



Economic Impact Assessment

Macquarie Point Multipurpose Stadium

5 September 2024

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Executive summary

This report documents the EIA of the construction and operational phases of the Macquarie Point Multipurpose Stadium project. The report is structured as follows:

- The report first details the modelling approach used to undertake the EIA;
- The report also provides greater detail on the inputs and assumptions that underpin the analysis; and
- Finally, this report provides the detailed outputs of the analysis.

KPMG have relied upon the capital cost estimates provided by WT Partnership (WT) and has not attempted to verify the accuracy or robustness of these estimates as part of this analysis. This report should be read in conjunction with the Economic Development and Social, Cultural and Community Wellbeing Introduction and attached disclaimers.

Key findings

Construction Phase

The Construction Phase has been modelled under two labour market scenarios, one where there is significant slack in the labour market, and one with a tighter labour market (in line with a continuation of an unemployment rate close to the current levels of ~4%).

- Depending on the tightness of the labour market, it is estimated that the Stadium's development will create between 721 – 1,576 incremental FTE jobs in the peak year of construction.
- This corresponds to the creation of 1,510 – 3,229 total FTE jobs (measured in job-years) over the construction period.
- The Construction Phase is estimated to generate incremental Gross State Product (GSP) of between \$250m – \$269m.
- During the Construction Phase, the construction industry's gross value added will be boosted by between \$161m – \$168m.

Operating Phase

The Operating Phase has been modelled under two event calendar scenarios, one which follows a 'Core event calendar', and one which follows an 'Optimistic event calendar' (as described in the FIR).

- Depending on the number of events hosted at the Stadium, between 203 – 204 FTE jobs could be created on an ongoing basis as a result of the Stadium's operations.
- During the Operating Phase, the Stadium is projected to generate incremental GSP of between \$27m – \$32m per annum.
- During the Operating Phase, the industries that will benefit the most from the Stadium's operations are Accommodation & food services and Arts & recreation services (which includes sport).

1 Introduction

1.1 Scope of this report

This report documents the EIA of the construction and operational phases of the Macquarie Point Multipurpose Stadium project. The report is structured as follows:

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- The report also provides greater detail on the inputs and assumptions that underpin the analysis; and
- Finally, this report provides the detailed outputs of the analysis.

KPMG have relied upon the capital cost estimates provided by WT Partnership (WT) and has not attempted to verify the accuracy or robustness of these estimates as part of this analysis.

This report, and the analysis within, is designed to align with the PoSS guidelines. The table below documents the alignment between the guidelines and the relevant sections of the report.

PoSS guidelines requirement	Section of the report
3.2 Economic Impact Assessment (EIA)	
An Economic Impact Assessment (EIA) using a computable general equilibrium model to assess the net effect of the proposed project on the Tasmanian economy from construction activities and the operation of the stadium.	The net economic impact of the Stadium's construction phase is outlined in Section 3.1 The net economic impact of the Stadium's operational phase is outlined in Section 3.2
The modelling is to show the direct and indirect/induced economic effect resulting from indicators such as GDP (including GSP), employment, real income per capita and industry sector output. Any assessment of employment effects is to express these effects in terms of Full Time Equivalent (FTE) employment for the specific period of time.	Results from the CGE modelling are provided in Section 3 of this report. These results include: • Incremental job creation (FTE) • Increase in real income per capita • Incremental Gross Domestic Product (GDP) and Tasmanian Real Gross State Product (GSP) • Value added results by industry
The modelling is to be provided in a transparent manner with all key assumptions separately detailed and supported and should enable professional peer review. The results of the economic modelling will form a key input into the CBA report and are to be explained in a manner that is understandable to an informed reader.	This report includes a Modelling Approach section (Section 2) which outlines the approach taken to the model setup and model inputs to enable professional peer review. The results of the EIA are not captured in the CBA report. This is in line with leading practice guidelines (such as Infrastructure Australia, NSW Treasury, Victorian Treasury), which state that the impact estimates from CGE models are not interchangeable with nor additive to CBA results, but can provide additional / complementary information on project impacts.
The modelling outputs should enable the construction and operation phase impacts to be separately identified.	Results of the modelling are presented separately for the construction and operational phases.
The economic impact report should also consider the opportunity cost of domestic investment – for example, a “counter-factual” estimate of the impact of an alternative	The results presented in Section 3 consider ‘crowding out’ that may occur as a result of this investment through the construction phase. Both labour market scenarios considered

investment of equivalent public funds. The report should also consider the degree of 'crowding out' that may occur through the construction stage activities.

capture crowding out effects, with the tight labour market scenario contemplating conditions where crowding out effects are stronger.

The CGE modelling approach adopted (which includes explicit resource and budget constraints) captures the opportunity cost of resource use (including by the government). Importantly, the modelling approach used in this report does not constrain the ability of the government to fund any other investment.

3.5 Sensitivity and comparative analyses and information documentation (relevant components)

The above reports are to provide a consolidated balanced overview of effects based on data and information drawn from the specific assessment methods outlined above.

Throughout

Sensitivity analysis is to be undertaken as part of the Cost-Benefit, Economic Impact and Financial Impact assessments, to understand how different assumptions around risk and uncertainty affect outcomes.

Alternative scenarios on key variables have been undertaken in both the construction phase and operational phase.

The construction phase modelling includes results for scenarios that depend on the labour market setting (i.e. a 'slack' and a 'tight' employment market).

The operational phase considers the impacts of the 'core' and 'optimistic' event calendars as presented in the Financial Impact Report.

2 Modelling approach

2.1 Overview

The broader economic contribution of the construction and operation of the Stadium to Tasmania is estimated using KPMG-REG, a proprietary regional Computable General Equilibrium (CGE) model of the Australian economy that has been tailored specifically for this project. The version of KPMG-REG used for this study divides the Australian economy into two fully integrated economic regions; namely, Tasmania (Tas) and the Rest of Australia (ROA).

The economic impacts of the project will differ significantly during the **construction** and **operational** phases. For this reason, the economic impact of each phase is analysed separately using a version of KPMG-REG configured to provide two snapshots of the structure and size of the economy.

- The first snapshot is the **baseline** representation of the economy that does not include the impact of the Stadium. For the construction phase the baseline is a representation of the size and structure of the Tasmanian and Australian economy in 2023-24 before the capital expenditure program associated with the Stadium development commences. For the operational phase the baseline is a representation of the size and structure of the Tasmanian and Australian economy in 2031-32.
- The second snapshot is a **revised** representation of the economy that includes the impacts of the Stadium. For the construction phase this revised snapshot is a representation of the economy immediately after the CAPEX program associated with the development of the Stadium is completed. For the operational phase the revised snapshot is a representation of the economy in 2031-32, when the new Stadium is assumed to be operating at a stabilised level of activity (typical year of performance in the longer term).

In comparative static mode KPMG-REG does not trace out the dynamics of the economy moving from its pre-stadium state to the new long run equilibrium state where the new Stadium is operating at planned capacity. Rather, in comparative static mode KPMG-REG provides estimates of how the economy is impacted in:

- i. The construction phase period, 2024-25 to 2029-30, during which the project's capital expenditure program is completed.¹
- ii. A typical year in the project's operational phase which is based on an average over the period from 2031 to 2034 which the balance of the report describes as the year of 2031-32.

2.2 Model setup

KPMG-REG contains many more variables than equations. The model can determine values for as many variables as it has equations. To run the model it is necessary to select a sub-set of variables that the model will be allowed to determine (endogenous variables) with the remainder set outside the model (exogenous variables). Apart from the exogenous variables that will be shocked, the values of all remaining exogenous variables are assumed to remain unchanged from their baseline values.

The choice of exogenous variables and the nature of the baseline determine the economic environment (or economic context) that is assumed appropriate for analysing the impacts of the Stadium. The economic environments relevant to analysing the construction and operational phases of the Stadium are assumed to be different.

2.2.1 Economic environment – Construction Phase

The construction phase capital expenditure required to develop the Stadium can be thought of as a temporary expenditure shock to the economy. That is, it is a one-off increase in investment expenditure.

¹ The economic impact modelling does not include costs incurred in 2023-2024, as these are considered sunk costs and therefore not factored into the analysis. At time of writing (August 24) the capital expenditure forecasts model indicates that \$1.5m of the \$715m were due to have been spent. No spending of the capital expenditure was forecast to occur prior to May 2024.

The economic impacts of the Stadium's construction phase are directly related to the stimulus that is provided to the economy through the boost to expenditure required to construct it. Analysis of the Stadium's construction phase is best done in the context of a short run economic environment to recognise the temporary nature of the stimulus.

The choice of exogenous variables for the construction phase simulation is designed to configure KPMG-REG so that it represents the behaviour of the economy in the shorter term. The key settings include:

- i. tax rates and government policy settings are held fixed at their baseline values with budget balances free to vary;
- ii. sector-specific capital stocks are held fixed at their baseline values;
- iii. a value for investment in the Tasmanian *Sports & Recreation* sector is imposed to reflect the Stadium development capital expenditure assumptions while investment in the remaining sectors responds to sector-specific rates of return;
- iv. the number of working-age people in Australia is held fixed at the number in the baseline;
- v. the average propensity to consume out of household disposable income is held fixed at its baseline value; and
- vi. consumer preferences and technical change parameters are held fixed at their baseline values.

Labour market setting

An important consideration for this project is the ability for input markets to absorb the short term increases in demand for materials and labour over the construction period. Of particular note is the degree of spare capacity (or slack) that exists within the labour market, and how the additional demand for labour can be met within Tasmania. Construction workers in Tasmania, and across the nation more broadly, are in high demand given the volume of construction work currently underway. The national infrastructure pipeline remains strong and the national housing shortage will put pressure on the construction industry for some time. Within infrastructure, the energy transition that is underway will require significant resources to meet government targets for renewable energy. The outlook for the Tasmanian labour market is not certain and it is reasonable to consider a scenario where current labour market conditions persist for some years.²

Uncertainty about the degree of spare capacity in the Tasmanian labour market means that the impact of the Macquarie Point Multipurpose Stadium (the Stadium) is also uncertain. For this reason the analysis of the project's construction phase has been undertaken for two different labour market scenarios:

- **Slack labour market:** in this scenario the labour market is assumed to have sufficient slack to absorb the increases in demand for labour instigated by the project without increasing real wages. This means that over the construction phase period there are workers available at the prevailing real wage (i.e., the real wage in the absence of the Stadium) to meet the increased demand for workers directly and indirectly generated by the project. This assumption is reasonable in environments where there is slack in labour markets and unemployed or under-employed workers and working-age people currently not in the labour force can be drafted into jobs.
- **Tight labour market:** in this alternative scenario the labour market is assumed to have limited spare capacity, characterised by a low unemployment rate. Increases in demand for workers in such a market put upward pressure on real wages as businesses compete to meet their workforce requirements. The initial increase in demand for workers is accommodated by an increase in real wages that induces an increase in the supply of workers and by a reduction in demand for workers by businesses that cannot meet the higher wage costs.³

The tight labour market characterisation used in the modelling reported below is based on the assumption that recent labour market conditions, where the Tasmanian unemployment rate has been around ~4%, will continue to prevail during the Stadium's construction phase. This scenario is by no means certain to play out but is considered more likely than the alternative slack labour market scenario, which would be consistent with a significant slowdown in the Tasmanian and Australian economies.

² Tasmanian government projections and consideration related to infrastructure investment and housing targets can be found here [Tasmania's infrastructure now more than \\$27 billion - Premier of Tasmania](#) and here [Building the strong construction workforce Tasmania needs - Premier of Tasmania](#).

³ In an extreme case where the economy is effectively at full employment, any increase in demand for workers will be accommodated by an increase in real wages sufficient to restore equilibrium where labour demand and supply are equal. This is achieved by workers moving from their existing job to a higher paying job. Businesses that cannot meet the higher wage costs release labour to those businesses that can.

2.2.2 Economic environment – Operational Phase

Analysis of the economic impact of the Stadium's operational phase is best done in the context of a long run economic environment where the stadium is operating within an economy that is in long run equilibrium (as opposed to a cyclical high or low). This approach recognises (i) the permanent nature of the increment to the productive capacity of the Tasmanian *Sports & Recreation* sector and (ii) that estimates of the impacts should not be biased by temporary cyclical factors.

The selection of exogenous variables for the operational phase simulation is designed to configure KPMG-REG so that it represents the behaviour of the economy in the long term. The key settings include:

- i. rates of return on capital are held fixed at their baseline values, with the exception of the Tasmanian *Sports & Recreation* sector;
- ii. sectoral investment-capital ratios are held fixed at their baseline values, with the exception of the Tasmanian *Sports & Recreation* sector;
- iii. the number of working-age people in Australia is held fixed at the number in the baseline;
- iv. consumer preferences and technical change parameters are held fixed at their baseline values;
- v. the average propensity to consume out of household disposable income is held fixed at its baseline value;
- vi. the ratio of the current account balance to GDP is held fixed at its baseline value;
- vii. government spending is assumed to move in line with GSP; and
- viii. the labour market is assumed to be in equilibrium with inelastic labour supply.

The aggregate (national) supply of labour is assumed to be relatively inert with real wages adjusting to clear the labour market. Labour supply at the regional level responds to shocks through regional migration flows that are driven by relative wage differentials at the regional level. An economy-wide budget constraint is imposed in the long run through constraints on government expenditure and on household expenditure.

2.3 Model inputs

This section describes the numerical inputs (or shocks) that we impose on KPMG-REG in the construction phase simulation and operational phase simulation.

2.3.1 Construction Phase shocks

The shocks imposed on KPMG-REG are designed to capture the direct impacts of the stadium's construction phase on the economy. KPMG-REG then estimates the flow-on effects of these shocks on the economy.

For the construction phase we shock investment in the Tasmanian *Sports & Recreation* sector by \$716 million. Table 1 reports the capital expenditure estimates for the development of the new Mac Point Multipurpose Stadium.

Table 1: Modelling inputs - Construction Phase

Variables	Values
Capital expenditure (\$ million, 2024 prices)	\$715.90m ^a
Construction duration^b	2024-25 to 2028-29, peak capital expenditure 2026-27 (48% of total)
Estimated direct FTE jobs-years^c	1,221 (with a peak of 588 concurrent FTE jobs)

Notes: [a] Derived from capital cost plan provided to KPMG by WT Partnership. This excludes escalation applied to construction costs (when included this totals \$774.9m) to reflect the real, unadjusted cost of construction.

[b] Construction programming provided to KPMG by WT Partnership. Note that this does not include costs incurred in 2023-2024.

[c] Direct FTE job-years estimated for incorporation into this analysis by WT Partnership.

2.3.2 Operational Phase shocks

The modelling of the Stadium's operational phase is designed to capture the direct and indirect impacts on the Tasmania economy of the incremental expenditures in Tasmania attributable to the new stadium. The construction phase augmented the capacity of the *Sports & Recreation* sector and the shocks imposed in the operational phase simulation are designed to capture:

- incremental cash flows that are directly attributable to the operation of the Stadium; and
- the funding costs incurred by the Tasmanian and Federal governments.

Some of the incremental cash flows generated by the Stadium's operations constitute positive net inflows for the Tasmanian economy while others are negative. The positive incremental cash inflows to the Tasmania economy are assumed to emanate from two main sources:

- inter-state residents choosing to visit Tasmania because of the new Stadium (and associated events); and
- residents of Tasmania choosing to switch some of their expenditures on interstate goods and services to Tasmanian goods and services because of the new Stadium (and associated events).

Note that expenditures by interstate residents that would have visited Tasmania in the absence of the new Stadium are not included as part of the shock. Interstate residents induced to visit Tasmania because of the new Stadium spend money on activities within the Stadium (e.g., tickets, food and beverages to attend an event) and outside the Stadium (e.g., accommodation, transport, food and beverage, tours etc). Not all of the spending done by interstate visitors within the Stadium remains in Tasmania. For example, events promoted at the Stadium by organisers with businesses domiciled in the rest of Australia result in a portion of the ticket revenue leaving Tasmania.

For the most part, expenditures by Tasmanian residents within the Stadium are assumed not to be incremental. That is, when Tasmania residents choose to spend some of their budget on activities within the Stadium they are simultaneously choosing to spend less of their budget on other goods and services, some of which are produced in Tasmania. This reallocation of expenditures by Tasmanian residents is imperfect for two main reasons that are explicitly captured in the modelling. Firstly, some of the in-Stadium expenditures made by Tasmanian may end up as revenue to businesses domiciled outside of Tasmania (e.g., interstate promoters and ticket agencies). In effect, by attending events at the Stadium Tasmanian attendees are purchasing imported services provided by interstate businesses with a stake in the event hosted at the Stadium. Secondly, the Stadium and the events that it hosts provides Tasmanian residents with new services that they previously may have accessed only by attending venues in the rest of Australia. It is reasonable to assume that because of the new Stadium a portion of the Tasmanian attendees will chose to spend money in Tasmania that they otherwise would have spent interstate attending comparable events.⁴ It is important to note these retained expenditures relate not only to in-Stadium expenditures but also the avoided cost of interstate visits (e.g., accommodation, travel, food and beverage etc).

Table 3 summarises the key shocks used to represent the direct incremental cash flows generated by the Stadium. These shocks represent annual cash flows expressed in 2024 dollars and are sourced from the Financial Impact Report (FIR) and the Cost Benefit Analysis (CBA) modelling for the 24,500 capacity (i.e. 23,000 seats and 1,500 standing room) stadium option.

The Core Scenario and Optimistic Scenarios represent the 'core' and 'optimistic' event calendars presented within the FIR.

Table 2: Modelling inputs – Average year of operations in the Operational Phase^(a)

Variable	Values (\$2024)		Source / Rationale
	Core Scenario	Optimistic Scenario	
Stadium revenue	\$9.5m	\$10.0m	KPMG FIR, revenue inclusive of the subsidy for Stadium's deficit
Lifecycle capital expenditure	\$3.8m	\$3.8m	WT Partnership Lifecycle Cost Estimates

⁴ It is acknowledged that the existence of AFL teams in Tasmania may stimulate interstate visitation by Tasmanian residents following their team when they play matches at interstate venues.

Stadium related spend by interstate businesses	\$0.1m	\$0.1m	KPMG CBA Modelling
Stadium related spend by interstate visitors	\$1.0m	\$2.3m	KPMG CBA Modelling
Out-of-stadium spend by interstate visitors	\$77.5m	\$84.3m	KPMG CBA Modelling
Tasmanian attendee payments to interstate businesses (promoters, ticket agents)	\$9.5m	\$18.9m	Estimates of proportion of operating financial flows to interstate businesses based on KPMG FIR
Interstate attendee payments to Tasmanian businesses (promoters, caterers, tour operator)	\$3.8m	\$5.0m	Estimates of proportion of operating financial flows to Tasmanian businesses based on KPMG FIR
Retained spending (avoided imports)	\$50.0m	\$44.7m	KPMG CBA Modelling
Transfer from the AFL ^(b)	\$33.5m	\$33.5m	KPMG CBA Modelling
Incremental event attraction costs	\$1.7m	\$2.6m	KPMG CBA Modelling
Tasmanian government Stadium operating deficit subsidy	\$2.1m	\$0.9m	KPMG FIR
Debt service by Tasmanian government	\$16.1m	\$16.1m	Estimates of debt servicing requirements as a result of State incurred capital expenditure.
Debt service by Federal government	\$10.3m	\$10.3m	Estimates of debt servicing requirements as a result of Commonwealth incurred capital expenditure.

Notes: (a) Detailed assumptions underpinning the Operating Phase modelling inputs are contained in either the Financial Impact Report or the Cost Benefit Analysis Report for each relevant input outlined above.

(b) This amount excludes the AFL's capital contributions for the Stadium (\$15m) and the high performance centre (\$10m). The funding is understood to be part of a 10-year program.

The Tasmanian Government's subsidy to support the operations of the new AFL club, the Tasmanian Devils Football Club (the Devils) and associated AFL activities (i.e., \$144m over 12 years) is not included as a modelling input in Table 3. This reflects the assumption that this subsidy constitutes a transfer between Tasmanian residents/entities (i.e., Tasmanian taxpayers on the one hand and the Devils and other Tasmanian business entities that will support the AFL in delivering its services in Tasmania).⁵

⁵ In contrast, the subsidy related to the Stadium operating deficit is modelled explicitly even though it too will largely constitute a transfer between Tasmanian residents/entities. The reason for this different treatment reflects the fact that the operations of the Stadium are modelled in detail while the operations of the club are not modelled.

3 Modelling results

This section presents the results from the construction phase and operational phase simulations.

3.1 Construction phase simulation

The headline Tasmanian macroeconomic impacts of the Stadium's construction phase under the two alternative labour market assumptions are presented in Table 3 as deviations from the baseline. The results show that Tasmania's real GSP is projected to be between \$250.4 million and \$268.7 million higher than in the baseline. Over the same period, real income per capita is projected to be between \$175 and \$271 higher than was projected in the baseline which did not include the construction of the Stadium. The construction of the Stadium is expected to directly generate around 1,221 job years-worth of employment (estimated by WT Partnership as an input to this analysis). This is equivalent to 244 FTE workers on average over the five year construction period. The results in Table 3 show that the net impact of the Stadium's construction phase, which includes the direct and indirect impacts, is about 2.7 times higher than the direct workforce that will be employed to construct the Stadium. In the tight labour market scenario the net employment impact is closer to the direct workforce that will be employed to construct the Stadium. It is worth noting that in 2026-27, when about 48% of the Stadium's capital expenditure occurs, between 721 and 1,576 additional FTE jobs will be created directly and indirectly by the construction activity. In that year the direct workforce requirements of the Stadium are estimated to be around 588 FTE workers.

Table 3: Headline Results - Construction Phase

Variable	Slack Labour Market	Tight Labour Market
Incremental Real Gross Domestic Product (2024-25 to 2028-29)	\$329.3m	\$254.2m
Incremental Tasmanian Real GSP (2024-25 to 2028-29)	\$268.7m	\$250.4m
Increase in Real Income Per Capita (2024-25 to 2028-29)	\$271	\$175
Incremental FTE jobs (measured in job-years) ^a	3,299	1,510
Incremental FTE jobs (average annual 2024-25 to 2028-29) ^b	660	302
Peak Incremental FTE jobs (2026-27)	1,576	721

Notes: [a] An FTE job-year is defined as a full-time equivalent job that exists for 1 year. A worker employed full time for 3 years would be counted as 3 job-years of employment.

[b] These numbers are deduced as the total number of job-years of employment divided by the 5 year construction period horizon.

Industry value added results are reported in Table 4. These results are deviations from the baseline measured in 2024 dollars. The results show that the *Construction* industry is the main beneficiary of the Stadium's construction phase. The industry results also show that the Stadium's construction phase results in some displacement of other activities in the Tasmanian economy as the resources needed to directly and indirectly support the Stadium's construction are drawn away from sectors exposed to interstate and international competition (i.e., export-oriented sectors of the economy and from sectors that produce commodities that compete with imports).⁶ It should be noted that these sectors are still projected to grow in the Project scenario but that they will grow less rapidly than in the baseline scenario.

⁶ A strength of the modelling approach taken is that the resource implications of any new activity are explicitly captured. Budget constraints and supply side constraints mean that the resource requirements of new businesses are accommodated by drawing resources away from other parts of the economy. That is, the activities of the new business displaces some activity in other parts of the economy. The extent of this displacement depends on the degree of relevant spare capacity in the economy.

Table 4: Incremental impact (from baseline) on industry value added - construction phase

Millions of 2024 dollars	Slack Labour Market	Tight Labour market
Construction	161.23	186.35
Retail trade	22.83	15.91
Wholesale trade	14.89	12.86
Information media & telecommunications	14.74	19.19
Health care & social assistance	13.26	5.04
Professional, scientific & technical services	9.20	11.78
Financial & insurance services	8.99	11.26
Other services	6.51	3.96
Rental, hiring & real estate services	5.54	8.88
Arts & recreation services	3.78	3.85
Electricity, gas, water & waste services	3.68	3.79
Accommodation & food services	2.31	-2.44
Public administration & safety	2.14	2.01
Transport, postal & warehousing	0.93	-0.58
Administrative & support services	-1.30	-1.98
Mining	-3.95	-11.41
Agriculture, forestry & fishing	-8.30	-13.05
Education & training	-14.25	-19.52
Manufacturing	-17.07	-28.57

3.2 Operational phase simulation

The headline Tasmanian macroeconomic impacts of the Stadiums' operations under the Core and Optimistic scenarios are reported in Table 5. The simulation results are reported as deviations from the baseline in two different ways. The top number in each cell of the table represents the levels deviation of the variable from its baseline value in 2031-32. For example, in the Core scenario Tasmanian GSP in 2031-32 is projected to be \$72.8 million higher than the level projected in the baseline for that year. Similarly, the number of ongoing FTE jobs in the Tasmanian economy in 2031-32 is estimated to be 238 more than was projected in the baseline for that year. The same results are expressed as percentage deviations from the baseline and reported immediately below their levels counterparts. For example, in the Core scenario real Tasmanian GSP in 2031-32 is projected to be 0.22% higher than projected in the baseline scenario.

It is important to note that the deviations reported in Table 5 are for a single year, 2031-32. The aim of the modelling for the operational phase is to estimate the project's impact in a typical year of operations. While Stadium operations in 2031-32 can be characterised as typical, the transfer by the AFL of \$33.5 million to support the Devils in that year cannot be described as typical. This is because the AFL's funding support is understood to cease after a decade. For this reason an additional sets of results is reported for 2031-32 in Table 4, which excludes the AFL transfer. The Stadium's operations in 2031-32 are assumed to be representative of operations in subsequent years, which means that it is reasonable to assume that its impacts on the economy in years beyond 2031-32 be comparable to those reported for 2031-32 in the absence of the AFL transfer.

Table 5: Headline Results- Operational Phase

Variable	Incremental impact ^a			
	Core Scenario		Optimistic Scenario	
	AFL transfer	No AFL transfer	AFL transfer	No AFL transfer
Incremental Real Gross Domestic Product (2031-32)	\$32.4m 0.0014%	\$25.7m 0.0011%	\$45.9m 0.002%	\$36.5m 0.0016%
Incremental Tasmanian Real Gross State Product (2031-32)	\$72.8m 0.22%	\$27.3m 0.08%	\$79.4m 0.24%	\$31.8m 0.10%
Incremental Tasmanian Real Income Per Capita (2031-32)	\$191 0.36%	\$132 0.25%	\$242 0.45%	\$183 0.34%

Ongoing Incremental FTE jobs	238 0.10%	203 0.08%	276 0.12%	242 0.10%
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Notes: [a] The incremental impacts are reported as deviations from the baseline. The top number in each cell is the levels difference and the bottom number is the percentage difference.

Industry value added results are reported in Table 6. These results are presented as percentage deviations from the baseline measured in 2024 dollars. The results show that the *Arts & recreation services* and *Accommodation & food services* industries are the main beneficiaries of the Stadium's operations. The industry results show that the Stadium's operations directly and indirectly displace other activities in the Tasmanian economy. The increased demands for the services provided by the Stadium, together with the associated demands related to attendance by interstate visitors (e.g., food and beverage, accommodation etc) and to supply chain linkages, are partially met by drawing resources away from other industries.

Higher real wages have a negative impact on labour-intensive sectors that do not get a significant boost directly or indirectly from the Stadium's operations as well as cost-sensitive sectors exposed to interstate and international competition (i.e. export oriented sectors of the economy and from sectors that produce commodities that compete with imports). It is important to note that these negative impacts do not mean that the sectors contract. Rather, the negatively impacted sectors grow less rapidly in the scenario with the Stadium than they were projected to grow in the baseline where the Stadium is not part of the economy.

Table 6: Incremental impact (from baseline) on industry value added - operational phase (with AFL transfer)

Percent deviations from the baseline	Core	Optimistic
Arts & recreation services	4.17	4.35
Accommodation & food services	3.07	4.30
Retail trade	0.58	0.76
Administrative & support services	0.46	-0.49
Other services	0.40	0.49
Manufacturing	0.39	0.52
Rental, hiring & real estate services	0.28	0.36
Wholesale trade	0.28	0.34
Construction	0.23	0.26
Financial & insurance services	0.22	0.28
Electricity, gas, water & waste services	0.15	0.18
Public administration & safety	0.10	0.10
Information media & telecommunications	0.10	0.09
Transport, postal & warehousing	0.06	0.05
Professional, scientific & technical services	0.00	-0.08
Health care & social assistance	-0.04	-0.10
Agriculture, forestry & fishing	-0.20	-0.27
Education & training	-0.28	-0.42
Mining	-0.92	-1.26

Opportunity cost of domestic investment

The PoSS Guidelines request that the EIA considers the opportunity cost of domestic investment. The modelling presented above addresses the "opportunity cost" of resources explicitly through supply constraints and budget constraints. It is explicitly assumed that the public funding required to support the Stadium does not crowd out any other project or program that the government might consider. The full cost of the public funding provided to Stadium is assumed to be passed on to Tasmanian and Rest of Australia taxpayers in the form of higher taxes. In that sense the "opportunity cost" of the public funding of the Stadium is what the taxpayers would have done with that income if they had not paid higher taxes.

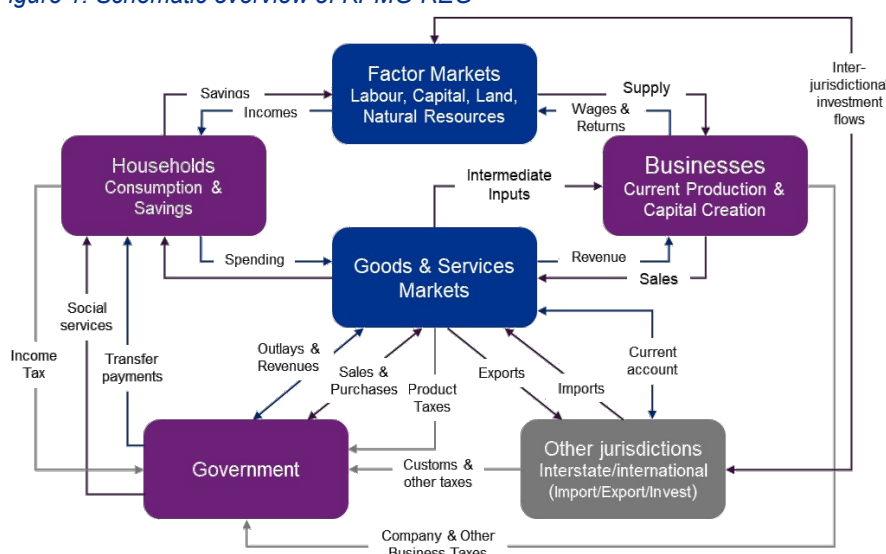
Capturing the opportunity cost of "an alternative investment of public funds" is contingent on understand the opportunity set of public investments and then understanding the need (hence the return) on that investment. It is not feasible to consider the range of possible investments that the government could make in the context of modelling the Stadium. Because of the funding assumptions made in the modelling there is nothing preventing the government from raising more taxes (relative to the baseline) to fund other projects or programs or to reallocate their existing budget (in the baseline).

Appendix A: Overview of KPMG-REG

KPMG-REG models the economy as a system of interrelated economic agents operating in competitive markets. Figure 1 is a stylised representation of the types of relationships that are captured in KPMG-REG.⁷ Economic theory is used to specify the behaviour and market interactions of economic agents, including consumers, investors, producers and governments operating in domestic and foreign goods, capital and labour markets. Defining features of the theoretical structure of KPMG-REG include:

- optimising behaviour by households and businesses in the context of competitive markets with explicit resource constraints and budget constraints;
- the price mechanism operates to clear markets for goods and factors such as labour and capital (i.e. prices adjust so that supply equals demand); and
- at the margin, costs are equal to revenues in all economic activities.

Figure 1: Schematic overview of KPMG-REG



KPMG-REG uses Input-Output (IO) data to quantify the flows of goods and services between producers and various users (e.g., intermediate inputs to other producers, inputs to capital creators, households, governments and foreigners) and the flows associated with primary factor inputs (i.e., labour, capital, land and natural resources). In KPMG-REG the IO database is combined with the model's theoretical structure to quantify sophisticated economic behavioural responses, including to:

- price and wage adjustments driven by resource constraints;
- price and tax and/or government spending adjustments driven by budget constraints;
- allow for input substitution possibilities in production (e.g., allowing the combination of labour, capital, and other inputs required to produce a particular output to vary in response to relative price changes);
- capture a wide set of economic impacts driven by the responses of consumers, investors, foreigners and other agents to changes in prices, taxes, technical change and taste changes.

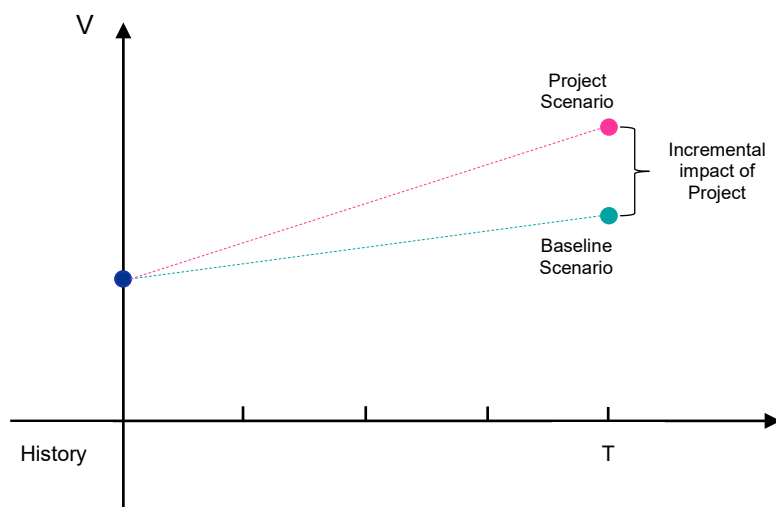
KPMG-REG's theoretical structure and database facilitates detailed modelling of State and Federal government fiscal accounts and balance sheets, including the accumulation of public assets and liabilities. Detailed government revenue flows are modelled, including a range of direct and indirect taxes, and income from government enterprises. Government spending includes public sector consumption, investment and the payment of various types of transfers (such as pensions and unemployment benefits).

⁷ These relationships apply at the regional level with an elaboration of the relationships with "Foreigners" to include inter-regional flows of goods and services, transfers and savings and people.

Model set-up

The tailored version of KPMG-REG used for this study divides the Australian economy into two fully integrated economic regions; namely, Tasmania (Tas) and the Rest of Australia (ROA). The industrial structure of each region is represented by 20 sectors, each producing one good or service.⁸ For this engagement KPMG-REG is used in comparative-static mode. In that mode KPMG-REG does not trace out the dynamics of the economy moving from its pre-stadium development state to a new long run equilibrium state where the new stadium is operating at planned capacity. Rather, in comparative static mode KPMG-REG provides estimates of how the economy is impacted in a particular period. Figure 2 provides a stylised representation of the comparative-static simulation approach. The baseline scenario is an estimate of the size and structure of the economy in the absence of the Project at time T, period of time in the future. KPMG-REG simulations are designed to estimate how the introduction of the Project changes the size and structure of the economy. As shown in Figure 2 difference between the value of variable V in the Project and Baseline scenarios represents the incremental impact of the Project on that variable. Model results are reported as ordinary differences or percentage differences.⁹

Figure 2: Stylised simulation approach



The selection of the period T is described in the body of the report. The Project's construction and operational phases are modelled separately the choice of period T is different for these two phases reflecting the timing of these phases.

- i. For the construction phase, which extends from 2024-25 to 2029-30, the Baseline scenario represents the economy in 2024-25.
- ii. For the operational phase, which extends from 2030-31 to 2049-50, the Baseline scenario represents the economy in 2031-32. In this year the economy is assumed to have reached a long run equilibrium and Stadium operations are assumed to be in a steady state.

Key modelling assumptions

To run KPMG-REG it is necessary to select a sub-set of variables that will be determined by the model (endogenous variables) with the remainder determined outside the model (exogenous variables). Apart from the exogenous variables that will be shocked, the values of all remaining exogenous variables are assumed to remain unchanged from their baseline values.

The choice of exogenous variables and the nature of the baseline determine the economic environment (or economic context) that is assumed appropriate for analysing the impacts of the Project. As detailed in section 3 the choice of exogenous variables is different for the construction and operational phase simulations.

⁸ The 20 sectors are made up of the 19 ANZSIC Industry Divisions plus an additional sector that represents Ownership of Dwellings (i.e., landlords and owner-occupiers of dwellings).

⁹ Ordinary differences are calculated as: $dV_T = V_T^P - V_T^B$, where the superscripts P and B represent Project and Baseline scenarios respectively. Percent deviations are calculated as: $v_T = 100 * \frac{(V_T^P - V_T^B)}{V_T^B}$, where lower-case denotes percentage difference.

For the construction phase simulation the exogenous variables are chosen to characterise a short run economic environment that is subject to a temporary expenditure shock. A defining feature of this economic environment is that the productive capacity (i.e., the stock of productive fixed assets) of the business sector is fixed and does not respond to the temporary shock. For the labour market two alternative assumptions are considered. The first assumption characterises the labour market as “slack”, meaning that there are sufficient unemployed workers to accommodate the direct and indirect labour demands of the Project without impacting real wages (i.e., the supply of labour is elastic). The second assumption characterises the labour market as “tight”, meaning that real wages respond to increases in labour demand. This reflects the operation of a trade-off between the unemployment rate and real wages.

For the operational phase simulation the exogenous variables are chosen to characterise an economic environment where the economy is in long equilibrium. The defining features of this economic environment are that:

- rates of return on fixed assets are fixed at their baseline levels while the stock of fixed assets is free to adjust in response to a shock;
- the national supply of labour is fixed at its baseline level and the unemployment rate is fixed at its long run equilibrium level;
- binding budget constraints are imposed on all agents (governments, households and businesses).

More details about the Project-specific assumption used in the construction and operational phase simulations are provided in section 3.

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