Appendix A5. South Australia

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.

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Version control

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

Contents

Figures

A5.1 Introduction

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

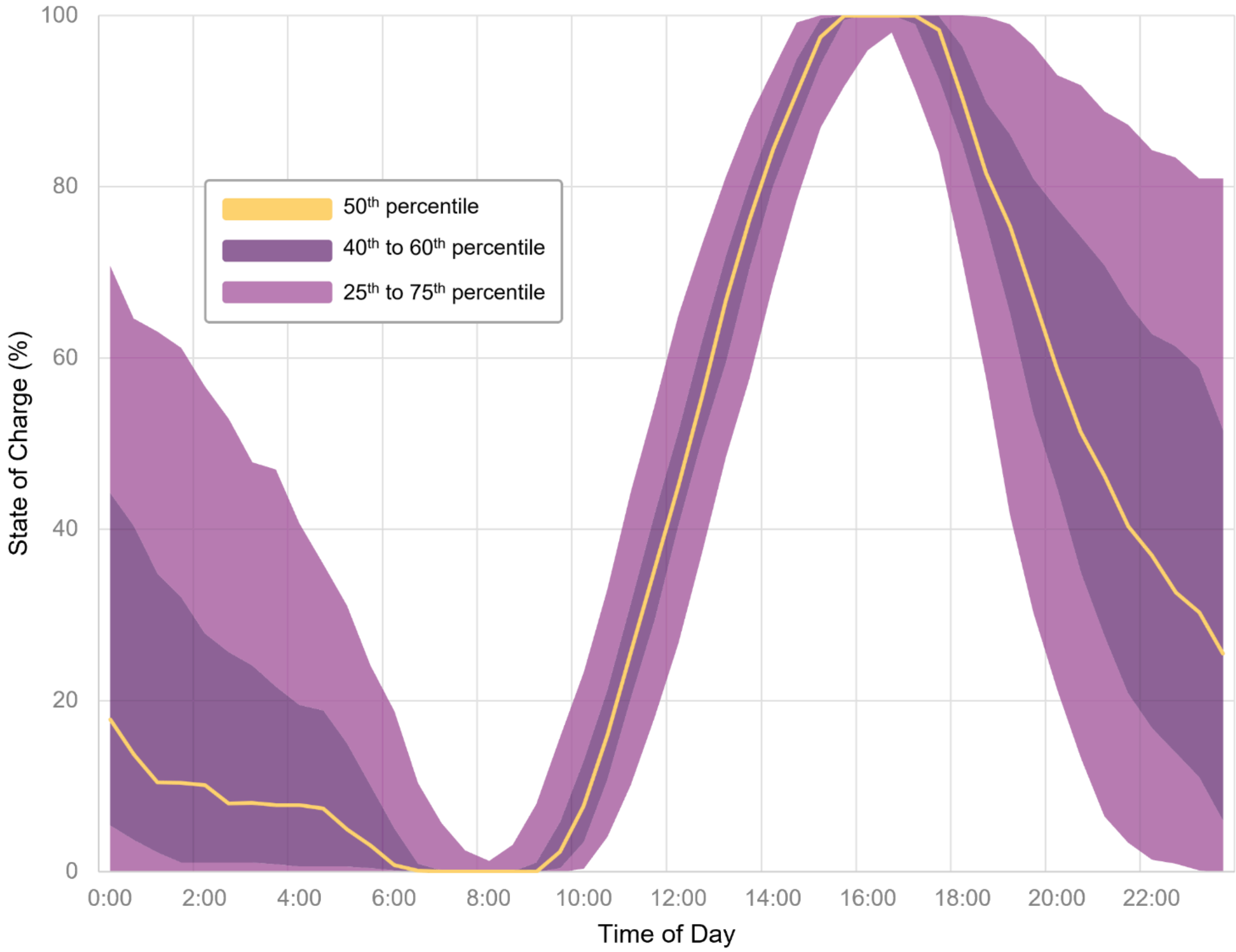
- The average forecast daily usable stage of charge (SoC) for batteries (planted under the 2024 ISP *Step Change* scenario) across South Australia in 2030 (Section A5.1).
- The generation and storage capacity and annual generation energy production across South Australia under the 2024 ISP *Step Change* projected build in 2024 (actual annual production) and 2025, 2030, and 2040 (Section A5.3).
- An overview map of the South Australia region and associated REZs (Section A5.4)
- Detailed locational indicators and metrics for each REZ within South Australia (Sections A5.5 to A5.15).

This appendix uses existing sources of publicly available information, including the Final 2024 ISP.

A5.2 Average forecast daily usable battery state of charge

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

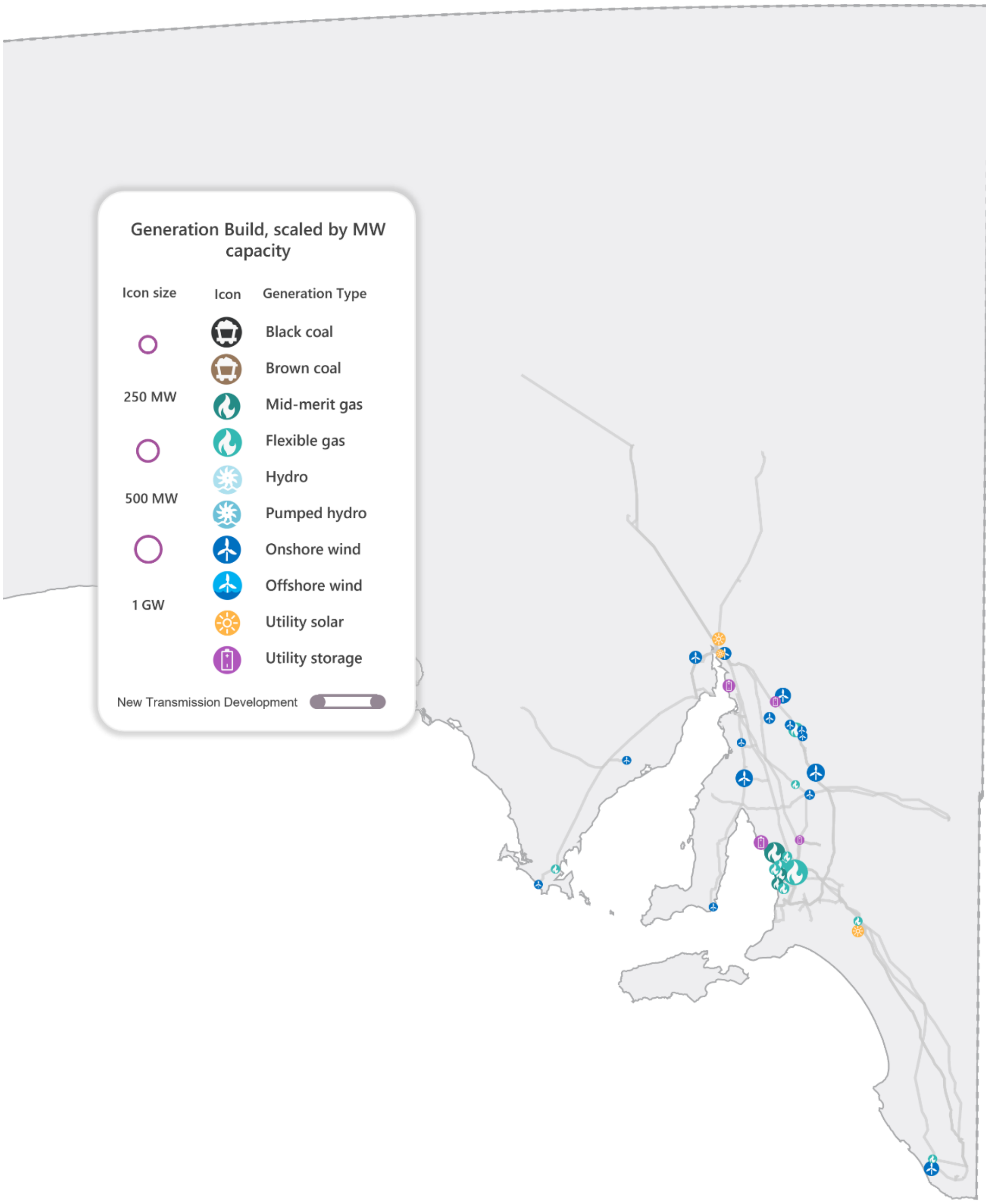
Figure 1 Average forecast daily usable state of charge (SoC) for batteries across South Australia, 2024 ISP *Step Change* scenario, 2030 (%)



A5.3 Projected generation build

Figure 2 to **Figure 7** show the generation and storage capacity and annual generation energy production across South Australia 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 South Australia, 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 South Australia, under the 2024 ISP *Step Change* projected build, 2030

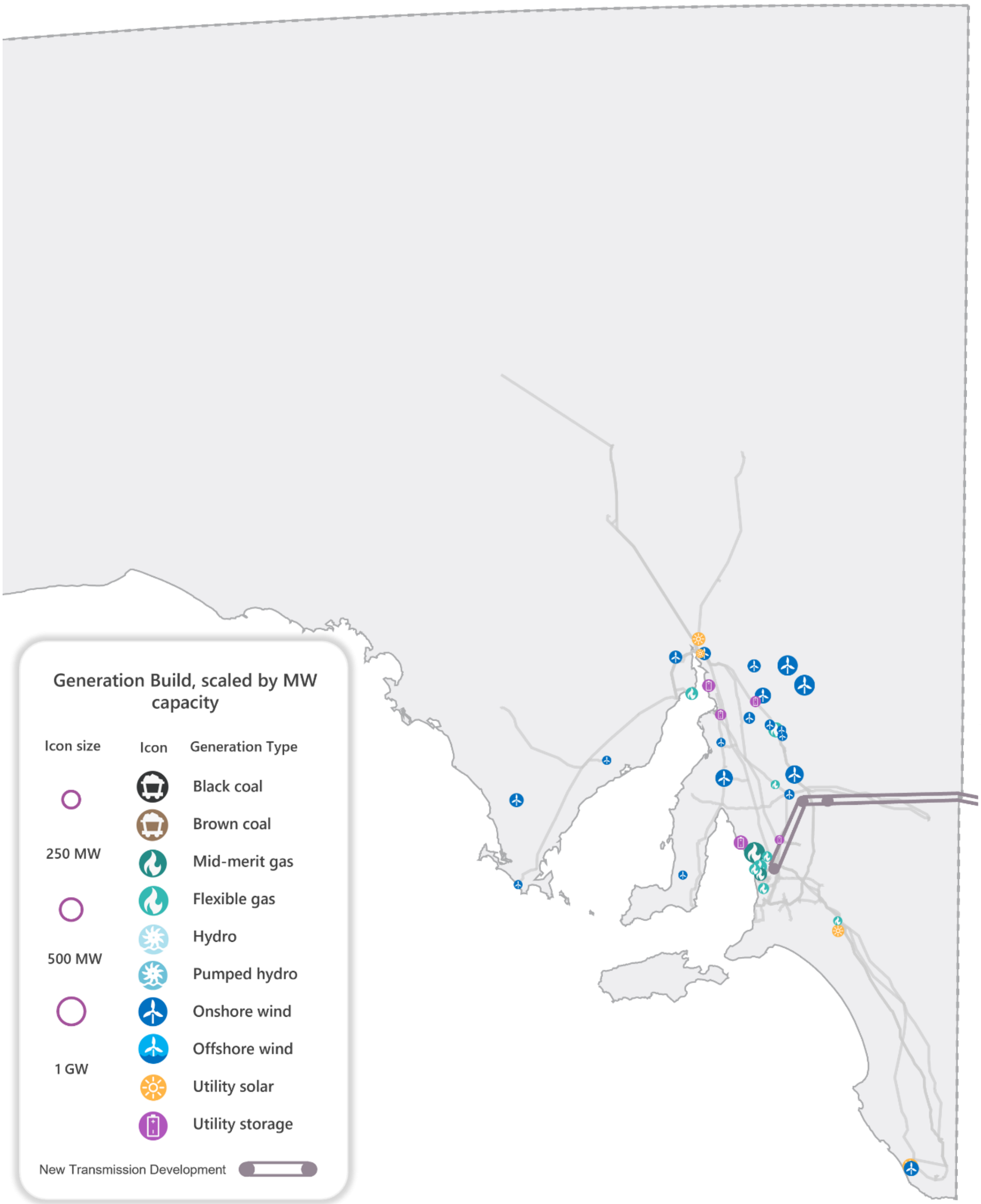


Figure 4 Projected generation capacity (MW) and across South Australia, under the 2024 ISP *Step Change* projected build, 2040

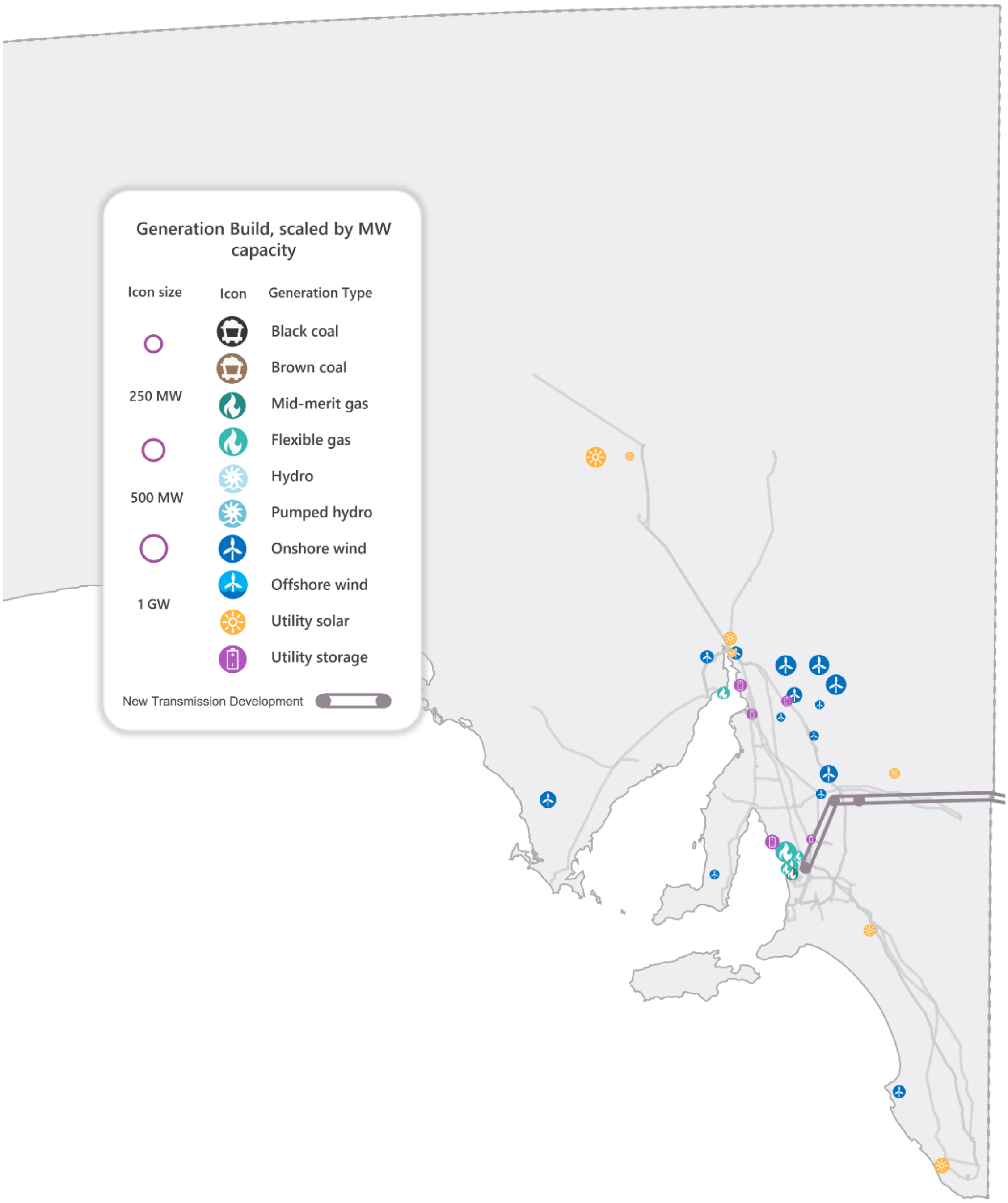
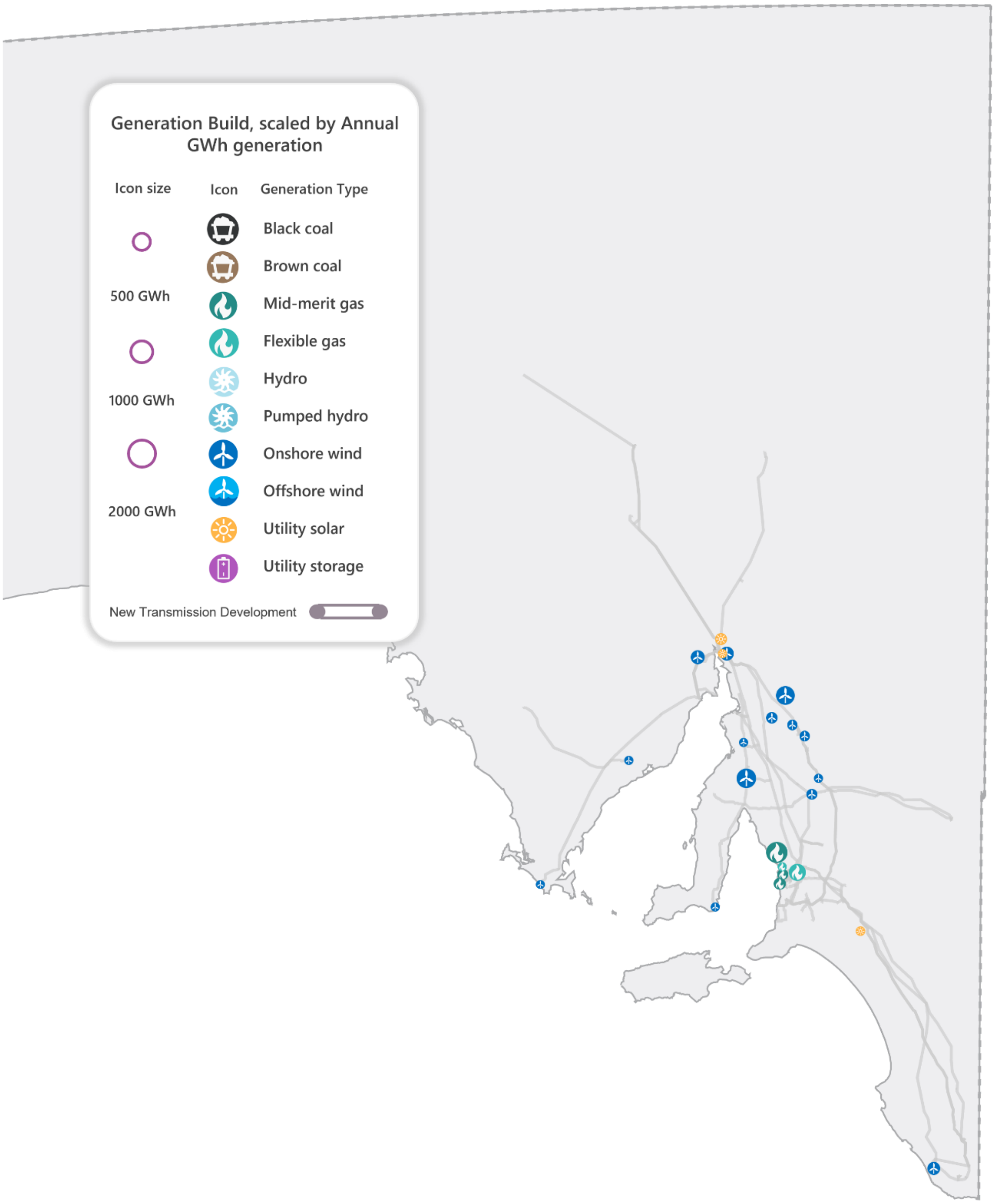


Figure 5 Annual generation energy production (MWh) across South Australia, 2024



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 South Australia, under the 2024 ISP *Step Change* projected build, 2030

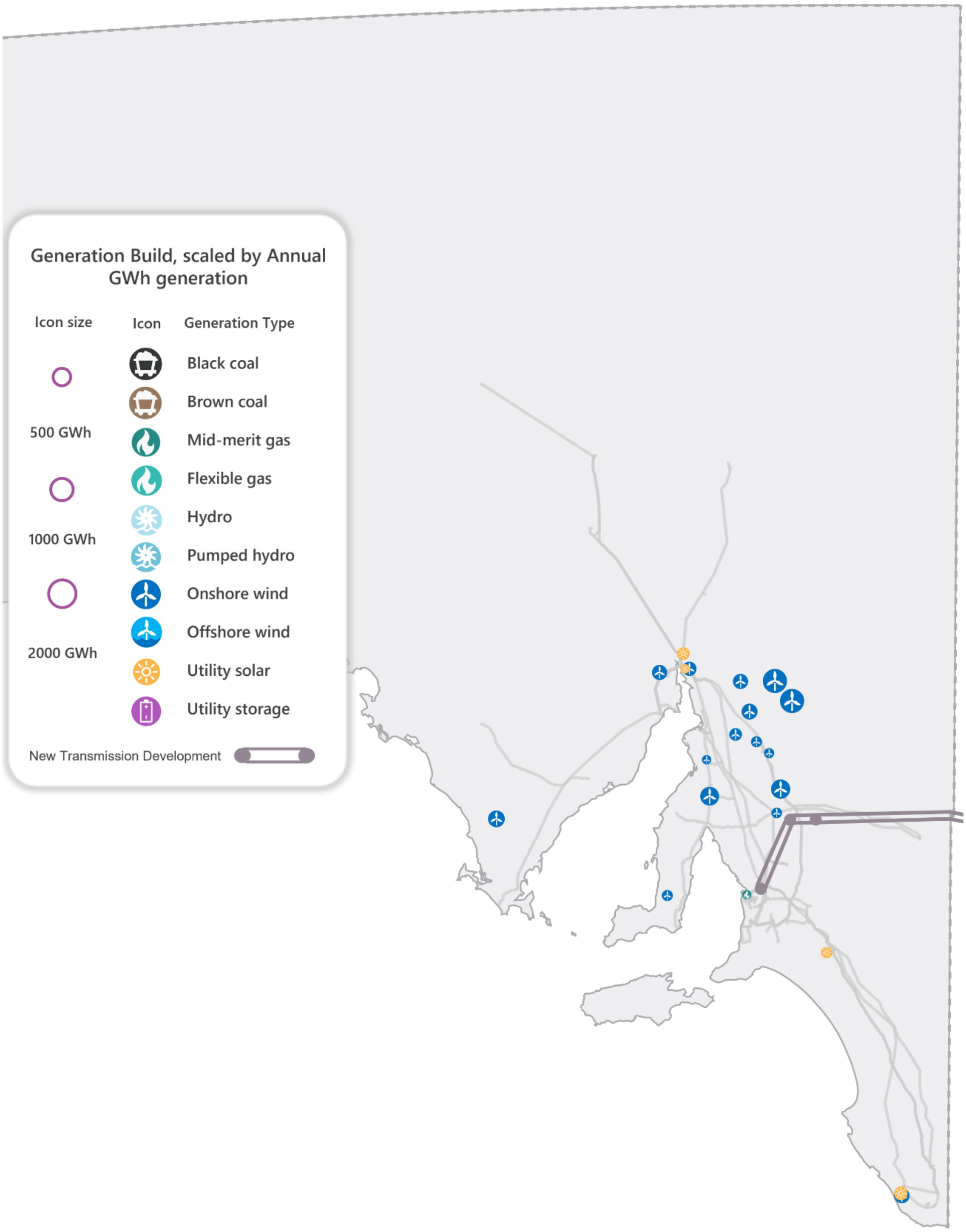
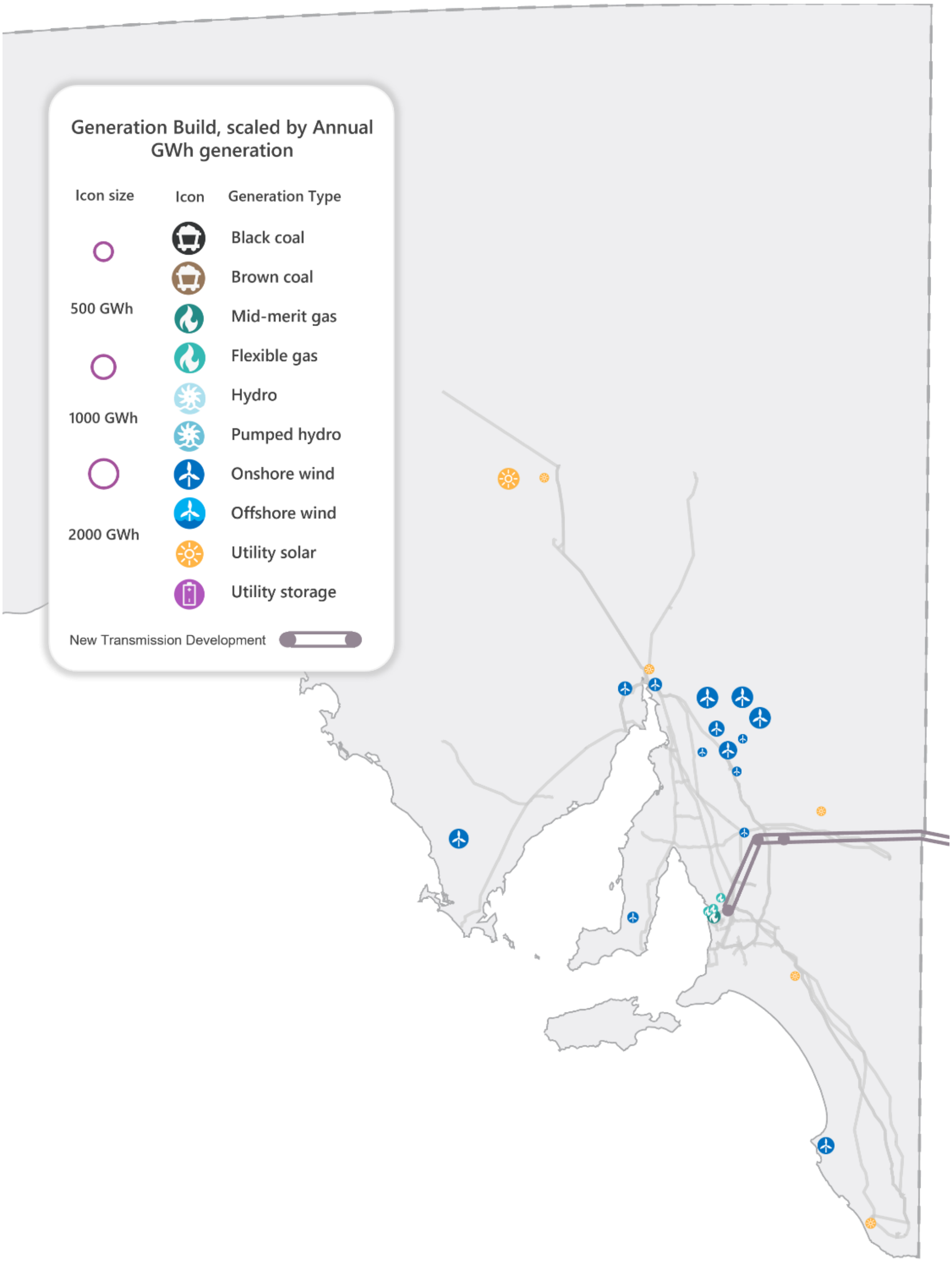


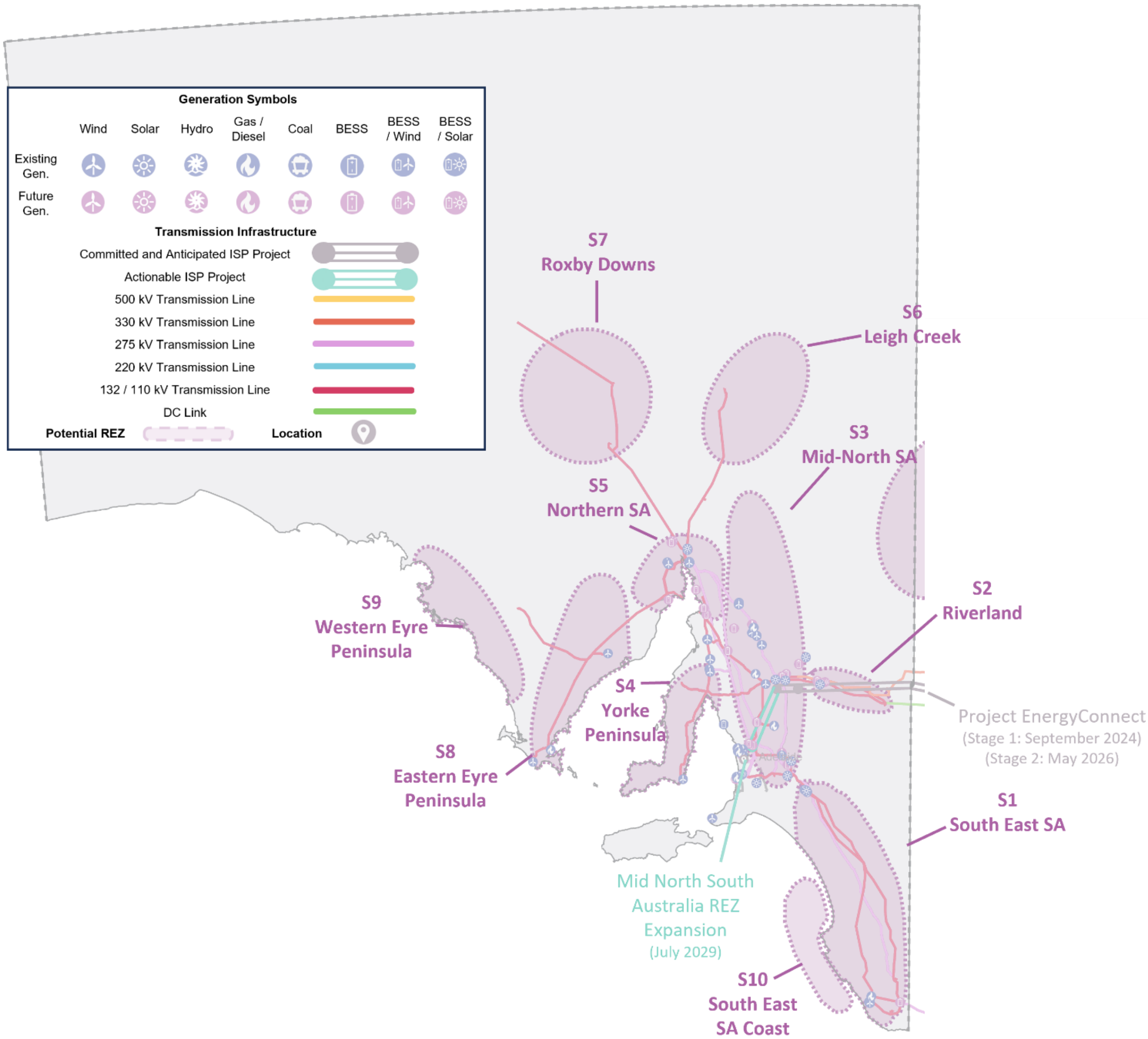
Figure 7 Projected annual generation energy production (MWh) across South Australia, under the 2024 ISP *Step Change* projected build, 2040



A5.4 REZs overview

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

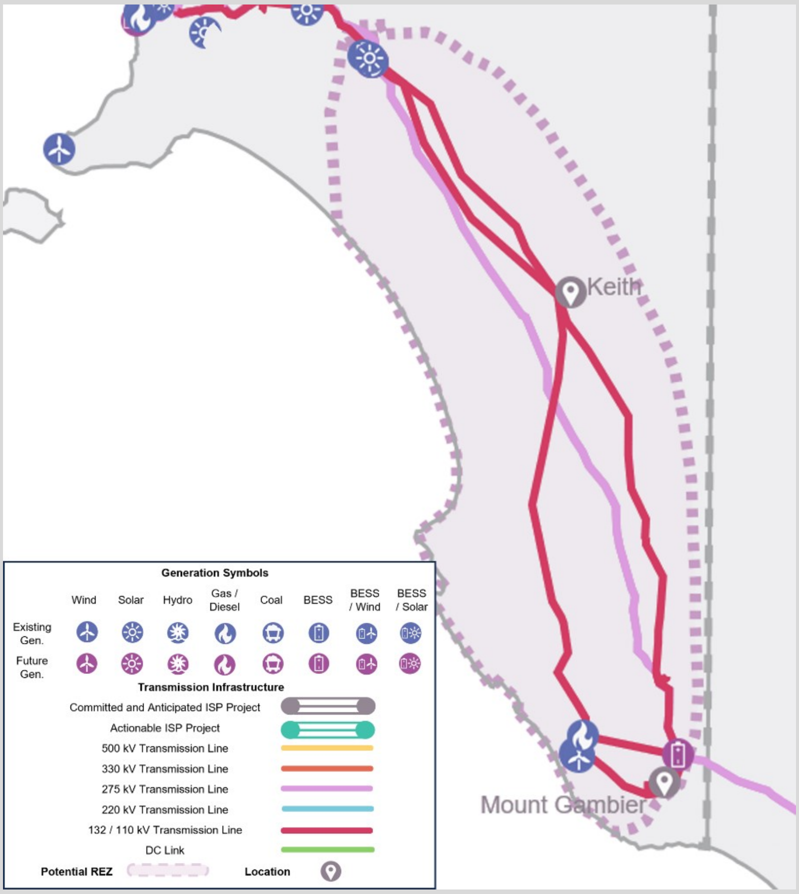
Figure 8 Overview of South Australia region and REZs



A5.5 S1 – South East South Australia

REZ information

South East South Australia REZ map



Overview	Network Transfer Capability
The South East South Australia REZ lies on the major 275 kV route of the South Australia – Victoria Heywood interconnector. It has C grade wind resource quality.	The existing network capacity of this REZ was modelled as part of South East South Australia – Central South Australia (SESA-CSA) sub-regional maximum transfer capability of 650 MW. Other than the preparatory activity upgrade, there are no augmentation options specifically for this REZ. The associated augmentations are the VIC-SESA and SESA-CSA flow path augmentations, and the S1-TMBO Group Constraint augmentation.

Jurisdictional body

The South East South Australia REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar			Wind		
Resource Quality	D			C		
Renewable Potential (MW)	100			3,200		
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	D	Bushfire score	D

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Solar	3.3 – 11	1.0127 – 1.0257	
Wind	33	0.9297 – 0.9333	
Marginal Loss Factor Robustness			
MLF Robustness score[2]	**2029-30**	**2034-35**	**2039-40**
	-	-	-

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
S>>NIL_TBTU_TBTU_1	29.0	139,407.7	Generation contributing to flow from either Tailem Bend to Tungkillo 275 kV on trip of the parallel Tailem Bend-Tungkillo 275 kV line
S>>NIL_TBTX4_TBMO_1	27.4	154,246.8	Generation contributing to flow from Tailem Bend to Mobilong 132 kV on trip of the Tailem Bend 275/132kV (#4) transformer
S>>NIL_TUTB_TUTB_1	57.9	29,511.4	Generation contributing to flow from either Tailem Bend to Tungkillo 275 kV on trip of the parallel Tailem Bend-Tungkillo 275 kV line
V::S_NIL_MAXG_1	11.8	81,452.9	Generation connecting to 132 kV network between South East and Tailem Bend
V::S_NIL_MAXG_xxx	22.8	42,854.7	Generation connecting to 132 kV network between South East and Tailem Bend
V:S_600_HY_TEST	96.1	195,401.9	Generation contributing to flow from Heywood to South East 275 kV
V:S_600_HY_TEST_DYN	212.0	448,240.7	Generation contributing to flow from Heywood to South East 275 kV

2 No MLF robustness scores are shown as the MLF robustness for VRE in this REZ is heavily dependent on market conditions and interconnector flows.

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
CNUNDAWF	Canunda Wind Farm	46	0.1	0.0	93
LKBONNY1	Lake Bonney Wind Farm Stage 1	81	0.2	0.0	303
LKBONNY2	Lake Bonney Stage 2 Windfarm	159	0.2	0.1	646
LKBONNY3	Lake Bonney Stage 3 Wind Farm	39	0.2	0.0	140
MAPS2PV1	Mannum - Adelaide Pipeline Pumping Station No 2, PV Units 1-6	13.4	0.0	0.0	9
MAPS3PV1	Mannum - Adelaide Pipeline Pumping Station No 3, PV Units 1-6	12.4	0.0	0.0	6
MBPS2PV1	Murray Bridge-Onkaparinga Pipeline Pumping Station No 2	10.3	0.0	0.0	7
Historical hosting capacity indicator for 20% network spill threshold[3]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
CNUNDAWF	Canunda Wind Farm	292	300	300	300
LKBONNY1	Lake Bonney Wind Farm Stage 1	242	300	300	300
LKBONNY2	Lake Bonney Stage 2 Windfarm	243	300	300	300
LKBONNY3	Lake Bonney Stage 3 Wind Farm	243	300	300	300

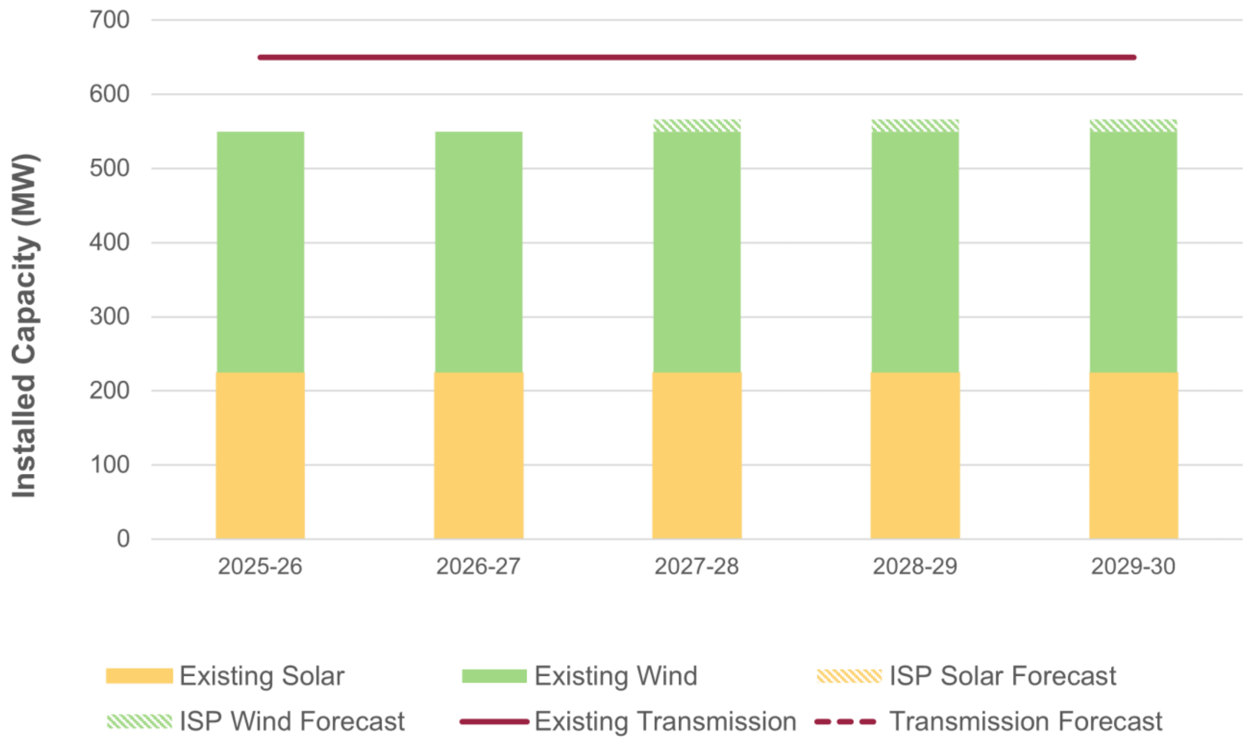
VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	10	0	9	0	9

[3] 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	225	-	-	-	-	-	325	-	-	17	17	17

Transmission access expansion for *Step Change*



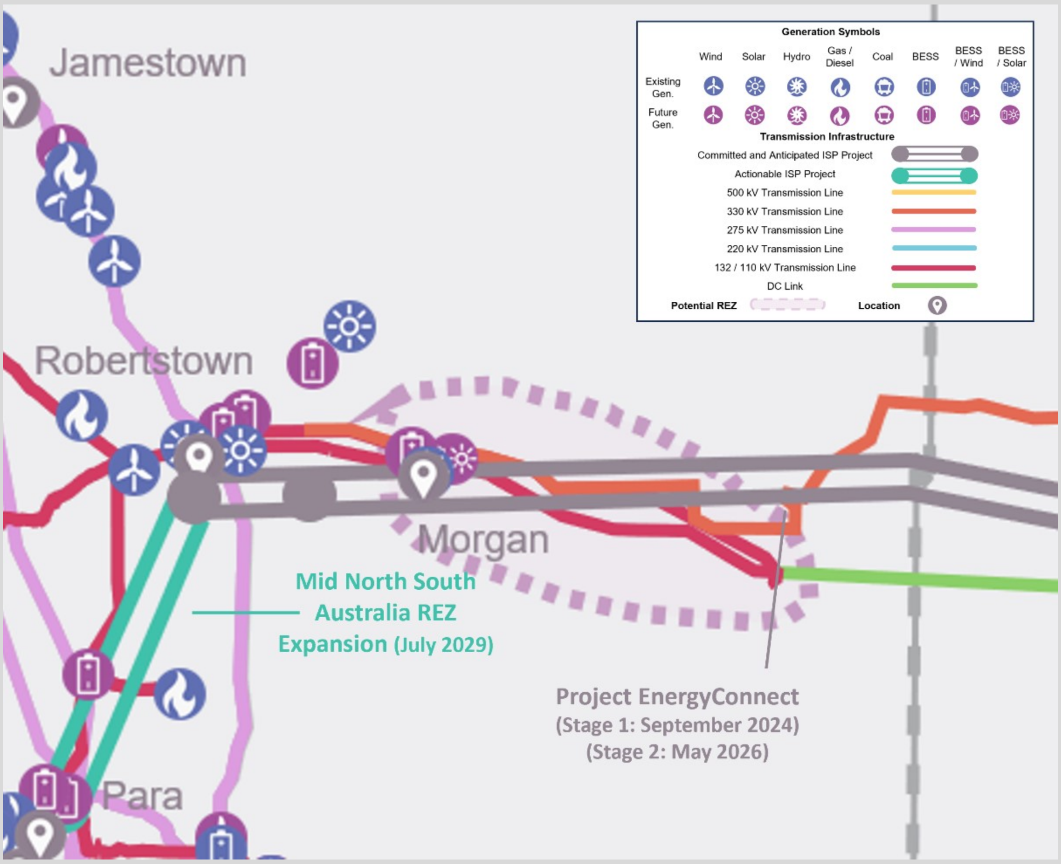
Note: The transmission limit is modelled using the SESA-CSA flow path limit.

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

A5.6 S2 – Riverland

REZ information

Riverland REZ map



Overview	Network Transfer Capability
The Riverland REZ is on the South Australian side of the proposed Project EnergyConnect route. It has grade C solar resource quality.	There is minimal existing renewable generation in the zone. Prior to Project EnergyConnect, approximately 130 MW can be connected in this REZ for all three operating conditions (peak demand, summer typical and winter reference). Once Project EnergyConnect is commissioned, the REZ transmission limit increases by approximately 800 MW.

Jurisdictional body

The Riverland REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar			Wind		
Resource Quality	C			E		
Renewable Potential (MW)	4,000			1,400		
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	3.3	0.9837 – 1.0146	
Marginal Loss Factor Robustness			
MLF Robustness	**2029-30**	**2039-40**	**2049-50**
	A	A	A

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
S>NIL_MHNW1_MHNW2	1,674.2	10,929,593.8	Generation contributing to westward flow on the Murraylink DC interconnector
S>NIL_NWRB2_NWRB1	158.9	1,073,921.0	Generation contributing to flow from North West Bend to Robertstown 132 kV on trip of a parallel line
SVML^NIL_MH-CAP_ON	293.7	163,220.7	Generation contributing to Eastward flow on the Murraylink DC interconnector

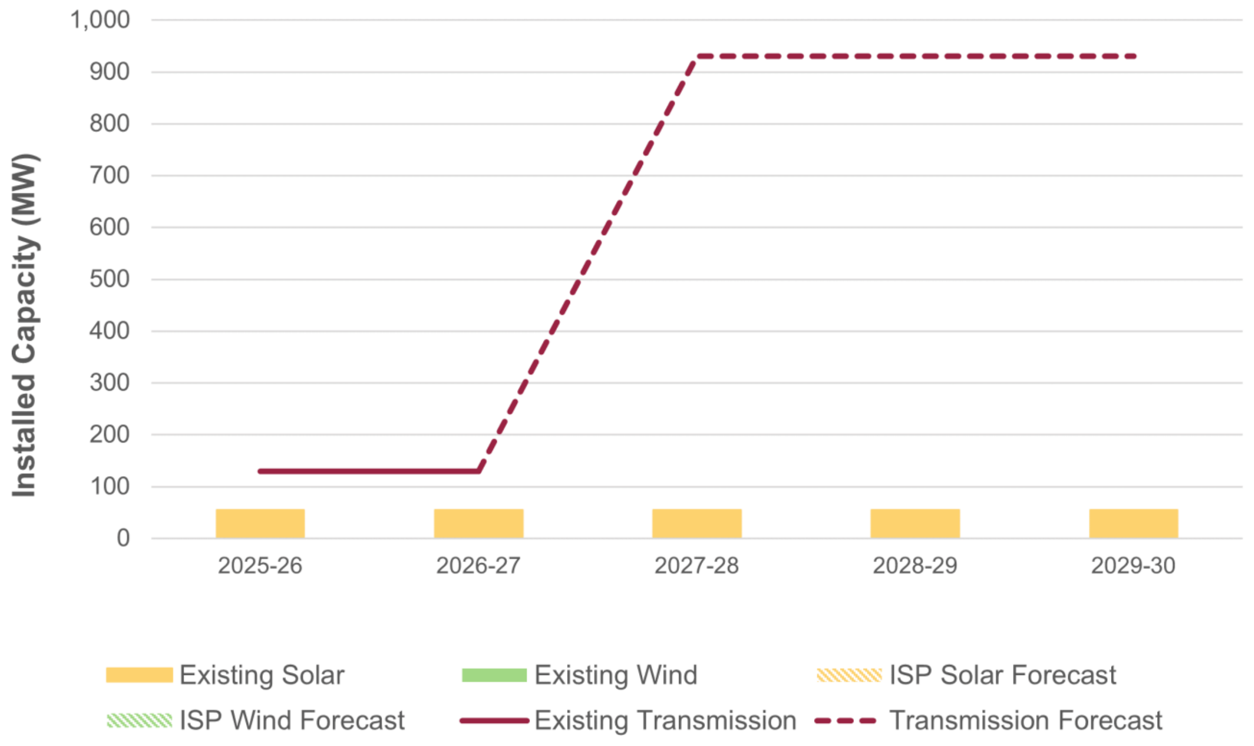
VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
MANNSF2	Mannum 2 Solar Farm	29	1.0	0.0	403
MWPS1PV1	Morgan-Whyalla Pipeline Pumping Station No 1	4.6	1.5	0.0	81
MWPS2PV1	Morgan-Whyalla Pipeline Pumping Station No 2	4.6	1.3	0.0	97
MWPS3PV1	Morgan-Whyalla Pipeline Pumping Station No 3	6.2	1.1	0.0	74
MWPS4PV1	Morgan-Whyalla Pipeline Pumping Station No 4	4.56	0.6	0.0	49
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	16	0	16	0	16

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	55	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for *Step Change*

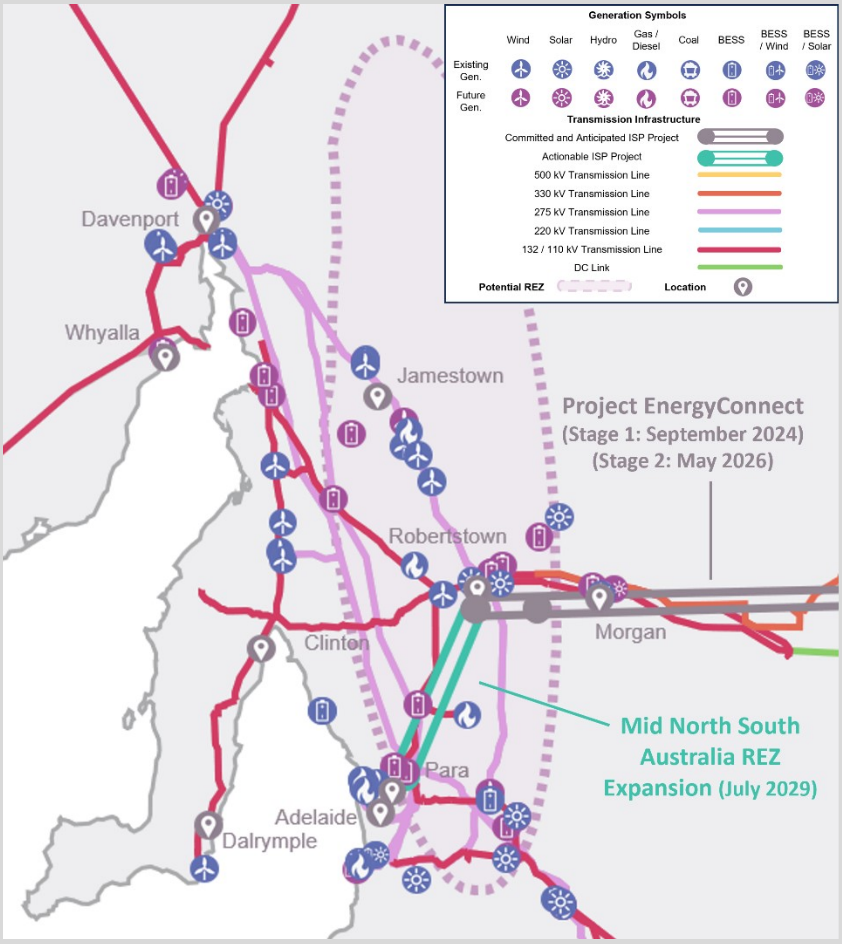


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
Project EnergyConnect – Stage 2	July 2027	Committed	800 MW

A5.7 S3 – Mid-North South Australia

REZ information

Mid-North South Australia REZ map



Overview	**Network Transfer Capability**
The Mid-North South Australia REZ has grade C wind and solar resource quality. There are several major wind farms in service in this REZ, totalling more than 1,700 MW of installed or committed capacity. Four 275 kV parallel circuits provide the bulk transmission along the corridor from Davenport to near Adelaide (Para) which traverse this REZ. This transmission corridor forms the backbone for exporting power from REZs north and west of this REZ in South Australia.	The capability of this zone to accommodate new generation is subject to the MN1 mid-north group constraint[4].

Jurisdictional body

The Mid-North South Australia REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar	Wind
Resource Quality	C	C
Renewable Potential (MW)	1,300	4,600

[4] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW in the 2024 ISP.

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**	D	

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2025-26 MLF**
Wind	33	0.9157
	132	0.9604 – 0.9624
	275	0.9560 – 0.9697

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**
S>>NIL_RBTX_RBTX_1	60.4	186,603.2	Generation exporting from 132 kV through the 275/132 kV Robertstown transformers
S>>NIL_TBTU_TBTU_1	29.0	139,407.7	Generation contributing to flow from either Tailem Bend to Tungkillo 275 kV on trip of the parallel Tailem Bend-Tungkillo 275 kV line
S>>NIL_TBTX4_TBMO_1	27.4	154,246.8	Generation contributing to flow from Tailem Bend to Mobilong 132 kV on trip of the Tailem Bend 275/132kV (#4) transformer
S>>NIL_TUTB_TUTB_1	57.9	29,511.4	Generation contributing to flow from either Tailem Bend to Tungkillo 275 kV on trip of the parallel Tailem Bend-Tungkillo 275 kV line
S>>NIL_TWPA_TPRS	62.3	491,580.3	Generation contrubting to flow from Templers to Roseworthy 132 kV on trip of the Templers West-Para 275 kV line
S>NIL_BWMP_HUWT	144.6	1,625,369.8	Generation contributing to flow from Hummocks to Waterloo 132 kV on trip of the Blyth West-Munno Para 275 kV line
S>NIL_HUWT_STBG3	316.3	3,220,101.2	Generation contributing to flow from Snowtown to Bungama 132 kV on trip of the Hummocks-Waterloo 132 kV line
S>NIL_NWRB2_NWRB1	158.9	1,073,921.0	Generation contributing to flow from North West Bend to Robertstown 132 kV on trip of a parallel line

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
BLUFF1	The Bluff Wind Farm	53	0.0	0.0	17
CLEMGPWF	Clements Gap Wind Farm	57	0.2	0.0	371
GSWF1A	Goyder South Wind Farm 1A	201	0.9	0.2	1,627
GSWF1B1	Goyder South Wind Farm 1B	196	0.3	0.0	12
HALLWF1	Hallett 1 Wind Farm	95	0.2	0.1	496
HALLWF2	Hallett 2 Wind Farm	71	0.3	0.1	521
HDWF1	Hornsdale Wind Farm	102	0.0	0.0	25
HDWF2	Hornsdale Wind Farm 2	102	0.0	0.0	40
HDWF3	Hornsdale Wind Farm 3	109	0.0	0.0	36
NBHWF1	North Brown Hill Wind Farm	132	0.2	0.1	631
SNOWNTH1	Snowtown Wind Farm Stage 2 North	144	0.1	0.1	608
SNOWTWN1	Snowtown Wind Farm Units 1 And 47	99	1.4	0.5	4,810
SNOWSTH1	Snowtown South Wind Farm	126	0.2	0.1	691
WATERLWF	Waterloo Wind Farm	130	0.5	0.2	1,772
WGWF1	Willogoleche Wind Farm	119	1.6	0.6	5,620
Historical hosting capacity indicator for 20% network spill threshold[5]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
BLUFF1	The Bluff Wind Farm	300	300	300	300
CLEMGPWF	Clements Gap Wind Farm	164	242	265	300
GSWF1A	Goyder South Wind Farm 1A	300	300	300	300
HALLWF1	Hallett 1 Wind Farm	300	300	300	300
SNOWNTH1	Snowtown Wind Farm Stage 2 North	300	300	300	300
SNOWTWN1	Snowtown Wind Farm Units 1 And 47	28	57	90	170
SNOWSTH1	Snowtown South Wind Farm	300	300	300	300
WGWF1	Willogoleche Wind Farm	300	300	300	300

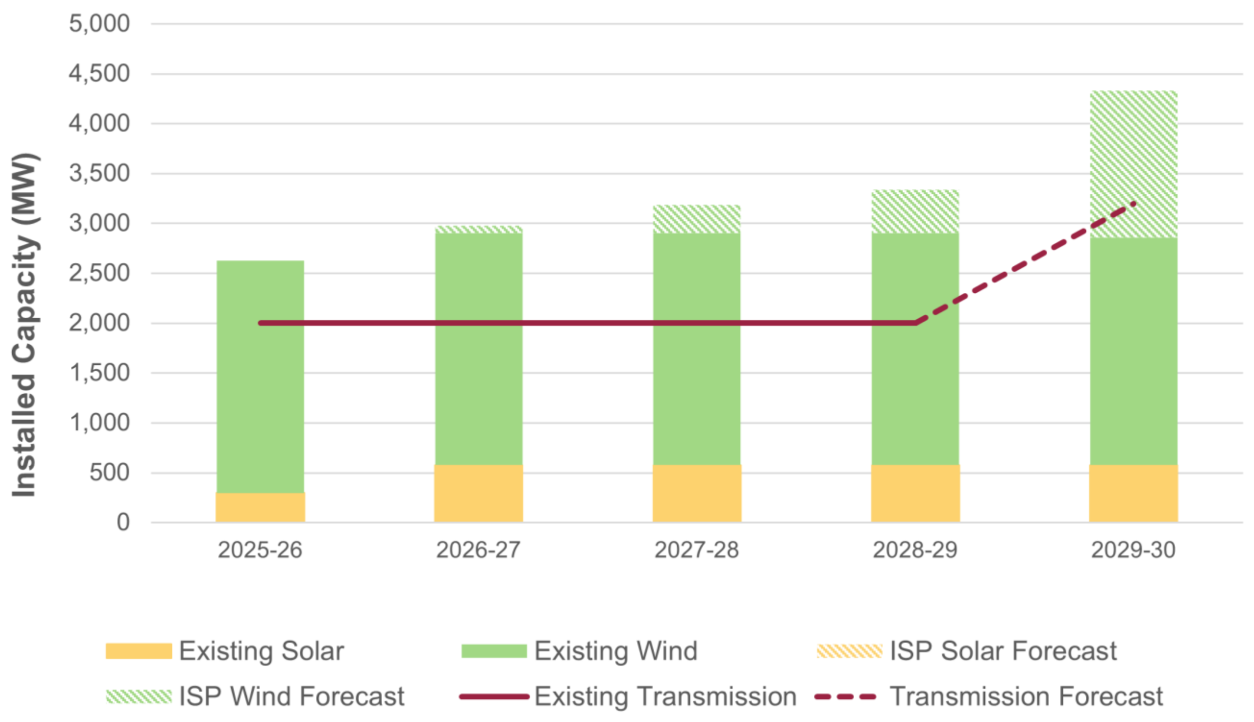
VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	7	0	5	0	4

[5] 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	-	-	-	-	-	-	1,732	-	72	271	418	1200

Transmission access expansion for *Step Change*



Note: The transmission access expansion forecasts show the results for the MN1 group constraint augmentation.

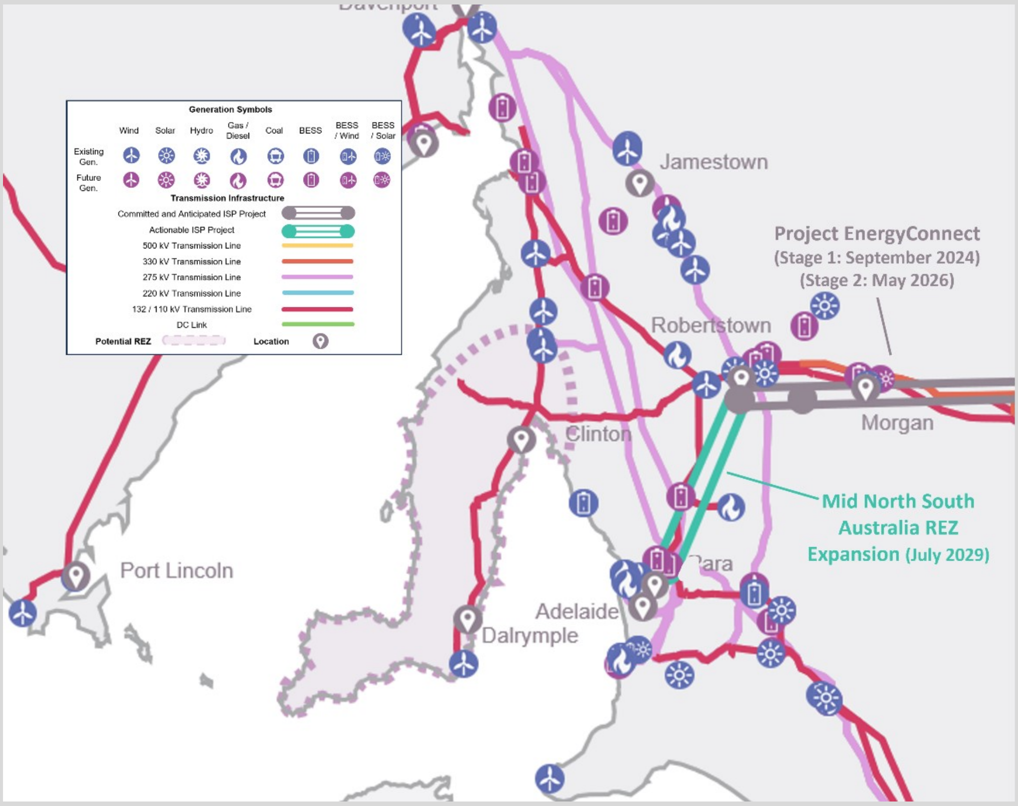
Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
Mid North South Australia REZ Expansion Option 1	Actionable ISP	Proponent: July 2029 ISP Step Change: 2029-30	1,200[6]

[6] This represents the additional network capacity for MN1 group constraint augmentation. The MN1 group constraint represents the generation build limit applied to S3, S4, S5, S6, S7, S8, and S9 REZs in the 2024 ISP.

A5.8 S4 – Yorke Peninsula

REZ information

Yorke Peninsula REZ map



Overview	Network Transfer Capability
The Yorke Peninsula REZ has grade C wind resource quality. A single 132 kV line extends from Hummocks to Wattle Point (towards the end of Yorke Peninsula).	The existing 132 kV network has 100 MW of additional network capacity for all three operating conditions (peak demand, summer typical and winter reference). Transmission augmentation is required to connect any significant additional generation in this REZ. The capability of this zone to accommodate new generation is also subject to the MN1 mid-north group constraint[7].

Jurisdictional body
The Yorke Peninsula REZ's jurisdictional planning body is ElectraNet.

Resource metrics						
Resource	**Solar**			**Wind**		
Resource Quality	F			C		
Renewable Potential (MW)	-			1,400		
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**	C

[7] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW in the 2024 ISP.

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Wind	132	0.8456	
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**
S>NIL_BWMP_HUWT	144.6	1,625,369.8	Generation contributing to flow from Hummocks to Waterloo 132 kV on trip of the Blyth West – Munno Para 275 kV line
S>NIL_HUWT_STBG3	316.3	3,220,101.2	Generation contributing to flow from Snowtown to Bungama 132 kV on trip of the Hummocks – Waterloo 132 kV line

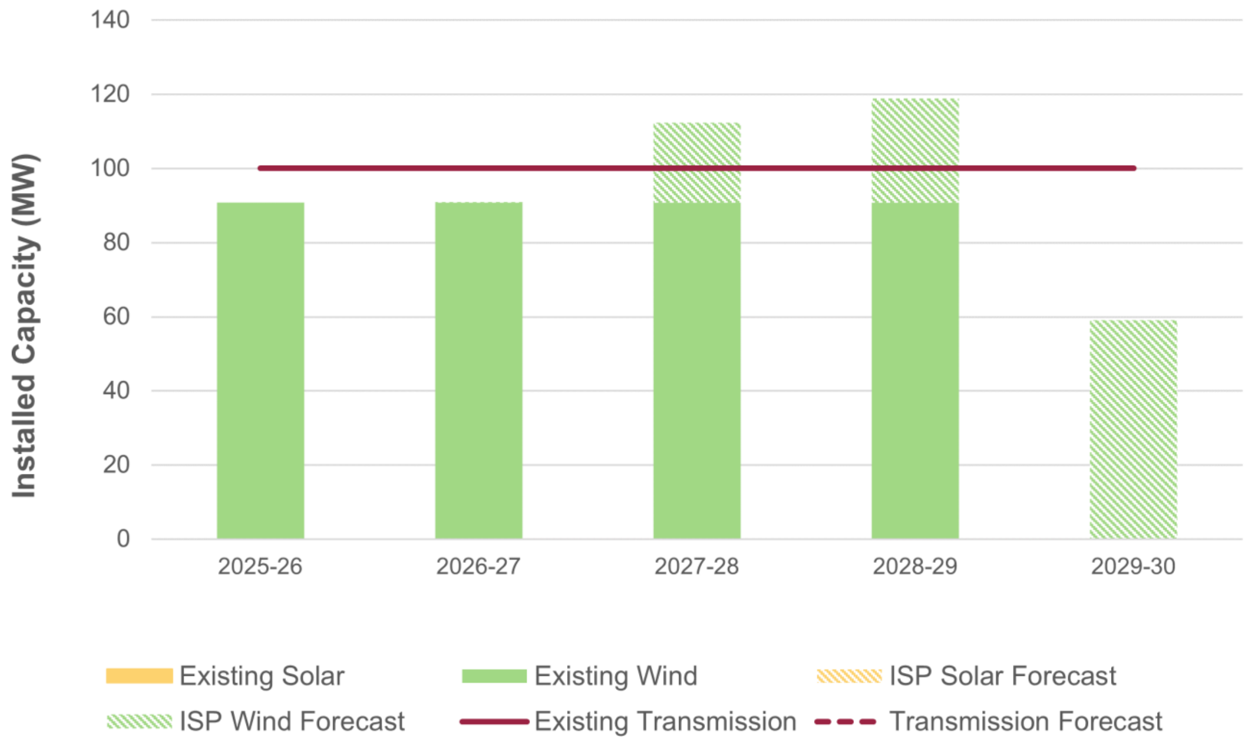
VRE semi-scheduled curtailment – calendar year 2024						
DUID	**Generator name**		**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
WPWF	Wattle Point Wind Farm		91	3.6	0.9	8,257
Historical hosting capacity indicator for 20% network spill threshold[8]						
DUID	**Generator name**		**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
WPWF	Wattle Point Wind Farm		16	54	66	123
VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	10	0	9	0	9

[8] 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	-	-	-	-	-	-	91	-	-	22	28	59

Transmission access expansion for *Step Change*

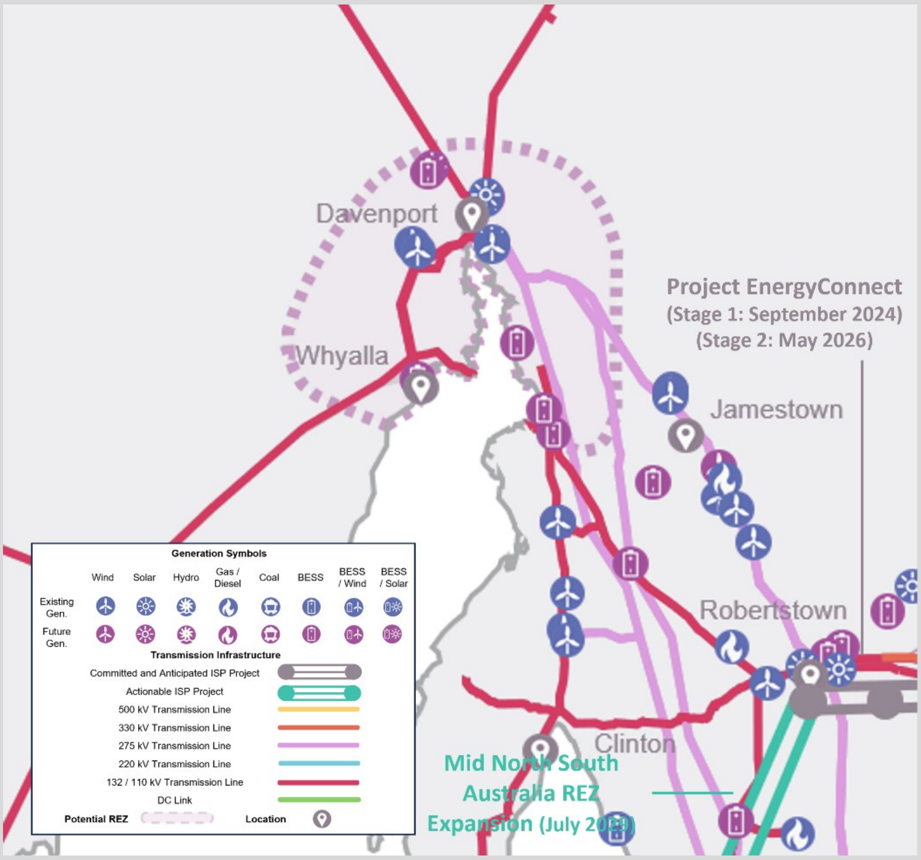


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A5.9 S5 – Northern South Australia

REZ information

Northern South Australia REZ map



Overview	Network Transfer Capability
The Northern South Australia REZ has grade B solar resource quality. This REZ forms a candidate for a hydrogen electrolyser facility in South Australia.	The capability of this zone to accommodate new generation is subject to the MN1 mid-north and NSA1 northern group constraint[9].

Jurisdictional body
The Northen South Australia REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar			Wind		
Resource Quality	B			E		
Renewable Potential (MW)	2,900			-		
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	D

[9] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW or in Eyre Peninsula when (0.5 x S5), S8, S9 > 1,125 MW in the 2024 ISP.

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Solar	132	0.9725	
	275	0.9735	
Wind	275	0.9689 – 0.9735	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	C	C	C

Congestion and curtailment

Congestion information – calendar year 2024			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
S>NIL_HUWT_STBG3	316.3	3,220,101.2	Generation contributing to flow from Snowtown to Bungama 132 kV on trip of the Hummocks – Waterloo 132 kV line

VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
BNGSF1	Bungala One Solar Farm	110	0.2	0.1	554
BNGSF2	Bungala Two Solar Farm	110	0.2	0.1	600
LGAPWF1	Lincoln Gap Wind Farm	123	0.3	0.1	971
LGAPWF2	Lincoln Gap Wind Farm	85	0.3	0.1	784
PAREPS1	Port Augusta Renewable Energy Park	77	0.8	0.1	1,312
PAREPW1	Port Augusta Renewable Energy Park	201	1.3	1.0	9,092
Historical hosting capacity indicator for 20% network spill threshold[10]					
DUID	**Generator name**	**HHCI Wind (MW)**	**HHCI Wind + BESS (MW)**	**HHCI Solar (MW)**	**HHCI Solar + BESS (MW)**
PAREPS1	Port Augusta Renewable Energy Park	300	300	300	300
PAREPW1	Port Augusta Renewable Energy Park	300	300	300	300

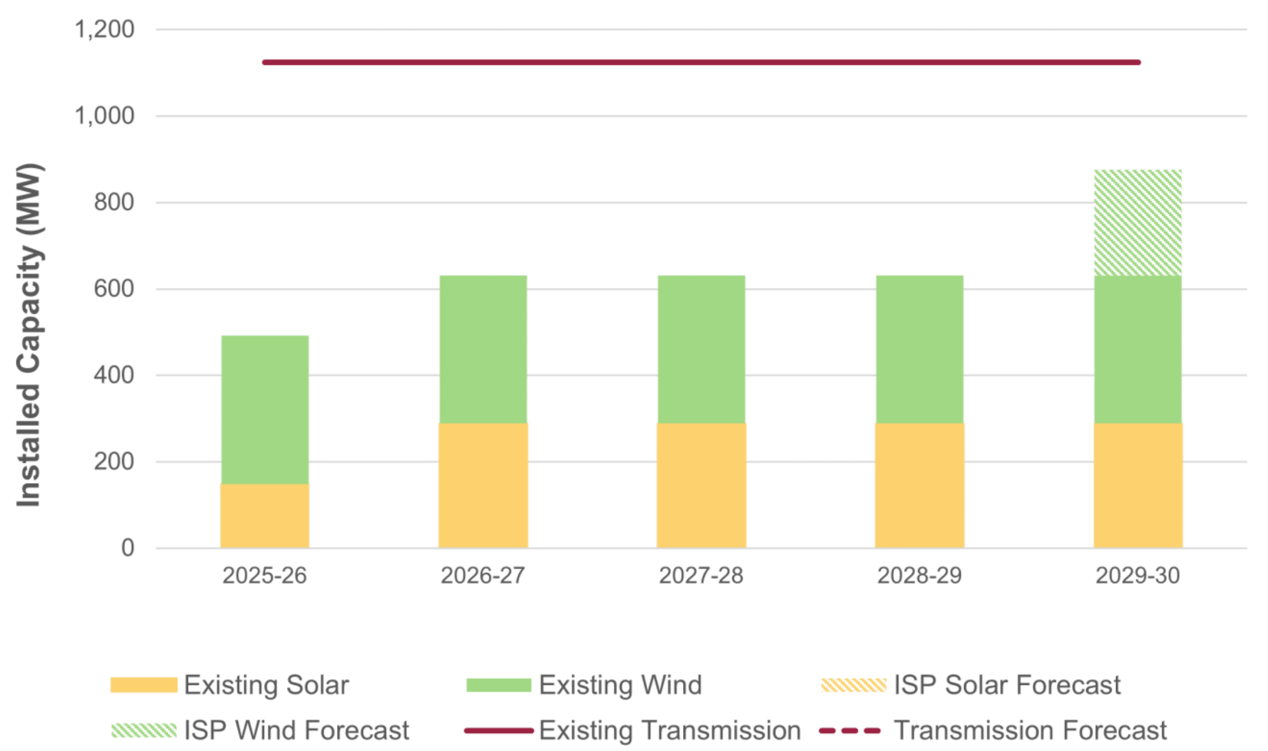
VRE curtailment – ISP forecast						
Scenario	**2025-2026**		**2026-2027**		**2027-2028**	
	Curtailment (%)	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**	**Curtailment (%)**	**Economic offloading (%)**
Step Change	0	7	0	8	0	7

[10] 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	579	-	-	-	-	-	417	-	-	-	-	-

Transmission access expansion for *Step Change*



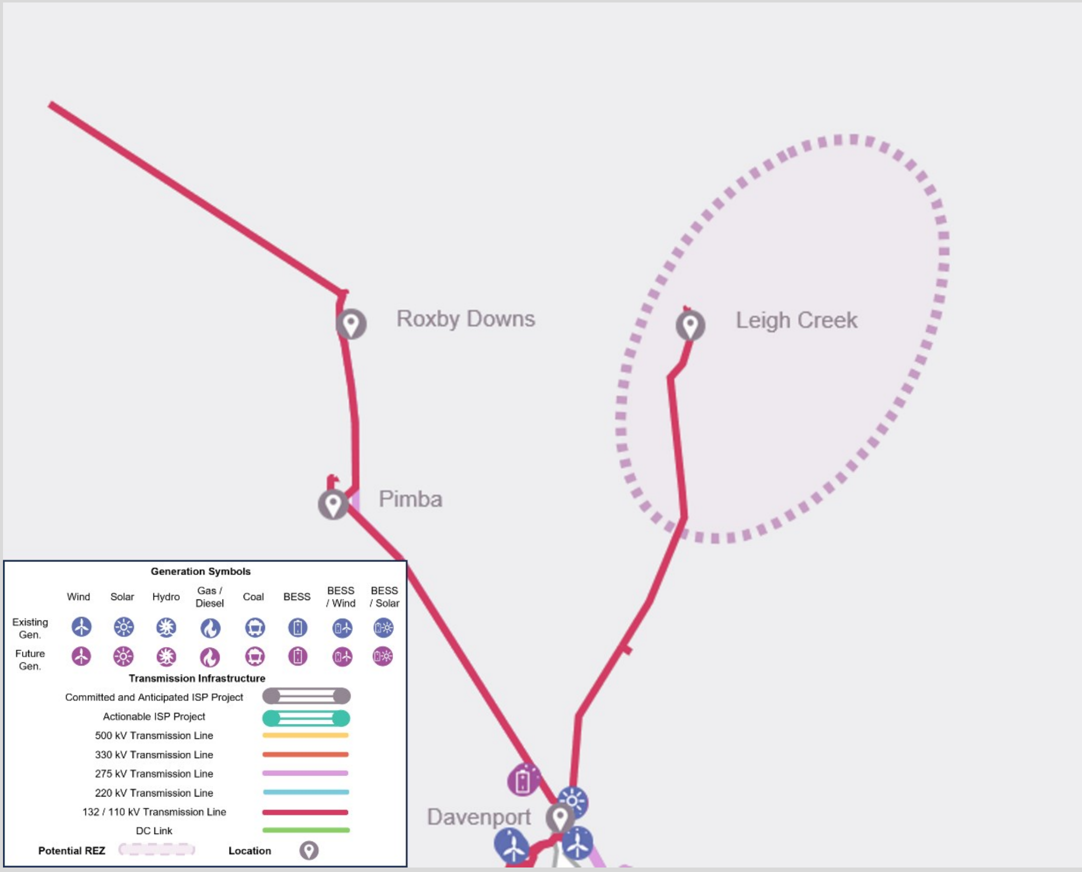
Note: S5 forecast shows results for the NSA1 group constraint augmentation.

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

A5.10 S6 – Leigh Creek

REZ information

Leigh Creek REZ map



Overview	Network Transfer Capability
The Leigh Creek REZ is located between 150 km and 350 km north-east of Davenport. It has grade A and B solar and wind resource quality. This REZ is currently supplied with a single 132 kV line.	There is no additional network capacity within this REZ. The capability of this zone to accommodate new generation is subject to the MN1 mid-north group constraint[11].

Jurisdictional body

The Leigh Creek REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar			Wind		
Resource Quality	A			B		
Renewable Potential (MW)	6,500			2,400		
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**	C

[11] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW in the 2024 ISP.

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
	E	E	E

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

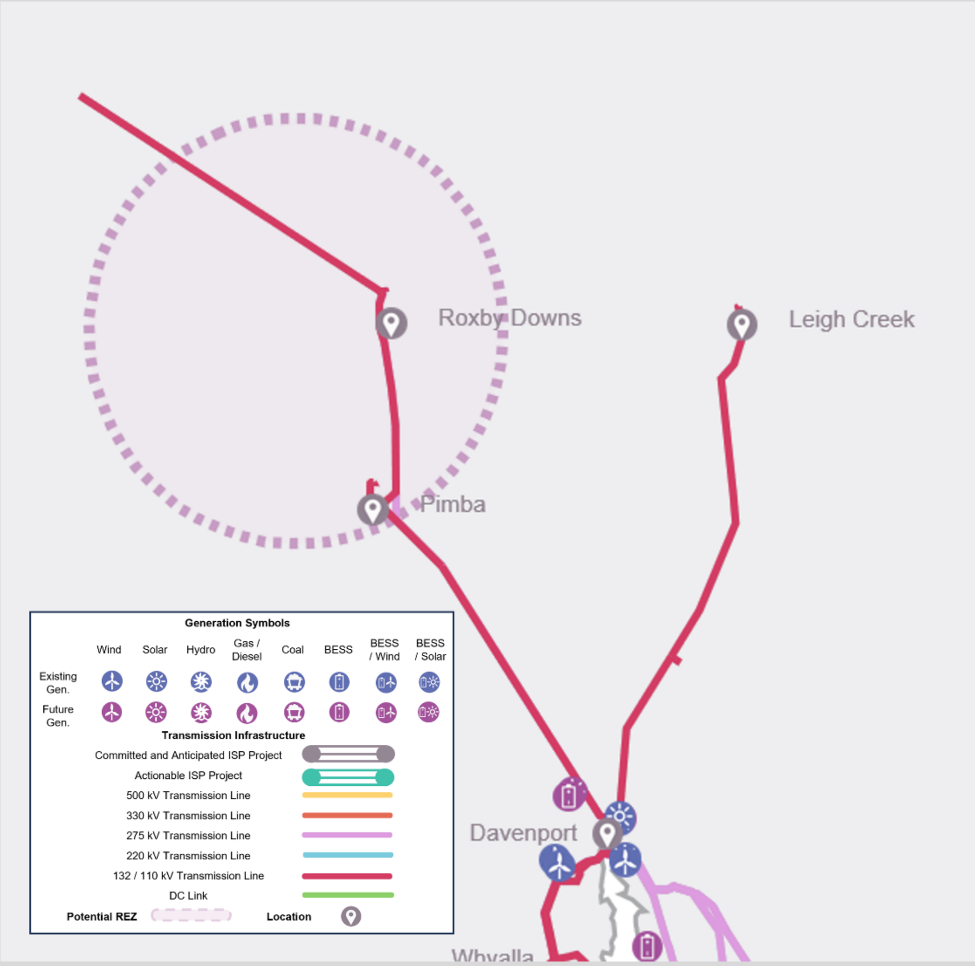
ISP forecast											
VRE outlook	Solar PV (MW)						Wind (MW)				
	Existing/ committed/ anticipated	Projected					Existing/ committed/ anticipated	Projected			
		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for *Step Change*			
There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes all scenarios did not project any additional VRE for this REZ.			
Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
-	-	-	-

A5.11 S7 – Roxby Downs

REZ information

Roxby Downs REZ map



Overview	Network Transfer Capability
The Roxby Downs REZ is located a few hundred kilometres north-west of Davenport. It has grade A solar resource quality. The only significant load in the area is the Olympic Dam and Carrapateena mines. This REZ is currently connected with a 132 kV line that provides supply to small loads, and two privately owned 275 kV lines from Davenport that provide supply to large mines in the area.	The existing network capacity of this REZ is 500 MW, although the capability of this zone to accommodate new generation is subject to the MN1 mid-north group constraint[12].

Jurisdictional body

The Roxby Downs REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar	Wind
Resource Quality	A	E
Renewable Potential (MW)	3,400	-

[12] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW in the 2024 ISP.

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**
-	-	-
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)**
-	-	-	-	-	-
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	27	0	19

ISP forecast

<table>
<tr><th colspan="13">ISP forecast</th></tr>
<tr><th rowspan="3">VRE outlook</th><th colspan="6">Solar PV (MW)</th><th colspan="6">Wind (MW)</th></tr>
<tr><th rowspan="2">Existing/ committed/ anticipated</th><th colspan="5">Projected</th><th rowspan="2">Existing/ committed/ anticipated</th><th colspan="5">Projected</th></tr>
<tr><th>2025-2026</th><th>2026-2027</th><th>2027-2028</th><th>2028-2029</th><th>2029-2030</th><th>2025-2026</th><th>2026-2027</th><th>2027-2028</th><th>2028-2029</th><th>2029-2030</th></tr>
<tr><td>Step Change</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><th colspan="13">Transmission access expansion for Step Change</th></tr>
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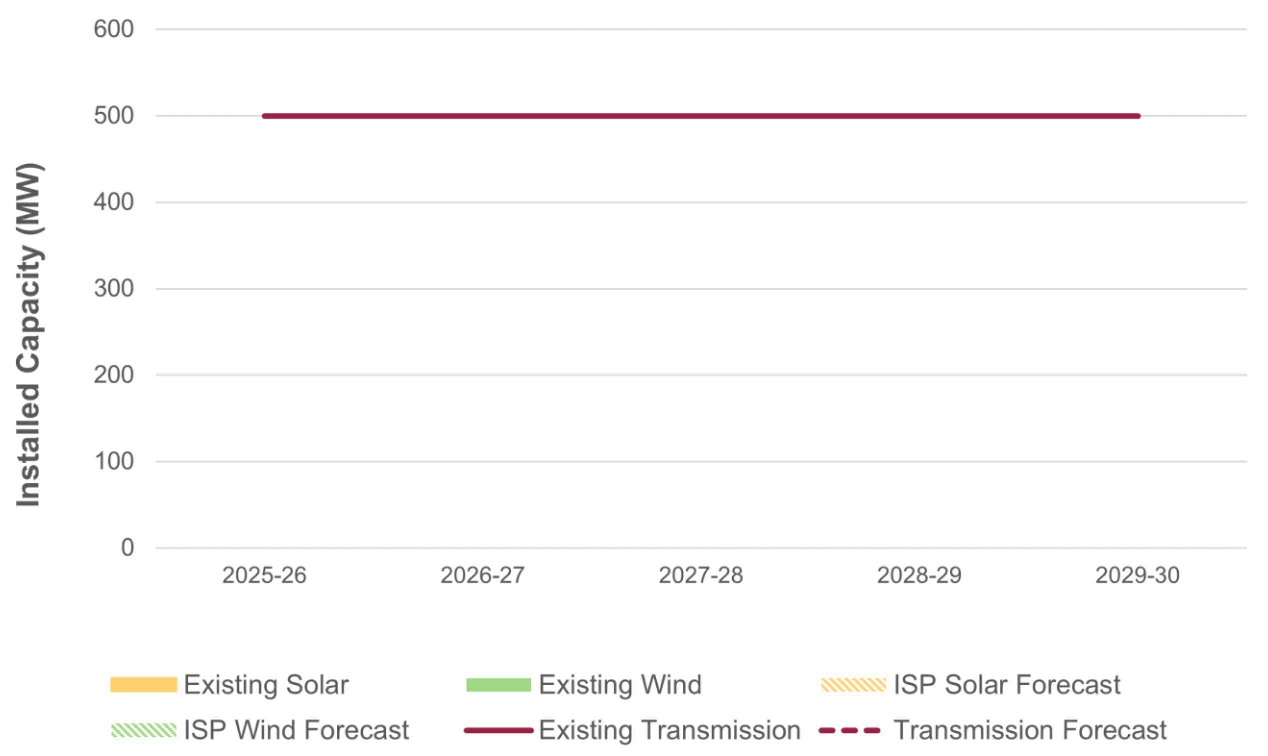
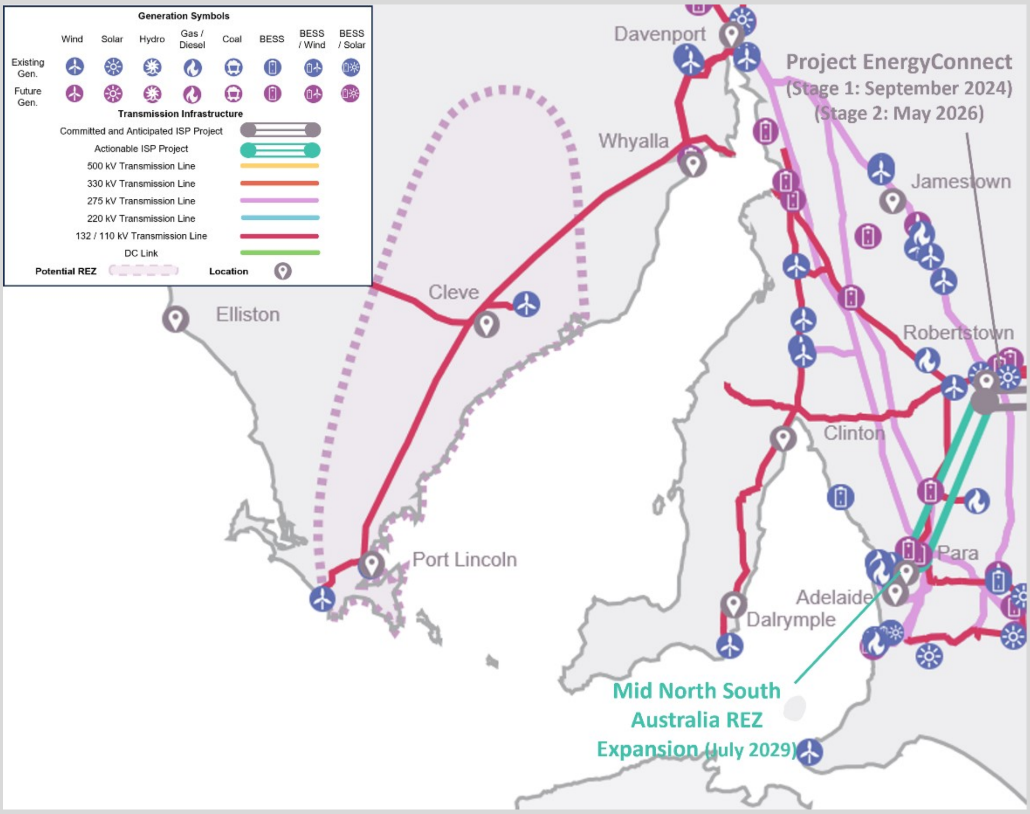


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A5.12 S8 – Eastern Eyre Peninsula

REZ information

Eastern Eyre Peninsula REZ map



Overview	Network Transfer Capability
The Eastern Eyre Peninsula REZ has grade C wind resource quality. The Eyre Peninsula Link was completed in February 2023. It replaced the existing Cultana – Yadnarie – Port Lincoln 132 kV single-circuit line with a new double-circuit 132 kV line. The section between Cultana to Yadnarie is built to operate at 275 kV, however, it is initially energised at 132 kV.	The existing network capacity of this REZ is 300 MW (subject to the capacity of the 275/132 kV transformers). The capability of this zone to accommodate new generation is subject to the MN1-SA mid-north and NSA1 northern group constraint[13].

Jurisdictional body

The Eastern Eyre Peninsula REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Solar			Wind		
Resource Quality	D			C		
Renewable Potential (MW)	5,000			2,300		
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	D

[13] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW or in Eyre Peninsula when (0.5 x S5), S8, S9 > 1,125 MW in the 2024 ISP.

Marginal loss factors

Marginal Loss Factor			
Technology	**Voltage (kV)**	**2025-26 MLF**	
Wind	33	0.9403	
	132	0.9467	
Marginal Loss Factor Robustness			
MLF Robustness score	**2029-30**	**2034-35**	**2039-40**
	E	E	E

Congestion and curtailment

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

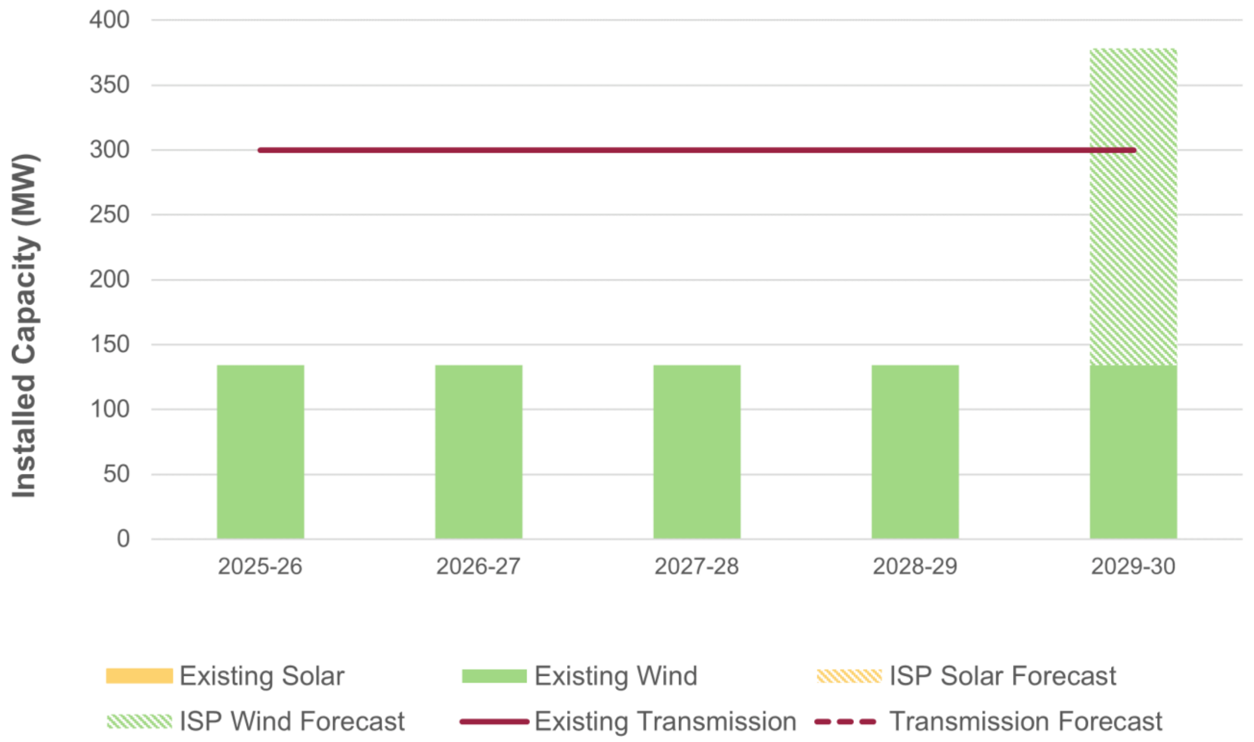
VRE semi-scheduled curtailment – calendar year 2024					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
CATHROCK	Cathedral Rocks	66	1.0	0.2	1,562
MTMILLAR	Mt Millar Wind Farm	70	2.9	0.6	5,666
Historical hosting capacity 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	5	0	4	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	-	-	-	-	-	-	134	-	-	-	-	244

Transmission access expansion for *Step Change*

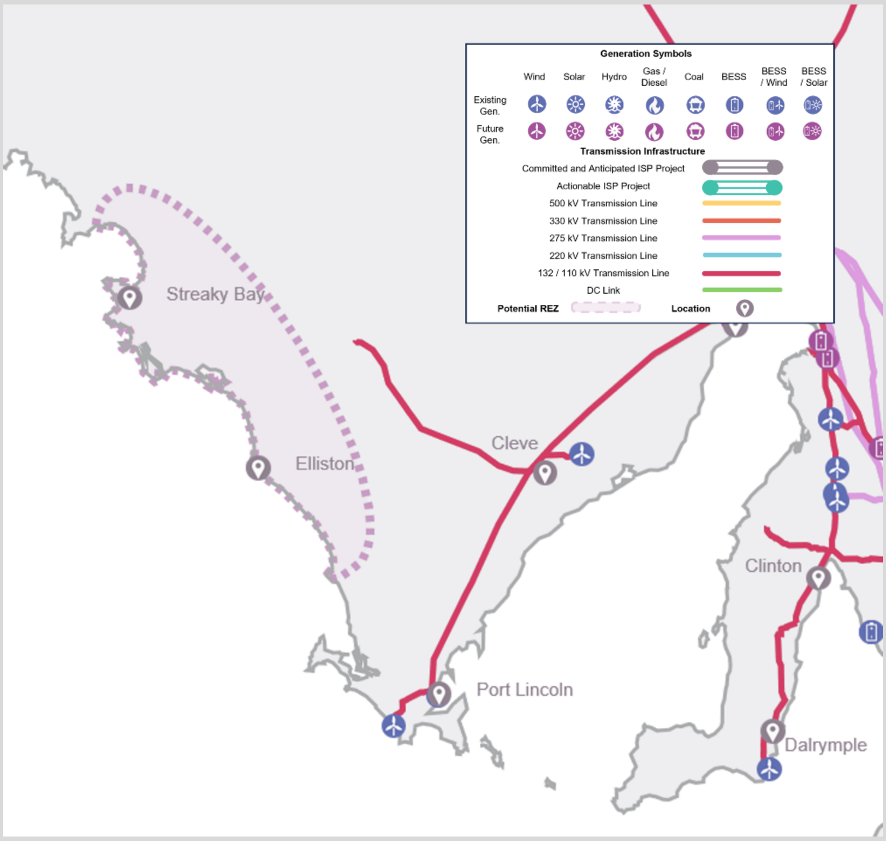


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Additional REZ hosting capacity provided (MW)
-	-	-	-

A5.13 S9 – Western Eyre Peninsula

REZ information

Western Eyre Peninsula REZ map



Overview	Network Transfer Capability
The Western Eyre Peninsula REZ shares the same electrical network as the Eastern Eyre Peninsula. It has grade C solar and wind resource quality. There are no generators currently connected or committed within this REZ.	There is no additional network capacity within this REZ. The capability of this zone to accommodate new generation is subject to the MN1-SA mid-north and NSA1 northern group constraint[14].

Jurisdictional body

The Western Eyre Peninsula REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	**Solar**			**Wind**		
Resource Quality	C			C		
Renewable Potential (MW)	4,000			1,500		
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**	C

[14] Additional augmentation is required in Mid-North when the combination of generation in S3, S4, S5, S6, S7, S8, S9 >2,000 MW or in Eyre Peninsula when (0.5 x S5), S8, S9 > 1,125 MW in the 2024 ISP.

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

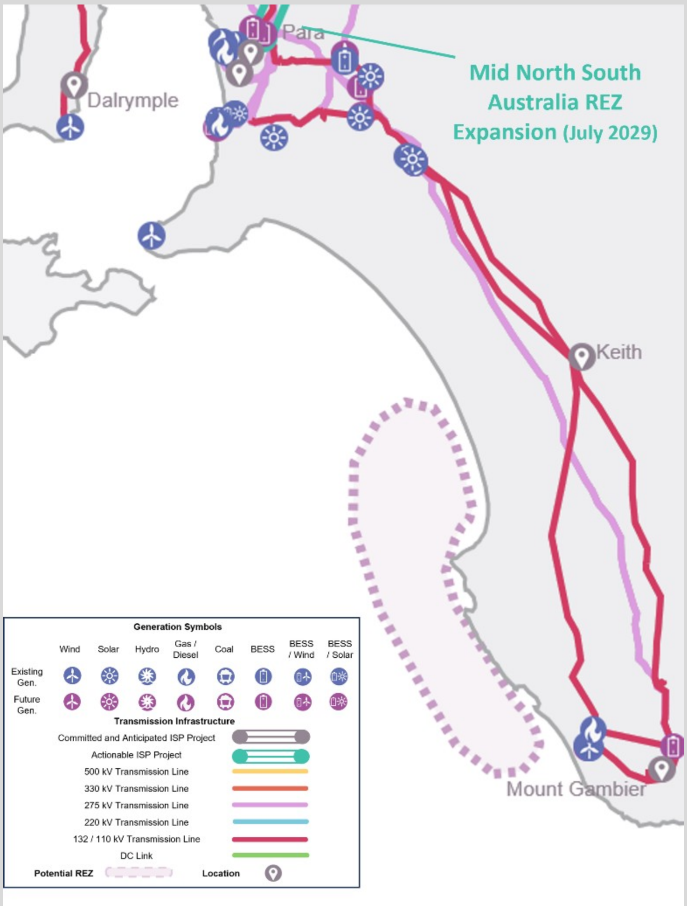
ISP forecast											
VRE outlook	**Solar PV (MW)**						**Wind (MW)**				
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**			
		2025-2026	**2026-2027**	**2027-2028**	**2028-2029**	**2029-2030**		**2025-2026**	**2026-2027**	**2027-2028**	**2028-2029**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

Transmission access expansion for *Step Change*			
There is no existing, committed, or 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.			
Committed, Anticipated, and Actionable Transmission Projects	**Timing**	**Status**	**Additional REZ hosting capacity provided (MW)**
-	-	-	-

A5.14 S10 – South East South Australia Coast

REZ information

South East South Australia Coast REZ map



Overview	Network Transfer Capability
The South East South Australia Coast REZ has been identified for offshore wind resource potential in relatively shallow waters close to shore, with a proposed connection point near to the South East South Australia REZ. There is currently interest in this area of approximately 600 MW, but projects have not developed sufficiently at this stage to be considered anticipated.	The South East South Australia Coast REZ is proposed to connect to an offshore collection node in the South East South Australia REZ. The network limit for this REZ is included as part of the SESA-CSA sub-regional limit. There are no augmentation options specifically for this REZ. The associated augmentations are the VIC-SESA and SESA-CSA flow path augmentations.

Jurisdictional body

The South East South Australia Coast REZ's jurisdictional planning body is ElectraNet.

Resource metrics

Resource	Offshore Wind (fixed)			Offshore Wind (floating)		
Resource Quality	A			A		
Renewable Potential (MW)	20,428			7,032		
Demand Correlation	2029-30	2039-40	2049-50	2029-30	2039-40	2049-50
	B	B	B	B	B	A

Climate hazard

Temperature score	D	Bushfire score	D

Marginal loss factors

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

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 is no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes, for all scenarios and the offshore wind sensitivities, 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)
-	-	-	-

A5.15 Non-REZ

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)
ADPPV1	Adelaide Desalination Plant	19	0.2	0.0	57
BOWWPV1	Bolivar Waste Water Treatment Plant	6	0.0	0.0	0
HVWWPV1	Happy Valley Water Treatment Plant	8	0.0	0.0	0
STARHLWF	Starfish Hill Wind Farm	35	0.0	0.0	0
TB2SF1	Tailem Bend 2 Hybrid Renewable Power Station	87	0.4	0.1	709
TBSF1	Tailem Bend Solar Project 1	95	0.1	0.0	121
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)**
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