Appendix B

Economics

MARINUS LINK

Economic Impact Assessment of Marinus Link

Rev0

Marinus Link Pty Ltd

May 2024

SGS Economics & Planning

Certified B Corporation

SGS Economics and Planning Pty Ltd
ACN 007 437 729
www.sgsep.com.au

OFFICES IN CANBERRA, HOBART, MELBOURNE, AND SYDNEY ON THE COUNTRY OF THE NGAMBRI/NGUNNAWAL/NGARIGO, MUWININA, WURUNDJERI, AND GADIGAL PEOPLES.

Contents

LIST OF TABLES

LIST OF FIGURES

Executive summary

Introduction

As coal retires, Australia needs access to affordable, 'on-demand' electricity and the ability to store energy for long periods. The proposed Marinus Link, a high voltage direct current (HVDC) electricity interconnector, will help deliver this by enabling the flow of electricity in both directions between Victoria and Tasmania, delivering low-cost, reliable and clean energy for customers in the National Electricity Market (NEM).

Tasmania's renewable energy and storage resources will also be available for use throughout the NEM as a result of Marinus Link. Australia's energy ministers have recognised that Marinus Link is a transmission project of national significance, while the Australian Energy Market Operator (AEMO) has also confirmed that Marinus Link is a *'critical, and urgently required part of Australia's low-cost, reliable and clean energy future'*.

Given the scale of Marinus Link and its potential to have a significant impact on the environment, the Australian Minister for the Environment requires assessment and approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) before it can proceed. As such, an Environment Impact Statement/ Environment Effects Statement (EIS/EES) is being prepared to describe Marinus Link's effects on the environment to inform statutory decision making.

Purpose of this report

This report contains an Economic Impact Assessment (EIA) of Marinus Link, which will inform part of the preparation of the EIS/ESS process, alongside other technical assessments and studies as outlined in Table 7.

Prepared by SGS Economics and Planning (SGS) in partnership with the Centre of Policy Studies (CoPS) at Victoria University, this EIA technical report documents estimates of the economic impact that construction and ongoing operations of the Marinus Link, as well as induced investments in renewable energy generation.

Approach

SGS conducted this EIA in alignment with guidelines as dictated by the Commonwealth Department of Climate Change, Energy, Environment and Water (DCCEEW), State of Tasmania Environment Protection Authority (EPA), and the Victorian EES Scoping Requirements pertaining to an EIA.

The scoping requirements are addressed in one or multiple sections of this report, and the extent to which they have been addressed are reflective of:

- Nature of information and data provided to SGS and CoPS for modelling,
- Whether and to what extent scoping requirements could dealt with quantitatively (e.g., inputs to modelling such as capital investment values for construction) or qualitatively (e.g., characterising downstream industry activities), and

- Extent to which the negative and positive elements of such non-quantifiable socio-economic considerations could be made with the information made available to SGS.

Methodology

The methodology was completed in accordance with industry best practice for economic analysis and, furthermore, in alignment with the scoping requirements. The methodology includes, as noted above, both quantitative and qualitative components.

- Modelling framework: Central to the quantitative component is the technical methodology employing a Computable General Equilibrium (CGE) model, which is a detailed mathematical representation of Australia's regions, the economic inter-relationships, covering the behaviour of regional agents, interstate and international trade, with explicit modelling of demand for each regional economy's production (i.e., for its interstate and international exports) and of supply into the economy (i.e., of its interstate and international imports).
- Modelling geography: The modelling estimates impacts associated with the capital and operational expenditure of the Marinus Link, as well as the induced capital and operational expenditure of six (6) induced renewable energy projects. Outputs, particularly those reported for operational phase of the Marinus Link, are reported for a timeframe restricted to 25 years from 2025-2050.[1] The outputs are furthermore reported across four geographies: 1) the regions where Marinus Link is situated, North West Tasmania and 2) Gippsland; as well as the broader state economies of 3) Tasmania and 4) Victoria.
- Inputs: To derive estimates of impact, the CGE modelling incorporates: a) Capital investment for construction of the Marinus Link, b) Ongoing operations of the Marinus Link, c) Capital investment related to development of induced windfarm and pumped hydro investments (i.e., representative of upstream economic activity), and d) Ongoing operation related to the induced windfarm and pumped hydro projects.
- Outputs: To reflect the extent of the impact, the modelling provides quantifications of the following layers of impact: a) Total impacts, characterised as direct and indirect economic impacts from construction and operations across the spectrum of industries regionally and across each state, b) Induced impacts, characterised as the direct and indirect economic impacts related to construction and investment in projects that were determined, with information given and available at the time of report preparation, to proceed only under the circumstances that investment in Marinus Link will be made.
- Metrics of Impact: Specifically, the economic impacts related to Marinus Link and the induced renewable energy projects are reported in terms of the following key impact metrics, including: a) Regional and state value added (equivalent to Gross Regional Product, GRP) and b) Regional and state employment (in full-time equivalencies, FTE).
- Upstream/Downstream Industry Activity: Upstream industry activity refers to the activities and outputs from industries that are farther away from the end-user than that of the direct economic activity, e.g., power generation. Downstream industry activity refers to the activities and outputs of

[1] While the estimated lifespan of the Marinus Link extends 40 years, the CoPS modelling framework only estimates impacts to 2050.

industries closer to the end-user, e.g., household or commercial consumption of power for any number of individual or industrial applications. In this EIA, information was available regarding upstream activities – specifically the induced renewable energy power generation projects. However, with regard to the quantification of downstream industry activities, no data or information about customer usage and applications of such power transmitted through Marinus Link was provided to SGS such that consideration of positive and/or negative impacts could be made.

- Qualitative Assessment and Considerations: The upstream and downstream industry activities and the following non-quantifiable economic considerations were made to address specific aspects of the scoping requirements. Each section of this EIA provides a discussion based upon the extent to which the negative and positive elements of such socio-economic considerations could be made with the information made available to SGS. As such, SGS has provided additional qualitative insights into other socioeconomic considerations and economic opportunities, impacts and externalities, including: a) First Nations employment and procurement opportunities, b) Skills and training opportunities, c) Impacts on agriculture, forestry, shipping and fisheries industries, d) Impacts on tourism industry, e) The extent to which raw materials, equipment, goods, and services may be sourced locally, f) Impacts on local social amenity and community infrastructure, g) Community demographic impacts, h) Impacts on land values, and demand for land and housing, i) Local, State and Federal Government rate, taxation, and royalty revenues, as well as consideration of public subsidies for construction or operations. Note that The analysis of non-quantifiable economic impacts was supported by other technical assessments and studies outlined in Table 7.

Findings

As they relate to specific scoping requirements, the findings of the EIA are summarised below.

Economic impacts of construction and operation of Marinus Link

The economic modelling shows considerable economic value-added from Marinus Link in the regional economies of North West Tasmania and Gippsland, and the states of Tasmania and Victoria, as reported in Table 1.

TABLE 1: VALUE-ADDED OF MARINUS LINK ($), 2025-2050

Geography	Construction Phase (2025-2029)[2]	Operational Phase (2029-2050)[3]
North West Tasmania	$352 million	$306 million
Gippsland	$642 million	$361 million
Tasmania (including North West Tasmania)	$681 million	$679 million
Victoria (including Gippsland)	$1.4 billion	$981 million
Total (both states)	**$2.1 billion**	**$1.7 billion**

Source: SGS Economics & Planning, CoPS (2024)

As shown in Table 2, this value-added to the economy creates significant local and state employment across the economies. These employment opportunities span various industries including construction, professional services, retail, manufacturing and accommodation and food services.

TABLE 2: EMPLOYMENT GENERATED BY MARINUS LINK (FTE JOB-YEARS), 2025-2050

Geography	Construction Phase (2025-2029)	Operational Phase (2029-2050)
North West Tasmania	297 FTE	306 FTE
Gippsland	2,159 FTE	388 FTE
Tasmania (including North West Tasmania)	2,661 FTE	494 FTE
Victoria (including Gippsland)	5,247 FTE	592 FTE
Total (both states)	**7,908 FTE**	**1,086 FTE**

Source: SGS Economics & Planning, CoPS (2024)

[2] The construction phase includes the first half year of operations as the project comes online in the second half of 2029.
[3] The operational phase includes half of 2019 through 2050 in the modelling.

Economic impacts from induced investments

Tasmania has significant renewable energy resource potential, particularly pumped hydro and wind energy. As such, MLPL has identified six renewable energy projects – comprising four pumped hydro and two windfarm projects in North West Tasmania - collectively generating 33,700 MW of power. These projects are categorised as 'induced investments', as the realisation of these investments largely depend on the completion and delivery of Marinus Link. [4]

The assessment timeframe of induced investments is from 2028 to 2050. The economic value-added and employment impacts are presented in Table 3.

TABLE 3: VALUE-ADDED AND EMPLOYMENT GENERATED BY INDUCED INVESTMENTS, 2028-2050

Geography	Value-added ($)	Employment (FTE)
North West Tasmania	$2.1 billion	5,051 FTE
Tasmania (including North West Tasmania)	$4.4 billion	11,705 FTE

Source: SGS Economics & Planning, CoPS (2024)

Economic opportunities

As noted above, SGS provided additional qualitative insights into other socioeconomic considerations and economic opportunities, impacts and externalities. Reflecting the scoping requirements and information available at the time of EIA preparation, SGS made the following considerations regarding following impacts and opportunities related to Marinus Link to regional economies to ensure that part of economic opportunities can be realised by local communities. As such, MLPL is exploring strategies aimed at maximising benefits to local communities, which include:

- First Nations employment and procurement opportunities: labour force participation rates among Aboriginal and Torres Strait Islanders are lower than those across the broader population in the project study area. MLPL is committed to putting in place S05 industry participation and social inclusion plan to identify efforts and actions to increase the economic opportunities for First Nations communities in North West Tasmania and Gippsland, which include taking advantage of the estimated employment resulting from the one-time (construction-related) and ongoing (operational) job impacts.
- Skills and training opportunities: concerns were raised through engagement conducted as a part of the Social Impact Assessments that included lack of capacity and skillsets that align with job opportunities stemming from the construction or operation of the Marinus Link project. MLPL is committed to increasing the workforce participation of socially vulnerable populations, including

[4] Capital expenditure regarding similar renewable energy projects in Victoria that would not proceed but for the Marinus Link project were not included in this analysis. Further technical modelling could be completed regarding the economic impact of such induced capital investments were such projects identified in the future with available information.

but not limited to First Nations people, women and youth, through the S05 industry participation and social inclusion plan.

Externalities and other socio-economic impacts

Given the scale of Marinus Link and its potential to have a significant impact on the environment, it is important to recognise other socio-economic impacts, both positive and negative. Reflective also of various scoping requirement, the following considerations were also made with information that available to SGS in preparation of this EIA:

- Impacts on agriculture, forestry and fisheries: Construction of the Marinus Link will likely disrupt commercial fishing, shipping operations and agricultural activities in the short term. As reflected in the economic modelling, demand for labour during construction creates direct competition with existing labour needs of the region's agriculture, forestry and fishing sectors. In the long term however, these impacts were determined to have very low to low significance. Six environmental performance requirements were identified to enhance outcomes for agriculture and forestry during construction and operation of Marinus Link. In addition, MLPL is committed to putting in place a Marine Communications Plan to alert marine users of construction activities.
- Impacts on tourism: Construction of the Marinus Link may result in temporary changes to the natural amenity and character. Short-term accommodation could be constrained as a result of demand for temporary construction workforce accommodation, which could result in negative impacts to the tourism sector. To address such impacts on the sector, MLPL is committed to putting in place an S02 workforce and accommodation strategy.
- The extent to which raw materials, equipment, goods and services will be sourced locally: Issues related to the sourcing of local materials, equipment, goods and services are broadly related to economic development efforts, such as represented by Economic Development Strategies (as discussed in Section 0). At issue is the extent to which these EDSs and other direct efforts may be able to augment or enhance local sourcing opportunities. MLPL is committed to procuring goods and services in accordance with an S05 industry participation and social inclusion plan to support local businesses, including compliance by suppliers and contractors.
- Impacts on local social amenity and community infrastructure: Influx of construction and/or ongoing workforce from Marinus Link into Gippsland and North West Tasmania could place pressure on the existing system of already-constrained community infrastructure, amenity and social services. The relevant issue related to provision of social amenity and community infrastructure is whether and to what extent existing policies and funding mechanisms are sufficient for building schools, child care, health services and sports facilities. EPRs were recommended in the Social Impact Assessments to mitigate this impact.
- Community demographic impacts: In the absence of any affirmative action undertaken by the industry sector or state government, First Nations people, women and youth may continue experiencing high levels of unemployment in the region, despite the significant opportunities presented by demand for skilled labour from Marinus Link or other energy-related infrastructure projects. Through both the S05 industry participation and social inclusion plan and the S04 community benefits sharing scheme, MLPL seeks to enhance employment and social benefits for the local demographics, particularly those facing high levels of unemployment such as First Nations, women and youth.

- Impacts on land values, and demand for land and housing: Increased pressure on the housing markets in North West Tasmania and Gippsland is likely to occur. Increased housing demand is likely to place upward pressure on prices and rents in an already supply-constrained market. To address such issues - in particular, the increased pressure on housing markets caused by the influx of workers during construction phase, an internal MLPL working group commenced and a housing strategy on MLPL's role and actions will be developed for Tasmania and Victoria. Specifically, MLPL is committed to putting in place an S02 workforce and accommodation strategy to reduce pressure on local housing markets through the direct provision of worker housing.
- Local, state and federal government rate, taxation and royalty revenue: There is expected to be large taxation receipts ($762 million in total from 2025 to 2050) from the economic activity generated by Marinus Link, which will flow to local, state and the Australian Government.

While not all aspects of negative impact mitigation will be within MLPL's control, all stakeholders may benefit from MLPL proactively engaging in a coordinated approach (i.e., among other relevant stakeholders) to ensure successful implementation of its construction and development. This will give assurances to stakeholders that negative impacts are acknowledged, understood and being proactively addressed.

This characterisation of mitigation measures should be cross-referenced and incorporated with other identified mitigation measures in other reports listed in Table 7.

Conclusion

Overall, from an economic perspective, Marinus Link will deliver significant outcomes to the regional economies of North West Tasmania and Gippsland, and Tasmania and Victoria. The mitigation of any potential negative externalities will also result in greater possible economic and social benefits to local communities.

Glossary and abbreviations

Term	Descriptions
AEMO	Australian Energy Market Operator
CGE	Computable General Equilibrium - the modelling technique adopted by the Centre of Policy Studies to estimate the economic impacts of Marinus Link.
CoPS	The Centre of Policy Studies at Victoria University
BaU	Business as Usual i.e., Marinus Link does not proceed.
DTP	Department of Transport and Planning (Victoria)
DCCEEW	Australian Department of Climate Change, Energy, Environment and Water
EE Act	Victorian Environment Effects Act 1978
EES	Environment Effects Statement (Victoria)
EIA	Economic Impact Assessment
EIS	Environmental Impact Statement (Tasmania)
EMPCA	Tasmanian Environmental Management and Pollution Control Act 1994
EPA	Environment Protection Authority Tasmania
EPBC	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EPR	Environmental Performance Requirement
FTE	Full-time equivalent
GRP	Gross Regional Product
GSP	Gross State Product
HDD	Horizontal Directional Drilling
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
ISP	Integrated System Plan produced by the Australian Energy Market Operator

Term	Descriptions
Job-years	A job-year is one full-time equivalent job for one year. One worker employed for five years for construction is counted as five job-years.
MLPL	Marinus Link Pty Ltd
MW	Megawatt
NEM	National Energy Market
NWTD	North West Transmission Developments
OEMs	Original Equipment Manufacturers
REZ	Renewable Energy Zones
RTO	Registered Training Organisations
SA4	Statistical Areas Level 4 (SA4) is defined by the Australian Bureau of Statistics as the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard (ASGS).
SGS	SGS Economics and Planning
SIA	Social Impact Assessment
TasNetworks	Tasmanian Networks Pty Ltd
TREAP	Tasmanian Renewable Energy Action Plan
Value-added	Value added reflects the value generated by producing goods and services and is measured as the value of output minus the value of intermediate consumption. Value added also represents the income available for the contributions of labour and capital to the production process.
VURM	The Victoria University Regional Model. The assessment model used in this report.

Source: SGS Economics & Planning, CoPS (2024)

1. Introduction

1.1 Introduction

The proposed Marinus Link comprises a high voltage direct current (HVDC) electricity interconnector between Tasmania and Victoria, to allow for the continued trading and distribution of electricity within the National Energy Market (NEM).

Marinus Link was referred to the Australian Minister for the Environment 5 October 2021. On 4 November 2021, a delegate of the Minister for the Environment determined that the proposed action is a controlled action as it has the potential to have a significant impact on the environment and requires assessment and approval under the Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) (EPBC Act) before it can proceed. The delegate determined that the appropriate level of assessment under the EPBC Act is by an environmental impact statement (EIS).

On 12 December 2021, the Victorian Minister for Planning under the Environment Effects Act 1978 (Vic) (EE Act) determined that Marinus Link requires an environment effects statement (EES) under the EE Act, to describe Marinus Link's effects on the environment to inform statutory decision making.

In July 2022 a delegate of the Director of the Environment Protection Authority Tasmania determined that Marinus Link be subject to environmental impact assessment by the Board of the Environment Protection Authority (the Board) under the Environmental Management and Pollution Control Act 1994 (Tas) (EMPCA).

As Marinus Link is proposed to be located within three jurisdictions, the Victorian Department of Transport and Planning (DTP), Tasmanian Environment Protection Authority (Tasmanian EPA) and Australian Department of Climate Change, Energy, Environment and Water (DCCEEW) have agreed to coordinate the administration and documentation of the appropriate assessment processes. One EIS/EES is being prepared to address Commonwealth and Victorian jurisdictions; two EIS are being prepared to address the EIS Guidelines issued under the EMPCA by the Tasmanian EPA for the Heybridge Converter Station and the Shore Crossing.

1.2 Purpose of this report

This report contains an Economic Impact Assessment (EIA) of Marinus Link. The EIA estimates the economic impact of the construction and operation of the Marinus Link and induced investments in renewable energy generation. The EIA model traces the direct and indirect flows of income and investment to estimate the employment generated and the value added to the economy.

This report has been prepared by SGS Economics and Planning in partnership with the Centre of Policy Studies (CoPS) at Victoria University for the Tasmanian, Victorian, and Commonwealth jurisdictions as part of the EIS/EES and EIS's being prepared for the project.

1.3 Project overview

Marinus Link is a proposed 1500-megawatt (MW) HVDC electricity interconnector between Heybridge in North-East Tasmania and the Latrobe Valley in Victoria (Figure 1). Marinus Link is proposed to provide a second link between the Tasmanian renewable energy resources and the Victorian electricity grids enabling efficient energy trade, transmission and distribution from a diverse range of generation sources to where it is most needed and will increase energy capacity and security across the National Electricity Market (NEM).

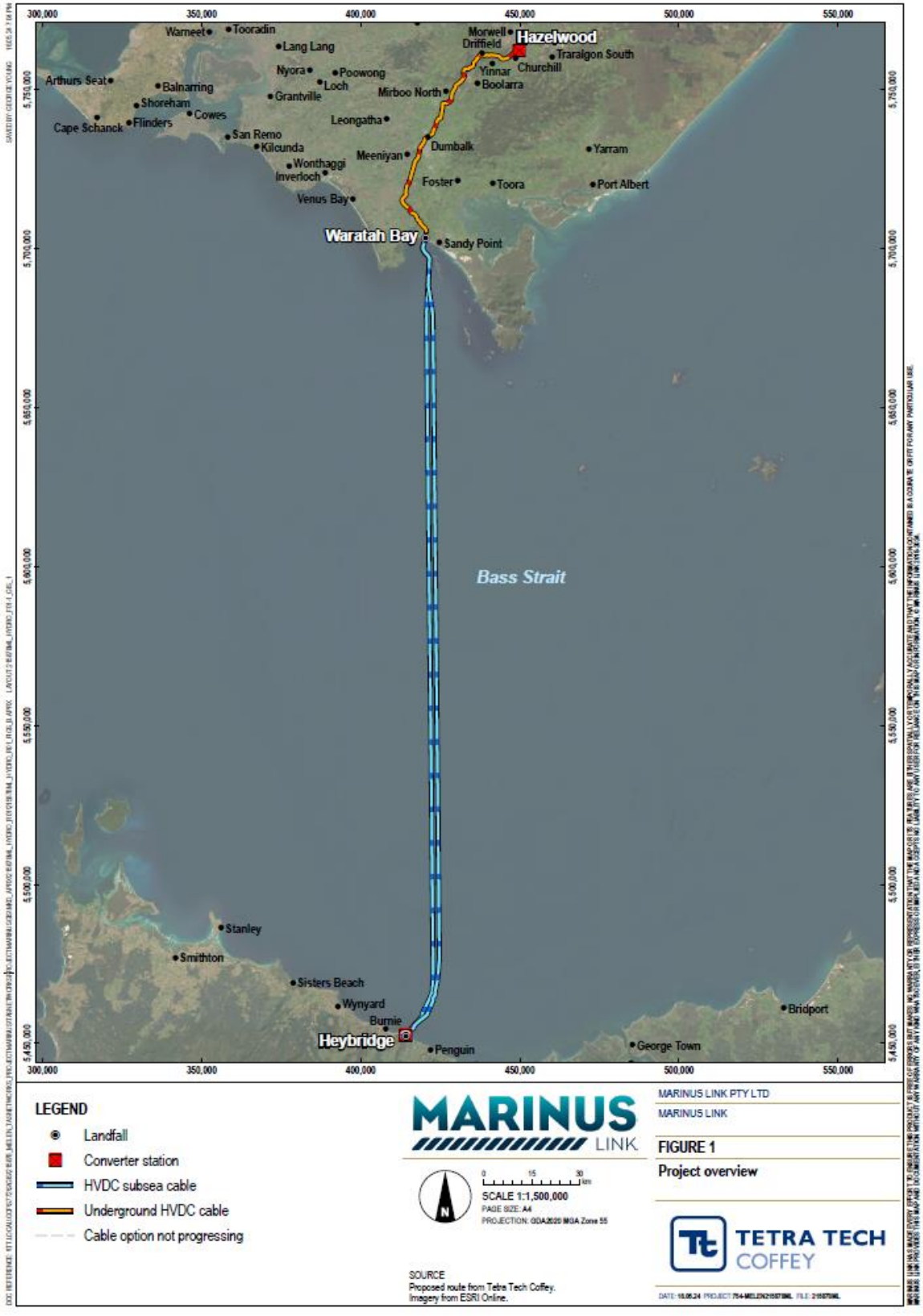
Marinus Link Pty Ltd (MLPL) is the proponent for Marinus Link and is a wholly owned subsidiary of Tasmanian Networks Pty Ltd (TasNetworks). TasNetworks is owned by the State of Tasmania and owns, operates and maintains the electricity transmission and distribution network in Tasmania.

Tasmania has significant renewable energy resource potential, particularly pumped hydro and wind energy. The potential size of the resource exceeds both the Tasmanian demand and the capacity of the existing Basslink interconnector between Tasmania and Victoria. The growth in renewable energy generation in mainland states and territories participating in the NEM, coupled with the retiring of baseload coal-fired generators, is reducing the availability of dispatchable generation that is available on demand.

Tasmania's existing and potential renewable resources are a valuable source of dispatchable generation that could benefit electricity supply in the NEM. Marinus Link will allow for the continued trading, transmission and distribution of electricity within the NEM. It will also manage the risk to Tasmania of a single interconnector across Bass Strait and complement existing and future interconnectors on mainland Australia.

Interconnectors are a key feature of the future energy landscape. They allow power to flow between different regions to enable the efficient transfer of electricity from renewable energy zones (REZ) to where the electricity is needed. Interconnectors can increase the resilience of the NEM and make energy more secure, affordable and sustainable for customers. Interconnectors are common around the world including in Australia. They play a critical role in supporting Australia's transition to a clean energy future.

FIGURE 1: PROJECT OVERVIEW



Source: Marinus Link (2023)

1.4 Assessment context

An Economic Impact Assessment is an important tool used in approvals processes. An EIA provides valuable information on the potential economic impacts from a proposed project or policy. They can have significant positive economic impacts on the regions in where they are developed. Such an EIA helps identify these potential economic impacts, such as increased employment, gross value-added, and public taxation revenue.

An EIA, however, does not assess the merits of a project in terms of its costs compared to its benefits (such as the findings of a cost-benefit analysis). An EIA is also not a replacement for a business case in which other metrics can be calculated, such as net present value of an investment and/or return on investment (ROI). An EIA is also not an assessment of whether a project is beneficial from a community welfare perspective.

2. Assessment guidelines

This chapter outlines the assessment guidelines relevant to economics and the linkages to other EIS/EES technical assessments for the Commonwealth, Tasmania and Victoria. One EIS/EES is being prepared to address Commonwealth and Victorian jurisdictions; two EIS are being prepared to address the EIS Guidelines issued under the EMPCA by the Tasmanian EPA for the Heybridge Converter Station and the Shore Crossing. This EIA will inform the preparation of the EIS/EES process.

2.1 Commonwealth

The Australian Department of Climate Change, Energy, Environment and Water (DCCEEW) publish guidelines for completing an EIS (*Guidelines for the Content of a Draft Environmental Impact Statement – Environment Protection and Biodiversity Conservation Act 1999* – Marinus Link underground and subsea electricity interconnector cable (EPBC 2021/9053)). The relevant section of the guidelines to the completion of this EIA are found in Section 9, on economic and social matters. As summarised from that document, the respective guidelines for the EIA and where they are addressed in this report are shown in Table 4.[5]

TABLE 4: COMMONWEALTH EIS SCOPING REQUIREMENTS APPLICABLE TO THIS EIA

Scoping Requirement	Section addressed
Overview of the economic costs and benefits of the Project	Chapter 6
Employment opportunities expected to be generated by the Project (including construction and operational phases). This includes consideration of First Nations employment and procurement opportunities expected to be generated by the Project, and opportunities for engagement with First Nations people in relation to on ground mitigation, management of rehabilitation measures	6.1 and 6.2 5.5.1
Details of the relevant cost and benefits of alternative options to the proposed action	5.1

Source: SGS Economics & Planning (2024)

[5] It is recognised that other sections of the DCCEEW Guidelines (EPBC 2021/9053) require the assessment of economic impacts to Commonwealth marine areas (Section 4.3.2), impacts on other users of Commonwealth marine areas (Section 5.7). The Social Impact Assessments and Marine Ecology and Resource Use Assessment conducted as a part of this broader process identified and discusses such considerations. However, this EIA did not calculate such economic impacts.

2.2 Tasmania

The Environment Protection Authority Tasmania (EPA) has published two sets of guidelines (September 2022) for preparing an EIS for Marinus Link. Scoping requirements relevant to the economic impact assessment (EIA) specifically and where they are addressed in this report are summarised below in Table 5. Scoping requirements are addressed in one or multiple sections of the report as noted. The extent to which scoping requirements are addressed throughout the report are 1) reflective of the nature of information and data provided to SGS and CoPS for economic impact modelling, 2) reflective of whether and to what extent scoping requirements can dealt with quantitatively (e.g., inputs to modelling such as capital investment values for construction) or qualitatively (e.g., characterising downstream industry activities), and 3) to the extent to which the negative and positive elements of such socio-economic considerations could be made with the information made available to SGS. The remainder are discussed qualitatively (e.g., subsections of Section 6.5 and 6.6).

TABLE 5: TASMANIAN EPA SCOPING REQUIREMENTS APPLICABLE TO THIS EIA

Scoping Requirement	Section addressed
An estimate of total capital investment for the proposal and where that capital will be expended (particularly in relation to the source of large capital items of processing equipment).	5.2
Operational expenditures and revenues.	5.2, 6.1, 6.2, 6.3, and 6.6.7
The impacts on local and State labour markets for both the construction and operational phases of the proposal. The number and nature of direct and indirect jobs arising from the proposal must be detailed. Skills and training opportunities should also be discussed.	6.1, 6.2, 6.3, and 6.5.2
The impacts on upstream/downstream industries, both locally and for the State.	4.2, 5.3, 6.4, 6.5.2
The extent to which raw materials, equipment, goods, and services will be sourced locally.	6.6.3
A qualitative assessment of impacts on local social amenity and community infrastructure, including recreational, cultural, health and sporting facilities and services. Any proposals to enhance or provide additional community services or facilities should be described.	6.6.4
Community demographic impacts (changes to cultural background, occupation, incomes).	6.6.5
Impacts on land values, and demand for land and housing.	6.6.6
Impacts on the local, regional, state, and national economies.	6.1, 6.2, 6.3
Any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.	5.2, 6.6.7
Any impacts on Local, State and Federal Government rate, taxation, and royalty revenues.	6.6.7

Source: SGS Economics & Planning (2024)

2.3 Victoria

The Environment Effects Statement (EES) Scoping Requirements outline the scope of technical studies and define evaluation objectives. The EES Scoping Requirements are issued by the Victorian Minister for Planning (February 2023) outline the specific matters to be assessed across a number environmental and social disciplines, which are to be documented in the EES. Evaluation objectives identify the desired outcomes to be achieved and provide a framework for an integrated assessment of the environmental effects of a proposed project.

2.3.1 EES Evaluation Objective

The evaluation objective, and relevant to the completion of this EIA, contained within Section 4.4 of the Environment Effects Statement (EES) Scoping Requirements is to:

- *"Avoid and, where avoidance is not possible, minimise adverse effects on agriculture, forestry and other land uses, social fabric of communities, and local infrastructure, businesses and tourism."*

2.3.2 EES Scoping Requirements

The relevant sections of the EES Scoping Requirements that pertain to the completion of this EIA are as outlined in Table 6.

TABLE 6: VICTORIAN EES SCOPING REQUIREMENTS APPLICABLE TO THIS EIA

Aspects to be assessed	Scoping Requirement	Section addressed
Key Issues	Potential interaction with and interruption to agricultural and forestry activities and infrastructure such as stock lanes, irrigation, water supply, access, fencing, electricity supply and drainage.	Refer to Section 6.6.1, citing also the Agriculture and Forestry Technical Report and Marine Ecology and Resource use Impact Assessment
	Loss of productive land either due to loss of access or via soil disturbance, easements, construction traffic and poor reinstatement of land after construction.	
	Potential disruption to existing and/or proposed land uses, with associated economic and social effects, including cumulative impacts.	Refer to Section 6.6.1 and Section 6.6.6, citing also the Planning and Land Use Impact Assessment Report, the Agriculture and Forestry Technical Report and Marine Ecology and Resource use Impact Assessment
	Potential effects on social cohesion resulting from disruption of existing networks or effects on community services or facilities and recreational activities.	Refer to Section 6.6.5, citing also the Social Impact Assessment
	Potential economic and social effects from the project, such as through disruption of business,	Refer to Section 6.6.1 and Section 6.6.2, citing also the Agriculture and Forestry Technical Report, Marine

Aspects to be assessed	Scoping Requirement	Section addressed
	industry (including agriculture, forestry and fisheries) or tourism.	Ecology and Resource Use Impact Assessment,
	Biosecurity issues relating to the transfer of plant and animal diseases and weed seeds between properties e.g., Phytothera cinnamomi, Johnes disease.	Refer to the Planning and Land Use Impact Assessment Report
	Engagement with landholders.	Refer to **Section 6.6.6**, citing also the Planning and Land Use Impact Assessment Report and Social Impact Assessments
	Disruption to commercial and recreational users of the marine environment.	Refer to **Section 6.6.1**, citing also the Agriculture and Forestry Technical Report and Marine Ecology and Resource use Impact Assessment
	Potential economic and social benefits from the project.	Refer to **Section 6.5** and **Section 6.6,** which also contain citations to content from the other technical reports as listed in Table 7.
Existing Environment	Describe the project area and its environs in terms of land use (existing and proposed), residences, zoning and overlays, public and private land, including any land subject to native title and Indigenous Land Use Agreements, properties affected and infrastructure that supports current and strategic patterns of economic and social activity.	Refer to **Section 6.6.6**, citing also the Planning and Land Use Impact Assessment Report
	Describe agricultural and primary production enterprises and practices (for instance use of large-scale equipment, prevalence of specialised production in the area, any key harvest and processing times).	Refer to **Section 6.6.1**, citing also the Agriculture and Forestry Technical Report
	Describe the local community and social setting, including community services and facilities, recreational activities, businesses and industries within the area, such as agriculture, forestry, shipping and fisheries.	Refer to **Section 6.6.1**, **Section 6.6.4** and **Section 6.6.5**, which also contain citations to content from the other technical reports as listed in Table 7.
	Describe regional planning and economic development strategies.	Refer to **Chapter 0**
	Characterise tourism and recreational use of the project area and its surroundings, including water bodies, national parks and reserves.	Refer to **Section 6.6.2**, citing also the Victorian Social Impact Assessment and Marine Ecology and Resource Use Impact Assessment

Aspects to be assessed	Scoping Requirement	Section addressed
	Describe relevant commercial and recreational uses of the marine environment.	Refer to **Section 6.6.1** and **Section 6.6.2**, citing also the Agriculture and Forestry Technical Report and Marine Ecology and Resource use Impact Assessment
Likely Effects	Assess potential long and short-term effects from the project on existing and potential public infrastructure and land uses, including agricultural land use and associated businesses, taking into account interruption to agricultural practices, loss of productive land, biosecurity, water supply, access, drainage, and any other issues identified through the assessments.	Refer to **Section 6.6.1** and **Section 6.6.4**, citing also the Agriculture and Forestry Technical Report, the Marine Ecology and Resource Use Impact Assessment and the Victorian Social Impact Assessment
	Assess potential social impacts from the project, including interference with the current use of private and public land and community services and facilities in the area.	Refer to **Section 6.6.4**, citing also the Planning and Land Use Impact Assessment Report and the Social Impact Assessments
	Assess potential economic effects of the project, considering direct and indirect consequences on employment, local and regional economy and industries in the area, including agriculture, forestry, shipping and fisheries.	Refer to **Section 6.1** through **Section 6.4**, as well as **Section 6.6.1**, citing also the Agriculture and Forestry Technical Report and Marine Ecology and Resource use Impact Assessment
	Assess the potential impacts of workforce requirements, such as additional demand on housing and public services in the area.	Refer to **Section 6.5.2**, **Section 6.6.4**, and **Section 6.6.6**, citing also the Victorian Social Impact Assessment and Tasmanian Social Impact Assessment
	Assess the potential impact on tourism and tourist attractions within the project area and surrounding nature reserves.	Refer to **Section 6.6.2**, citing also the Victorian Social Impact Assessment and Marine Ecology and Resource Use Impact Assessment
Mitigation	Demonstrate whether the project is consistent with relevant planning scheme provisions and other relevant policies.	Refer to **Chapter 0**
	Outline measures to minimise potential adverse effects of the project and enhance benefits to the community, businesses, industry and land uses.	Refer to **Section 6.5** and **Section 6.6,** which also contain citations to content from the other technical reports as listed in Table 7.
	Describe the approach to engaging with individual landholders during design, construction and operation to minimise disruption to landholder activities.	Refer to **Section 6.6.6**, citing also the Planning and Land Use Impact Assessment Report and Social Impact Assessments

Aspects to be assessed	Scoping Requirement	Section addressed
Performance	Describe the framework for monitoring and evaluating the measures implemented to mitigate agriculture, socioeconomic and land use effects and contingencies.	Referred to through Chapter 6 under relevant topic areas, which also contain citations to content from the other technical reports as listed in Table 7.

Source: SGS Economics & Planning (2024)

2.4 Linkages to other reports

In preparing this EIA, SGS was provided with other technical assessments and studies. Specifically, SGS was provided the EIS/EES Chapter 2 – Environmental Management Framework and five (5) technical assessments and studies, outlined below in Table 7. Content, findings and recommendations from each of these documents, in particular all five (5) technical assessments, were reviewed by SGS for relevance to the economic and socioeconomic considerations being made in this EIA. Where appropriate, SGS incorporated relevant content or recommendations from these technical assessments and studies cited the respective document. Integration of content and recommendations from these technical assessments and studies can be found in Section 6.5 and Section 6.6.

TABLE 7: LINKAGES TO OTHER REPORTS

Technical assessment	Relevance to this assessment
Victorian Social Impact Assessment (Dated 23 February 2024)	This report represents a social impact assessment (SIA) of the Victorian terrestrial component of the MLPL project. Data from the SIA consultation and ongoing project engagement informed the identification of social impacts of the project and associated management measures for mitigating the identified impacts as well as a range of efforts to enhance the range of benefits from the project. Reference to the findings and content from this SIA are cited in Section 6.5 and 6.6 of this EIA.
Heybridge (Tasmanian) Social Impact Assessment (Dated 7 March 2024)	This report represents a social impact assessment (SIA) of the Tasmania terrestrial component of the Marinus Link. The social impacts of the project are considered for the populations that live in the local study area (Heybridge State) and the regional study areas (Burnie City and Central Coast local government areas). Reference to the findings and content from this SIA are cited in Section 6.5 and 6.6 of this EIA.
Agriculture and Forestry Technical Report (Victoria) (Dated 14 July 2023)	This report assesses the impacts of Marinus Link on agricultural and forestry land uses and businesses in Victoria on land capability and farm infrastructure, practices and planning. Reference to the findings and content from this report are cited in Section 6.6.1 of this EIA.

Technical assessment	Relevance to this assessment
Planning and Land Use Impact Assessment Report (Victoria) (Dated 13 July 2023)	This report informs the project's compliance with planning policy and its impacts on land use, as required by the scoping requirements. Reference to the findings and content from this report are cited in Section 6.6.6 of this EIA.
Marine Ecology and Resource Use Impact Assessment (Dated 18 August 2023)	This report describes the existing marine ecology and resource use of Bass Strait and assesses project impacts and propose environmental performance requirements to mitigate the project impacts. Reference to the findings and content from this report are cited in Section 6.6.1 of this EIA.
Environmental Impact Statement/ Environment Effects Statement Chapter 2 – Environmental Management Framework (Dated 10 November 2023)	The Environmental Management Framework provides a transparent governance framework for the management of environmental impacts from the project to meet Victorian and Commonwealth environmental statutory requirements, achieve necessary environmental outcomes, protect environmental values and sustain stakeholder confidence. This EIA cited relevant Environmental Performance Requirements from the framework.

Source: SGS Economics & Planning (2024)

3. Policy alignment

This chapter provides a review of relevant jurisdictional Economic Development Strategies (EDS) within the study area. The purpose of the review is to gauge alignment and consistency between these strategies and the Marinus Link project. For a complete review of the planning and regulatory context, however, refer to the Planning and Land Use Impact Assessment Report (dated 13 July 2023).

3.1 Economic development strategies

An Economic Development Strategy (EDS) is a strategic document that can be used to support and guide local and regional efforts to take action and support economic growth and development for the benefit of business, the labour force and the broader community welfare. Local governments often, but are not required to, undertake such efforts in the context of other local and regional strategic planning efforts, as are reviewed through the Planning and Land Use Impact Assessment Report (dated 13 July 2023).

The process for developing an EDS involves: 1) researching local and regional assets and barriers; 2) understanding and documenting opportunities; and 3) developing a vision, objectives and strategies, including tools for implementation. The typical EDS identifies a local area's strategic context, economic characteristics, the issues, perspectives and vision of local and regional stakeholders and industry, a set of targeted objectives, as well as a set of strategic opportunities for achieving those objectives.

The purpose of SGS's review of relevant local and regional EDSs is to document whether and to what extent there is consistency and strategic alignment with the Marinus Link project and local economic development strategy. As outlined in Table 8, SGS's review inventoried whether relevant jurisdictions within the study area had completed an EDS and when the most recent one had been completed. Only two of the seven jurisdictions within Tasmania have an EDS, while all six of the jurisdictions within Victoria have an EDS. Those that were completed for Victorian local governments are also more recent than those completed for councils in NW Tasmania.

TABLE 8: ECONOMIC DEVELOPMENT STRATEGIES

State	Council	Most Recent EDS
Tasmania	Circular Head	None
	Waratah Wynyard	None
	Burnie	2011
	West Coast	None
	Kentish	2020
	Latrobe	None

State	Council	Most Recent EDS
	Devonport	None
Victoria	Wellington	2016
	South Gippsland	2021
	East Gippsland	2022
	Bass Coast	2016
	Latrobe	2016
	Baw Baw	2022

3.2 Strategic alignment

SGS reviewed major themes of the EDSs within the study area. It should be noted that each local government's EDS represents their own economic development strategy. There is no overarching economic development strategy, by which all local governments abide. As such, the respective EDSs do not often represent an orientation around multi-jurisdictional or multi-state economic development pursuits, such as would characterise the Marinus Link project.

There are, however, common themes centred around furthering industry and workforce development that is present in all the councils as shown in **Table 9**, which could be interpreted as a strategic direction or objective consistent with the economic outcomes and ongoing workforce benefits of operations of the Marinus Link project. Specifically, themes that present as consistent with the Marinus Link projects are:

- Councils consistently articulate a vision for furthering industry and workforce development initiatives (i.e., industry and workforce expansion). As documented through the economic analysis summarised in Chapter 6, the Marinus Link project is anticipated to have a net positive economic impact in terms of gross value-added and employment over the business-as-usual scenario.
- Councils consistently articulate objectives that seek to grow and diversify industry by providing support to local businesses to achieve this growth. This relates specifically to the indirect impacts of the Marinus Link project. As discussed throughout Chapter 6, indirect impacts relate to the business-to-business or producer-supplier relationships during both the construction and operational stages of the Marinus Link project. That is, the construction and operation of the Marinus Link will require the support of local and regional business for a variety of services. As a result, a wide variety of local business sectors will be in a position to benefit from the project.
- Councils consistently articulate the importance of linkages between its own role as a facilitator between employers and training providers such that the labour force may ultimately build on local skills/experience. In such workforce development objectives, EDSs also accentuate local councils' roles as facilitating matchmaking between the skills that the labour force has and the skillsets that employers need. While the Marinus Link project itself is not a capital or operational investment in

workforce development and skills training, as noted in Section 6.5, MLPL is (as of September 2023) in the process of drafting S05 industry participation and social inclusion plan to leverage and build upon both regions' existing strengths in various sectors. It is also understood that these initiatives will be developed through the execution of EPRs.

- Some, but not all councils, have included limited actions around how Councils will support renewable energy. Many councils have articulated objectives around transitioning to renewable energy sources.
- One Council (Kentish Council) specifically calls out the dependence one of their economic development objectives has on the Marinus Link project proceeding.

The review of these relevant EDSs suggests that local economic development objectives are not inconsistent with the Marinus Link project. That is, while their focus and remit is not to set objectives and a vision oriented around multi-jurisdictional and multi-state investments (such as the Marinus Link project), there are no objectives contained within them that would suggest the Marinus Link is inconsistent with local economic objectives.

TABLE 9: POLICY ALIGNMENT MATRIX

Strategies	Support for renewable energy	Support for workforce and skills development
Kentish Council: Economic Development Strategy 2020-2025[6]	Council identified pumped hydro as a key part of clean renewable energy generation and opportunities for growth. Cethana is one of the only three final sites in Tasmania currently being considered by Hydro Tasmania for further development. **The EDS noted that final site selection is contingent on the Project Marinus Link proceeding.**	Economic objective: connect local business and potential investors to relevant knowledge, expertise and support through supporting collaboration and learning/ skill development.
Wellington Shire Council: Economic Development Strategy 2016-2022[7]	Council identified a need to position Gippsland as a future leader in new, low emissions energy technologies including renewables. A series of climate change mitigation and adaptation plans have been recognised in the Gippsland Regional Plan.	Council is committed to raising the skill base of the local workforce both through consolidation of TAFE operations at a central location in Sale, and are continuing to experiment with incentives to attract professional workers into Wellington.
South Gippsland Council: Economic Development Strategy 2021-2031[8]	The EDS identified opportunities for hydrogen, solar, wind, battery and bio-energy as well as a second interconnector with Tasmania in the energy sector,	One of the key objectives identified is to build capacity by building the skills, training and knowledge of our current and future workforce, embracing lifelong learning,

[6] https://www.kentish.tas.gov.au/__data/assets/pdf_file/0035/847385/2020-2025-Kentish-Economic-Development-Strategy.pdf
[7] https://global-uploads.webflow.com/6021ed7c89cc1c1c01fccf29/6021ed7c89cc1c61d7fcd617_Economic-Development-Strategy.pdf
[8]https://www.southgippsland.vic.gov.au/download/downloads/id/3952/economic_development_strategy_2021-2031_final.pdf

Strategies	Support for renewable energy	Support for workforce and skills development
	however, will continue to support Bass Strait oil and gas. Actions from the EDS include engaging with the energy sector, businesses and community to achieve positive outcomes from new energy developments, and supporting the development of the Gippsland Renewable Energy Zone by partnering with Energy Vic.	removing barriers to education, and strengthening resilience to economic and natural emergencies.
East Gippsland Economic Development Strategy 2022-2032[9]	East Gippsland's 8th focus is on being climate action leaders. Some of the economic opportunities identified in this area include the development and deployment of renewable energy technology, encouraging manufacturing processes that are carbon neutral by using local clean energy supply.	Stakeholders involved in the consultation process identified that the most evident weakness in the East Gippsland economy as undersupply of a skilled, engaged workforce for businesses to tap into. Therefore, attracting new residents with skills and increasing local skills and training opportunities will be important. The EDS also highlights that Gippsland are seeing a significant growth in "new energy" opportunities and projects such as medium-large scale solar and large scale offshore wind, and highlights there will be specific opportunities to capitalise and prepare the workforce and industry for these opportunities.
Bass Coast Shire Council: Economic Development Strategy 2016 - 2021[10]	The EDS highlighted that changes in climate present new opportunities within Bass Coast such as expansion of the renewable energy market, improved business practices (agriculture, ecotourism, and waste), sustainable transport and buildings.	One of five key strategies identified is to develop economic diversity. Council intends for businesses to have a culture of innovation and diversification and aims to support businesses with education and training services. Council has also revised its Education Plan to reflect the changing demands of education (including providing lifelong learning opportunities) and continues to advocate for the construction of the Bass Coast Education Precinct.
Latrobe City Council: Economic	Despite being reliant on traditional industries, such as the coal fired power generation sector, Latrobe City Council is committed to leading the community to a	The standout strength of the region is the engineering knowledge and skills. Latrobe City Council intends to build on this competitive strength through the EDS.

[9] https://global-uploads.webflow.com/5f10ce18aa01d050c26b7c5e/6465cb663e80d1f8b11a189e_Economic%20Development%20Strategy%20-%20EGSC_DIGITAL.pdf

[10] https://www.basscoast.vic.gov.au/assets/general-downloads/Economic-Development-and-Tourism/Economic-Development-Strategy-and-One-Year-Action-Plan.pdf

Strategies	Support for renewable energy	Support for workforce and skills development
Development Strategy 2016-2020[11]	sustainable future through the diversification and development of industry and businesses located in the municipality.	The EDS sets out plans to establish working relationships with institutions such as Federation University, assist in the development of the Tech School in Latrobe City, and investigate the potential to establish Engineering related research and development agencies in Latrobe City.
Baw Baw Shire Council: Economic Development and Visitor Economy Strategy 2022-2025[12]	As part of supporting key industry sectors, the Investment Incentive Scheme aims to offer a range of incentives and customised support to businesses that meet the eligibility criteria within key industry sectors, such as Tourism, Food and Agribusiness, Health and Wellbeing, Education and Research and/or Renewable Energy.	As part of business and workforce development, Council aims to increase opportunities for education and industry to create a highly skilled, engaged workforce.

Source: SGS Economics and Planning (2023)

[11] https://www.latrobe.vic.gov.au/sites/default/files/Eco_Dev_Strategy_2016_-_Email_version.pdf
[12] https://www.bawbawshire.vic.gov.au/files/sharedassets/public/economic-development/documents/final-economic-development-and-visitor-economy-strategy-2022-2025.pdf

4. Assessment method

This chapter outlines the methodology used to meet the matters of interest in conducting Economic Impact Assessments, including considerations and objectives relevant to the documentation of supporting information for EESs, as outlined in Table 4, Table 5, and Table 6.

4.1 Modelling geography

As required by the scoping requirements, the EIA modelling was completed to provide outputs that characterise economic impacts at the regional and state levels (the study area or modelling geography), including:

- North West Tasmania, defined as the ABS SA4 of West and North West Tasmania,
- The whole of Tasmania,
- Gippsland (in Victoria), defined as the ABS SA4 of Latrobe-Gippsland, and
- The whole of Victoria.

As such, outputs reflect impacts realised both locally and throughout each state, both the scale of spending and employment (directly and indirectly) resulting from Marinus Link construction and operations within regional communities, as well as the scale of spending and employment resulting from construction and operations more broadly at the state level.[13]

4.2 Impact assessment approach

As noted above, the impact assessment methodology is aligned specifically to meet the criteria associated with the scoping requirements as established by the Commonwealth, Tasmania EPA, and Victoria.

4.2.1 Modelling Framework

The modelling framework used by CoPS for quantifying the economic impacts[14] is: 1) Prepare an economic model of the North West Tasmania and Gippsland economies, as well Tasmania and Victoria, using a Computable General Equilibrium (CGE) model (discussed further in Section 4.3 and 4.4 below), and 2) Input capital and operational spending related to Marinus Link as well as capital investment related to the induced renewable energy project.

[13] In the interpretation of the results which follow, however, note that regional and state impacts cannot be added together.

[14] The analysis of economic impacts is distinct from a cost-benefit analysis (CBA). It is also distinct from a business case analysis, in which metrics such as net present value and/or return-on-investment (ROI) may be quantified.

4.2.2 Modelling Inputs

The quantitative assessment contains, as broadly outlined below, inputs to modelling and outputs. As such, the **inputs** used in CoPS modelling (and reported in Chapter 6 in aggregate) were associated with:

- Capital investment for construction of the Marinus Link,
- Ongoing operations of the Marinus Link,
- Capital investment related to development of induced windfarm and pumped hydro investments (i.e., representative of upstream economic activity), and
- Ongoing operation related to the induced windfarm and pumped hydro projects.

4.2.3 Modelling Outputs

The outputs of the economic modelling provide quantifications of the direct, indirect and total economic impacts triggered by the capital investment and operational spending related to the Marinus Link and induced renewable energy projects (results which are disaggregated and discussed independently).

- **Total (Direct and Indirect) Impacts** – Direct impacts represent one component of total economic impact and are those carried out by Marinus Link, such as labour employed and wages paid for construction and ongoing operation. Examples of direct impact include activity in sectors such as construction, engineering and professional and technical services, etc., during the construction phase, and professional and technical, IT services, management, etc., during the operational phase. Indirect impacts represent the second component of total economic impact and are those carried out in support of or related to production or operational inputs to construction and operations. Examples of such direct impact include activities in sectors such as construction equipment and materials manufacturing, IT equipment manufacturing, legal, financial, accounting and administrative services, etc.
- **Induced impacts** – Induced impacts are economic activities or investment determined to proceed only under the circumstances that investment in the direct economic activity will be made. At the time of compiling available information for the assessment of Marinus Link's economic impacts, it was determined by SGS and MLPL that investment in six (6) renewable energy projects (2 windfarm and 4 pumped hydro projects) in the North West of Tasmania would not proceed without delivery of the Marinus Link project. Only these six (6) projects were included because they were the only ones for which capital investment information was available. Induced projects in Victoria, however, were not included in the analysis due to the direction of transmission of energy i.e., renewable energy is to be transmitted from Tasmania to Victoria, not vice versa.

4.2.4 Metrics of Impact

The economic impacts related to Marinus Link and the induced renewable energy projects are reported in terms of the following key impact metrics:

- Regional and state value added (equivalent to Gross Regional Product, GRP)
- Regional and state employment (in full-time equivalencies, FTE)

As noted above in Section 4.1, each metric is reported at the following four (4) geographic levels, as outlined above: North West Tasmania, defined as the ABS SA4 of West and North West Tasmania, The whole of Tasmania, Gippsland (in Victoria), defined as the ABS SA4 of Latrobe-Gippsland, and the whole of Victoria.

4.2.5 Upstream/Downstream Industry Activity

A further note to the limitation of the extent to which economic activities and impacts were assessed relates to the scoping requirement for the Tasmania EPA (regarding impacts of upstream and downstream industry):

- Upstream industry activity refers to the activities and outputs from industries that are farther away from the end-user than that of the direct economic activity. In the case of Marinus Link, one main example of upstream activity includes power generation and/or inputs of goods and services required for such. As such, the extent to which upstream industry activities are acknowledged in this EIA include the economic modelling outputs for the six (6) renewable energy projects (Section 5.3). As discussed above, more information regarding other confirmed induced projects and their capital investments was not available at the time of this report's preparation.
- Downstream industry activity refers to the activities and outputs of industries closer to the end-user. Examples of such activity would relate to household consumption of power or commercial consumption of power for any number of individual or industrial applications. Marinus Link is understood to be an enhancement to the transmission network, from which both mainland distributors, other network transmission lines, as well as end-users will benefit. Neither quantifications nor representations of the nature, characteristics or investment values associated with such potential downstream industry activities were available to SGS. That is, the quantification of such downstream industry activities requires knowledge of specific user groups, customer usage and applications of such power. However, no data or information about customer usage and applications was provided to SGS such that consideration of positive and/or negative impacts could be made.

4.2.6 Qualitative Assessment and Considerations

Also aligned with the Commonwealth and respective state guidance regarding completion of an EIA and consideration of objectives made for the benefit of the overall EES process, this aspect of the EIA identifies considerations as to how Marinus Link could economically impact North West Tasmania and Gippsland in ways other than size of the economy and employment, including:

- First Nations employment and procurement opportunities
- Impacts on agriculture, forestry, shipping and fisheries industries
- Impacts on tourism industry

- Skills and training opportunities
- The extent to which raw materials, equipment, goods, and services will be sourced locally
- Impacts on local social amenity and community infrastructure
- Community demographic impacts
- Impacts on land values, and demand for land and housing
- Local, State and Federal Government rate, taxation, and royalty revenues.

Information on these economic impacts is captured in Section 6 alongside the economic impact assessment modelling.

4.3 The CoPS model

The Centre of Policy Studies (CoPS) is a research centre located at Victoria University, Melbourne. CoPS' suite of Australian models includes several detailed, dynamic CGE models of Australia, which have been used to analyse many economic policies, including changes in taxes, tariffs, environmental regulations and competition policy.

The Victoria University Regional Model (VURM), used for the modelling the economic impact of Marinus Link, is a CGE model of Australia's six states and two territories. Each region is treated as an economy in its own right, with region-specific agents, region-specific prices and region-specific governments. The regions are connected via inter-state trade and the movements of labour and capital.

More generally, VURM is a detailed mathematical representation of Australia's regions, specifically designed to capture the disaggregated nature of economic inter-relationships. This representation covers the behaviour of regional agents that supply goods and services (industries – public and private), and regional agents that demand goods and services (industries, the government, households and investors). The model also covers interstate and international trade, with explicit modelling of demand for each regional economy's production (i.e., for its interstate and international exports) and of supply into the economy (i.e., of its interstate and international imports). Flows of capital and labour are accounted for, both as regional incomes (wages and profit) and items of industry costs (labour and capital-used).

The core CGE equations tend to be *neo-classical* in spirit, often assuming cost-minimising behaviour by producers, average-cost pricing, and household demands based on optimising behaviour. However, VURM conforms only loosely to the theoretical general equilibrium paradigm. For example, it can make allowance for:

- Non-market clearing, especially for labour (unemployment) or for commodities (inventories);
- Imperfect competition (e.g., monopoly pricing); and
- Demands not influenced by price (e.g., government demands).

The ability of VURM to represent real-world behaviour depends not only on the realism of its theoretical basis, but also the quality of the underlying database. VURM's database has three parts.

- Tables of transaction values, showing, for example, the value of imported oil used by the Victorian petroleum refining industry. Usually, the database is presented as an input-output table or as a social accounting matrix. In either case, it covers the whole economy of a region, and distinguishes a number of sectors, commodities, primary factors and households. Sectoral coverage ranges from

relatively simple representations of capital, labour and intermediates to highly detailed representations of specific sub-sectors.

- Values for dimensionless parameters that capture behavioural response. Examples of such parameters include interstate and international export demand elasticities, which specify by how much export volumes might fall if export prices went up; interstate and international import demand elasticities, which show whether products of different regions are close substitutes; and income elasticities of demand, which show how household demands respond to income changes.
- Values for miscellaneous items associated with the government's fiscal accounts (taxes and other items revenue and expenditure) of each jurisdiction; and with the Australian economy's external balance of payments (exports, imports, foreign capital transfers, etc.).

Further information on the VURM model is available in a technical working paper.[15]

4.4 Technical modelling assumptions limitations

A wide range of economic models can be used to estimate how the 'direct' economic impacts of Marinus Link translate to 'indirect' economic impacts and, therefore, 'total' economic impacts (total impacts = direct impacts + indirect impacts). These models are generally known as:

- Static (input-output) models, and
- Computable General Equilibrium (CGE) models.

While static models are simple and cost-effective, their use is increasingly questioned because of their modelling limitations. Static models assume that the past equals the future and that a significant direct impact does not cause substitution, pricing and/or crowding out effects in the regional economy. Moreover, any future productivity improvements in the economy are not captured.

Collectively these shortcomings would cause static models to overestimate the indirect and, therefore, total economic impacts of Project Options.

General equilibrium models overcome these shortcomings and produce highly credible estimates. CoPS' Computable General Equilibrium Model is a large-scale, dynamic, multi-region, multi-commodity model of the world economy. It meets the standards of government, industry and academia, providing Marinus Link with a single, robust, integrated economic framework to analyse economic impacts over time.[16]

> The VURM model is a best-practice economic impact assessment tool, delivering the robust results needed for the approvals process.

[15] https://www.copsmodels.com/elecpapr/g-254.htm

[16] The CoPS modelling outputs are quantifications of absolute FTE jobs above or below the business-as-usual case (i.e., without Marinus Link) or gross value-added (GVA) above or below the BaU. Baseline employment or GVA values are not included as outputs of the CoPS modelling.

5. Modelling scenario characteristics

The EIA compares the development of Marinus Link against a baseline scenario in which Marinus Link is not developed.

5.1 Business-as-Usual (BaU)

Under the BaU, inputs and assumptions regarding economic activity include:

- Capital expenditure ($3.1 billion) related to construction of the Marinus Link does not occur.
- No flow-on spending occurs in the regional economies of North West Tasmania and Gippsland.
- Spending related to the operations and maintenance of the Marinus Link (totalling $26 million[17] per annum commencing from 2029) also does not occur.
- Capital investment related to the induced renewable energy projects in Tasmania (i.e., wind farms and pumped hydro), which total $4.4 billion, also does not occur.
- Spending related to the operation and maintenance of these induced investments (totalling $788 million between 2029 and 2050) also does not occur in the regional economy. Rather, renewable energy production capacity is still anticipated to be added in Tasmania under the baseline scenario, but the resulting economic activity is anticipated to be lower.

As noted previously in the report, cost estimates above are sourced from AEMO's 2022 Integrated System Plan (ISP). Using the ISP ensures that the inputs are gleaned from an independent source.

5.2 Marinus Link Construction and Operations

As it relates to the scoping requirements, this section utilises estimates of direct total capital investment, estimates of the geographic distribution of such capital investment, as well as estimates of ongoing operational costs associated with the Marinus Link construction and operations.

Overview

Marinus Link is proposed to be implemented as two 750 MW High Voltage Alternating Current (HVAC) links to increase transmission network interconnection capacity in Tasmania and Victoria. Each 750 MW circuit will comprise two power cables and a fibre-optic communications cable bundled together in Bass Strait and laid in a horizontal arrangement on land. The two 750 MW circuits would be installed in two stages with the western circuit being laid first as part of stage one, and the eastern cable in stage two.

The key project components for each 750 MW circuit are, from south to north are:

[17] In 2021 dollars. Sourced from Marinus Link RIT-T.

- HVAC switching station and HVAC-HVDC converter station at Heybridge in Tasmania. This is where Marinus Link will connect to the North West Tasmania transmission network being augmented and upgraded by the North West Transmission Developments (NWTD).
- Shore crossing in Tasmania adjacent to the converter station.
- Subsea cable across the Bass Strait from Heybridge in Tasmania to Waratah Bay in Victoria.
- Shore crossing at Waratah Bay approximately 3 km west of Sandy Point.
- Land-sea cable joint where the subsea cables will connect to the land cables in Victoria.
- Land cables in Victoria from the land-sea joint to the converter station site in the Driffield or Hazelwood areas.
- HVAC switching station and HVAC-HVDC converter station at Driffield or at Hazelwood, where Marinus Link will connect to the existing Victorian transmission network.

A Transition Station at Waratah Bay may also be required if there are different cable manufacturers or substantially different cable technologies adopted for the land and subsea cables. The location of the transition station will also house the fibre optic transition station in Victoria. However, regardless of whether a transition station is needed, a fibre optic terminal station will still be required in the same location.

In Tasmania, a converter station is proposed to be located at Heybridge near Burnie. The converter station will facilitate the connection of Marinus Link to the Tasmanian transmission network. There will be two subsea cable landfalls at Heybridge with the cables extending from the converter station across the Bass Strait to Waratah Bay in Victoria. The preferred option for shore crossings is horizontal directional drilling (HDD) to approximately 10 m water depth where the cables would then be trenched, where geotechnical conditions permit.

Approximately 255 kilometres (km) of subsea HVDC cable will be laid across Bass Strait. The preferred technology for Marinus Link is two 750 megawatt (MW) symmetrical monopoles using ±320 kV, cross-linked polyethylene insulated cables and voltage source converter technology. Each symmetrical monopole is proposed to comprise two identical size power cables and a fibre-optic communications cable bundled together. The cable bundles for each circuit will transition from approximately 300m apart at the HDD (offshore) exit to 2km apart in offshore waters.

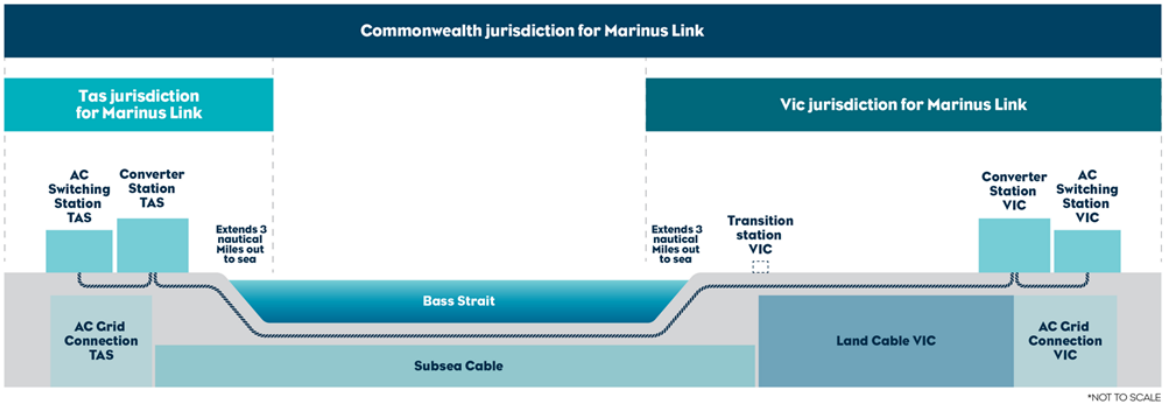
In Victoria, the shore crossing is proposed to be located at Waratah Bay with the route crossing at the Waratah Bay–Shallow Inlet Coastal Reserve. From the land-sea joint located behind the coastal dunes, the land cable will extend underground for approximately 90 km to the converter station. From Waratah Bay the cable would run northwest to the Tarwin River Valley and then travel to the north to the Strzelecki Ranges. The route crosses the ranges between Dumbalk and Mirboo North before descending to the Latrobe Valley where it turns northeast to Hazelwood. The Victorian converter station will be at either a site south of Driffield or Hazelwood adjacent to the existing terminal station.

The land cables will be directly laid in trenches or installed in conduits in the trenches. A construction area of 20 to 36 m wide would be required for laying the land cables and construction of joint bays. Temporary roads for accessing the construction area and temporary laydown areas would also be required to support construction. Where possible, existing roads and tracks will be used for access, for example, farm access tracks or plantation forestry tracks.

Land cables will be installed in ducts under major roads, railways, major watercourses and substantial patches of native vegetation using trenchless construction methods (e.g., HDD), where geotechnical conditions permit. A larger area than the 36m construction area will be required for the HDD crossings.

The assessment is focused on the Victorian/Tasmanian/marine section of the Project. It is understood that the outputs of the technical modelling and reporting in this EIA will be used to inform the EIS/EES being prepared to assess Marinus Link's potential environmental effects in its entirety across each jurisdiction in accordance with the legislative requirements of the Commonwealth, Tasmanian and Victorian governments (Section 2.1, 2.2 and 0).

FIGURE 2: PROJECT COMPONENTS CONSIDERED UNDER APPLICABLE JURISDICTIONS



Source: Marinus Link Pty Ltd 2022, Consultation Plan

Marinus Link is proposed to be constructed in two stages over approximately five years following the award of works contracts to construct Marinus Link. On this basis, Stage 1 of the project is expected to be operational by 2030, with Stage 2 to follow, with final timing to be determined by market demand. Marinus Link will be designed for an operational life of at least 40 years.[18]

Construction Phase

Capital investment values for the Marinus Link have been provided by MLPL to SGS as follows:

- Capital expenditure related to construction and development are estimated to be $3.1 billion (2021 dollars). [19]

[18] While the estimated lifespan of the Marinus Link extends 40 years, the CoPS modelling framework only estimates impacts to 2050.

[19] The extent to which any capital expenditure does not occur in Australia is accounted for in the economic modelling. As noted in Section 4.3 and 4.4, the economic modelling (into which construction capital investment values are a key input) is a detailed mathematical representation of Australia's regions, the economic inter-relationships, covering the behaviour of regional agents, interstate and international trade, with explicit modelling of demand for each regional economy's production (i.e., for its interstate and international exports) and of supply into the economy (i.e., of its interstate and international imports). As such, the outputs of this EIA contain representations of the regional and state level economic impacts that reflect spending occurring within those geographic boundaries.

- This phase is modelled as five (5) years for construction and completion. Detailed phasing information of capital expenditure by year was not available at the time of technical modelling. The technical modelling distributed labour across the 5-year construction period uniformly. Actual expenditure by year is likely to differ and would be determined by the Original Equipment Manufacturers (OEMs).
- Capital expenditure related to construction is anticipated to occur across the four (4) identified regions (Section **Error! Reference source not found.**), with $1.25 billion estimated to be spent on developing Marinus Link from North West Tasmania, and the remainder, $1.85 billion from Gippsland.

The capital expenditure estimate and the capital expenditure values associated with the induced investments provided by MLPL are sourced from AEMO's 2022 Integrated System Plan (ISP). Application of the ISP ensures that the inputs are gleaned from an independent source.

Operational Phase

Following construction, the estimation of ongoing economic impacts relate mainly to the operations and maintenance of Marinus Link. The assessment of such impacts relates to the demand created for ongoing employment by Marinus link (labour) and associated wages, payments to suppliers for equipment or contracted services, etc. The assessment of ongoing economic impacts also relates to operational revenues generated by Marinus Link, such as local/regional business and labour surplus related to suppliers to Marinus Link, as well as government surplus such as local, state and federal taxes, etc.

Direct inputs to the assessment of economic impacts related to the operational phase of the Marinus Link have been provided to SGS by Marinus Link, as follows:

- Operational impacts are likely to occur across the two regions, with total direct operational expenditure inputs estimated at $26 million per annum.
- To account for the likely distribution of these impacts, operational expenditure inputs were apportioned evenly between North West Tasmania and Gippsland at $13 million per each region.
- Outputs of the technical modelling identify operational impacts across these two regions between 2030 and 2050, including both total value-added (which includes labour surplus, business profits, and government surplus) and FTE jobs.
- Operational revenues related to Marinus Link were neither available nor provided by MLPL to SGS. However, consideration is given in Section 6.6.7 to the generation of public taxation receipts at various levels of government (local, state and federal).

With regard to capital expenditure and operational expenditure inputs, and with regard to its bearing on the scoping requirements outlined in Section 2, information regarding any one-time or ongoing subsidies or services that would be relied up for the construction or operation of Marinus Link was neither known to SGS or MLPL at the time of the EIA preparation and therefore not considered in the analysis.

5.3 Induced Investments

This section details the technical modelling inputs SGS and MLPL made regarding the identification of other investments of significance that are understood to be dependent, i.e., those projects that would not proceed without delivery of the Marinus Link project. As related to the scoping requirements, this section addresses: estimates of direct total capital investment, estimates of the geographic distribution of such capital investment, as well as estimates of ongoing operational expenditure, and is a consideration of upstream industry activity (i.e., power generation).

Overview

As discussed initially in Section 4.2, SGS and MLPL identified six (6) renewable energy projects (2 windfarm and 4 pumped hydro projects) in the North West of Tasmania, to be included as the relevant extent to which economic activities characterised as induced investments could be assessed. As discussed, these projects were identified based on information available at the time of technical modelling, they were projects for which information on capital investment was available, and they were identified as relevant given the direction of transmission of energy from Tasmania to Victoria.

Induced project inputs and assumptions

Figure 3 illustrates the anticipated power generation capacity characteristics of the 6 renewable energy projects. Information available at the time of technical modelling regarding capital investment included:

- $2.8 billion in capital expenditure in the North West Tasmania economy for the construction of wind infrastructure between 2029 and 2050, including:
  - $1.4 billion for construction and development commencing in 2029
  - $1.381 billion for construction and development commencing in 2031
- $1.6 billion in capital expenditure in the North West Tasmania economy for the construction of pumped hydro infrastructure between 2029 and 2050, including:
  - $702 million in 2029
  - $67 million in 2034
  - $844 million in 2036
  - $15 million in 2049
- $491 million in operational expenditure for wind projects in the North West Tasmania economy between 2029 and 2050, with an annual operational expenditure ranging between $18 million and $39 million.
- $297 million in operational expenditure for pumped hydro projects in the North West Tasmania economy between 2029 and 2050, with an annual operational expenditure ranging between $7 million and $17 million.

FIGURE 3: ANNUAL ADDITIONAL POWER GENERATION CAPACITY ABOVE BAU (TASMANIA)

Source: MLPL. *BaU refers to the installed capacity assumed to occur regardless of Marinus Link being developed.

6. Economic impact assessment

This chapter details the outputs of the economic modelling for the impact scenario described in Section 5.2. This chapter discusses outputs as relevant to the documentation of supporting information for EESs, as outlined in Table 4, Table 5, and Table 6. As it relates to the specific scoping requirements, this section incorporates:

- Estimates of direct total capital investment,
- Estimates of the geographic distribution of such capital investment,
- Estimates of ongoing operational costs associated with the Marinus Link construction and operations.
- Impacts on the regional and state economies
- Impacts on upstream/downstream industries

6.1 Economic impacts on Tasmanian economy

Construction and operation

SGS and the CoPS have modelled the economic impact of the construction and operation of Marinus Link on the regional North West Tasmania economy and the whole of Tasmania. Impacts are calculated in terms of value-added to gross economic product and full-time equivalent (FTE) employment.

In North West Tasmania, Marinus Link adds:

- $352 million to the local economy during the five years of construction (2025 to 2029). The peak annual impact occurs in 2027, with an annual contribution of $108 million. This construction phase also includes the first half year of operations as the project comes online in the second half of 2029.
- $306 million to the regional economy between 2030 and 2050 for operations and maintenance, at an average of $15 million per annum.

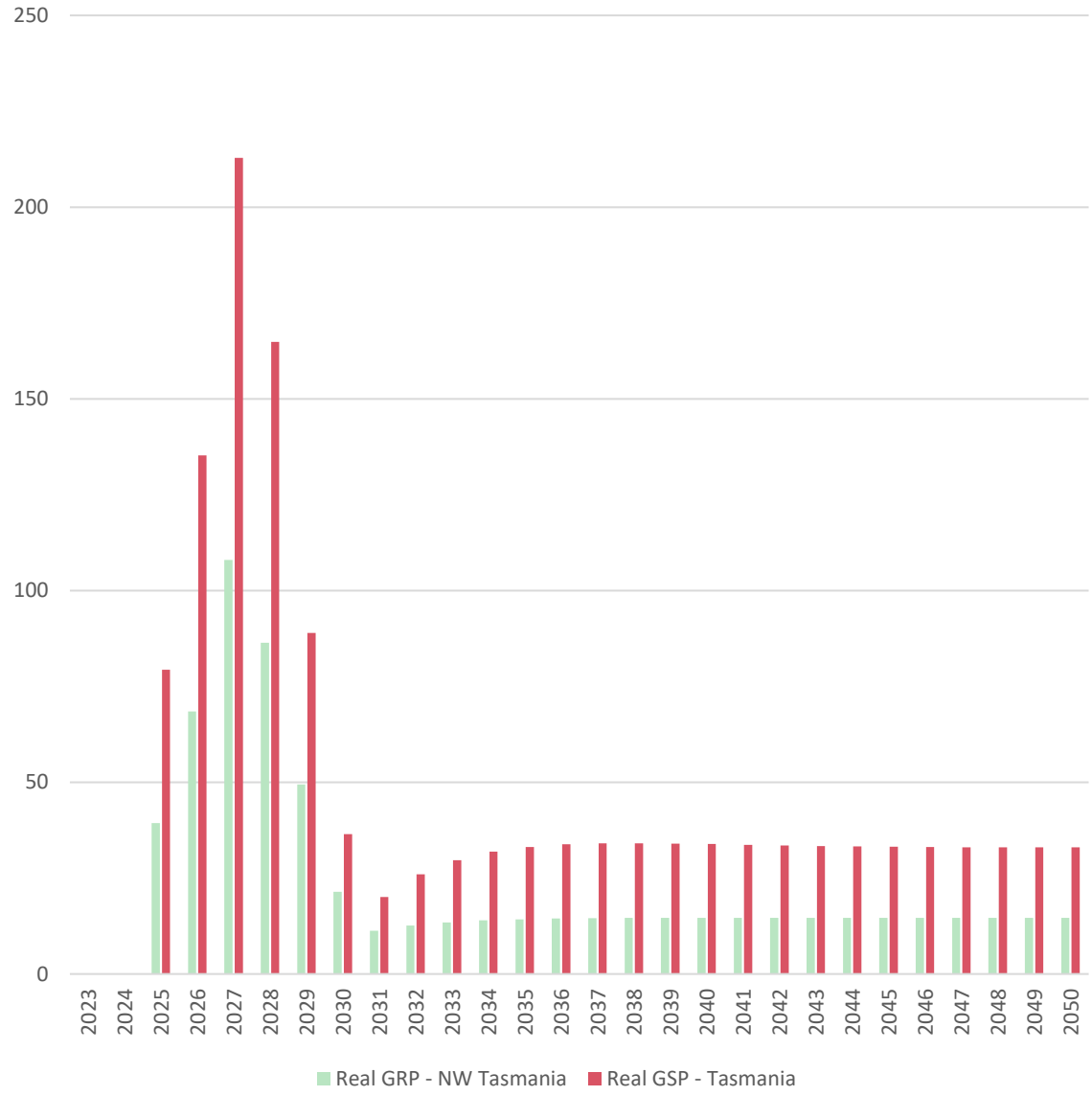
Extending the impact out to all of Tasmania, Marinus Link adds:

- $681 million to the state economy during the five years of construction (2025 to 2029), peaking at $213 million in 2027.
- $679 million to the state economy between 2030 and 2050 for operations and maintenance, at an average of $32 million per annum.

The impact per annum from construction and operations is captured in Figure 4 below. As shown, the estimated economic impact for North West Tasmania is a subset of the state-wide impacts, an indication that a portion of the inputs (e.g., goods and services) required for overall delivery of the Marinus Link operations and maintenance phase would be sourced outside the immediate North West Tasmania region but within the state.

The Marinus Link is expected to have an operational life of forty years, so the economic impacts can be expected to continue flowing beyond 2050.

FIGURE 4: VALUE-ADDED TO THE ECONOMY FROM CONSTRUCTION AND OPERATIONS ($ MILLIONS)



Source: SGS Economics & Planning and Centre of Policy Studies

In terms of employment, In North West Tasmania, Marinus Link adds:

- 1,297 full-time equivalent (FTE) job-years in the regional economy during the five years of construction (2025 to 2029). The peak number of jobs created occurs in 2027 when 430 job-years are added.
- 306 FTE job-years in the regional economy between 2030 and 2050 for operations and maintenance, at an average of 15 job-years supported each year.

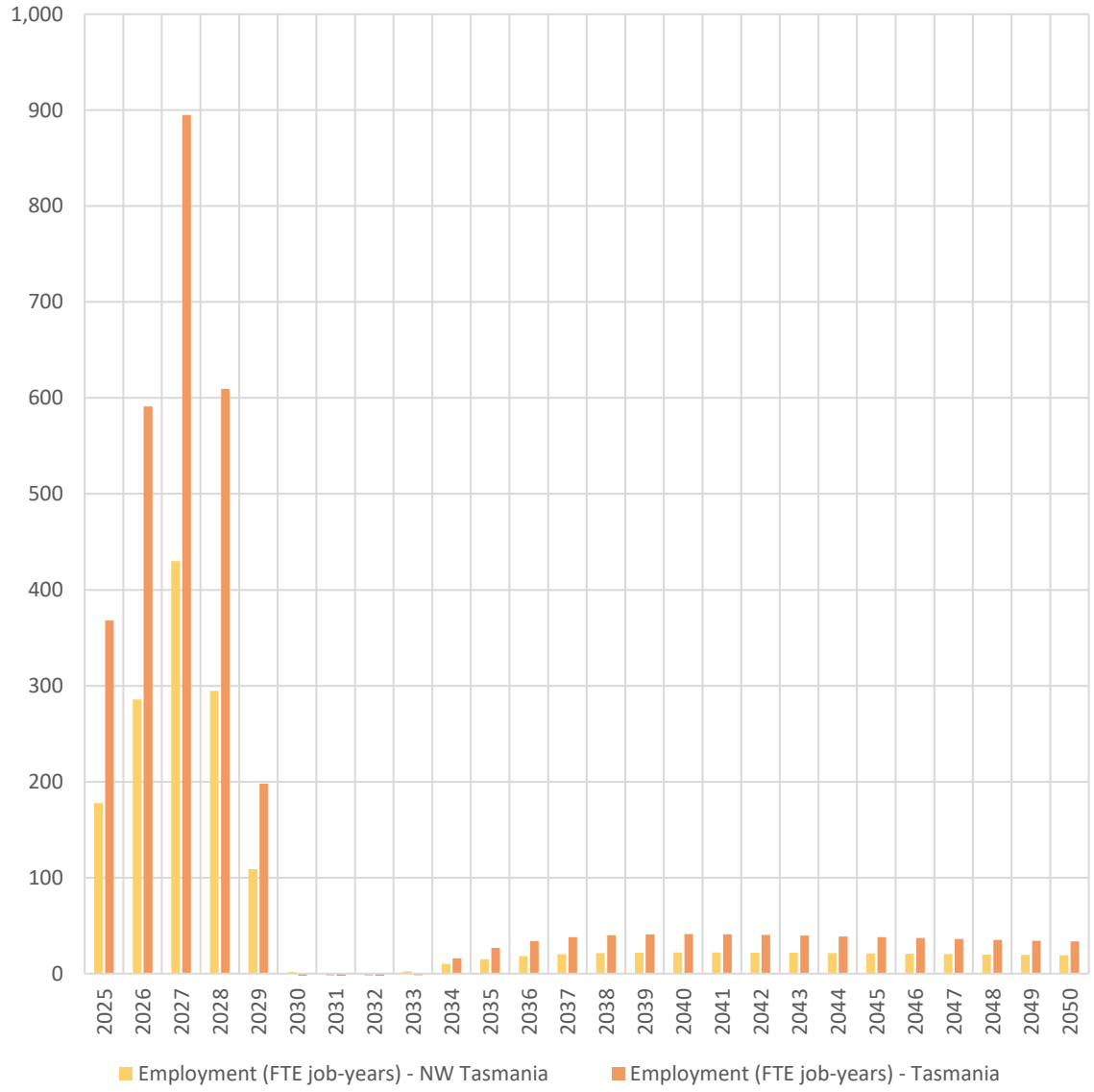
Extending the impact out to all of Tasmania, Marinus Link adds:

- 2,661 FTE job-years during the five years of construction (2025 to 2029), with a peak of 895 job-years added in 2027.

- 494 FTE job-years during operations in the state between 2030 and 2050, at an average of 24 job-years supported annually.

The impact on job-years per annum from construction and operations is captured in Figure 5 below.

FIGURE 5: FTE EMPLOYMENT GENERATED BY CONSTRUCTION AND OPERATIONS (TASMANIA)

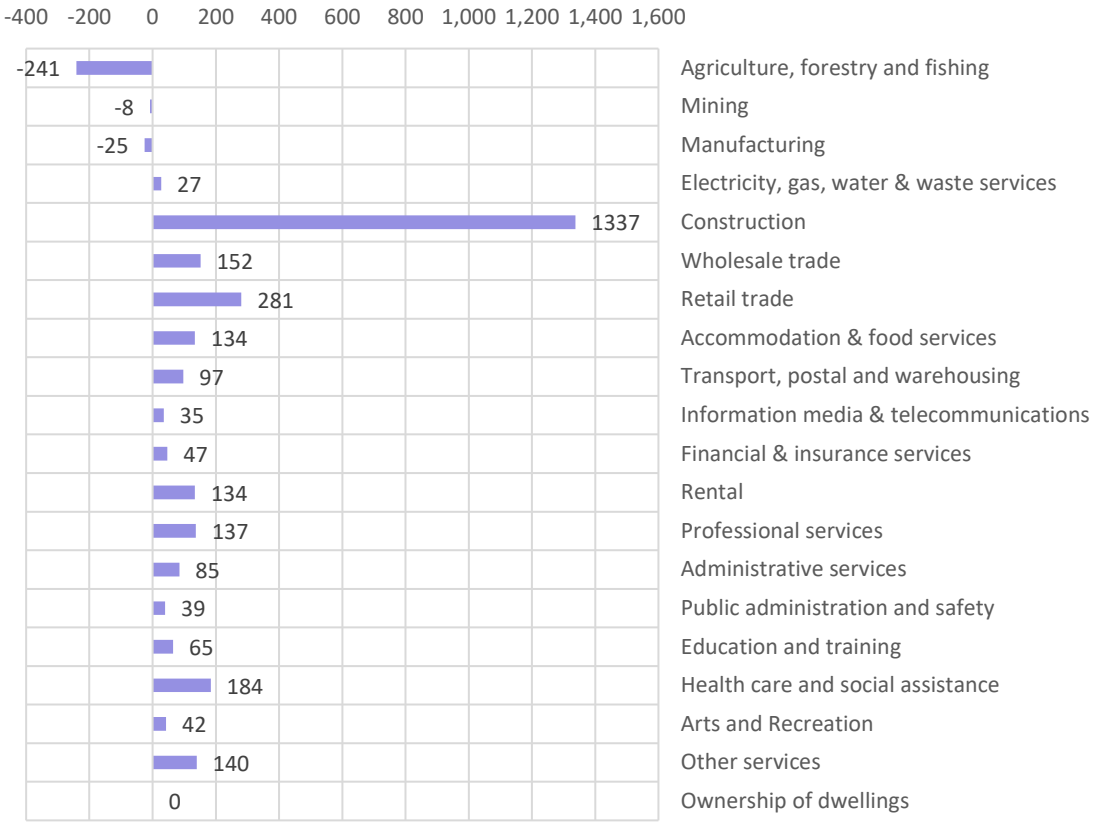


Source: SGS Economics & Planning and Centre of Policy Studies

Including flow-on impacts, the jobs created occur across various industries in Tasmania, not just construction.

During construction phase (refer to Figure 6), Marinus Link is expected to add 1,337 FTE job-years in construction, 281 in retail trade and 184 in health care and social assistance. There is estimated to be a slight reduction in job-years in agriculture, forestry and fishing (-241), manufacturing (-25) and mining (-8) as these sectors are likely to compete for workers with Marinus Link during the construction period.

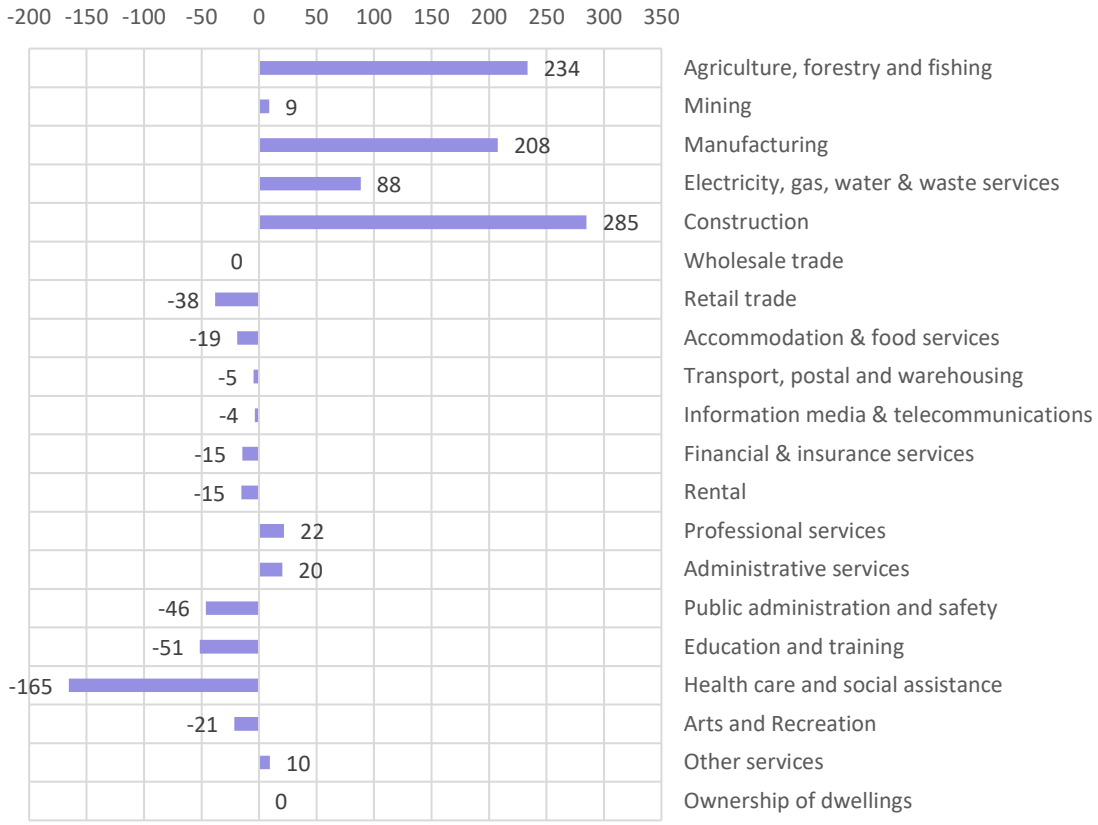
FIGURE 6: FTE (JOB-YEARS) BY INDUSTRY DURING CONSTRUCTION PHASE (TASMANIA) (2025-2029)



Source: SGS Economics & Planning and Centre of Policy Studies

During operational phase (refer to Figure 7), Marinus Link is expected to add 285 FTE job-years in construction. In sectors such as agriculture, forestry and fishing and manufacturing where job-years were slightly reduced during construction phase, it is expected that workers are likely to return to these sectors after the construction of Marinus Link, adding back 234 and 208 FTE job-years respectively from 2030 to 2050.

FIGURE 7: FTE (JOB-YEARS) BY INDUSTRY DURING OPERATIONS PHASE (TASMANIA) (2030-2050)



Source: SGS Economics & Planning and Centre of Policy Studies

6.2 Economic impacts on Victorian economy

Construction and operation

SGS and the CoPS have modelled the economic impact of the construction and operation of Marinus Link on the regional Gippsland economy, and the whole state of Victoria. In Gippsland, Marinus Link adds:

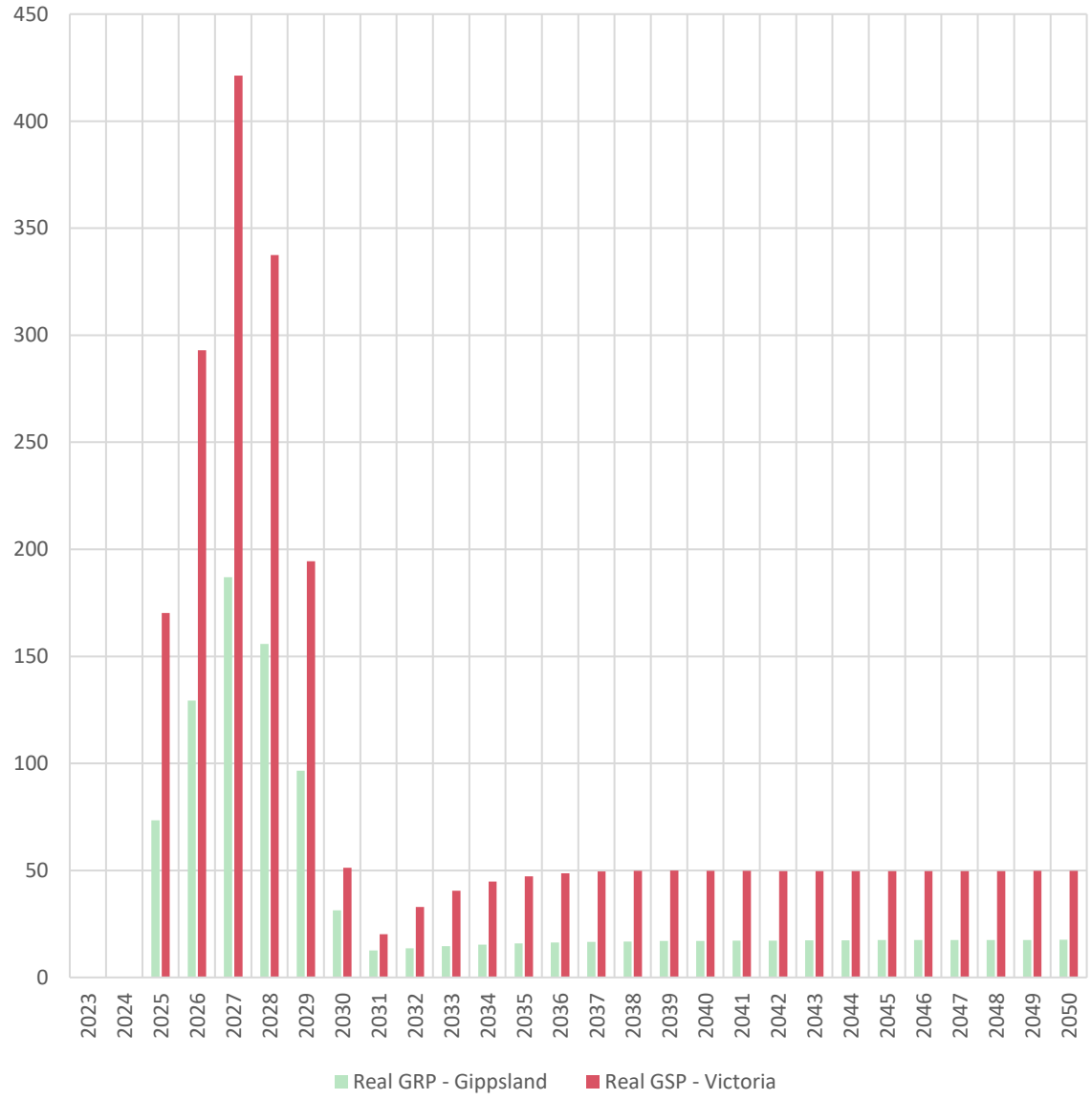
- $642 million to the Gippsland economy during the five years of construction (2025 to 2029). The peak annual impact occurs in 2027, with a yearly contribution of almost $187 million.
- $361 million to the Gippsland economy between 2030 and 2050 for operations and maintenance, at an average of $17 million per annum.

Extending the impact out to all of Victoria, Marinus Link adds:

- $1.4 billion to the Victorian economy during the five years of construction (2025 to 2029), peaking at $421 million in 2027.
- $981 million to the state economy between 2030 and 2050 for operations and maintenance, at an average of $47 million per annum.

The impact per annum from construction and operations is captured in Figure 8 below. The results for Gippsland are naturally smaller than the Victorian results, given that Gippsland is an economic subset of the Victorian economy.

FIGURE 8: VALUE-ADDED TO THE ECONOMY FROM CONSTRUCTION AND OPERATIONS ($ MILLIONS)



Source: SGS Economics & Planning and Centre of Policy Studies

In terms of employment, In Gippsland, Marinus Link adds:

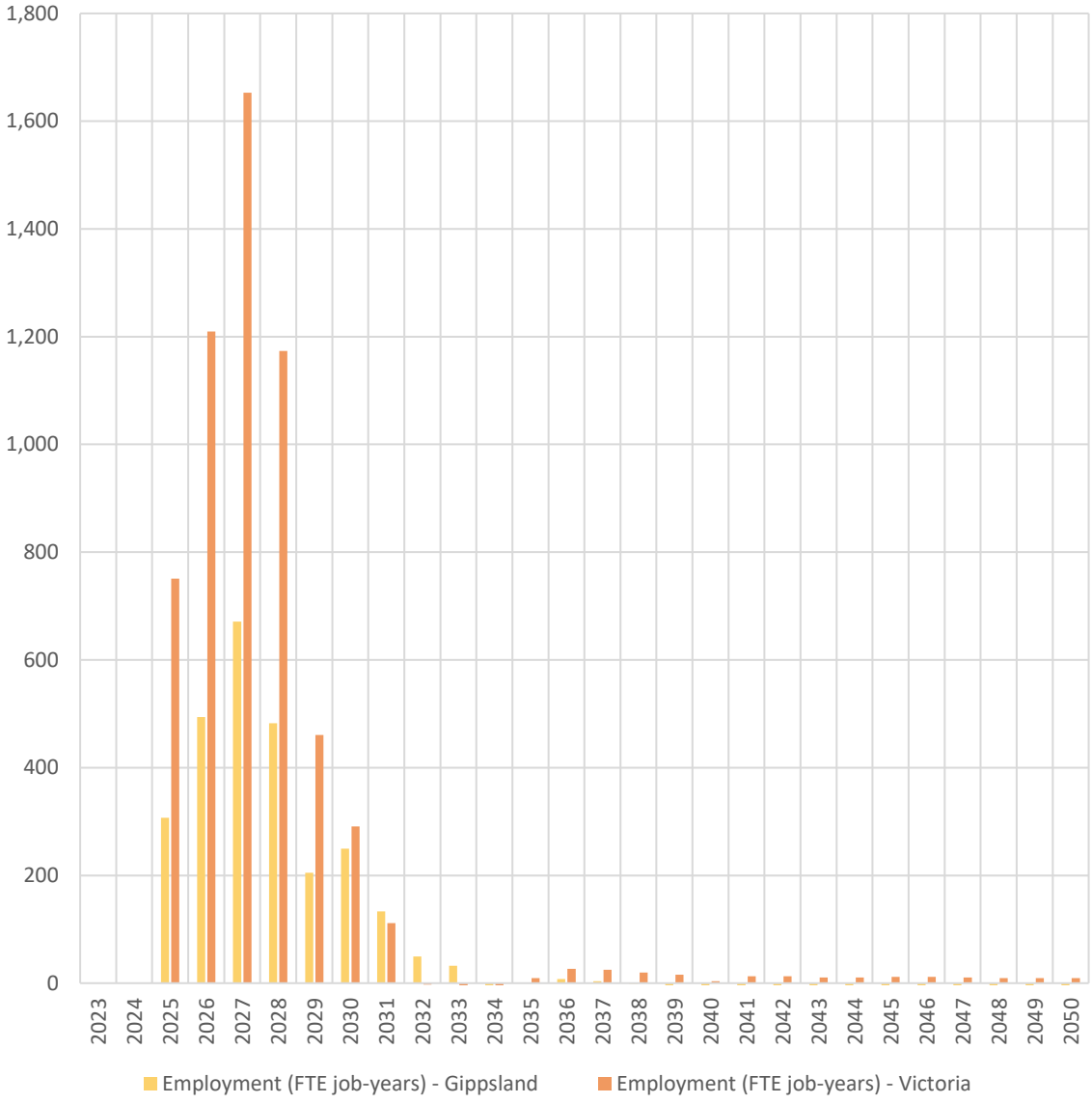
- 2,159 FTE job-years during the five years of construction (2025 to 2029). The peak number of job-years created occurs in 2027 when 671 job-years are added.
- 388 FTE job-years in Gippsland between 2030 and 2050 for operations and maintenance, at an average of 18 each year.

Extending the impact out to all of Victoria, Marinus Link adds:

- 5,247 FTE job-years during the five years construction phase (2025 to 2029), with a peak of 1,653 job-years added in 2027.
- 592 FTE job-years during operations in the state between 2030 and 2050, averaging 28 per annum.

The impact on job-years per annum from construction and operations is captured in Figure 9 below.

FIGURE 9: FTE EMPLOYMENT GENERATED BY CONSTRUCTION AND OPERATIONS (VICTORIA)

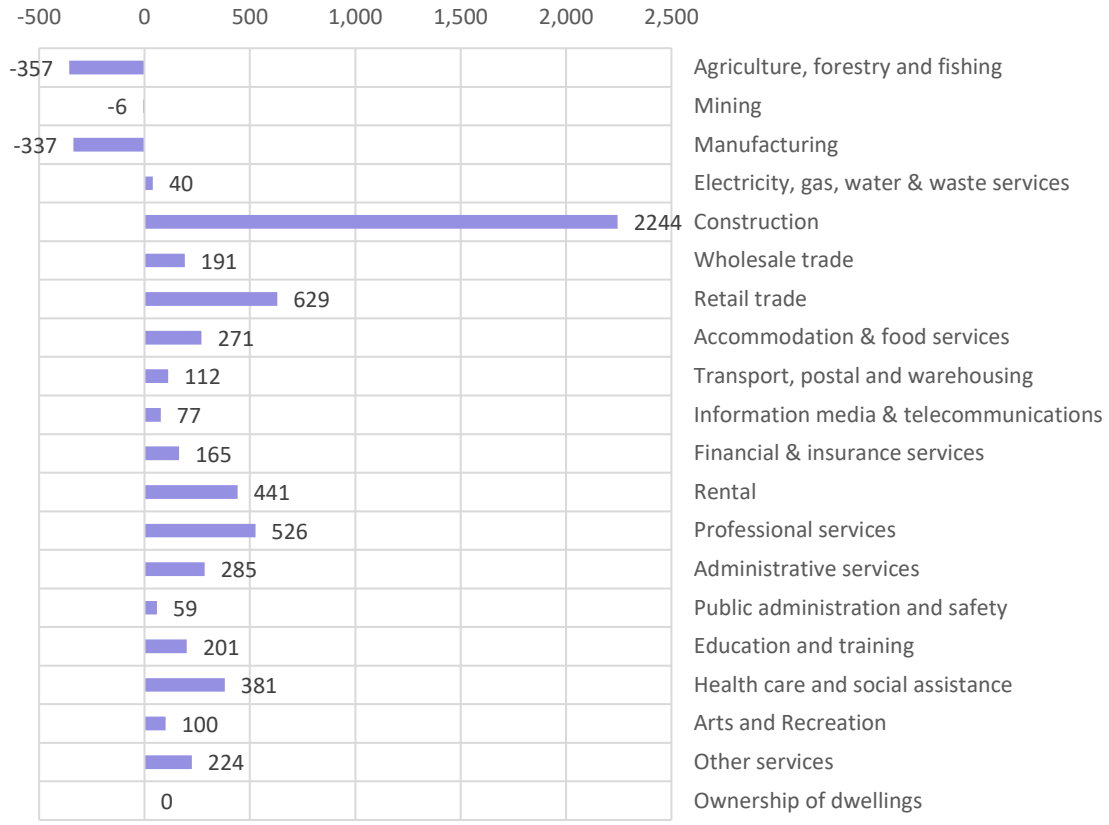


Source: SGS Economics & Planning and Centre of Policy Studies

The number of job-years created occur across a range of industries in Victoria, and include flow-on impacts, not just the number of people hired directly by Marinus Link.

During construction phase (refer to Figure 10), Marinus Link is expected to add 2,244 FTE job-years in construction, 629 in retail trade and 526 in professional services. There is estimated to be a reduction in job-years in agriculture, forestry and fishing (-357) and manufacturing (-337) as these sectors are likely to compete for workers with Marinus Link during the construction period.

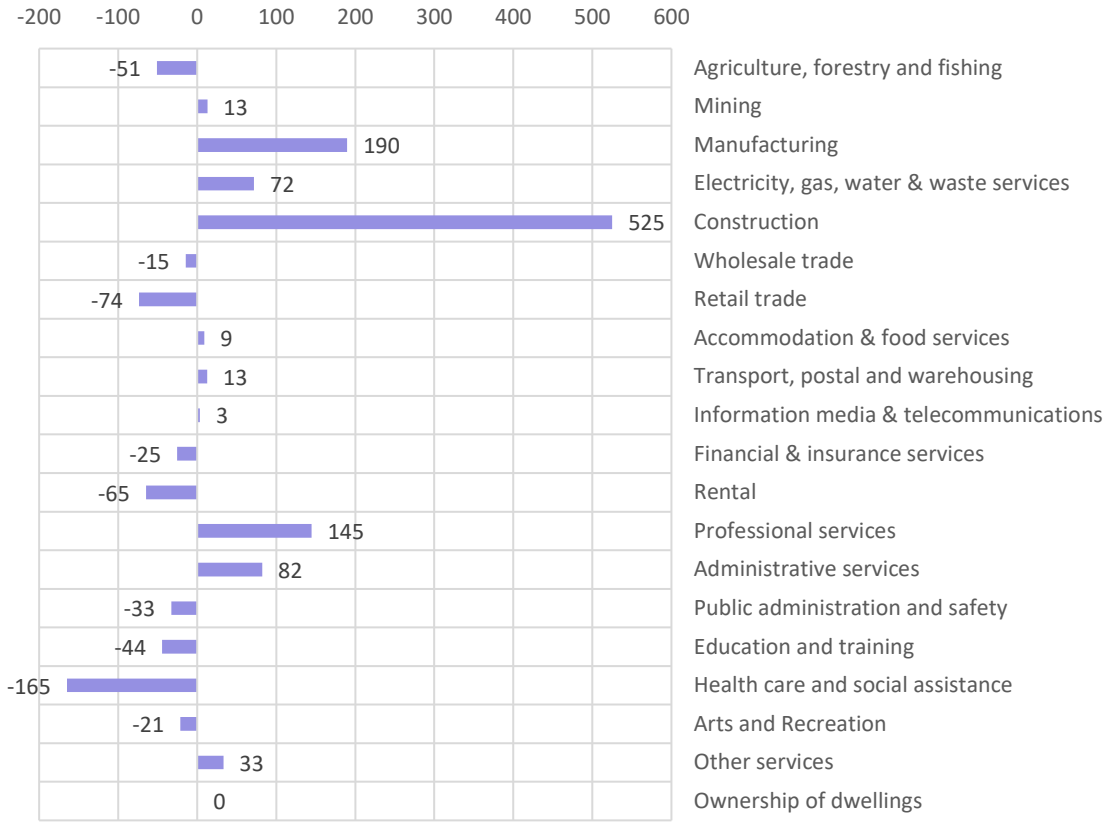
FIGURE 10: FTE (JOB-YEARS) BY INDUSTRY DURING CONSTRUCTION PHASE (VICTORIA) (2025-2029)



Source: SGS Economics & Planning and Centre of Policy Studies

During operational phase (refer to Figure 11), Marinus Link is expected to add 525 FTE job-years in construction. Agriculture, forestry and fishing is still expected to have a decline in job-years (-51) while for manufacturing, workers are expected to return to sector with 13 FTE job-years added. Health care and social assistance is expected to see a decline in FTE job-years (-165), as demand for these services might decrease as workers choose to move back to their hometown after the construction phase.

FIGURE 11: FTE (JOB-YEARS) BY INDUSTRY DURING OPERATIONS PHASE (VICTORIA) (2030-2050)



Source: SGS Economics & Planning and Centre of Policy Studies

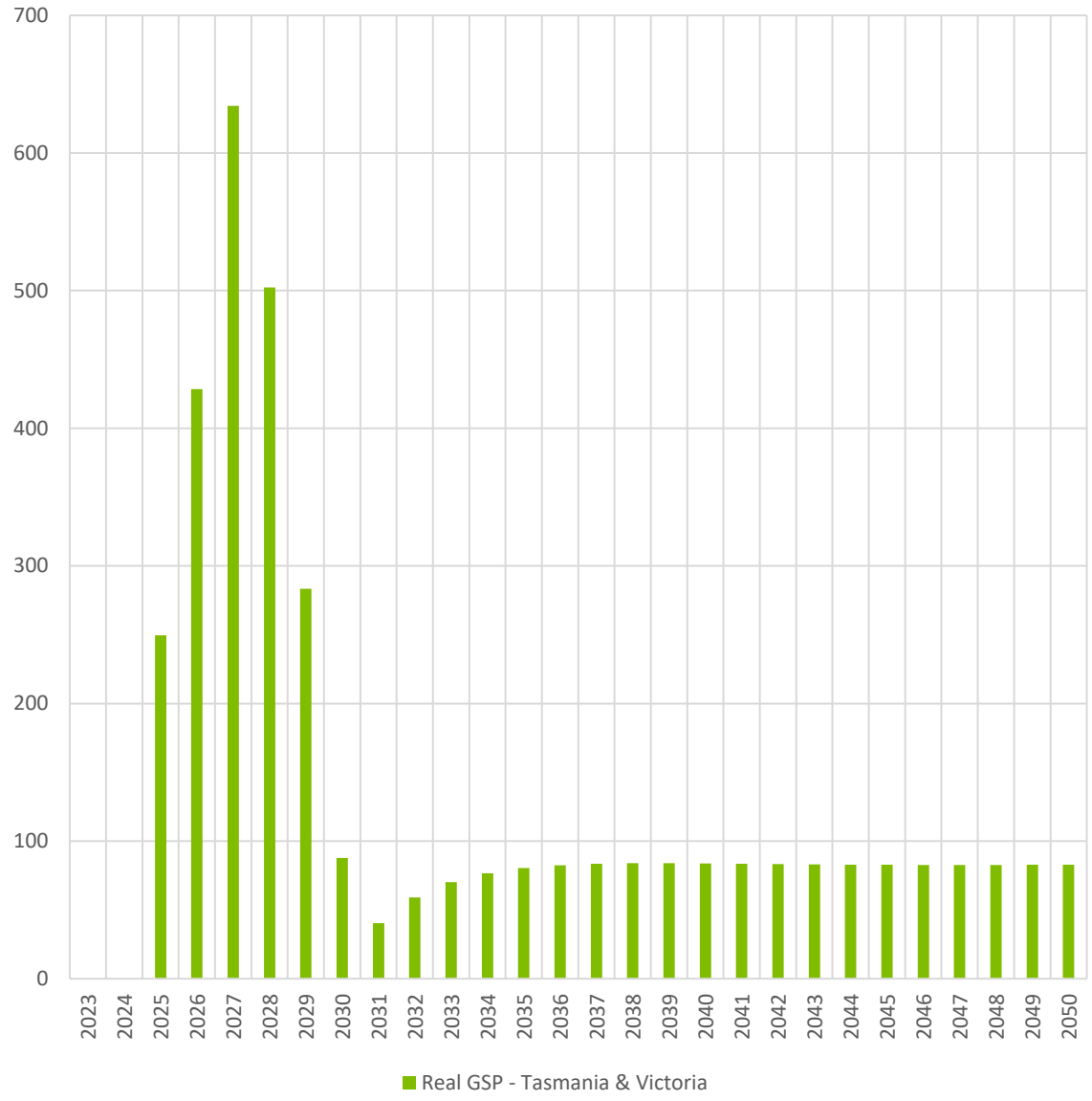
6.3 Total impacts from construction and operation of Marinus Link

This section estimates the total economic impact of the construction and operation of Marinus Link on the Tasmanian and Victorian economy as a whole. Marinus Link adds:

- $2.1 billion to the Tasmanian and Victorian economy together during the five years of construction (2025 to 2029). The peak annual impact occurs in 2027, with a yearly contribution of almost $634 million.
- $1.7 billion to the Tasmanian and Victorian economy together between 2030 and 2050 for operations and maintenance, at an average of almost $79 million per annum.

The impact per annum from construction and operation is captured in Figure 12 below.

FIGURE 12: TOTAL VALUE-ADDED TO THE ECONOMY FROM CONSTRUCTION AND OPERATIONS ($ MILLIONS)



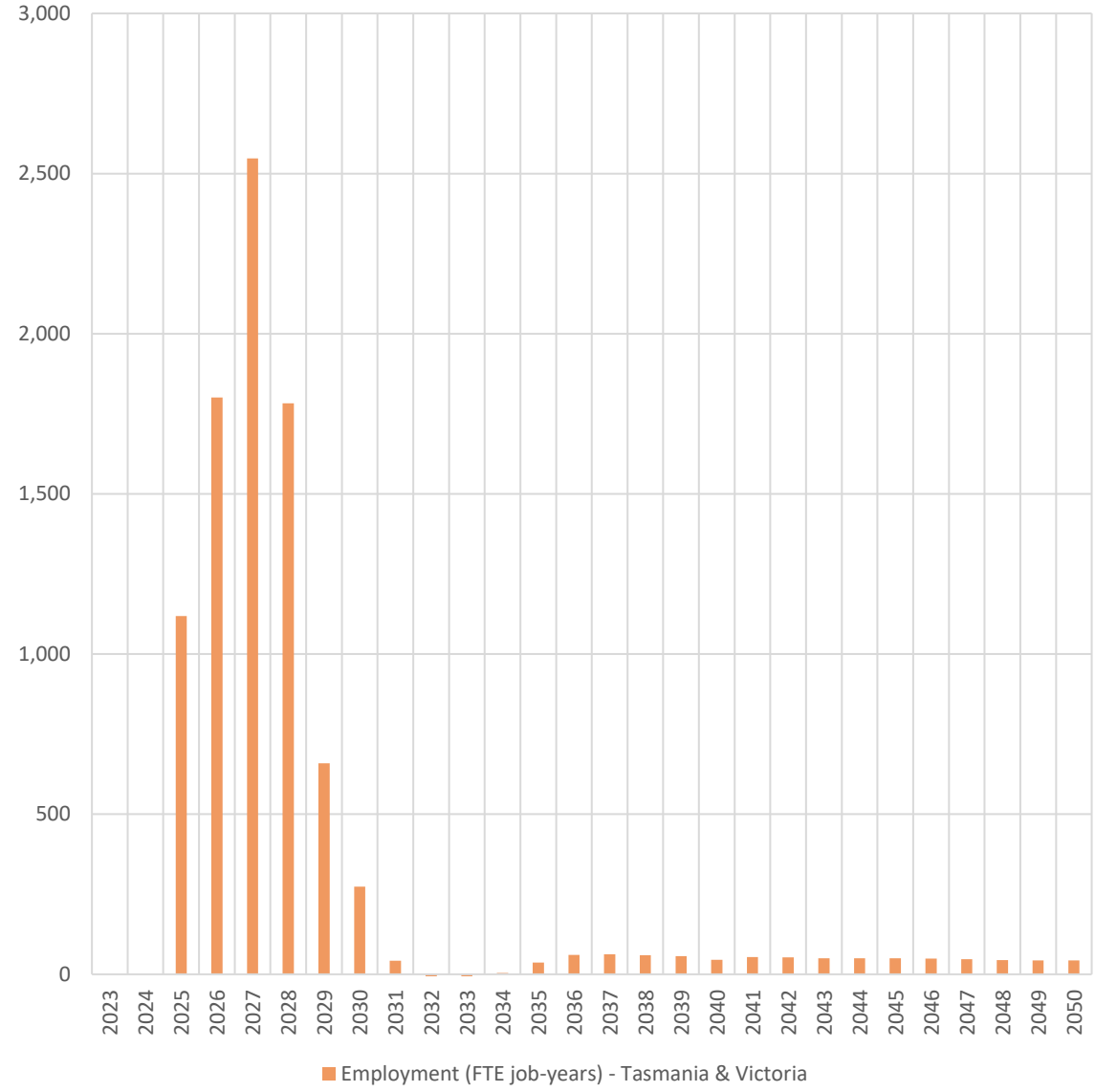
Source: SGS Economics & Planning and Centre of Policy Studies

In terms of employment added to the Tasmanian and Victorian economy combined, Marinus Link brings:

- 7,908 FTE job-years during the five years of construction (2025 to 2029). The peak number of job-years created occurs in 2027 when 2,548 job-years are added.
- 1,086 FTE job-years between 2030 and 2050 for operations and maintenance, at an average of 52 each year.

The impact of job-years per annum from construction and operations is captured in Figure 13 below.

FIGURE 13: FTE EMPLOYMENT GENERATED BY CONSTRUCTION AND OPERATIONS (TOTAL)



Source: SGS Economics & Planning and Centre of Policy Studies

6.4 Induced investments

Marinus Link is expected to induce the development of renewable energy electricity generation projects in Tasmania to meet the demand for clean energy in the National Electricity Market (NEM). As noted previously, these induced investments can be characterised as upstream economic activities – in that they are investments related to power generation projects intending to utilise and be integrated into the network via access provided by Marinus Link.

AEMO has identified sites in the North West of Tasmania with natural advantages over sites on mainland Australia for such energy generation and storage. With Marinus Link, such additional

investment in renewable energy production capacity increases the state's overall ability to export electricity. These investments represent the inducement of approximately 33,700 MW of additional generation capacity sourced from wind and pumped hydro in Tasmania.

SGS and the CoPS modelled the economic impact of these induced renewable energy investments. As summarised below, the estimated induced economic activity materialising in North West of Tasmania is greater than the construction and operations impact from the Marinus Link itself:

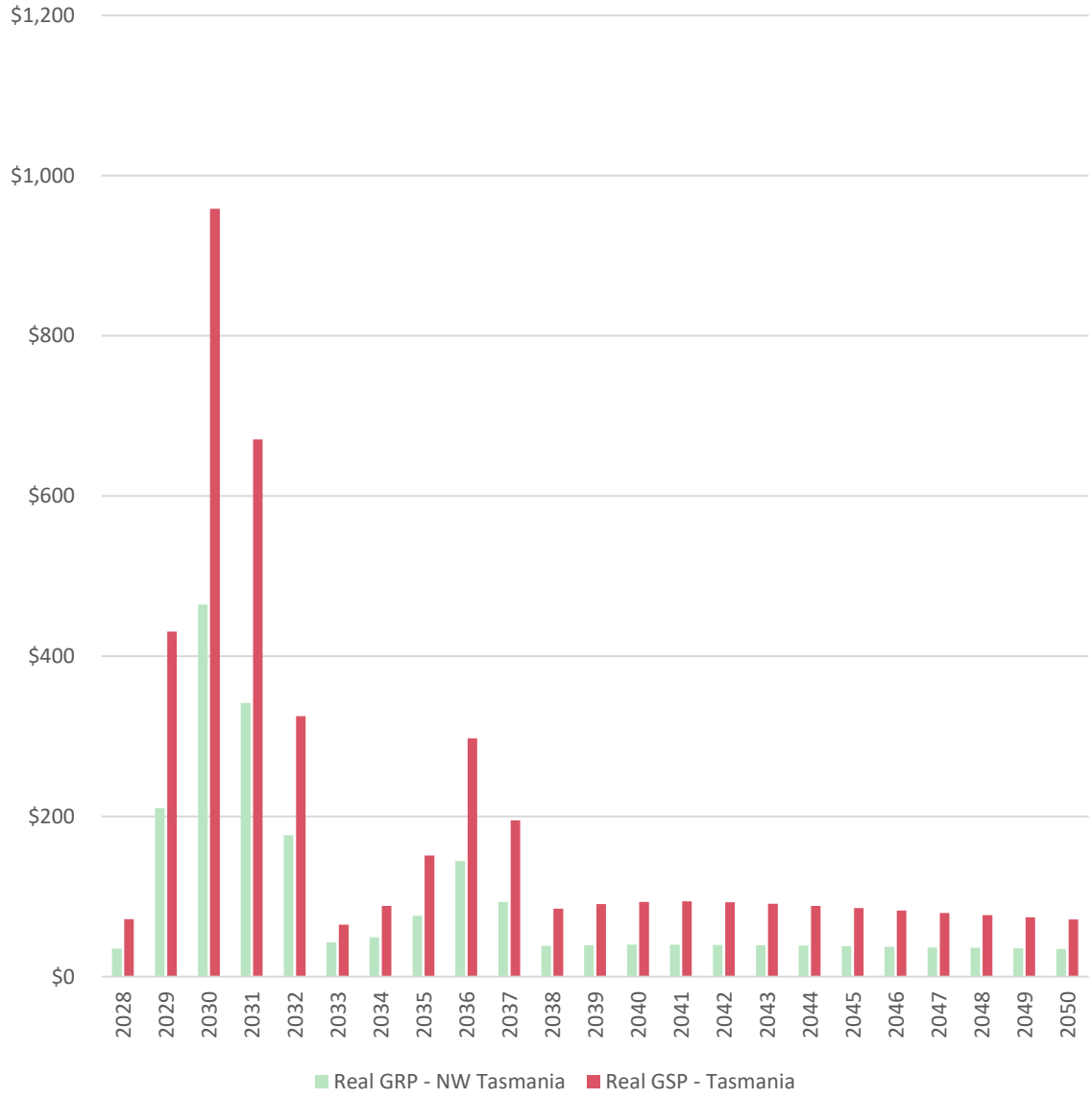
- Combined $2.1 billion to the North West Tasmania economy between 2028 and 2050 from construction and operation with an average per annum contribution of $92 million.
- Construction and operation are expected to support an estimated 5,051 FTE job-years to 2050, for an average of 220 job-years supported per annum.

When the overall impact on the state of Tasmania is included, the total economic activity estimated as a result of these induced renewable energy projects is:

- $4.4 billion to the state economy between 2028 and 2050 due to the construction and operation of new energy generation capacity, for an average per annum contribution of $190 million.
- The construction and operation of new energy generation induced by Marinus Link would 11,705 FTE job-years to 2050, for an average of 509 job-years supported each year.

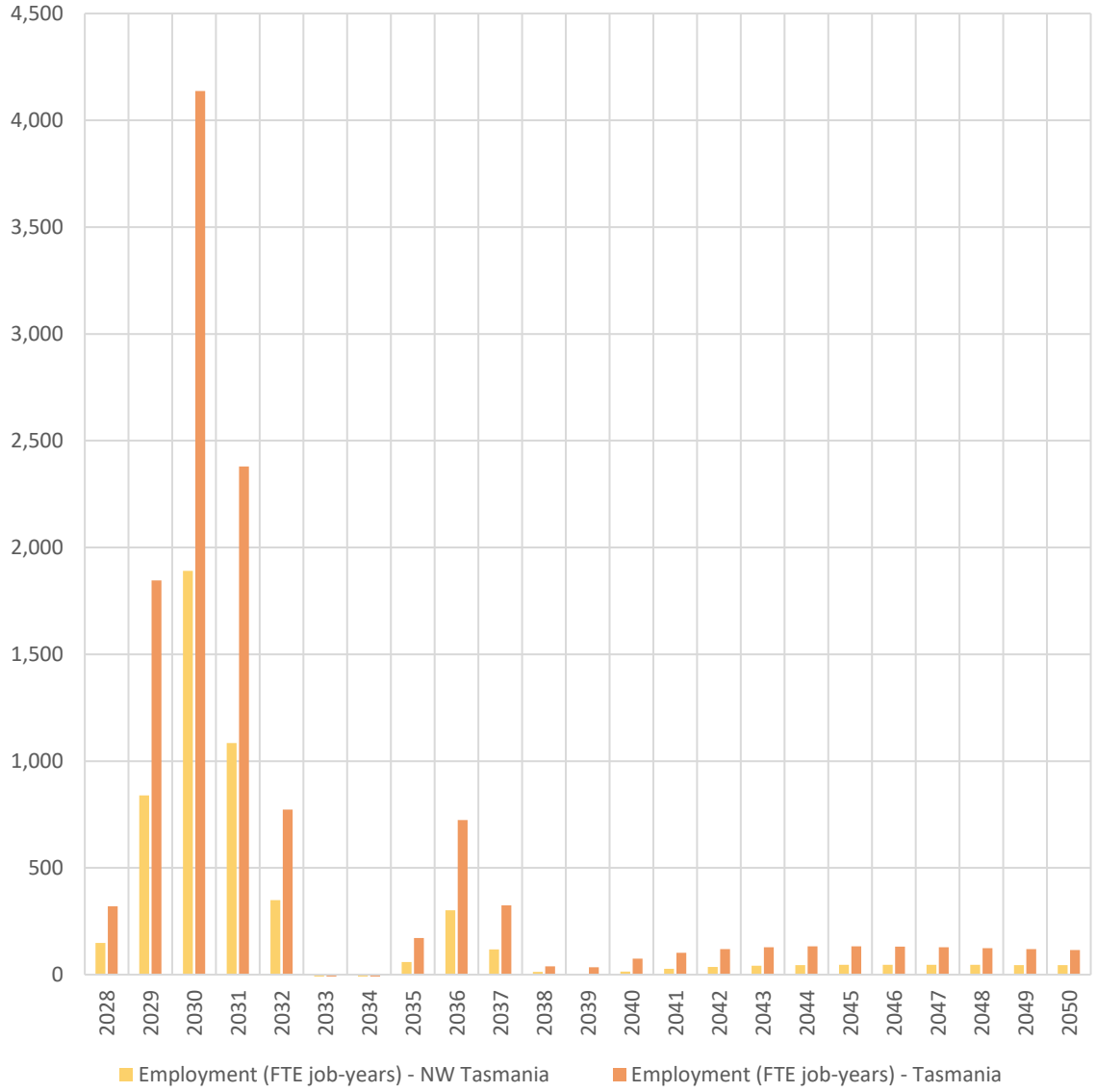
The annual economic and employment contributions to the North West Tasmania and Tasmania economies are captured in Figure 14 and Figure 15.

FIGURE 14: VALUE-ADDED FROM CONSTRUCTION AND OPERATIONS OF INDUCED INVESTMENTS



Source: SGS Economics & Planning and Centre of Policy Studies

FIGURE 15: FTE EMPLOYMENT GENERATED BY CONSTRUCTION AND OPERATIONS OF INDUCED INVESTMENTS



Source: SGS Economics & Planning and Centre of Policy Studies

6.5 Economic opportunities

The preceding analysis of the proposed capital investment in the construction and operations of the Marinus Link project present not only a quantification of the project's economic impacts, but also imply an economic opportunity for local and regional labour forces.

This section discusses two key aspects of the overarching economic opportunities presented by the Marinus Link project that align with the scoping requirements, such as how the project might benefit First Nations people and the local workforce (as referenced in **Table 4**, **Table 5** and **Table 6** in Section 2)

It should be noted that such assessment of these aspects are considerations and do not constitute comprehensive and/or detailed examination or analysis of the impacts; rather this section discusses the extent to which the negative and positive elements of such socio-economic considerations could be made with the information made available to SGS.

6.5.1 First Nations employment and procurement opportunities

Key issues

Marinus Link will support jobs stemming from its construction and operational phases, which technical modelling conducted by CoPS is estimated to include such industries as professional and technical professions, administrative services, construction, and a variety of other supportive sectors. The extent to which such economic opportunity will be made available to First Nations peoples through employment and procurement policies, processes and procedure is a key focus for MLPL.

Existing environment

Aboriginal and Torres Strait Islander Peoples are the original custodians of the land on which Marinus Link's economic benefits will materialise. According to the 2021 ABS census, there are 358 Aboriginal and Torres Strait Islander Peoples in South Gippsland, and 1,659 in Latrobe City. In both regions, however, labour force participation rates among Aboriginal and Torres Strait Islanders are lower than those across the broader population[20].

Mitigation

Consultation for the Victorian and Tasmanian Social Impact Assessments identified opportunities for First Nations people to gain new skills and integrate them into the project workforce[21]. As such, MLPL has established an Aboriginal Advisory Group that facilitates ongoing conversations between Traditional Owners in Gippsland related to the impacts and opportunities of the project – covering topics across employment, procurement, environmental protection, offsets and rehabilitation and cultural heritage.

Performance

MLPL is committed to putting in place S05 industry participation and social inclusion plan[22] to identify efforts and actions to increase the economic opportunities for these First Nations communities, which include taking advantage of the estimated employment resulting from the one-time (construction-related) and ongoing (operational) direct and indirect job impacts.

[20] Victorian Social Impact Assessment
[21] Victorian Social Impact Assessment
[22] Victorian Social Impact Assessment and Tasmanian Social Impact Assessment. These initiatives will be developed through the execution of the EPRs.

6.5.2 Skills and training opportunities

Key issues

As noted above, the Marinus Link project will support jobs stemming from its construction and operational phases, which technical modelling conducted by CoPS is estimated to include such industries as professional and technical professions, administrative services and construction. The extent to which the broader local and regional labour forces will benefit from such economic opportunities is also a key focus for MLPL.

Concerns were raised in both Tasmanian and Victorian Social Impact Assessments, including:

- Local workforce lacking the capacity and skillset to fill the advanced manufacturing jobs, for example, required for construction and operations of the Marinus Link project[23].
- A lack of alignment between the skills needed for the local and regional labour force to benefit from such opportunity and the low levels of people locally studying these skills, such as science, technology, engineering and mathematics, which are recognised as highly critical in the renewable energy space. It was also acknowledged that TAFE institutions only offer traditional pathways[24].
- Local workforce acquiring unique skillsets and experiences only relevant to Marinus Link, which might not be transferrable after project completion[25].

Existing environment

According to the Department of Jobs and Small Business (2019), there is a shortage of civil engineering professionals in Tasmania. The National Skills Commission (2023) also indicated a shortage of electricians and electrical engineers, which are required during operational phase of the Marinus Link. These projected shortfalls appear to be a continuation of an existing shortage of qualified and available workers in the construction industry in Tasmania[26]. These roles are critical to Marinus Link as indicated in Figure 6. Similarly, the Victorian Social Impact Assessment notes the absence of an available skilled labour force in rural areas where much of the energy infrastructure will be located.

Likely effects

The economic modelling outputs suggest that the Marinus Link project will support jobs in industries related to construction and operational activities, such as professional and technical professions, administrative services, and a variety of other supportive sectors, as classified by the Australian and New Zealand Standard Industrial Classification System (ANZSIC) categories.[27] During the construction

[23] Tasmanian Social Impact Assessment
[24] Tasmanian Social Impact Assessment
[25] Tasmanian Social Impact Assessment
[26] Tasmanian Social Impact Assessment
[27] Such jobs by ANZSIC category correspond to localised distributions of occupational categories, as identified by the Australian and New Zealand Standard Classification of Occupations (ANZSCO). Occupational classifications include, for example: chief executives, general managers, finance managers, health and welfare services managers, school teachers, clerical and administrative workers, etc. https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/latest-release

phase, for example, Marinus Link is expected to add 1,337 FTE job-years in the Tasmanian construction sector (refer to Figure 6) and 2,244 FTE job-years in the Victorian construction sector (refer to Figure 10).

While an analysis of the potential local distribution between the estimated construction and operational job impacts by ANZSIC category jobs across ANZSCO occupational classifications has not been completed, SGS believes it is reasonable that such construction and operational job impact will be distributed across different occupational and skill-level spectrums. Given the diversity of ANZSIC job categories estimated by the technical modelling to be impacted by construction and operation of the Marinus Link, a diverse set of career opportunities is likely to be supported.

However, given the lack of depth in the supply and skills sets of the local and regional labour forces, the Victorian Social Impact Assessment noted the possibility of a 'boom bust' employment cycle was possible reflecting during and after construction. Specifically, it was noted that the possible impact would be high for construction-period demand of construction workers, which creates significant risks, i.e., increases competition for labour supply that may be otherwise employed in other efforts, such as home-building or construction of infrastructure[28].

Mitigation

From a skills and training perspective, job creation through the construction and operations of the Marinus Link project presents a clear linkage and motivation to engage in efforts to build and develop a skilled workforce (that could take advantage of job opportunities directly and indirectly related to Marinus Link, as well as those in upstream or downstream industries) through the training opportunities via RTO's, TAFE and universities. The creation of apprenticeships for young people and opportunities for workers transitioning out of declining industrial sectors is paramount for both the North West Tasmania and Gippsland regions.

In Tasmania, the University of Tasmania, TAFE Tasmania, Skills Tasmania, and the Education Department are all looking to Marinus Link and the induced renewable energy projects to provide demand for high-quality jobs and career pathways for students. These organisations are planning to shape curriculums and course offerings to create the workforce required and provide opportunities to young Tasmanians.[29]

MLPL is committed to guiding its procurement in line with Australian Industry Standards and will encourage local employment and training through their tenders and contracts to seek workforce participation of socially vulnerable populations, including but not limited to First Nations people, females and youth.

MLPL will implement strategies and initiatives to mitigate the impacts of competition in the workforce including the development and improvement of skill development pathways with regional partners,

---

[28] Victorian Social Impact Assessment

[29] The Victorian Social Impact Assessment also collated feedback from a variety of stakeholders in the fields of education, training and workforce development, in particular, characterising their awareness around the need for proactively aligning with the Marinus Link project. Specifically, "*Education skills and training opportunities for the existing, transitioning and retiring workforce. Reforms to workforce training such as on the job training and accreditation to fast-track skill development instead of going to university or TAFE for years.*"

coordination with regional workforce development and deployment, and expansion of the regional workforce by attracting new residents and assisting disadvantaged people facing barriers to participation. Increasing the size of the regional workforce will reduce competition pressures on labour with existing operations in the agriculture, forestry and fishing industry.

Performance

MLPL is committed to putting in place S01 social impact management plan[30] to leverage and build upon both regions' existing strengths in engineering, energy generation and manufacturing.

6.6 Externalities and other socio-economic impacts

To meet the scoping requirements, as outlined in Section 2, the following additional considerations to socio-economic impacts and externalities related to the Marinus Link are made, including:

- Impacts on agriculture, forestry and fisheries industries
- Impacts on tourism industry
- The extent to which raw materials, equipment, goods, and services will be sourced locally
- Impacts on local social amenity and community infrastructure
- Community demographic impacts
- Impacts on land values, and demand for housing
- Local, State and Federal Government rate, taxation, and royalty revenues (or any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal)

This discussion of the issues, existing environment, likely effects, mitigation and performance of these aspects are considerations and do not constitute comprehensive and/or detailed examination or analysis of the impacts. That is, this section discusses the extent to which the negative and positive elements of such socio-economic considerations could be made with the information made available to SGS. Furthermore, the following discussion should be cross-referenced and incorporated with other technical reports listed in Table 7.

6.6.1 Impacts on agriculture, forestry and fisheries industries

Key issues

Findings from the Victorian Agricultural and Forestry Technical Report, Marine Ecology and Resource Use Impact Assessment and the CoPS model suggest that construction of the Marinus Link project will likely disrupt commercial fishing, shipping operations and agricultural activities in the short term. In the long term, however, these impacts were assessed to have very low to low significance.

[30] Tasmanian Social Impact Assessment includes consideration of an employment and training performance strategy. These initiatives will be developed through the execution of the EPRs.

Existing environment

The agriculture, forestry and fishing industry (as defined by the ABS) is a critical economic driver in both North West Tasmania and Gippsland. There are 3,800 agriculture, forestry and fishing jobs in North West Tasmania and 9,200 in Gippsland (Australian Bureau of Statistics, 2021).

Agriculture in Southern Gippsland region of Victoria contributes to over $2 billion in gross regional product per year, with 80% of agricultural produce supplied from beef, dairy farming and horticulture[31]. Within the survey area, there are 342 land parcels between the proposed shore crossing point at Waratah Bay and its termination at the potential Hazelwood converter station site, of which 296 are within the proposed easement. Most farming operations in the survey area are family-owned[32].

In addition, Bass Strait contains major east-west shipping lanes with a high density of shipping. There are numerous cross-strait shipping routes used by commercial cargo ships and bulk carriers, as well as passenger ferries and commercial fishing vessels[33]. In the past decade, there were 11 fisheries with catch data indicating that they fished in the vicinity of the project[34].

Likely effects

The Agricultural and Forestry Technical Report, the Marine Ecology and Resource use Impact Assessment and both Tasmanian and Victorian Social Impact Assessment, mention potential effects of the construction and operation of the Marinus Link. Specifically in the Agricultural and Forestry Technical Report it is estimated that 105 agricultural properties will be affected by the proposed easement, totalling up to 305 hectares of land[35] and identified the following potential impacts:

- Reduced productivity or yields from disturbance during construction.
- Reduced productivity or yields caused by degraded soil structure, soil moisture content and fertility during operation.
- Impact on production caused by need to modify or adopt alternative agricultural practices.
- Lost or reduced production or yields through breach of biosecurity controls leading to introduction or spread of animal or plant pathogen or noxious weed infestation.
- Reduced farm income due to constraints on farm development plans.[36]

Residual impacts on agricultural sector were assessed as low to moderate significance in the construction period and very low to low in the operation period. It was concluded that Marinus Link would not result in unacceptable or long-term impacts to the existing agricultural practices within the study area. Overall, any agricultural impacts would be localised and site specific. Impacts would be generally short-term and construction period related, such as short-term inconvenient movement within, and around a farming enterprise[37].

---

[31] Agricultural and Forestry Technical Report
[32] Agricultural and Forestry Technical Report
[33] Marine Ecology and Resource Use Impact Assessment
[34] Marine Ecology and Resource Use Impact Assessment
[35] Agricultural and Forestry Technical Report
[36] Agricultural and Forestry Technical Report
[37] Agricultural and Forestry Technical Report

In terms of impacts on fisheries industries, commercial fishery resources (e.g., targeted fish, squid, abalone and shellfishes) are not predicted to be impacted, since the project's impacts on marine fauna were assessed low to very low[38]. Impacts of magnetic field, electric field and thermal field as a result of Marinus Link on the marine environment were also assessed low to very low[39].

The CoPS model indicated that construction of the Marinus Link will indirectly place pressure on the industry vis-à-vis increased competition for labour. During the construction phase (2025-2029), employment levels in Victoria in the agriculture, forestry and fishing sector may fall below the BaU by 32 to 113 FTE job-years on a per annum basis. Longer-term, however, given all other macroeconomic assumptions in the CoPS modelling, there is a longer-term trend toward employment levels being nominally (if at all) above or below the BaU.

Similarly in Tasmania, the CoPS model estimates that during the construction phase (2025-2029), employment levels in Tasmania in the agriculture, forestry and fishing sector may fall below the BaU by 18 to 80 FTE job-years on a per annum basis but stabilise post-construction (during operations) to employment levels of 7 to 17 FTE job-years above the BaU.

Mitigation

The Agricultural and Forestry Technical Report, as well as other technical reports, identify that landholders will be compensated for acquisition of any land, including currently productive agricultural land in the easement area. It is also understood that during construction, landholders will be compensated through financial arrangements for access licences and construction leases[40].

MLPL will consult with representatives of the various commercial fishery associations in Victoria and Tasmania to alert them of the project's planned schedule of marine construction activities including their proposed locations, dates, times and expected duration[41]. Ships' navigators and the skippers of smaller vessels will adjust their planned routes to deviate around the project's construction vessels. At the completion of Marinus Link, MLPL will assist the Australian Hydrographic Office (AHO) in publishing Notices to Mariners to inform maritime users of the presence of seabed power cables and mark them on navigation charts. It is anticipated that the project will not require exclusion zones over the project's subsea cables during operations as they will have been buried to a nominal depth of 1 m or more for protection against anchor and trawling gear hook-ups[42].

As noted previously, MLPL will deploy several tactics to mitigate the impacts of competition in the workforce. Such tactics are understood to include the development and improvement of skill development pathways with regional partners, coordination with regional workforce development and deployment, and expansion of the regional workforce by attracting new residents and assisting disadvantaged people facing barriers to participation. Increasing the size of the regional workforce will reduce competition pressures on labour with existing operations in the agriculture, forestry and fishing industry.

---

[38] Marine Ecology and Resource Use Impact Assessment
[39] Marine Ecology and Resource Use Impact Assessment
[40] Agricultural and Forestry Technical Report
[41] Marine Ecology and Resource Use Impact Assessment
[42] Marine Ecology and Resource Use Impact Assessment

Performance

Six environmental performance requirements (EPRs) were identified to provide desirable outcomes for agriculture and forestry during the construction and operation phases of the project. These include A01 complete property condition surveys prior to construction, A02 develop and implement property management plans to avoid or minimise impacts on agricultural and forestry properties etc[43].

MLPL is committed to develop a Marine Communications Plan that outlines the approach to notifying the Australian Maritime Safety Authority (AMSA) and commercial and recreational fisheries of the proposed locations, timing and duration of proposed construction[44].

6.6.2 Impacts on tourism industry

Key issues

Natural attractions of coastline and state parks including Waratah Bay and Wilsons Promontory are highly-valued tourism assets. As identified in the Victorian SIA, the project's construction activities may result in temporary changes to the amenity and character, which could reduce the use of the beaches, state forests and nature reserves used by the community and are[45].

Existing environment

Wilson's Promontory is one of Parks Victoria's most popular sites, with an estimated 197,700 visits in summer 2021-22[46], while the beaches at Waratah Bay attract swimmers, surfers and fishermen.

Likely effects

It has been identified that during construction, short-term (i.e., tourism) accommodation could be constrained due to the demand for temporary construction workforce accommodation. Such an eventuality could result in lower business surpluses (i.e., profit) or labour surplus (i.e., wages) during construction, as well as indirect spending impacts, such as tourist spending on other retail expenditure categories, such as retail and food services[47].

While these potential negative impacts are acknowledged in the Social Impact Assessment, the economic modelling completed for this EIA indicates that total expenditure potentials during the construction and operational phases of the Marinus Link project will generate elevated levels of economic activity in the retail trade and accommodation and food services sectors, including support for approximately 358 FTE job-years in Tasmania and 836 job-years in Victoria across 2025 to 2050.[48]

---

[43] Agricultural and Forestry Technical Report
[44] Marine Ecology and Resource Use Impact Assessment
[45] Victorian Social Impact Assessment
[46] Victorian Premier (October 2023)
[47] Victorian Social Impact Assessment
[48] The Victorian Social Impact Assessment conducted as a part of this overall process included stakeholder consultation and engagement. Findings of that consultation and engagement related to tourism industry stakeholders identified that the tourism industry may experience disruption during the construction, though exact estimates were not given.

The Marine Ecology and Resource Use Impact Assessment indicated that impacts on marine-based tourism and recreation in both nearshore and offshore Bass Strait were assessed low to very low[49].

Mitigation

To manage the impacts to the tourism accommodation and related industries during construction in particular, MLPL is committed to putting in place S01 social impact management plan with relevant government agencies, key stakeholders and key affected parties to minimise such impacts across the project during construction[50].

Performance

To alleviate the pressure on short-term accommodation specifically, MLPL is committed to putting in place S02 workforce and accommodation strategy to address the potential social impact of the Marinus Link workforce and accommodation requirements[51].

6.6.3 The extent to which raw materials, equipment, goods, and services will be sourced locally

Key issues

The economic modelling reflects known relationships between the portion of materials, goods and services procured locally and those that are imported. At a regional level, goods and services are procured to the extent that existing businesses and suppliers exist, are capable of delivering the right goods and services and competitive in the context of non-locally based alternatives.

Issues related to the sourcing of local materials, equipment, goods and services are broadly related to economic development efforts, such as would be represented by Economic Development Strategies (as discussed in Section 0), including the presence of certain industries, local assets and resources, local labour force dynamics, skills, etc. EDSs often seek to facilitate, take advantage of or, at a minimum benefit from major projects or investments such as the Marinus Link project to create local economic opportunities. At issue is the extent to which these EDSs and other direct efforts may be able to augment or enhance those local sourcing opportunities.

The greater the role industry and business in the region can have in supplying goods and services for the construction and operations of Marinus Link, the greater the positive and beneficial workforce and economic impacts may be realised.

Existing environment

In Tasmania, the Tasmanian Renewable Energy Action Plan (TREAP) sets clear objectives and actions to transform Tasmania into a global Renewable Energy Powerhouse. Section 3.4 of the TREAP refers specifically to procurement & opportunities for local businesses. The aim is to maximise local Tasmanian business and employment opportunities for renewable energy projects. Ensuring the widest participation by Tasmanian businesses in renewable energy projects is a key priority for Government.

[49] Marine Ecology and Resource Use Impact Assessment
[50] Victorian Social Impact Assessment. These initiatives will be developed through the execution of the EPRs.
[51] Victorian Social Impact Assessment

That means ensuring that renewable energy projects, where possible, will generate employment and opportunities for local businesses.

Likely effects

Outputs of the technical modelling by CoPS suggest that the capital investment related to construction and development of the Marinus Link will generate spending and economic activity for local business at the local level, as well as the state and national levels. The outputs of economic activity characterised in Section 6.1 and Section 6.2 respectively, detail the extent to which labour and inputs will be sourced locally.

As an indication of the extent to which the Marinus Link project will contribute to these impacts, the CoPS model estimates that during construction 152 FTE job-years to Tasmania's wholesale trade industry and 191 to Victoria's wholesale trade industry are expected to be supported.[52] In terms of gross value added, that is $49 million to Tasmania's wholesale trade industry and $80 million to Victoria's.

Mitigation

Over the long term, through the project's long-term procurement pipeline, MLPL's objective is to leverage procurement processes to expand local supply chains and stimulate further business development, spending and investment.

Performance

Toward this objective, MLPL is committed to procure goods and services in accordance with its S04 community benefits sharing scheme, S05 industry participation and social inclusion plan[53] to support local businesses, including compliance by suppliers and contractors).

6.6.4 Impacts on local social amenity and community infrastructure

Key issues

By significantly contributing to a robust regional economy with key export strengths, with opportunities to build and develop a skilled regional workforce, a growing regional services base, and opportunities for investment and expansion in local and regional businesses, Marinus Link could significantly contribute to the social amenity of North West Tasmania and Gippsland. The issue related to the provision of local social amenity and community infrastructure is whether and to what extent existing systems and funding mechanisms are sufficient for building schools, child care, health services and sports facilities.

[52] The CoPS modelling indicates that, following decline of elevated employment levels in North West Tasmania during the construction and development phase, that the employment level stabilises to approximately 2 to 3 jobs above the BaU from 2036. Similarly, following decline of the elevated employment levels in Victoria during the construction and development phase, the employment level during the operational phase stabilises to approximately 2 FTE jobs above the BaU.
[53] These initiatives will be developed through the execution of the EPRs.

Existing environment

In rural areas of North West Tasmania and Gippsland, capacity to meet demands for emergency services from the existing population is already constrained let alone demand emerging from an increased population[54]. Further characterisation of the existing environment and status of community infrastructure is contained within the Social Impact Assessments.

Likely effects

The technical modelling outputs suggest that the completion and delivery of Marinus Link will generate economic activity across the regions and states, which have the potential to contribute to a higher standard of living, wages and employment opportunities. Such economic activity also generates local rates, infrastructure contributions and state tax revenues, which are in part used for the provision and construction of community infrastructure (such as libraries, parks, child care centres, etc.). Industries engaged in such development and construction of community infrastructure can be characterised as a component of downstream economic activities, as referenced in Section 4.2. For example, modelling estimates that the economic activity generated is expected to increase local government revenues (i.e., rates) between 2025 and 2050: a cumulative total of $39 million in Victoria and $17 million in Tasmania. It is likely that a portion of such public revenues would be used to meet growing need for community and social infrastructure. However, the influx of new workers and their families to Gippsland and North West Tasmania will place pressure on the existing system and network of community and social infrastructure. Such a situation could create access constraints and challenges in the delivery of such services for residents if not managed.

Among other anticipated benefits to the community are potential lower energy and telecommunications costs. In terms of lower energy (electricity) costs for consumers, the Marinus Link assists in securing cost-effective Tasmanian dispatchable generation as the national energy market transitions. The capacity introduced by Marinus Link could assist to exert downward pressure on wholesale electricity prices by facilitating the replacement of marginal and coal-powered generators with additional dispatchable capacity. Under the current circumstances of high and escalating energy costs, downward pressure is a relevant and material benefit to residents and the community. In terms of telecommunications, the Marinus Link will also expand opportunities for optical fibre routes across the Bass Strait, supporting greater telecommunication diversity and security between Tasmania and mainland Australia. Such an outcome may also translate into opportunities for local innovators and entrepreneurs.

Mitigation

MLPL is committed to putting in place S01 social impact management plan to mitigate the impact of Marinus Link's workforce on demand for health and emergency services.

[54] According to the Victorian Social Impact Assessment, both Victorian LGAs have fewer medical and dental practitioners per capita than the State. Consultation with health service providers further highlighted the issue and that there are challenges with attracting allied health professionals such as physiotherapists, occupational therapists, and podiatrists.

Performance

The Tasmanian Social Impact Assessment recommended EPRs (as part of S01 social impact management plan) to mitigate impact of Marinus Link's workforce on demand for health and emergency services[55].

6.6.5 Community demographic impacts

Key issues

Given Marinus Link is a maritime project, professionals and tradespeople with experience in maritime settings will be required. Examples include maritime safety staff, marine preservation advisors, maritime construction and engineering experts, maritime logistics, and transportation specialists. Concerns have been raised about the skill capacity of the residential workforce to meet the project demand for workers[56].

Existing environment

Over recent decades economic restructuring, including declining employment in sectors like manufacturing, has seen divergent economic outcomes between regional areas, like North West Tasmania and Gippsland, and Australia's capital cities. High-paying jobs have been concentrated in large cities like Melbourne, Sydney and Brisbane, which have also experienced the most population growth and investment. Investments in renewable energy projects present an opportunity for regional communities such as these.

In the absence of any affirmative action undertaken by the industry sector or state government, First Nations people, women and youth will continue to experience high levels of unemployment in the region, despite the significant opportunities presented by the cumulative increase in demand for skilled labour from this and the other energy-related projects[57].

Likely effects

Economic modelling indicates that employment opportunities will be created through the construction and operational phases of the Marinus Link project across a range of industry categories and occupational classifications. The construction phase will lead to employment for technicians and trades workers (e.g., electricians, architectural, building and surveying technicians, welders and metal fitters and machinists), labourers and machinery operators. Other opportunities include professionals (e.g., electrical engineers), tradespeople (e.g., electricians), managers and clerical and administration for operation. Such economic opportunities, which were discussed also in Section 6.5.2, present themselves as positive outcomes for the local and regional community insofar as they materialise as jobs and skills training for current and future residents.

[55] Tasmanian Social Impact Assessment
[56] Victorian Social Impact Assessment
[57] Victorian Social Impact Assessment

Mitigation

Marinus Link acknowledges existing social issues, including local employment opportunities, particularly for younger people. Marinus Link has a focus on delivering high-quality jobs, not simply a high number of jobs. MLPL is committed to putting in place S05 industry participation and social inclusion plan[58] to identify efforts and actions to increase the economic opportunities for young people, which include taking advantage of the estimated employment resulting from the one-time (construction-related) and ongoing (operational) direct and indirect job impacts.

Performance

Through both the S05 industry participation and social inclusion plan and the S04 community benefits sharing scheme, MLPL seeks to enhance employment and social benefits for the local demographics. Such investment (e.g., in community wealth building) is likely to generate flow-on social and community benefits.

6.6.6 Impacts on land values, and demand for land and housing

Key issues

Land use surrounding Marinus Link comprises primarily agricultural and forestry land uses, with some commercial, residential, tourism and utility land uses. The key issues surrounding impacts on land value and the demand for land and housing relate to the continuation, temporary or permanent disruption of Potential impacts requiring assessment include impacts to the continuation of existing land uses and character, including agricultural, commercial, residential, and recreational values[59].

General issues related to land values are highlighted in numerous technical reports, including the Victorian and Tasmanian Social Impact Assessments, the Planning and Land Use Impact Assessment, the Agricultural and Forestry Technical Report and the Marine Ecology and Resource Use Impact Assessment. Some of the issues raised in these technical reports, e.g., specifically related to land currently in productive agricultural use, as well as the acquisition of and compensation for land currently in productive agricultural use (discussed in Section 6.6.1).

However, as the construction and operation of the Marinus Link project relate to land value for valuation, taxation and/or development purposes, content and discussion related to demand for land for housing from both Victorian and Tasmanian Social Impact Assessments indicate that the Marinus Link workforce may augment demand for rental housing in the area and exacerbate existing rental availability and affordability issues, disproportionally affecting low-income households[60].

The fundamental issue underlying such increased demand conditions, i.e., higher willingness to pay in rental rates or sales prices, is an escalation in the expectation (among land owners) of land value. In property development, growth and demand pressures in a market with limited inventory can lead to lower vacancy rates (e.g., among existing rental inventories), increased appetite or pressure to develop new inventory, which in turn (and factoring all relevant development costs) can lead to the escalation in

[58] Victorian Social Impact Assessment and Tasmanian Social Impact Assessment. These initiatives will be developed through the execution of the EPRs.
[59] Planning and Land Use Impact Assessment Report
[60] Heybridge (Tasmanian) Social Impact Assessment and Victorian Social Impact Assessment

underlying (residual) land values. Increases in the expectation of land value often take place more quickly than decreases in the expectation of land value. As such, following short periods of elevated demand (such as might occur during construction of the Marinus Link project), in which sales prices and rental rates reflect heightened demand conditions, land values may remain at elevated levels for some time, creating a temporary situation in which further housing development is challenged as a result of continued high land costs and reduced demand pressures (which translate as lower willingness to pay in sales prices and rents).

Existing environment

The discussion of existing environment for land values and the demand for land for housing can be divided into two categories: direct implications on use and value of land; and indirect implications of the use and value of land.

In terms of direct implications on the use and value of land, the Planning and Land Use Impact Assessment Report documents that the Marinus Link project survey area traverses 342 land parcels, affecting 113 freehold owners, six land managers, and 20 licence holders, across the approximate 90 km project. Many of the affected titles are subject to powerline, carriageway, drainage, water supply, and gas transmission easements[61]. The Planning and Land Use Impact Assessment identifies a number of temporary changes to existing land uses and a range of short-term environmental impacts, through visual amenity impacts, noise, dust, traffic etc. In locations closer to townships such as Baromi, Buffalo, Dumbalk, the impact on land use due to construction is likely to be greater as the land uses are more residential in nature where amenity impacts from construction may affect enjoyment and attractiveness of residential dwellings and tourism facilities. The report concluded that these impacts are temporary in duration and limited in nature[62].

During operations, maintenance activities associated with Marinus Link would require periodic access to the cable easement as agreed with landholders and involve entry onto land for inspection on approximately an annual to biannual basis. Some elements of the project would require the permanent acquisition of land, including the proposed converter station at either Driffield or Hazelwood, as well as a land-based transition station at Waratah Bay if required. In the case of the potential converter station at Driffield this would imply that the land use for forestry activities will cease and would be changed to use as a utility installation for the functional lifespan of the project. If the station were to be placed in Hazelwood, the current use and occupation of the property[63] would be ceased[64].

As it relates to the preceding references to construction and operational phase impacts to the use of land, and as noted in the discussion referencing other technical reports, Section 6.6.1 indicates that land owners whose property will be acquired or even temporarily impacted will be compensated. Compensation for land under such circumstances is typically reflective of market values.

[61] Planning and Land Use Impact Assessment Report
[62] Planning and Land Use Impact Assessment Report
[63] A large portion of the proposed site at Hazelwood is currently used for a single dwelling associated with dry land cropping.
[64] Planning and Land Use Impact Assessment Report

In terms of indirect implications on the use and value of land, SGS's in-house housing demand model[65] projects that the North West Tasmania will need an additional 3,928 dwellings by 2040 to accommodate changing and growing demographics. This total increase represents an increase of 8.3% to the existing housing inventory, equivalent to an increase of 196 dwellings per annum. These forecasts are based on population forecasts from the Tasmanian State Government (high scenario[66]). Analysis of historical ABS data show that between 2006 and 2021, the housing inventory in North West Tasmania increased by 473 per annum.

In Gippsland, SGS's housing demand model projects that an additional 26,214 dwellings will be needed to accommodate growth and changes in the region's demographics to 2040, representing an increase of 16.9% over the existing housing inventory, equivalent to an increase of 1,748 dwellings per annum. These forecasts are based on population forecasts from the Victorian State Government (medium scenario). Analysis of historical ABS data shows that between 2006 and 2021, the housing inventory of Gippsland increased by 2,243 per annum.

Likely effects

In terms of the likely effects on land value and the demand for land for housing, the indirect implications on the use and value of land relate to housing demand generated in excess of the business-as-usual scenario modelled and discussed in Chapter 6. The following characterises the likely effects related to housing demand and land value (as a result) during construction:

- Employment levels during construction are substantially elevated from their BaU levels.
- Elevated housing demand levels are likely to emerge from elevated employment levels.
- A portion of the employment may be sourced locally (construction phase workers and their households already residing locally). These households, if owners, may experience an escalation in their home values. If renting, however, these households may experience an escalation in their rental rates.
- A portion of employment may be sourced from outside the respective regions and choose to relocate (construction phase workers and their households not currently residing locally). These households, whether they choose to relocate and rent or purchase a home, will represent increased demand for limited housing supply, creating more competition in the market, which has the potential to increase willingness to pay for prices and rents. The manifestation of such heightened demand pressures translates often directly into, but limited to, increased land values.
- A portion of the employment may be sourced from outside respective regions and choose not to relocate (construction phase workers and their households continuing to reside outside the respective regions).
- As discussed above, elevated levels of housing demand can translate to escalated housing prices, rents and potentially higher land values.

---

[65] SGS's housing demand projections are provided as context and represent a business-as-usual scenario. They do not incorporate the structural economic (i.e., industry level) shifts that have been modelled by CoPS to represent housing demand emanating from such implied structural economic differences.

[66] It is SGS's professional judgement that the high scenario for population growth should be used in Tasmania. The state has consistently tracked at or above the high scenario in recent years.

- If the development and home-building industry is not capable of accommodating and meeting the demand of such growth pressures, and if the planning system is unable to accommodate elevated levels of development approvals in a timely manner, land values are likely to escalate, contributing to higher costs of development, which necessitate higher sales prices and rents.
- Further effects could materialise in the form of housing stress (i.e., households spending more than 30% of their gross income on housing), which also represents a decrease in consumer surplus spending, which indirectly benefits local business in discretionary household spending categories, such as clothing, retail, food and beverage, etc. The quantification of such impacts, however, fell outside the scope of SGS and CoP's technical modelling.

During the operational phase:

- Employment levels during the operational phase of the Marinus Link are moderately higher (approximately 15 FTE jobs per annum) than the BaU.
- Housing demand will emerge from this moderately higher-than BaU employment level.
- It can be assumed, as with the construction phase that a portion of these FTE jobs will be sourced from workers (and their households) residing locally.
- A portion of these FTE jobs and their households may choose to relocate to the respective regions.
- A portion of these FTE jobs may be filled by workers (and their households) residing non-locally.
- Upward pressures on housing prices and rents are unlikely to be as strong during the operational phase as during the construction phase of the Marinus Link.

Mitigation

How Marinus Link is delivered, and its impact on housing costs will be a critical consideration. As such, Marinus Link is exploring opportunities to reduce pressure on local housing markets.. Other supporting reports, such as identified in the Social Impact Assessment, may also assist in identifying the need for and strategies to abate or minimise other risks, including residual risks associated with the mitigation of construction or operational phase impacts.

Performance

MLPL is committed to putting in place S02 workforce and accommodation strategy to address the potential social impact of the Marinus Link workforce and accommodation requirements[67]. The Planning and Land Use Impact Assessment Report has also recommended environmental performance requirements to minimise and manage land use planning-related impacts[68].

[67] Victorian Social Impact Assessment

[68] Planning and Land Use Impact Assessment Report. The relevant EPRs include LUP01 Minimise land use impacts through project design, LUP02 Minimise disruption due to property and easement acquisition, LUP03 Minimise land use impacts during and post construction and LUP04 Avoid and minimise impact on services and utilities.

6.6.7 Local, State and Federal Government rate, taxation, and royalty revenues

Based on the outputs of the technical modelling, Marinus Link is projected also to generate public taxation receipts for various levels of government (Figure 16). According to estimates from the CoPS model, compared to a situation where Marinus Link is not developed, between 2025 and 2050:

- Local governments in Tasmania and Victoria are expected to collect an additional $17 million and $39 from increased rates revenues, respectively.
- The Tasmanian State Government is expected to collect an estimated $91 million. This tax revenue includes property and payroll taxes and stamp duties.
- The Victorian State Government is expected to collect an estimated $232 million.
- The Australian Federal Government is expected to collect an estimated $383 million. This tax revenue largely stems from taxation on the provision of goods and services and income taxes on individuals.

Offsetting the any generation of public taxation receipts might be the provision of one-time or ongoing subsidies or services that are to be relied up for the construction or operation of Marinus Link. Information regarding such incentives or subsidies was neither known to SGS or MLPL at the time of the EIA preparation and therefore not considered in the analysis.

FIGURE 16: TOTAL ADDED TAXATION REVENUE, 2025-2050 ($ MILLIONS)

Source: SGS Economics & Planning and Centre of Policy Studies

6.7 Environmental Performance Requirements

Table 10 lists the relevant environmental performance requirements cited in this report.

TABLE 10: ENVIRONMENTAL PERFORMANCE REQUIREMENTS

EPR ID	Environmental Performance Requirement	Source
S01	Develop and implement a social impact management plan	Victorian Social Impact Assessment and Tasmanian Social Impact Assessment
S02	Develop and implement a workforce and accommodation strategy	Victorian Social Impact Assessment and Tasmanian Social Impact Assessment
S04	Develop and implement a community benefits sharing scheme	Victorian Social Impact Assessment and Tasmanian Social Impact Assessment
S05	Develop and implement an industry participation plan	Victorian Social Impact Assessment and Tasmanian Social Impact Assessment
A01	Complete property condition surveys prior to construction	Agricultural and Forestry Technical Report
A02	Develop and implement property management plans to avoid or minimise impacts on agricultural and forestry properties	Agricultural and Forestry Technical Report
LUP01	Minimise land use impacts through design	Land Use and Planning and Impact Assessment Report (Victoria)
LUP02	Minimise disruption due to property and easement acquisition	Land Use and Planning and Impact Assessment Report (Victoria)
LUP03	Minimise land use impacts during and post construction	Land Use and Planning and Impact Assessment Report (Victoria)
LUP04	Avoid and minimise impact on services and utilities	Land Use and Planning and Impact Assessment Report (Victoria)

Source: SGS Economics and Planning (2024)

7. Conclusion

The quantitative EIA has estimated the economic outcomes that are associated with:

1. The capital expenditure for the construction of the Marinus Link
2. The ongoing expenditure for the operation of the Marinus Link
3. The induced capital expenditure for windfarm and pumped hydro investments
4. The ongoing expenditure for the operation of the induced windfarm and pumped hydro investments.

The EIA finds there are considerable economic impacts from Marinus Link, in terms of the economic value-added and employment in the regional economies of North West Tasmania and Gippsland, but also the states of Tasmania and Victoria.

Over the 25-year construction and operation period assessed (2025-2050):

- Capital expenditure for constructing Marinus Link generates $351 million in direct and indirect economic activity to the North West Tasmania economy and $642 million to the Gippsland economy over a five-year period. This includes direct and flow-on spending related to the supply chains for constructing Marinus Link. When measuring impacts across the state, the Marinus Link project generates $681 million in direct and indirect economic activity to the Tasmanian economy (inclusive of the North West) and $1.4 billion to the Victorian economy (inclusive of Gippsland).
- The operation and maintenance of the Marinus Link generates $306 million in direct and indirect economic activity to the North West Tasmania economy and $361 million to the Gippsland economy over a twenty-year period, which includes the direct expenditure spent by Marinus Link and the flow-on impacts as that money circulates around the regional economies. When measuring impacts across the state, the Marinus Link project generates $679 million in direct and indirect economic activity to the Tasmanian economy (inclusive of the North West) and $981 million to the Victorian economy (inclusive of Gippsland).
- The construction and operation of induced renewable energy projects (windfarm and pumped hydro investments) in Tasmania are estimated to generate an additional $2.1 billion in direct and indirect economic activity to the North West Tasmania economy, and $4.4 billion to the Tasmanian economy (inclusive of the North West).

This value-added to the economy creates significant local and state employment across various sectors, including construction, professional services, retail, manufacturing and accommodation and food services. In total:

- The construction phase for Marinus Link creates 1,297 full-time equivalent (FTE) job-years in the North West Tasmania economy and 2,159 Gippsland over the five year construction period. Peak employment comes in 2027, when 430 FTE job-years are created in North West Tasmania and 671 in Gippsland. Extending the impact to the state level, construction adds 2,661 job-years to the Tasmanian economy (inclusive of the North West) and 5,247 job-years to the Victorian economy (inclusive of Gippsland) over the five year construction period.

- The ongoing expenditure for the operation of the Marinus Link adds 306 FTE job-years to the North West Tasmania economy and 388 to the Gippsland economy between 2030 and 2050. This corresponds to 15 job-years supported each year in North West Tasmania and 18 in Gippsland. Extending the impact to the state level, the operation of Marinus Link adds 494 job-years to the Tasmanian economy (inclusive of the North West) and 592 to the Victorian economy (inclusive of Gippsland).
- Spending related to construction and operation of the induced renewable energy projects in Tasmania generates an estimated 5,051 job-years to the North West Tasmania economy, and 11,705 to the Tasmanian economy (inclusive of the North West). This equates to an average of 509 job-years each year in Tasmania between 2028 and 2050.

Additionally, Marinus Link provides economic benefits through the following:

- Increased employment opportunities for First Nations communities in North West Tasmania and Gippsland.
- Long-lasting and secure employment opportunities allow skills and training opportunities for residents of the two regions across a range of skilled and occupational categories, such as labourers to engineers. There might also be jobs created in related industries who benefit from the economic activity, including retail, administrative services and accommodation and food services.
- Significant economic opportunities for local business are supported by the development of the Marinus Link and induced renewable energy project investments. Industries such as professional and technical services, engineering and local manufacturing are anticipated to be among the top benefiting sectors. This is important for the fact that a cluster of engineering businesses are already established in North West Tasmania who may be further supported by these projects.
- Social benefits through a more prosperous local community, new investments in community infrastructure, downward pressure on electricity prices and greater telecommunication diversity and security.
- There is expected to be significant public tax revenue benefits (estimated at $762 million in total from 2025 to 2050) from the economic activity generated by Marinus Link, which should flow to local, state and the Australian Government.

Some economic impacts will need to be managed to mitigate potential negative externalities. Two identified potential negative externalities and considerations for their mitigation include:

- Demand for labour primarily during construction phases of the Marinus Link and induced investments creates competition with ongoing labour supply needs in support of the regions' agriculture, forestry and fishing sectors. During the five-year construction phase, businesses in agriculture, forestry and fishing may find attracting and retaining workers more difficult. In North West Tasmania in particular, there may be worker shortages during this time.
- Following on from efforts to increase the regional workforces (and thus resident population) during construction of Marinus Link and induced investments, increased pressure on the housing markets in North West Tasmania and Gippsland is likely to occur. The increased housing demand will place upward pressure on housing prices and rents in already supply- constrained markets. As such, an internal Marinus Link working group on housing was commenced and a housing strategy on Marinus Link's role and actions will be developed for Tasmania and Victoria to mitigate the

increased pressure on housing markets in North West Tasmania and Gippsland caused by the influx of workers during construction phase. Specifically, Marinus Link is exploring opportunities to reduce pressure on local housing markets through the direct provision of worker housing (which then can be potentially dedicated to respective local governments and operated in perpetuity under agreements with Community Housing Providers) after construction of Marinus Link is completed.

An important mitigating strategy for both the workforce and housing market pressures will be a coordinated and sequenced approach to the roll-out of the construction of Marinus Link. This helps smooth out the shock to the economy and increasing the duration of the economic stimulus and its flow-on effects. Such an approach will also enable the local economy and workforce to absorb the optimal number of jobs locally.

In general, this characterisation of mitigation measures should be cross-referenced and incorporated with other identified mitigation measures in other reports as listed in Table 7.

Overall, from an economic perspective, Marinus Link will deliver significant outcomes to the regional economies of North West Tasmania and Gippsland, and Tasmania and Victoria. The mitigation of any potential negative externalities will also result in greater possible economic and social benefits to local communities.

CANBERRA / NGAMBRI / NGUNNAWAL

Level 2, 28-36 Ainslie Avenue
Canberra ACT 2601
+61 2 6257 4525
sgsact@sgsep.com.au

HOBART/ NIPALUNA

PO Box 123
Franklin TAS 7113
+61 421 372 940
sgstas@sgsep.com.au

MELBOURNE / NAARM

Level 14, 222 Exhibition Street
Melbourne VIC 3000
+61 3 8616 0331
sgsvic@sgsep.com.au

SYDNEY / WARRANG

Suite 2.01/50 Holt Street
Surry Hills NSW 2010
+61 2 8307 0121
sgsnsw@sgsep.com.au

SGS Economics & Planning

Certified B Corporation