Appendix A3. New South Wales

July 2025

Appendix to the 2025 Enhanced Locational Information Report

We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan

AEMO Group is proud to have launched its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

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 1 April 2025, 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.

Copyright

Version control

Version	Release date	Changes
1.0	09/07/2025	Initial release.

Contents

Figures

A3.1 Introduction

This appendix provides detailed locational indicators and metrics for New South Wales. This appendix contains the following information:

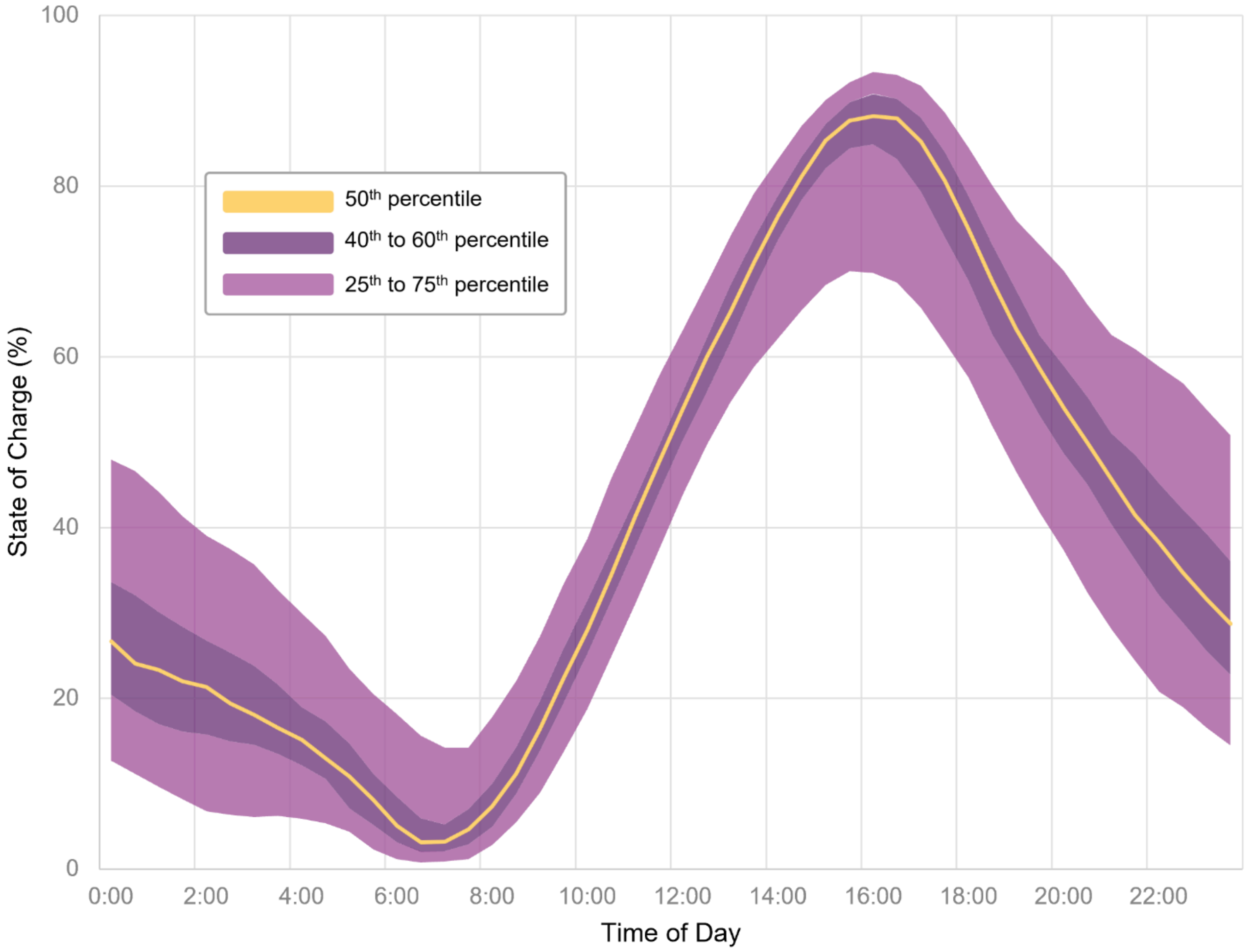
- The average forecast daily usable stage of charge (SoC) for batteries (planted under the 2024 ISP *Step Change* scenario) across New South Wales in 2030 (Section A3.2).
- The generation and storage capacity and annual generation energy production across New South Wales under the 2024 ISP *Step Change* projected build in 2024 (actual annual production) and 2025, 2030, and 2040 (Section A3.3).
- An overview map of the New South Wales region and associated REZs (Section A3.1).
- Detailed locational indicators and metrics for each REZ within New South Wales (Section A3.5 to A3.17).

This appendix uses existing sources of publicly available information which includes the Final 2024 ISP.

A3.2 Average forecast daily usable battery stage of charge

Figure 1 presents the average forecast daily usable SoC for batteries (planted under the *Step Change* scenario) across New South Wales in 2030.

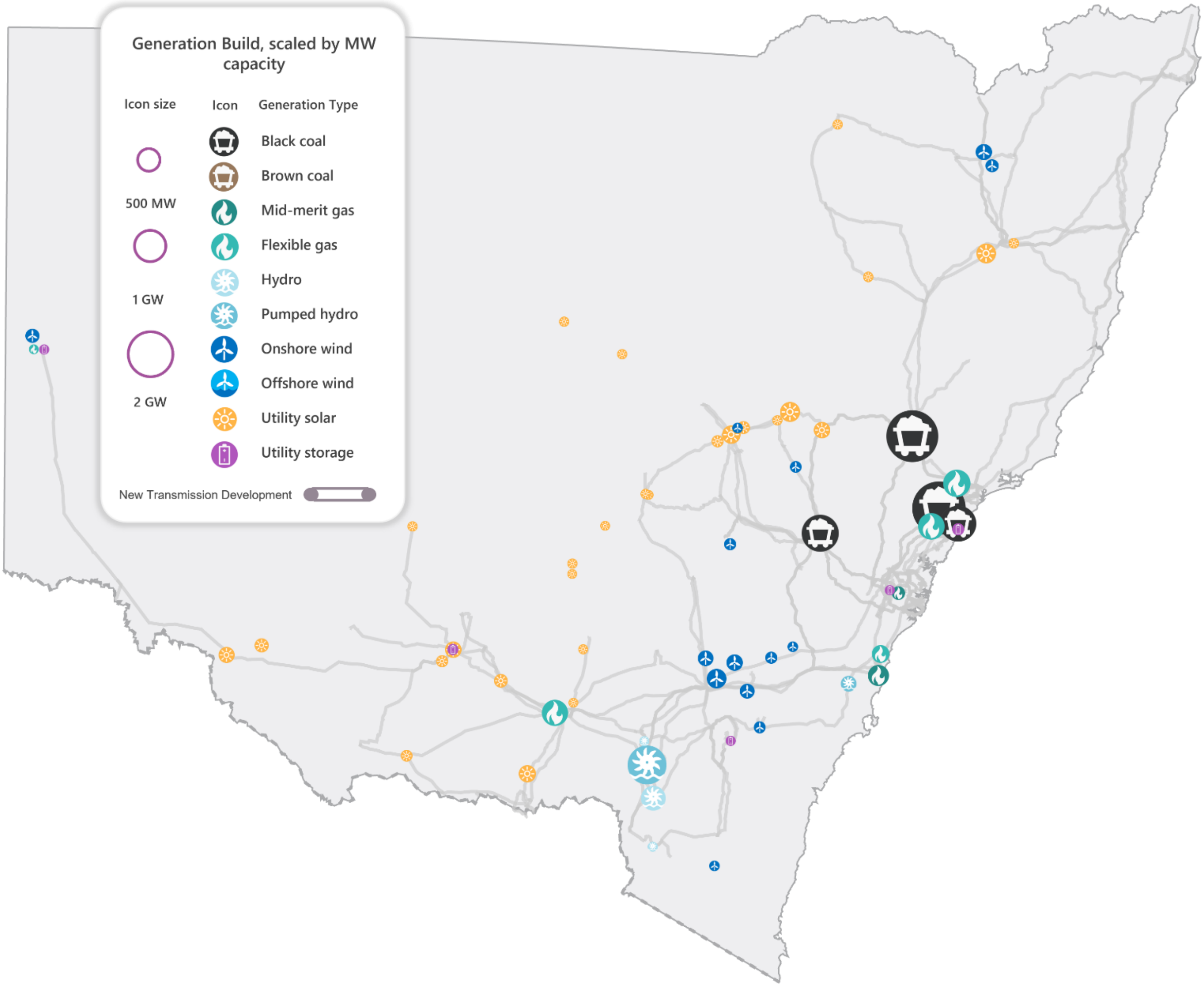
Figure 1 Average forecast daily usable state of charge (SoC) for batteries across New South Wales, 2024 ISP *Step Change* scenario, 2030 (%)



A3.3 Projected generation build

Figure 2 to Figure 7 show the generation and storage capacity and annual generation energy production across New South Wales under the 2024 ISP *Step Change* projected build in 2024 (actual annual production) and 2025, 2030, and 2040[1].

Figure 2 Projected generation capacity (MW) and across New South Wales, under the 2024 ISP *Step Change* projected build, 2025



---

[1] Units smaller than 50 MW have been omitted from the capacity map, and those smaller than 125 GWh annually have been omitted from the energy production maps. Icon sizes do not represent area of land usage. Icon locations have been arranged for visual clarity. ISP projects have been placed within their relevant ISP sub-region or REZ but do not represent specific anticipated connection points.

Figure 3 **Projected generation capacity (MW) and across New South Wales, under the 2024 ISP *Step Change* projected build, 2030**

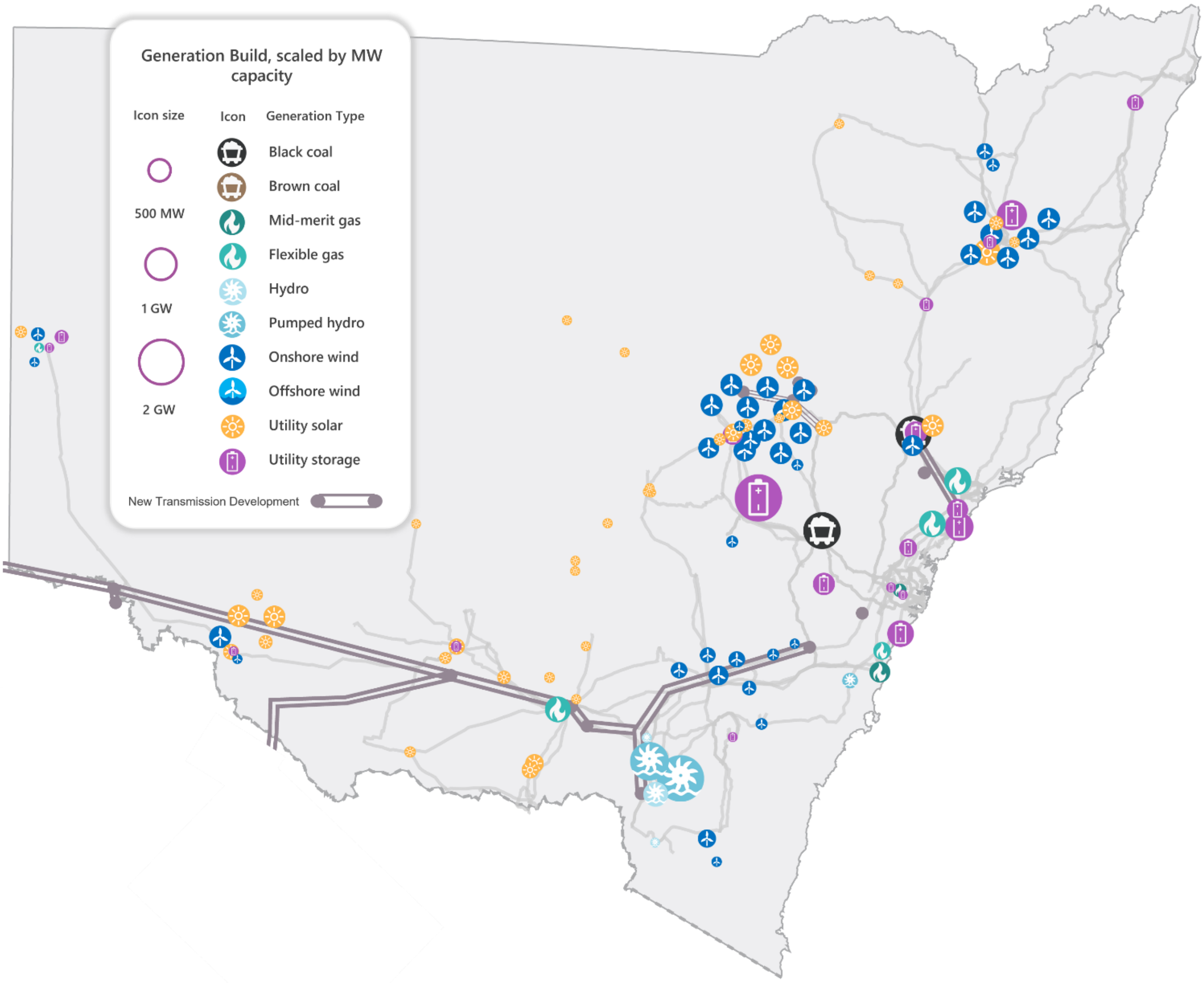


Figure 4 Projected generation capacity (MW) and across New South Wales, under the 2024 ISP *Step Change* projected build, 2040

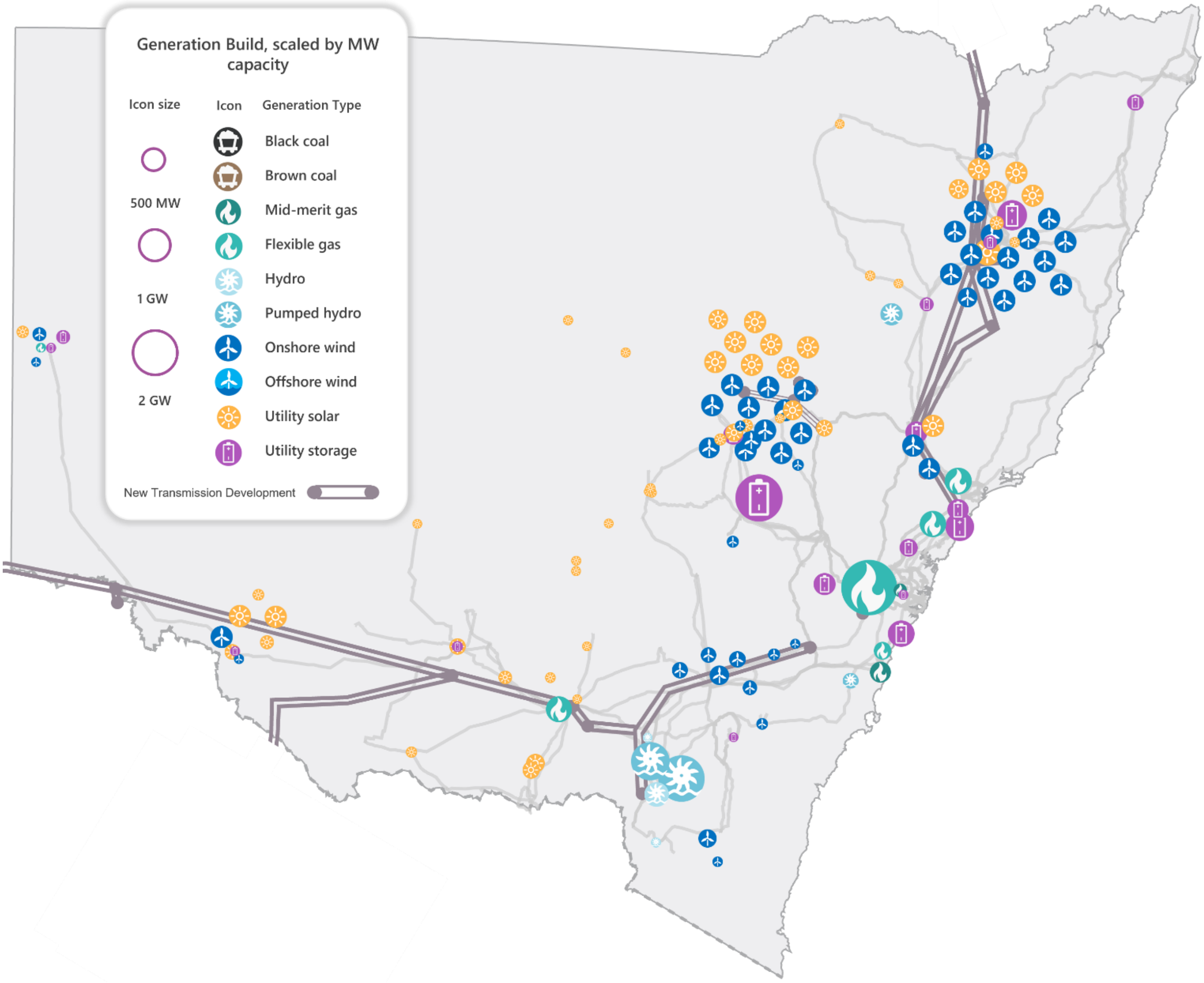
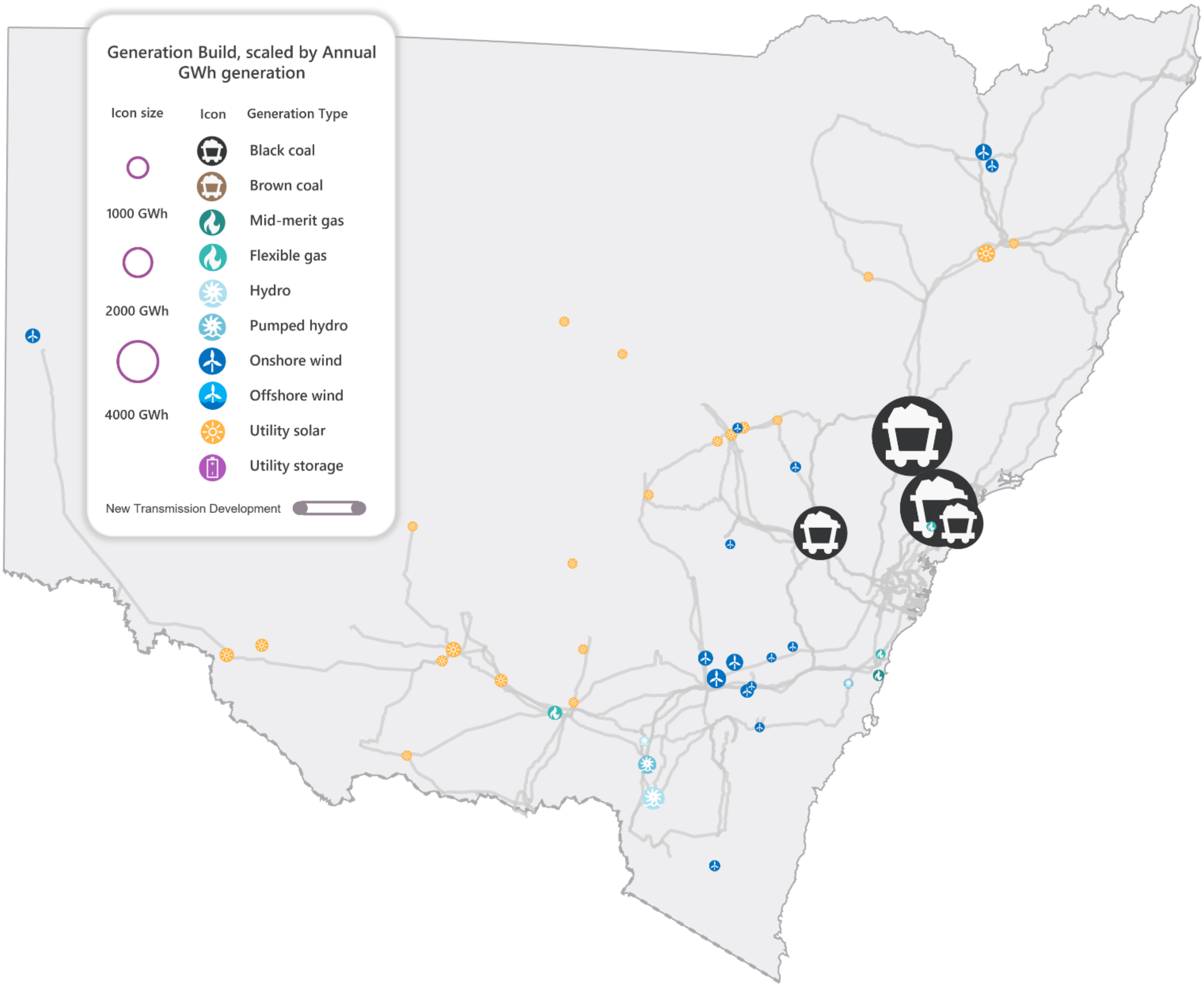


Figure 5 Annual generation energy production (MWh) across New South Wales, 2024



Note: This figure makes use of historical calendar year generation data and is hence presented for the year 2024. All other build figures make use of the 2024 *ISP Step Change* projected build.

Figure 6 **Projected annual generation energy production (MWh) across New South Wales, under the 2024 ISP *Step Change* projected build, 2030**

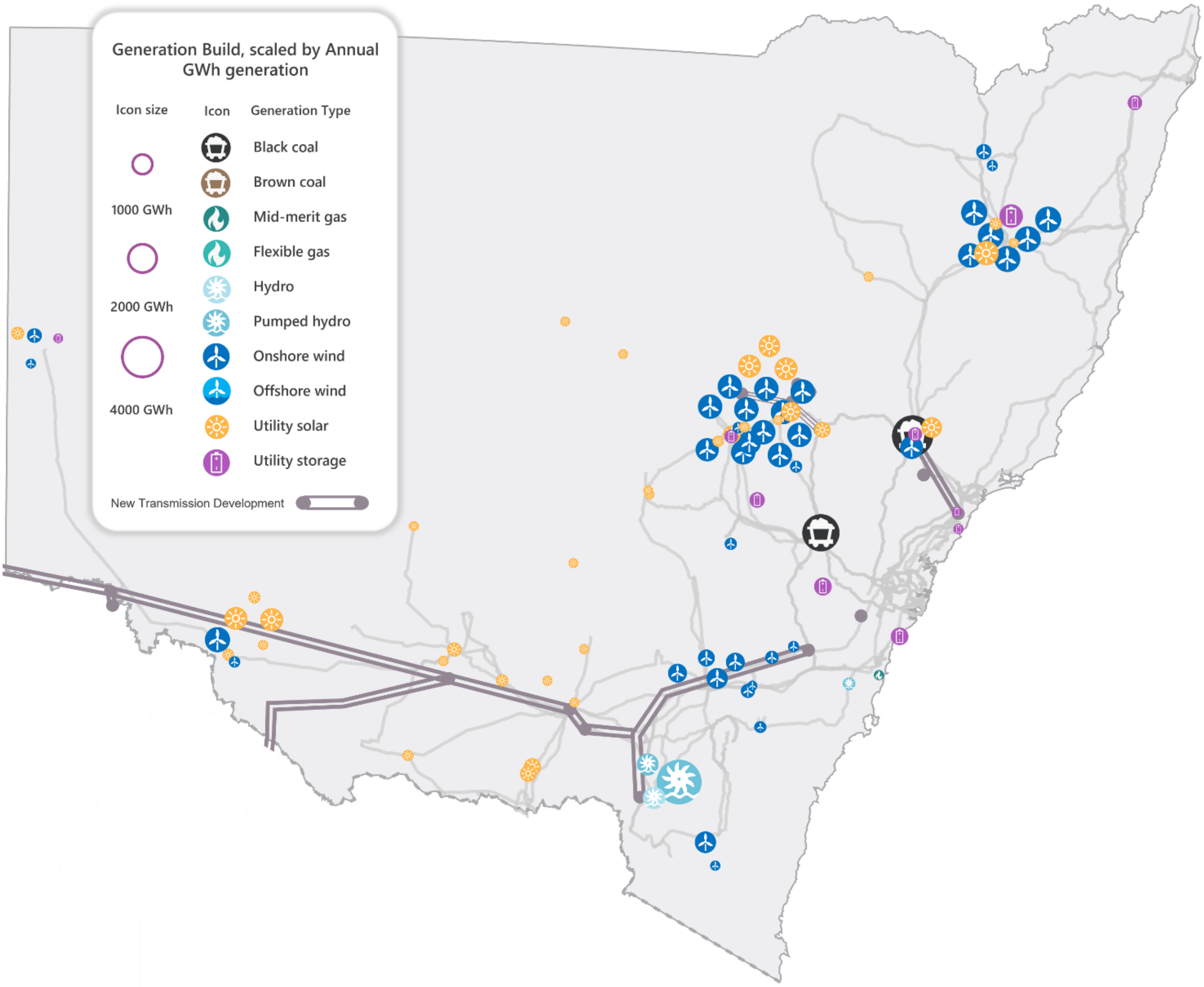
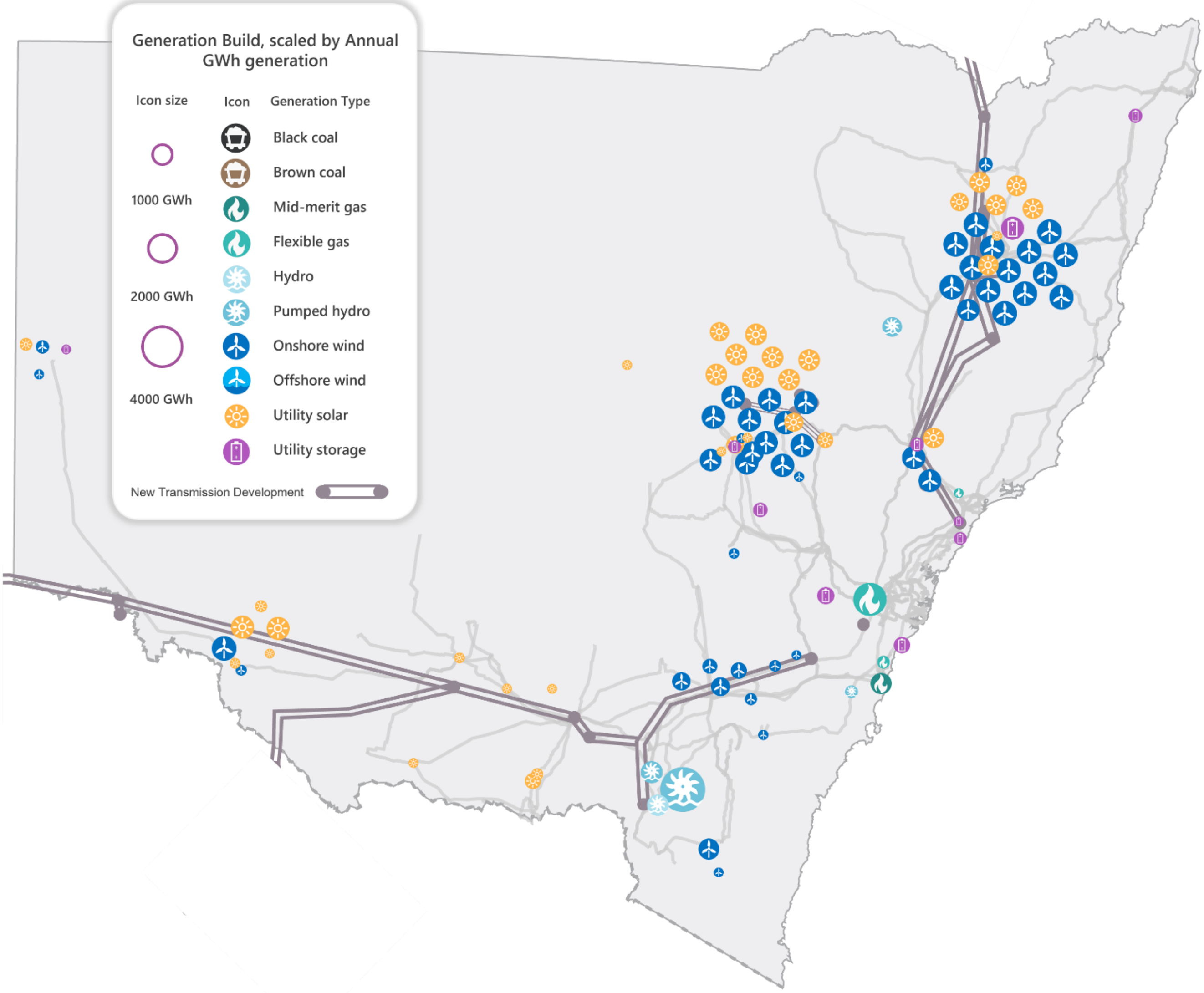


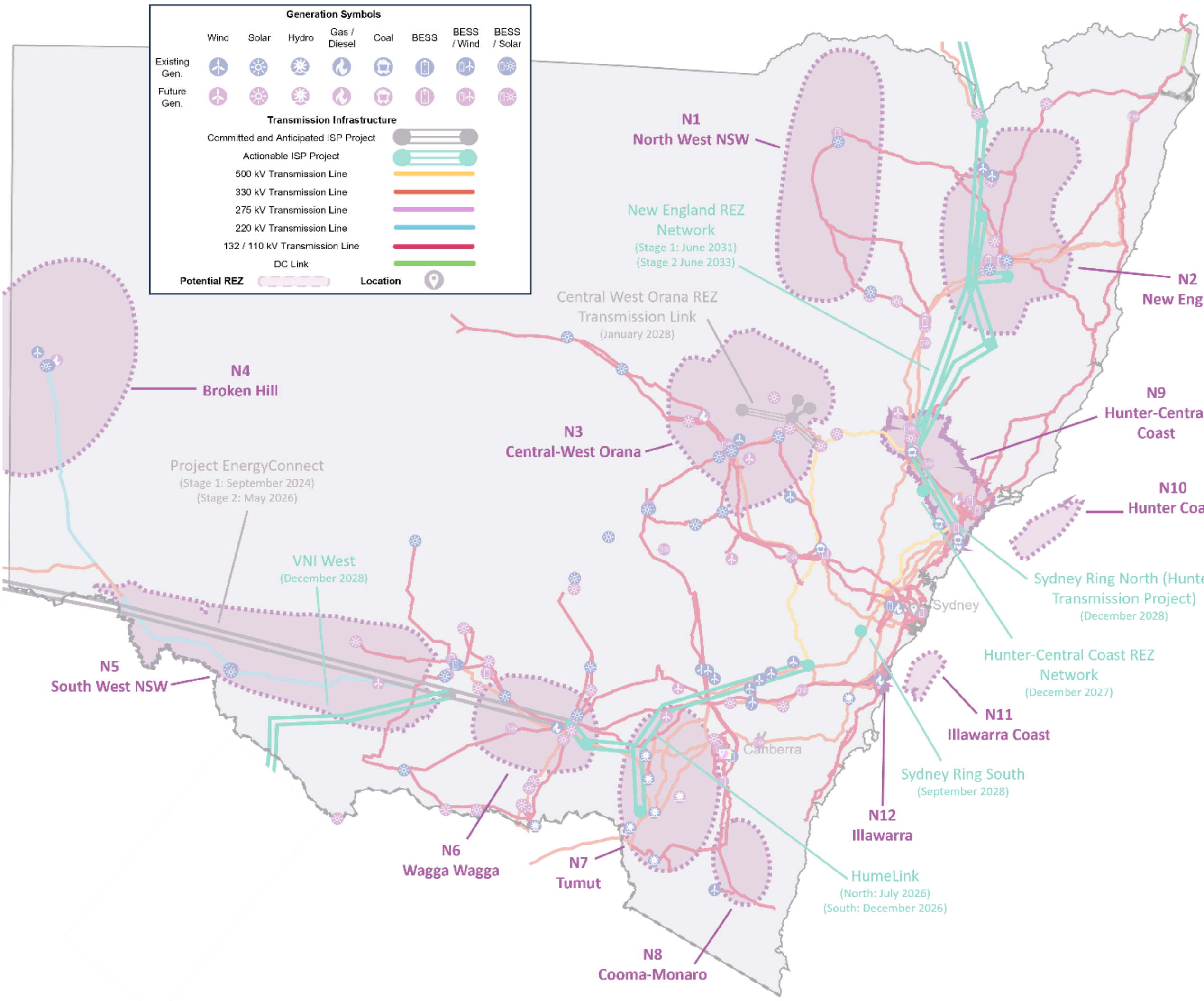
Figure 7 **Projected annual generation energy production (MWh) across New South Wales, under the 2024 ISP *Step Change* projected build, 2040**



A3.4 REZs overview

The following sections of this appendix provides detailed locational indicators and metrics for each REZ in New South Wales. **Figure 8** provides an overview map of the New South Wales region and associated REZs. Appendix A2 provides a guide to interpreting the REZ scorecards presented throughout the remainder of this appendix.

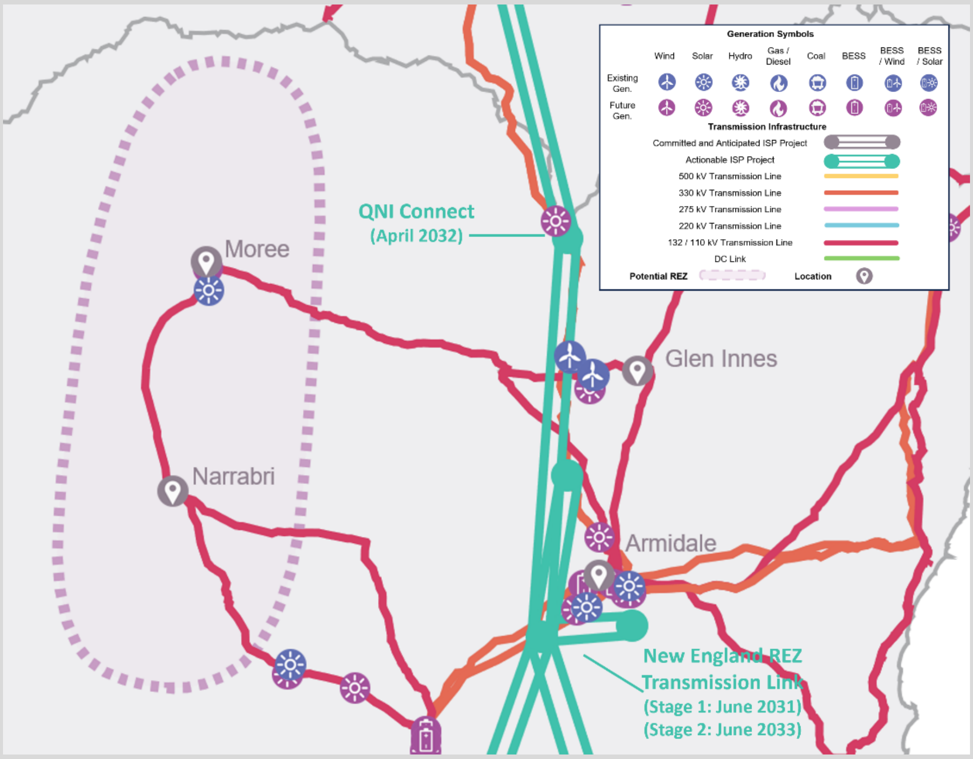
Figure 8 Overview of New South Wales region and REZs



A3.5 N1 – Northwest New South Wales

REZ information

North West New South Wales REZ map



Overview	**Network Transfer Capability**
The North West New South Wales (NWNSW) REZ is located to the west of the existing QNI. While this zone has B grade solar resource quality, the wind resource is estimated to be mostly inadequate for wind farm development.	The existing 132 kV network is weak and would require significant network upgrades to accommodate VRE greater than the transmission network limit of approximately 170 MW.

Jurisdictional body

The NWNSW REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act*.

Resource metrics

Resource	**Solar**			**Wind**		
Resource Quality	B			E		
Renewable Potential (MW)	6,385			-		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	A	A	A

Climate hazard

Temperature score	D	**Bushfire score**	E

Marginal loss factors

Marginal Loss Factor

Technology	**Voltage (kV)**	**2025-26 MLF**

Marginal Loss Factor			
Solar	66	0.8387	
	132	0.8437	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	F	F	F

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>NIL_969	1,249.3	14,836,697.2	Generation contributing to flow from Gunnedah to Tamworth 132 kV

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
GNNDHSF1	Gunnedah Solar Farm	110	10.0	2.9	25,159
MOREESF1	Moree Solar Farm	56	0.3	0.0	340
Historical hosting capacity indicator for 20% network spill threshold[2]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
GNNDHSF1	Gunnedah Solar Farm	100	178	0	0

VRE curtailment and economic offloading – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	4	1	10	1	9

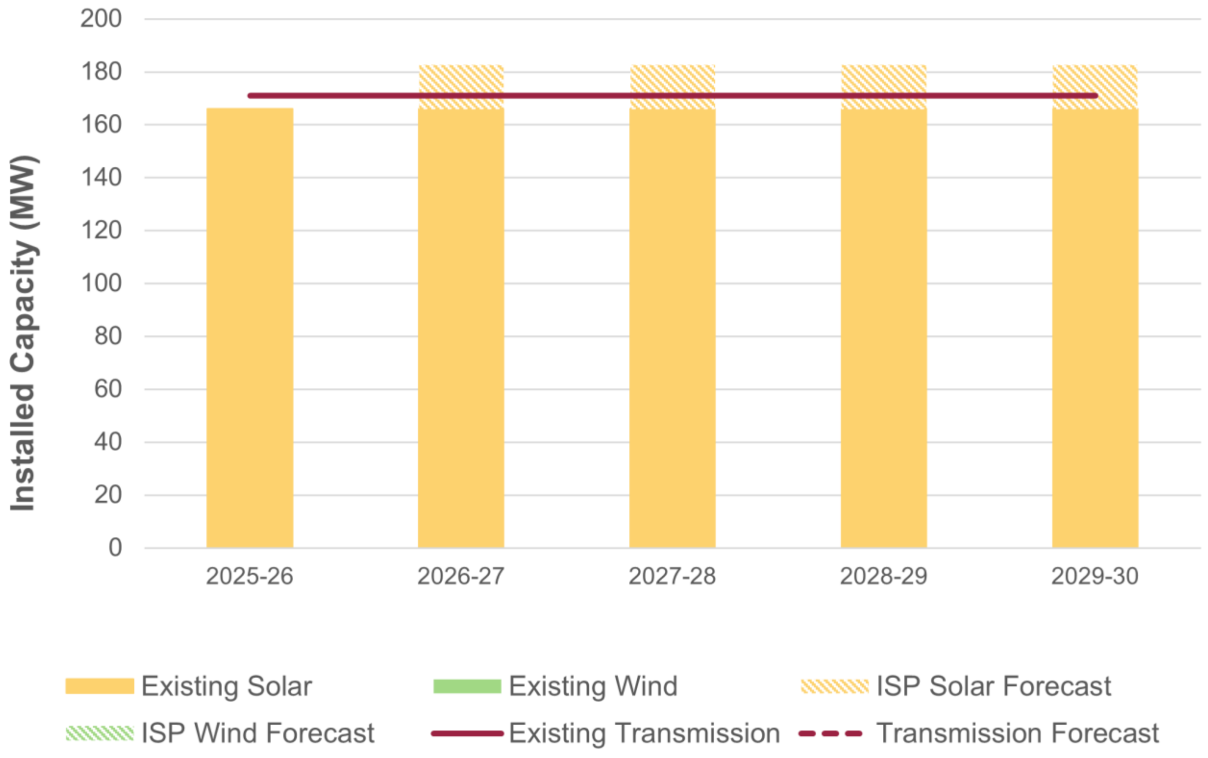
---

[2] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.

ISP forecast

ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	166	-	17	17	17	17	-	-	-	-	-	-

Transmission access expansion for *Step Change*

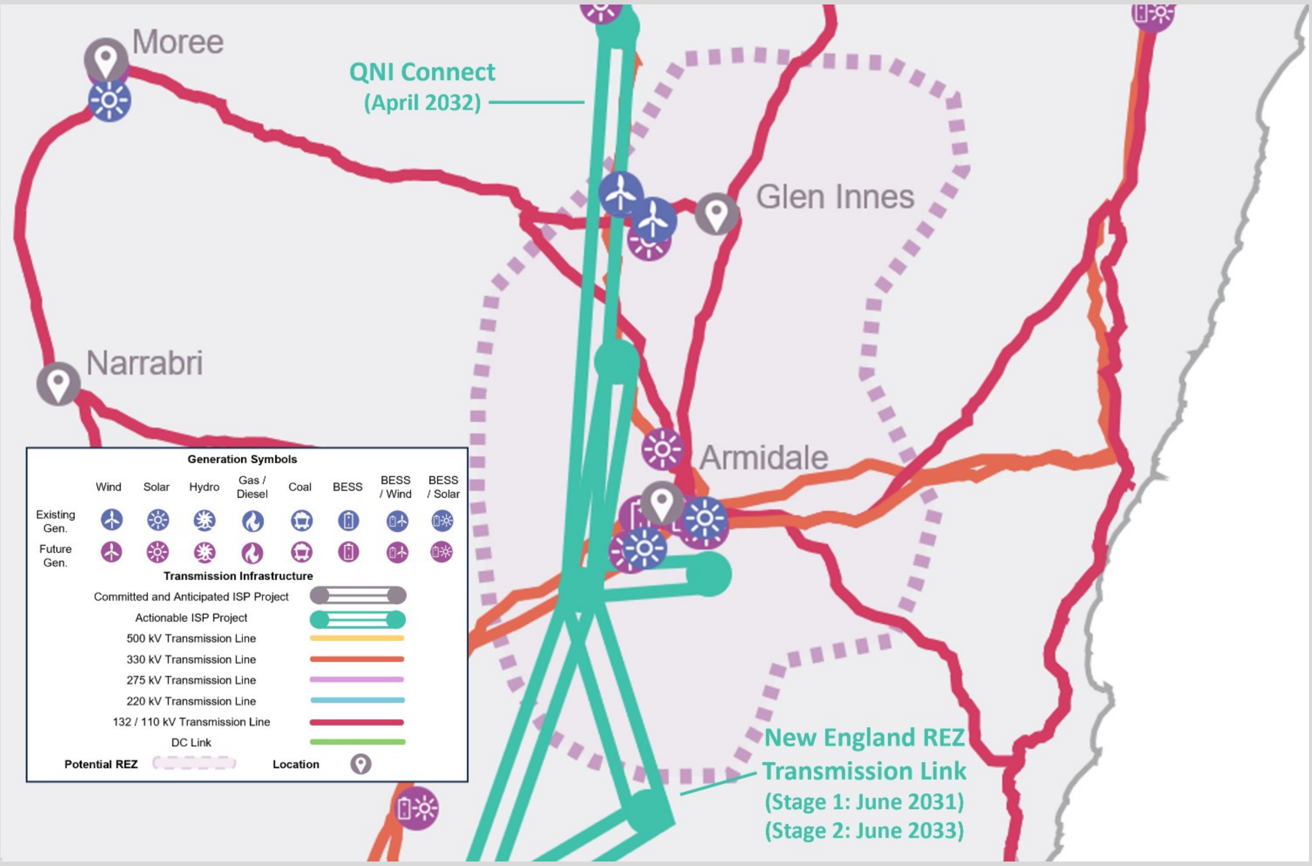


Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
-	-	-	-

A3.6 N2 – New England

REZ information

New England REZ map



Overview	Network Transfer Capability
New England REZ is located to the east of and along the existing QNI[3]. The capacity of this REZ is supported by extensive Northern NSW – Central NSW corridor network options and it will be part of New England REZ infrastructure development. This REZ has C grade solar and wind resource quality in close proximity to the 330 kV network. Interest in the area includes large-scale solar and wind generation as well as pumped hydro generation.	The existing network capacity, following completion of the committed QNI Minor upgrade, is limited by transient and voltage stability on the circuits between Bulli Creek, Sapphire and Dumaresq. Thermal limits on the 330 kV circuits between Armidale, Tamworth, Muswellbrook and Liddell can also restrict flows on this network.

Jurisdictional body	Reference	Function
EnergyCo	*NSW Electricity Infrastructure Investment Act 2020*[4]	The New England REZ was formally declared in November 2021 under the *Electricity Infrastructure Investment Act 2020*. EnergyCo was appointed as the Infrastructure Planner for the Central-West Orana REZ[5].
EnergyCo	Network Infrastructure Strategy[6]	EnergyCo's strategy to coordinate New South Wales network infrastructure to connect new generation and storage in New South Wales' five REZs.

---

[3] Options shown are a subset of the Central New South Wales to Northern New South Wales flow path options.

[4] See https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044#sec.23.

[5] EnergyCo. New England Renewable Energy Zone, at https://www.energyco.nsw.gov.au/projects/new-england-transmission-project.

[6] See https://www.energyco.nsw.gov.au/about-us/network-infrastructure-strategy-nsw.

AEMO Services	Long Term Energy Service Agreement (LTESA) Tenders[7]	AEMO Services (appointed as Consumer Trustee) conducts tenders for projects generation, storage, firming infrastructure that can be recovered from consumers, in accordance with the Infrastructure Investment Objectives (IIO) Report.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	C			C		
Renewable Potential (MW)	2,985[8]			7,400		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	A/B	A	A
Climate hazard						
Temperature score	C			**Bushfire score**	E	

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
Solar	132	0.8149 - 0.8557
	330	0.8803
Wind	132	0.8149
	330	0.8558

Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>>NIL_85_86_S	76.3	194,168.7	Generation contributing to flow from Uralla to Tamworth 330 kV on trip of the Armidale – Tamworth 330 kV line
N>>NIL_86_85_S	61.9	225,790.5	Generation contributing to flow from Armidale to Tamworth 330 kV on trip of Uralla to Tamworth 330 kV line
N>>NIL_966/1	125.0	425,861.4	Generation contributing to flow from Metz Tee to Armidale 132 kV
Q^^N_NIL_SRAR	9.0	76,672.9	Generation contributing to southward flow on QNI

---

[7] AEMO Services Tenders, at https://aemoservices.com.au/tenders.

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

VRE semi-scheduled curtailment – calendar year 2024

DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
METZSF1	Metz Solar Farm	115	0.4	0.1	774
NEWENSF1	New England Solar Farm	200	3.3	1.7	14,658
NEWENSF2	New England Solar Farm	200	2.6	1.3	11,690
SAPHWF1	Sapphire Wind Farm	270	0.0	0.0	107
WRSF1	White Rock Solar Farm	20	0.0	0.0	16
WRWF1	White Rock Wind Farm	172	0.4	0.2	1,719

Historical hosting capacity indicator for 20% network spill threshold[9]

DUID	Generator name	HHCI Wind (MW)	HHCI Wind + BESS (MW)	HHCI Solar (MW)	HHCI Solar + BESS (MW)
METZSF1	Metz Solar Farm	212	275	0	32
NEWENSF1	New England Solar Farm	300	300	0	300
SAPHWF1	Sapphire Wind Farm	300	300	0	295
WRSF1	White Rock Solar Farm	300	300	0	0
WRWF1	White Rock Wind Farm	300	300	0	0

VRE curtailment – ISP forecast

Scenario	2025-2026		2026-2027		2027-2028	
	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)
Step Change	10	16	15	26	24	34

---

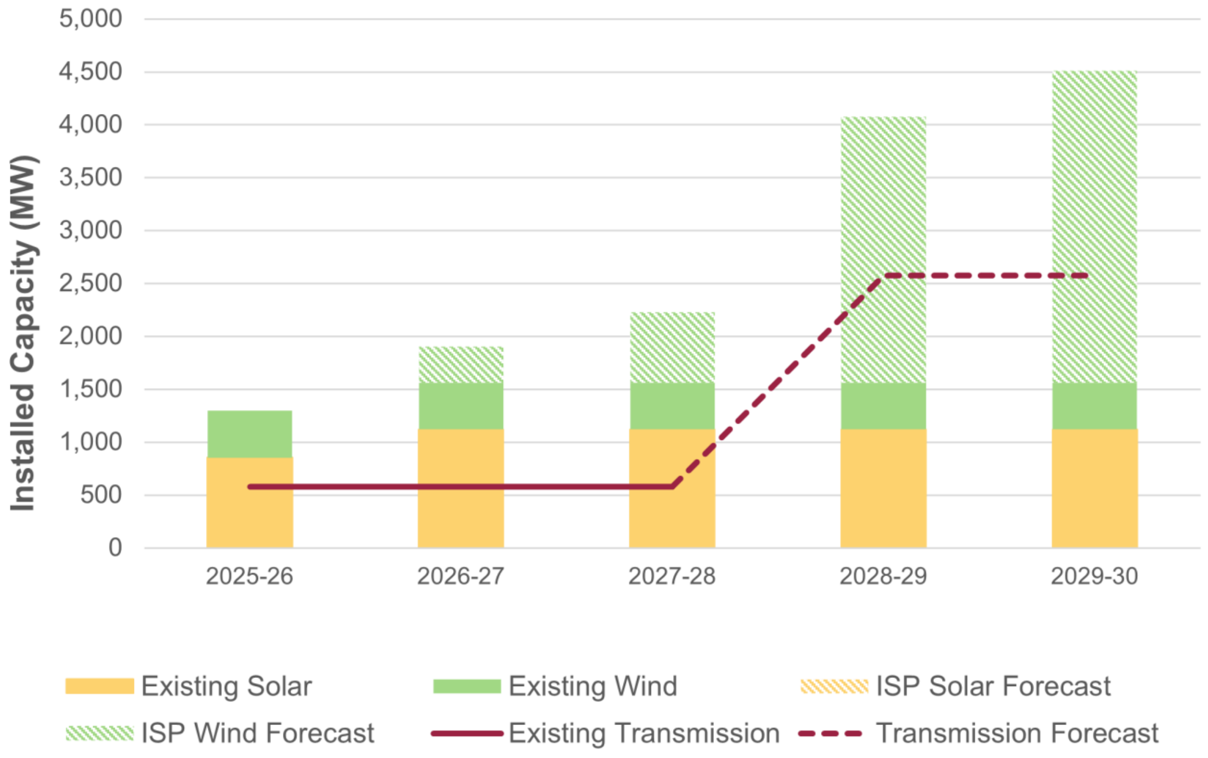
[9] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.

ISP forecast

ISP forecast

VRE outlook	Solar PV (MW)						Wind (MW)					
	Existing/ committed/ anticipated	Projected					Existing/ committed/ anticipated	Projected				
		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
Step Change	885	-	-	-	-	-	442	-	339	664	2,512	2,946

Transmission access expansion for *Step Change*

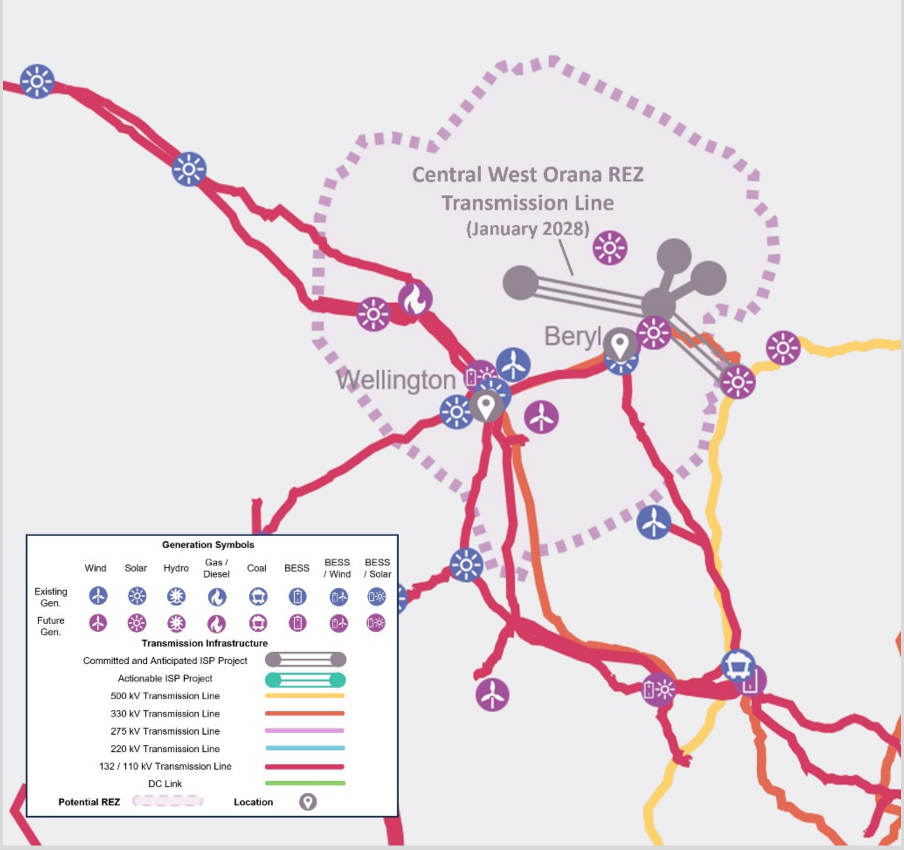


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
New England REZ Network Infrastructure Project (Flow Path CNSW-NNSW Option 1)	Proponent: July 2032 ISP Step Change: 2028-29	Actionable NSW	2,000
New England REZ Network Infrastructure (REZ N2 Option 1)	Proponent: July 2032 ISP Step Change: 2030-31	Actionable NSW	1,000
New England REZ Network Infrastructure Project (Flow Path CNSW-NNSW Option 2)	Proponent: Jan 2034 ISP Step Change: 2034-35	Actionable NSW	3,000

A3.7 N3 – Central West Orana

REZ information

Central West Orana REZ map



Overview	Network Transfer Capability
Central-West Orana REZ has been identified by the New South Wales Government as the state's first pilot REZ[10]. The Central-West Orana REZ was declared on 5 November 2021 under the New South Wales *Electricity Infrastructure Investment Act 2020* (the Act) with a revised value of 6,000 MW[11] of additional transmission network capacity within the Central West NSW region of the state. REZ design and community engagement is currently progressing, with an initial 4,500 MW of additional transmission network capacity being planned. The Central-West Orana REZ Access Scheme was declared under the Act on 19 December 2022.	The project to establish the Central-West Orana REZ is considered anticipated. The existing network capability is approximately 900 MW, which will increase by 4,500 MW once Central-West Orana REZ is established. Hunter Transmission Project 1.0 (Central New South Wales (CNSW) to Sydney Newcastle Wollongong (SNW) Option 1) is required to address network constraints between CNSW and SNW to enable the increase in network capacity from 3,000 MW to 4,500 MW for the Central-West Orana REZ Transmission Project.

Jurisdictional body	Reference	Function
EnergyCo	*NSW Electricity Infrastructure Investment Act 2020*[12]	The Central-West Orana REZ was formally declared in November 2021 under the *Electricity Infrastructure Investment Act 2020*. EnergyCo was appointed as the Infrastructure Planner for the Central-West Orana REZ[13].

---

[10] EnergyCo, Central-West Orana Renewable Energy Zone, at https://www.energyco.nsw.gov.au/cwo-rez.

[11] Government Gazette No 580 of Friday 15 December 2023, at https://www.energyco.nsw.gov.au/sites/default/files/2024-08/Gazette_2023_2023-580.pdf.

[12] New South Wales Government, *Electricity Infrastructure Investment Act 2020* (NSW), at https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044.

[13] EnergyCo, Central-West Orana Renewable Energy Zone, at https://www.energyco.nsw.gov.au/cwo-rez.

EnergyCo	Network Infrastructure Strategy[14]	EnergyCo's strategy to coordinate New South Wales network infrastructure to connect new generation and storage in New South Wales' five REZs.
AEMO Services	Long Term Energy Service Agreement (LTESA) Tenders[15]	AEMO Services (appointed as Consumer Trustee) conducts tenders for projects generation, storage, firming infrastructure that can be recovered from consumers, in accordance with the Infrastructure Investment Objectives (IIO) Report.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	C			C		
Renewable Potential (MW)	6,850			3,000[16]		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	A	A	A
Climate hazard						
Temperature score	C			**Bushfire score**	E	

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
Solar	66	0.8888 – 0.9573
	132	0.9073 – 0.9793
	330	0.9339 – 0.9429
Wind	132	0.9638 – 1.0278

Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>NIL_94K_1	445.6	4,257,427.8	Generation contributing to flow from Suntop to Wellington 132 kV
N>NIL_94T	1,812.9	31,758,804.4	Generation contributing to flow from Molong to Orange North 132 kV
N>NIL_94T_79	12.9	196,218.8	Generation contributing to flow from Molong to Orange North 132 kV on trip of the Wellington-Orange North 132 kV line
N>NIL_94T_947	48.3	396,426.6	Generation contributing to flow from Molong to Orange North 132 kV on trip of the Wellington-Orange North 132 kV line

---

[14] See https://www.energyco.nsw.gov.au/about-us/network-infrastructure-strategy-nsw.

[15] AEMO Services Tenders, https://aemoservices.com.au/tenders.

[16] Central-West Orana REZ wind outlook exceeds the expected renewable wind potential based on the geographical size and resource quality. The modelling allows for additional wind above this wind resource limit, but the additional wind capacity incurs a land use penalty factor of $0.29 million/MW. Even with this penalty applied, the ISP model still projects almost double this renewable wind potential in all scenarios by 2029-30.

VRE semi-scheduled curtailment – calendar year 2024

DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
BERYLSF1	Beryl Solar Farm	87	0.4	0.1	834
BODWF1	Bodangora Wind Farm	111	0.2	0.1	584
FLYCRKWF	Flyers Creek Wind Farm	140	0.5	0.1	1,149
GOONSF1	Goonumbla Solar Farm	69	18.5	3.4	30,151
MANSLR1	Manildra solar Farm	46	37.9	4.0	35,359
MOLNGSF1	Molong Solar Farm	30	53.8	4.3	37,671
NEVERSF1	Nevertire Solar Farm	105	0.6	0.2	1,366
NYNGAN1	Nyngan Solar Plant	102	0.1	0.0	211
STUBSF1	Stubbo Solar Farm 1	202	0.0	0.0	0
STUBSF2	Stubbo Solar Farm 2	198	0.0	0.0	0
SUNTPSF1	Suntop Solar Farm	150	2.8	1.0	8,530
WELLSF1	Wellington Solar Farm	170	0.7	0.3	2,519
WELNSF1	Wellington North Solar Farm	330	3.9	2.7	14,724

Historical hosting capacity indicator for 20% network spill threshold[17]

DUID	Generator name	HHCI Wind (MW)	HHCI Wind + BESS (MW)	HHCI Solar (MW)	HHCI Solar + BESS (MW)
BERYLSF1	Beryl Solar Farm	63	213	0	0
BODWF1	Bodangora Wind Farm	55	175	0	0
FLYCRKWF	Flyers Creek Wind Farm	300	300	300	300
GOONSF1	Goonumbla Solar Farm	0	192	0	0
MANSLR1	Manildra solar Farm	0	300	0	0
MOLNGSF1	Molong Solar Farm	18	294	0	0
NEVERSF1	Nevertire Solar Farm	101	300	0	0
NYNGAN1	Nyngan Solar Plant	101	300	0	0
SUNTPSF1	Suntop Solar Farm	1	292	0	0
WELLSF1	Wellington Solar Farm	123	300	0	0

VRE curtailment – ISP forecast

Scenario	2025-2026		2026-2027		2027-2028	
	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)
Step Change	15	21	12	19	16	22

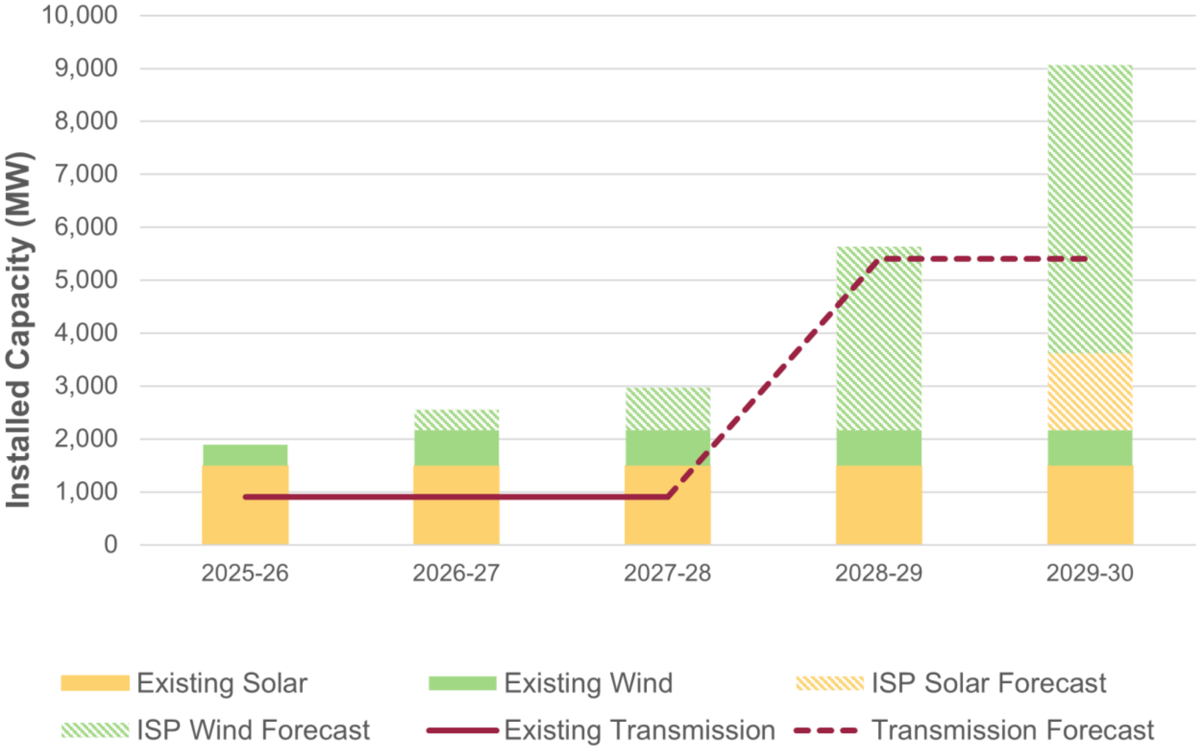
---

[17] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.

ISP forecast

ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	1,496	-	-	-	-	1,453	673	-	386	800	3,461	5,446

Transmission access expansion for *Step Change*

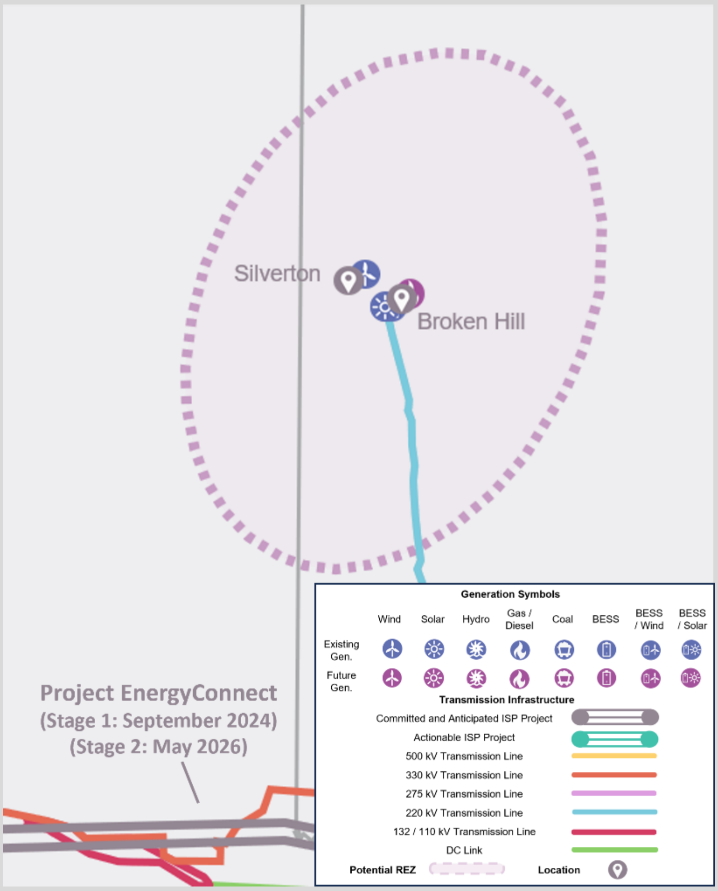


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
Central-West Orana REZ Network Infrastructure Project	August 2028	Anticipated	4,500

A3.8 N4 – Broken Hill

REZ information

Broken Hill REZ map



Overview

Broken Hill REZ has grade A solar resource quality. It is connected to the New South Wales grid via a 220 kV line from Buronga with an approximate length of 270 km.

Network Transfer Capability

Due to the existing utility-scale solar and wind generation projects already operating in this REZ, there is limited network capacity within this REZ. Further development of new generation development in this REZ requires significant transmission network augmentation due to the distance of the REZ from the main transmission paths of the shared network.

Jurisdictional body

The Broken Hill New South Wales REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act.*

Resource metrics

Resource	**Solar**			**Wind**		
Resource Quality	A			D		
Renewable Potential (MW)	8,000			5,100		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	A	A	A

Climate hazard

Temperature score	E	**Bushfire score**	C

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Solar	22	0.8642	
Wind	220	0.8627	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	F	F	F

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>NIL_BHTX_NIL_HV	8.7	279,710.2	Generation exporting from 22 kV through the 220/22 kV Broken Hill transformer, when one 220/22 kV Broken Hill transformer is out of service
N>NIL_BHTX_SF_TTS_HV	27.0	1,467,566.6	Generation exporting from 22 kV through the 220/22 kV Broken Hill transformer, when one 220/22 kV Broken Hill transformer is out of service
N>NIL-BHTX_BHTX_NIL	5.9	51,035.8	Generation exporting from 22 kV through the 220/22 kV Broken Hill transformer, when one 220/22 kV Broken Hill transformer is out of service

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
BROKENH1	Broken Hill Solar Plant	53	11.1	1.4	12,546
STWF1	Silverton Wind Farm	198	3.4	2.2	19,741
Historical hosting capacity indicator for 20% network spill threshold[18]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
BROKENH1	Broken Hill Solar Plant	0	77	0	0
STWF1	Silverton Wind Farm	0	232	0	0

VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	0	3	9	2	12

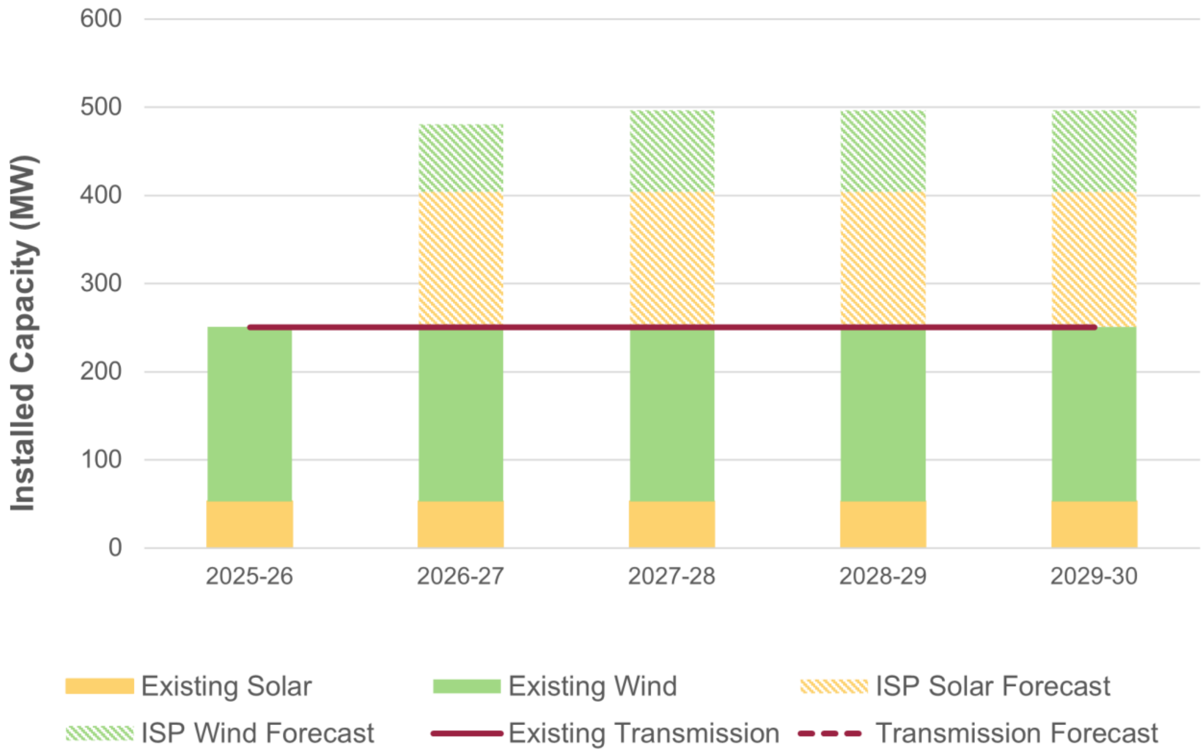
---

[18] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.

ISP forecast

ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	53	-	153	153	153	153	198	-	77	92	92	92

Transmission access expansion for *Step Change*

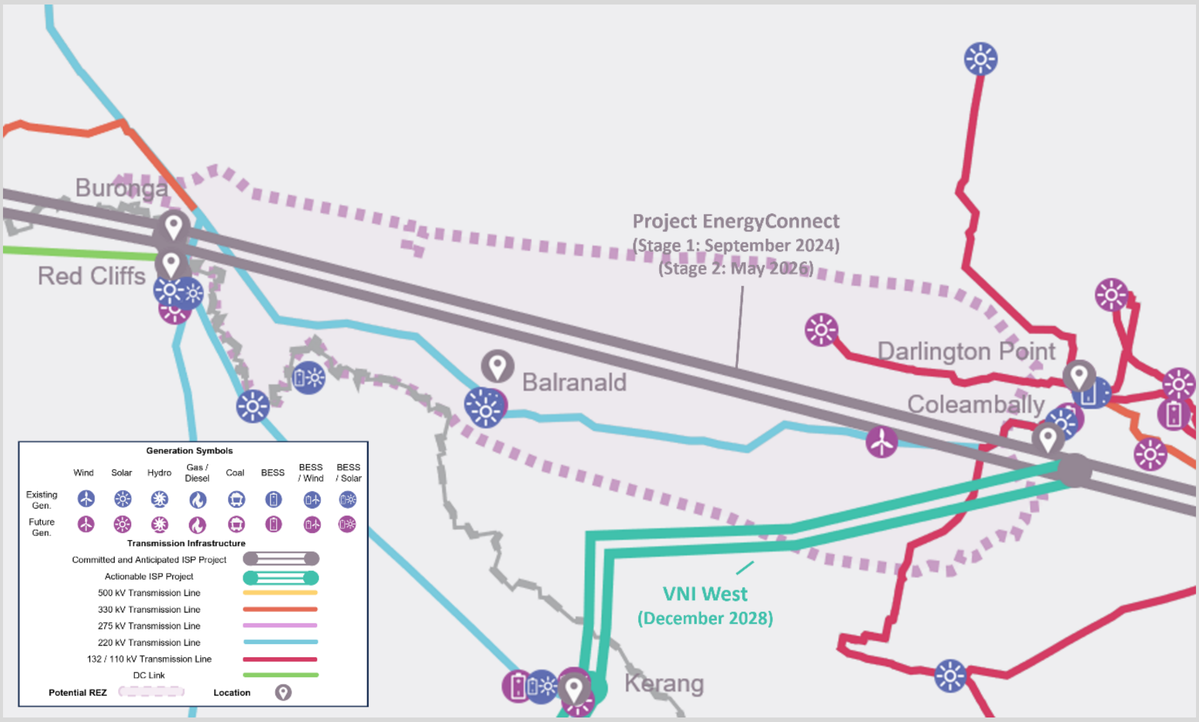


Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
-	-	-	-

A3.9 N5 – South West New South Wales

REZ information

South West New South Wales REZ map



Overview	Network Transfer Capability
The South West NSW REZ has grade C solar resource quality and incorporates the Dinawan 330 kV substation that will be built as part of Project EnergyConnect. Further west, the 220 kV links to North West Victoria and Broken Hill. This REZ is one of the REZs which are being targeted for further development under the NSW Electricity Infrastructure Roadmap. Network limits associated with the existing voltage stability limit for loss of the existing Darlington Point to Wagga 330 kV line are represented by the SWNSW1 secondary transmission limit	Due to the existing utility-scale solar projects already operating within this REZ, there is no additional capacity. Further development of new generation in this REZ requires network augmentation towards the greater Sydney load centre. The capacity within this REZ and ability to transfer energy from the REZ to the main load centres in the greater Sydney area will be improved with the construction of Project EnergyConnect and HumeLink projects. Furthermore, VNI West also increases the capacity of this REZ.

Jurisdictional body	Reference	Function
EnergyCo	*New South Wales Electricity Infrastructure Investment Act 2020*[19]	The South West New South Wales REZ was formally declared in November 2021 under the *Electricity Infrastructure Investment Act 2020.* EnergyCo was appointed as the Infrastructure Planner for the Central-West Orana REZ[20].
EnergyCo	Network Infrastructure Strategy[21]	EnergyCo's strategy to coordinate New South Wales network infrastructure to connect new generation and storage in New South Wales' five REZs.
AEMO Services	Long Term Energy Service Agreement (LTESA) Tenders[22]	AEMO Services (appointed as Consumer Trustee) conducts tenders for projects generation, storage, firming infrastructure that can be recovered from consumers, in accordance with the Infrastructure Investment Objectives (IIO) Report.

---

[19] See https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044#sec.23.

[20] EnergyCo, South-West Renewable Energy Zone, at https://www.energyco.nsw.gov.au/sw-rez.

[21] See https://www.energyco.nsw.gov.au/about-us/network-infrastructure-strategy-nsw.

[22] AEMO Services Tenders, at https://aemoservices.com.au/tenders.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	C			E		
Renewable Potential (MW)	2,256			3,900		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	B	B/A	B/A
Climate hazard						
Temperature score	E			**Bushfire score**	D	

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
Solar	22	0.8528
	132	0.9355
	220	0.8529

Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N^^N_NIL_X5_xxx	501.8	3,109,207.6	Generation contributing to flow from Balranald to Darlington Point 220 kV on trip of the Bendigo – Shepparton 220 kV line
V^^SML_NSWRB_2	20.8	169,863.3	Generation in North West Victoria
V>>NIL_WBBA_RCBSS	15.1	51,336.6	Generation contributing to flow from Waubra to Ballarat 220 kV on trip of the Red Cliffs – Buronga 220 kV line

VRE semi-scheduled curtailment – calendar year 2024

DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
CRWASF1	Corowa Solar Farm	30	5.0	0.4	3,546
LIMOSF11	Limondale Solar Farm 1	220	10.7	6.5	56,817
LIMOSF21	Limondale Solar Farm 2	29	11.0	1.0	8,462
SUNRSF1	Sunraysia Solar Farm	200	8.1	4.3	37,484

Historical hosting capacity indicator for 20% network spill threshold[23]

DUID	Generator name	HHCI Wind (MW)	HHCI Wind + BESS (MW)	HHCI Solar (MW)	HHCI Solar + BESS (MW)
CRWASF1	Corowa Solar Farm	1	35	0	8
LIMOSF11	Limondale Solar Farm 1	0	106	0	0
LIMOSF21	Limondale Solar Farm 2	0	106	0	0
SUNRSF1	SUNRAYSIA SF	0	106	0	0

VRE curtailment – ISP forecast

Scenario	2025-2026		2026-2027		2027-2028	
	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)
Step Change	11	16	9	17	1	9

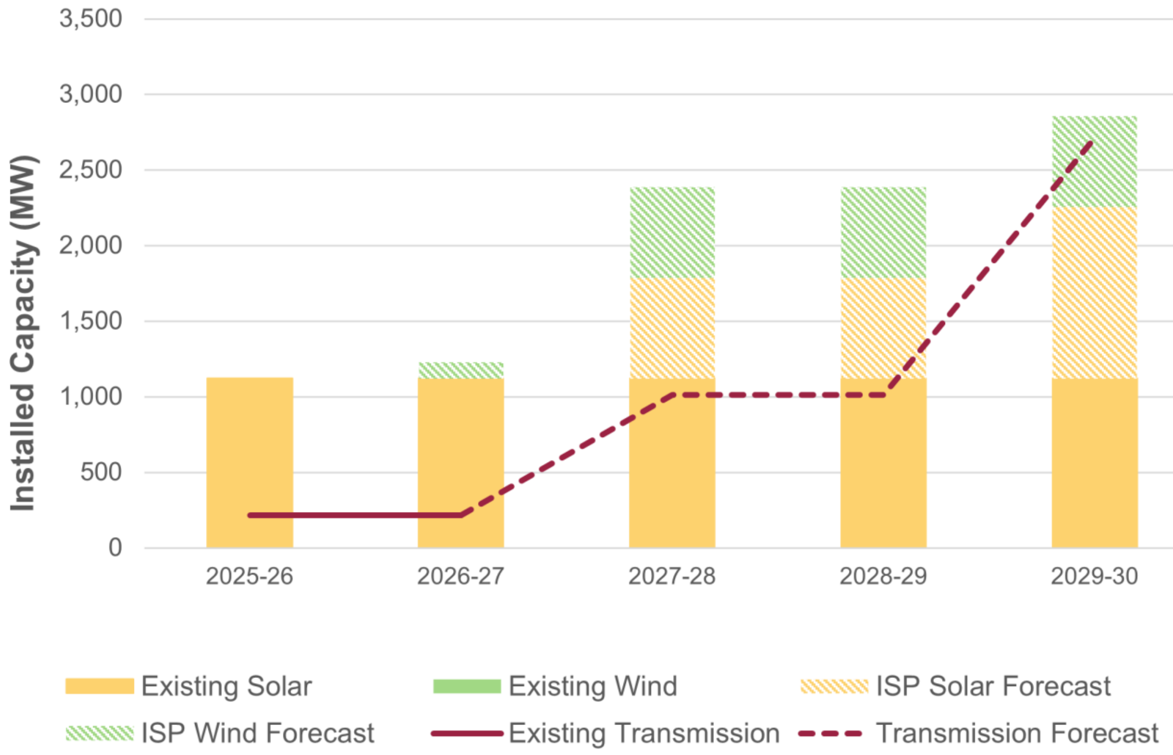
---

[23] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Existing/ committed/ anticipated**				
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	1,121	-	-	667	667	1135	-	-	108	601	601	601

Transmission access expansion for *Step Change*



Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
Project EnergyConnect – Stage 2	July 2027	Committed	800 MW
HumeLink	Proponent: 2026[24] ISP Step Change: 2029-30	Actionable ISP	800 MW
VNI West	Proponent: December 2029 ISP Step Change: 2029-30	Actionable ISP	900 MW

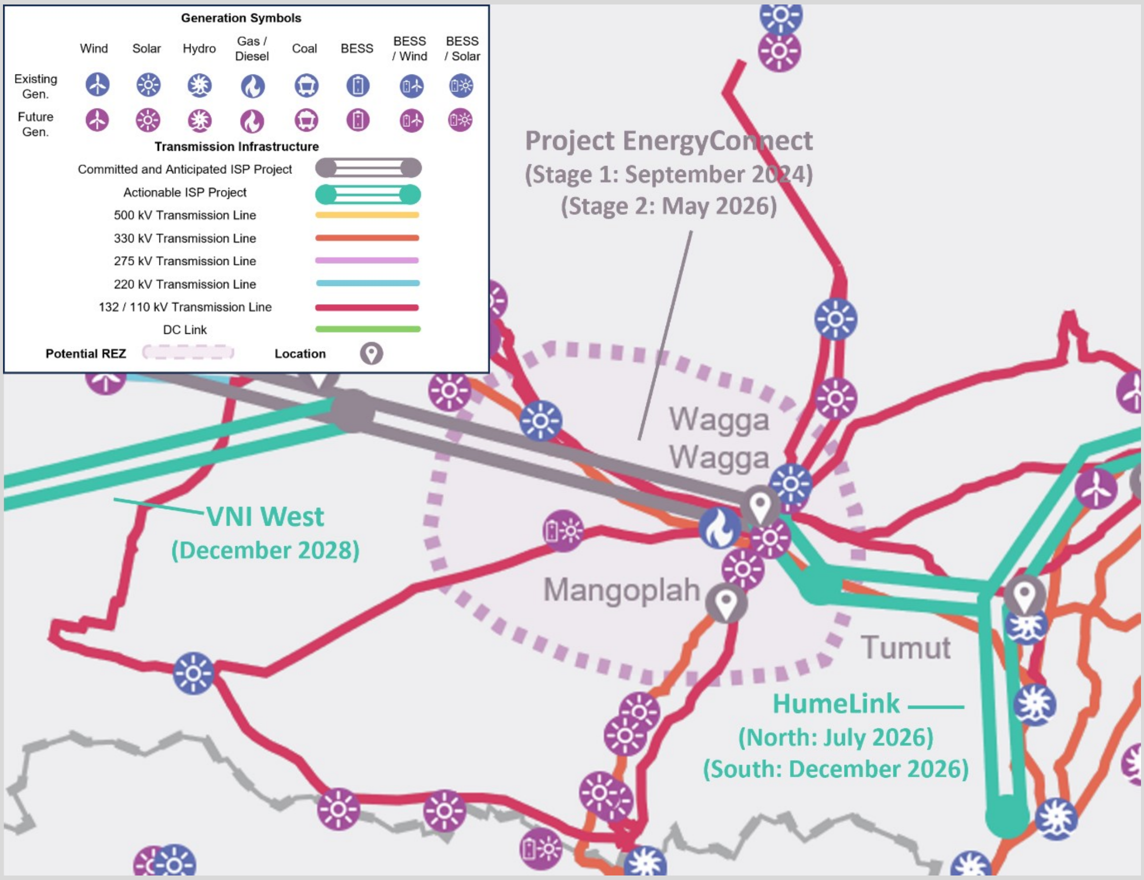
---

[24] The timing advised by the proponent for the Northern Circuit (Gugaa to Bannaby) is July 2026. The timing advised by the proponent for the Southern Circuit (Gugaa to Maragle to Bannaby) is December 2026.

A3.10 N6 – Wagga Wagga

REZ information

Wagga Wagga REZ map



Overview	**Network Transfer Capability**
This REZ extends to the west of Wagga Wagga and has C grade solar resource quality.	There is no additional capacity within this REZ due to congestion in the surrounding 330 kV networks. Further development of new generation in this REZ requires network augmentation towards the greater Sydney load centre. Additionally, the capacity within this REZ and ability to transfer energy from the REZ to the main load centres in the greater Sydney area are improved with the proposed HumeLink project.

Jurisdictional body

The Wagga Wagga REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act*.

Resource metrics

Resource	**Solar**			**Wind**		
Resource Quality	C			E		
Renewable Potential (MW)	1,028			1,000		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	B	B	B

Climate hazard

Temperature score	D	**Bushfire score**	D

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Solar	66	0.9183	
	132	0.8698 – 0.9220	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N::N_NIL_63	78.0	580,633.4	Generation contributing to flow from Darlington Point to Wagga Wagga 330 kV
N>>NIL_996_62	14.3	160,866.6	Generation contributing to flow from Wagga to ANM 132 kV on trip of the Walla Walla – Jindera 330 kV line
N>>NIL_9XX_051	1,001.6	20,233,638.3	Generation contributing to flow from Burrinjuck to Yass 132 kV, Wagga to Yass 132 kV or Wagga North to Murrumburrah 132 kV on trip of the Wagga – Lower Tumut 330 kV line
N>NIL_997/1_62	6.1	69,598.4	Generation contributing to flow from Corowa to Albury 132 kV on trip of the Wagga – Jindera 330 kV line
N>NIL_997/1_6Y	32.6	531,544.7	Generation contributing to flow from Corowa to Albury 132 kV on trip of the Wagga – Walla Walla 330 kV line
N>NIL_997/2_99A	26.5	170,820.3	Generation contributing to flow from Mulwala to Corowa 132 kV on trip of the Finley – Uranquinty 132 kV line
N>NIL_997_99A	215.8	2,172,206.2	Generation contributing to flow from Corowa to Albury 132 kV on trip of the Finley – Uranquinty 132 kV line
N>NIL_99F	156.3	997,508.1	Generation contributing flow from Narrandera to Uranquinty 132 kV
N>NIL_99U	19.0	119,081.8	Generation contributing to flow from Sebastopol to Wagga North 132 kV
N>NIL_9R4_99A	411.0	2,505,836.5	Generation contributing to flow from Finley to Mulwala 132 kV on trip of Finley – Uranquinty 132 kV line
N>NIL_9R5_9R6_N	26.8	3,845,701.8	Generation contributing to flow from Finley to Mulwala 132 kV on trip of Finley – Uranquinty 132 kV line
N>NIL_9R6_991	1,048.9	10,367,827.0	Generation contributing to flow from Wagga North to Wagga 132 kV on trip of the Wagga North – Murrumburrah 132 kV line
N>NIL_9R6_9R5	536.4	3,721,729.8	Generation contributing to flow from Wagga North to Wagga 132 kV on trip of the Wagga North – Wagga 330 kV line
N>NIL_9R6_9R5_N	4.8	199,503.9	Generation contributing to flow from Wagga 132 to Wagga North 132 kV on trip of the Wagga 330 – Wagga North 330 kV line
N>N-NIL_JUTX_LV	49.5	315,635.3	Generation exporting from 66 kV through the 132/66 kV Junee transformer

VRE semi-scheduled curtailment – calendar year 2024

DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
AVLSF1	Avonlie Solar Farm	190	2.7	1.5	12,889
BOMENSF1	Bomen Solar Farm	100	13.5	3.0	26,388
JUNEESF1	Junee Solar Farm	30	15.1	1.2	10,600
SEBSF1	Sebastopol Solar Farm	90	17.4	4.4	38,813
WAGGNSF1	Wagga North Solar Farm	48	14.3	1.7	15,147

Historical hosting capacity indicator for 20% network spill threshold[25]

DUID	Generator name	HHCI Wind (MW)	HHCI Wind + BESS (MW)	HHCI Solar (MW)	HHCI Solar + BESS (MW)
AVLSF1	Avonlie Solar Farm	300	300	18	107
BOMENSF1	Bomen Solar Farm	0	282	0	0
JUNEESF1	Junee Solar Farm	0	45	0	0
SEBSF1	Sebastopol Solar Farm	0	236	0	0
WAGGNSF1	Wagga North Solar Farm	0	282	0	0

VRE curtailment – ISP forecast

Scenario	2025-2026		2026-2027		2027-2028	
	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Economic offloading (%)
Step Change	0	1	0	3	0	6

ISP forecast

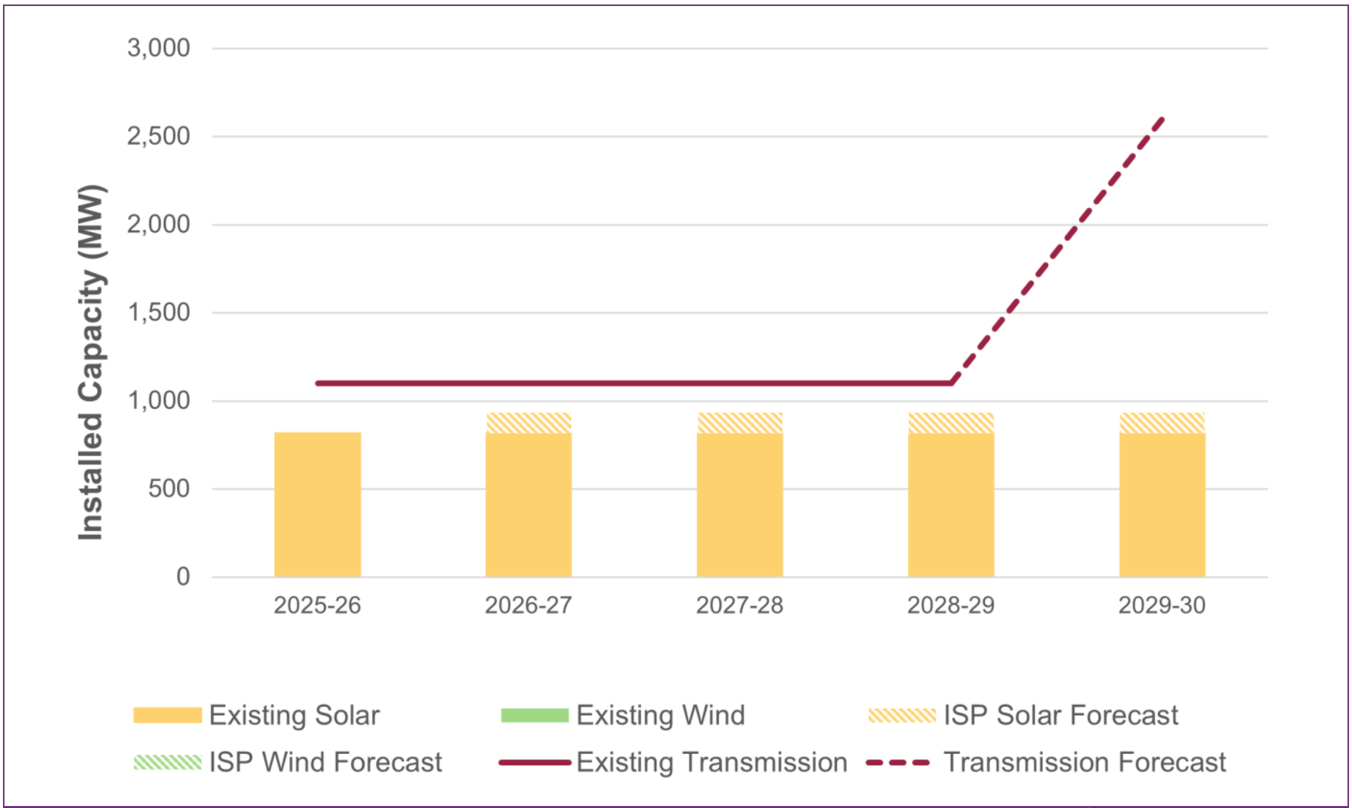
ISP forecast

VRE outlook	Solar PV (MW)						Wind (MW)					
	Existing/ committed/ anticipated	Projected					Existing/ committed/ anticipated	Projected				
		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
Step Change	456	0	118	118	118	118	-	-	-	-	-	-

Transmission access expansion for *Step Change*

---

[25] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.



Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
HumeLink	Proponent: 2026[26] ISP *Step Change*: 2029-30	Actionable ISP	N6: 1,500 N6 + N7: 2,200

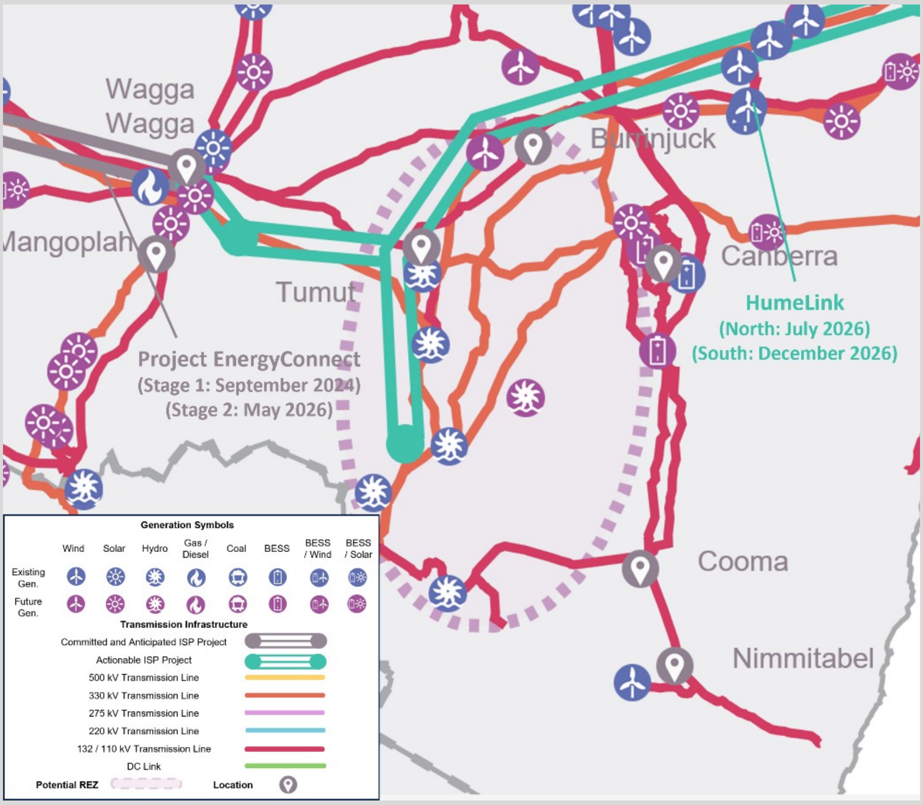
---

[26] The timing advised by the proponent for the Northern Circuit (Gugaa to Bannaby) is July 2026. The timing advised by the proponent for the Southern Circuit (Gugaa to Maragle to Bannaby) is December 2026.

A3.11 N7 – Tumut

REZ information

Tumut REZ map



Overview	Network Transfer Capability
The Tumut REZ has been identified due to the potential for additional pumped hydro generation in association with Snowy 2.0 and the proposed actionable ISP HumeLink. The HumeLink project[27] will enable the connection of more than 2,000 MW of pumped hydro generation (Snowy 2.0) in the Tumut REZ area.	The ISP does not include a REZ transmission limit for N7, however it notes there is no additional capacity within this REZ. Further development of new generation in this REZ is associated with the HumeLink project. Currently the 330 kV transmission network around Lower and Upper Tumut is congested during peak demand periods. A careful balance of generation from the existing hydro units and flow between Victoria and New South Wales is required to prevent overloads within this area.

Jurisdictional body

The Tumut REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act*.

Resource metrics

Resource	**Solar**			**Wind**		
Resource Quality	F			E		
Renewable Potential (MW)	-			-		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	D/C	D/C	D/C

Climate hazard

Temperature score	C	**Bushfire score**	E

---

[27] Transgrid, HumeLink project, at https://www.transgrid.com.au/HumeLink.

Marginal loss factors

Marginal Loss Factor				
Technology	**Voltage (kV)**	**2025-26 MLF**		
-	-	-		
Marginal Loss Factor Robustness				
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**	
	-	-	-	

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>>NIL_1_7	1.0	130,909.0	Generation contributing to flow from Upper Tumut to Stockdill 1 330 kV on trip of the Lower Tumut – Canberra 330 kV line
N>>NIL_9XX_051	1,001.6	20,233,638.3	Generation contributing to flow from Burrinjuck to Yass 132 kV, Wagga to Yass 132 kV or Wagga North to Murrumburrah 132 kV on trip of the Wagga – Lower Tumut 330 kV line
N>>NIL_YSTX_051	233.6	1,925,726.7	Generation exporting from 330 kV through either of the 132/330 kV Yass transformers on trip of the Wagga – Lower Tumut
N>NIL_977_976	1.3	187,350.6	Generation contributing to flow from either Canberra to Queanbeyan 132 kV on trip of the other Canberra – Queanbeyan 132 kV line
V>>N_NIL_65_66	45.6	79,920.5	Generation contributing to flow from Murray to Upper Tumut 330 kV on trip of Murray – Lower Tumut 330 kV

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-
Historical hosting capacity indicator for 20% network spill threshold					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	0	0	0	0	0

ISP forecast

ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	-	-	-	-	-	-	270	-	-	-	-	-
Transmission access expansion for *Step Change*											
There is no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes, for all scenarios, did not project any additional VRE for this REZ. Therefore, no VRE curtailment or transmission expansion occurs in this REZ.											

Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
HumeLink	Proponent: 2026[28] ISP *Step Change*: 2029-30	Actionable ISP	N6 + N7: 2,200

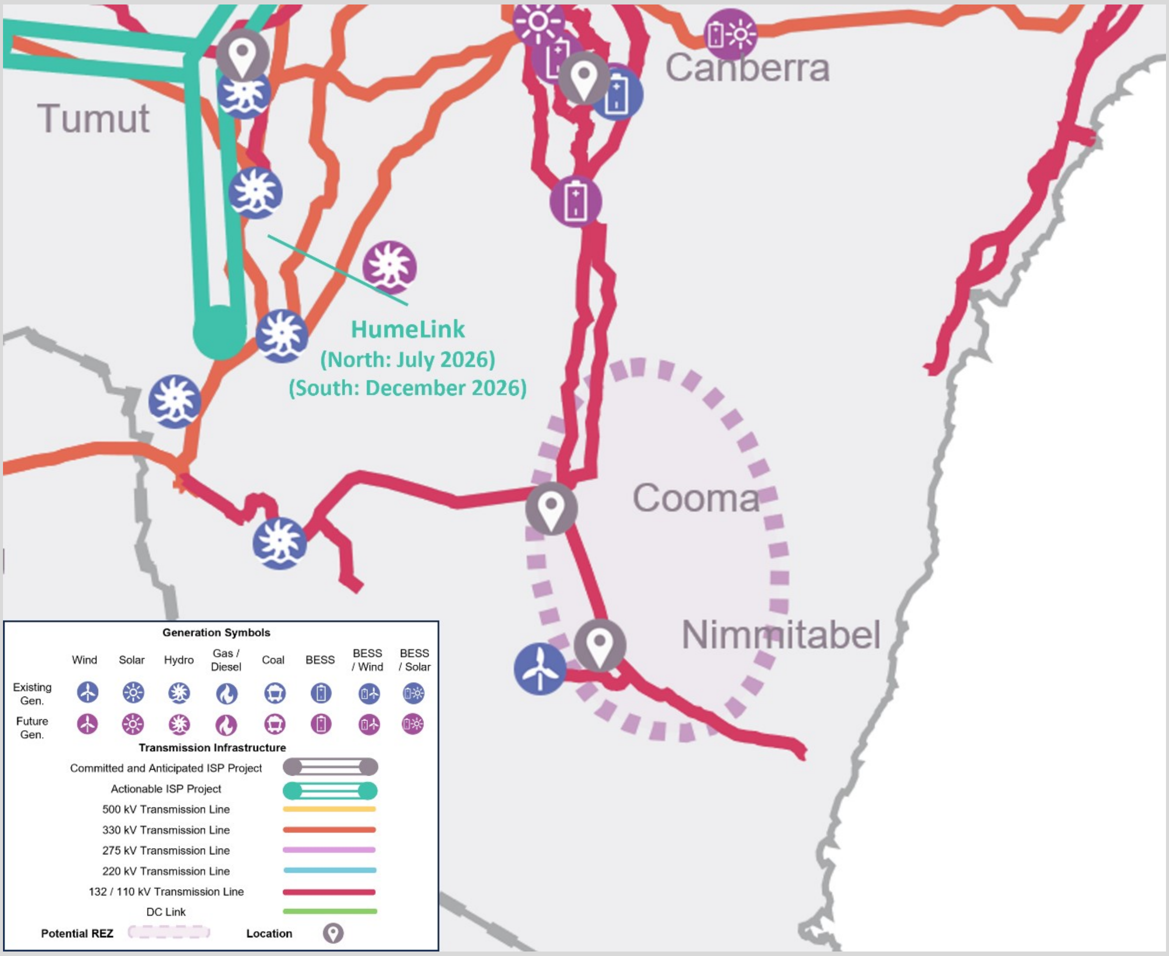
---

[28] The timing advised by the proponent for the Northern Circuit (Gugaa to Bannaby) is July 2026. The timing advised by the proponent for the Southern Circuit (Gugaa to Maragle to Bannaby) is December 2026.

A3.12 N8 – Cooma-Monaro

REZ information

Cooma-Monaro REZ map



Overview	Network Transfer Capability
The Cooma-Monaro REZ has been identified for its pumped hydro potential. This REZ has B grade wind resource quality.	The existing 132 kV network connecting Cooma-Monaro REZ to Canberra, Williamsdale and Munyang can accommodate approximately 200 MW of additional generation.

Jurisdictional body

The Cooma REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act.*

Resource metrics

Resource	Solar			Wind		
Resource Quality	F			B		
Renewable Potential (MW)	-			300		
Demand Correlation	2029-30	2039-40	2049-50	2029-30	2039-40	2049-50
	F	F	F	C	B/C	B/C

Climate hazard

Temperature score	B	Bushfire score	E

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Wind	132	0.9557	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	F	F	F

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
-	-	-	-

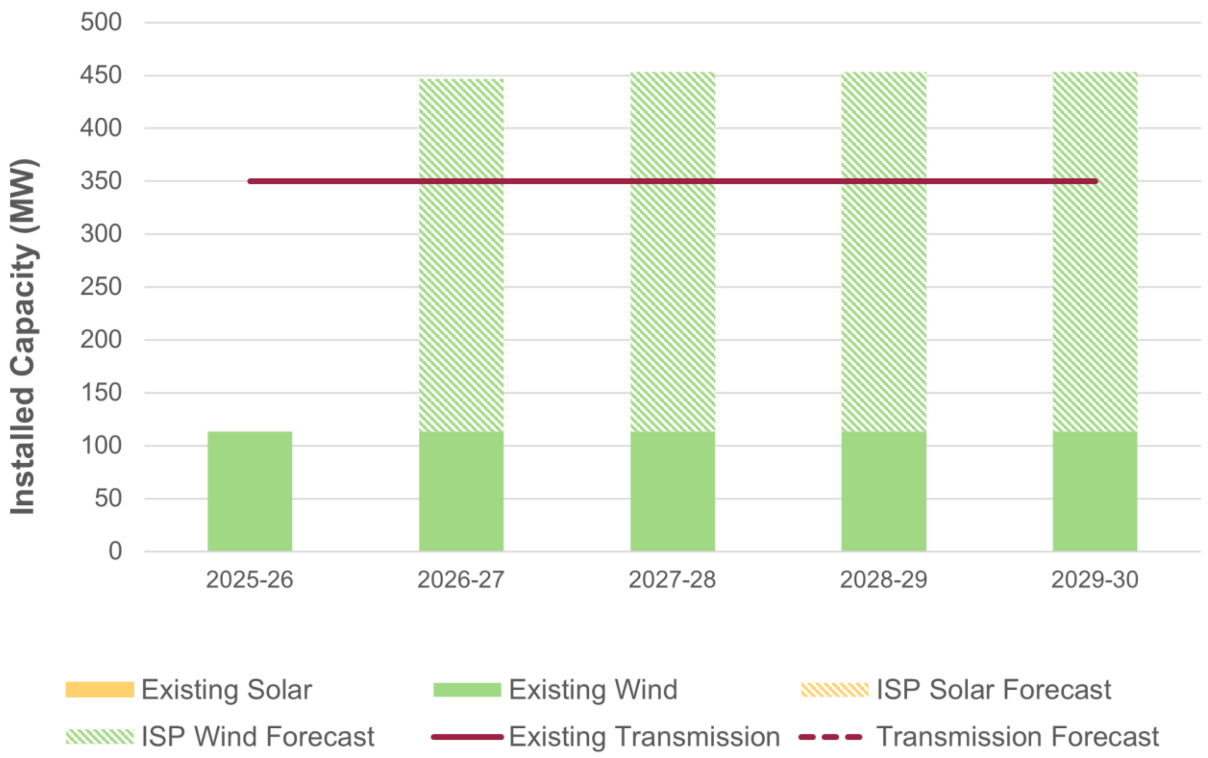
VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
BOCORWF1	Boco Rock Wind Farm	111	0.6	0.2	1,980
Historical hosting capacity indicator for 20% network spill threshold					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	0	3	7	3	10

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	113	-	333	340	340	340	-	-	-	-	-	-

Transmission access expansion for *Step Change*

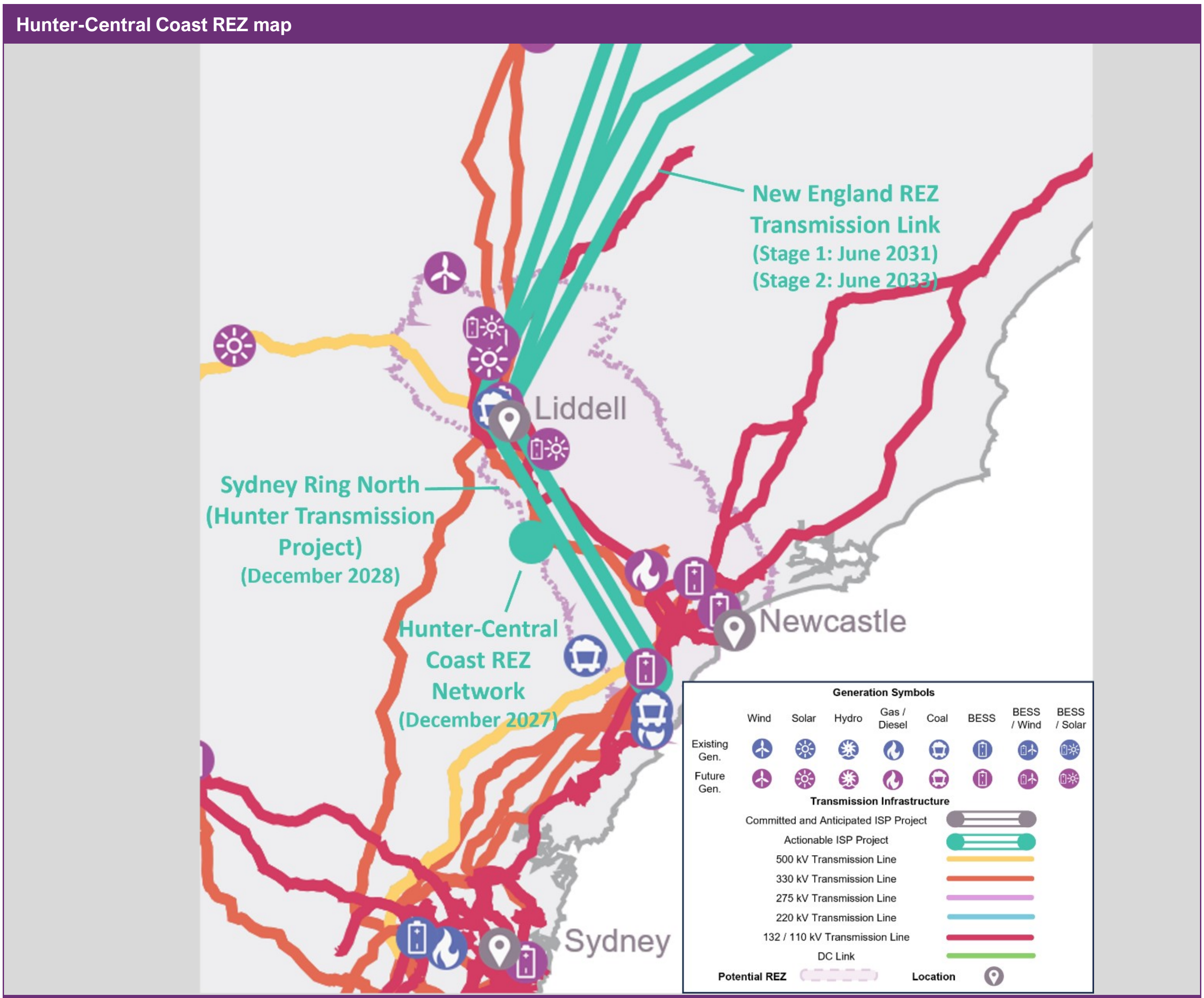


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A3.13 N9 – Hunter-Central Coast

REZ information

Hunter-Central Coast REZ map



Overview	Network Transfer Capability
The Hunter-Central Coast (HCC) REZ has been identified to assist industries to decarbonise and access renewable energy with a mix of solar, onshore and offshore wind energy projects. The REZ was declared on 9 December 2022 with 1,000 MW of intended network capacity. EnergyCo has been appointed the Infrastructure Planner for the REZ. The capacity of the Hunter-Central Coast REZ is likely to increase over time with the retirement of coal-fired power stations, re-purposing of mining land and existing assets and growth of offshore wind.	This REZ is intended to supply Sydney, Newcastle and Wollongong (SNW) and it is assumed that supply to SNW would also include high southbound flows from Northern New South Wales (NNSW) to CNSW. The REZ transmission limit is set to 400 MW to reflect this condition.

Jurisdictional body	Reference	Function
EnergyCo	*NSW Electricity Infrastructure Investment Act 2020*[29]	Hunter Central Coast REZ was formally declared in November 2021 under the *Electricity Infrastructure Investment Act 2020*. EnergyCo was appointed as the Infrastructure Planner for the Central-West Orana REZ[30].

---

[29] See https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044#sec.23.

[30] EnergyCo. Hunter-Central Coast Renewable Energy Zone, at https://www.energyco.nsw.gov.au/hcc-rez.

EnergyCo	Network Infrastructure Strategy[31]	EnergyCo's strategy to coordinate New South Wales network infrastructure to connect new generation and storage in New South Wales' five REZs.
AEMO Services	Long Term Energy Service Agreement (LTESA) Tenders[32]	AEMO Services (appointed as Consumer Trustee) conducts tenders for projects generation, storage, firming infrastructure that can be recovered from consumers, in accordance with the Infrastructure Investment Objectives (IIO) Report.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	D			D		
Renewable Potential (MW)	516[33]			1,400		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	F	F	F	A/B	A/B	A/B
Climate hazard						
Temperature score	A			**Bushfire score**	E	

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
-	-	-

Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
-	-	-	-

---

[31] See https://www.energyco.nsw.gov.au/about-us/network-infrastructure-strategy-nsw.

[32] AEMO Services Tenders, at https://aemoservices.com.au/tenders.

[33] Hunter-Central Coast REZ solar and wind VRE outlook both exceed the expected renewable potential based on the geographical size and resource quality. The modelling allows for additional solar and wind above these resource limits, 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 solar and wind capacity in *Step Change* by 2049-50.

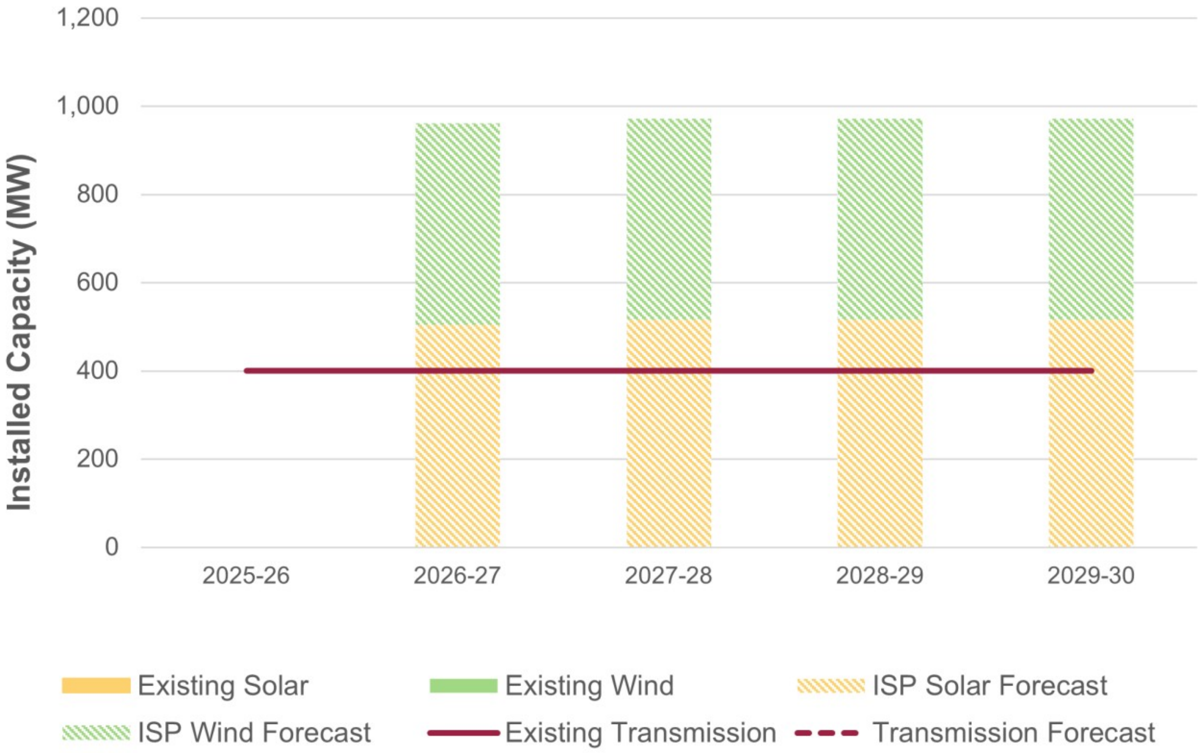
VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-
Historical hosting capacity indicator for 20% network spill threshold					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	-	-	3	5	3	6

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	-	0	505	516	516	516	-	0	456	456	456	456

Transmission access expansion for *Step Change*



Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
Hunter-Central Coast REZ Network Infrastructure Project	Proponent: Dec 2025[34] ISP Step Change: 2030-31	Actionable NSW	500

---

[34] The timings advised by the proponent for Component 1, Component 2 and Component 3 are December 2025, June 2028 and July 2028, respectively.

A3.14 N10 – Hunter Coast

REZ information

Hunter Coast REZ map

Overview	Network Transfer Capability
The Hunter Coast offshore REZ has been identified for the offshore wind resource potential in relatively shallow waters close to shore, with a connection point near to the SNW load centre[35].	Newcastle has multiple 330 kV lines already connected and is situated within the SNW load centre. Network capacity is shared with local gas generation and coal generation output. The current network transmission limit is approximately 5,500 MW for new generation connections in the Newcastle and Eraring areas. This capacity could also be shared with any new generation connecting in the Hunter-Central Coast REZ.

Jurisdictional body

The Hunter Coast offshore REZ's jurisdictional planning body is Transgrid. It is not presently declared under federal legislation.

Resource metrics

Resource	Offshore Wind (fixed)			Offshore Wind (floating)		
Resource Quality	E			B		
Renewable Potential (MW)	-			7,420		
Demand Correlation	2029-30	2039-40	2049-50	2029-30	2039-40	2049-50
	A	A	A	A	A	A

Climate hazard

Temperature score	A	Bushfire score	E

---

[35] Federal Government, Hunter offshore wind zone declaration, at https://www.dcceew.gov.au/energy/renewable/offshore-wind/areas/hunter

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
-	-	-	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	-	-	-

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
-	-	-	-

VRE semi-scheduled curtailment – calendar year 2024						
DUID	**Generator name**		**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-		-	-	-	-
Historical hosting capacity indicator for 20% network spill threshold						
DUID	**Generator name**		**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
-	-		-	-	-	-
VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	-	-	-	-	-	-

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

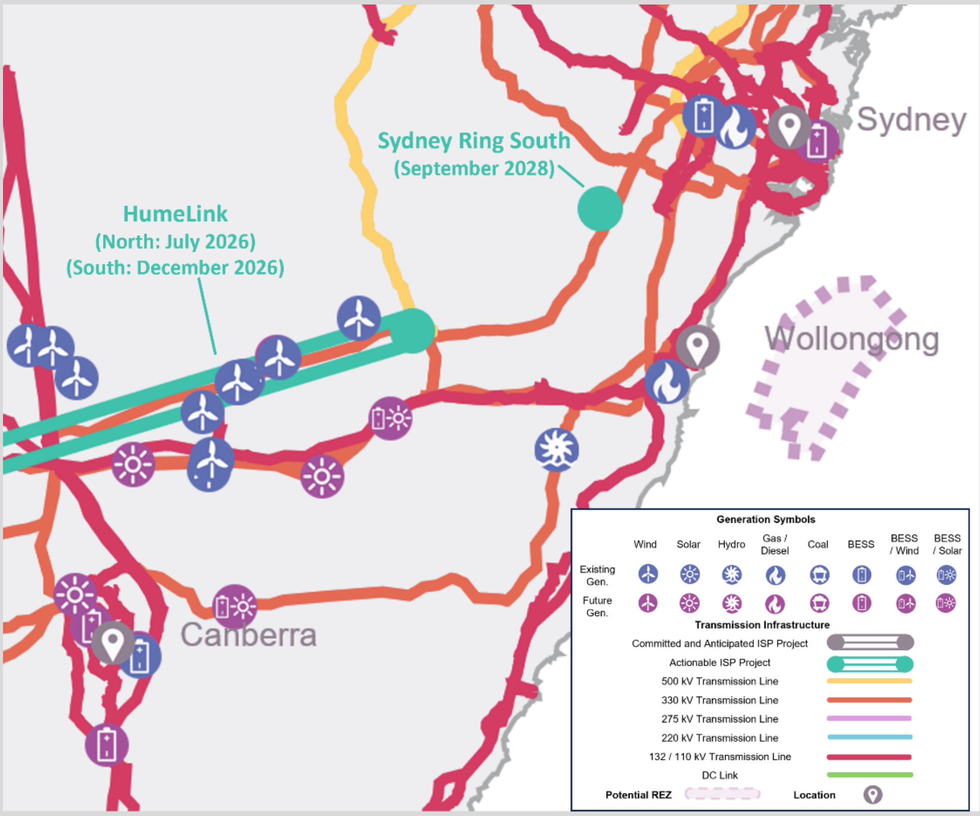
Transmission access expansion for *Step Change*
There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes for all scenarios did not project any addiitonal VRE for this REZ. Therefore, no VRE curtailment or transmission expansion occurs in this REZ.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A3.15 N11 – Illawarra Coast

REZ information

Illawarra Coast REZ map



Overview	**Network Transfer Capability**
The Minister for Climate Change and Energy declared Illawarra Coast for offshore renewable energy, including offshore wind, on the 15 June 2024[36]. This was given effect by the *Offshore Electricity Infrastructure (Declared Area OEI-02-2024) Declaration 2024*[37].	Dapto has multiple 330 kV lines already connected and is situated within the SNW load centre. Network capacity is shared with local gas generation and hydro generation output. The current network transfer capacity is approximately 1,000 MW. This capacity is shared with any new generation connecting in the Illawarra REZ.

Jurisdictional body

The Illawarra Coast REZ's jurisdictional planning body is Transgrid. It is not presently declared under the *Electricity Infrastructure Investment Act*.

Resource metrics

Resource	**Offshore Wind (fixed)**			**Offshore Wind (floating)**		
Resource Quality	B			B		
Renewable Potential (MW)	148			5,696		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	B	B	B	B	B	B

Climate hazard

Temperature score	C	**Bushfire score**	C

---

[36] See https://www.dcceew.gov.au/energy/renewable/offshore-wind/areas/illawarra.

[37] See https://www.legislation.gov.au/F2024L00685/asmade/text.

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
-	-	-

Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	-	-	-

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
-	-	-	-

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-
Historical hosting capacity indicator for 20% network spill threshold					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	-	-	-	-	-	-

ISP forecast

ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for *Step Change*

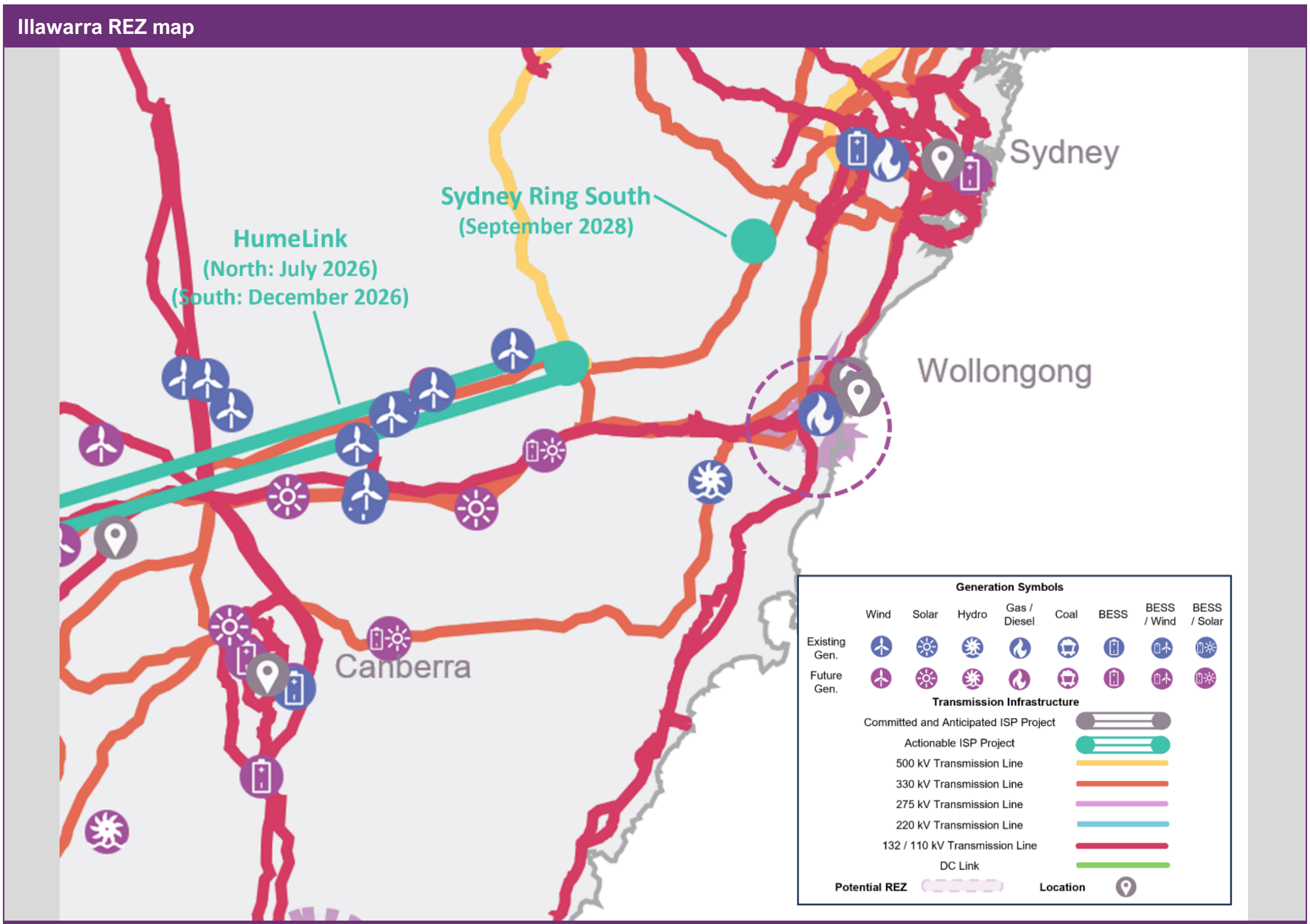
There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes for all scenarios did not project any addiitonal VRE for this REZ. Therefore, no VRE curtailment or transmission expansion occurs in this REZ.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A3.16 N12 – Illawarra

REZ information

Illawarra REZ map



Overview	**Network Transfer Capability**
The Illawarra REZ was declared on 27 February 2023 with 1,000 MW of intended network capacity, and EnergyCo has been appointed the Infrastructure Planner for the REZ, under the *Electricity Infrastructure Investment Act 2020* (NSW). Community consultation has been initiated by EnergyCo, following an earlier Registration of Interest that highlighted potential for wind (onshore and offshore), solar, energy storage, pumped hydro, hydrogen production, and green steel manufacturing.	Dapto has multiple 330 kV lines already connected and is situated within the SNW load centre. Network capacity is shared with local gas generation and hydro generation output. The intended network capacity for this REZ is approximately 1,000 MW.

Jurisdictional body	**Reference**	**Function**
EnergyCo	*NSW Electricity Infrastructure Investment Act 2020*[38]	Illawarra REZ was formally declared in November 2021 under the *Electricity Infrastructure Investment Act 2020*. EnergyCo was appointed as the Infrastructure Planner for the Illawarra REZ[39].
EnergyCo	Network Infrastructure Strategy[40]	EnergyCo's strategy to coordinate New South Wales network infrastructure to connect new generation and storage in New South Wales' five REZs.

---

[38] See https://legislation.nsw.gov.au/view/html/inforce/current/act-2020-044#sec.23.

[39] At https://www.energyco.nsw.gov.au/ilw-rez.

[40] See https://www.energyco.nsw.gov.au/about-us/network-infrastructure-strategy-nsw.

AEMO Services	Long Term Energy Service Agreement (LTESA) Tenders[41]	AEMO Services (appointed as Consumer Trustee) conducts tenders for projects generation, storage, firming infrastructure that can be recovered from consumers, in accordance with the Infrastructure Investment Objectives (IIO) Report.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	F			E		
Renewable Potential (MW)	-			-		
Demand Correlation	**2029-30**	**2039-40**	**2049-50**	**2029-30**	**2039-40**	**2049-50**
	-	-	-	-	-	-
Climate hazard						
Temperature score	-		**Bushfire score**	-		

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
-	-	-
Marginal Loss Factor Robustness		
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	-	-	-

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N>>NIL_39_11	3.8	149,308.3	Generation contributing to flow from Bannaby to Sydney West 330 kV on trip of the Dapto – Sydney South 330 kV line
N>>NIL_39_17	1.1	192,471.6	Generation contributing to flow from Bannaby to Sydney West 330 kV on trip of the Avon – Macarthur 330 kV line
N>>NIL_998_18	6.3	265,679.7	Generation contributing to flow from Cowra to Forbes 132 kV on trip of the Kangaroo Valley – Dapto 330 kV line
N>NIL_983_987	73.3	277,105.4	Generation contributing to flow from Tallawarra to Dapto (983) 132 kV on trip of the Tallawarra – Dapto (987) 132 kV line

---

[41] AEMO Services Tenders, at https://aemoservices.com.au/tenders.

VRE semi-scheduled curtailment – calendar year 2024

DUID	Generator name	Maximum Capacity (MW)	Average curtailment (%)	Average curtailment (MW)	Curtailment (MWh)
-	-	-	-	-	-

Historical hosting capacity indicator for 20% network spill threshold

DUID	Generator name	HHCI Wind (MW)	HHCI Wind + BESS (MW)	HHCI Solar (MW)	HHCI Solar + BESS (MW)
-	-	-	-	-	-

VRE curtailment – ISP forecast

Scenario	2025-2026		2026-2027		2027-2028	
	Curtailment (%)	Economic offloading (%)	Curtailment (%)	Curtailment (%)	Economic offloading (%)	Curtailment (%)
Step Change	-	-	-	-	-	-

ISP forecast

ISP forecast

VRE outlook	Solar PV (MW)						Wind (MW)					
	Existing/ committed/ anticipated	Projected					Existing/ committed/ anticipated	Projected				
		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for *Step Change*

There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes for all scenarios did not project any addiitonal VRE for this REZ. Therefore, no VRE curtailment or transmission expansion occurs in this REZ.

Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A3.17 Non-REZ

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
N^^V_NIL_1	209.8	246,112.7	NSW generation, via limitation of NSW to VIC transfer
N^^V_NIL_ARWBBA	106.9	65,465.5	Generation in North West VIC
N>>NIL_33_34	259.3	1,438,642.7	Generation contributing to flow from Bayswater to Liddell 330 kV on loss of parallel Bayswater – Liddell 330 kV line
N>>NIL_4	5.2	221,585.2	Generation contributing to flow from Collector to Marulan 330 kV
N>>NIL_964_84_S	640.0	941,823.8	Generation contributing to flow from Port Macquarie to Herron Creek 132 kV on trip of the Tamworth – Liddell 330 kV line
N>>NIL_998	9.4	175,288.8	Generation contributing to flow from Cowra to Forbes 132 kV
N>NIL_901	334.4	2,598,279.9	Generation contributing to flow from West Wyalong to Temora 132 kV
N>NIL_999	5.3	382,179.4	Generation contributing to flow from Bango 999 to Cowra 132 kV
N>NIL_9GL	13.6	105,054.0	Generation contributing to flow from Bango 973 to Yass 132 kV
N>NIL_9GM	33.3	321,057.2	Generation contributing to flow from Bango 999 to Yass 132 kV
N>NIL_9ML	56.7	408,580.1	Generation contributing to flow from Crudine Ridge to Ilford Tee 132 kV
N>NIL_COTX_LV	96.3	678,406.3	Generation exporting from 22 kV through the 22/132 kV Corowa transformers
N>NIL_LSDU	242.3	135,474.8	Generation contributing to flow from Lismore to Dunoon 132 kV on trip of the parallel line
N>NIL_MBDU	44.8	17,303.8	Generation contributing to flow from Mullumbimby to Dunoon 132 kV on trip of a parallel line
N>NIL_PKTX_LV	468.7	2,630,046.2	Generation exporting from 66 kV through the 132/66 kV Parkes transformers
N>Q-NIL_757_758	462.1	152,857.6	Generation contributing to northward flow on the Terranora – Mudgeeraba 110 kV lines.

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
BANGOWF1	Bango 973 Wind Farm	155	2.1	0.9	7,823
BANGOWF2	Bango 999 Wind Farm	82	2.7	0.8	6,740
COLEASF1	Coleambally Solar Farm	150	0.9	0.3	2,972
COLWF01	Collector Wind Farm 1	219	0.9	0.5	4,139
CROOKWF2	Crookwell 2 Wind Farm	91	2.1	0.3	2,860
CROOKWF3	Crookwell 3 Wind Farm	56	2.8	0.2	878
CRURWF1	Crudine Ridge Wind Farm	138	0.6	0.2	1,839
DARLSF1	Darlington Point Solar Farm	275	4.2	3.0	26,438
FINLYSF1	Finley Solar Farm	133	6.8	2.2	19,566
GULLRSF1	Gullen Range Solar Farm	10	0.9	0.0	179
GULLRWF1	Gullen Range Wind Farm	161	0.8	0.4	3,404
GULLRWF2	Gullen Range Wind Farm	107	1.2	0.5	3,963
GUNNING1	Gunning Wind Farm	47	0.7	0.1	1,031
HILLSTN1	Hillston Sun Farm	85	4.9	1.2	10,944
JEMALNG1	Jemalong Solar Project	50	4.1	0.6	4,940
PARSF1	Parkes Solar Farm	50.5	18.7	2.6	22,411
RYEPARK1	Rye Park Renewable Energy	384	1.0	1.1	9,991
TARALGA1	Taralga Wind Farm	106	0.1	0.0	250
WLWLSF1	Walla Walla Solar Farm 1	150	3.7	0.6	1,533
WLWLSF2	Walla Walla Solar Farm 2	150	3.0	0.3	859
WOLARSF1	Wollar Solar Farm	280	1.8	0.0	8
WOODLWN1	Woodlawn Wind Farm	48	0.1	0.0	76
WSTWYSF1	West Wyalong Solar Farm	90	14.2	3.6	31,251
WYASF1	Wyalong Solar Farm	53	17.0	2.6	22,697

Historical hosting capacity indicator for 20% network spill threshold[42]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
BANGOWF1	Bango 973 Wind Farm	0	132	0	0
BANGOWF2	Bango 999 Wind Farm	0	103	0	0
BLOWERNG	Blowering	300	300	201	300
BW01	Bayswater	300	300	300	300
CG1	Colongra	300	300	300	300
COLEASF1	Coleambally Solar Farm	0	300	0	0
COLWF01	Collector Wind Farm 1	300	300	300	300
CROOKWF2	Crookwell 2 Wind Farm	300	300	300	300
CRURWF1	Crudine Ridge Wind Farm	168	266	141	253
DARLSF1	Darlington Point Solar Farm	0	300	0	0
ER01	Eraring	300	300	300	300
FINLYSF1	Finley Solar Farm	0	207	0	10
GULLRWF1	Gullen Range Wind Farm	300	300	300	300
GULLRWF2	Gullen Range Wind Farm	300	300	300	300
GUNNING1	Gunning Wind Farm	300	300	135	267
HILLSTN1	Hillston Sun Farm	0	300	0	0
JEMALNG1	Jemalong Solar Project	0	229	0	0
MP1	Mount Piper	300	300	300	300
NEWENSF2	New England Solar Farm	300	300	0	300
PARSF1	Parkes Solar Farm	0	192	0	0
RYEPARK1	Rye Park Renewable Energy	300	300	300	300
SHGEN	Shoalhaven	300	300	300	300
TALWA1	Tallawarra	300	300	300	300
TARALGA1	Taralga Wind Farm	300	300	300	300
TUMUT3	Lower Tumut	300	300	300	300
UPPTUMUT	Upper Tumut	300	300	300	300
URANQ11	Uranquinty	300	300	152	300
VP5	Vales Pt	300	300	300	300
WOODLWN1	Woodlawn Wind Farm	300	300	300	300
WSTWYSF1	West Wyalong Solar Farm	0	150	0	0
WYASF1	Wyalong Solar Farm	0	150	0	0

---

[42] The maximum hosting capacity was set to 300 MW for these studies. See Appendix A2.5 for the detailed methodology and see 2025 ELI Report chart data for information on the reference generation profiles used in this analysis.