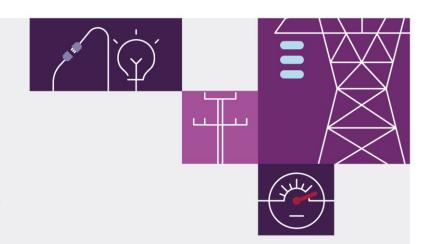


Appendix 4. Queensland

June 2024

Appendix to the 2024 Enhanced Locational Information Report





Important notice

Purpose

This report has been published to implement the Energy Security Board (ESB) 'enhanced information' transmission access reforms. The report is intended to support more informed investment and decision-making processes in the National Electricity Market, by collating public metrics and indicators that represent important locational characteristics of the power system. This report includes only publicly available information from existing AEMO, industry, and stakeholder publications.

AEMO publishes this *Enhanced Locational Information (ELI) Report* pursuant to its functions in section 49(2)(c) of the National Electricity Law. This publication is generally based on information available to AEMO as at 30 April 2024, unless otherwise indicated.

Disclaimer

AEMO has made reasonable efforts to ensure the quality of the information in this publication but cannot guarantee that information, forecasts and assumptions are accurate, complete or appropriate for your circumstances.

Modelling work performed as part of preparing this publication inherently requires assumptions about future behaviours and market interactions, which may result in forecasts that deviate from future conditions. There will usually be differences between estimated and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

This publication does not include all of the information that an investor, participant or potential participant in the National Electricity Market might require, and does not amount to a recommendation of any investment.

Anyone proposing to use the information in this publication (which includes information and forecasts from third parties) should independently verify its accuracy, completeness and suitability for purpose, and obtain independent and specific advice from appropriate experts.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this publication:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this publication; and
- are not liable (whether by reason of negligence or otherwise) for any statements, opinions, information or other matters contained in or derived from this publication, or any omissions from it, or in respect of a person's use of the information in this publication.

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Version control

Version	Release date	Changes
1.0	07/06/2024	Initial release.

AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters and culture. We pay respect to Elders past and present.

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Figures

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A4.1 Introduction

This appendix provides detailed locational indicators and metrics for each REZ within Queensland. Figure 1 provides an overview map of the Queensland region and associated REZs. Appendix A2 provides a guide to interpreting the REZ scorecards presented throughout this appendix.

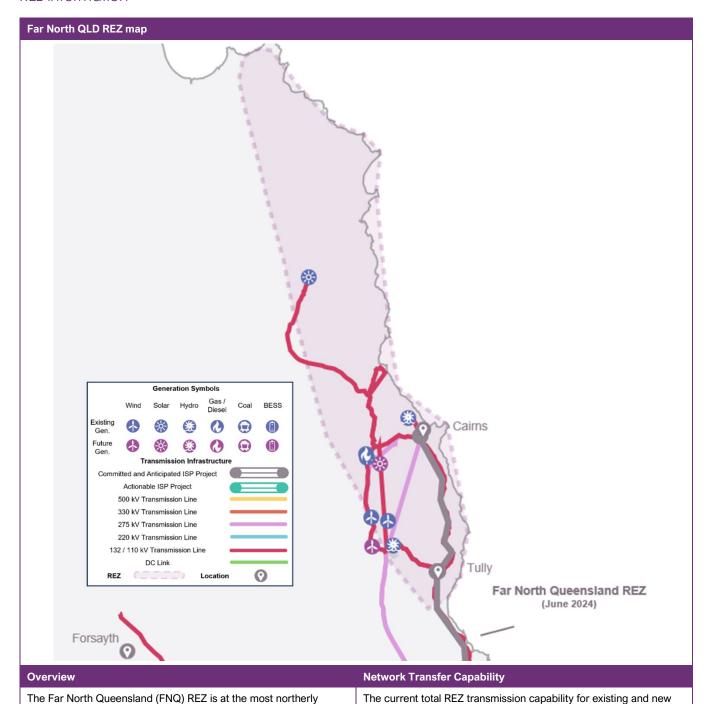
This appendix uses existing sources of publicly available information which includes the Draft 2024 ISP. Some of this information may change with the publication of the Final 2024 ISP in June 2024.

Generation Symbols BESS Existing 0 **(1)** Future **(1)** Transmission Infrastructure Committed and Anticipated ISP Project Actionable ISP Project 500 kV Transmission Line 330 kV Transmission Line 275 kV Transmission Line Q1 220 kV Transmission Line Far North QLD 132 / 110 kV Transmission Line DC Link 0 RF7 Location Far North Queensland REZ (June 2024) Q2 **North Queensland** Q3 Clean Energy Hub Northern Queensland Q4 CopperString 2032 (June 2029) Q5 Barcaldine Q6 Fitzroy Q9 Banana Q7 Wide Bay perGrid South ptember 2031) **Darling Downs**

Figure 1 Overview of Queensland region and REZs

A4.2 Q1 – Far North Queensland

REZ information



with C grade solar and existing hydroelectric power stations. Two options are proposed that progressively increase network capacity and allow for upgrades based on where generation develops.

approximately 750 MW for peak demand, summer typical and winter reference conditions.

reference conditions.

VRE before any network upgrade in Far North Queensland is

section of Powerlink's network. It has grade A wind resource quality

¹ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

Jurisdictional body	Reference	Function
		Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to:
Queensland Government	Queensland Energy and Jobs Plan (QEJP) ²	be the designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation)
		progress early design and planning for the SuperGrid backbone transmission.
Queensland Government	Queensland SuperGrid infrastructure Blueprint ³	Outlines the optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.
Queensland Government	2023 Queensland REZ Roadmap ⁴	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink	Transmission Annual Planning Report ⁵	Existing Transmission Planning Function.

Powerlink lists the 'expected installed generation' to be 500 to 700 MW following the establishment of a third 275 kV connection into Woree. This is proposed to be commissioned in April 2024⁶.

This generation connecting to this REZ is also subject to the Northern Queensland – Central Queensland (NQ-CQ) network limit⁷. AEMO recommends detailed investigations to understand how this limit impacts the REZ's hosting capacity.

Resource metrics						
Resource	Solar	Wi	nd			
Resource Quality	С	Į ,	4			
Renewable Potential (MW)	1,100	2,280				
Climate hazard						
Temperature score	В	Bushfire score	Α			

Margin loss factors

Marginal Loss Factor		
Technology	Voltage (kV)	2024-25 MLF
Wind	275	0.9527 - 0.9605

Congestion information – calendar year 2023							
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation				
-	-	-	-				

 $^{^2 \} See \ \underline{https://www.epw.qld.gov.au/} \underline{data/assets/pdf_file/0029/32987/queensland-energy-and-jobs-plan.pdf}.$

 $^{^3}$ See $\underline{\text{https://www.epw.qld.gov.au/}}\underline{\text{data/assets/pdf}}\underline{\text{file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.}}$

 $^{^4 \} See \ \underline{\ https://www.epw.qld.gov.au/_data/assets/pdf_file/0036/49599/REZ-roadmap.pdf} \ .$

⁵ See https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023.

⁶ Table 2.1 and Table 9.3, 2023 TAPR, Powerlink, at https://www.powerlink.com.au/sites/default/files/2023-11/2023%20Transmission%20 https://www.powerlink.com.au/sites/default/files/2023 https://www.powerlink.

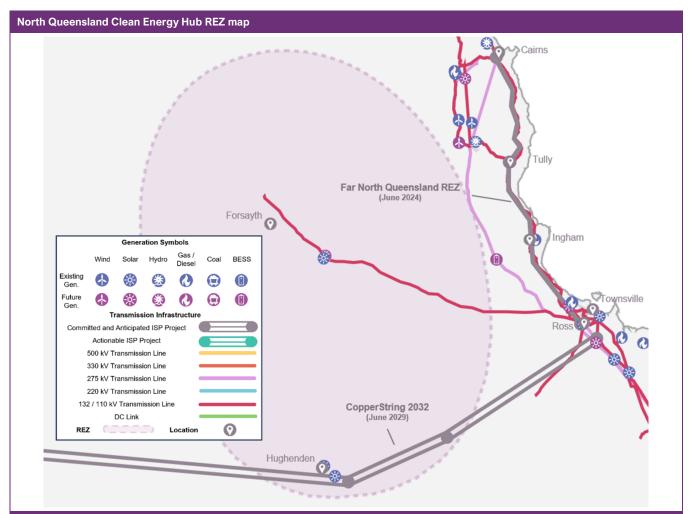
⁷ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

VRE semi-scheduled curtailment – calendar year 2023								
DUID	Generator name		Generator name		Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
KABANWF1	Kaban Wind Farm		152	2.0	0.8	6,932		
MEWF1	Mount Emerald Wind Farm		180	1.5	0.8	7,349		
VRE curtailmer	nt – ISP forecast							
2025		2025 2026		26	2027			
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading		
Step Change	-	5%	-	1%	-	4%		

	Existing/ committed/ anticipated - n access expans	2025 - sion for St	2026	Projected 2027 -	2028	2029	Existing/ committed/ anticipated	2025	2026	Projected	2028	2029
Change Transmission	anticipated - n access expans	-	-	2027	2028	2029	anticipated	2025	2026	2027	2028	2029
Change Transmission			- tep Chang	-	-	_						
		sion for S	tep Chang				332	-	-	550	600	750
1,2	200 —			ge								
.,-												
											erre .	
•	000									-////	<i>////</i>	_
(MW)	800 ———						/			////	<i>/////////////////////////////////////</i>	_
acity	•											
Сар	600											_
Installed Capacity (MW)	400 —					-/////				////	<i>////</i>	_
2	200 ———											_
	0	4.05		2005.00		0000.0	7	0007.00		2000	2.00	_
	2024	4-25 Existing S		2025-26		2026-2 xisting Wir		2027-28	ISP solar	2028	3-29	
		ISP wind				-	nsmission			sion forec	ast	
		TOT WING	10100001			adang ada	ionnocion		Tranomio			
Committed, <i>I</i> Transmission	Anticipated, and n Proiects	l Actional	ble		Timing		Status				se in netw r capabili	

A4.3 Q2 – North Queensland Clean Energy Hub

RF7 information



Overview

The Clean Energy Hub REZ is at the north-western section of Powerlink's network, and has grade A and B wind and solar resource quality.

The Queensland Government has announced that it will deliver the 1,100 km CopperString 2032 project. CopperString 2032 will connect the North-West Minerals Province of Queensland to the National Electricity Market via Woodstock near Townsville. The project scope includes 500 kV transmission capacity between Townsville and Hughenden to unlock the renewable energy potential of the region.

AEMO is now considering the CopperString 2032 project as an anticipated project after outcomes from joint planning with Powerlink and the Queensland Government.

Network Transfer Capability

The existing network capability is assumed to be approximately 2,200 MW, incorporating the anticipated CopperString 2032 project addition of 1,500 MW to the existing 700 MW of network capability. For the 2024 ISP, only the 500 kV section of CopperString 2032 is modelled.⁸

⁸ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

Jurisdictional body	Reference	Function
		Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to:
Queensland Government	Queensland Energy and Jobs Plan (QEJP) ⁹	be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation)
		progress early design and planning for the SuperGrid backbone transmission.
Queensland Government	Queensland SuperGrid infrastructure Blueprint ¹⁰	Outlines the optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.
Queensland Government	2023 Queensland REZ Roadmap ¹¹	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink	Transmission Annual Planning Report ¹²	Existing Transmission Planning Function.

There is no hosting capacity provided by the jurisdictional planning body which directly applies to this REZ. AEMO will work with the relevant parties to understand the hosting capacity for future publications.

Resource metrics						
Resource	Solar	Wi	ind			
Resource Quality	Α	E	3			
Renewable Potential (MW)	8,000	18,600				
Climate hazard						
Temperature score	D	Bushfire score	С			

Margin loss factors

Marginal Loss Factor						
Technology	Voltage (kV)	2024-25 MLF				
Solar	132	0.9385 - 0.9703				
Wind	132	0.9703				

Congestion information – calendar year 2023							
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation				
-	-	-	-				

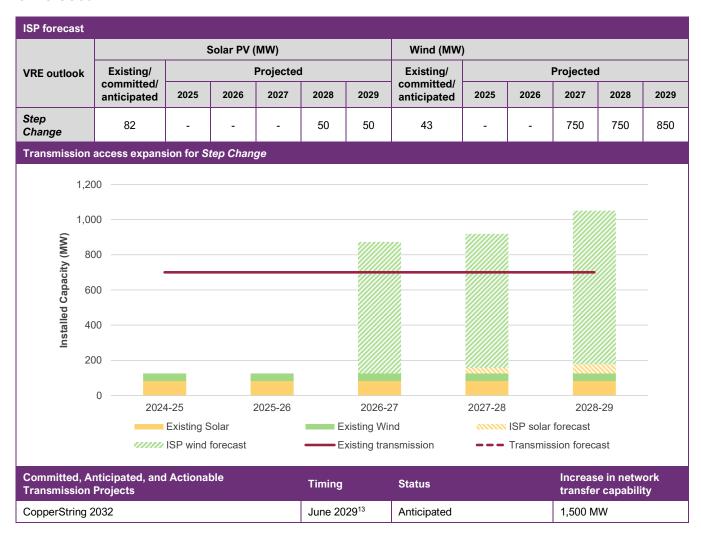
 $^{^9 \,} See \, \underline{\text{https://www.epw.qld.gov.au/}} \, \underline{\text{data/assets/pdf file/0029/32987/queensland-energy-and-jobs-plan.pdf.}} \\$

 $^{^{10}~}See~\underline{https://www.epw.qld.gov.au/}~\underline{data/assets/pdf}~\underline{file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf}.$

 $^{^{11}\,\}text{See}\,\,\underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0036/49599/REZ-roadmap.pdf}}\,.$

 $^{^{12}\,\}text{See}\,\,\underline{\text{https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023}.$

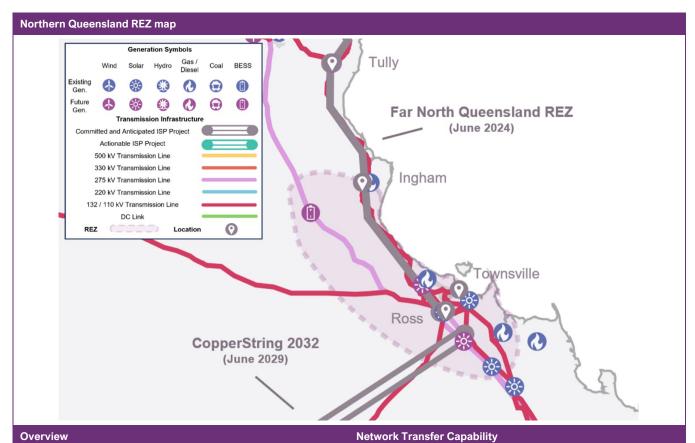
VRE semi-scheduled curtailment – calendar year 2023							
DUID	Generato	or name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)	
KEPSF1	Kennedy Energy I Sol		15	3.5	0.1	1,202	
KEPWF1	Kennedy Energy I Wir		43	1.3	0.2	1,909	
KSP1	Kidston Sol	ar Project	48	1.2	0.2	1,543	
VRE curtailment – ISP forecast							
	20	25	20)26	2027		
Scenario	Curtailment Economic offloading		Curtailment	Economic offloading	Curtailment	Economic offloading	
Step Change	-	2%	-	3%	-	5%	



 $^{^{13}}$ Under the Draft 2024 ISP *Step Change* scenario, the project is modelled in 2029-30.

A4.4 Q3 – Northern Queensland

REZ information



The Northern Queensland REZ encompasses Townsville and the surrounding area. It has B grade solar resource quality and is situated close to the high-capacity 275 kV network. There are already 450 MW of existing large-scale solar generation projects operational within this REZ.

Existing network transfer capability is approximately 1,200 MW, shared between Q1, Q2 and Q3. This network limit is modelled by the NQ-CQ flow path limits in the Draft 2024 ISP.¹⁴

Jurisdictional body	Reference	Function		
		Overarching plan to reach targets for Queensland's clean energy		
	Queensland Energy and Jobs Plan (QEJP) ¹⁵	system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to:		
Queensland Government		be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation)		
		 progress early design and planning for the SuperGrid backbone transmission. 		
Queensland Government	Queensland SuperGrid infrastructure Blueprint ¹⁶	Outlines the optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the QLD clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.		

¹⁴ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

 $^{^{15}\,}See\ \underline{https://www.epw.qld.gov.au/\underline{data/assets/pdf}}\ \underline{file/0029/32987/queensland-energy-and-jobs-plan.pdf}.$

¹⁶ See https://www.epw.qld.gov.au/__data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.

Queensland Government	2023 Queensland REZ Roadmap ¹⁷	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink	Transmission Annual Planning Report ¹⁸	Existing Transmission Planning Function.

There is no hosting capacity provided by the jurisdictional planning body which directly applies to this REZ. AEMO will work with the relevant parties to understand the hosting capacity for future publications.

Resource metrics					
Resource	Solar	Wi	nd		
Resource Quality	В	E			
Renewable Potential (MW)	3,400				
Climate hazard					
Temperature score	С	Bushfire score	E		

Margin loss factors

Marginal Loss Factor				
Technology	Voltage (kV)	2024-25 MLF		
Solar	132	0.9116 - 1.0159		
	275	0.9332		

Congestion information – calendar year 2023				
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation	
Q>NIL_TV66	4.0	\$59,668.0	Generation contributing to flows on 66 kV network in Townsville area	

DUID	Generator name		Generator name Ma		Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
CLARESF1	Clare Sola	ar Farm	100	0.7	0.2	1,631		
HAUGHT11	Haughton Solar Farm Stage 1		100	1.8	0.5	4,551		
RRSF1	Ross River Solar Farm		116	0.9	0.2	2,105		
SMCSF1	Sun Metals Solar Farm		121	1.0	0.3	2,386		
VRE curtailment – ISP forecast								
	2025		2026		2027			
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading		
Step Change	- 2%		_	1%	_	8%		

 $^{^{17}\,\}text{See}\,\,\underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0036/49599/REZ-roadmap.pdf}}.$

 $^{^{18}\,\}text{See}\,\,\underline{\text{https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023}}.$

ISP forecast												
		S	olar PV (ľ	MW)			Wind (MW)					
VRE outlook	Existing/		l	Projected	i		Existing/		l	Projected	l	
outiook	committed/ anticipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Change	437	-	-	-	-	-	-	-	-	-	-	-

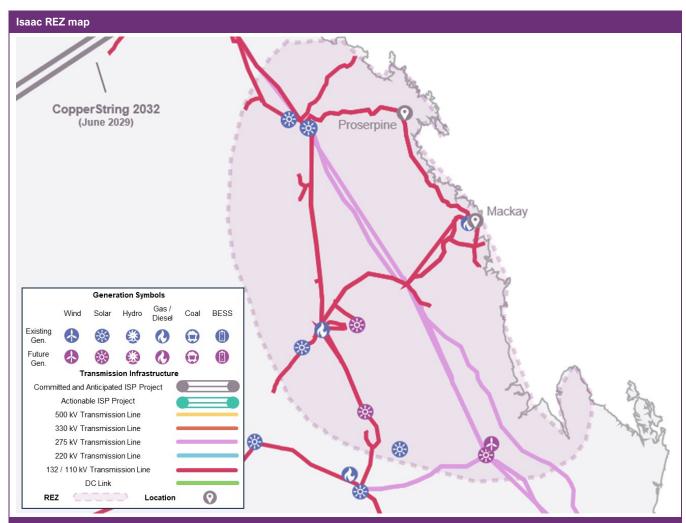
Transmission access expansion for Step Change 3,000 2,500 Installed Capacity (MW) 2,000 1,500 1,000 500 0 2024-25 2025-26 2026-27 2027-28 2028-29 Existing Solar Existing Wind ISP solar forecast ////// ISP wind forecast Existing transmission --- Transmission forecast

Note: The transmission limit modelled using the CQ-NQ flow path limit, and includes VRE projections for Q1, Q2 and Q3.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.5 Q4 - Isaac

REZ information



Overview

The Isaac REZ has grade B solar resource quality covering Collinsville and Mackay, and has a number of large-scale solar generation projects already in operation. There are numerous potential pumped hydro locations to the north east and south east of Nebo. This REZ has a good diversity of resources – wind, solar and storage. Locating storage in this zone could maximise transmission utilisation towards Brisbane.

In September 2022, the Queensland Government released its Queensland Energy and Jobs Plan (QEJP) and the SuperGrid Blueprint which calls for the large-scale pumped hydro station, Pioneer-Burdekin. Pioneer-Burdekin is currently progressing through Queensland Government assessment and decision-making processes and AEMO is yet to consider it an anticipated project (based on AEMO's criteria). AEMO recognises the Queensland Government's intention to build the project.

Inclusion of Pioneer-Burdekin is expected to impact the ultimate REZ generation build and timings within this REZ.

Network Transfer Capability

The Isaac REZ forms part of the NQ transmission backbone from Nebo to Strathmore. The network has the ability to transfer up to a total of 2,500 MW in summer peak and summer typical conditions and 2,750 MW for winter reference conditions across the REZs in northern Queensland. This is represented by the NQ2 group constraint in the Draft 2024 ISP.¹⁹

¹⁹ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

Jurisdictional body	Reference	Function		
		Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to:		
Queensland Government	QEJP ²⁰	be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation)		
		 progress early design and planning for the SuperGrid backbone transmission. 		
Queensland Government	Queensland SuperGrid infrastructure Blueprint ²¹	Outlines the optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.		
Queensland Government	2023 Queensland REZ Roadmap ²²	Outlines the pathway for connecting around 22 GW of new wind and solar generation.		
Powerlink Transmission Annual Planning Report ²³		Existing Transmission Planning Function.		

There is no hosting capacity provided by the jurisdictional planning body which directly applies to this REZ. AEMO will work with the relevant parties to understand the hosting capacity for future publications.

Resource metrics				
Resource	Solar	Wind		
Resource Quality	В	D		
Renewable Potential (MW)	6,900	3,800		
Climate hazard				
Temperature score	С	Bushfire score	С	

Margin loss factors

Marginal Loss Factor				
Technology	Voltage (kV)	2024-25 MLF		
Solar	33 - 66	0.9204 - 0.9356		
	132	0.9370 - 0.9397		

Congestion information – calendar year 2023								
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation					
-	-	-	-					

 $^{^{20}\,\}underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0029/32987/queensland-energy-and-jobs-plan.pdf.}}$

 $^{^{21}\,\}underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.}}$

 $^{^{22}\,\}underline{\text{https://www.epw.qld.gov.au/}}\,\,\,\underline{\text{data/assets/pdf}}\,\,\underline{\text{file/0036/49599/REZ-roadmap.pdf}}\,.$

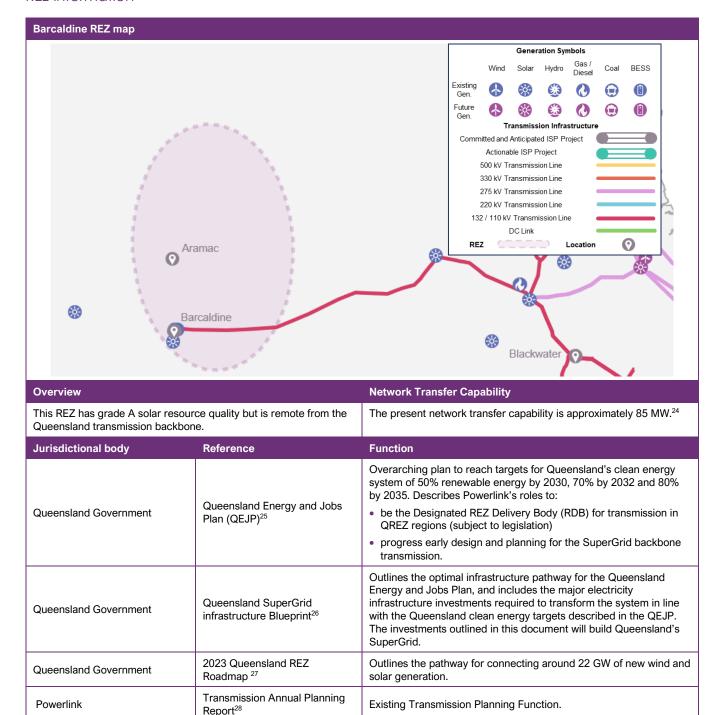
²³ See https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023.

VRE semi-sch	eduled curtailment -	calendar year 20	023					
DUID	Generato	r name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)		
CLERMSF1	Clermont So	olar Farm	75	2.9	0.6	4,899		
CSPVPS1	Collinsville Solar P'	V Power Station	42	1.1	0.1	1,045		
DAYDSF1	Daydream S	olar Farm	150	1.7	0.6	5,617		
HAMISF1	Hamilton Solar Farm		Hamilton Solar Farm		56	0.9	0.1	1,021
HAYMSF1	Hayman Solar Farm		50	2.1	0.2	2,180		
LILYSF1	Lilyvale Solar Farm		100	0.5	0.1	1,069		
MIDDLSF1	Middlemount	Solar Farm	26	0.6	0.0	400		
RUGBYR1	Rugby Run S	olar Farm	65	0.7	0.1	1,201		
WHITSF1	Whitsunday S	Solar Farm	56	1.0	0.1	1,164		
VRE curtailme	nt – ISP forecast							
	202	25	2026		20	27		
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading		
Step Change	-	2%	-	1%	-	5%		

				Solar PV	(MW)			Wind (MW)				
VRE outloo	•	sting/			Projected	ı		Existing/			Projected	j	
		mitted/ cipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Chang	e (520	-	-	-	-	400	439	-	-	-	450	1,000
Transmissi	on acces	expansi	ion for S	tep Chan	ge								
	3,000 —												
`	5,000												
	2,500 —	-									7///	///	
(MW)	2,000 —											/////////////////////////////////////	
Installed Capacity (MW)	,												
Cap	,500 —												
talled	,000 —												
<u>Ins</u>													
	500 —												
	0 —	2024	25		2025-26		2026-2	7	2027-28		2028	20	
			25 Existing S		2025-20	E	zuzu-z xisting Wii			ISP solar		-29	
			ISP wind					nsmission		Transmis	sion forec	ast	
NI-4	The transr	nission ad	ccess exr	pansion fo	recasts sh	now the re	esults for N	NQ2 group con:	straint aug	mentatio	n. which i	ncludes V	'RE
ivore:					000000 0.			. w= 9. oap oo	o a a.a.g		,		

A4.6 Q5 - Barcaldine

RF7 information



²⁴ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

²⁵ See https://www.epw.qld.gov.au/ data/assets/pdf file/0029/32987/queensland-energy-and-jobs-plan.pdf.

²⁶ See https://www.epw.qld.gov.au/__data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.

²⁷ See https://www.epw.qld.gov.au/ data/assets/pdf_file/0036/49599/REZ-roadmap.pdf.

²⁸ See https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023.

There is no hosting capacity provided by the jurisdictional planning body which directly applies to this REZ. AEMO will work with the relevant parties to understand the hosting capacity for future publications.

Resource metrics						
Resource	Solar	Wi	nd			
Resource Quality	А	D				
Renewable Potential (MW)	8,000	3,900				
Climate hazard						
Temperature score	D	Bushfire score	С			

Margin loss factors

Marginal Loss Factor						
Technology	Voltage (kV)	2024-25 MLF				
Solar	132	0.9370				

Congestion information – calendar year 2023									
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation						
-	-	-	-						

VRE semi-scheduled curtailment – calendar year 2023								
DUID	Generator name		Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)		
-	-		-	-	-	-		
VRE curtailment – ISP forecast								
		2025	20)26	2027			
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading		
Step Change	-	4%	-	3%	-	19%		

			;	Solar PV	(MW)			Wind (MW)				
VRE outlook		xisting/			Projected	i		Existing/			Projected	t	
		mmitted/ ticipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Change		14	-	-	-	50	50	-	-	-	-	-	-
Transmissio	n acce	ess expans	ion for S	tep Chan	ge								
	90 -												
	80 -	•							-0000000		- 11111	ann.	
	70 -												
Installed Capacity (MW)	60 -												
oity (
apac	50 -												
o pe	40 -												_
ıstall	30 -												_
=	20 -												_
	10 -												_
	0 -	2024	1_25		2025-26		2026-2	7	2027-28		2028	2.20	_
			Existing S		2025-20		xisting Win				forecast)- <u>2</u> 3	

Committed, Anticipate Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.7 Q6 – Fitzroy

REZ information

quality.



The Fitzroy REZ is in Central Queensland and covers a strong part of the network where Gladstone and Callide generators are connected. This REZ has grade B and C solar and wind resource

The network transfer capability for Fitzroy REZ to export electricity to southern Queensland is shared with other generation in northern and central Queensland. This capability is represented by the CQ-SQ limit where the flow on CQ-SQ must be less than 1100 MW for northerly flows and 2100 MW for southerly flows.²⁹

		northerly flows and 2 100 MW for southerly flows.25
Jurisdictional body	Reference	Function
Queensland Government	Queensland Energy and Jobs Plan (QEJP) ³⁰	Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to: • be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation) • progress early design and planning for the SuperGrid backbone transmission.
Queensland Government	Queensland SuperGrid infrastructure Blueprint ³¹	Outlines the optimal infrastructure pathway for the Queensland Energy and Jobs Plan, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.

²⁹ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

 $^{^{30}~}See~\underline{https://www.epw.qld.gov.au/}~\underline{data/assets/pdf}~\underline{file/0029/32987/queensland-energy-and-jobs-plan.pdf}.$

³¹ See https://www.epw.qld.gov.au/__data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.

Queensland Government	2023 Queensland REZ Roadmap ³²	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink	Transmission Annual Planning Report ³³	Existing Transmission Planning Function.

Powerlink lists the 'expected installed generation' to be 3,500-4,600 MW following the transmission capacity provided by the Gladstone Grid Reinforcement³⁴. This is an actionable ISP project and has been advised to be completed by March 2029³⁵.

This generation connecting to this REZ is also subject to the CQ-SQ network limit³⁶. AEMO recommends detailed investigations to understand how this limit impacts the REZ's hosting capacity.

Resource metrics								
Resource	Solar Wind							
Resource Quality	В	С						
Renewable Potential (MW)	7,533	3,500						
Climate hazard								
Temperature score	С	Bushfire score	В					

Margin loss factors

Marginal Loss Factor					
Technology Voltage (kV) 2024-25 MLF					
Solar	132	0.9319			

Congestion information – calendar year 2023						
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation			
-	-	-	-			

VRE semi-scheduled curtailment – calendar year 2023							
DUID	Generator name		Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)	
MOUSF1	Moura Solar Farm		82	1.9	0.3	3,010	
VRE curtailmen	t – ISP forecast						
2025		25	2026		2027		
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading	
Step Change	-	1%	-	-	-	3%	

³² See https://www.epw.qld.gov.au/ data/assets/pdf_file/0036/49599/REZ-roadmap.pdf.

 $^{^{33}\,\}text{See}\,\,\underline{\text{https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023}.$

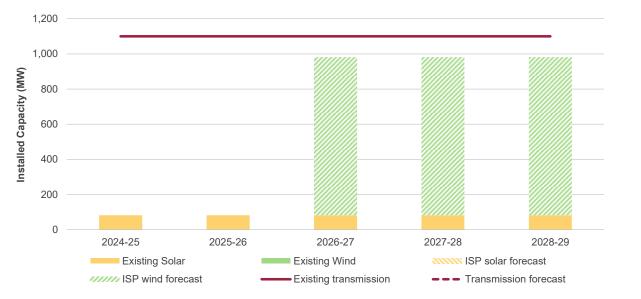
³⁴ Table 2, 1 2023 TAPR, Powerlink, at https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/draft-2024-isp-consultation/draft-2024-isp.pdf?la=en.

³⁵ NEM Transmission Augmentation Information May 2024, at https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/transmission-augmentation-information-i

³⁶ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

ISP forecast												
	Solar PV (MW)			Wind (MW)								
VRE outlook Existing/		Projected			Existing/	Projected						
	anticipated 20	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Change	82	-	-	-	-	-	-	-	-	900	900	900

Transmission access expansion for Step Change

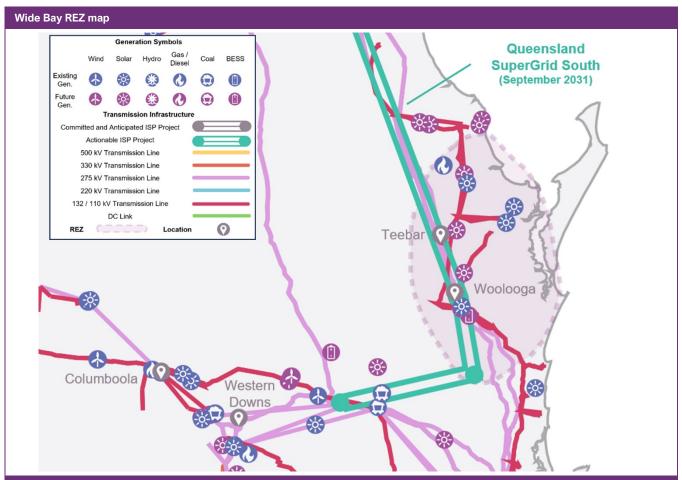


Note: The transmission limit is modelled using the CQ-SQ flow path limit.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.8 Q7 – Wide Bay

RF7 information



Overview

The Wide Bay area has grade C solar resource quality and already has a number of large solar generators operational within the REZ.

The Queensland Government has announced that, subject to final investment decisions, it will build a 2,000 MW/24-hour Borumba pumped hydro energy storage project in southern Queensland, as part of the Queensland SuperGrid.

AEMO considers Borumba to be an anticipated project. The project's dispatch is included in the SQ1 group constraint in the ISP modelling process.

Network Transfer Capability

The existing network facilitates power transfer from Central Queensland to the load centre in Brisbane. This is a 275 kV transmission backbone and currently supports up to approximately 1,400 MW of power flow from CQ into Brisbane. This has been called the SQ1 constraint in the Draft 2024 ISP. 37

Jurisdictional body	Reference	Function
Queensland Government Queensland Energy Plan (QEJP) ³⁸	Queensland Energy and Jobs	Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to: • be the Designated REZ Delivery Body (RDB) for transmission in
	Plan (QEJP) ⁶⁶	QREZ regions (subject to legislation)
		progress early design and planning for the SuperGrid backbone transmission.

³⁷ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

 $^{{\}color{red}^{38}} \ \underline{\text{https://www.epw.qld.gov.au/_data/assets/pdf_file/0029/32987/queensland-energy-and-jobs-plan.pdf.}$

Queensland Government	Queensland SuperGrid infrastructure Blueprint ³⁹	Outlines the Optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.
Queensland Government	2023 Queensland REZ Roadmap ⁴⁰	Outlines the pathway for connecting around 22 GW of new wind and solar generation
Powerlink	Transmission Annual Planning Report ⁴¹	Existing Transmission Planning Function

This is a 'Phase 2 REZ' as part of the Queensland Energy Roadmap⁴² with an 'expected installed generation' to be 1,600-2,000 MW⁴³.

Generation connecting to this REZ is also subject to the SQ1 group constraint⁴⁴. AEMO recommends detailed investigations to understand how this limit impacts the REZ's hosting capacity.

Resource metrics					
Resource	Solar	Wind			
Resource Quality	С	E			
Renewable Potential (MW)	2,200	1,100			
Climate hazard					
Temperature score	В	Bushfire score	E		

Margin loss factors

Marginal Loss Factor				
Technology	Voltage (kV)	2024-25 MLF		
Solar	132	0.9828 - 0.9850		

Congestion information – calendar year 2023						
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation			
-	-	-	-			

VRE semi-scheduled curtailment – calendar year 2023							
DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)		
CHILDSF1	Childers Solar Farm	56	0.0	0.0	2		
SRSF1	Susan River Solar Farm	75	0.0	0.0	7		
WOOLGSF1	Woolooga Solar Farm	176	0.0	0.0	0		

³⁹ https://www.epw.qld.gov.au/_data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.

 $^{^{40}\,\}underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0036/49599/REZ-roadmap.pdf}}.$

⁴¹ See https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023.

⁴² See page 49 of 2023 Queensland Renewable Energy Zone Roadmap, at https://www.epw.qld.gov.au/ data/assets/pdf_file/0036/49599/REZ-roadmap.pdf

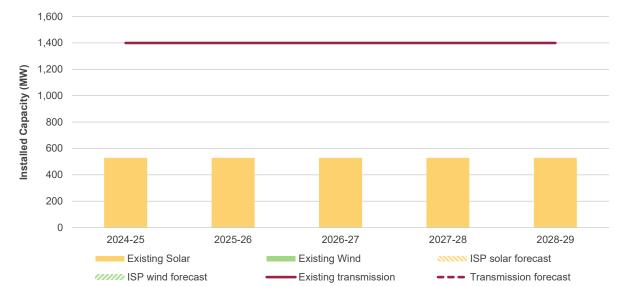
⁴³ Table 2, 1 2023 TAPR, Powerlink, at https://www.powerlink.com.au/sites/default/files/2023-11/2023%20Transmission%20Annual%20Planning%20Report%20-%20Whole%20Document.pdf.

⁴⁴ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

VRE curtailment – ISP forecast							
	20	2025		2026		27	
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading	
Step Change	-	5%	-	3%	-	8%	

ISP forecast												
Solar PV (MW)				Wind (MW))							
VRE outlook	<u> </u>			Projected		Existing/	Projected					
	committed/ anticipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Change	528	-	-	-	-	-	-	-	-	-	-	-



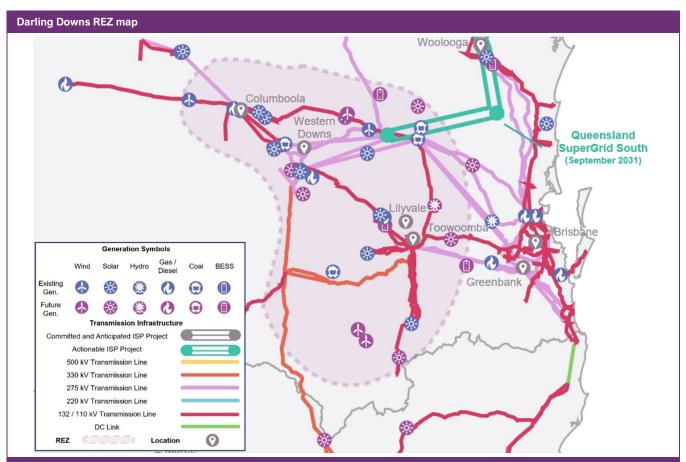


Note: The transmission access expansion forecasts show the results for the SQ1 group constraint augmentation, which includes Q7 as well as the effect of CQ-SQ flow. The transmission limit is modelled using the SQ1 group constraint limit.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.9 Q8 – Darling Downs

RF7 information



Overview

The Darling Downs REZ extends from the border of New South Wales around Dumaresq up to Columboola within the Surat region of Queensland, and has B and C grade solar and wind resource quality. A number of large solar and wind projects are already connected within the zone.

Network Transfer Capability

The Darling Downs REZ has high network capacity and is near QNI and Brisbane. The ultimate retirement of generation within this REZ will allow for increased VRE connections.

The existing network facilitates power transfer from south west Queensland to the load centre in Brisbane. This transmission can support up to approximately 5,300 MW of generation into Brisbane. This capability is shared with existing coal and gas generation in the REZ, the flow of power from New South Wales, and the flow of power from central Queensland. This sharing is captured by the SWQLD1 transmission limit constraint that facilitates power flow to load centres in south east Queensland. Changes to network capability for this REZ are therefore reflected in the SWQLD1 limit.⁴⁵

Jurisdictional body	Reference	Function
Queensland Government	Queensland Energy and Jobs Plan (QEJP) ⁴⁶	Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to: • be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation). • progress early design and planning for the SuperGrid backbone transmission.

⁴⁵ See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

⁴⁶ See https://www.epw.qld.gov.au/__data/assets/pdf_file/0029/32987/queensland-energy-and-jobs-plan.pdf.

Queensland Government	Queensland SuperGrid infrastructure Blueprint ⁴⁷	Outlines the optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.
Queensland Government	2023 Queensland REZ Roadmap ⁴⁸	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink Transmission Annual Planning Report ⁴⁹		Existing Transmission Planning Function.

Powerlink lists the 'expected installed generation' to be 7,600-9,600 MW⁵⁰ for this REZ. At present there is already significant existing VRE and non-VRE in the area. Powerlink is expected to provide transmission capacity in excess of 4,000 MW of hosting capacity in the Southern Downs and Western Downs area through construction of dedicated 275 kV transmission lines⁵¹.

Generation connecting to this REZ is also subject to the SWQLD1 transmission limit⁵². AEMO recommends detailed investigations to understand how this limit impacts the REZ's hosting capacity.

Resource metrics				
Resource	Solar	Solar Wind		
Resource Quality	В	(С	
Renewable Potential (MW)	6,992	5,600 ⁵³		
Climate hazard				
Temperature score	С	Bushfire score	E	

Margin loss factors

Marginal Loss Factor					
Technology	Voltage (kV)	2024-25 MLF			
Solar	110	0.9810 - 0.9847			
	132	0.9433 - 0.9788			
	275	0.9701 - 0.9785			
Wind	132	0.9770			
	275	0.9672			

⁴⁷ See https://www.epw.qld.gov.au/__data/assets/pdf_file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf.

 $^{^{48}\,\}text{See}\,\,\underline{\text{https://www.epw.qld.gov.au/}}\,\,\,\underline{\text{data/assets/pdf}}\,\,\underline{\text{file/0036/49599/REZ-roadmap.pdf}}\,.$

⁴⁹ See https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023.

Table 2.1, 2023 TAPR, Powerlink, at https://www.powerlink.com.au/sites/default/files/2024-04/Transmission%20Annual%20Planning%20Report%20-%20203%20-%20Full%20Document.pdf.

⁵¹ Section 2.4.2, 2023 TAPR, Powerlink.

⁵² See 'Build Limits' tab of the Draft 2024 Inputs and Assumptions Workbook, at https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-iasr-assumptions-workbook.xlsx?la=en.

⁵³ Darling Downs REZ wind outlook exceeds the expected renewable potential based on the geographical size and resource quality. The modelling allows for additional wind above this wind resource limit, but the additional capacity incurs a land use penalty factor of \$0.29 million/MW. Even with this penalty applied, the ISP model still projects additional wind capacity in *Step Change* by 2049-50.

Congestion information – calendar year 2023					
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation		
Q>NIL_YLMR	676.9	7,345,087.7	Generation contributing to flow from Yarranlea to Middle Ridge 110 kV		
N::Q_NIL_KC	25.4	11,175.6	Kogan Creek Power Station, and generation contributing to northward flow on Dumaresq-Bulli Creek 330 kV lines and Terranora interconnector		
Q>NIL_DRLCLB_NIL	10.4	143,383.3	Generation contributing to flow from Drillham to Columboola 132 kV		

VRE semi-scheduled curtailment – calendar year 2023							
DUID	Generator name		Generator name Maximum Capacity Average (MW) curtailment (%		Average curtailment (MW)	Curtailment (MWh)	
BLUEGSF1	Bluegrass S	Solar Farm	148	0.9	0.4	3,600	
COLUMSF1	Columboola	Solar Farm	162	0.1	0.0	398	
COOPGWF1	Coopers Gap	Wind Farm	440	0.0	0.0	374	
DDSF1	Darling Downs	Solar Farm	108	0.1	0.0	185	
DULAWF1	Dulacca W	ind Farm	173	0.0	0.0	145	
EDENVSF1	Edenvale S	olar Park	146	0.2 0.0		432	
GANGARR1	Gangarri Solar Farm		120	0.2	0.0	368	
MARYRSF1	Maryrorough Solar Farm		27	2.5	0.2	1,576	
OAKEY1SF	Oakey 1 Solar Farm		25	0.4	0.0	202	
OAKEY2SF	Oakey 2 Solar Farm		55	0.1	0.0	180	
WANDSF1	Wandoan So	olar Farm 1	125	0.0	0.0	16	
WARWSF1	Warwick So	lar Farm 1	32	0.3	0.0	170	
WARWSF2	Warwick So	lar Farm 2	32	0.3	0.0	180	
WDGPH1	Western Do	wns GPH	400	0.0	0.0	151	
YARANSF1	Yarranlea Solar Farm		103	1.9	0.5	4,596	
VRE curtailment – ISP forecast							
	20	25	2026	3	2027		
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading	
Step Change	-	1%	-	1%	-	3%	

0

2024-25

■ Existing Non-VRE ISP solar forecast

--- Transmission forecast

ISP forecast

ISP forecast												
Solar PV (MW)				Wind (MW))							
VRE outlook	Existing/	•					Existing/	•			i	
committed/ anticipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029	
Step Change	1,485	-	-	-	-	-	1,788	-	-	1,450	2,050	2,300

Note: The transmission access expansion forecasts show the results for the SWQLD1 group constraint augmentation, which includes Q8 as well as the effect of CQ-SQ and QNI flow. The transmission limit is modelled using the SWQLD1 group constraint limit.

2026-27

Existing Solar
ISP wind forecast

2027-28

2028-29

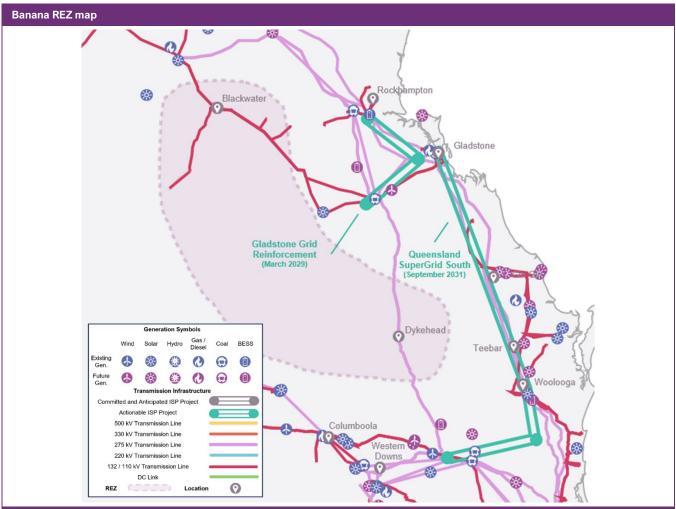
■ Existing Wind ■ Existing transmission

2025-26

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.10 Q9 - Banana

REZ information



Overview

The Banana REZ is located roughly 200 km south-west of Gladstone and lies north of the CQ-SQ flow path. It has B grade solar resource quality. There are currently no generators and limited high voltage network in this area.

AEMO understands from the Queensland Government and from Powerlink that transmission augmentation projects for the Banana REZ are likely to be delivered as a dedicated asset of some kind. This has been treated similar to a generation connection asset in the ISP model, rather than a network augmentation option.

Network Transfer Capability

The network transfer capability of Q9 is 150 MW. There is currently very little high voltage network in the area. However, there is some 132 kV network on the edge of the REZ, supporting the townships of Moura and Biloela.

Jurisdictional body	Reference	Function
Queensland Government	0	Overarching plan to reach targets for Queensland's clean energy system of 50% renewable energy by 2030, 70% by 2032 and 80% by 2035. Describes Powerlink's roles to:
	Queensland Energy and Jobs Plan (QEJP) ⁵⁴	be the Designated REZ Delivery Body (RDB) for transmission in QREZ regions (subject to legislation).
		progress early design and planning for the SuperGrid backbone transmission.

 $^{^{54} \} See \ https://www.epw.qld.gov.au/__data/assets/pdf_file/0029/32987/queensland-energy-and-jobs-plan.pdf.$

Queensland Government	Queensland SuperGrid infrastructure Blueprint ⁵⁵	Outlines the Optimal infrastructure pathway for the QEJP, and includes the major electricity infrastructure investments required to transform the system in line with the Queensland clean energy targets described in the QEJP. The investments outlined in this document will build Queensland's SuperGrid.
Queensland Government	2023 Queensland REZ Roadmap ⁵⁶	Outlines the pathway for connecting around 22 GW of new wind and solar generation.
Powerlink	Transmission Annual Planning Report ⁵⁷	Existing Transmission Planning Function.

There is no hosting capacity provided by the jurisdictional planning body which directly applies to this REZ. AEMO will work with the relevant parties to understand the hosting capacity for future publications.

Resource metrics							
Resource Solar Wind							
Resource Quality	В	E					
Renewable Potential (MW)	6,100 3,400						
Climate hazard							
Temperature score	С	Bushfire score	В				

Margin loss factors

Marginal Loss Factor							
Technology	Voltage (kV)	2024-25 MLF					
-	-	-					

Congestion information – calendar year 2023							
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation				
Q>NIL_EMCM_6056	628.2 1,023,311.4		Generation contributing to flow from Emerald to Comet 66 kV				
Q>NIL_EMBW_EMLV_DS	110.8	94,432.2	Generation contributing to flow from Emerald to Lilyvale 66 kV on trip of the Emerald-Comet-Blackwater 66 kV line				

VRE semi-sche	VRE semi-scheduled curtailment – calendar year 2023									
DUID	Generat	or name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)				
-	-		-	-	-	-				
VRE curtailmen	t – ISP forecast									
	20	2025				2027				
Scenario	Curtailment	Economic offloading	Curtailment	Economic offloading	Curtailment	Economic offloading				
Step Change	-	-	-	-	-	-				

 $^{^{55}\,\}text{See}\,\,\underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf}}\,\,\underline{\text{file/0030/32988/queensland-supergrid-infrastructure-blueprint.pdf}}.$

 $^{^{56}\,\}text{See}\,\,\underline{\text{https://www.epw.qld.gov.au/}}\,\,\underline{\text{data/assets/pdf_file/0036/49599/REZ-roadmap.pdf}}.$

 $^{^{57}\,\}text{See}\,\,\underline{\text{https://www.powerlink.com.au/planning-report/transmission-annual-planning-report-2023}.$

ISP forecast												
		(Solar PV (MW) Win)				
VRE outlook	Existing/		Projected			Existing/	Projected					
	committed/ anticipated	2025	2026	2027	2028	2029	committed/ anticipated	2025	2026	2027	2028	2029
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for Step Change

There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes for *Progressive Change* and *Step Change* scenarios did not project any additional VRE for this REZ. Therefore, no VRE curtailment or transmission expansion occurs in this REZ in those scenarios.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A4.11 Non-REZ

Congestion information – calendar year 2023							
Constraint ID	Binding hours	Marginal value (\$)	Most affected generation				
N>Q-NIL_757_758	54.7	16,189.9	Generation contributing to northward flow on the Terranora - Mudgeeraba 110 kV lines.				

VRE semi-scheduled curtailment – calendar year 2023							
DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)		
EMERASF1	Emerald Solar Park	72	3.9	0.7	6,467		