uncertainty, and a high development and capital cost. This means they are unlikely to be developed by the private sector in the medium-term on a merchant/commercial basis.

The Queensland Government has assessed numerous sites as being suitable for PHES in Queensland. A PHES needs a source of water, and two reservoirs separated by a significant change in elevation (known as head). A larger head will generally provide for lower cost electricity generation and storage on a per-unit basis as the volume of water required per megawatt hour is lower. Another important requirement is for the tunnel or pipeline (penstock) connecting the upper and lower reservoir to be short and steep for a given head difference. The preference is for a horizontal distance (length) to head ratio of less than 10 to minimise costs.[11] Given the larger amount of energy stored, the cost of the dams required to store water is a more important consideration for long duration PHES than medium duration PHES.

[11] Noting Borumba PHES has a length to head ratio of 8.8 (2,900m horizontal separation, 330m head)

How does Pumped Hydro work?

Pumped hydro acts like a giant battery.

- it uses electricity from the grid or nearby renewables to pump water from a lower reservoir into an upper reservoir when energy prices are low
- when energy is needed, water is released from the upper reservoir into the lower reservoir, generating energy as it passes through a turbine
- hydroelectricity can be generated almost immediately and at any time, so power can be fed into the grid when it is needed.

- **Drives reliable power for a clean energy economy**
- **Stores renewable energy like solar and wind**
- **Provides on demand power when we need it**

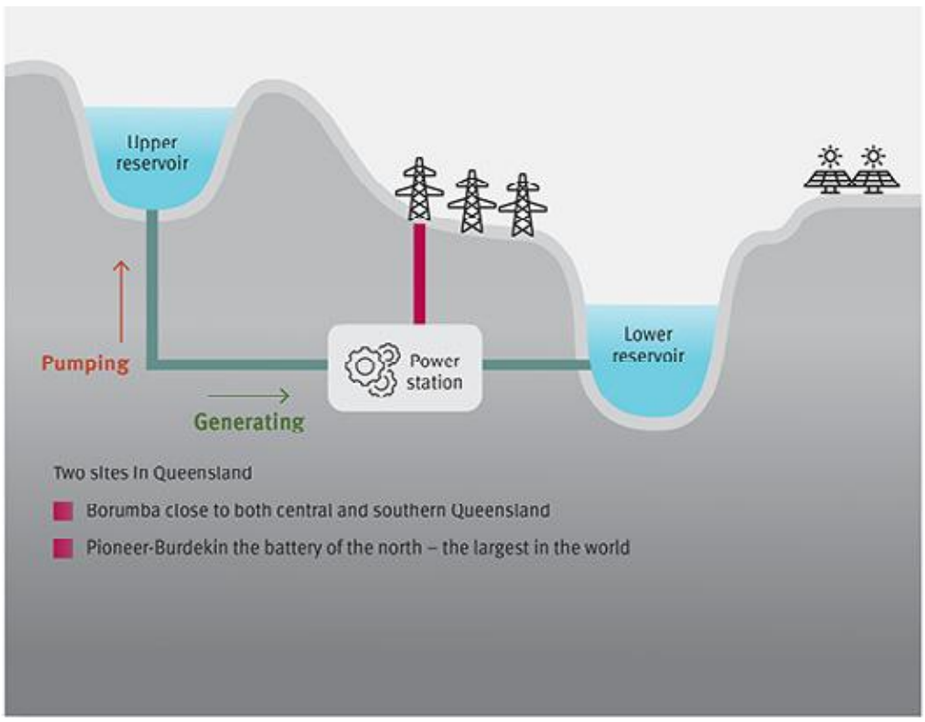


Figure 4: Diagrammatic representation of a PHES plant.

The Queensland Government has undertaken three stages of studies into potential opportunities for hydroelectric and PHES systems in Queensland. Stages 1 and 2 of the studies (delivered in 2016 and 2017 respectively) assessed the role of hydroelectric generation and PHES in the transformation of Queensland's electricity system, possible sites for both hydroelectric and PHES, and identified candidate sites for further study. Stage 3 of the studies concentrated on assessing the role of large-scale, long duration PHES – typically at least 1,000 MW of generation capacity with 24 hours storage duration.

The Queensland Government analysis used data from a range of sources including the 1,770 sites in the Australian National University (ANU) and Australian Renewable Energy Agency's (ARENA) Project – An Atlas of Pumped Hydro Energy Storage. The Queensland Government undertook a risk-based, multi-criteria assessment to identify the best PHES sites at the lowest cost, and least impact when considering:

- topology/cost – to minimise construction costs a preference for higher head sites, with short horizontal distance between reservoirs and favourable topography that support smaller dams
- capacity and storage duration – a preference for larger capacity, longer duration sites based on identified system needs and the potential to achieve economies of scale
- distance to major load centres, connection, and transmission network strength – large distances and weak networks can result in higher network augmentation costs
- environment – primarily relates to inundation of land within the reservoirs. A preference for sites that minimise such impacts, especially to environmentally sensitive areas (e.g. national parks, World Heritage areas)
- community impacts – the infrastructure needs to meet the broader community expectations in respect to impact on the natural and built environment, and human amenity
- geology – highly variable geology with faulting, igneous rock overlays and mineralisation present risks to tunnelling, and higher cost to build
- hydrology – poor hydrology can cause limitations and additional costs associated with the initial fill of the reservoir, ongoing operations, and design for floods

Native title holders were also identified and considered as part of the studies of potential PHES sites.

Based on these assessments, the Queensland Government identified the Borumba and Pioneer-Burdekin PHES sites as favourable sites.[12] These selected sites offer favourable technical and cost characteristics. Final investment decisions are yet to be made on any of the sites, however PHES is recognised as a critical asset for the transformation.

Engagement with First Nations people will occur as part of any work on identified PHES sites.

[12] Both of these sites and projects are subject to subsequent final investment decisions.

Development of renewable generation

The Queensland Government has established three QREZ regions – Northern, Central and Southern. QREZ development is based on important infrastructure cost minimisation and competitive benefit drivers and is critical to delivering a least cost transformation of Queensland's electricity system. Unlocking QREZ regions will include community engagement and input into the longer-term development pathways for these regions. Broad community engagement will be undertaken in line with release of the Plan and this Blueprint.

Key drivers for QREZ developments:

- Developing 'declared REZs' within the QREZ regions in areas of good quality, concentrated renewable resources that have transmission access (i.e. efficient use and connection of renewable resources). This will ensure the development of Queensland's optimally located renewable resources is efficiently aggregated to lower total system cost, benefiting consumers.
- Constructing efficient transmission infrastructure to connect renewable generators, with the objective of high utilisation of the transmission assets' capacity – this will keep the unit costs of connection as low as possible for renewable proponents. This benefit should then flow on to consumers.
- Connecting renewable generators into parts of the transmission system that have adequate transfer capacity so the generators should have acceptable transmission network related constraints. This will assist in ensuring that the renewable generation is as efficient and as low cost as possible.
- Developing connection and access processes that provide accelerated timeframes for connection of proponents. This concept will be finalised in 2023 and may provide Queensland with a competitive advantage compared to other states by delivering fast access to markets for proponents.

Integration of renewables, firming and storage

Queensland's renewable generation and dispatchable capacity will be located across the state and transported (at times long distances) to meet demand.

Queensland has an expansive existing 275kV transmission network incrementally developed to connect large generators – predominantly coal-fired power stations – to the load centres across the state. For a reliable future clean energy system, the existing 275kV system will be reinforced with new high-voltage Alternating Current (AC) transmission (up to 500kV). An alternative option, of reinforcing the network with a High Voltage Direct Current (HVDC) system, was also considered. While such a system may be used in the future, the high-voltage AC system proposed is a lot more flexible, with much lower costs for intermediate substations compared to HVDC and is better aligned to the immediate technical needs of the transmission system. The three key factors that necessitate a higher voltage system are:

1. **Power transfer capacity** – when renewable generation is at high levels, large amounts of power needs to be transported to load centres in south east Queensland, central and north Queensland, plus the Borumba and Pioneer-Burdekin PHES sites. Similarly, when renewable generation is at low levels, the PHES installations will be required to meet much of the demand resulting in large amounts of power being transferred to the load centres. Peak transfer amounts could be thousands of megawatts. Transfers of this magnitude, for example from the Pioneer-Burdekin PHES to large load centres in central and southern Queensland, would be difficult to achieve with a 275kV system due to inadequate capacity in the existing lines and the high energy losses incurred over this distance at this voltage.
2. **Line losses, costs and corridor acquisition issues** – a 500kV line has around three times the power capacity of a 275kV line and around one third of the losses, delivering a lower-cost solution over the long run. While a 500kV line has a higher capital cost than 275kV (around twice the cost per km), the use of a major double circuit 500kV line from northern Queensland to southern Queensland will enable high power transfers with a reasonable levels of losses.
3. **Re-use of 275kV system** – the existing 275kV network will continue to operate once the new high-voltage system is built and will support the new high-voltage backbone transmission in operation. In the early construction phases of the high-voltage network, the 275kV network will be important for enhancing overall system security and reliability outcomes, subsequently being leveraged to deliver renewable energy to PHES sites and load centres.

Customer energy resources

The Blueprint assumes a level of customer energy resource (CER) co-ordination across the distribution network, consistent with the approach adopted by AEMO in preparing the Integrated System Plan (ISP), and commitments made under the Plan for a smarter distribution grid.

Nevertheless, the scale of investment led by households and businesses across Queensland is significant. More than 4,100 MW of rooftop solar has been installed to date with an additional 7,400 MW of solar, 5,800 MW of distributed batteries and 1.6 million electric and plug-in hybrid vehicles forecast by 2035[13]. The energy generated by rooftop solar alone is expected to be more than sufficient to cover the charging requirements of electric vehicles and domestic battery systems (Figure 5).

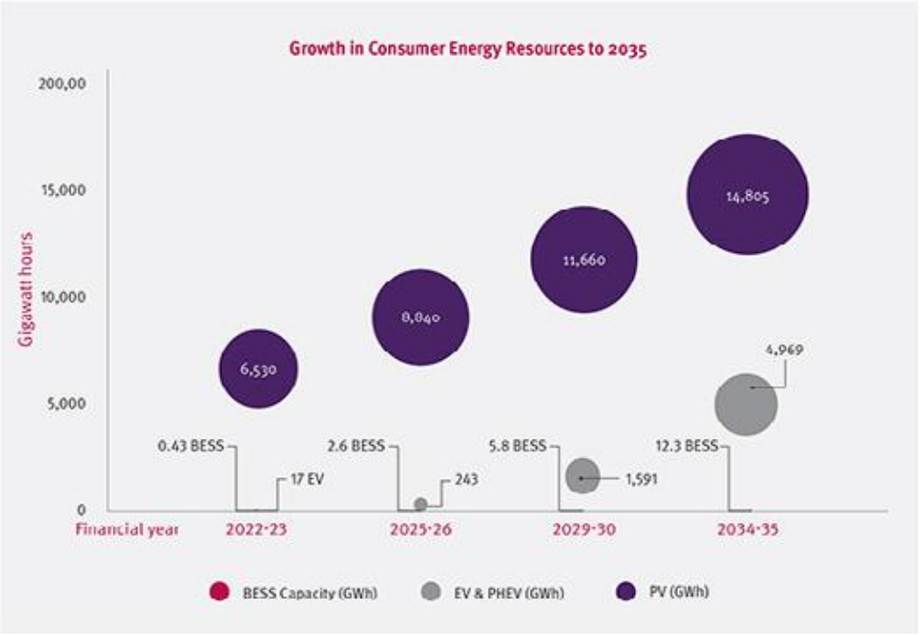


Figure 5: Forecast uptake of technology in the Distribution Network to 2035. Source data – AEMO ISP 2022, Step Change scenario.

[13] Figures reflect AEMO ISP 2022 *Step Change* scenario.

CER, predominantly rooftop solar, is already impacting the operational demand profile and shaping demand across the electricity system. The Plan seeks to build a smarter distribution grid to ensure CER is effectively integrated and customers can continue to connect their CER devices.

Historically, the electricity system was categorised by one way flow of electricity from generators to energy customers, with limited active role for people and businesses – a grid with limited integration. CER provides an opportunity for customers to participate in the electricity system in a variety of ways, and for the development of a two-way integrated and inclusive energy market – a smart, integrated grid.

The future energy system will be more complex, consisting of millions of interconnected devices and network assets including network batteries. It will require an 'Internet of Energy' that has visibility of connected equipment and supports the efficient orchestration of energy flow at the distribution level. The volume of energy flow will also be significantly greater than it is now and bi-directional. The energy system will need to be responsive to customer loads emerging at different locations and times as transport electrification accelerates.

The ability to simultaneously manage local and system network constraints, interface with customers and respond to market signals while maintaining security and reliability will be critical. This requires a more dynamic, linked and transparent system that can provide the appropriate signals to market, network and customer systems. Operational technology systems including distributed energy resource management systems (DERMS) that are integrated with network distribution management systems (DMS) will be key enablers. This system-level approach will support customer decision-making, efficient and secure network management and delivery of positive customer outcomes aligned to government renewable energy targets.

While distribution network level considerations are not the focus of the Blueprint, they remain a priority for government. Significant innovation and adoption of sophisticated operational technology and physical systems will be required to integrate CER into the electricity system.

Alternative infrastructure pathway considerations

This Blueprint outlines a point-in-time optimal infrastructure pathway to deliver a clean, reliable and affordable Queensland electricity system. The foundation components of the optimal infrastructure pathway include:

- **Long duration storage:** Long duration storage is critical to ensuring ongoing security and reliability of supply for Queensland's future electricity system with high levels of renewable generation. PHES assets will be the cornerstone of the future system. Borumba PHES is identified for delivery and a further large site/s will be needed, with this Blueprint identifying the Pioneer-Burdekin PHES in North Queensland as the preferred site. The Queensland Government has committed additional funding to support investigations into additional sites.
- **Adequate transmission:** Strong transmission networks are required to connect renewable generation with the major storage sites and loads. This will allow for the transfer of renewable energy across locations and time of use.

While long duration storage and adequate transmission are essential, other elements of the optimal infrastructure pathway may change over time due to market forces, technology costs and actual system demand. These elements are:

- **Additional storage or flexible scheduled generation:** meeting peak demand when renewable generation outputs are low can be achieved in several ways. Queensland can increase storage capacity in terms of peak output capacity and duration (volume) to ensure storage-based generation is available when required. Trying to back up a renewable energy system exclusively with storage is a high-cost pathway, with much of the storage capacity underutilised 99 per cent of the time[14]. There could be choices depending on market design.

  Strategic use of low capital cost gas-fuelled plant (such as gas turbines or gas reciprocating engines using either gas or hydrogen blends in the short-term and/or 100 per cent renewable hydrogen[15] in the longer term) may be an effective way to reduce the cost of meeting Queensland's total storage/peaking capacity requirements. While these plants have higher marginal running costs, modelling16 has shown their infrequent use results in a lower overall cost of energy. Grid-scale batteries and short duration PHES assets will also play a role in contributing back-up and firming services on an intra-day basis.

- **Demand side participation:** Customers will have increasing opportunities to use their CER to supply storage infrastructure via their own batteries and electric vehicles. Demand side participation, where large single or aggregated loads can flex on and off, will act as a storage (or 'soak' mechanism) in the energy system of the future. As new technologies emerge and cost profiles change, the optimal storage mix may change.

- **CER uptake and level of orchestration:** CER uptake is forecast to rapidly increase. Importantly, analysis assumes this will increasingly be accompanied by a level of orchestration to manage distribution-level grid considerations and greater customer interaction with electricity markets.

  This assumption will help to ensure the distribution-transmission level interface is not negatively impacted by CER uptake (e.g. due to system security or power flow).

- **Transmission interconnection:** Queensland has two interconnections to NSW, the 330kV AC Queensland-NSW Interconnector (QNI) capable of transferring up to around 1,450 MW plus a 180 MW direct current (DC) connection at Terranora. An upgraded QNI capacity may help meet demand in Queensland during scarcity events (e.g. periods of high demand combined with low renewable generation, or during transmission outage conditions), reducing the need for additional storage capacity and/or flexible dispatchable generation requirements in Queensland. A strong interconnection also improves competition in the energy market, improving customer outcomes and reduces spillage of renewables through opportunity to export excess energy.

- **Solar and wind generation:** the optimal infrastructure pathway consists of an approximate 50/50 split of large-scale solar and wind capacity (modelled result is 48:52 solar to wind). Wind is developed initially, with solar being developed alongside PHES assets. This mix is based on the market pricing achieved by wind and solar, not the input costs – the solar capital cost is currently around 60-70 per cent of wind generation but without storage its value is reduced by rooftop solar generation.[17]

  These relative technology costs are likely to change over time. This will influence the energy mix. Community acceptance for technologies and local development may also influence the mix of generation assets (i.e. visual amenity impacts of wind may result in a system with more solar and storage).

Given these trade-offs and considerations, active oversight of Queensland's energy transformation and regular review of the optimal infrastructure pathway is vital. The governance process to deliver active oversight and review is described in the Plan.

[14]Internalmodelling carried out by the Queensland Government, externally reviewed.

[15]Given plant would be expected to operate in times of low renewable generation including dunkeflaute, large volumes of hydrogen storage would be required, which could potentially be provided by geologic hydrogen storage such as salt caverns or depleted gas fields.

[16]Independent modelling June 2022 shows that development of around 3,000 MW of OCGT capacity is part of the least cost development pathway.

Optimal infrastructure pathway - Queensland's way forward

This Blueprint outlines the optimal infrastructure pathway to 2035 to deliver a clean, reliable and affordable Queensland electricity system. The scale and pace of activity and investment required to deliver this new infrastructure is significant. Staging the works provides opportunities to optimise cost outcomes by spreading out demand for labour, materials and approvals while building in future flexibility. Staging the works also allows for early renewable connections and the opportunity to deliver the benefits of renewable energy earlier.

Achievement of the Infrastructure Blueprint requires investment across four focus areas.

1. **Renewable investments** – substantial new renewable generation investment is critical. Given the variable nature and capacity factors of renewable generation, around 25,000 MW of large-scale renewable generation (total) and around 7,000 MW of new rooftop solar generation is required to meet forecast demand in 2035 (when all publicly owned coal fired power stations are repurposed into clean energy hubs). QREZ will be a key government lever for the coordinated, efficient connection of new large-scale renewable generation. It will optimise the renewable and storage connections in a declared location, accelerate connection arrangements and reduce costs to consumers.
2. **Storage and dispatchable capacity** – Queensland is forecast to require at least 6,000 MW of long storage to ensure reliability. Dispatchable low emission gas-fuelled generators are expected to economically provide further back up power while grid scale batteries and medium duration PHES systems provide firming and smooth daily renewable energy output.
3. **Major network transmission and system strength augmentation** – new transmission infrastructure is required to connect renewable generator investments and storage with Queensland's existing and future energy demand centres. Conversion of some existing generators to synchronous condensers will bolster system strength as renewable generation increases.
4. **Clean energy hubs** – Government owned coal-fired power stations will be progressively repurposed into 'clean energy hubs' that provide system strength, storage, and firming services.

While the Blueprint does not address small-scale infrastructure, the distribution network and CER, these do contribute to a decarbonised energy system and form a key part of the Plan.

[17]This occurs because rooftop solar acts as a reduction in demand on the system. As rooftop solar and utility solar are generating at the same time, rooftop solar "eats into" the load (and therefore the revenue) that could be supplied/earned by utility solar. Large storage assets, like PHES help alleviate this issue as they provide a "sink" for utility solar, allowing this energy to be discharged when the sun goes down.

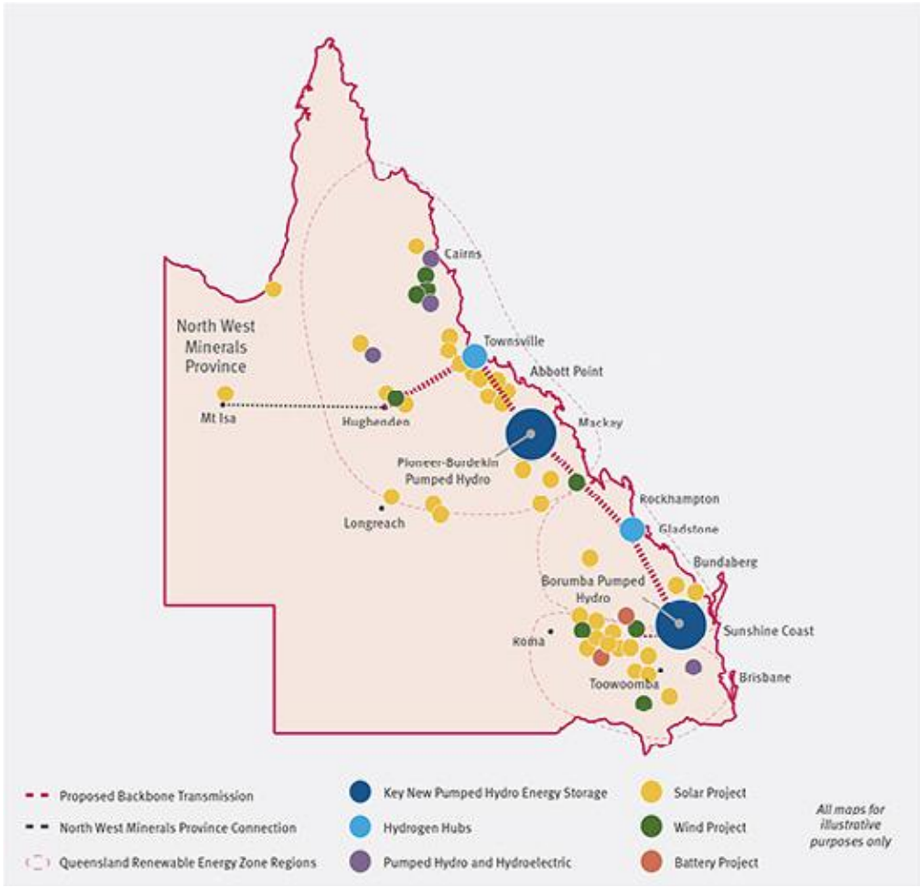


Figure 6: Queensland's future electricity system will deliver affordable, reliable and clean power, with two foundational PHES assets and new backbone transmission to move large volumes of renewable and stored energy to where and when it is needed.

Renewable investments

Independent modelling indicates Queensland will require approximately 25,000 MW of total large-scale renewable generation capacity by 2035 (in addition to a further 7,000 MW of rooftop solar). This consists of:

- 2,882 MW of existing operational wind and grid-scale solar capacity (as of June 2022)
- 12,200 MW of new wind generation capacity, which equates to around 2,700 turbines, each with an average capacity of 4.5 MW. The total land area for 2,700 wind turbines is approximately 540,000 hectares (allowing 200 hectares for each turbine, based on separation distance of multiplying the blade diameter by a factor of 10)
- 10,000 MW of new large-scale solar capacity, which equates to around 40,200 hectares for solar farms, based on an average of 4 hectares per MW (all inclusive) for large-scale solar installations in Queensland.

Renewable capacity	Unit	2022-24	2024-28	2028-35	Total
Solar capacity (aggregated)	MW	3,620	500	7,990	**12,110**
Wind capacity (aggregated)	MW	1,610	2,980	8,300	**12,890**
Total renewable capacity	MW	5,230	3,480	16,290	**25,000**

Table 1: Renewable energy capacity will be progressively developed, with around 12,900 of large-scale wind generation and around 12,100 MW of large-scale solar generation anticipated by 2035. Solar build rates slow until Borumba PHES is closer to completion, increasing demand for low-cost solar energy.

While the land area required for this renewable energy development appears large, it is a small portion of Queensland's total area (i.e. 185.3 million hectares). This means the area required for wind represents 0.3 per cent of the state's land area: and 0.02 per cent for solar. As these are rules of thumb, even a doubling of the area ratio is still less than 1 per cent of the state's land area.

This modelling uses AEMO 2022 Step Change demand assumptions. If demand significantly increases (e.g. renewable hydrogen export industry or large-scale electrification), additional large-scale renewable generation will be required. The infrastructure proposals in this Blueprint provide a foundation for future growth, and further generation needs will be captured in future Blueprint reviews and updates.

Queensland Renewable Energy Zones

Queensland Renewable Energy Zones (QREZ) are a key enabler to coordinate the efficient connection of new renewable generation. The Queensland Government has established three QREZs – the Northern, Central, and Southern regions. Development of smaller declared Renewable Energy Zones (REZs) within these regions over time will coordinate efficient investment in electricity transmission and renewable generation infrastructure.

A key design element of the declared REZs is the coordination of generation sources with REZ infrastructure. This may include allowing installed generation capacity to exceed the nominal transmission capacity (based on an optimised assessment of capacity factors and generation 'shape') leading to higher transmission asset use and maximum investment opportunities.

This design concept will support least cost connection and development of the required 25,000 MW of large-scale renewable generation (total) by 2035.

QREZ phased development

Development of QREZs will occur over three phases:

- **Phase 1: Building on our strong foundations (2022–2024):** QREZ development in this timeframe is focussed on early pilot zones in areas with available network capacity or that require limited transmission investment to unlock high investor interest through scale efficiencies in connections. The Queensland Government and Powerlink will advance early investments to bring forward projects and keep investment flowing.
- **Phase 2: Scaling and expanding opportunities (2024–2028):** QREZ development in this timeframe will expand to better match renewable generation to local demand and efficiently connect new renewable capacity as the generation mix in Queensland changes, unlocking new zones across Queensland for higher levels of renewable energy generation.
- **Phase 3: Preparing for net zero (2028–2035):** QREZ development in this timeframe will support further network enhancements and expansion of renewable generation to decarbonise the electricity system, to power growing industrial demand from hydrogen export, industrial electrification, and to begin the electrification of broader energy demand in Queensland.

Phase 1 QREZ development

Northern QREZ region

The government has invested $40 million (from the $145 million QREZ funding allocation) to upgrade transmission infrastructure between Cairns and Townsville (Figure 7).

This investment will provide up to 500 MW of renewable energy connection potential in Far North Queensland. Several investors have shown interest in this area, with the 157 MW Kaban Wind Farm under construction (expected to be operational in 2023).

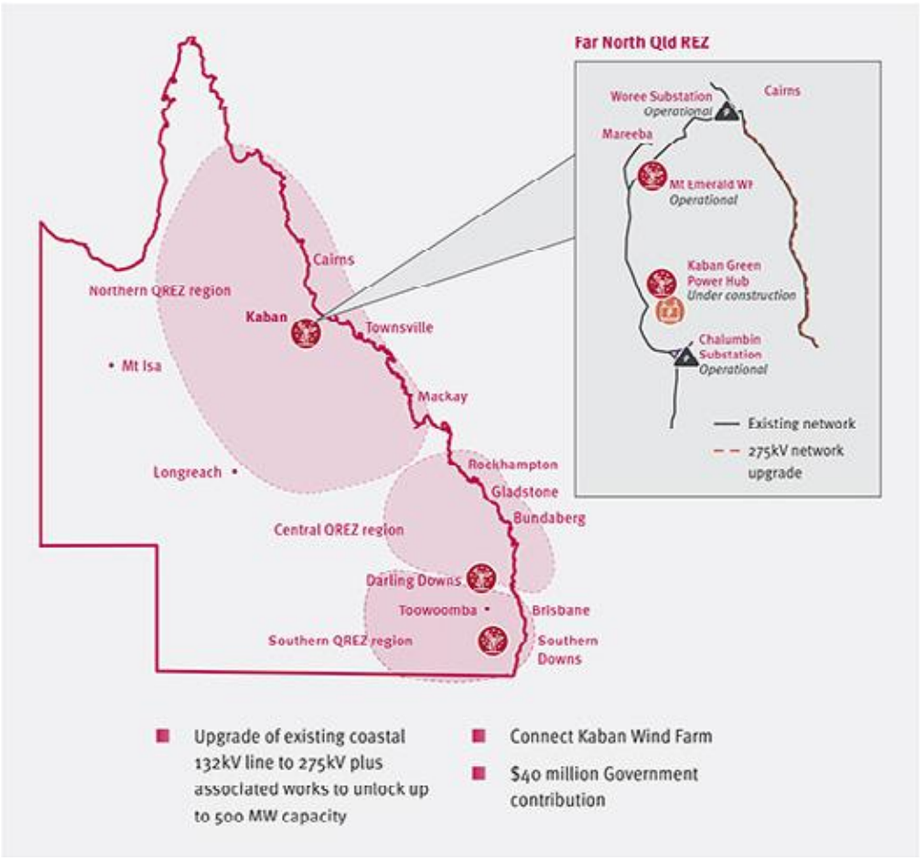


Figure 7: $40 million investment in the Northern QREZ region, which has unlocked up to 500 MW of capacity and supported the connection of the Kaban project.

Central QREZ region

Powerlink will invest $365 million into the Central QREZ to enable up to 3,300 MW of new renewable capacity to connect to the grid. While this investment provides some incremental renewable connection capacity, its primary purpose is the reinforcement of the Gladstone system to support decarbonisation of the region. This investment includes:

- a new double circuit 275kV line connecting into Gladstone (Calvale to Calliope River) (unlocking up to 1,800 MW[18] of renewable generating capacity)
- a new transformer to support 132kV capacity in Gladstone (to maintain reliability)
- a new synchronous condenser (to provide system strength with the changing energy mix)
- a battery connection (to support system strength and enable renewable capacity)
- a second circuit upgrade to enable further REZ capacity in the Banana Range (unlocking up to 1,500 MW of capacity).[19]

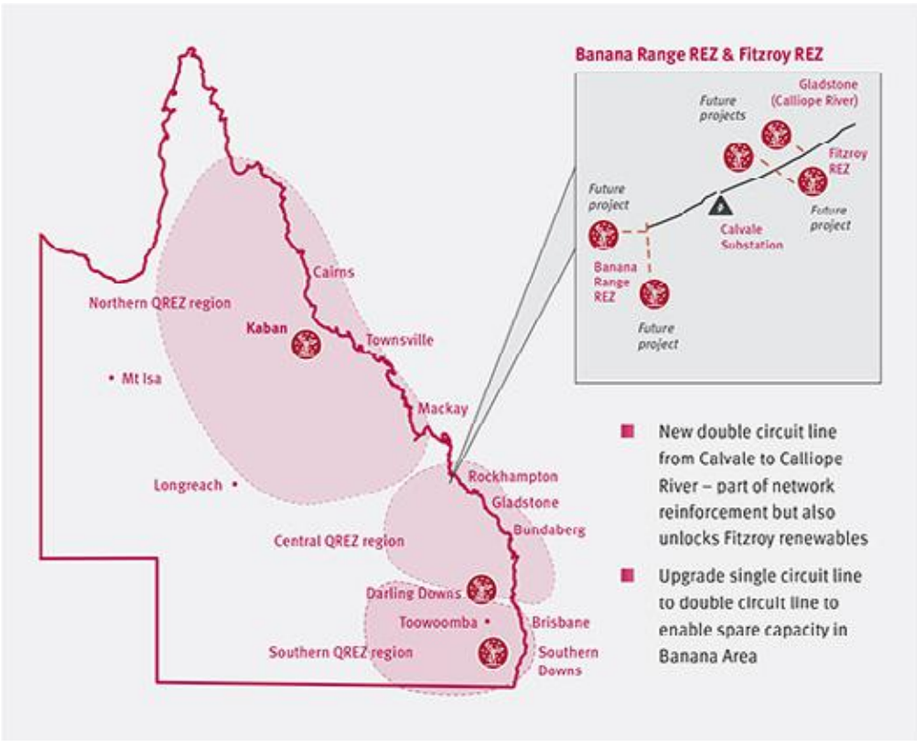


Figure 8: This initial investment in the Central QREZ region will unlock additional renewable energy capacity and supports existing industrial consumers in the region to transition to clean, reliable and affordable electricity.

[18] The amount of renewable generation able to be connected on this line section will vary depending on generation and transmission line flow patterns. Initial estimates in the QREZ Technical Discussion Paper indicated a potential of 800 MW; however, further analysis indicates this could be up to 1,800 MW of renewable capacity. Powerlink is currently carrying out further analysis to optimise the use of this line for capacity support in the Gladstone area plus the delivery of additional renewable generation connection capacity.

[19] Community consultation has commenced on this transmission project

Southern QREZ region

The Queensland Government and Powerlink are currently delivering two investments in the Southern QREZ region – the Southern Downs and Darling Downs REZs.

Powerlink is providing additional capacity on the Southern Downs at MacIntyre, which includes an investment of $167 million for transmission infrastructure. This includes connecting the MacIntyre and Karara wind farms, which have a combined generation capacity of 1,026 MW. Installation of a grid-connected battery and other localised augmentations in the southern QREZ region will increase the available generation capacity of the Southern Downs REZ significantly, with likely renewable generation hosting capacity of up to 1,500 MW.

Powerlink is providing additional capacity on the Darling Downs, which involves construction of a dedicated 275kV line to several wind developments in the area, the first of which is expected to be the 500 MW Wambo Wind Farm.[20] The total renewable generation connection capacity of the Darling Downs REZ is 1,850 MW and there is adequate wind and solar development interest in the area to fill this capacity.

[20] Phase 1 of this project is 252 MW.

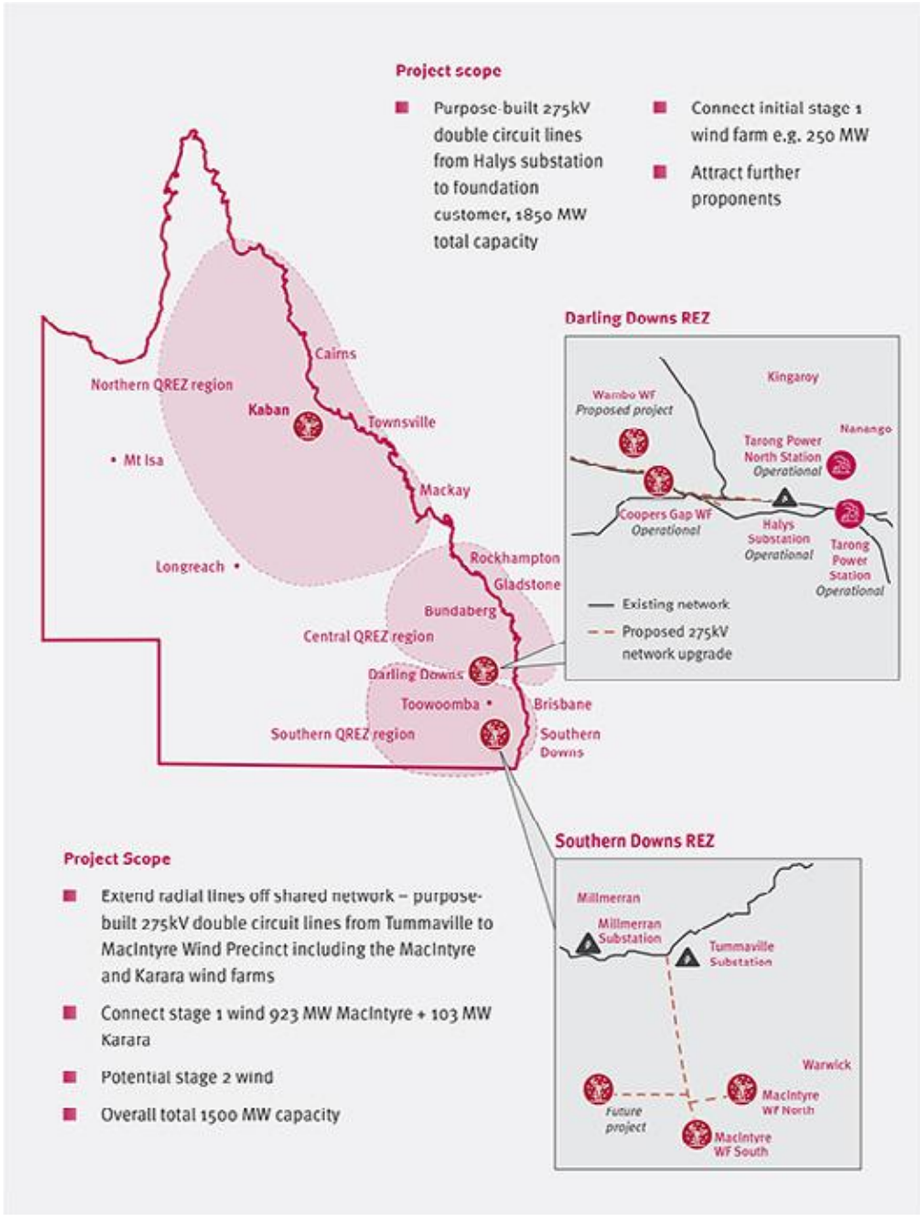


Figure 9: The Southern Downs and Darling Downs investments in the Southern QREZ region could unlock up 3350 MW of renewable energy capacity.

Future phases of QREZ development

Further development of the three QREZs will occur in stages to support connection of the 25,000 MW of large-scale renewable generation (total) required by 2035. Powerlink and the Queensland Government have identified the preliminary renewable capacity for each region (Table 2):

- more than 6,000 MW of capacity in the Northern QREZ region
- more than 8,000 MW of capacity in the Central QREZ region, and
- around 11,000 MW of capacity in the Southern QREZ region.

Project	Unit	2022-24	2024-28	2028-35	Total
Northern QREZ	MW	1220	300	4600	**6,120**
Central QREZ	MW	1010	1580	5500	**8,090**
Southern QREZ	MW	2940	1665	6190	**10,795**
Total renewable capacity	MW	5170	3480	16290	**25,000***

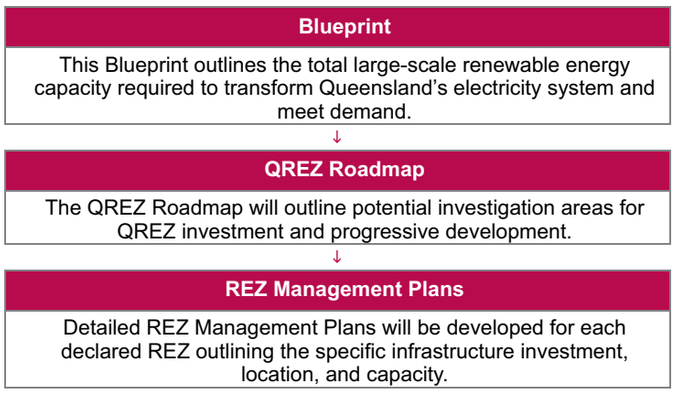
*Table 2: QREZ regions will be progressively developed to support the connection of the 25,000 MW (*rounded) of large-scale renewable capacity required by 2035.*

The Queensland Government will release a QREZ Roadmap for community engagement and feedback to outline the proposed approach for developing each of the three QREZs. This Roadmap will include the immediate capacity proposed to be unlocked and the longer-term capacity for each region to meet demand and the targets set out in the Plan. The capacity identified in the QREZ Roadmap will be based on technical and strategic criteria and detailed land use mapping of priority areas.

Importantly, engagement on the QREZ Roadmap will ensure communities are directly involved in the development of renewables in their region and community.

Under the QREZ framework, in each region, individual REZs will be announced by the Queensland Government, following a ministerial declaration, and informed by recommendations from the designated planning body (proposed to be Powerlink) and detailed stakeholder consultation on the QREZ Roadmap. Further details on the process for identification and declaring REZs will be in the QREZ Roadmap.

Early strategic investment as part of Phase 1 of QREZ development will be incorporated into a legislative framework. The QREZ Roadmap forms a critical component of the governance framework for implementing the Plan and investment pathway in this Blueprint.



The QREZ designated planning body will develop detailed REZ Management Plans for each declared REZ in a coordinated way to ensure that the timing of renewable development aligns with other key Blueprint activities.

Storage, firming and dispatchable capacity

Purpose

> On the optimal infrastructure pathway, Queensland's future clean energy system includes at least 6,000 MW of long duration storage for energy security and reliability.[21]

This Blueprint only outlines the delivery of large-scale PHES assets, as development and construction of these assets is expected to be led by government. Other forms and technologies of storage and intra-day firming may form part of a clean, reliable and affordable energy system. This may include utility scale batteries, medium PHES and low or zero emissions gas fuelled turbines or reciprocating engines firing a gas-hydrogen fuel blend and up to 100 per cent renewable hydrogen fuel in the future.[22] These are anticipated to be developed by a combination of the private sector and government owned energy corporations.

Existing and committed infrastructure

As renewable energy penetration progressively increases beyond the current 20 per cent level and further toward the 50 per cent Queensland Renewable Energy Target,[23] utility and distributed scale battery energy storage systems (BESS) will initially be required to provide firming and assure security of supply on an intra-day basis. There is already multiple utility-scale BESS proposed or under construction in Queensland as shown in Table 3.

21 This quantum may change over time depending on actual future demand outcomes.

22 Source: [Source redacted]. Accessed 12 May 2022

23 Queensland renewable generation as a percentage of consumption for Jan 21 to Dec 21 was 20.4 per cent.

Project	Proponent	Capacity (MW)	Storage duration (Hours)	Storage capacity (MWh)	Expected operation date
Wandoan South BESS	Vena Energy	100	1.5	150	2022
Bouldercombe	Genex Power	50	2	100	Late 2023
Southern REZ BESS	Stanwell	150	2	300	Late 2023
Central REZ BESS	Stanwell	150	2	300	Mid 2024
Chinchilla BESS	CS Energy	100	2	200	Late 2023
Greenbank BESS	CS Energy	200	2	400	2024

Table 3: Utility BESS projects proposed or under construction in Queensland as of June 2022.

In North Queensland, the Kidston PHES project is under construction at the old Kidston gold mine (capacity of 250 MW for 8 hours – expected operation in 2024) and the 570 MW Wivenhoe PHES is operational. Wivenhoe was commissioned in the 1980s to optimise power system operations, moving low-cost energy generated during off-peak periods into the morning and evening peak periods. It can perform the same functions into the future – shifting renewable energy to higher demand times of the day and acting as a load to soak up 'excess'[24] solar energy at certain times of the year.

[24] 'excess' is a colloquial term for energy that would otherwise be constrained off. The addition of the pumping load to the system creates demand and enables this generation to be online.

PHES development

Borumba PHES

A PHES project at Borumba Dam near Imbil in south-east Queensland will provide a 2,000 MW/24hr asset and is a foundational investment in Queensland's future electricity system.[25]

This is a priority large-scale PHES project because it is situated in an advantageous location, on a site owned and flagged as a potential pumped hydro site by Powerlink for the past 20 years. It is close to the existing transmission network and the significant south-east Queensland energy load.

On the optimal infrastructure pathway, the Borumba PHES is operational in 2030 when renewable energy is anticipated to exceed 50 per cent of Queensland's electricity supply.

In 2021, Powerlink commenced work on the studies for a Borumba PHES. The detailed assessment report on the project is anticipated to be completed in the first half of 2023. This will include identification and costing of the preferred design and a potential pathway to construction and full operation of the PHES in 2030.

Project costs are to be determined as part of the detailed cost analysis, dependent on completion of geotechnical investigations and finalisation of the preferred design.

The pathway to construction will identify any environmental and approval issues associated with the PHES, and appropriate project management and mitigation strategies.

The commissioning timing of the Borumba project will influence the pace of transformation. To maintain security of supply, only limited amounts of coal-fired generation – replaced by renewable energy and storage – can be removed from the electricity system before Borumba PHES is operational.

Phase	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Detailed analytical report[1]	FEED/technical studies									
EIS[2]	Environmental/technical studies									
Early works		Site access								
Civil works				Construct upper and lower dam, caverns, tunnels						
Transmission		Design and corridor acquisition			Build transmission					
Turbines						Install and commission				
Upper reservoir								Fill reservoir		
Final commissioning and handover									Operational	

Table 4: The preliminary high-level works program for the Borumba PHES. This will change once feasibility works are finalised.

1. Detailed analysis report requires front end engineering design (FEED) and other studies (environmental, commercial assessment) to be completed
2. EIS and approvals includes state and federal approvals, including EIS and EPBC for the site approvals for the transmission corridor

[25]Actual plant capacity is subject to completion of final front end engineering design but is anticipated to be 2000 MW/24 hour.

Pioneer-Burdekin PHES

On the optimal infrastructure pathway, additional large-scale long duration storage is operational in 2032. The preferred site is in the western Pioneer Valley, near Mackay in North Queensland, with the upper reservoirs located at the head of the Burdekin River catchment, and the lower reservoir in the Pioneer River catchment.

This PHES site has favourable topography, with a large vertical separation between reservoirs (head), favourable horizontal distance between reservoirs (length) and relatively low cost dams. It is also located close to high-quality wind and solar resources in the Central QREZ region and could unlock large volumes of renewable energy.

The site also has an even greater storage potential than the Borumba PHES, and is able to accommodate 5,000 MW with 24 hours of storage.

The PHES project could be delivered over two stages. The first stage is 2,500 MW/24hrs (60 GWh) delivered by 2032 and the second stage is a further 2,500 MW/24hrs (60 GWh), commissioned by 2035.

The components of each stage would comprise the same infrastructure as the Borumba PHES (power station, turbines, headrace tunnel, tailrace tunnel, main access tunnel and emergency, cable, and ventilation tunnels).

Environmental, including water, approvals are key for this project.

Major network transmission and system strength

Purpose

> Queensland's existing transmission system must evolve to efficiently move renewable and stored energy across the state, both geographically and at different times of day.

Delivery program for initial connections

The optimal pathway has four key stages of major transmission reinforcement to provide initial connection capacity to support the initial PHES developments and achieve a clean, reliable and affordable electricity system, including by providing access to the State's high quality renewable energy resources. All stages are proposed as high voltage (up to 500kV) double circuit transmission assets.

- **Stage 1** – Borumba Connections
- **Stage 2** – Central Queensland Connection
- **Stage 3** – Pioneer-Burdekin PHES and NQ Connection
- **Stage 4** – Townsville to Hughenden Connection

Powerlink will undertake further detailed planning and assessment to determine the optimal timing and corridors for these stages of major transmission reinforcement. Details on the initial four stages of major transmission reinforcement are identified in Figure 6 (page 26) and in Table 5. It should be noted that line lengths, routes, costs and timeframes are high-level estimates and are subject to ongoing review and refinement. All years referred to in the text are financial years.

Project	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	FY 35	FY 36
Stage 1 – Borumba Connections														
Stage 2 – Central Queensland Connection														
Stage 3A – Pioneer-Burdekin PHES and NQ Connection (Larcom to Nebo)														
Stage 3B – Pioneer-Burdekin PHES Connection (Nebo to Pioneer)														
Stage 3C – Pioneer-Burdekin PHES and NQ Connection (Pioneer to Townsville)														

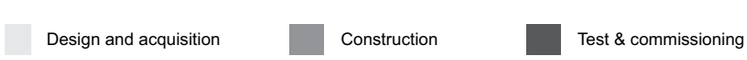


Table 5: The new backbone transmission projects will be progressively delivered by the mid-2030s, with design and corridor acquisitions commencing in 2023.

Stage 1: Borumba connection

On the optimal pathway, the Borumba PHES project is operational in 2030 and connected to the grid via new high voltage (up to 500kV) transmission. It is a cornerstone of Queensland's future clean energy system, providing critical storage and firming for increasing levels of variable renewable generation. Connection and operation of Borumba PHES will allow Queensland's reliance on coal-fired generation to reduce, allowing further coal-fired units to be repurposed into 'clean energy hubs'.

To be operational in 2030, the Borumba PHES must connect to the grid no later than 2029 to support project commissioning. The Borumba connection involves two transmission lines around 140km in length in total with an estimated cost of approximately $800 million.

Stage 2: Central Queensland connection

Central Queensland hosts much of Queensland's coal-fired generation and is a large industrial load centre, including Queensland's largest single load (the Boyne Island Aluminium Smelter). New major transmission lines (up to 500kV) will be constructed into Central Queensland to supply renewable energy generation and firming, supporting decarbonisation of these large industrial loads.

The Central QREZ investment (estimated completion 2026) will provide additional transmission capacity into the region and support connection of up to 3,300 MW of renewable generation capacity (out of the 25,000 MW total required by 2035). On the optimal infrastructure pathway, additional high voltage transmission will be constructed by 2030 to connect Borumba PHES into the Central Queensland load centre. This connection, coupled with the additional renewable capacity from the Central QREZ investment, will enable greater reliance on renewable generation and provide important storage and firming capacity for the region.

On the optimal infrastructure pathway, the 290km, high voltage Central Queensland connection is delivered by 2030 at an estimated cost of $1.3 billion. This requires easement acquisition and approvals to commence in 2023 and conclude in 2026, and construction to commence in 2027.

Stage 3: Pioneer-Burdekin PHES and NQ Connection

A second large-scale PHES is fundamental to decarbonising Queensland's electricity system and maintaining a reliable electricity supply. This Blueprint assumes the second PHES site will be the Pioneer-Burdekin PHES. The transmission requirements will alter based on the PHES developments, and this will be considered as part of future Blueprints.

The Pioneer-Burdekin PHES will be connected to both northern and central Queensland, providing access to both load centres and high-quality renewables. Given the long distances between the PHES asset and load centres, this transmission connection will be high voltage (up to 500kV) to reduce losses and provide adequate power transfer capacity.

Easement acquisition and approvals will take a considerable amount of time. Easement acquisition and approval commencements must align with the expected operational date for the second PHES. On the optimal infrastructure pathway, the second PHES commences operation in 2032.

This connection will be approximately 750km and cost approximately $3.4 billion. Detailed design and engineering works will refine the proposal.

Stage 4: Townsville to Hughenden

The Hughenden area has excellent renewable energy resources that can support new large industrial loads and demand in North Queensland, including renewable hydrogen. The renewable resources are extensive and very good quality, with high-capacity factors and significant geographic diversity compared to wind generation in other parts of the State.

A high voltage (up to 500kV) transmission line will need to be constructed from near Townsville to Hughenden by 2035, which in combination with the Pioneer-Burdekin PHES and the other high voltage transmission lines, will unlock the first significant amount of renewable resources.

Construction timing is important in terms of minimising overall infrastructure and energy cost. Due to the long distances between generation resources in the Hughenden area and existing demand in central and southern Queensland, this line will incur large transmission losses (costs) if its sole purpose is to supply energy southwards. Construction of this high voltage connection should commence once the Pioneer-Burdekin PHES and the high voltage connection to central and southern Queensland is operational – with completion expected by 2035. This will allow for the transportation of excellent renewable resources to existing large load centres, supporting industrial decarbonisation and system transformation.

The Stage 4 connection is approximately 370km at a cost of $1.7 billion. The transmission line could be extended from Hughenden to Mount Isa. The Hughenden to Mount Isa connection could be constructed at a lower voltage (i.e., 275 or 330kV).

The Queensland Government recognises the important role the North West Minerals Province (NWMP) could play in our future energy system. Critical minerals from the region could contribute to manufacturing opportunities as part of the Plan's pipeline of clean energy infrastructure.

Recognising this, the Queensland Government views a connection of the NWMP to the National Electricity Market (NEM) as an important part of the future Queensland SuperGrid. This Infrastructure Blueprint already includes the Townsville to Hughenden connection. Further connection from Hughenden to Mount Isa will integrate a new region into the NEM and must occur in close consultation with national market bodies. The Queensland Government is currently engaging with key stakeholders, including the Australian Government, on the best way to deliver the connection to the NWMP while aligning with Queensland's renewable energy ambitions.

Potential future network connections

The above transmission network development includes a high capacity, high voltage backbone, supported by the existing 275kV network. This configuration does not provide full redundancy and reliability under some operational conditions. Queensland may require additional transmission lines in the 2030s to accommodate increased load development (for example large scale renewable hydrogen projects), the location of further renewable energy developments, additional PHES developments and/or as a risk mitigation mechanism for operability and reliability considerations.

Powerlink is considering a range of both transmission and non-transmission risk mitigation measures to support this low-cost configuration, including special protection schemes and network support from PHES, batteries, generation, and loads. Monitoring the emergence of large new loads and renewable energy developments will continue.

Enhanced interconnector (QNI) capacity may eliminate or reduce the need for additional storage, peaking capacity or additional transmission reinforcements in Queensland. Assessment and decisions on whether additional major network reinforcements or alternatives are required will be necessary in the future.

Delivery considerations

Delivery of this major transmission infrastructure program will be a significant challenge. It represents the largest transmission construction program ever undertaken in Queensland, over a relatively short period of time. Prerequisites for delivery include:

- Early engagement with the community to support corridor acquisitions –this work must commence as quickly as possible to ensure landholders, First Nations Peoples and broader community stakeholders are able to have meaningful and early input into the potential transmission corridors. This should include targeted local benefits arrangements.
- Ensuring a coordinated, timely approach to planning, acquisition and works approvals processes between Powerlink and various Federal and State Government departments. This may include exploring opportunities to streamline and improve existing approval processes and regulations, where appropriate, and commencing applications for approvals (such as environmental approvals) as early as possible.
- Early engagement with relevant partners (contractors, industry, and unions) to secure labour resources in a time of major transmission construction across Australia. This is likely to require a visible forward program plus some level of precommitment to works programs to secure partner resources.
- Early engagement with equipment suppliers to obtain plant and equipment in a timely and cost-effective manner.

System strength and inertia

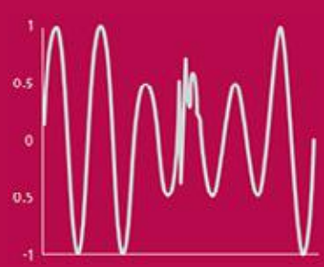
The Blueprint outlines critical steps to maintain system strength and security as the generation mix changes. Existing coal-fired generators are the main suppliers of system strength and inertia to the electricity system. In the future these technical services, which are critical for system stability, will need to be provided by alternative sources. This may include new synchronous machines developed as part of the PHES installations, existing coal-fired generators being converted to operate as synchronous condensers, standalone synchronous condensers, and large-scale batteries. Key elements included in this Blueprint:

- Repurposing coal-fired units (where feasible) into synchronous condensers to provide system strength and inertia and to continue to meet AEMO's operational requirements.
- Investing in (at least) two greenfield synchronous condensers (estimated at $80 million each) to provide general system strength and inertia. The timing for delivery is dependent on the timing of new renewable generation and repurposing of coal-fired generators.
- Implementing synchronous condensers and/or batteries as part of QREZ developments to provide additional system strength to support new renewable generation. The installation will be coordinated as part of the QREZ connection program, including costs.

To ensure reliability and resilience of supply, initial coal-fired unit conversions to synchronous condensers will be designed to be reversible. This allows units to return to service for forecast renewable droughts or contingency events such as coincident long duration forced outages of other generators.

System strength and inertia

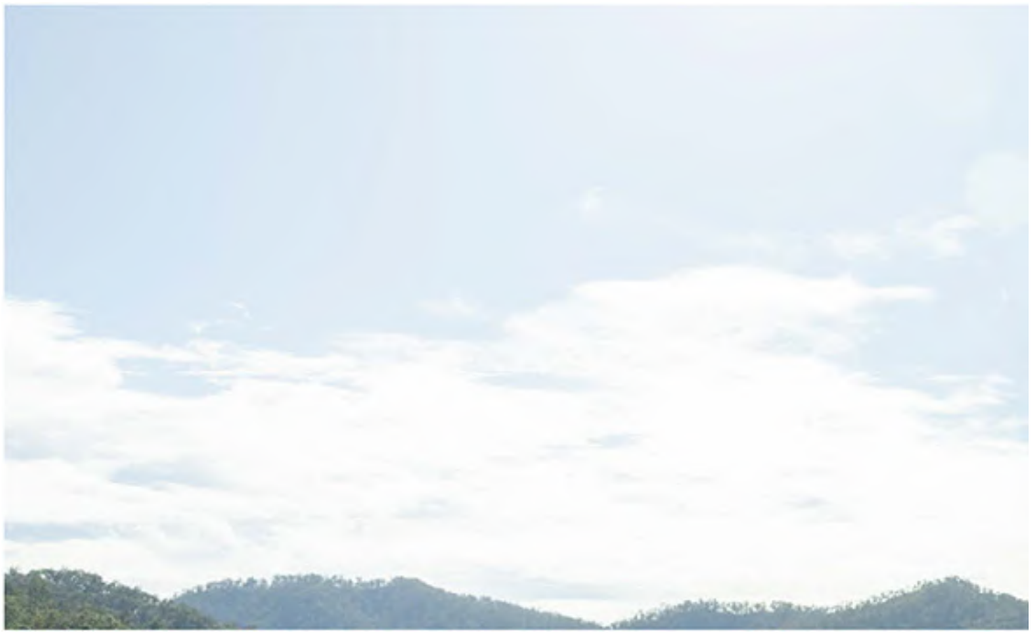
System strength is one determinant of how well the power system can return to normal operation following a disturbance or fault or how quickly the power system voltage waveform can be restored to the consistent sine wave. In practical terms, power systems with system strength can maintain more stable voltages following changes in power flows.



System strength contribution and inertia are design and operational characteristics of synchronous generation technology that are not yet easily replicated in invertor connected generators and batteries. They are provided by synchronous generation as a by-product of energy production, and by synchronous condensers. As synchronous machines change operating patterns (e.g. when they are displaced in the bid stack or retire) the power system loses both system strength and inertia.

Local increases in the level of invertor connected resources can increase the need for system strength in that part of the power system since these resources currently require system strength to operate stably.

System strength is expressed in the National Electricity Rules by reference to fault levels while inertia to rates of change in frequency (RoCoF). They are related because inertia is critical for the power system's resilience to changes in active power (megawatts). In spite of these similarities, their remediation is different. For example, if synchronous condensers are used to address a fault level shortfall, they will provide enough fault level, but will not address an inertia shortfall unless they are coupled with a rotating mass or flywheel.



Clean energy hubs

At present, the role of coal-fired units extends beyond the generation of electricity – these units provide critical system services, dispatchability, system strength and inertia. On the optimal infrastructure pathway, as coal-fired generation reduces, these services must be replaced by other services that can maintain a reliable, secure electricity supply.

In Queensland, there is around 8,100 MW of coal-fired generation provided through 22 units located across eight power stations. This equates to supplying approximately 70 per cent of Queensland's annual electricity demand. CS Energy and Stanwell ("GenCos") wholly own, operate and control 12 coal fired units, as well as CS Energy having a 50% interest in the Callide C Power Station and dispatch control over the Gladstone Power Station. Millmerran is privately owned, operated, and controlled.

Stanwell and CS Energy will progressively repurpose existing publicly owned coal-fired units into 'clean energy hubs'. This means converting the generating units to synchronous condensers,installing batteries and/or installing new generation at the power station sites. Clean energy hubs will provide critical system strength, inertia, firming and storage, and help replace the system services provided by coal-fired generation.

Over time, the operating state of coal-fired units will change. Four operating states have been identified:
(1) generating electricity, (2) reserve: operating seasonally, (3) repurpose: operating as a synchronous condenser, or (4) reinvest: decommissioned. These terms are defined below.

1. **Generating electricity:** the current operating condition (excluding overhauls/forced outages etc).

2. **Reserve - operating seasonally:** removing one (or more) units from service during periods of sustained low electricity demand on the network. In Queensland this typically corresponds to the autumn and spring periods where ambient temperatures are usually mild and there is minimal heating or cooling loads. Removing and storing one (or more) units from service allows the remaining units to operate at higher loads/capacity factors, improving efficiency and economics. These stored units can also provide reserve generation capacity insurance, as they could be able to be recalled in under two weeks.

3. **Repurpose - operating as a synchronous condenser:** the unit is not exporting power, but instead, the generator is providing system strength and inertia for the network whilst importing a small amount of power.

4. **Reinvest:** the unit is decommissioned and permanently removed from operation as a generating unit and replaced with renewable energy or other energy investments (where appropriate).

By 2035, the Queensland system is anticipated to have sufficient supply and storage to support zero regular reliance on coal generation. Figure 11 indicates the declining reliance on coal-fired generation as new storage and renewable energy capacity becomes operational. Privately owned power stations will make their own decisions in the context of growing renewable energy and storage, but the system is being designed to operate without reliance on coal by 2035.

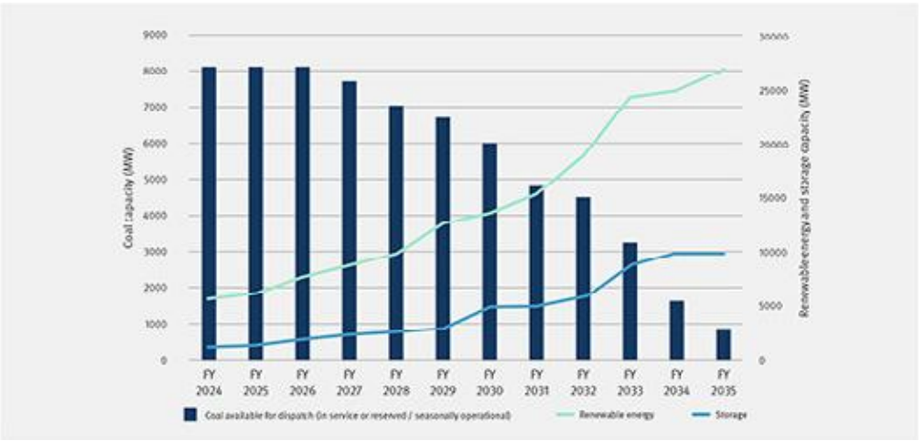


Figure 11: Gradual withdrawal of all coal-fired power stations in Queensland as more renewable energy and storage is built to support a system without coal generation by 2035.

Figure 12 illustrates an indicative reduction and reliance on coal-fired generation that is publicly owned, operated, or dispatched. The blue bars show the coal capacity available for dispatch (in service or seasonal operation), the yellow bars show the capacity that has been converted (i.e. into synchronous condensers) and the red line displays the coal in service.

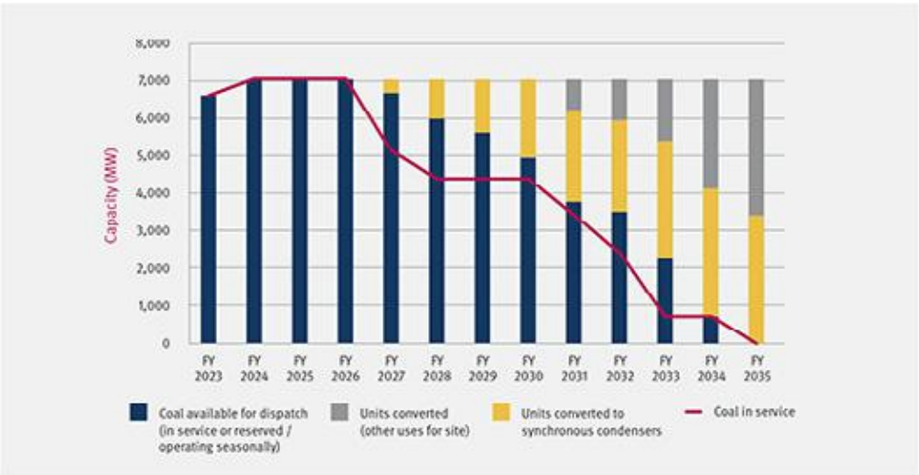


Figure 12: Publicly-owned coal portfolios will progressively transform to clean energy hubs. Coal repurposing is a secondary consideration to energy security, which is dependent on the timing of the PHES assets. MW capacities refer to nameplate capacity.

Delivery program

The Infrastructure Blueprint will ensure peak electricity demand in Queensland is met at all times.
This will be achieved through a controlled and managed conversion of publicly owned coal-fired power stations into modern clean energy hubs, where reliability is paramount.

The Blueprint outlines how the State will lead investment to create a system that is no longer regularly reliant on coal-fired generation by 2035. The modernisation process of publicly owned coal-fired power stations will commence in 2027. The Government will ensure that significant new wind, solar, hydrogen-ready gas peakers, batteries and long duration storage is in place at critical steps in the energy transformation.

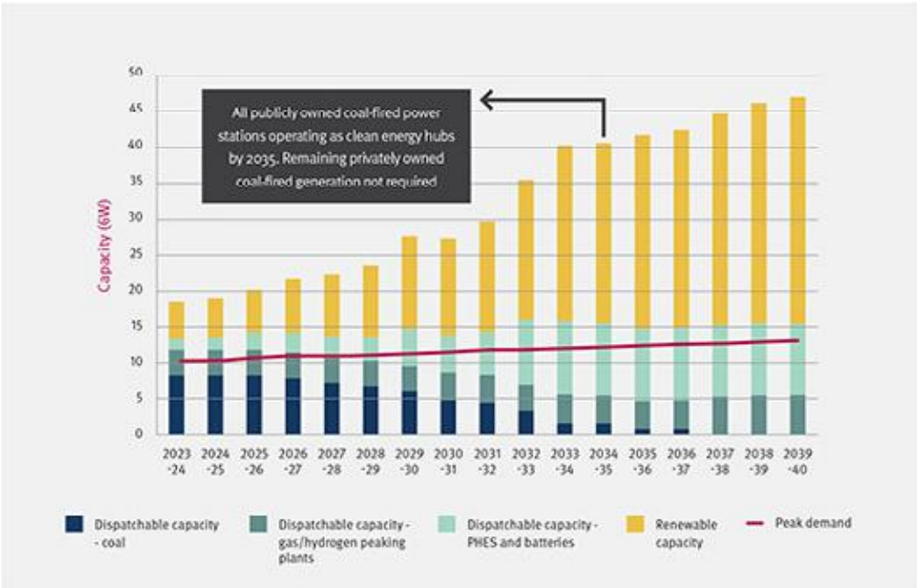


Figure 13: This figure outlines the modelled dispatchable capacity to 2040 of Queensland's future energy system, including from both coal and other sources. It also demonstrates that Queensland is expected to have sufficient dispatchable capacity to meet peak demand at all times.

Ensuring energy reliability and security

Coal-fired power stations will only be converted into modern clean energy hubs when energy reliability is assured and there is sufficient replacement generation, storage and supporting infrastructure in place. This process will commence in 2027, provided it does not impact reliability.

The Government will establish a Queensland Energy System Advisory Board to provide expert technical advice and assessment of the Queensland energy transformation every two years and to support regular updates to this Blueprint.

"Blueprint checkpoints" will enable the Government to check progress and confirm it is possible to move to the next phase of coal-fired power station modernisation. This progression will only occur once reliability is assured.

The process

The Queensland Government will work with individual Government-owned energy corporations to develop long term strategic plans to reflect the Government's commitment to gradually convert all publicly-owned coal-fired power stations into clean energy hubs by 2035 and to meet the State's renewable energy targets.

Phase 1: Gradual shift to seasonal operation or synchronous condenser conversion (which is reversible) for one or more units from 2027. These units will continue to operate in peak demand periods, such as summer and mid-winter, and maintain thermal generation in "reserve" as back up capacity.

Phase 2: Once the first long duration PHES is online, further conversion of units to seasonal operation and reversible conversion to synchronous condenser (except for Callide B power station which is currently scheduled to retire in 2028). Synchronous condensers provide essential stability to the system.

Phase 3: Once the second long duration PHES is online, further conversion of units to seasonal operation and reversible conversion to synchronous condensers, as well as ongoing operation as clean energy hub including potential on site storage, dispatchable capacity, hydrogen development, and operations and maintenance bases for publicly owned large-scale renewable energy.

Power Station	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-32	32-33	33-34	34-35	→
Stanwell (4 units)	No Change				Phase 1			Phase 2			Phase 3			
Tarong & Tarong North (5 units)	No Change				Phase 1			Phase 2				Phase 3		
Callide B (2 units)	No Change				Phase 1	Phase 2	Phase 3							
Kogan Creek (1 unit)	No Change												Phase 1	Phase 3
Large-scale Renewable Capacity (total)		5.2	5.6	6.2	7.7	8.7	9.9	12.7	13.6	15.4	19.4	24.4	25.0	→
Dispatchable Capacity (total)		13.2	13.3	14.0	14.0	13.6	13.5	14.8	13.7	14.3	16.0	15.8	15.7	→
Peak Demand		10.3	10.4	10.7	10.9	11	11.1	11.3	11.5	11.7	11.7	12.0	12.1	

Figure 14: The above figure outlines the indicative modernisation schedule for Queensland's publicly owned coal-fired power stations. The final phasing will be confirmed with individual GenCos.

Increased load development

The emergence of large new loads on the Queensland electricity system, such as high electrification or those brought on by new industries and in particular a renewable hydrogen export industry, will require large-scale renewable energy, storage, firming and transmission developments beyond those outlined in the optimal pathway. Renewable hydrogen has the potential to greatly increase existing energy demand loads. The associated energy infrastructure should be considered specifically with industry development, and it must be coordinated. Coordination is necessary to ensure a new export industry is not developed at the expense of existing consumers and taxpayers.

The Queensland Government commissioned Advisian to undertake an extensive study to provide foundational information for the emerging renewable hydrogen industry in Queensland. To achieve this, the assessment aimed to clearly describe attributes in regions to help:

- inform policy and land-use planning
- facilitate Queensland Government cross-departmental coordination efforts
- understand hydrogen development potential based on resource availability.

Furthermore, the assessment looked at region specific impacts of potential hydrogen value chains on infrastructure corridors including separation distances, land availability, water availability, renewable generation capacity and network requirements. The study took a more in depth look at Queensland's priority ports: Townsville, Abbot Point, Hay Point/ Mackay and Gladstone. Other ports along the Queensland coast were also considered as part of a higher- level analysis.

Demand for renewable energy

Generally, existing regional electricity infrastructure development has been demand (load) driven. As a result, the capacity of existing infrastructure is reasonably well matched to existing demand in the regions. The introduction of a new electricity intensive industry, such as renewable hydrogen, will require more infrastructure and planning.

The electricity system and QREZs will need to expand to support additional demand for renewable energy into the future. This increased demand could be driven by the decarbonisation of transport and other major industrial sectors of Queensland's economy (such as major industry in Gladstone, Townsville, and the Bowen Basin). Each sector is competing for the same renewable energy resources and transmission access.

The potential for large scale renewable hydrogen projects, relying on the existing electricity system to supply hydrogen and production facilities is limited. High QREZ commitments to the NEM and industrial decabonisation mean that the variable renewable energy capacity of those close-to-load REZs will be highly sought after. Export scale hydrogen projects are each expected to have electricity demand between 1000 MW and 3000 MW, potentially requiring an additional 3000 MW to 9000 MW of installed generation capacity. These substantial additional generation assets will need to be appropriately planned for and utilised where possible to provide critical mass in helping unlock additional renewable resource areas.

Advisian suggests that hydrogen variable renewable energy could be expanded towards west Queensland.[26] This could involve hydrogen projects accessing the North Queensland Clean Energy Hub at Hughenden within the Northern QREZ region and the Barcaldine REZ in the Central QREZ region. Figure 13 shows these locations as Q2 and Q5 respectively.

[26] Ibid. Chapter 4, p10

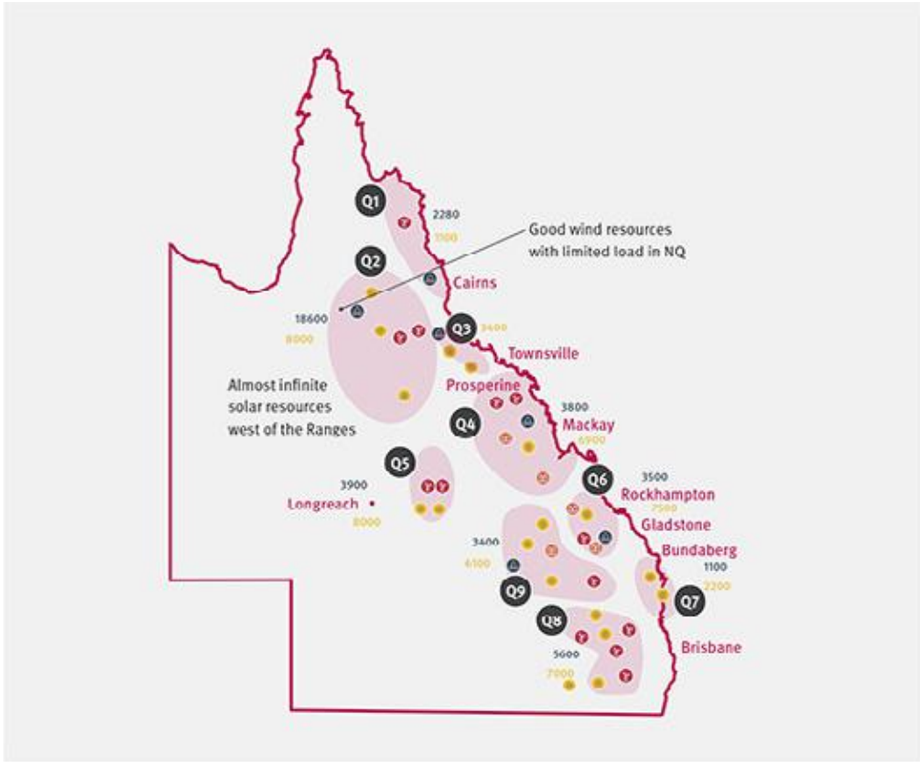


Figure 13: Renewable energy opportunities for hydrogen loads. Yellow numbers indicate potential solar resources, blue numbers indicate potential wind resources.

Requirement for energy storage

The Blueprint includes the construction of two large scale PHES (of at least 6000 MW at 24-hour capacity) as cornerstone assets for delivering the energy transformation. There are also other smaller scale storage projects proposed and/or under development in Queensland.

The scale of electrical energy storage potentially required for large new loads will present challenges. The introduction of storage combined with large loads such as hydrogen can be beneficial as it flattens the overall operating profile and increases asset utilisation. Methods for achieving this higher utilisation have been studied and include:

- diversification of renewable supply, such as combining both wind and solar sources of generation to improve capacity factors
- reliance on interconnectivity with other regions within Queensland and other states, where renewable energy supply is unaffected by certain weather events at a particular time of the year
- inclusion of localised short term energy storage (1-4 hours), such as BESS or metal hydride hydrogen storage to support short term variable renewable energy output reduction
- inclusion of medium-term storage, such as PHES, or large diameter interconnected gas pipelines

Queensland Government studies have identified potential sites suitable for large-scale PHES assets and these could be developed in the future to assist in meeting firmed power requirements for new large loads. The Blueprint does not consider PHES development beyond the Borumba PHES and the Pioneer-Burdekin PHES at this stage.

Preferred development

The Blueprint considers the augmentation and upgrades required to address demand as forecast under the AEMO Step Change scenario. This is expected to cover the requirements of the NEM decarbonisation and industrial decarbonisation (via electrification of existing industries).

The emergence of Queensland as a renewable hydrogen exporter has been foreseen and is supported through the Queensland Government's *Hydrogen Industry Strategy 2019-2024*. However, because of the emerging nature of the industry, additional facilitating infrastructure has not been specifically included in the Blueprint at this point in time. Advisian's report helps demonstrate that as the industry grows it could become, by far, the largest consumer of electricity in the state – representing an energy demand many multiples the size of the Boyne Smelter (Queensland's current largest load).

It is important that new large loads are coordinated to ensure best outcomes for consumers. Future updates of this Blueprint will monitor and consider the development of the hydrogen industry and how it can be accommodated within an optimal infrastructure pathway.

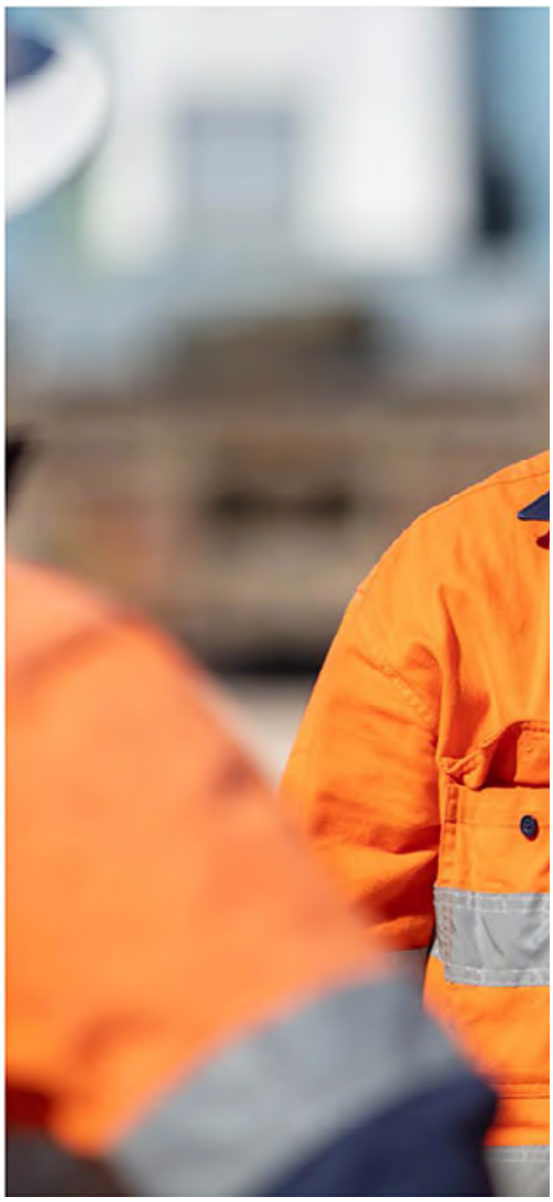
Costs

The Infrastructure Blueprint represents around $62 billion of industry wide capital investment in the energy system. It is important to note that this investment is over a timeframe of around 15 years involving both Government-owned Corporations (GOCs) and the private sector. Also, this estimate is not an incremental cost, with the system requiring renewals under any scenario (as existing assets approach end of life and the need to reach net zero emissions commitments by 2050).

The PHES investments have asset lives greater than 50 years. Once operational, they will deliver significant benefits to the system. The transmission and REZ investments are opportunities for the State to seek federal funding towards these investments to help manage the impacts.

There is a role for the private sector as well as GOCs in relation to new renewable generation developments, with a timeframe for delivering these investments of around 10-15 years. Reflecting Government policy, GOCs will maintain majority ownership of generation in the energy system.

The Queensland Renewable Energy and Hydrogen Jobs Fund (QREHJF) has been boosted to $4.5 billion funded from the 2021 coal royalties investment. The QREHJF allows Government to set priorities and utilise the GOCs to identify projects, deliver infrastructure and maximise consumer outcomes.



Key transformation steps

This Blueprint outlines a pathway to transform the electricity system and build Queensland's clean, reliable and affordable SuperGrid. This transformation will be coordinated and well-sequenced to ensure system security and reliability are maintained throughout and post transformation.

Building on our strong foundations (2022–2024)

The Plan will provide clear signals to investors and capital markets of Queensland's pathway to transform and decarbonise the electricity system. Following release, the first two years will focus on laying the foundations for a clean, reliable and affordable system – it is about delivering the right investment environment, providing market signals and critical decisions on large-scale, long duration PHES which will underpin the future system.

Scaling and expanding opportunities (2024–2028)

This phase is about continuing to build renewable energy capacity through the QREZs and commencing the repurposing of Queensland's publicly owned coal-fired power stations into clean energy hubs.

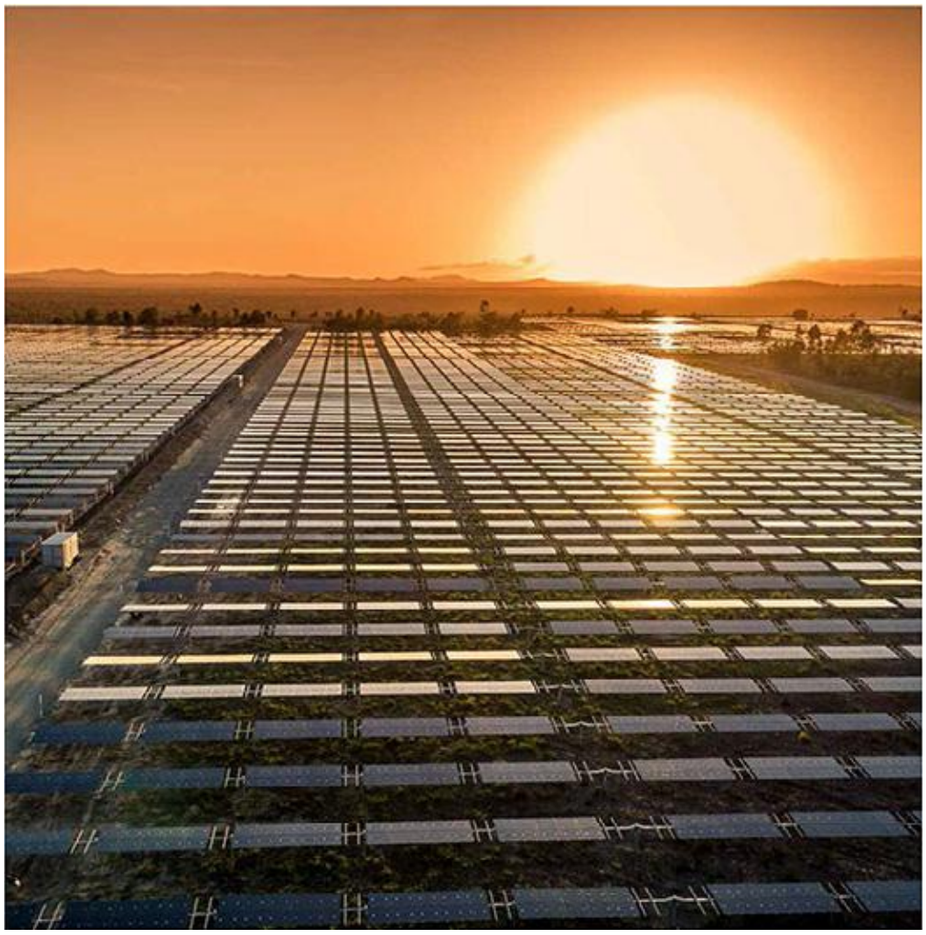
Preparing for net zero (2028–2035)

This final phase is about ramping up renewable energy generation, planning for how the energy system will achieve net zero emissions by 2050 and progressively repurposing the remaining publicly owned coal-fired power stations into clean energy hubs.

Conclusion

This Blueprint provides a point-in-time outline of the optimal infrastructure pathway to deliver a clean, reliable and affordable Queensland electricity system. This pathway is built around two foundational large-scale PHES developments, which will provide critical storage and firming services as Queensland's reliance on coal-fired generation reduces.

QREZ will be a key enabler of cost-effective and efficient connection and development of new large-scale renewable generation. New high-voltage transmission (up to 500kV) will efficiently connect QREZ and PHES to demand centres creating a SuperGrid transporting thousands of megawatts of renewable energy to consumers all over Queensland.



QUEENSLAND ENERGY AND JOBS PLAN

Power for **generations**

13 QGOV (13 74 68) @EnergyQld

2022

EXHIBIT (c)(xi)

Queensland Energy and Jobs Plan Announcement

FORWARD-LOOKING STATEMENTS

This exhibit contains forward-looking statements. Statements that are not historical facts, including statements about the Queensland Treasury Corporation's (the "Corporation" or "QTC") and the State of Queensland's (the "State" or "Queensland") beliefs and expectations, are forward-looking statements. These statements are based on current plans, budgets, estimates and projections and therefore you should not place undue reliance on them. The words "believe", "may", "will", "should", "estimate", "continue", "anticipate", "intend", "expect", "forecast" and similar words are intended to identify forward-looking statements. Forward-looking statements speak only as of the date they are made, and neither the Corporation nor the State undertake any obligation to update publicly any of them in light of new information or future events.

Forward-looking statements are based on current plans, estimates and projections and, therefore, undue reliance should not be placed on them. Although the Corporation and the State believe that the beliefs and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such beliefs and expectations will prove to have been correct. Forward-looking statements involve inherent risks and uncertainties. We caution you that actual results may differ materially from those contained in any forward-looking statements.

A number of important factors could cause actual results to differ materially from those expressed in any forward-looking statement. Factors that could cause the actual outcomes to differ materially from those expressed or implied in forward-looking statements include:

- the international and Australian economies, and in particular the rates of growth (or contraction) of the State's major trading partners;
- the effects, both internationally and in Australia, of any subsequent economic downturn, as well as the effect of ongoing economic, banking and sovereign debt risk;
- the effect of natural disasters, epidemics and geopolitical events, such as the novel coronavirus (COVID-19) pandemic and the Russia-Ukraine conflict;
- increases or decreases in international and Australian domestic interest rates;
- changes in the State's domestic consumption;
- changes in the State's labor force participation and productivity;
- downgrades in the credit ratings of the State and Australia;
- changes in the rate of inflation in the State;
- changes in environmental and other regulation; and
- changes in the distribution of revenue from the Commonwealth of Australia Government to the State.

28 SEPTEMBER 2022

MARKET ANNOUNCEMENT

QUEENSLAND ENERGY AND JOBS PLAN ANNOUNCED

Today, the Queensland Government published the Queensland Energy and Jobs Plan.

The 2022–23 Queensland Budget contains a provision for the Queensland Energy and Jobs Plan, and as such, there is no significant impact on this year's 2022–23 funding program.

A further update on QTC's borrowing program will be shared following the Government's regular Budget Update (Mid-Year Fiscal and Economic Review) expected in December 2022.

EXHIBIT (g)(ii)

Consents

CONSENT

I hereby consent to the use of (i) the Chief Executive's Report found on pages 6-7 of the Queensland Treasury Corporation Annual Report for the Fiscal Year Ended June 30, 2022 (the "Annual Report") and (ii) the Certificate of the Queensland Treasury Corporation dated August 19, 2022, found on page 59 of the Annual Report, which Annual Report is hereby filed as exhibit (c)(ix) to this Form 18-K/A to be filed and incorporated by reference in the Prospectus included in the Registration Statement dated December 10, 2009 filed by the Queensland Treasury Corporation and the Treasurer on behalf of the Government of Queensland with the United States Securities and Exchange Commission (File No. 333-147600).

By: /s/ Philip Noble
Mr. Philip Noble
Chief Executive,
Queensland Treasury Corporation

Date: October 5, 2022

CONSENT

I hereby consent to the use of (i) the Chair's Report found on page 5 of the Queensland Treasury Corporation Annual Report for the Fiscal Year Ended June 30, 2022 (the "Annual Report") and (ii) the Certificate of the Queensland Treasury Corporation dated August 19, 2022, found on page 59 of the Annual Report, which Annual Report is hereby filed as exhibit (c)(ix) to this Form 18-K/A to be filed and incorporated by reference in the Prospectus included in the Registration Statement dated December 10, 2009 filed by the Queensland Treasury Corporation and the Treasurer on behalf of the Government of Queensland with the United States Securities and Exchange Commission (File No. 333-147600).

By: /s/ Damien Frawley
Mr. Damien Frawley
Chair,
Queensland Treasury Corporation

Date: September 30, 2022

CONSENT

I hereby consent to the use of the Independent Auditor's Report found on pages 60-63 of the Queensland Treasury Corporation Annual Report for the Fiscal Year Ended June 30, 2022, which is hereby filed as exhibit (c)(ix) to this Form 18-K/A to be filed and incorporated by reference in the Prospectus included in the Registration Statement dated December 10, 2009 filed by the Queensland Treasury Corporation and the Treasurer on behalf of the Government of Queensland with the United States Securities and Exchange Commission (File No. 333-147600).

By: /s/ Brendan Worrall
Mr. Brendan Worrall
Auditor-General, State of Queensland

Date: October 5, 2022