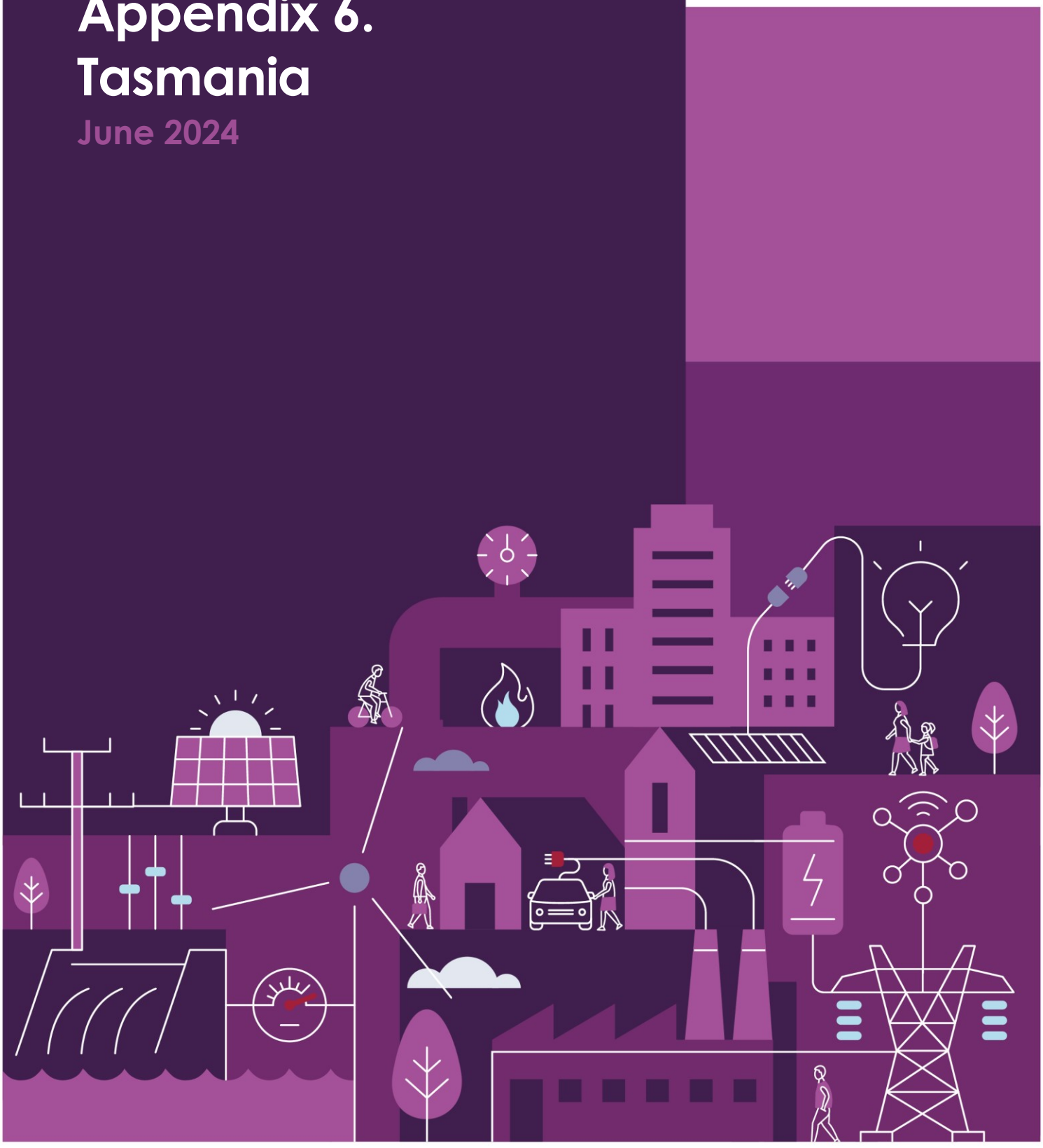
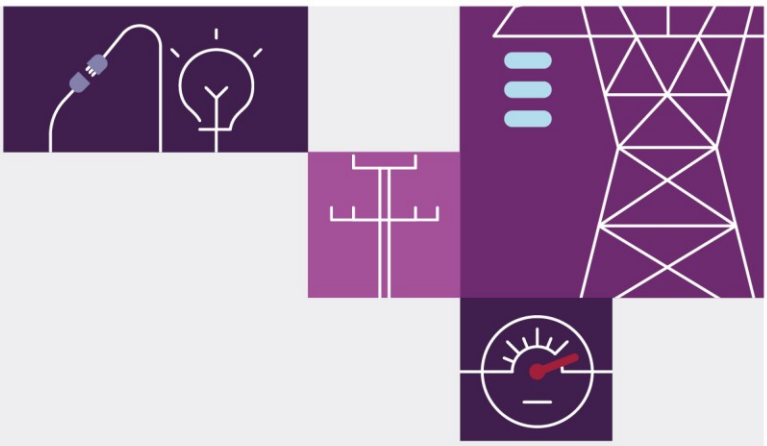
2024 ELI Report Appendix 6. Tasmania

June 2024





Important notice

Purpose

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

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

Disclaimer

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

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

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

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

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Copyright

Version control

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

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

Contents

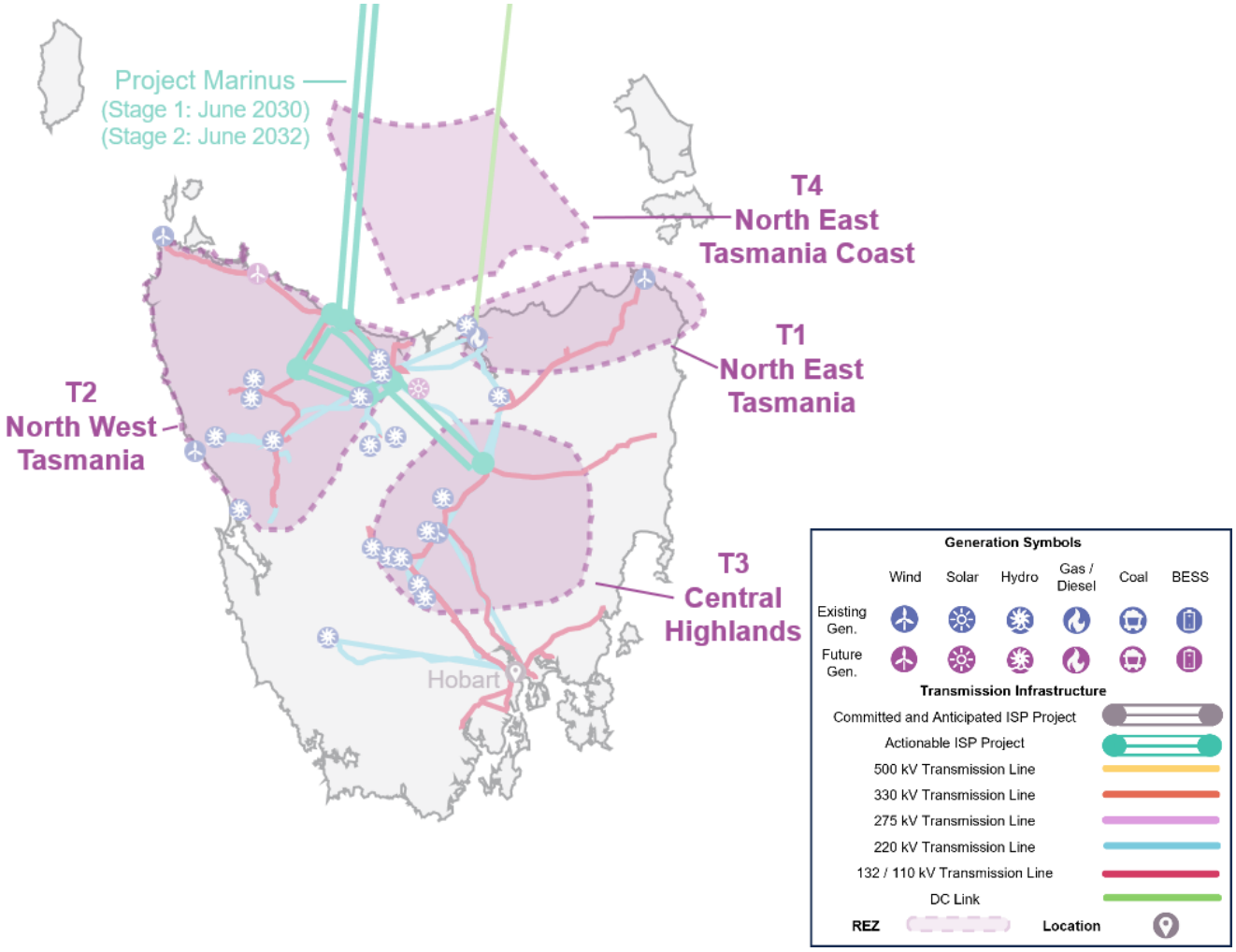
Figures

A6.1 Introduction

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

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

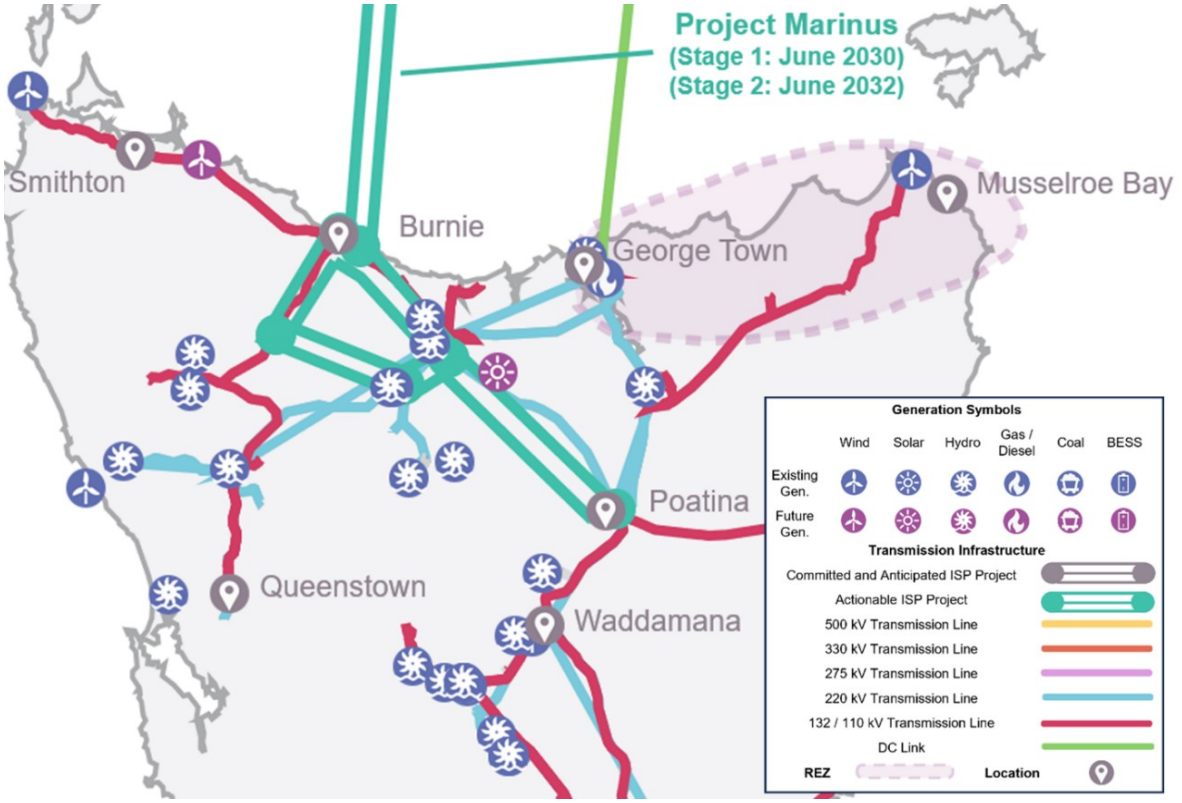
Figure 1 Overview of Tasmania region and REZs



A6.2 T1 – North East Tasmania

REZ information

North East Tasmania REZ map



Overview	Network Transfer Capability
This REZ has a B grade wind resource quality. North East Tasmania is remote from the actionable Project Marinus and therefore upgrades are less influenced by its status.	The current network transfer capability is 400 MW[1]. The capability of this zone to accommodate new generation is subject to the NET1 northeast Tasmania group constraint.

Jurisdictional body

TasNetworks is the jurisdictional planning body for this REZ.

Generation Hosting capacity or access rights

TasNetworks has estimated the hosting capacity of this REZ to be 400 MW[2].

Resource metrics

Resource	Solar	Wind	
Resource Quality	E	B	
Renewable Potential (MW)	300	1,400	
Climate hazard			
Temperature score	A	Bushfire score	B

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

[2] Section 3.5, 2023 TAPR, TasNetworks, at https://www.tasnetworks.com.au/config/getattachment/c01e26ee-4c82-4dce-b0c5-8b4426fbd9d4/tasnetworks_annual_planning_report_2023.pdf.

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2024-25 MLF**
Wind	110	0.9199

Congestion and curtailment

Congestion information – calendar year 2023			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
T>T_NIL_110_1	35.0	25,615.8	Generation contributing to flow from Derby to Scottsdale Tee 110 kV
T^V_NIL_9	24.6	10,562.5	Generation contributing to northward flow on Basslink

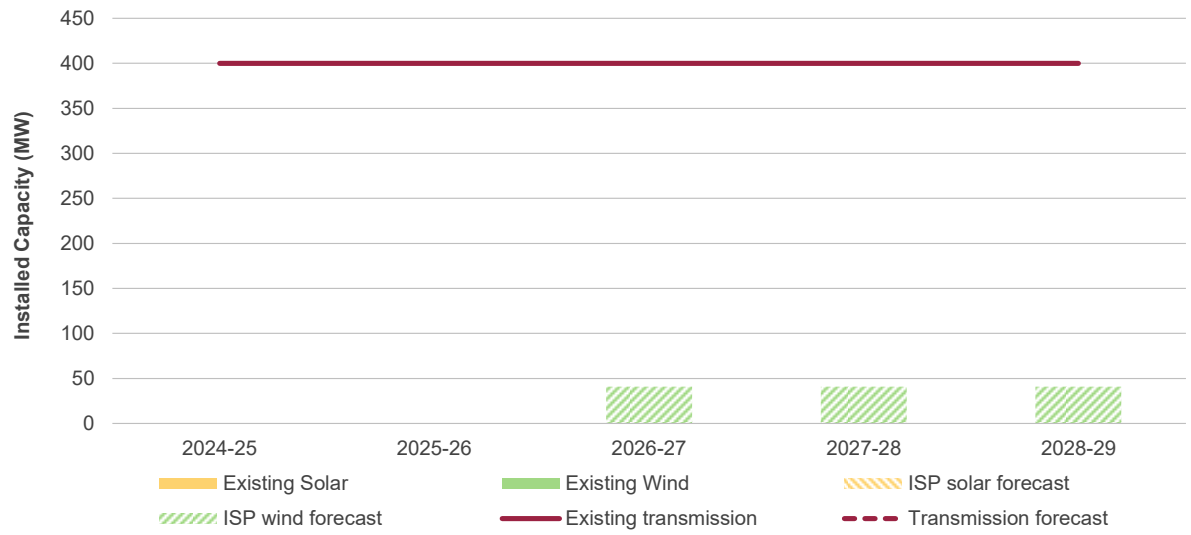
VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025**		**2026**		**2027**	
	Curtailment	**Economic offloading**	**Curtailment**	**Economic offloading**	**Curtailment**	**Economic offloading**
Step Change	-	-	-	-	-	1%

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025	**2026**	**2027**	**2028**	**2029**		**2025**	**2026**	**2027**	**2028**	**2029**
Step Change	-	-	-	-	-	-	-	-	-	50	50	50

Transmission access expansion for *Step Change*

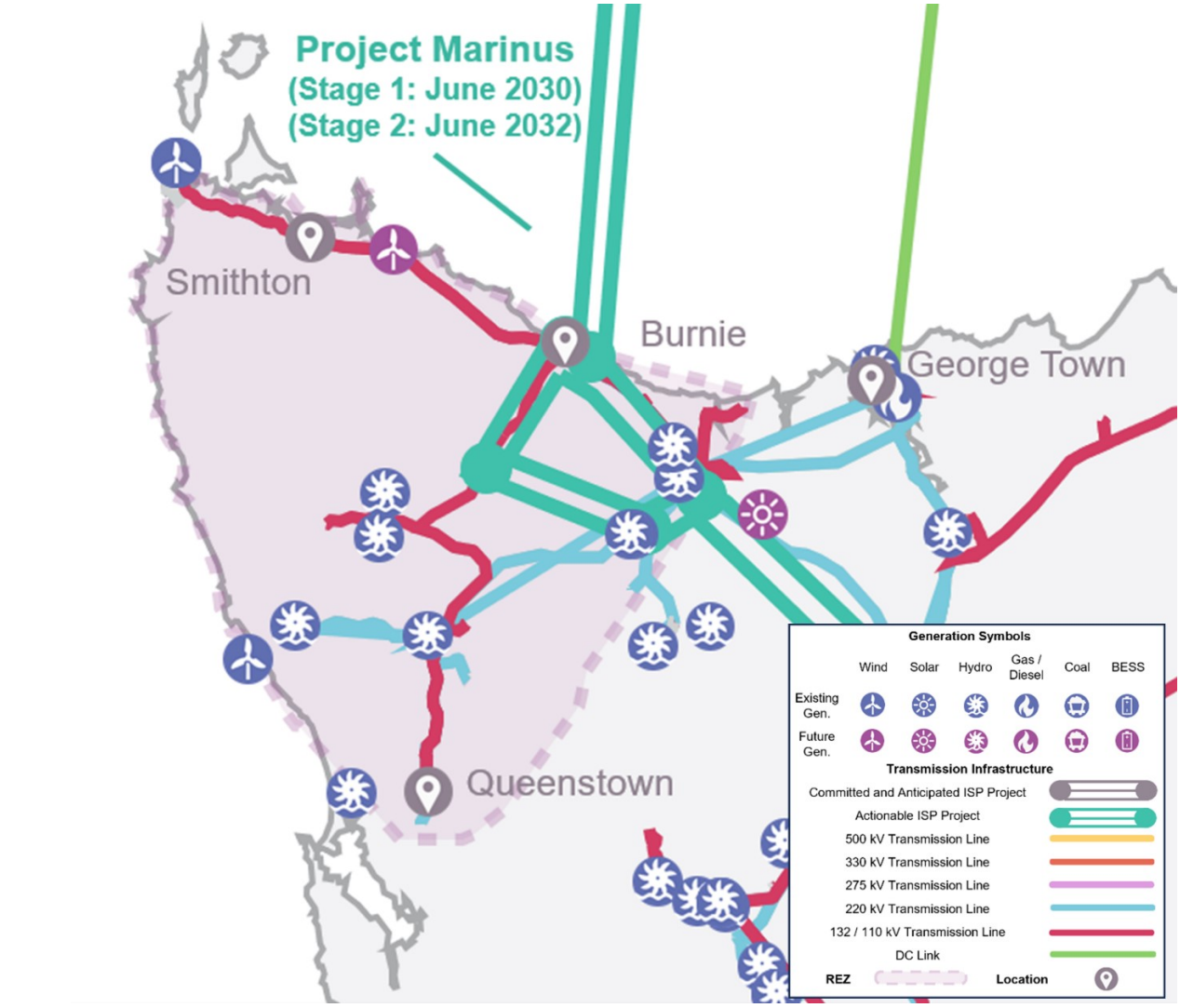


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A6.3 T2 – North West Tasmania

REZ information

North West Tasmania REZ map



Overview	Network Transfer Capability
This REZ has grade A wind resource quality and good pumped hydro resources. Timing of the North West Tasmania REZ augmentation options are highly dependent on Project Marinus.	The current total REZ transmission limit for existing (112 MW Granville Harbour wind farm) and new VRE before any network upgrade in North West Tasmania is approximately 277 MW for peak demand and summer typical conditions and 112 MW for winter reference condition. [3] This REZ is affected by voltage stability constraints for VRE connection at Farrell 220 kV substation. Future REZ generators are assumed to have a runback scheme in place to reduce generation output post contingency to within network capacity for lines currently covered by the Network Control System Protection Scheme (NCSPS), but not for new transmission lines.

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

Jurisdictional body			
TasNetworks is the jurisdictional planning body for this REZ.			
Generation Hosting capacity or access rights			
TasNetworks has estimated the hosting capacity of this REZ to be 340 MW[4].			
Resource metrics			
Resource	**Solar**	**Wind**	
Resource Quality	F	A	
Renewable Potential (MW)	150	5,000	
Climate hazard			
Temperature score	A	**Bushfire score**	A

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2024-25 MLF**
Wind	110	0.8951
	220	0.9473

Congestion and curtailment

Congestion information – calendar year 2023			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
T::T_NIL_1	1,650.0	578,313.3	Generation contributing to flow from Farrell to Sheffield 220 kV
T::T_NIL_3	65.7	24,081.3	Generation contributing to flow from Sheffield to Palmerston 220 kV and George Town to Palmerston 220 kV
T>>T_NIL_BL_EXP_7C	34.8	14,882.8	Generation contributing to flow from Farrell to Sheffield 220 kV

VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
GRANWF1	Granville Harbour Wind Farm	111	0.3	0.1	1,020

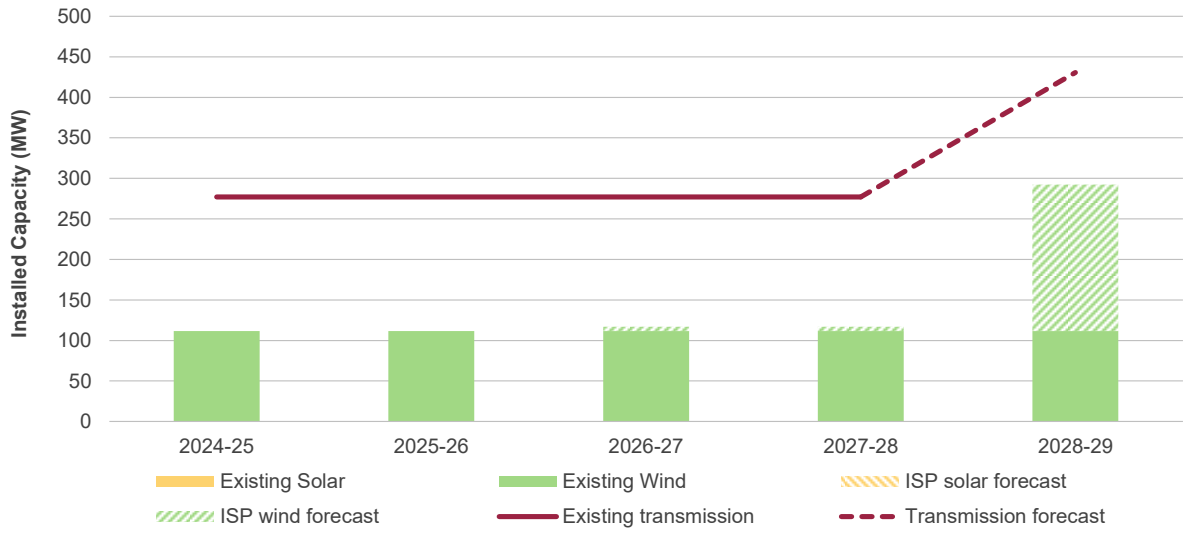
VRE curtailment – ISP forecast						
Scenario	**2025**		**2026**		**2027**	
	Curtailment	**Economic offloading**	**Curtailment**	**Economic offloading**	**Curtailment**	**Economic offloading**
Step Change	-	-	-	-	-	3%

[4] Section 3.5, 2023 TAPR, TasNetworks, at https://www.tasnetworks.com.au/config/getattachment/c01e26ee-4c82-4dce-b0c5-8b4426fbd9d4/tasnetworks_annual_planning_report_2023.pdf.

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025	**2026**	**2027**	**2028**	**2029**		**2025**	**2026**	**2027**	**2028**	**2029**
Step Change	-	-	-	-	-	-	112	-	-	-	-	200

Transmission access expansion for *Step Change*



Note: The network expansion for T2 comes from the linearisation of the REZ build in the Draft 2024 ISP[5].

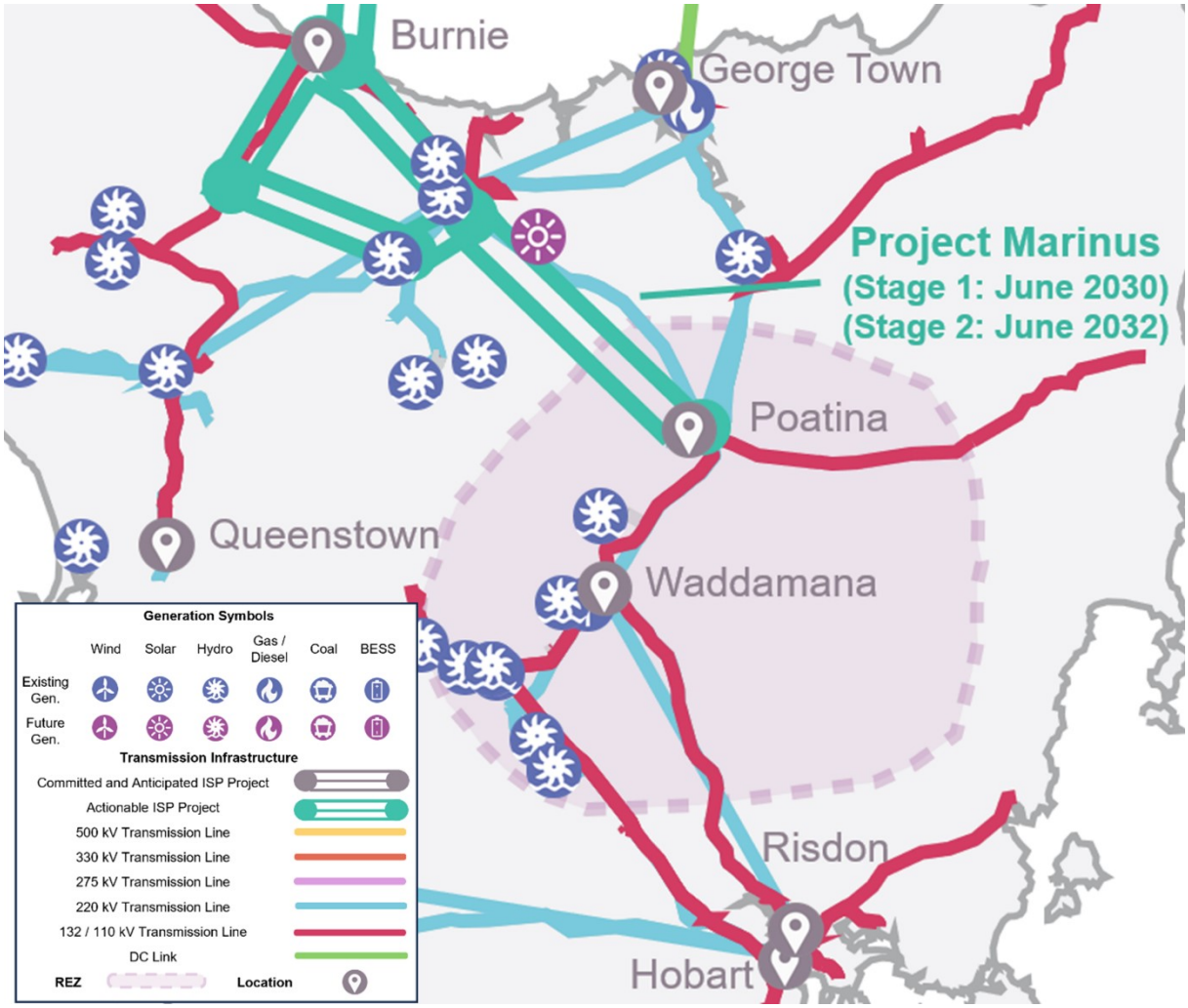
Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

[5] See Section 2.4.6 of the ISP Methodology, at https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/isp-methodology-2023/isp-methodology_june-2023.pdf?la=en.

A6.4 T3 – Central Highlands

REZ information

Central Highlands REZ map



Overview	Network Transfer Capability
This REZ has grade A wind resource quality and has good pumped hydro resources. It is located close to major load centres at Hobart. Timing of the Tasmania Central Highlands REZ augmentation options is influenced by the timing of Project Marinus augmentations.	The current total REZ transmission limit for existing (144 MW Wild Cattle Hill wind farm) and new VRE before any network upgrade in the Central Highlands is approximately 527 MW for peak demand and summer typical conditions and 668 MW for winter reference condition. [6] VRE development opportunities are anticipated around the Waddamana substation. Note that a runback scheme is not considered for any new transmission lines.

Jurisdictional body
TasNetworks is the jurisdictional planning body for this REZ.

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

Generation Hosting capacity or access rights			
TasNetworks has estimated the hosting capacity of this REZ to be 530 MW[7].			
Resource metrics			
Resource	**Solar**	**Wind**	
Resource Quality	F	A	
Renewable Potential (MW)	150	3,400	
Climate hazard			
Temperature score	A	**Bushfire score**	D

Marginal loss factors

Marginal Loss Factor		
Technology	**Voltage (kV)**	**2024-25 MLF**
Wind	220	0.9908

Congestion and curtailment

Congestion information – calendar year 2023			
Constraint ID	**Binding hours**	**Marginal value ($)**	**Most affected generation**
T::T_NIL_3	65.7	24,081.3	Generation contributing to flow from Sheffield to Palmerston 220 kV

VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
CTHLWF1	Cattle Hill Wind Farm	144	0.0	0.0	91

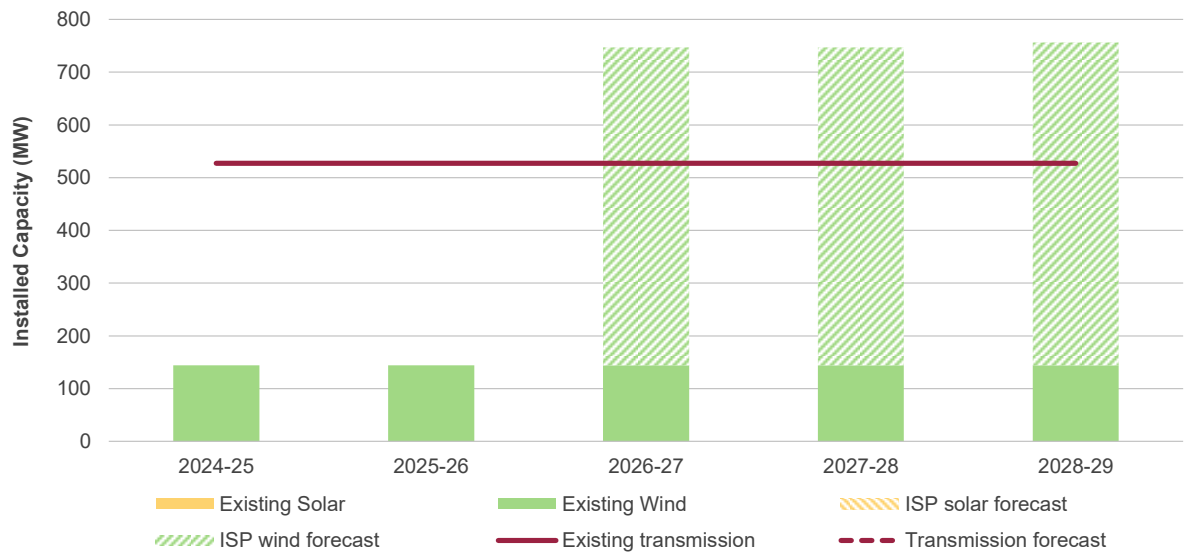
VRE curtailment – ISP forecast						
Scenario	**2025**		**2026**		**2027**	
	Curtailment	**Economic offloading**	**Curtailment**	**Economic offloading**	**Curtailment**	**Economic offloading**
Step Change	-	-	-	-	1%	3%

[7] Section 3.5, 2023 TAPR, TasNetworks, at https://www.tasnetworks.com.au/config/getattachment/c01e26ee-4c82-4dce-b0c5-8b4426fbd9d4/tasnetworks_annual_planning_report_2023.pdf.

ISP forecast

ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025	**2026**	**2027**	**2028**	**2029**		**2025**	**2026**	**2027**	**2028**	**2029**
Step Change	-	-	-	-	-	-	144	-	-	600	600	600

Transmission access expansion for *Step Change*

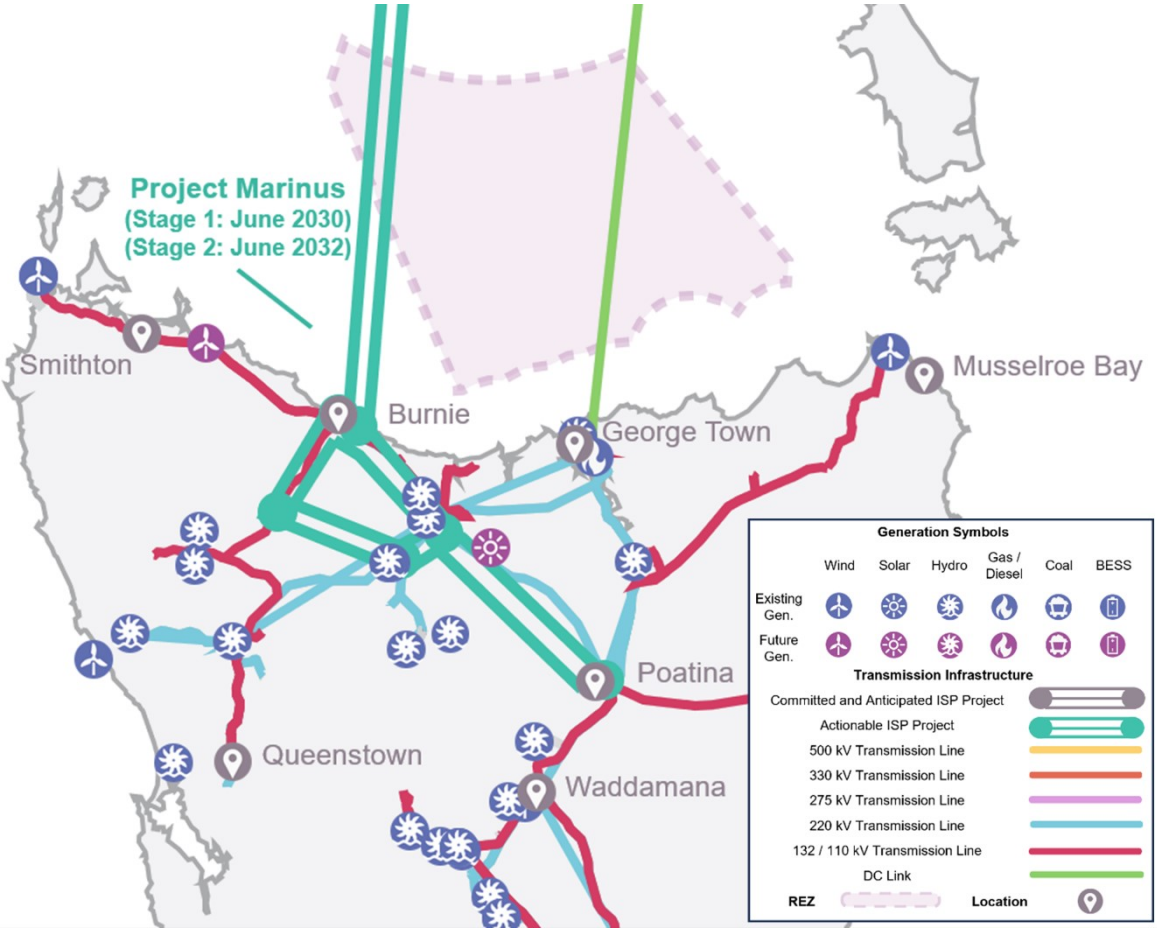


Committed, Anticipated, and Actionable Transmission Projects	Timing	Status	Increase in network transfer capability
-	-	-	-

A6.5 T4 – North West Tasmania Coast

REZ information

North West Tasmania Coast REZ map



Note: AEMO has updated the REZ boundary for T4 in alignment with the Bass Strait, Northern Tasmania proposed offshore REZ[8]. Draft 2024 ISP results are modelled on existing T4 and T5 input parameters; recent updates will be incorporated in future.

Overview	Network Transfer Capability
The North West Tasmania Coast REZ has been identified for the offshore wind resource potential in relatively shallow waters close to shore, with a connection point close to existing 220 kV networks.	North West Tasmania coast REZ connects to the 220 kV network within the North West REZ (T2). The total REZ transmission network limit for existing and new VRE is included as part of the North West REZ limit of approximately 277 MW for peak demand and summer typical conditions and 112 MW for winter reference condition. [9]

Jurisdictional body

TasNetworks is the jurisdictional planning body for this REZ.

Generation Hosting capacity or access rights

Generation connecting in the T4 REZ is considered together with the T2 REZ for a combined hosting capacity of 340 MW[10].

[8] At https://consult.dcceew.gov.au/oei-bass-strait.

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

[10] Section 3.5, 2023 TAPR, TasNetworks, at https://www.tasnetworks.com.au/config/getattachment/c01e26ee-4c82-4dce-b0c5-8b4426fbd9d4/tasnetworks_annual_planning_report_2023.pdf.

Resource metrics			
Resource	**Offshore Wind (fixed)**	**Offshore Wind (floating)**	
Resource Quality	A	A	
Renewable Potential (MW)	16,624	6,912	
Climate hazard			
Temperature score	A	**Bushfire score**	A

Marginal loss factors

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

Congestion and curtailment

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

VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025**		**2026**		**2027**	
	Curtailment	**Economic offloading**	**Curtailment**	**Economic offloading**	**Curtailment**	**Economic offloading**
Step Change	-	-	-	-	1%	3%

ISP forecast

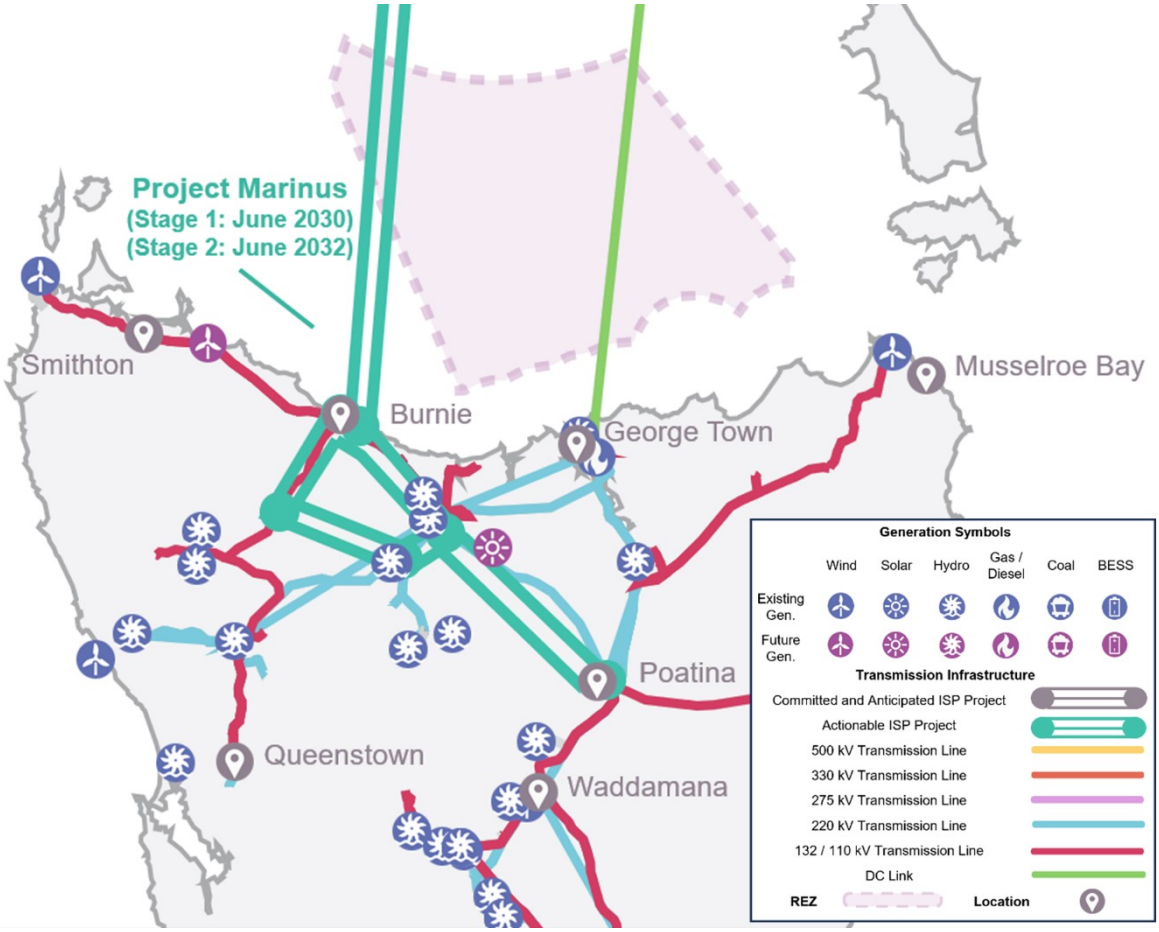
ISP forecast												
VRE outlook	**Solar PV (MW)**						**Wind (MW)**					
	Existing/ committed/ anticipated	**Projected**					**Existing/ committed/ anticipated**	**Projected**				
		2025	**2026**	**2027**	**2028**	**2029**		**2025**	**2026**	**2027**	**2028**	**2029**
Step Change	-	-	-	-	-	-	-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

Transmission access expansion for *Step Change*			
There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes, for 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**	**Increase in network transfer capability**
-	-	-	-

A6.6 T5 – North East Tasmania Coast

REZ information

North East Tasmania Coast REZ map



Note: AEMO has updated the REZ boundary for T4 in alignment with the Bass Strait, Northern Tasmania proposed offshore REZ[11]. Draft 2024 ISP results are modelled on existing T4 and T5 input parameters; recent updates will be incorporated in future.

Overview	Network Transfer Capability
The North East Tasmania Coast REZ has been identified for the offshore wind resource potential in relatively shallow waters close to shore, with a connection point close to the existing 220 kV George Town substation. There is interest from offshore wind proponent in this REZ but no proposed projects are sufficiently progressed to be considered as anticipated or committed by AEMO's criteria.	North East Tasmania Coast REZ connects to the 220 kV network within the North East REZ in the vicinity of George Town. The total REZ transmission network limit for existing and new VRE is included as part of the North East Tasmania NET1 group constraint with a combined network limit of 1,600 MW for offshore wind and onshore VRE from T1. [12]

Jurisdictional body

TasNetworks is the jurisdictional planning body for this REZ.

Generation Hosting capacity or access rights

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

[11] At https://consult.dcceew.gov.au/oei-bass-strait.

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

Resource metrics			
Resource	**Offshore Wind (fixed)**	**Offshore Wind (floating)**	
Resource Quality	A	A	
Renewable Potential (MW)	19,212	4,544	
Climate hazard			
Temperature score	A	**Bushfire score**	B

Marginal loss factors

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

Congestion and curtailment

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

VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
-	-	-	-	-	-

VRE curtailment – ISP forecast						
Scenario	**2025**		**2026**		**2027**	
	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**	**2027**	**2028**	**2029**		**2025**	**2026**	**2027**	**2028**	**2029**
Step Change	-	-	-	-	-	-	-	-	-	-	-	-

Transmission access expansion for *Step Change*			
There are no existing, committed, anticipated VRE projects for this REZ and the modelling outcomes, for 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**	**Increase in network transfer capability**
-	-	-	-

A6.7 Non-REZ

Congestion and curtailment

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

VRE semi-scheduled curtailment – calendar year 2023					
DUID	**Generator name**	**Maximum Capacity (MW)**	**Average curtailment (%)**	**Average curtailment (MW)**	**Curtailment (MWh)**
MUSSELR1	Musselroe Wind Farm	168	0.5	0.3	2,825