



Examination of Auditor-General
Report 5: 2021-22
***Managing Queensland's transition
to renewable energy***

Report No. 26, 57th Parliament
Transport and Resource Committee
December 2022

Transport and Resources Committee

Chair	Mr Shane King MP, Member for Kurwongbah
Deputy Chair	Mr Lachlan Millar MP, Member for Gregory
Members	Mr Colin Boyce MP, Member for Callide (to 29 March 2022)
	Mr Bryson Head MP, Member for Callide (from 24 June 2022)
	Mr James Martin MP, Member for Stretton
	Mr Les Walker MP, Member for Mundingburra
	Mr Trevor Watts MP, Member for Toowoomba North
	Mr Pat Weir MP (from 31 March 2022 to 24 June 2022)

Committee Secretariat

Telephone	+61 7 3553 6621
Fax	+61 7 3553 6699
Email	trc@parliament.qld.gov.au
Committee webpage	www.parliament.qld.gov.au/trc

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Chair's foreword

This report presents a summary of the Transport and Resources Committee's examination of the Auditor-General Report No. 5: 2021-22- *Managing Queensland's transition to renewable energy*.

The committee's task was to consider the Auditor-General's findings in relation to the Auditor-General's report. The committee is satisfied that the Department of Energy and Public Works has taken appropriate actions to address the Auditor-General's recommendations and the committee has recommended that the Legislative Assembly note the contents of this report.

On behalf of the committee, I thank the Queensland Audit Office and the Department of Energy and Public Works for their assistance with the committee's examination.

I commend this report to the House.

A handwritten signature in black ink that reads "Shane King". The signature is written in a cursive, flowing style.

Shane King MP

Chair

Recommendations

Recommendation 1

3

The committee recommends that the Legislative Assembly note the contents of this report.

1 Executive summary

In June 2017, the Queensland Government formally committed to a 50 per cent renewable energy target in Queensland by 2030. The Department of Energy and Public Works (DEPW) is responsible for managing this transition to renewable energy as part of its wider responsibilities for Queensland's energy policy.

The Queensland Audit Office (QAO) examined the management of the progress towards this target in its report 'Managing Queensland's transition to renewable energy (Report 5: 2021-22)', which made 5 recommendations.

The Auditor-General Report was referred to the Transport and Resources Committee to consider and report on to the Assembly. As part of its considerations, the committee received briefings from QAO and DEPW.

During the course of the inquiry, DEPW advised the committee on its progress in implementing the 5 recommendations. This included informing the committee in July 2022 that 3 of the 5 recommendations were complete and then in November 2022 that the remaining 2 recommendations were also now complete, following the release of the 'Queensland Energy and Jobs Plan' in October 2022.

2 Introduction

2.1 Role of the committee

The Transport and Resources Committee (committee) is a portfolio committee of the Legislative Assembly which commenced on 26 November 2020 under the *Parliament of Queensland Act 2001* and the Standing Rules and Orders of the Legislative Assembly.¹

The committee's primary areas of responsibility are:

- Transport and Main Roads
- Energy, Renewables, Hydrogen, Public Works and Procurement
- Resources.

The committee has responsibility within its portfolio areas for the assessment of the integrity, economy, efficiency and effectiveness of government financial management by:

- examining government financial documents
- considering the annual and other reports of the Auditor-General.²

2.2 Role of the Auditor-General

The role of the Auditor-General is to provide Parliament with independent assurance of public sector accountability and performance. This is achieved through reporting to Parliament on the results of its financial and performance audits.

The QAO state that their financial audits assess the financial statements of the state's public sector entities in order to assure those entities, and the users of their published financial statements, that the information they contain can be relied upon.³

The QAO state that their performance audits examine 'government programs to consider if public money is being used well and that government is meeting taxpayers' expectations around service delivery'.⁴

The QAO Report No. 5: 2021-22, titled '*Managing Queensland's transition to renewable energy*' (Auditor-General Report) was prepared under Part 3 Division 3 of the *Auditor-General Act 2009* and was tabled in the Legislative Assembly in accordance with section 67 of that Act on 25 November 2021. This report presents the results of the QAO's performance audit.

2.3 Referral of the Auditor-General Report

Standing Order 194B provides the Committee of the Legislative Assembly shall as soon as practicable after a report of the Auditor-General is tabled in the Assembly, refer that report to the relevant portfolio committee for consideration. The Auditor-General Report was referred to the committee on 2 December 2021.

A portfolio committee may deal with this type of referral by considering and reporting on the matter and making recommendations about it to the Assembly.

¹ *Parliament of Queensland Act 2001*, s 88 and Standing Order 194.

² *Parliament of Queensland Act 2001*, s 94(1)(a).

³ Queensland Audit Office, Financial audit practice statement fact sheet, p 1, https://www.qao.qld.gov.au/sites/default/files/factsheets/financial_audit_practice_statement.pdf

⁴ Queensland Audit Office, Performance audit engagements factsheet, p 1, <https://www.qao.qld.gov.au/sites/default/files/2020-11/Fact%20sheet%E2%80%9494Performance%20audit%20engagements.pdf>

2.4 Scope of the Auditor-General report

The Auditor-General's report examined how DEPW had managed Queensland's planned transition to 50 per cent renewable energy by 2030, for the period from 2017 to 2021. The audit also considered Queensland's current progress towards the target and possible future challenges. Government owned corporations, including electricity generators, were not within the scope of the audit.⁵

2.5 Examination process

The committee received public briefings from both the QAO and DEPW on 14 March 2022 and then a follow-up briefing from DEPW on 24 October 2022. See Appendix A for a list of witnesses. A copy of the transcripts can be accessed on the committee's webpage.

2.6 Committee comment and recommendation

The committee is satisfied that the Department of Energy and Public Works has taken appropriate actions to address the Auditor-General's recommendations.

Recommendation 1

The committee recommends that the Legislative Assembly note the contents of this report.

3 Examination of the Auditor-General's Report

3.1 Audit background

3.1.1 Background to Queensland's renewable energy target

In 2015, the Queensland Government committed to investigating a renewable energy target of 50 per cent by 2030.⁶ The government's support for renewable energy was in order to 'reduce emissions, create new jobs and diversify the state's economy'.⁷ To help deliver on this commitment, the Government established the Queensland Renewable Energy Expert Panel (QREEP) to provide advice on credible pathways to achieving the renewable energy target.⁸

3.1.2 Queensland Renewable Energy Expert Panel

QREEP published its final report in November 2016 with their findings including that:

- Queensland produced the most greenhouse gas emissions in Australia with the single largest source of emissions being the electricity generation sector
- Queensland had significant solar resources and there were potential wind sites that could be used to meet the 50 per cent target

⁵ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 30.

⁶ Queensland Renewable Expert Panel, 'Credible pathways to a 50% renewable energy target for Queensland', November 2016, p 1.

⁷ Department of Energy and Public Works, Queensland's renewable energy target, <https://www.epw.qld.gov.au/about/initiatives/renewable-energy-targets>

⁸ Queensland Renewable Expert Panel, 'Credible pathways to a 50% renewable energy target for Queensland', Final Report, November 2016, p 1, https://www.epw.qld.gov.au/data/assets/pdf_file/0016/16018/qreep-renewable-energy-target-report.pdf

- there were potential other renewable energy technologies, such as biomass and pumped storage hydro that could contribute to the energy mix.⁹

QREEP considered issues in relation to Queensland's renewable energy target including:

- definitions used for renewable energy targets
- leveraging existing Federal support schemes
- national energy and climate change policy post 2020
- credible pathways to a 50 per cent renewable energy target, with three different approaches being analysed (a Linear pathway, Ramp pathway and Stronger National Action pathway)
- facilitating large scale renewable energy projects
- integration of renewables into the National Electricity Market (NEM)
- supporting economic development.¹⁰

3.1.3 Renewable energy target

In June 2017, the Queensland Government formally committed to a 50 per cent renewable energy target in Queensland by 2030 as part of its response to the QREEP.¹¹ Specifically, the government response said 'The Queensland Government accepts the Panel's general approach for defining a 50 per cent renewable energy target.'¹²

3.1.4 Role of the Department of Energy and Public Works in relation to energy

DEPW advised the committee that its responsibilities in relation to energy policy included:

- providing advice to government
- regulatory oversight of the electricity industry
- advising shareholding ministers in relation to government owned corporations in the sector
- administration of legislation for the sector
- representing the Queensland Government in national energy policy-making forums.¹³

In 2021, the Queensland Premier commissioned the Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement to develop an energy plan for Queensland that will outline how the Queensland Government will achieve its renewable energy target.¹⁴

⁹ Queensland Renewable Expert Panel, 'Credible pathways to a 50% renewable energy target for Queensland', November 2016, p 4.

¹⁰ Queensland Renewable Expert Panel, 'Credible pathways to a 50% renewable energy target for Queensland', November 2016, pp 4-9.

¹¹ Department of Energy and Water Supply, 'Queensland Government response to the Renewable Energy Expert Panel inquiry into credible pathways to a 50 per cent renewable energy target in Queensland by 2030', June 2017, https://www.epw.qld.gov.au/data/assets/pdf_file/0015/16017/qg-responce-renewable-energy-inquiry.pdf

¹² Department of Energy and Water Supply, 'Queensland Government response to the Renewable Energy Expert Panel inquiry into credible pathways to a 50 per cent renewable energy target in Queensland by 2030', June 2017, p 1.

¹³ Public briefing transcript (DEPW), Brisbane, 14 March 2022, p 1.

¹⁴ Department of Energy and Public Works, Queensland's renewable energy target, <https://www.epw.qld.gov.au/about/initiatives/renewable-energy-targets>

3.2 Audit recommendations

In analysing the management of the transition to the renewable energy target, QAO made the following 5 recommendations:

Achieving the renewable energy target

Transitioning Queensland's energy system to a minimum of 50 per cent renewable energy by 2030 requires coordinated action and complementary investments by government and industry. To support this, we recommend the Department of Energy and Public Works:

1. publicly communicates its overall vision and objectives for the transition to renewable energy and sets out more information on its desired end state in its ten-year energy plan
2. conducts an interim review by 2025 to formally assess its progress towards the target and to consider further actions to support its achievement of the target. These could include additional investment on network infrastructure, increased support for renewable generators or other actions to address external factors.

Improving public reporting

To improve the transparency and accuracy of public reporting on the transition to renewable energy, we recommend the Department of Energy and Public Works:

3. publishes a detailed public statement of how Queensland's renewable energy target is defined and measured
4. updates its calculations of progress against the target to fully account for all relevant renewable energy, such as small-scale renewable, and non-renewable energy, such as diesel generation
5. reports more information on:
 - actual renewable generation including, for example, the amount of energy generated from wind, solar and other sources
 - the assumptions which support its renewable energy forecast.¹⁵

Evidence provided to the committee about the implementation of each of these 5 recommendations is outlined in section 4 of this report.

3.3 Agency responses to the Auditor-General Report

Section 64 of the *Auditor-General Act 2009* outlines that a copy of the report was required to be provided to the responsible Ministers and agencies. Responses were received from the:

- Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement
- Director-General, Department of Energy and Public Works.

All five of the Auditor-General's recommendations were accepted by government.

The Minister's response, dated 11 November 2021, included:

... based on current performance, Queensland is progressing well to meet its 50 per cent QRET, but more work is required, and it is expected the Energy Plan will chart a course to ensure the achievement of the target concurrently with cheaper, cleaner electricity and more jobs, in more industries in Queensland.¹⁶

The response from the Director-General, dated 8 November 2021, included:

¹⁵ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 2.

¹⁶ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 25.

The government's proposed Energy Plan, announced in June 2021, is progressing and will address recommendation one. During that planning process, consideration will be given to appropriate review points for progress towards 2030 (recommendation two).

The department notes the differences in methodology for the treatment of data preferred by the QAO in relation to the calculation of QRET (recommendations four and five). Based on QAO's preferred methodology, Queensland is at 20.02 per cent for the past 12 months, as of 1 November 2021, which is a significant achievement in only a few short years. The department will publish the details of the QRET methodology on its website (recommendation three).¹⁷

Copies of the full responses from the Minister and Director-General are included in Appendix B.

3.4 Renewable energy in Queensland

The Auditor-General's report notes that renewable energy comes from resources that are naturally replenished, such as sunlight, wind and water, and can be captured through technology such as photovoltaic cells (solar), wind turbines, electrolysis and hydroelectricity.¹⁸

The Auditor-General's report provides information on:

- how Queensland's renewable energy target is measured
- recent growth in renewable energy in Queensland
- the changing mix in renewable energy in Queensland
- new renewable energy projects being tracked by the department
- additional generation required for Queensland to meet the 2030 goal.¹⁹

3.4.1 Defining and measuring the target

The audit considered the definitions used to measure the renewable energy targets. The Auditor-General's report noted that the QREEP report recommended the renewable energy target be measured as a proportion of energy consumed in Queensland rather than energy generated.²⁰

QREEP considered that Queensland should adopt the same set of eligible renewable energy sources identified in the Federal Large Scale Renewable Energy Target (LRET), on the basis that this was considered 'an extensive and well understood set of technologies', and would ensure a Queensland target would remain consistent.²¹

The government accepted this recommendation in-principle advising:

The Queensland Government accepts the Panel's rationale for including Queensland's pro-rata share of the LRET in the target.²²

¹⁷ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, pp 30-31.

¹⁸ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 3.

¹⁹ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 3.

²⁰ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 3.

²¹ Department of Energy and Water Supply, 'Queensland Government response to the Renewable Energy Expert Panel inquiry into credible pathways to a 50 per cent renewable energy target in Queensland by 2030', June 2017.

²² Department of Energy and Water Supply, 'Queensland Government response to the Renewable Energy Expert Panel inquiry into credible pathways to a 50 per cent renewable energy target in Queensland by 2030', June 2017, p 1.

The Auditor-General's report identified that the department was using the following calculation to measure progress towards the renewable energy target.²³

Department's calculation for measuring progress

$$\text{Percentage of renewable energy in Queensland} = \frac{\text{All renewable generation in Queensland}}{\text{All energy consumed in Queensland}} \times 100$$

Note: 'Generation' refers to the total electricity generated in Queensland over a period of time, normally in megawatt hours (MWh) or gigawatt hours (GWh). 'Consumption' refers to all electricity used in Queensland, normally measured in GWh. Consumption can be more or less than the sum of all generation as Queensland may import or export electricity.²⁴

QAO noted that DEPW was calculating progress towards the renewable energy targets using data reported by generators operating in the NEM in addition to estimates of energy that is not included in the national market reporting. The estimated figures included energy generated by small-scale facilities, such as bioenergy generators and energy generated for use in the North West Minerals Province, which are not connected to the national market.²⁵

The Auditor-General's report noted that the department's service delivery statements for the 2020-21 budget showed an estimated actual of 20 per cent as the percentage of renewable energy. However, QAO highlighted its concern regarding this calculation stating that the calculation:

- does not include all non-renewable energy, for example diesel generation, that is generated outside the national market. Around 1,000 GWh of this type of energy was produced in Queensland in 2020
- does not add the energy generated by small-scale facilities to the total energy consumed
- assumes all bioenergy generators achieve the same performance as the largest bioenergy generator.²⁶

3.5 Renewable energy projects and zones

The department provided the committee with an update on the location of renewable energy projects across Queensland. These projects are shown in the diagram that follows.

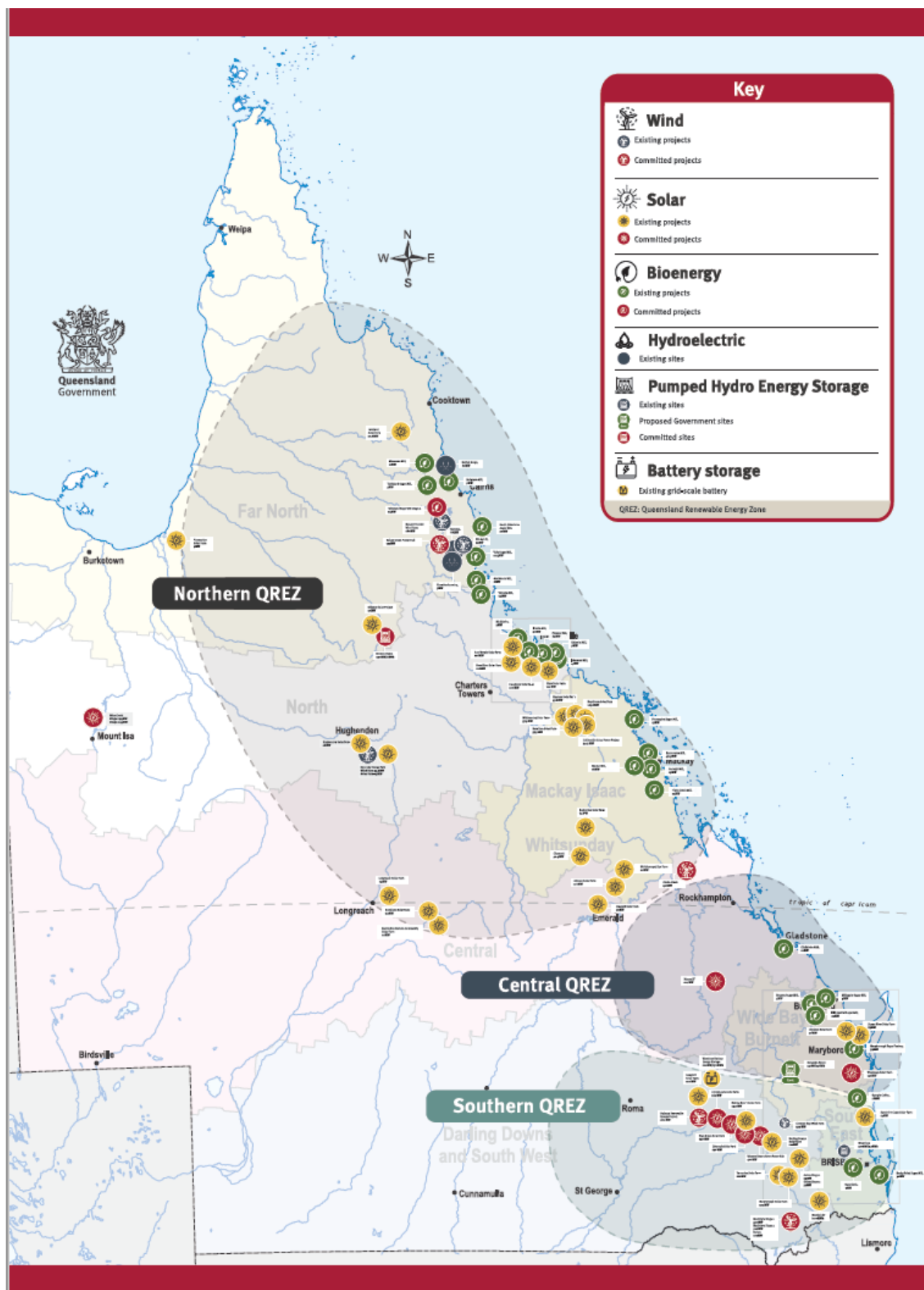
²³ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 4.

²⁴ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 3.

²⁵ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 4.

²⁶ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 4.

Diagram 1: Clean energy infrastructure program map



Source: Department of Energy and Public Works

3.6 Challenges and risks

The Auditor-General Report identified the following four 'Key risks to Queensland's renewable energy target':

- Coordinating industry and government is challenging
Renewable projects take time to plan and build. With only nine years remaining, effective program management is needed to sustain industry momentum.
- Network infrastructure must continue to adapt
There are limited locations with sufficient network conditions for new generation projects across Queensland. Increasing renewable generation is causing network instability in some areas.
- Drivers for new investment are changing
Wholesale energy prices are trending lower. Further price falls could discourage new investment and negatively affect Queensland's progress towards the target.
- Other external factors could affect progress
The economic and supply chain impacts of COVID-19 may cause some renewable energy projects to slow down or become unviable as they compete for skilled staff or physical resources. Renewable energy policy developments in other states could also divert investment from Queensland.²⁷

In regards to these challenges, DEPW advised:

The importance of energy transformation is perhaps one of the most pressing policy issues facing not only Queensland but Australia and, indeed, countries around the world. The pace of change is ever increasing and the combination of technology, market forces and policy imperatives has created significant opportunities and challenges for Queensland.²⁸

4 Implementing the recommendations

4.1.1 Achieving the renewable energy target – Recommendations 1 and 2

In relation to recommendations numbers 1 and 2, the Auditor-General report advised:

Beyond its 50 per cent target, the department has not yet set out its ambitions for the energy system towards 2030. The government has announced the development of a new 10-year energy plan. This would help inform investors, communicate its overall vision for the transition to renewable energy, and provide information on its desired end state.²⁹

QAO also advised:

I think our focus is really on clarity and transparency of the calculation by the department. They have made an interpretation of what they think it should be, and our recommendation is that it is made clearer about how it is actually calculated and then that is included in the service delivery statements in terms of the calculation of what actually happens.³⁰

At the March 2022 public briefing the department confirmed:

The development of the government's proposed energy plan is progressing and will address recommendation 1 of the Auditor-General's report. In developing the energy plan, consideration will

²⁷ Queensland Audit Office, Auditor-General Report No 5: 2021-22 - Managing Queensland's transition to renewable energy, p 16.

²⁸ Public briefing transcript (DEPW), Brisbane, 14 March 2022, pp 1-2.

²⁹ Public briefing transcript (QAO), Brisbane, 14 March 2022, p 2.

³⁰ Public briefing transcript (QAO), Brisbane, 14 March 2022, p 3.

also be given to appropriate review points for progress towards 2030, thereby addressing recommendation 2 of the report.³¹

In July 2022, the committee sought an update on the progress being made towards implementation of each recommendation. The department advised at that stage that recommendation numbers 1 and 2 were currently 'in progress'.³²

On 28 September, Hon. Anastacia Palaszczuk MP, Premier and Minister for the Olympics, announced the 'Queensland Energy and Jobs Plan' with a budget of \$62 billion.³³ The committee subsequently requested an additional briefing from DEPW about this Plan as it relates to Recommendations 1 and 2. The department advised that recommendations 1 and 2 were now complete, stating:

Recommendation 1 focused on managing the transition by publicly announcing a vision and objectives. Recommendation 2 asked that we conduct a review by 2025 to formally assess progress and consider further actions to support achievement of the government's renewable energy target. I am pleased to say that since we last met the plan has been publicly released.

...

The government also released with the plan a Queensland SuperGrid infrastructure blueprint, which outlines in detail how we aim to achieve the new targets set by the plan.³⁴

In expanding on the government's response to Recommendation 2, DEPW advised:

... the Queensland government is committed to establishing a new energy transformation governance framework for the plan. This includes the establishment of a new Queensland energy system advisory board. The board will develop an annual market snapshot which will track progress towards our targets and progress on the blueprint. The board will also provide technical advice to government to inform updates every two years to the infrastructure blueprint. The first update to the infrastructure blueprint will occur in 2025, as recommended by the QAO.³⁵

4.1.2 Improving public reporting – Recommendations 3 - 5

In relation to recommendation numbers 3, 4 and 5, the QAO confirmed that whilst the target and the calculation were included in the department's service delivery statements, they considered that there should be more clarity about how these targets were calculated and that 'there needs to be more public reporting'.³⁶

In response, the department advised during their March 2022 briefing to the committee that:

The department now publishes details of the QRET methodology on its website, addressing recommendation 3 of the report.

...

We have taken on board the suggestions for improvements to methodology and treatment of data by the QAO for the calculation of QRET outlined in recommendations 4 and 5. This is a matter on which reasonable people may take different approaches due to the sheer complexity of the task.

³¹ Public briefing transcript (DEPW), Brisbane, 14 March 2022, p 2.

³² Department of Energy and Public Works, correspondence, 29 July 2022, p 1.

³³ ABC News, 28 September 2022, *Queensland Premier Anastacia Palaszczuk announces \$62b clean energy plan including 'world's largest pumped hydro energy storage'*, <https://www.abc.net.au/news/2022-09-28/queensland-government-energy-pumped-hydro-scheme-jobs-palaszczuk/101481160>, and Department of Energy and Public Works, Queensland Energy and Jobs Plan, <https://www.epw.qld.gov.au/energyandjobsplan>

³⁴ Public briefing transcript, Brisbane, 24 October 2022, p 1.

³⁵ Public briefing transcript, Brisbane, 24 October 2022, p 2.

³⁶ Public briefing transcript (QAO), Brisbane, 14 March 2022, pp 2-3.

...

Calculating the amount of renewable energy that comes from all of these projects, as well as rooftops—many people have solar rooftops et cetera—is a complex task. It is something the department puts considerable energy into.³⁷

The Auditor-General advised:

We also make a recommendation that there needs to be more transparency about how the renewables target is calculated. At the moment, the calculation includes some generation that is exported from the state. I think that is in the target, and there is also some other offline generation that is not included in the target. It needs to better define it and then report that on an ongoing basis.³⁸

In response to the committee's questions regarding what is included in the targets and the impact of these targets, the Auditor-General explained:

... the target at the moment includes export electricity to outside of Queensland and there are some generating units that are not picked up by the target. We did a recalculation and we think the actual production at the time of the report was not 20 per cent; it was more like 19 per cent because of those factors. We are saying that the definition needs to be redefined to take care of those anomalies.³⁹

At the October 2022 briefing to the committee, DEPW said:

The QAO asked us to update our methodology in terms of calculating our progress towards QRET. This has been done. They further recommended that we provide more detail on those calculations - again, this has been done - and that that be published. Our departmental website has been updated to indicate that information. It provides a lot of contextual information around how we calculate the targets. When you combine the plan and its deliverables with the work that has already been done, it is our view that the Auditor-General's recommendations have been implemented.⁴⁰

³⁷ Public briefing transcript (DEPW), Brisbane, 14 March 2022, p 2.

³⁸ Public briefing transcript (QAO), Brisbane, 14 March 2022, p 2.

³⁹ Public briefing transcript (QAO), Brisbane, 14 March 2022, p 3.

⁴⁰ Public briefing transcript, Brisbane, 24 October 2022, p 2.

Appendix A

Officials at the public briefings held on 14 March 2022

Queensland Audit Office

- Mr Brendan Worrall, Auditor-General
- Mr Patrick Flemming, Assistant Auditor-General
- Ms Rachel Vagg, Assistant Auditor-General

Department of Energy and Public Works

- Mr Paul Martyn, Director-General;
- Mr David Shankey, Deputy Director-General.

Officials at the public briefing held on 24 October 2022

Department of Energy and Public Works

- Mr Paul Martyn, Director-General;
- Mr David Shankey, Deputy Director-General Energy Division.

Appendix B

Agency responses to the Auditor-General's report

Entity responses

As mandated in Section 64 of the *Auditor-General Act 2009*, the Queensland Audit Office gave a copy of this report with a request for comments to the:

1. Director-General, Department of Energy and Public Works
2. Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement.

The head of the entity is responsible for the accuracy, fairness, and balance of its comments.

This appendix contains its detailed responses to our audit recommendations.



Minister for Energy, Renewables and Hydrogen
Minister for Public Works and Procurement

Your Ref: PRJ02731
Our Ref: MN08101-2021

1 William Street
Brisbane Queensland
GPO Box 2457 Brisbane
Queensland 4001 Australia
Telephone +617 3719 7270
E: epw@ministerial.qld.gov.au

11 NOV 2021

Mr Brendan Worrall
Auditor-General
Queensland Audit Office
PO Box 15396
City East QLD 4002

Dear Mr Worrall

Brendan

Thank you for your report on Managing Queensland's Transition to Renewable Energy.

The Palaszczuk Government has a strong track record in progressing the uptake of renewable energy and in doing so, creating jobs for Queenslanders.

I acknowledge the Director-General of the Department of Energy and Public Works has provided a response to the report recommendations.

Further, I understand the Director-General has also outlined the work the Department does to pursue a nationally consistent agenda for energy policy that benefits Queenslanders.

Additionally, I provide the following commentary on the Palaszczuk Government's ongoing initiatives in renewable energy.

Track Record

In 2016, the Government-appointed Renewable Energy Expert Panel (the expert panel) found a 50 per cent renewable energy target for Queensland by 2030 was feasible. The expert panel estimated 5,500 megawatts of additional renewable capacity would be required by 2030 to meet the target.

The expert panel recommended the Government should pursue the integration of climate and energy policy settings at the national level as the most efficient way to increase the uptake of renewable energy.

The expert panel also recommended against legislating the Queensland Renewable Energy Target (QRET) at that time. The Government accepted the recommendations of the expert panel, and actively advocated for national energy and climate reforms until the failure of national policy development resulted in States having to 'go it alone'.

In 2017, the Government committed to achieving the QRET of 50 per cent renewables by 2030. QRET is not legislated but is supported by planned and measured investments and facilitation work.

The Palaszczuk Government has ensured significant growth in both small and large scale renewables. In 2017, Queensland had just 1,700 megawatts of rooftop solar, this has now reached over 3,700 megawatts in only four years.

Queensland's policy settings have ensured the number of installed residential photovoltaic systems has grown to 676,000 and the total number of installed rooftop systems has now passed the milestone of 700,000.

The Palaszczuk Government's strong record also includes:

- Supporting investment in over 5,100 megawatts of renewable generation with over forty wind and solar farms built and 7,000 construction jobs supported through our 50% renewable energy target
- Taking renewable generation from 7 per cent to more than 20 per cent
- Delivering a Queensland Hydrogen Industry Strategy ahead of the National Hydrogen Roadmap and committing more than \$60 million to support hydrogen projects and training facilities
- Committing \$145 million to develop renewable energy zones, including a \$40 million investment to upgrade over 300km of transmission infrastructure between Cairns and Townsville which will enable up to 500 megawatts of new renewable energy connection capacity including the 157-megawatt Kaban wind farm
- Providing \$147 million to build the transmission line to support the Genex Kidston 250 megawatt pumped hydro project to financial close
- Installing solar panels at more than 800 state schools to generate over 60 megawatts of solar power
- Delivering Australia's first electric vehicle superhighway; and
- Entering into an implementation agreement with CopperString 2.0 on a proposal to connect the North West Minerals Province with the National Electricity Market.

State-based Initiatives

The Queensland Solar Bonus Scheme was committed to and established in 2008. The scheme provided a feed-in-tariff to support residential consumers to increase their uptake of domestic solar systems.

The release of the Powering Queensland Plan in 2017 led to the announcement of numerous renewable energy commitments including:

- A commitment to a 50 per cent renewable energy target by 2030.
- A commitment to establish CleanCo as a government-owned clean energy generator with a goal of achieving 1000 megawatts of new renewable generation by 2025.
- To deliver a reverse auction of 400 megawatts of renewable energy capacity (R400).

I can advise CleanCo was established in 2018 and will exceed its original 1000-megawatt commitment.

Since 2015, enabled by the aforementioned policy initiatives, there are now 48 large scale renewable energy projects in operation or in various stages of delivery, and when complete in approximately 2025 will push Queensland's renewable energy capacity to over 10,000 megawatts or almost 45 per cent of all generation capacity.

The Government's commitments have established the direction and focus for the Queensland market and laid the foundations for the Queensland energy sector ahead of the arrival of COVID-19, which led many Queenslanders and local governments to re-focus their attention on efforts to drive economic recovery and restore Queensland's positive social footing.

Since 2020 however, Queensland has continued to facilitate significant growth in renewables with new policy settings and programs.

These include \$145 million in 2020 to establish Queensland Renewable Energy Zones (QREZ), signalling to energy developers and investors desirable locations for the establishment of renewable energy projects and effective integration of projects into the energy system.

In September 2020, the Government asked for renewable energy projects to register their interest in investing in the Northern, Central and Southern QREZ. The response exceeded expectations, with 192 renewable projects making submissions representing over 60,000 megawatts of renewable energy potential.

Building on this strong investor interest, I have today released a Discussion Paper on QREZ design and access, which as a first stage identifies a combined 3,300 megawatts of new renewable connection capacity. The Government has worked closely with Powerlink Queensland (the publicly-owned transmission business and Jurisdictional Planning Body), to prepare a proposed framework for the first stages of unlocking investment in each QREZ.

A \$500 million commitment to a Queensland Renewable Energy Fund was announced in 2020 to enable government owned corporations to complement private sector investment.

This was expanded to \$2 billion with the announcement of the Queensland Renewable Energy and Hydrogen Jobs Fund in 2021, further signalling the government's intentions to grow the renewables and hydrogen sector and create jobs by supporting government owned corporations to partner with industry to drive the sector forward.

The projects from this fund (yet to be announced) will demonstrate the effectiveness of government investment in this sector.

In 2021, the Palaszczuk Government committed \$22 million to undertake a detailed design and cost analysis for a one gigawatt 24 hour pumped hydroelectric storage facility at Borumba Dam. Tenders for design work are due to open in coming weeks.

A range of other initiatives are underway and include the Government's Queensland Electric Vehicle Strategy and the QFleet Electric Vehicle Strategy.

Green Hydrogen

The Government has ensured positive change in Queensland's renewable energy transformation. What began as small incremental changes in the Queensland energy sector has now translated to significant commitments and the establishment of Queensland as a renewable energy and hydrogen superpower.

In 2019, The Palaszczuk Government released the Hydrogen Industry Strategy 2019-2024 and the \$15M Hydrogen Industry Development Fund (HIDF). The HIDF is supporting further uptake of renewable energy, with the four projects funded so far including a renewable hydrogen gas blending trial, remote renewable hydrogen power systems and renewable hydrogen fuel-cell transport projects. A further round of projects enabled by the HIDF are to be announced shortly.

In October 2021, Fortescue Future Industries (FFI) and the Palaszczuk Government announced a new partnership for one of the world's largest hydrogen-equipment manufacturing facilities to be constructed in Gladstone.

Amongst other initiatives, the Government has supported publicly owned Stanwell Corporation in partnership with Japan's Iwatani Corporation to develop a proposed 3 gigawatt hydrogen electrolyser plant in the state's Gladstone region, and we have formalised our partnership with

Sumitomo Corporation, Gladstone Ports Corporation, Gladstone Regional Council, CQUniversity Australia, Australian Gas Infrastructure Group and publicly owned CleanCo to develop Australia's first hydrogen ecosystem in Central Queensland.

Energy Plan

Thank you for acknowledging the development of the Energy Plan as announced by the Premier and Minister for the Olympics in Townsville in June 2021.

I am pleased to advise that development of the plan is well progressed with stakeholder and community engagement currently underway, including the design and access arrangements for QREZ.

Based on current performance, Queensland is progressing well to meet its 50 per cent QRET, but more work is required, and it is expected the Energy Plan will chart a course to ensure the achievement of the target concurrently with cheaper, cleaner electricity and more jobs, in more industries in Queensland.

If you require any further information or assistance with this matter please contact Ms Melissa Hallam, [REDACTED]



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



Department of
Energy and Public Works

Your Ref: PRJ02731

8 November 2021

Mr Brendan Worrall
Auditor-General
Queensland Audit Office
PO Box 15396
City East QLD 4002

Dear Auditor-General

Thank you for providing the draft Queensland Audit Office (QAO) report on *Managing Queensland's transition to renewable energy*, and associated recommendations for our review and response. The Department of Energy and Public Works (the department) has now reviewed the draft report and considered the recommendations.

In 2017, the Queensland Government committed to achieving the Queensland Renewable Energy Target (QRET) of 50 per cent renewables by 2030. QRET is not legislated but is supported by planned and measured investments and facilitation work.

The QRET is calculated as the state's total amount of renewable electricity output as a proportion of total electricity consumed in Queensland at any time. The calculation is based on energy consumed within Queensland as Queensland is an electricity generation powerhouse and net exporter of electricity across the border to southern states..

National Market Reform

The framework that governs the National Electricity Market (NEM) determines how the physical and financial electricity market operates nationally, including in Queensland, and how effectively it supports the adoption of renewables and other emerging technologies such as battery storage and distributed energy resources.

1 William Street
Brisbane Queensland
GPO Box 2457 Brisbane
Queensland 4001 Australia
Telephone +617 3008 2934
Website www.epw.qld.gov.au

In 2019, the former Council of Australian Governments (COAG) Energy Council approved a Strategic Energy Plan for the NEM. This plan built on the recommendations in the 2017 Finkel Review covering the transition in the NEM from large scale thermal generation (mainly coal fired) towards large and small scale renewable generation (mainly wind and solar). The plan identifies Energy Ministers' objectives for the NEM and actions to achieve those objectives ([Strategic Energy Plan - November 2019 \(energyministers.gov.au\)](#)).

The Energy Security Board, which comprises the heads of each of the NEM market bodies (the Australian Energy Market Commission, the Australian Energy Regulator, and Australian Energy Market Operator), is tasked with providing strategic advice to Energy Ministers and reviews progress against the Strategic Energy Plan each year. This annual report (the [Health of the NEM](#)) also summarises the major reform work underway across the NEM.

The Queensland Government is directly involved in work to evolve and reform the NEM to meet the challenges of the transitioning market, through the Energy National Cabinet Reform Committee (ENCRC – replacing the former COAG Energy Council) and Energy Ministers' Meeting.

These two groups are comprised of Energy Ministers from each NEM jurisdiction, and they collectively have oversight of all the major NEM reforms, determining their direction and endorsing major change before it occurs. The Ministers' forums are supported by a working group of Senior Officials (heads of department) from each NEM jurisdiction.

In these forums, Queensland advocates for reform outcomes that deliver value for electricity customers to address Queensland's energy needs. At a departmental level, the Queensland Government also engages directly with the market bodies, who lead much of the reform work on Ministers' behalf. Queensland also participates in working groups, consultations and liaises with industry and consumer groups to advocate for Queensland's interests and to ensure the perspectives of Queensland stakeholders are represented.

A key project for delivering a market design for the NEM, that accommodates the transition to renewables underway and expected in the future, is the Energy Security Board led Post-2025 Market Design project. This is a multi-year project to introduce immediate and long-term changes to the design of the market to ensure that the future market is fit for purpose to accommodate the energy transformation underway.

In addition to the new settings we are pursuing at a national policy and framework level, Queensland has also been highly effective at increasing uptake of renewables through its numerous state-based initiatives. I understand the Honourable Mick de Brenni, Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement is also responding to you on Queensland-based initiatives.

Your recommendations

The government's proposed Energy Plan, announced in June 2021, is progressing and will address recommendation one. During that planning process, consideration will be given to appropriate review points for progress towards 2030 (recommendation two).

The department notes the differences in methodology for the treatment of data preferred by the QAO in relation to the calculation of QRET (recommendations four and five). Based on QAO's preferred methodology, Queensland is at 20.02 per cent for the past 12 months, as of 1 November 2021, which is a significant achievement in only a few short years. The department will publish the details of the QRET methodology on its website (recommendation three).

If you require any further information about this matter, Mr David Shankey, Deputy Director-General - Energy, can be contacted on [REDACTED].

Yours sincerely



Paul Martyn
Director-General

Appendix C – Abbreviations

DEPW	Department of Energy and Public Works
GWh	gigawatt hours
LRET	Large Scale Renewable Energy Target
MWh	Megawatt hours
NEM	National Electricity Market
QAO	Queensland Audit Office
QREEP	Queensland Renewable Energy Expert Panel
QRET	Queensland Renewable Energy Target