



Supplemental Report to Economic Impact Assessment of Marinus Link

Final

Marinus Link Pty Ltd

August 2024





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Executive Summary

This Supplemental EIA is provided in response to questions of impact arising from updated information regarding the proposed timing and updated capital investment estimates for the Marinus Link Project (Project). SGS Economic & Planning's (SGS) key findings with regard to such questions are as follows:

Whether a change to the timing for delivery of Stages 1 and 2 would have any material implications for the assessment of economic impacts or conclusions, as described in SGS's EIA (May 2024)?

- **Gross-Value Added (GVA)** – across construction and operations (2025-2050), GVA increases over previous estimates are as follows: approximately 50% increase in NW Tasmania, 40% increase across Tasmania, approximately 20% in Gippsland, and 14% across Victoria
- **Employment** – across construction and operations (2025-2050), employment (in job-years) increases over previous estimates are as follows: approximately 52% increase in NW Tasmania, 18% increase across Tasmania, approximately 12% in Gippsland, and 6% across Victoria

Provide a review of the extent to which Commonwealth, Victorian or Tasmanian scoping requirements might be impacted by such changes and updated conclusions

- Following a re-examination of the scoping requirements, SGS believes the following scoping requirements are most impacted: impacts on local labour market, impacts on land value and land for housing (Tasmanian EPA and Victorian EES).
- SGS believes that the substance of the impact will remain the same; however, given the protracted construction/delivery timing, such impacts may be protracted.

Provide commentary on the extent to which SGS's considerations of other economic opportunities or externalities and other socioeconomic impacts would be impacted

- SGS believes the substance of our previous considerations remains the same; however, the protracted construction timeline prolongs the relevancy of a few considerations.
- For example, the protracted construction period and estimated increase in employment impacts imply 1) a net positive in creating more economic opportunities for First Nations people and others in the community, and 2) a net positive for creating skills and training opportunities.
- Also, the protracted construction period could have a prolonged effect on: 1) tourism impacts previously identified, 2) previously-identified impacts on land value and demand for housing.

Whether any additional mitigation measures or Environmental Performance Requirements (EPRs) would be recommended

- The identified mitigation and EPRs remain appropriate upon re-examination following the updated economic impact modelling.

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 (2024)

1. Introduction

1.1 Introduction

SGS Economics & Planning (SGS) completed an Economic Impact Assessment (EIA) for the Marinus Link Project. SGS's EIA is Technical Appendix B to the Marinus Link Environmental Effects Statement (EES) under the Environment Effects Act 1978 (Victoria) and the draft Environmental Impact Statement under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth). The EIA was approved for exhibition commencing 31 May 2024.

On 21 May 2024, SGS was notified by Herbert Smith Freehills (HSF) acting on behalf of Marinus Link Pty Ltd (MLPL) of: 1) an information update regarding the delivery of the Marinus Link Project, and as such, 2) instructions to prepare a Supplemental Report.

- The information update provided to SGS outlined that the Marinus Link Project would be delivered across two (2) stages, rather than a single five-year construction stage as represented in outputs detailed in SGS's EIA: with Stage 1 completed by 2030 and Stage 2 commissioned by 2033.
- The instructions to SGS served as the basis for the review and considerations contained within this Supplemental Report.

This report outlines the consideration of the revised timing of Stage 2 and the assumed works that would be completed for each stage relative to the EIA. This report must be read in conjunction with the EIA prepared for the project and that is Technical Appendix B of the exhibited EIS/EES (May 2024).

This report has considered Marinus Link Information Update #1 (May 20, 2024)¹ and the instructions provided to undertake this supplementation assessment.

Objectives

It was requested of SGS to produce this Supplemental Report to address the following objectives related to the implications of the updated delivery timeframe for the Marinus Link Project on the EIA findings:

- Whether a change to the timing for delivery of Stages 1 and 2 (in accordance with the Information Update #1²) would have any material implications for the assessment of economic impacts or conclusions, as described in SGS's EIA submitted to MLPL for public exhibition, dated May 2024
- Whether any additional mitigation measures or Environmental Performance Requirements (EPRs) would be recommended

SGS also considered the following related questions, which arose while responding to the instructions:

¹ Marinus Link (2024) *EIS/EES updates*, accessed 5 August 2024. <https://marinuslink.com.au/eis-ees-updates/>

² Information Update #1

- Provide a review of the extent to which other Commonwealth, Victorian or Tasmanian scoping requirements might be impacted by such changes and updated conclusions
- Provide commentary on the extent to which the considerations in SGS's EIA (May 2024) of other economic opportunities or externalities and other socioeconomic impacts would be impacted
- Such assessment of material implications would focus on impacts in magnitude of Gross Regional Product (GRP) or Gross Value-Added (GVA), employment and the timing of such measurements
- Such consideration should also include SGS's perspective on the extent to which additional advice from any other technical consultant involved in the preparation of supporting technical assessments referenced in SGS's EIA (May 2024) should be sought

1.2 Objectives

It was requested of SGS to produce this Supplemental Report to address the following objectives related to the implications of the updated delivery timeframe on the EIA for the Marinus Link Project:

- Whether a change to the timing for delivery of Stages 1 and 2 (in accordance with the information enclosed in the email request dated 21 May) would have any material implications for the assessment of economic impacts or conclusions, as described in SGS's EIA submitted to MLPL for public exhibition, dated May 2024
- Such assessment of material implications would focus on impacts in magnitude of Gross Regional Product (GRP) or Gross Value-Added (GVA), employment and the timing of such measurements
- Provide a review of the extent to which other Commonwealth, Victorian or Tasmanian scoping requirements might be impacted by such changes and updated conclusions
- Provide commentary on the extent to which the considerations in SGS's EIA (May 2024) of other economic opportunities or externalities and other socioeconomic impacts would be impacted
- Whether any additional mitigation measures or Environmental Performance Requirements (EPRs) would be recommended
- Such consideration should also include SGS's perspective on the extent to which additional advice from any other technical consultant involved in the preparation of supporting technical assessments referenced in SGS's EIA (May 2024) should be sought

2. Assessment Guidelines

This chapter presents a review and re-examination of the considerations made in SGS's EIA (May 2024) regarding each scoping requirement as defined by the Commonwealth, State of Victoria and State of Tasmania. This review and re-examination are made in light of the estimations of economic impact from a two-stage project construction schedule.

2.1 Introduction

In SGS's EIA (May 2024), the scoping requirements for respective jurisdictions were addressed through qualitative considerations in Chapter 6, specifically Section 6.5 (Economic Opportunities) and Section 6.6 (Other Externalities and Socioeconomic Considerations). These considerations were made with regard to the estimated economic impact of the Marinus Link project and as such impacts related to the relevant regions of Tasmania and Victoria.

In this chapter of the Supplemental EIA, SGS re-examines the relevant scoping requirements in light of updated estimates of economic impact for the Marinus Link project. Specifically, this review and re-examination includes:

- Identification of the extent to which the updated economic impacts carry implications for the considerations for economic opportunity (Section 6.5) or externalities and other socioeconomic consideration (Section 6.6)
- Revision to the extent necessary of such relevant considerations
- Identification of whether the revised considerations trigger the potential need for supplemental information from other technical consultants, such as revised EPRs

2.2 Linkages to other reports

In the preparation of SGS's EIA (May 2024), technical assessments and studies were made available for the purpose of creating linkages and reference to issues, conclusions and recommendations related to various other qualitative considerations as reported in Sections 6.5 and Section 6.6 of SGS's EIA (May 2024) and as shown in **Table 1**.

In the preparation of this Supplemental EIA, SGS has also reviewed three (3) Supplemental Technical reports, which represent updates to the respective exhibited reports based on the updated information on the indicative project timing. Noted also in the table, SGS has made broad representations of the conclusions of these technical supplements and identified where in this report further reference to them can be found.

TABLE 1: LINKAGES TO OTHER REPORTS

Technical assessment	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
<p>Victorian Social Impact Assessment (Dated 23 February 2024)</p>	<p>This report represents a social impact assessment (SIA) of the Victorian terrestrial component of the MLPL project.</p> <p>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.</p> <p>Reference to the findings and content from this SIA are cited in Section 6.5 and 6.6 of this EIA.</p>	<p>A supplemental report is not being prepared</p>
<p>Heybridge (Tasmanian) Social Impact Assessment (Dated 7 March 2024)</p>	<p>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).</p> <p>Reference to the findings and content from this SIA are cited in Section 6.5 and 6.6 of this EIA.</p>	<p>A supplemental report is not being prepared</p>
<p>Agriculture and Forestry Technical Report (Victoria) (Dated 14 July 2023)</p>	<p>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.</p> <p>Reference to the findings and content from this report are cited in Section 6.6.1 of this EIA.</p>	<p>The Supplemental Agriculture and Forestry Technical Report (dated 9 July 2024) provides an assessment of the extent to which the conclusions, mitigation recommendations or proposed EPRs should be changed.</p> <p>Reference to these findings and conclusions are cited in Section 3.4.1 of this Supplemental EIA.</p>
<p>Planning and Land Use Impact Assessment Report (Victoria) (Dated 13 July 2023)</p>	<p>This report informs the project’s compliance with planning policy and its impacts on land use, as required by the scoping requirements.</p> <p>Reference to the findings and content from this report are cited in Section 6.6.6 of this EIA.</p>	<p>The Supplemental Land Use and Planning Impact Assessment Technical Report (dated 27 July 2024) provides an assessment of the extent to which the conclusions, mitigation recommendations or proposed EPRs should be changed.</p> <p>Reference to these findings and conclusions are cited in Section 3.4.6 of this Supplemental EIA.</p>

Technical assessment	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
<p>Marine Ecology and Resource Use Impact Assessment (Dated 18 August 2023)</p>	<p>This report describes the existing marine ecology and resource use of Bass Strait and assesses project impacts and notes environmental performance requirements to mitigate the project impacts.</p> <p>Reference to the findings and content from this report are cited in Section 6.6.1 of this EIA.</p>	<p>The Supplemental Marine Ecology and Resource Use Technical Report (dated 26 July 2024) provides an assessment of the extent to which the conclusions, mitigation recommendations or proposed EPRs should be changed.</p> <p>Reference to these findings and conclusions are cited in Section 3.4.1 of this Supplemental EIA.</p>
<p>Environmental Impact Statement/ Environment Effects Statement Chapter 2 – Environmental Management Framework (Dated 10 November 2023)</p>	<p>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.</p> <p>This EIA cited relevant Environmental Performance Requirements from the framework.</p>	<p>n/a</p>

Source: SGS Economics & Planning (2024)

3. Economic Impacts

This chapter details updates to inputs and assumptions provided to SGS by MLPL for reassessment of economic impacts related to construction and operations of the Marinus Link Project. The chapter includes:

- Project construction timing updates
- Project construction cost updates
- Project operational phase cost updates
- Summary of updated and previous EIA inputs and assumptions
- Adopted modelling assumptions

3.1 Updated Inputs and Assumptions

Construction Timing

SGS's EIA (May 2024) reflects an indicative 2025 to 2030 construction timeframe for the Marinus Link Project. The information update provided by MLPL through HSF to SGS on 21 May 2024 conveyed the following updates regarding timing of the Marinus Link Project.

- Stage 1 will include earthworks and site preparation of the converter station site to address requirements for both converter stations, access tracks and construction laydown areas, and all HDD drilling for the shore crossings, road and river crossings for both Stages, and trenching works to install conduits and joint pits within the linear easements that will accommodate cables for both Stages. Stage 1 also includes laying the cables for the Stage 1 cable circuit (including across Bass Strait), and construction of the Stage 1 converter station at each of Hazelwood and Heybridge (and transition station, if required). Rehabilitation works would be implemented following Stage 1 works; and
- Stage 2 will include installing the cables for the Stage 2 cable circuit (including across Bass Strait) and construction of the Stage 2 converter stations at each of Hazelwood and Heybridge. Final reinstatement would occur following completion of Stage 2 activities.

Regarding the updated timing of the Project:

- Stage 1 works would take place in the period 2025 – 2030. Consistent with the assumptions made in the EIS/EES, when land cabling construction and installation works are taking place in Victoria, each property affected by the transmission easement would host main construction works for a period of time within that overall 5 year construction period;
- Stage 1 works on each property would include temporary reinstatement works and temporary infrastructure necessary to comply with Property Management Plans and facilitate efficient use of the land in the interim period prior to Stage 2 works. Access tracks would remain in place through the interim period; and

- Stage 2 construction period would take place between 2031 – 2033 with commissioning in 2033. Stage 2 would include any necessary removal of temporary works, as well as the final reinstatement and rehabilitation of infrastructure and rehabilitation of access tracks and construction laydown areas as required.

Construction Cost

SGS's EIA (May 2024) reflects capital investment values based on costing information consistent with ISP 2022 as directed by MLPL at the time of analysis and report-writing. Accordingly, the total capital investment value associated with the Marinus Link Project was \$3.1 billion (2021 dollars), split 60% to Victoria and 40% to Tasmania. Regarding the updated capital investment value associated with a two-stage construction of the Marinus Link Project, SGS received the following information from MLPL:

- Stage 1 capital investment of \$4.040 billion (2023 dollars)
- Stage 2 capital investment of \$2.535 billion (2023 dollars)
- Capital investment value distribution between Victoria (50%) and Tasmania (50%)

As summarised in Table 2 below, the total project capital investment value increased by \$3.475 billion or 112%. An explanation for the increase was provided to SGS in a letter addressed to the Australian Energy Regulator (AER) in relation to the Regulatory Investment Test for Transmission (RIT-T) Project Assessment Conclusions Report (PACR), dated 16 April 2024³. The letter contained the following explanation:

- *"...the forecast total costs of delivering Project Marinus have increased significantly since the Project Assessment Conclusions Report (PACR) was published, primarily as a result of the unprecedented global demand for interconnector capacity in response to carbon reduction initiatives and energy security concerns. The cost increases experienced by Project Marinus are in line with other transmission projects, as highlighted by AEMO's 2023 Transmission Expansion Options Report."*⁴

Given the significance that the cost increase would have on estimated FTE jobs and gross value-added (GVA) output metrics, SGS sought further clarification regarding the split between materials and labour cost escalations. MLPL clarified via email with SGS that:

- Cost escalation was driven⁵ mainly by high demand for submarine cables and HVDC converter station equipment, mainly valves and transformers

³ Marinus Link (2024) *Project Marinus RIT-T update*, accessed 4 August 2024.

https://www.marinuslink.com.au/wp-content/uploads/2024/04/AER-letter_RIT-T-update_16-April-2024.pdf

⁴ Australian Energy Market Operator (2023) *2023 Transmission Expansion Options Report September 2023*, accessed 4 August 2024. <https://aemo.com.au/-/media/files/major-publications/isp/2023/2023-transmission-expansion-options-report.pdf>

⁵ Marinus Link (2024) E-mail to SGS, 19 June

Operational Costs

SGS's EIA (May 2024) reflects operational expenditure inputs based on information consistent with ISP 2022 as directed by MLPL at the time. Accordingly, the total operational expenditure per annum associated with the Marinus Link Project (post-construction) was \$26 million per annum (2021 dollars), split 50/50 between Victoria and Tasmania.

Regarding updated operational expenditure per annum for the Marinus Link Project, SGS received the following information as referencing a report titled “Economic Contribution of Project Marinus”, dated October 2023.⁶ Information contained in that report outlined:

- Operational expenditure of \$33.6 million per annum
- Distribution of operational expenditure between Victoria (50%) and Tasmania (50%)

Summary of Updated Assumptions

Table 2 summarises the updated capital and operational expenditure assumptions provided to SGS. A comparison is provided between those used for the EIA technical appendix posted for public exhibition May 2024 and those assumptions used in this Supplemental EIA. Differences are as follows:

- **Capital expenditure** increased by \$3.475 billion or 112%; the distribution of which is a 50/50 split between Victoria and Tasmania.
- **Operational expenditure** increased by \$7.6 million per annum or 29%; the distribution remained unchanged.

TABLE 2: SUMMARY OF UPDATED ASSUMPTIONS

Assumption	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (August 2024)	Difference
Capital expenditure	Single-stage: \$3.1 billion ^{7,8} (2021 dollars)	Stage 1: \$4.040 billion ⁹ Stage 2: \$2.575 billion ¹⁰ (2023 dollars)	Overall: +\$3.475 billion (112% increase)
Distribution of capex	Victoria: 60% Tasmania: 40%	Victoria: 50% Tasmania: 50%	Victoria: -10% Tasmania: +10%

⁶ EY (2023) *The economic contribution of Project Marinus*, accessed 4 August 2024. <https://www.marinuslink.com.au/wp-content/uploads/2023/12/The-economic-contribution-of-Project-Marinus.pdf>

⁷ Australian Energy Market Operator (2023) *2023 Transmission Expansion Options Report June 2022*, accessed 4 August 2024. <https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/2022-integrated-system-plan-isp.pdf?la=en>

⁸ Marinus Link (2021) *RIT-T Project Assessment Conclusions Report*, accessed 4 August 2024. <https://www.marinuslink.com.au/wp-content/uploads/2021/06/Project-Marinus-RIT-T-PACR.pdf>

⁹ Marinus Link (2024) *Project Marinus RIT-T update*, accessed 4 August 2024. https://www.marinuslink.com.au/wp-content/uploads/2024/04/AER-letter_RIT-T-update_16-April-2024.pdf

¹⁰ Marinus Link (2024) *Project Marinus RIT-T update*, accessed 4 August 2024. https://www.marinuslink.com.au/wp-content/uploads/2024/04/AER-letter_RIT-T-update_16-April-2024.pdf

Assumption	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (August 2024)	Difference
Operational expenditure	\$26.0 million / year (2021 dollars)	\$33.6 million / year ¹¹ (2023 dollars)	Overall: +\$7.6 million (29% increase)
Distribution of opex	Victoria: 50% Tasmania: 50%	Victoria: 50% Tasmania: 50%	Victoria: no change Tasmania: no change

Source: SGS Economics & Planning (2024)

Adopted Modelling Assumptions

Use of the updated capital investment and operational expenditure values in 2023 dollars, however, presents a few challenges to the modelling and, subsequently, to the outputs. As such, SGS made the following considerations and determinations regarding modelling assumptions to adopt:

- Updated capital investment values are in 2023 dollars. However, the CGE model is calibrated to accept inputs only up to and including 2022 dollars, meaning that the 2023 dollar estimate for the Project's capital investment value cannot be inputted to the model.
- Given that 1) information provided to SGS regarding the capital investment value escalation being mainly attributable to (imported) materials (i.e., not labour) costs, and 2) given that the underlying inputs to the CGE model are grounded in observed data representative of mathematical relationships between a capital investment value and demand for labour and materials expressed in 2021 dollars, even inputting the model with de-escalated 2022 dollars risks an erroneous output, absent any other modelling adjustments, that could significantly overstate the employment required to deliver the Project.

Given such considerations, SGS sought additional information regarding a disaggregation of the apportionment of the capital investment value increase attributable to materials versus labour. In the absence of such information being available for analysis, SGS made the determination to reflect known circumstances of the capital investment value escalation (i.e., that is mainly attributable to imported materials, not labour) by employing two iterations of economic impact modelling (as described further in **Appendix A**) to isolate estimates of:

- Employment** – a first iteration of the model was undertaken to isolate a reasonable representation of employment through a model closure assumption, in which the capital investment value was modelled using the 2021 dollars capital investment value from SGS's EIA (May 2024) and apportioning the investment value across the updated two-stage delivery timeline.
- Gross Value-Added** – a second iteration of the model was undertaken using the above employment outputs as a model closure assumption along with a de-escalated capital investment value (in 2022 dollars).

¹¹ EY (2023) *The economic contribution of Project Marinus*, accessed 4 August 2024.

<https://www.marinuslink.com.au/wp-content/uploads/2023/12/The-economic-contribution-of-Project-Marinus.pdf>

This modelling process allowed for outputs to reflect the working assumption that FTE job-years will not have escalated so substantially over SGS’s EIA (May 2024), allowing for the capital investment value increase to be mainly attributable to materials and only partially attributable to labour. As such, the modelled assumptions are shown in the far right column of **Table 3**.

TABLE 3: SUMMARY OF ADOPTED ASSUMPTIONS

Assumption	Updated Modelling Assumptions	
	2023 dollars	2022 dollars
Capital expenditure	Stage 1: \$4.040 billion ¹² (average \$808 million for 5 years) Stage 2: \$2.575 billion ¹³ (average \$1,268 million for 2 years)	Stage 1: \$2.7741 billion (average \$554.8 million for 5 years) Stage 2: \$1.7406 billion (average \$870.3 million for 2 years)
Distribution of capex	Victoria: 50% Tasmania: 50%	Victoria: 50% Tasmania: 50%
Operational expenditure	\$33.6 million / year ¹⁴	\$29.6 million / year ¹⁵
Distribution of opex	Victoria: 50% Tasmania: 50%	Victoria: 50% Tasmania: 50%

Source: SGS Economics & Planning (2024)

3.2 Updated Economic Impacts

This section presents updated economic impact results from modelling the adopted inputs and assumptions discussed above. The primary output metrics include:

- **Gross Value-Added (GVA)**, presented as the net difference between the project scenario and the BaU (described in Section 5.1 of SGS’s EIA May 2024)
- **Full-Time Equivalency (FTE)** employment, presented as the net difference between the project scenario and the BaU (described in Section 5.1 of SGS’s EIA May 2024)

¹² Marinus Link (2024) *Project Marinus RIT-T update*, accessed 4 August 2024.

https://www.marinuslink.com.au/wp-content/uploads/2024/04/AER-letter_RIT-T-update_16-April-2024.pdf

¹³ Marinus Link (2024) *Project Marinus RIT-T update*, accessed 4 August 2024.

https://www.marinuslink.com.au/wp-content/uploads/2024/04/AER-letter_RIT-T-update_16-April-2024.pdf

¹⁴ EY (2023) *The economic contribution of Project Marinus*, accessed 4 August 2024.

<https://www.marinuslink.com.au/wp-content/uploads/2023/12/The-economic-contribution-of-Project-Marinus.pdf>

¹⁵ EY (2023) *The economic contribution of Project Marinus*, accessed 4 August 2024.

<https://www.marinuslink.com.au/wp-content/uploads/2023/12/The-economic-contribution-of-Project-Marinus.pdf>

As modelled in SGS's EIA (May 2024), and as required by the scoping requirements, the EIA modelling was completed to provide outputs that characterise economic impacts at the regional and state levels, 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.

Outputs reflect impacts realised both locally and throughout each state.¹⁶

Gross Value-Added

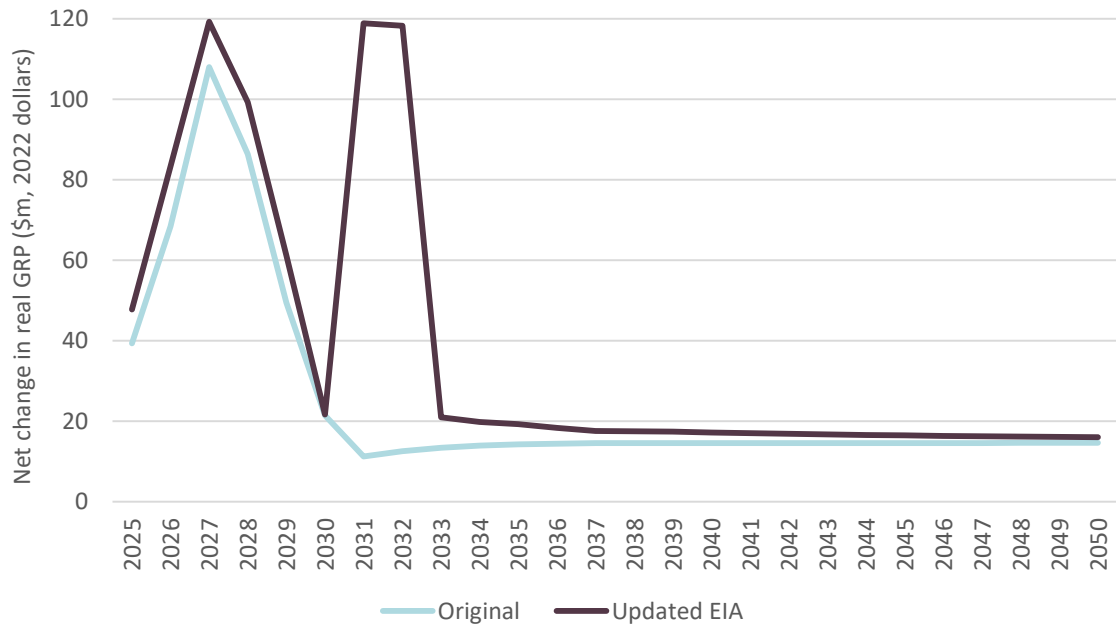
Modelling the updated and adopted inputs and assumptions generally results in a greater volume of GVA across all geographies during the 2025-2050 time period. The increase in GVA at the regional (sub-state) level is more pronounced than GVA increases at the state level. These results reflect increases in business and wage surpluses resulting from marginally higher labour cost inputs.

- In North West Tasmania, the total GVA (2025-2050) is \$982.9 million, an increase of \$325.3 million over the previous GVA estimate of \$657.6 million (see **Figure 1**).
- Across Tasmania, GVA (2025-2050) is estimated at \$2,356.4 million, an increase of \$666.1 million over the previous GVA estimate of \$1,690.3 million (see **Figure 2**).
- In Gippsland, GVA (2025-2050) is \$1,197.2 million, an increase of \$193.9 million previous GVA estimate of \$1,003.3 million (see **FIGURE 3**).
- Across Victoria, GVA (2025-2050) is \$3,002.2 million, an increase of \$368.4 million over the previous GVA estimate of \$2,633.8 million (see **Figure 4**).

The total GVA outputs from SGS's EIA (May 2024) and the Supplemental EIA and the difference between them are presented in **Table 4** on page 22).

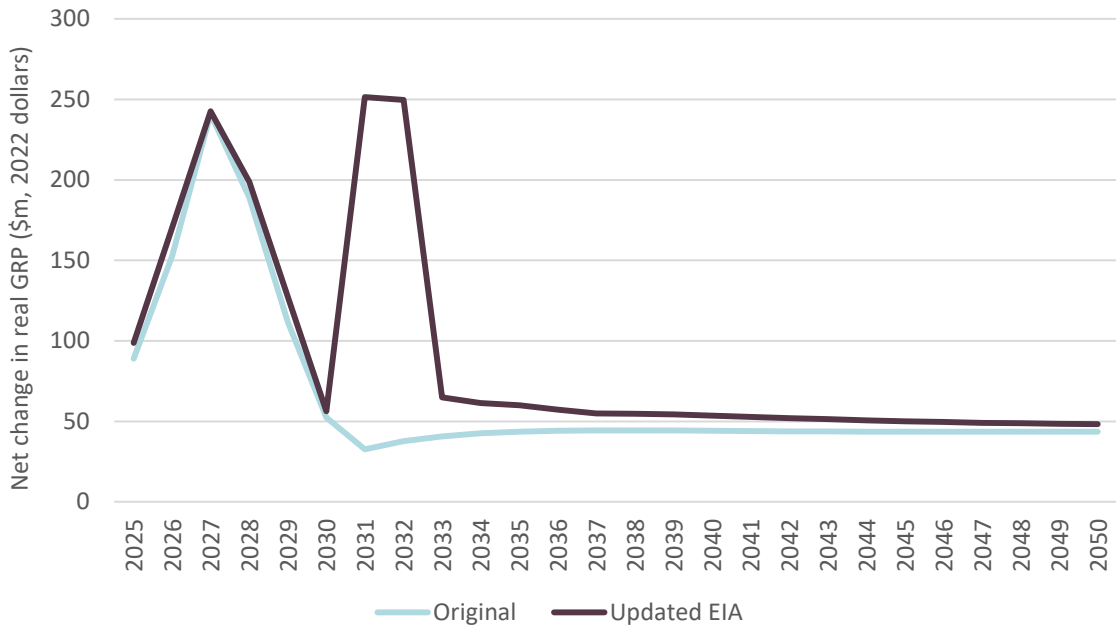
¹⁶ In the interpretation of the results which follow, however, note that regional and state impacts cannot be added together.

FIGURE 1: NET CHANGE IN GVA TO NW TASMANIA, CONSTRUCTION AND OPERATIONS (\$ MILLIONS), 2025-2050



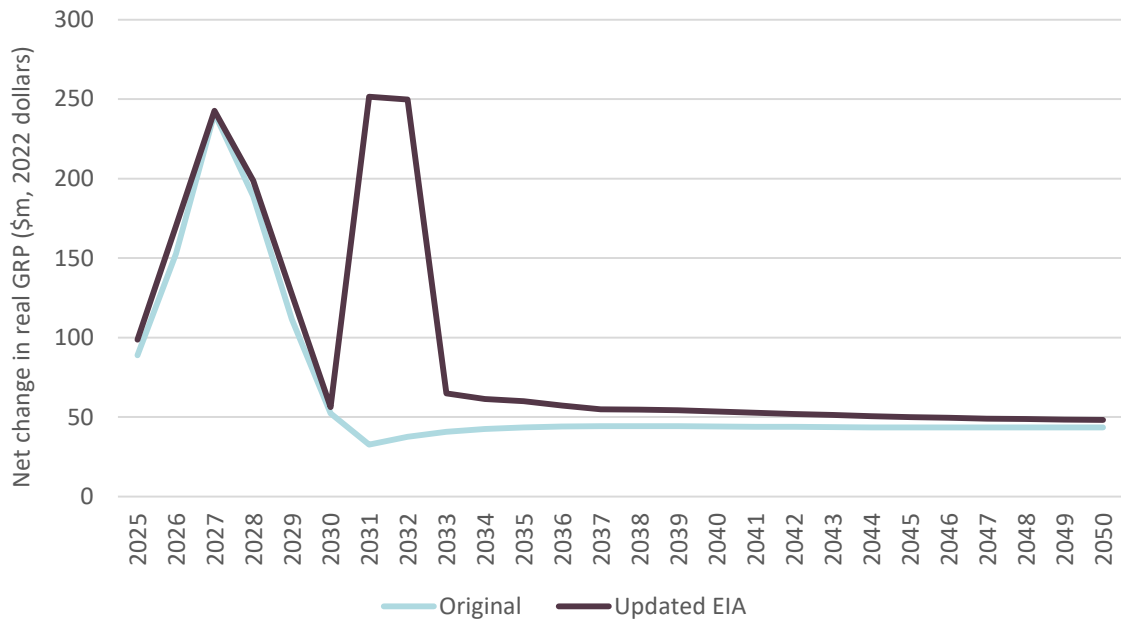
Source: SGS Economics & Planning (2024)

FIGURE 2: NET CHANGE IN GVA TO TASMANIA, CONSTRUCTION AND OPERATIONS (\$ MILLIONS), 2025-2050



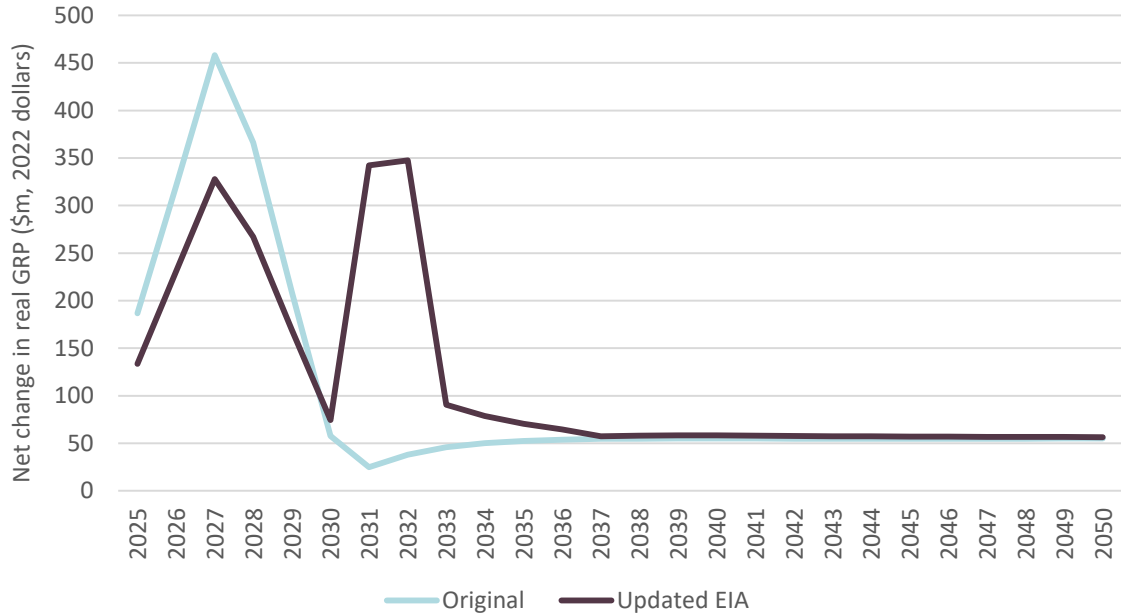
Source: SGS Economics & Planning (2024)

FIGURE 3: NET CHANGE IN GVA TO GIPPSLAND, CONSTRUCTION AND OPERATIONS (\$ MILLIONS), 2025-2050



Source: SGS Economics & Planning (2024)

FIGURE 4: NET CHANGE IN GVA TO VICTORIA, CONSTRUCTION AND OPERATIONS (\$ MILLIONS), 2025-2050



Source: SGS Economics & Planning (2024)

TABLE 4: SUMMARY OF NET CHANGE IN GVA (\$ MILLIONS)

Assumption	SGS EIA Technical Appendix (May 2024) (1)	Supplemental EIA (July 2024, Updated EIA), 2025-2050 (2)	Difference between (2) and (1)
Gippsland	\$1,003.3	\$1,197.2	\$193.9
Victoria	\$2,633.8	\$3,002.2	\$368.4
NW Tasmania	\$657.6	\$982.9	\$325.3
Tasmania	\$1,690.3	\$2,356.4	\$666.1

Source: SGS Economics & Planning (2024)

Employment (in FTEs)

Modelling the updated and adopted inputs and assumptions generally results in a greater number of jobs over the 2025-2050 time period. This was anticipated given the apportionment of capital investment value across the two-stage delivery timeline provided to SGS for modelling (refer to Section 3.1). As such, the modelling outputs indicate that construction during the second stage could require a similar level and distribution of jobs by industry as were required during Stage 1.¹⁷

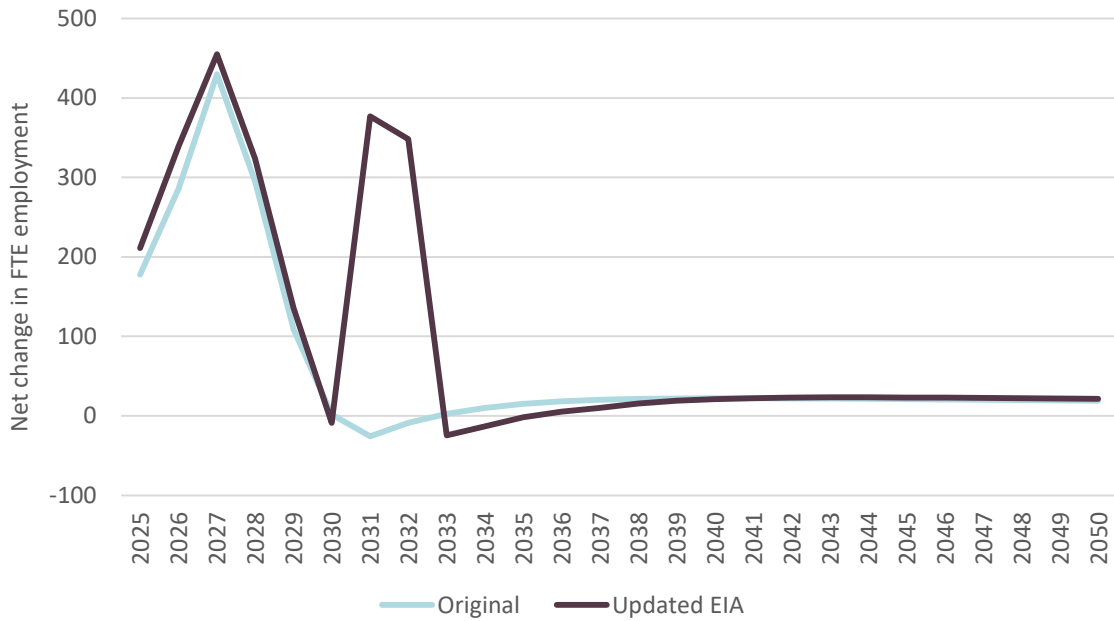
As follows, the modelling results are discussed in job-years, implying a combination of measures - the number of jobs and the number of years during which those jobs are required (2025-2050).

- In North West Tasmania, the updated employment impact between 2025 and 2050 is 2,436 FTE job-years, an increase of 833 FTE job-years over the previous estimate of 1,603 FTE job-years.
- Across Tasmania, the updated employment impact is 4,110 FTE job-years, an increase of 619 FTE job-years over the previous estimate of 3,491 FTE job-years.
- In Gippsland, the updated employment impact is 2,841 FTE job-years, an increase of 295 FTE job-years over the previous estimate of 2,546 FTE job-years.
- Across Victoria, the updated employment impact is 6,093 FTE job-years, an increase of 326 FTE job-years over the previous estimate of 5,767 FTE job-years.

¹⁷ The description provided to SGS of the two-stage construction process (refer to Section 3.1) broadly characterises the works planned for Stage 1 and works planned for Stage 2. It is possible that the actual employment required for construction of Stage 1 differs from the employment required for construction of Stage 2. However, neither a quantification of the jobs required to complete works in respective stages nor an apportionment of cost between materials and labour for each stage or the Project as a whole was available to SGS. Rather, only an apportionment of the capital investment value between stages was provided. As such, with the given apportionment of the cost across stages (as illustrated in **Table 3**), the employment outputs presented in this Supplemental EIA reflect the model's underlying mathematical relationships between capital investment value (cost) and labour required to deliver it.

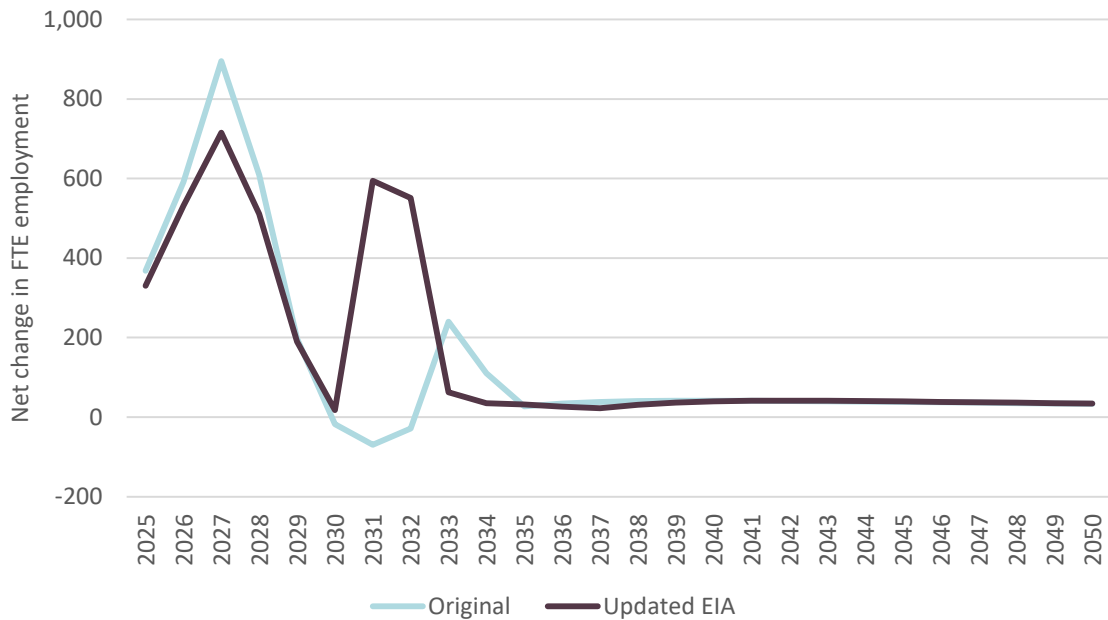
The total GVA outputs from SGS’s EIA (May 2024) and the Supplemental EIA and the difference between them are presented in **Table 5** on page 25).

FIGURE 5: NET CHANGE IN FTE JOBS, CONSTRUCTION AND OPERATIONS (NW TASMANIA), 2025-2050



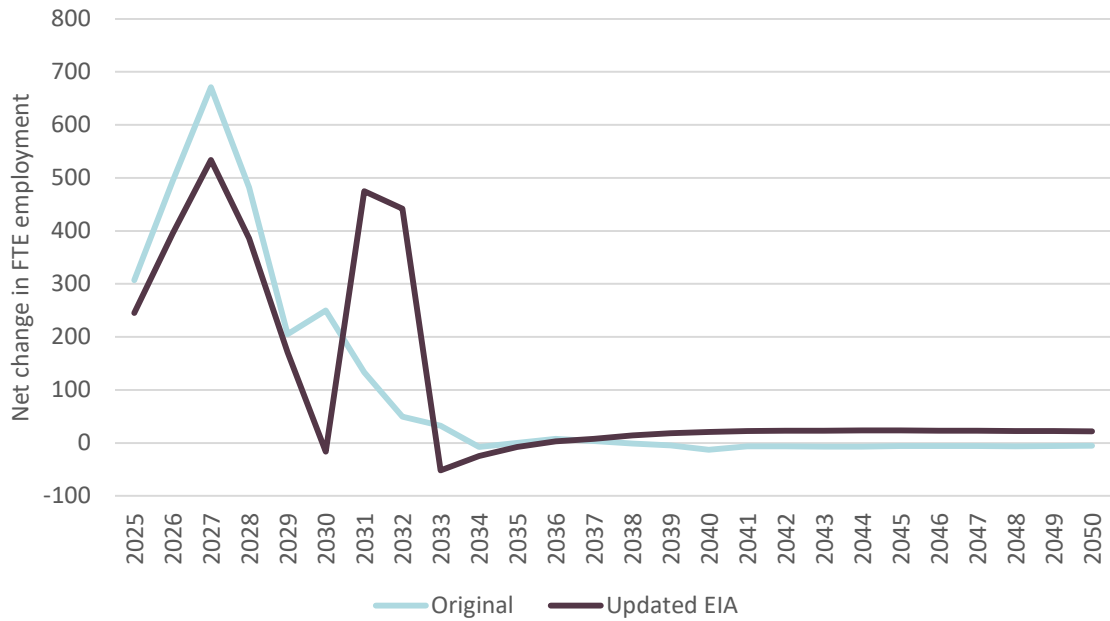
Source: SGS Economics & Planning (2024)

FIGURE 6: NET CHANGE IN FTE JOBS, CONSTRUCTION AND OPERATIONS (TASMANIA), 2025-2050



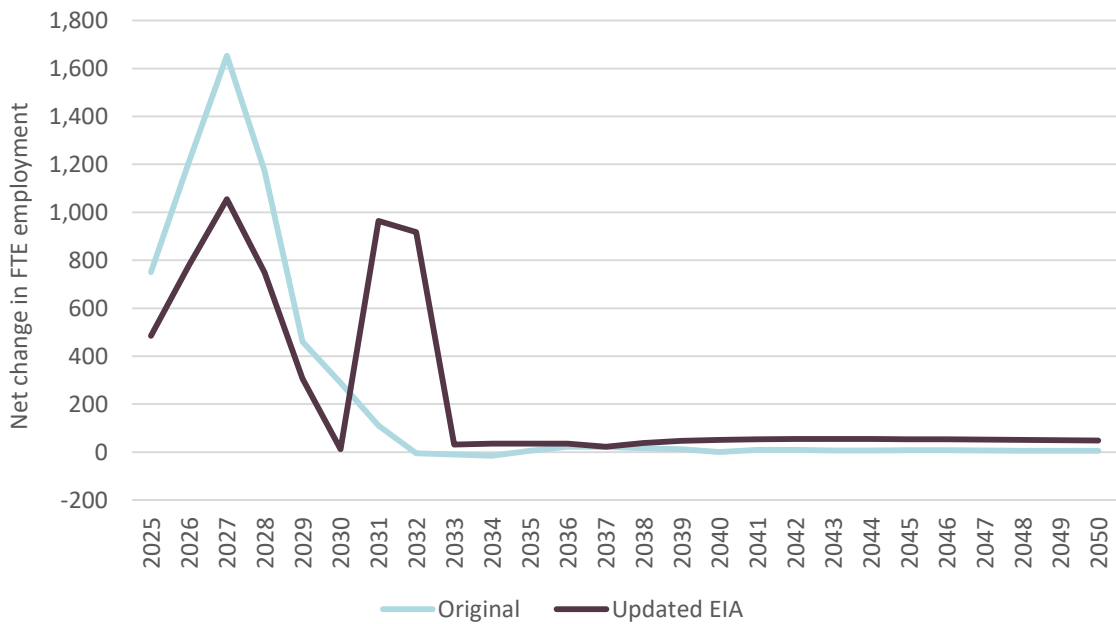
Source: SGS Economics & Planning (2024)

FIGURE 7: NET CHANGE IN FTE JOBS, CONSTRUCTION AND OPERATIONS (GIPPSLAND), 2025-2050



Source: SGS Economics & Planning (2024)

FIGURE 8: NET CHANGE IN FTE JOBS, CONSTRUCTION AND OPERATIONS (VICTORIA), 2025-2050



Source: SGS Economics & Planning (2024)

TABLE 5: SUMMARY OF NET CHANGE IN FTE JOB-YEARS (2025-2050)

Assumption	SGS EIA Technical Appendix (May 2024, Original) (1)	Supplemental EIA (July 2024, Updated EIA), 2025-2050 (2)	Difference between (2) and (1)
Gippsland	2,546	2,841	295
Victoria	5,767	6,093	326
NW Tasmania	1,603	2,436	833
Tasmania	3,491	4,110	619

Source: SGS Economics & Planning (2024)

3.3 Economic Opportunities

This section revisits two key sections of SGS’s EIA (May 2024): Section 6.5 and Section 6.6, which provided qualitative consideration and linkages to other technical reports related to Economic Opportunities and Externalities and Other Socioeconomic Impacts, respectively.

The following assessments and characterisations are qualitative considerations and do not constitute comprehensive and/or detailed examination or analysis of the impacts. SGS completed these assessments prior to having seen other updated findings or recommendations (for example, regarding EPRs) from technical studies that had been referenced in SGS’s EIA (May 2024). As such, 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.

3.3.1 First Nations Employment and Procurement Opportunities

As had been identified in the Victorian and Tasmanian SIAs, opportunities for First Nations people to gain new skills and be integrated in the project workforce remains unchanged. It is possible, though not guaranteed, that a lengthened project construction timeline with greater wage surplus and greater regional capture of state jobs presents an enhanced opportunity.

Regarding mitigation and performance considerations below, SGS previously relied upon the findings and recommendations (i.e., those related to mitigation and performance) of the Victorian and Tasmanian SIAs to provide relevant commentary and linkages. Absent the completion of updated SIAs, SGS’s understanding of these issues and the updated economic impact findings is that the previously-described mitigation and performance considerations should suffice.

TABLE 6: FIRST NATIONS EMPLOYMENT AND PROCUREMENT OPPORTUNITIES

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.5.1	As previously described, the key issues remain unchanged.
Existing Environment		As previously described, the existing environment remains unchanged.
Mitigation		As previously described, MLPL’s establishment of an Aboriginal Advisory Group to facilitate ongoing conversations remains relevant. In SGS’s opinion, the substance of the proposed mitigation measures should suffice.
Performance		As previously described, MLPL is committed to putting in place an S05 Industry Participation and Social Inclusion Plan, also as referenced in the Victorian and Tasmanian SIA. In SGS’s opinion, the proposed performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.3.2 Skills and Training Opportunities

As had been previously described, key issues had been raised through the completion of the Victorian and Tasmanian SIAs regarding lack of capacity and skillsets in the local workforce, a lack of alignment between the skills need for the local labour force to benefit from such opportunities arising from the project, as well as concerns regarding the local workforce acquiring skillsets relevant to the project but not transferrable after project completion.

Regarding the mitigation and performance considerations below, SGS previously relied upon the findings and recommendations (i.e., those related to mitigation and performance) of the Victorian and Tasmanian SIAs to provide relevant commentary and linkages. Absent the completion of updated SIAs, SGS’s understanding of these issues and the updated economic impact findings is that the substance of the previously-described mitigation and performance measures should suffice. However, given the longer duration of the impact, further consideration could be given to the length of time during which measures are put in place to manage issues.

TABLE 7: SKILLS AND TRAINING OPPORTUNITIES

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.5.2	Key issues remain unchanged.
Existing Environment		Existing environment remains unchanged.
Mitigation		As previously described, mitigation measures included MLPL’s commitment to guiding procurement in line with Australian Industry Standards and implementing strategies and initiatives to mitigate the impacts of competition in the workforce. In SGS’s opinion, the substance of the proposed mitigation measures should suffice.
Performance		As previously described, MLPL is committed to putting in place S01 Social Impact Management Plan, also as referenced in the Tasmanian SIA. In SGS’s opinion, the substance of the proposed performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4 Externalities and Other Socio-Economic Impacts

As with the previous section, this section revisits Section 6.6 of SGS’s EIA (May 2024), which identified qualitative consideration and linkages to other technical reports related to Externalities and Other Socioeconomic Impacts. Also as previously noted, these assessments and characterisations are qualitative and do not constitute comprehensive and/or detailed examination or analysis of the impacts. SGS completed these assessments prior to having seen other updated findings or recommendations (for example, regarding EPRs) from technical studies that had been referenced in SGS’s EIA (May 2024). As such, 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.

Specifically, this section revisits the following considerations to socio-economic impacts and externalities related to the Marinus Link, 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)

3.4.1 Impacts on Agriculture, Forestry and Fisheries Industries

As described in the previous report, key issues were raised through the completion of the Victorian Agricultural and Forestry Technical Report and the Marine Ecology and Resource Use Impact Assessment that the Marinus Link project would likely disrupt commercial fishing, shipping operations and agricultural activities in the short term but that in the long term, however, such impacts were assessed to have very low to low significance.

Regarding the mitigation and performance considerations below, SGS previously relied upon the findings and recommendations (i.e., those related to mitigation and performance) of the Victorian Agricultural and Forestry Technical Report and the Marine Ecology and Resource Use Impact Assessment to provide relevant commentary and linkages.

SGS has reviewed the supplemental technical reports available with relevance to this section of the EIA Supplemental Report.

- The **Supplemental Agriculture and Forestry Technical Report**, dated 9 July 2024, concludes that: 1) there are no additional impacts to those identified in the 14 July 2023 report; 2) there is no expectation that changes to the EPRs will be required or that no new EPRs are required, however the existing EPRs must be reapplied for Stage 2 works; 3) it will be necessary to update Property Management Plans before Stage 2 construction commences; and 4) that the proposed changes to implement the project in two stages will not impact on the conclusions set out in their original report.
- The **Supplemental Marine Ecology and Resource Use Technical Report**, dated 26 June 2024, identifies that: 1) the published Technical Appendix H already considered the there would be a gap in time between commissioning of Stage 1 and Stage 2, adding that even if there were a potentially longer time between stages that it would not affect or change the impact assessments, conclusions or recommendations presented in the original technical report; 2) no changes are envisaged to the 13 EPRs and the proposed avoidance, mitigation and management measures.

TABLE 8: IMPACTS ON AGRICULTURE, FORESTRY AND FISHERIES INDUSTRIES

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.1	Key issues remain unchanged. However, the protracted construction timeline implies a longer duration of what were

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
		characterised as “short-term” impacts on activities.
Existing Environment		Existing environment remains unchanged.
Mitigation		<p>As detailed in the previous report, mitigation measures include (but are not limited to) landholder compensation for acquisition of land and access licenses and construction leases. Mitigation measures also include (but are not limited to) efforts to manage maritime issues and minimise impacts of competition in the workforce.</p> <p>In SGS’s opinion, the substance and proposed timing of these mitigation measures should suffice.</p>
Performance		<p>As detailed in the previous report, 6 EPRs were identified to manage outcomes, two of which, A01 and A02, were referenced in SGS’s EIA (May 2024).</p> <p>In SGS’s opinion, the substance and proposed timing of the performance measures should suffice.</p>

Source: SGS Economics & Planning (2024)

3.4.2 Impacts on Tourism Industry

As described in the previous report, key issues were raised through the completion of the Victorian SIA, in which concerns were raised regarding the impact that the project’s construction may temporarily have to the amenity and character of tourism assets and natural attractions such as Waratah Bay and Wilsons Promontory. It was also identified that short-term (i.e., tourism) accommodation could be constrained due to the demand for temporary construction workforce accommodation.

For this consideration, the protracted construction timeline also has immediate implications for the nature of those short-term disruptions and the sufficiency of mitigation and performance measures to offset any temporal challenges business operations may encounter.

Regarding the mitigation and performance considerations below, SGS previously relied upon the findings and recommendations of the Victorian SIA to provide relevant commentary and linkages.

Based on SGS’s understanding of these issues and the updated EIA findings, it is SGS’s opinion that the substance of the previously-described mitigation and performance measures should suffice. However,

given the longer duration of the impact, further consideration could be given to the length of time during which measures are put in place to manage issues.

TABLE 9: IMPACTS ON TOURISM INDUSTRY

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.2	Key issues remain unchanged.
Existing Environment		Existing environment remains unchanged.
Mitigation		As detailed in the previous report, mitigation measures include MLPL putting in place S01 Social Impact Management Plan. In SGS’s opinion, the substance of this measures should suffice.
Performance		As detailed in the previous report, MLPL has committed to putting in place S02 Workforce and Accommodation Strategy. In SGS’s opinion, the substance of the proposed performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4.3 Extent to Which Raw Materials, Equipment, Goods and Services Will Be Sourced Locally

As described in the previous report, the economic modelling reflects known relationships between the capital investment value of the project and the values and distribution of materials, goods and services procured locally versus 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 that they are competitive in the context of non-locally based alternatives.

The results of this supplemental EIA still reflect these quantifiable, modelled relationships. It is understood while that the quantum and distribution of (locally and imported) materials, goods and equipment inputs to construction remain unchanged, the cost associated with imported materials and equipment has escalated considerably.

As such, regarding mitigation and performance considerations, SGS previously relied upon the findings and recommendations of the Victorian SIA to provide relevant commentary and linkages. Such measures included identifying MLPL’s commitment to leveraging procurement processes that expand local supply chains and stimulate further business activity through the S04 Community Benefits Sharing Scheme and S05 Industry Participation and Social Inclusion Plan.

TABLE 10: EXTENT TO WHICH RAW MATERIALS, EQUIPMENT, GOODS AND SERVICES WILL BE SOURCED LOCALLY

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.3	Key issues remain unchanged.
Existing Environment		Existing environment remains unchanged.
Mitigation		As detailed in the previous report, SGS believes the identified mitigation measures should suffice.
Performance		As detailed in the previous report, SGS believes the identified performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4.4 Impacts on Local Social Amenity and Community Infrastructure

As described in the previous report, the key issue remains the provision of local social amenity and community infrastructure and whether and to what extent existing systems and funding mechanisms are sufficient for building schools, child care, health services and sports facilities. For example, as identified as an output of the economic impact modelling in the previous report, the updated modelling suggests that economic activity is expected to increase local government revenues (i.e., rates) between 2025 and 2050: a cumulative total of \$49 million in Victoria and \$30 million in Tasmania. As noted in the previous report, a portion of such public revenues would be used to meet growing need for community and social infrastructure (via contributions). 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.

Regarding mitigation and performance considerations, SGS previously relied upon the findings and recommendations of the Victorian SIA to provide relevant commentary and linkages. Such measures included identifying MLPL’s commitment to putting in place the S01 Social Impact management Plan.

TABLE 11: IMPACTS ON LOCAL SOCIAL AMENITY AND COMMUNITY INFRASTRUCTURE

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.4	Key issues remain unchanged.
Existing Environment		Existing environment remains unchanged.

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Mitigation		As detailed in the previous report, SGS believes the identified mitigation measures should suffice.
Performance		As detailed in the previous report, SGS believes the identified performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4.5 Community Demographic Impacts

Similar to the concerns raised regarding Skills and Training Opportunities (as referenced in Section 3.3.2 above), the key concern regarding this consideration remains (as discussed in the previous report) the capacity of the local workforce to meet the project’s demands for skilled labour.

Regarding mitigation and performance considerations, SGS previously relied upon the findings and recommendations of the Victorian SIA to provide relevant commentary and linkages. Such measures included identifying MLPL’s commitment to putting in place the S05 Industry Participation and Social Inclusion Plan. Furthermore, MLPL is committed to putting in place the S04 Community Benefits Sharing Scheme to enhance employment and social benefits for the local demographics.

TABLE 12: COMMUNITY DEMOGRAPHIC IMPACTS

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues		Key issues remain unchanged.
Existing Environment		Existing environment remains unchanged.
Mitigation	Refer to Section 6.6.5	As detailed in the previous report, SGS believes the identified mitigation measures should suffice.
Performance		As detailed in the previous report, SGS believes the identified performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4.6 Impacts on Land Values and Demand for Land and Housing

Key issues were highlighted previously 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 key issues were:

- Impacts on land value related to the continuation, temporary or permanent disruption of existing land uses and character, including agricultural, commercial, residential, and recreational values.
- Impacts to land currently in productive agricultural use, as well as the acquisition of and compensation for land currently in productive agricultural use.
- Impacts related to construction and operation of the project (raised as issues in both the Victorian and Tasmanian Social Impact Assessments) included reference to the project's workforce augmenting demand for rental housing in the area and exacerbating existing rental availability and affordability issues, disproportionately affecting low-income households.

In addition to SGS's review of the Supplemental Agricultural and Forestry Technical Report and the Supplemental Marine Ecology and Resource Use Impact Assessment technical reports (discussed in Section 3.4.1), SGS has also reviewed the Supplemental Land Use and Planning Impact Assessment, which provided the following insight:

- No changes to the assessment outcomes were noted
- No changes were required to the EPRs to manage potential impacts
- While it was noted that construction impacts to some land uses with the study area would be prolonged, it was noted that they remain temporary and that land use would be able to broadly continue following completion of construction

From an economic impact perspective, however, at issue is the two-stage (versus single-stage) construction period in which this temporary disruption with elevated demand is anticipated to extend for an additional 2 to 3 years (illustrated in the charts of Section 3.2). The implication is that: 1) upward pressure on land values will be prolonged, which result in prolonged upward pressures on sales prices and rents to make new residential development projects financially viable, and 2) lacking any new residential development in a market with limited inventory, prolonged demand for temporary worker housing will prolong pressures on the existing inventory, yielding lower vacancy rates and higher rental rates or sales prices.

As such, regarding mitigation and performance considerations, SGS previously relied upon the findings and recommendations of the Victorian SIA to provide relevant commentary and linkages. Such measures included identifying MLPL's commitment to exploring opportunities to reduce pressure on local housing markets. It also included reference to other supporting reports, such as the SIAs, which may also assist in identifying the need for and strategies to abate or minimise other risks. This included putting in place the S02 Workforce and Accommodation Strategy.

TABLE 13: IMPACTS ON LAND VALUES AND DEMAND FOR LAND AND HOUSING

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.6	Key issues remain unchanged, but potentially exacerbated.
Existing Environment		Existing environment remains unchanged.
Mitigation		As discussed in the previous report, MLPL is exploring opportunities to reduce pressure on local housing markets. Also noted was that other technical reports may assist in identifying the need for strategies to abate or minimise other risks.
Performance		As detailed in the previous report, SGS believes the identified performance measures should suffice.

Source: SGS Economics & Planning (2024)

3.4.7 Local, State and Federal Government Rate, Taxation and Royalty Revenues

Based on the outputs of the updated technical modelling, Marinus Link is projected also to generate public taxation receipts for various levels of government (**Figure 9**). As detailed below, by comparison to the BaU, the Marinus Link project is anticipated to generate the following between 2025 and 2050:

- Local governments in Tasmania and Victoria are expected to collect an additional \$49 million in Victoria and \$30 million in Tasmania from increased rate revenues, respectively.
- The Tasmanian State Government is expected to collect an estimated \$162 million. This tax revenue includes property and payroll taxes and stamp duties.
- The Victorian State Government is expected to collect an estimated \$291 million.
- The Australian Federal Government is expected to collect an estimated \$492 million. This tax revenue largely stems from taxation on the provision of goods and services and income taxes on individuals.

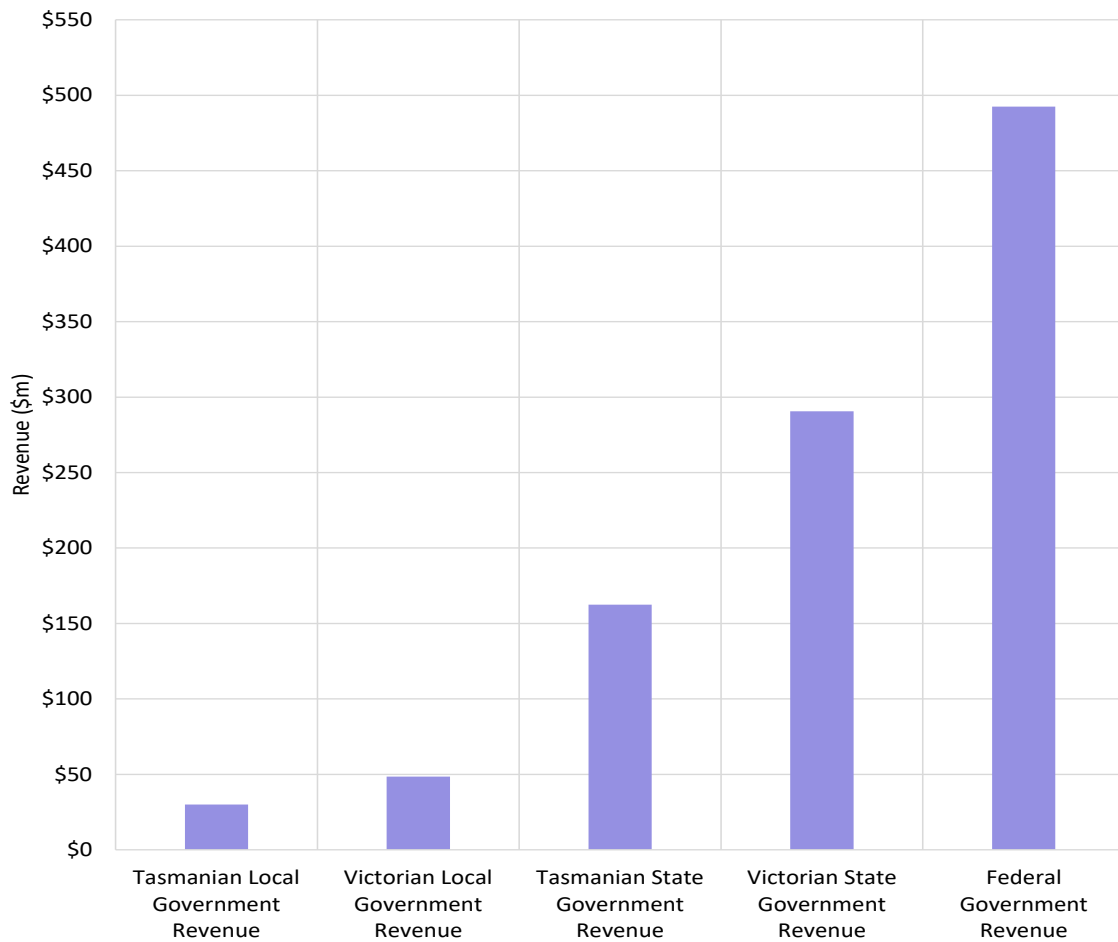
As noted in the previous report, offsetting any generation of public taxation receipts might be the provision of one-time or ongoing subsidies or services that are to be relied up for the construction or operation of Marinus Link. Information regarding such incentives or subsidies was neither known to SGS nor MLPL at the time of preparation of this updated EIA and therefore not considered in the analysis.

TABLE 14: IMPACTS ON LAND VALUES AND DEMAND FOR LAND AND HOUSING

Consideration	SGS EIA Technical Appendix (May 2024)	Supplemental EIA (July 2024)
Key Issues	Refer to Section 6.6.7	n/a
Existing Environment		n/a
Mitigation		n/a
Performance		n/a

Source: SGS Economics & Planning (2024)

FIGURE 9: NET CHANGE IN PUBLIC TAX REVENUES, 2025-2050 (\$ MILLIONS)



Source: SGS Economics & Planning (2024)

Appendix A: Modelling Assumptions

This appendix provides further information regarding SGS's adopted modelling assumptions referenced in Section 3.1. The section contains:

- Modelling approach
- Adopted modelling assumptions

Modelling Approach

As noted in Section 3.1, the updated capital investment and operational expenditure values present a few challenges to the modelling and, subsequently, to the outputs. This section provides an identification of those challenges and modelling approach to manage the technical constraints of the model against the given understanding of the cause for escalation in the capital investment value.

As described on the left side of **Table 15**, there are two fundamental issues with modelling the updated capital investment values:

- First, that updated capital investment values are 2023 dollars, but the CGE model is only calibrated to accept inputs up to 2022 dollars, i.e., the updated values cannot be inputted to the model as is.
- Second, given that the capital investment value escalation is mainly attributable to (imported) materials (i.e., not labour) costs, inputting the model even with de-escalated 2022 dollars risks an output of significantly higher numbers of jobs (given the embedded underlying (2021) relationships represented in the model between total output and inputs to production (e.g., labour, goods and services)).

As described on the right side of **Table 15**, SGS's modelling approach involved **two iterations** to calibrate the outputs:

- **Employment** – a **first iteration** of the model was used to isolate an employment closure assumption, modelling the capital investment value (in 2021 dollars) across the updated two-stage construction timeline
- **Gross Value-Added** – a **second iteration** of the model was used with the above employment closure assumptions and a de-escalated capital investment value (in 2022 dollars)

TABLE 15: SUMMARY OF MODELLING CHALLENGES AND SOLUTIONS

Issue	Modelling Challenge	Modelling Approach
1	<p>Updated capital investment value information is provided in 2023 dollars. Original modelling conducted with 2021 dollars.</p> <p>The CGE model is calibrated with trends and data that reflect economic relationships to 2021. It can be re-based to produce constant 2022 dollar outputs. It cannot, however, be re-based to accommodate 2023 dollar inputs.</p>	<p>Construction costs are inputted into the CGE model re-based as 2022 dollars. As such, the 2023 dollars capital investment value is de-escalated to 2022 dollars, assuming uniform CAGR between 2021 and 2023.</p>
2	<p>Information and guidance were given to SGS suggesting that the capital investment value escalation is mainly attributable to (imported) materials (i.e., not labour).</p> <p>This carries implications for how the modelling might be undertaken to provide a reasonable representation of total construction period employment, particularly given that 1) (as noted above right) the capital investment value modelling input will be in 2022 dollars, not 2021 dollars as the original modelling, and 2) that the model's underlying data have not been calibrated to be reflective of significant escalations in materials inputs to construction.</p> <p>Although it was requested, information was unavailable to SGS regarding a disaggregation of the capital investment value increase attributable to labour versus materials.</p>	<p>A first iteration of modelling is undertaken to identify employment impacts of a two-stage Marinus Link Project construction (using the original 2021 dollars capital investment value, which ensures that the results are directly comparable to the original modelling outputs of single-stage construction),</p> <p>A second iteration of modelling is undertaken to identify GVA impacts through CGE model closure reflecting the following: 1) constraining state-level employment to the above results with re-based 2022 dollars for the Project's capital investment value, 2) allowing for wages to float within each state, and 3) allowing for the remainder of the capital investment value increase to be isolated as increased materials inputs to construction.</p>

Source: SGS Economics & Planning (2024)

Adopted Modelling Assumptions

Taking this modelling approach results in the following adopted assumptions regarding capital investment value and operational expenditure (shown in **Table 16**).

This modelling process allowed for outputs to reflect the working assumption that FTE job-years will not have escalated so substantially over SGS's EIA (May 2024), allowing for the capital investment value increase to be mainly attributable to materials and only partially attributable to labour.

TABLE 16: SUMMARY OF MODELLING CHALLENGES AND SOLUTIONS

Model Iteration	Modelling Approach	Adopted Modelling Inputs and Assumptions
1	First iteration (as described in Table 15)	Total capex: \$3.1 billion (2021 dollars) Stage 1: \$1.905 billion (2021 dollars) Stage 2: \$1.195 billion (2021 dollars) No additional model closure constraints.
2	Second iteration (as described Table 15)	Total capex: \$4.5147 billion (2022 dollars) Stage 1: \$2.7741 billion (2022 dollars) Stage 2: \$1.7406 billion (2022 dollars) Annual opex: \$29.6 million (2022 dollars) Additional model closure constraints: employment capped by state to levels identified in first iteration.

Source: SGS Economics & Planning (2024)

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