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Economic forecasts 2024-25

Prepared for the Australian Energy Market Operator Limited

30 October 2024

Deloitte Access Economics

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Deloitte Access Economics Pty Ltd
ACN 149 633 116
6 Brindabella Circuit
Brindabella Business Park
Canberra ACT 2609

Tel +61 2 6263 7000
Fax +61 2 6263 7004
www.deloitte.com.au

Mr. Nick Cimdins
Forecasting Specialist
Australian Energy Market Operator Limited
Level 12, 171 Collins Street
Melbourne VIC 3000

30 October 2024

Dear Nick

Economic forecasts 2024-25

Thank you for asking Deloitte Access Economics to prepare a suite of macroeconomic forecasts to be used in the preparation of the Australian Energy Market Operator Limited's long-term energy consumption forecasts. The long-term macroeconomic forecasts are provided across four scenarios that align with the Australian Energy Market Operator Limited's Draft 2025 Inputs, Assumptions and Scenarios Report Consultation Paper.

This report presents the economic forecasts that Deloitte Access Economics has been engaged to provide, along with the modelling methodology and key assumptions.

The forecasts produced during this engagement follow the provision of economic forecasts by Deloitte Access Economics for the Australian Energy Market Operator in 2023-24, which used the 2023 Inputs, Assumptions and Scenarios Report.

The macroeconomic forecasts presented in this report were finalised in October 2024. The forecasts do not consider data released after the Australian Bureau of Statistics March quarter 2024 National Accounts (released in June 2024).

Yours sincerely

Stephen Smith
Partner
Deloitte Access Economics

Cathryn Lee
Partner
Deloitte Access Economics

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About Deloitte Access Economics

Deloitte Access Economics is one of Australia's most recognised economics advisory practices. Our team is a leader in policy, regulatory, health economics and strategic advisory, as well as forecasting and modelling services that provide detailed business insights ranging across sectors and regions. We provide services to a wide range of government and private sector clients throughout Australia, Asia Pacific and globally as a member of Deloitte's global economics network.

Access Economics has set the benchmark for economic analysis and insight in Australia. In early 2011, the directors and staff of Access Economics joined Deloitte. The team's impressive track record and reputation for independence, integrity and authority place it at the apex of government and business advisory, helping to shape public policy, business insights and investment strategy at the highest levels.

This report has been completed by the Macroeconomic Policy and Forecasting team. The team of specialist modelling practitioners provides modelling and economic consulting services to assist clients to determine the impact of potential economic, policy and other changes on their business, industry, and region.

Data presented in this report

Deloitte Access Economics has prepared this report and the forecasts on which it is based using historical data from a variety of sources, including the Australian Bureau of Statistics. Deloitte Access Economics has not verified any historical data and makes no warranties as to its accuracy or validity.

Completion of forecasts

The macroeconomic forecasts and market analysis presented in this report were finalised by Deloitte Access Economics in October 2024. The forecasts do not consider data released after the Australian Bureau of Statistics March quarter 2024 National Accounts (released in June 2024).

To the extent that this report relates to any forecasts or projections we do not provide any assurance on the reliability of the forecasts or projections or the underlying assumptions. Forecasts and projections relate to the future and, as a result, they may be affected by unforeseen events. Accordingly, actual results are likely to be different from forecast or projected results because events and circumstances frequently do not occur as expected, and those differences may be material. Events may have occurred since we prepared this report which may affect its conclusions.

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Glossary

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AEMO	Australian Energy Market Operator Limited
AUD	Australian dollar
APS	Announced Pledges Scenario
ANZSIC	Australian and New Zealand Standard Industrial Classification
CAGR	Compound Annual Growth Rate
CER	Consumer Energy Resources
CPI	Consumer Price Index
DAEM	Deloitte Access Economics Macroeconomic model
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EV	Electric Vehicle
GDP	Gross Domestic Product
GSP	Gross State Product
GVA	Gross Value Added
HDI	Household Disposable Income
IASR	Inputs, Assumptions and Scenarios Report
IEA	International Energy Agency
IGR	Intergenerational Report
PV	Solar photovoltaic cells
RBA	Reserve Bank of Australia
RCP	Representative Concentration Pathway
SFD	State Final Demand
STEPS	Stated Policies Scenario
USD	United States dollar
VPP	Virtual Power Plant
V2G	Vehicle to grid
WPI	Wage Price Index

Executive summary

Deloitte Access Economics has been engaged by the Australian Energy Market Operator Limited (AEMO) to develop long-term macroeconomic forecasts for Australia across the scenarios outlined in AEMO's Draft 2025 Inputs, Assumptions, and Scenarios Report Consultation Paper.[1] The four scenarios – Step Change, Progressive Change, Green Energy Exports, and Exportless 1.5 Degrees[2] – outline possible demographic, economic and decarbonisation pathways for Australia. Each scenario is mapped to a broader global macroeconomic context and decarbonisation pathway.

The macroeconomic forecasts are to be used in the preparation of AEMO's long-term energy consumption forecasts. The macroeconomic forecasts cover economic indicators at the national level and across all states and territories in Australia. The dataset that accompanies this report covers historical and forecast data across all four scenarios.

Deloitte Access Economics has developed these forecasts using a large-scale macro-econometric model that allows for the development of a consistent set of forecasts at the national, state and territory, and industry levels. Upstream models that quantify key assumptions around the global economy, demographics, and climate change are used as inputs to the macro-econometric model. These include an associated cohort-component demographic model and a climate integrated assessment model.

Step Change as the central scenario

Deloitte Access Economics uses the Step Change scenario as a central scenario in developing these forecasts. The Step Change scenario assumes moderate global economic growth and improved international coordination in terms of climate change policy. Step Change maps to the International Energy Agency's Announced Pledges Scenario and to the Intergovernmental Panel on Climate Change's Representative Concentration Pathway (RCP) 2.6 where relevant. At the domestic level, the Step Change scenario assumes that the demographic and economic drivers of Australia's economy follow a moderate path.

In terms of the domestic response to climate change, this scenario represents an acceleration in the pace of the transition, particularly in the energy sector. Investments in decarbonisation are expected to increase at a faster pace than currently observed, leading to faster and deeper cuts to emissions across the economy than otherwise expected. The economy is projected to adhere to a future target net emissions pathway – one that is consistent with Australia contributing to global temperature rises of less than 2°C compared to pre-industrial levels, whilst also meeting the commitments of the Paris Agreement.

Deloitte Access Economics incorporates these elements into the modelling of the Step Change scenario by following four broad steps:

1. A future demographic pathway is modelled based on key assumptions for net overseas migration, the total fertility rate, and life expectancy. These assumptions are broadly comparable to the Australia Bureau of Statistics' (ABS) 'Medium' scenario in the latest population projections release. The level of net overseas migration to Australia is forecast to average 250,000 persons per annum over the medium and longer term while the total fertility rate is forecast to fall from an estimated 1.62 in 2022-23 to 1.58 by the end of the forecast period in 2057-58. This aligns with the projected ageing of Australia's population.
2. The Step Change scenario assumes long-term productivity growth of 1.2% per annum (before considering the effect of specified climate change related parameters on productivity). This is in line with the base case for the 2023 Intergenerational Report and the average observed in the four decades to 2022-23.

[1] In this report the short term refers to the forecast period ranging from 1 to 3 years, the medium term refers to the period from 4 to 10 years, and the long term refers to the period beyond 10 years.
[2] The Exportless 1.5 scenario was not included in the Draft 2025 Inputs, Assumptions, and Scenarios Report Consultation Paper.

3. The modelled demographic pathway and long-term productivity assumption are inputs into the macro-econometric model, which is used to determine a range of other economic variables such as real household disposable income (HDI) and the exchange rate.
4. Implications of climate change and associated economic and technological changes are incorporated. Physical damages from climate change that map to RCP 2.6 are produced using methodology from Roson and Sartori (2016) with further development by Deloitte Access Economics.[i] These physical damages are added into the macroeconomic modelling. Finally, elements of the expected transition pathway are incorporated based on the key assumption that the target net emissions pathway required to meet climate commitments is not exceeded at any time over the forecast period. This constrains economic growth and alters the structure of the economy to ensure that Australia meets its goals of reducing net greenhouse gas emissions by at least 43% from 2005 levels by 2030 and achieving net zero emissions by 2050.

Key results in the Step Change scenario

The global economy is at a turning point in late 2024 with central banks shifting their attention from fighting inflation towards supporting economic growth. Against this backdrop, growth in real gross domestic product (GDP) in Australia is expected to lift through late 2024 and 2025. Household incomes are expected to be supported by modest real wage gains, personal income tax cuts, other government spending and rebates, as well as lower interest rates. It will take slightly longer for dwelling investment to grow meaningfully, while some areas of previous strength – such as net exports and population growth – are forecast to add less to the economy over the coming years.

Growth over the medium to long term is driven by a combination of population growth, labour force participation and productivity. The forecast growth profile at the national level filters through to the outlook for individual state and territory economies. The national profile for industry output, alongside the outlook for the respective state or territory economy, then flows through to the relevant industry output forecast for the given jurisdiction.

In the Step Change scenario:

- Australia's population increases at a compound annual growth rate (CAGR) of 1.1% across the forecast period (2022-23 to 2057-58) – below the 1.5% CAGR in the two decades to 2022-23 (refer to Chart i).
- Real GDP increases at a CAGR of 1.8% across the forecast horizon – below the 2.7% CAGR in the two decades to 2022-23 (refer to Chart ii).
- Real HDI is influenced by a combination of productivity growth (which in turn drives wage growth), population growth, employment and inflation to increase at a CAGR of 2.0% through the forecast period – below the 2.9% CAGR in the two decades to 2022-23.
- The Australian dollar gradually appreciates from $1.53 USD:AUD in 2023-24 to $1.39 USD:AUD before stabilising at that level over the forecast period.
- Growth in the services sectors outpaces overall real GDP growth. Industries which are relatively emissions-intensive, including the components of industrial production, come under pressure from both physical and transition risks associated with climate change. Consistent with scenario assumptions set out by AEMO, Deloitte Access Economics' modelling imposes the hard constraint of the target net emissions pathway. This approach forces further reductions in emissions and economic activity to ensure the target net emissions pathway to 2050 is not exceeded at any point (refer to Chart iii).
- States and territories in which the economic profile is strongly influenced by emissions-intensive industries, such as Western Australia, Queensland and the Northern Territory, experience slower economic gains than underlying fundamentals (such as population growth and labour force participation) would suggest.

Alternative scenarios

The Progressive Change, Green Energy Exports and Exportless 1.5 Degrees scenarios are modelled in a similar manner as the Step Change scenario using differing input assumptions.

Progressive Change

The Progressive Change scenario presents a downside alternative to the Step Change scenario. In this scenario the global economy grows at a slower pace and climate change policy is less coordinated. Australia's

demographic and economic drivers follow a slower growth path and domestic efforts to decarbonise do not accelerate beyond the current rate. These factors result in slower economic growth. National net emissions do not exceed the target pathway, but this is only achieved by reductions in output in some industries. This weighs on output – particularly in high emissions industries – and forces output to decrease or to grow at a slower rate compared to the Step Change scenario. A combination of these factors results in a smaller economy at the end of the forecast period.

In the Progressive Change scenario:

- Australia's population is more than 3 million persons smaller in 2057-58 than in Step Change. Population grows at a CAGR of 0.9% across the forecast period, slower than 1.1% in Step Change.
- Real GDP grows at a CAGR of 1.3% across the forecast period, slower than 1.8% in Step Change.
- A smaller economy with a potentially higher net emissions profile and slower growth is reflected in the forecast for states and territories.

Green Energy Exports

The Green Energy Exports scenario presents an upside scenario relative to the Step Change scenario. In this scenario, the global economy grows at a relatively fast rate and global climate change policy is well-coordinated. Australia's demographic and economic drivers follow a higher growth path.

Unlike the Step Change scenario, the target pathway for net emissions does not impose a constraint because the national emissions profile tracks well below this pathway. Capital expenditure increases sharply as Australia builds renewable energy capacity at scale. Some part of this renewable energy capacity is used to manufacture green hydrogen for domestic use and overseas export.

The domestic population and economy are larger and grow faster in this scenario. A surge in clean energy technology and active participation from consumers and businesses result in Australia meeting its net zero commitment well before 2050.

In the Green Energy Exports scenario:

- Australia's population is 3 million persons larger in 2057-58 than in Step Change. Population grows at a CAGR of 1.3% across the forecast period, faster than the 1.1% forecast in Step Change.
- Real GDP grows at a CAGR of 2.5% across the forecast period, faster than the 1.8% forecast in Step Change.
- A larger and greener economy and faster growth is reflected in the forecast for states and territories.

Exportless 1.5 Degrees

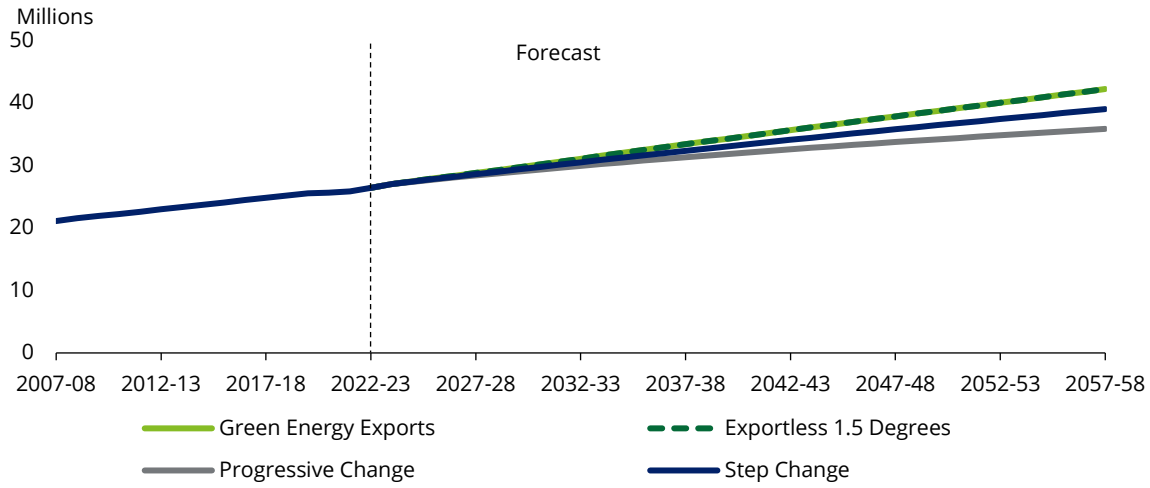
The Exportless 1.5 Degrees scenario is identical to the Green Energy Exports scenario except that there is no role for the export of hydrogen across the forecast period. This results in weaker output in the manufacturing, construction and utilities industries compared to the Green Energy Exports scenario. There is only a small effect on total GDP given the forecast size of the hydrogen export industry.

In the Exportless 1.5 Degrees scenario:

- Australia's population is identical to the Green Energy Exports scenario.
- By the end of the forecast period GDP is forecast to be 0.3% lower compared to the Green Energy Exports scenario but 29% higher than the Step Change Scenario.
- Manufacturing industry output is 12% smaller in 2057-58 compared to the Green Energy Exports scenario.

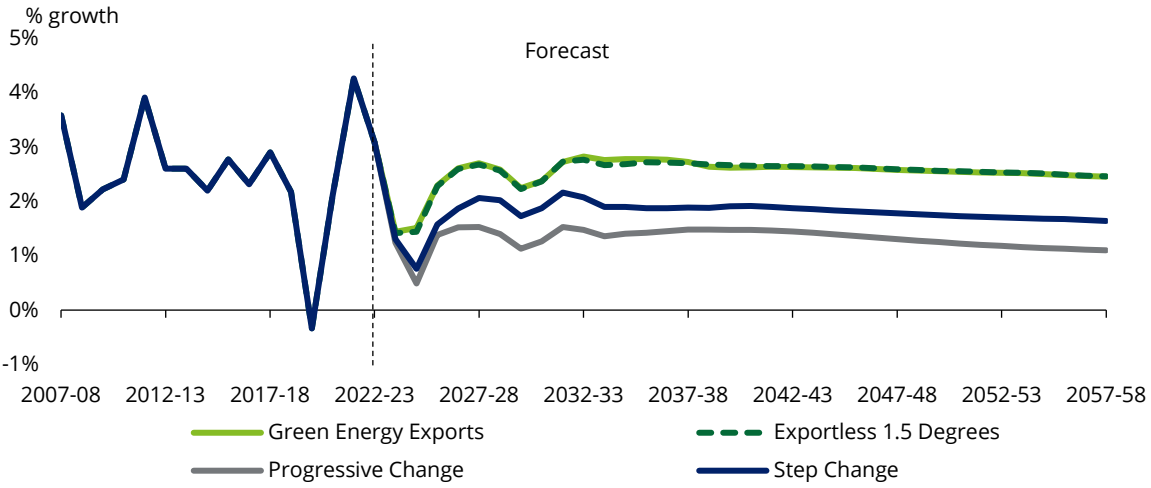
The charts and tables shown on the following pages provide a snapshot of Deloitte Access Economics' forecasts for each of the four scenarios.

Chart i: Population forecast for all scenarios



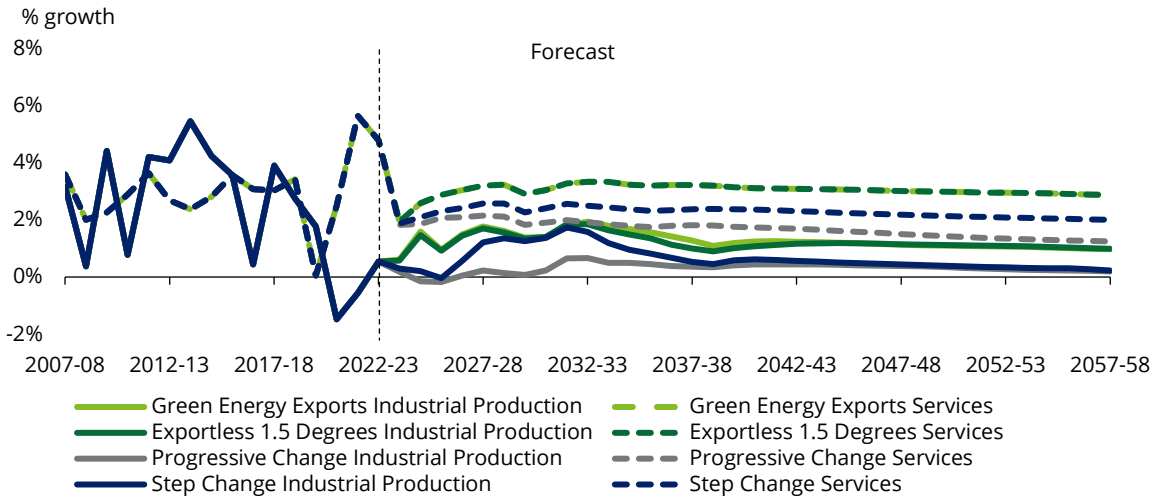
Source: Australian Bureau of Statistics (ABS, 2024b), Deloitte Access Economics

Chart ii: Real GDP growth forecast for all scenarios



Source: ABS (2024a), Deloitte Access Economics

Chart iii: Real GVA, Industrial production and services growth forecast for all scenarios



Source: ABS (2024a), Deloitte Access Economics

Table i: National forecast summary for all scenarios, CAGR over previous decade

	History	Forecast				
	2022-23	2027-28	2037-38	2047-48	2057-58	Forecast period*
GDP						
Progressive Change	2.4%	1.7%	1.4%	1.4%	1.2%	1.3%
Step Change	2.4%	1.9%	1.9%	1.9%	1.7%	1.8%
Exportless 1.5 Degrees	2.4%	2.2%	2.6%	2.6%	2.5%	2.5%
Green Energy Exports	2.4%	2.2%	2.7%	2.6%	2.5%	2.5%
HDI						
Progressive Change	1.6%	1.5%	1.4%	1.8%	1.6%	1.6%
Step Change	1.6%	1.7%	1.9%	2.1%	2.0%	2.0%
Exportless 1.5 Degrees	1.6%	1.9%	2.5%	2.9%	2.9%	2.7%
Green Energy Exports	1.6%	2.0%	2.5%	2.9%	2.8%	2.7%
USD:AUD exchange rate						
Progressive Change	4.3%	1.0%	-0.1%	0.0%	0.0%	-0.1%
Step Change	4.3%	0.9%	-0.2%	0.0%	0.0%	-0.2%
Exportless 1.5 Degrees	4.3%	0.8%	-0.2%	0.0%	0.0%	-0.2%
Green Energy Exports	4.3%	0.8%	-0.2%	0.0%	0.0%	-0.2%
Population						
Progressive Change	1.4%	1.4%	1.0%	0.7%	0.6%	0.9%
Step Change	1.4%	1.4%	1.2%	1.0%	0.9%	1.1%
Exportless 1.5 Degrees	1.4%	1.5%	1.5%	1.3%	1.1%	1.3%
Green Energy Exports	1.4%	1.5%	1.5%	1.3%	1.1%	1.3%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58.

Source: ABS (2024a, 2024b), Reserve Bank of Australia (RBA), Deloitte Access Economics

Table ii: National forecast summary for all scenarios, levels (as specified)

	History	Forecast			
	2022-23	2027-28	2037-38	2047-48	2057-58
GDP ($ billion)					
Progressive Change	$2,405	$2,558	$2,938	$3,383	$3,804
Step Change	$2,405	$2,593	$3,141	$3,777	$4,472
Exportless 1.5 Degrees	$2,405	$2,667	$3,453	$4,483	$5,755
Green Energy Exports	$2,405	$2,670	$3,472	$4,499	$5,771
HDI ($ billion)					
Progressive Change	$1,397	$1,507	$1,739	$2,081	$2,443
Step Change	$1,397	$1,535	$1,844	$2,264	$2,767
Exportless 1.5 Degrees	$1,397	$1,576	$2,013	$2,671	$3,539
Green Energy Exports	$1,397	$1,578	$2,023	$2,680	$3,547
USD:AUD exchange rate ($A/$US)					
Progressive Change	$1.49	$1.43	$1.41	$1.41	$1.41
Step Change	$1.49	$1.41	$1.39	$1.39	$1.39
Exportless 1.5 Degrees	$1.49	$1.40	$1.37	$1.37	$1.37
Green Energy Exports	$1.49	$1.40	$1.37	$1.37	$1.37
Population (persons (millions))					
Progressive Change	26.4	28.4	31.3	33.7	35.8
Step Change	26.4	28.6	32.3	35.8	39.0
Exportless 1.5 Degrees	26.4	28.8	33.4	37.9	42.2
Green Energy Exports	26.4	28.8	33.4	37.9	42.2

Source: ABS (2024a, 2024b), RBA, Deloitte Access Economics

1 Introduction

1.1 Background and scope

Deloitte Access Economics has been engaged to deliver a suite of economic forecasts to be used in the preparation of the Australian Energy Market Operator Limited's (AEMO's) long-term energy and demand forecasts. The forecasts presented in this report will inform AEMO's Draft 2025 Inputs, Assumptions and Scenarios Report. Economic forecasts are provided for all states and territories, for the variables listed in the table below.

Table 1.1: Forecast variables by jurisdiction

Jurisdiction	Forecast variables
1. Australia	Gross domestic product (GDP) Gross value added (GVA) by industry Household disposable income (HDI) Australian dollar to US dollar exchange rate (USD:AUD) Population
2. States and territories	Gross state product (GSP) State final demand (SFD) GVA by industry (including industrial production and its components) HDI Population Dwelling forecast (by dwelling category)

Note: Industries as defined by the Australian and New Zealand Standard Industrial Classification (ANZSIC) used by the Australian Bureau of Statistics (ABS). Industrial production is an aggregate measure of mining, manufacturing, and electricity, gas, water and waste services (utilities) industry activity.

Deloitte Access Economics has modelled four scenarios, Step Change, Green Energy Exports, Progressive Change and Exportless 1.5 Degrees. The four scenarios outline possible demographic, economic and decarbonisation pathways for Australia.

The forecasts have been developed using the Deloitte Access Economics Macroeconomic model (DAEM) of the Australian economy. The DAEM is a large-scale macro-econometric model that allows for the development of a consistent set of forecasts at the national, state and territory, and industry levels.

Historical data incorporates the period from 2002-03 to 2022-23 and forecast data for the period from 2023-24 to 2057-58. The key data sources used by Deloitte Access Economics are listed in the table below.

Table 1.2: Data sources

Variable	Data source	Release date
GDP	ABS – Australian National Accounts: National Income, Expenditure and Product March 2024[ii]	5/6/2024
GSP	ABS – Australian National Accounts: State Accounts 2022-23[iii]	21/11/2023
SFD	ABS – Australian National Accounts: National Income, Expenditure and Product March 2024	5/6/2024
HDI	ABS – Australian National Accounts: National Income, Expenditure and Product March 2024	5/6/2024
Population	ABS – National, state and territory population December 2023[iv]	13/6/2024
Dwelling completions	ABS – Building Activity, Australia March 2024[v]	17/7/2024
GVA by industry	ABS – Australian National Accounts: National Income, Expenditure and Product March 2024	5/6/2024
Consumer price index (CPI)	ABS – CPI, Australia June Quarter 2024[vi]	31/7/2024
USD:AUD exchange rate	Reserve Bank of Australia (RBA) – Statistical Tables[vii]	12/8/2024

1.2 Structure of this report

The remainder of this report is structured as follows:

- Chapter 2: Overview of the scenarios – Defines the modelled scenarios, outlines the forecast methodology adopted by Deloitte Access Economics, and summarises the forecast results across all four scenarios.
- Chapters 3-6: Scenario descriptions and forecasts – Presents forecasts for Australia and all states and territories across the Step Change, Green Energy Exports, Progressive Change and Exportless 1.5 Degrees scenarios respectively. The chapters also detail the assumptions used in the scenario modelling.
- Chapter 7: Conclusion – Summarises the key themes and results of the modelling described in this report.
- Appendix A: Comparison to other forecasts – Outlines how the forecasts presented in this report compare to other publicly available forecasts.
- Appendix B: Summary charts and tables – Includes a summary of the state and territory industry forecasts developed by Deloitte Access Economics.
- Appendix C: Comparison of current and previous forecasts –notes some key considerations when comparing the 2024-25 Economic Forecasts presented in this report (finalised in October 2024) and those in the 2023-24 Economic Forecasts report (finalised in April 2024).

2 Overview of the scenarios

2.1 Defining the scenarios

Deloitte Access Economics has prepared forecasts for four scenarios specified by AEMO: Step Change, Green Energy Exports, Progressive Change, and Exportless 1.5 Degrees. The scenarios consider potential future pathways for Australia by incorporating a range of assumptions related to the pace of population and economic growth, the degree of policy coordination, the rate of technology use, improvements in energy efficiency, and the severity of climate change. National decarbonisation targets are met under all four scenarios, but there are differences in the pace of the transition. These different assumptions inform analysis of the future paths for the Australian economy and corresponding demands on the National Electricity Market. The four scenarios are described below and key parameters for each of the scenarios are outlined in Table 2.1

Step Change

The Step Change scenario is the central scenario in this report. Near-term economic growth is impacted by subdued household spending and weak dwelling investment, while moderate economic and population growth are expected in the medium term.

The pace of electrification accelerates with Australia meeting the commitments of the Paris Agreement. This supports an economy-wide transition to net zero emissions by 2050, and limits temperature rise to below 2°C compared to pre-industrial levels by 2100.

The moderate economic outlook and a degree of policy coordination support the development and uptake of technologies required to drive the energy transition. There is strong appetite and willingness to invest in consumer energy resources (CER) such as batteries, solar photovoltaic cells (PV), and electric vehicles (EVs). There are also improvements in energy efficiency and a greater level of consumer engagement via the use of virtual power plants (VPPs) and vehicle to grid (V2G) technology.

The level of hydrogen production is assumed to remain moderately low and largely focused on domestic use.

Progressive Change

The Progressive Change scenario assumes ongoing challenges that limit the pace of decarbonisation. Australia is expected to deliver on existing emissions reduction commitments, but the pace of change is unlikely to be consistent with the level required to limit the temperature rise to 2°C compared to pre-industrial levels by 2100.

The Progressive Change scenario outlines slower growth in the global and Australian economy compared with the Step Change scenario. The assumption of no temporary overshooting of the target net emissions pathway is a binding constraint on emissions and economic activity. This weighs on output in emissions-intensive industries. The more challenging economic backdrop weighs on the pace of investment in the energy transition, with a slower adoption of electrification and the uptake of efficiency enhancing technology than in the Step Change scenario.

Green Energy Exports

The Green Energy Exports scenario involves a faster pace of economic and population growth compared to the Step Change scenario. Rapid action is taken towards decarbonisation. The global temperature rise is limited to 1.5°C compared to pre-industrial levels by 2100. Ambitious emissions reduction objectives result in a higher degree of electrification and investment in energy efficiency compared to other scenarios. Well-coordinated global policy, strong supply chains, and targeted industrial policy facilitate the expansion of 'green commodity' exports such as hydrogen and critical minerals.

Exportless 1.5 Degrees

The Exportless 1.5 Degrees scenario includes the same macroeconomic and climate change assumptions as the Green Energy Exports scenario. The key difference between the two scenarios is that Exportless 1.5 Degrees includes no role for hydrogen exports across the forecast period.

Table 2.1: Key parameters, by scenario

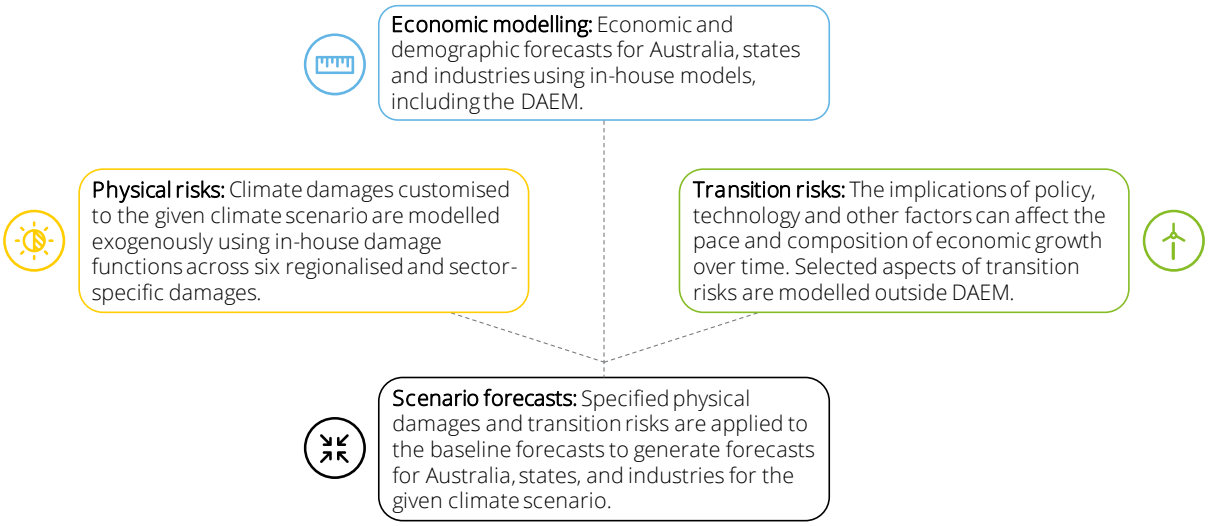
Parameter	Progressive Change	Step Change	Exportless 1.5 Degrees	Green Energy Exports
National decarbonisation target	At least 43% emissions reduction by 2030, Net Zero by 2050	At least 43% emissions reduction by 2030, Net Zero by 2050	At least 43% emissions reduction by 2030, Net Zero by 2050	At least 43% emissions reduction by 2030, Net Zero by 2050
Global economic growth and policy coordination	Slower economic growth, lesser coordination	Moderate economic growth, stronger coordination	High economic growth, stronger coordination	High economic growth, stronger coordination
Australian economic and demographic drivers	Lower	Moderate economic growth, near-term economic growth impacted by current economic challenges	Higher, with near-term economic growth impacted somewhat by current economic challenges	Higher, with near-term economic growth impacted somewhat by current economic challenges
Electrification	Electrification is tailored to meet existing emissions reduction commitments, with slower adoption given weaker economic conditions	High electrification to meet emissions reduction commitments, with pace of adoption reflecting economic conditions	Higher electrification efforts to meet aggressive emissions reduction objectives, with faster pace of adoption	Higher electrification efforts to meet aggressive emissions reduction objectives, with faster pace of adoption
Emerging commercial loads	Emerging industries such as data centres experience lower growth as weaker economic condition limit technology uptake	Emerging industries such as data centres match opportunities associated with moderate domestic economic drivers	Emerging industries such as data centres match opportunities associated with higher domestic economic drivers	Emerging industries such as data centres match opportunities associated with higher domestic economic drivers
Industrial load closures	Weak economic conditions, resulting in load closures across key commercial and industrial facilities	No specific load closures	No specific load closures	No specific load closures
Demand side participation uptake	Lower	Moderate	Higher	Higher
CER investments (batteries, solar PV and EVs	Lower	High	Higher	Higher
Coordination of CER (VPPs and vehicle-to-grid)	Low long-term coordination, with gradual acceptance of coordination	Moderate long-term coordination, with gradual acceptance of coordination	High long-term coordination, with faster acceptance of coordination	High long-term coordination, with faster acceptance of coordination
Energy efficiency	Lower	Moderate	Higher	Higher
Hydrogen use and availability	Low production for domestic use, with no export hydrogen	Moderate-low production for domestic use, with minimal export hydrogen	High production for domestic industries, with no role for exports in the short, medium and long term	High production for domestic industries, moderate exports in the short term, high exports in the longer term
Renewable gas blending in gas distribution network	Up to 10% (hydrogen), with unlimited blending opportunity for biomethane and other renewable gases	Up to 10% (hydrogen), with unlimited blending opportunity for biomethane and other renewable gases	Up to 10% (hydrogen), with unlimited blending opportunity for biomethane and other renewable gases	Up to 10% (hydrogen), with unlimited blending opportunity for biomethane and other renewable gases
Supply chain strength influencing demand forecasts	Low	Moderate	High	High
Global/domestic temperature settings and outcomes	Applies Representative Concentration Pathway (RCP) 4.5 where relevant, consistent with a global temperature rise of ~ 2.6°C by 2100	Applies RCP 2.6 where relevant, consistent with a global temperature rise of ~ 1.8°C by 2100	Applies RCP 1.9 where relevant (~ 1.5°C), consistent with a global temperature rise of ~ 1.4°C by 2100	Applies RCP 1.9 where relevant (~ 1.5°C), consistent with a global temperature rise of ~ 1.4°C by 2100
International Energy Agency (IEA) 2024 World Energy Scenario	Stated Policies Scenario (STEPS)	Announced Pledges Scenario (APS)	Net Zero Emissions by 2050	Net Zero Emissions by 2050

Source: AEMO Draft 2025 Inputs, Assumptions and Scenarios Report Consultation Paper

2.2 Forecast methodology

The forecasts have been developed using the DAEM as well as upstream input models that quantify key assumptions around the global economy, demographics, and climate change. A summary of Deloitte Access Economics' modelling methodology is described in Figure 2.1 below.

Figure 2.1: Key components of the modelling approach



2.2.2 Economic and demographic forecasts

The economic and demographic forecasts have been developed using the DAEM of the Australian economy and an associated cohort-component demographic model. The DAEM is a macro-econometric model of the Australian economy made up of numerous accounting identities and behavioural equations which describe the aggregate actions of households, businesses, government, and the global economy. The formulation of these behavioural equations is based on mainstream economic theory. The model is best described as a small open economy model in which all foreign (world) prices and interest rates are taken as given (that is, they are exogenous to the model).

Three key components of the model are described in more detail in the figure below.

Figure 2.2: Key components of the Deloitte Access Economics Macroeconomic Model

Domestic production	Domestic production is divided between household (housing rental services, modelled as a fixed proportion of the housing capital stock), general government (the sum of general government services and gross operating services), and business sector production (all other non-farm production).
Labour market	The size of the labour force is forecast using inputs from Deloitte Access Economics' in-house population forecasting model. The population forecasting model is a cohort-component model which produces forecasts for Australia and all states and territories at a single-year-of-age level. Business sector employment is driven by a standard labour demand function that relies on labour productivity, real wages, and business sector output growth.
Prices and wages	The DAEM Model includes several measures of prices, wages, and price deflators. Price and wage inflation in the DAEM Model are governed by the behavioural equations of the business sector output gap, real exchange rate, import prices, monetary policy reaction function and average quarterly earnings.

A set of key demographic and macroeconomic assumptions are used for each scenario. These include differing assumptions with respect to net overseas migration and total fertility, which affect forecast population growth.

The resulting higher or lower population forecast increases or decreases the potential of the Australian economy. Assumptions are also made regarding the pace of productivity growth in the Australian economy.

Industry output is determined using forecasts of industry final demand which indicate the total value of goods and services produced by a specific industry. For example, an increase in commodity exports in response to international demand will generate an increase in mining output. Similarly, an increase in dwelling investment in response to low interest rates will generate an increase in construction output.

Business cycle dynamics play a significant role in the short and medium term. However, supply side dynamics determine the long-term forecasts. The key supply side drivers of the growth path are population, participation, labour productivity growth and capital intensity.

At the state level, GSP is determined by distributing GDP based on state and territory GSP and population relativities. GSP relativities are influenced by the industrial structure within each jurisdiction. For instance, an increase in global growth and subsequent demand for mining output will result in a more-than-proportionate increase in GSP for the mining-intensive jurisdictions such as Western Australia and Queensland.

Industry output by state and territory is determined by a combination of industry output at the national level, and a range of economic variables, including GSP, consumption and investment. Industry relativities between jurisdictions are also used. For example, Victoria has a relatively higher share of national manufacturing output. This means that if manufacturing output is forecast to decline nationally, a larger portion of that decline will be felt in Victoria. The industry output forecasts are then normalised to ensure that output across jurisdictions adds to the national total, while GVA across jurisdictions adds to total GSP (after allowing for other items in the national accounts framework such as ownership of dwellings and taxes less subsidies).

Box 2.1: Key government policies and how they are reflected in Deloitte Access Economics' forecasts

Deloitte Access Economics' forecasts implicitly account for announced federal and state government policies. Economic modelling is conducted economy-wide and in aggregate. This means that although government policies do influence the forecasts, it is typically not possible to explicitly identify the effect of individual policies on the resulting forecasts. For example, it is not possible to isolate the effect of the Federal Government's $1 billion investment in PsiQuantum as part of the *Future Made in Australia* policy, though this will influence forecasts for investment and overall economic activity. The model cannot be shocked to analyse the effects of changes in individual government policies. A summary of the key policies, and how they will be reflected in Deloitte Access Economics' forecasts, is included below.

A Future Made in Australia

A *Future Made in Australia* is a policy providing an initial $23 billion in funding over the next decade to be invested in priority industries. Those industries, identified in the National Interest Framework, include:

1. Renewable hydrogen
2. Critical minerals processing
3. Green metals
4. Low carbon liquid fuels
5. Clean energy manufacturing, including battery and solar panel supply chains.

The government commitment is intended to unlock private sector investment in the chosen industries. The effects of these targeted investments are expected to be largest in the Green Energy Exports scenario, while there are some effects for the Exportless 1.5 Degrees and Step Change scenarios, and no effects for the Progressive Change scenario. The effects by scenario are outlined below.

Scenario	Description
Progressive Change	The *Future Made in Australia* policy does not feature in the Progressive Change scenario as it is not consistent with the scenario description.
Step Change	The net economic effect of the *Future Made in Australia* policy is entirely accounted for within the assumptions relating to productivity and, to a lesser extent, demographics. That is, there is no additive effect over and above the growth in business investment already captured within the modelling.

Green Energy Exports	Consistent with increased global demand for certain products, and an improvement in Australian competitiveness, the *Future Made in Australia* policy contributes to additional investment in renewable hydrogen and critical minerals in the Green Energy Exports scenario. This additional investment is assumed to exceed that accounted for within the scenario assumptions relating to, for example, productivity. The level of hydrogen investment and export activity has been benchmarked to the 'Hydrogen Tipping Point' report prepared by Deloitte Access Economics in 2022, which incorporated very similar policy assumptions to those ultimately adopted within the *Future Made in Australia* policy. The level of investment and exports of critical minerals has been benchmarked to levels consistent with the International Energy Agency's Global Critical Minerals Outlook released in 2024. Other aspects of the *Future Made in Australia* policy, such as battery and solar panel manufacturing, are assumed to be accounted for within the scenario assumptions for Green Energy Exports.
Exportless 1.5 Degrees	The *Future Made in Australia* policy contributes to additional investment in renewable hydrogen and critical minerals compared to the Step Change scenario. The additional investment in hydrogen is lower when compared to the Green Energy Exports scenario, as there are no hydrogen exports. All other assumptions are identical to the Green Energy Exports scenario.

The *Future Made in Australia* policy will therefore contribute to the differences in forecast output across scenarios, with these effects concentrated in the manufacturing and mining industries.

The modelling does not isolate the impact of the *Future Made in Australia* policy due to uncertainty across several factors. These include:

1. The magnitude of government spending multipliers
2. The degree to which resources will be reallocated due to market intervention
3. Australia's future competitiveness in emerging industries such as renewable hydrogen, critical minerals, and clean energy manufacturing
4. The effectiveness of emerging technologies across green metals and low carbon liquid fuels
5. The pending inquiry and report of the Senate Economics Legislation Committee.

Given these constraints, the macro-econometric modelling approach assumes that the expected economic gains from increased capital spending in industries where Australia is best placed to develop comparative advantage will be partially or completely eroded by a reallocation of resources and a crowding out of investment in other parts of the economy. Further, the effect of proposed public investment in green metals, low carbon liquid fuels, and clean energy manufacturing is excluded due considerable uncertainty around the viability of emerging technology and Australia's future competitiveness in these industries.

The National Housing Accord

The National Housing Accord aims to construct 1.2 million homes across Australia in the five years from mid-2024. Additional funding is available to state governments that achieve more than their share of the national housing target. This has prompted several state governments to announce changes to planning processes aimed at speeding up approvals for new residential construction.

Deloitte Access Economics expects fewer than 1.2 million homes to be completed in each of the scenarios as supply constraints in the construction industry limit the pace of home building in the near term. The slowest rate of building is forecast in the Progressive Change scenario, with a faster rate of building forecast in the Step Change scenario, and the fastest rate forecast in the Exportless 1.5 Degrees and Green Energy Exports scenarios. This reflects the different pace at which supply constraints are expected to unwind, as well as the effect of the forecast rate of growth in the economy and population across each scenario.

The Migration Strategy

The 2024-25 Federal Budget announced changes to Australia's migration system, implementing actions outlined in the previously released Migration Strategy. Tougher visa requirements for international students and reforms to skilled migration are expected to reduce the number of migrants arriving in Australia, particularly in the short term. The reduction in annual migration is expected to occur proportionally across all four scenarios.

2.2.3 Climate change modelling and assumptions

A sharp increase in the emission of greenhouse gases due to the burning of fossil fuels has resulted in the average temperature of the Earth's surface increasing 1.1°C relative to the 1800s (pre-industrial revolution), with the previous decade (2011 to 2020) being the warmest decade on record.[viii]

The implications of climate change are all-encompassing. Effects on weather patterns and on human health translate into effects on the economy. Climate change affects both supply and demand in an economy.[ix] For instance, steadily rising temperatures can result in erratic weather patterns that destroy land and property, heat stress erodes labour productivity, and rising sea levels threaten livelihoods along coastal areas.[3] These effects tend to diminish the potential supply capacity in an economy. The extent to which an economy's ability to produce output is eroded depends on the scale and pace at which the average temperature of the Earth's surface is forecast to rise.

Climate change also influences the nature of demand in an economy. For instance, tourists are likely to take stock of climate risks while travelling, and consumers are more likely to choose cleaner energy alternatives as renewable energy costs become more competitive. The degree to which climate change influences demand and supply in the economy is likely to depend on various factors including policy targets, industry goals, technology innovation, and the pace at which consumers adopt new technology.

Given the broad range of possibilities that climate change presents in terms of the implications for both supply and demand over varied time periods, there is considerable uncertainty regarding the degree to which climate change will affect the economy. Macroeconomic modelling of climate change is therefore regularly linked to a corresponding pathway for global warming and policy action defined by the IEA, the United Nations' Intergovernmental Panel on Climate Change, the Network for Greening the Financial System, or other organisations such as domestic governments.

Deloitte Access Economics' modelling splits the effects of climate change into two categories – physical risks and transition risks. This is in keeping with the broad consensus within the literature on the consequences of climate change. For example, approaches used by the RBA, the US Federal Reserve, the European Central Bank, and the Bank of England, separate the effects of climate change into 'physical risks' and 'transition risks'.[x] The physical and transition risks presented by climate change act on the forecast growth path for the Australian economy predominantly via labour productivity and capital intensity. The effects of climate change on the global economy also act on the Australian economy through the exports channel. The aggregate knock-on effects, as well as the risks and opportunities presented by the transition away from hydrocarbons to cleaner sources of energy, result in changes in industry structure.

Physical risks

Physical risks associated with climate change in Australia cover the damages that are likely to affect land, labour, and capital in the country. Deloitte Access Economics accounts for these physical risks by estimating potential damages using a set of in-house models.

An emissions pathway or climate scenario is used to model physical damages via a set of damage functions. Climate change damage functions are models that relate climate change to economic effects and form the basis of quantitative modelling of climate change. The damage functions that Deloitte Access Economics uses rely primarily on inputs from Roson and Sartori (2016) and are also subject to regular review and development by Deloitte Access Economics.

Deloitte Access Economics' modelling includes six regional and sector-specific damages:

1. Heat stress damages to labour productivity
2. Human health damages from disease and mortality
3. Sea-level rise damages to land and capital stock
4. Capital damages (from repeated expenditure on repairs rather than new investment) to capital productivity

[3] According to the United Nations about 40% of the world's population lives within 100 kilometres of a coastline.

5. Agricultural damages from changes in crop yields
6. Tourism damages to net inflow of foreign currency.

Estimates of climate-related physical damages are aggregated from the regional level to the state and national level and incorporated into the DAEM using several assumptions. The assumptions include:

1. Human health damages and heat stress damages erode labour productivity. Heat stress affects all industries. However, productivity in primary industries such as agriculture and mining are affected to a greater degree than productivity in secondary and tertiary industries. This is because the nature of work in primary and secondary industries involves a greater degree of outdoor exposure relative to tertiary industries.
2. Chronic capital damages and sea-level rise damages to land and capital stock affect the capital intensity in an economy which indirectly influences labour productivity.
3. Agricultural damages from diminished crop yields affect agricultural exports since 70% of Australian agricultural output is exported.
4. Physical damages have implications for inbound tourism, which affects Australia's services exports.

The physical damages associated with a particular emissions pathway predominantly alter the potential supply capacity in an economy over the medium to long term. The mechanism for including these physical damages to the capital stock, capital productivity and labour productivity in the modelling is to calculate the total, equivalent impact in terms of labour productivity. These implications for labour productivity subsequently affect the rate of economic growth in each scenario.

Transition risks

Transition risks arise from the mitigating actions taken in response to climate change. These actions, and the risks that arise because of them, map to both supply and demand elements in the economy. Mitigating actions can include policy and regulatory change, technological developments, or shifting consumer preferences, both in Australia and overseas. These complex factors are likely to make production and consumption less carbon-intensive over time, thereby leading to changes in both the structure and size of the economy.

In the Step Change and Progressive Change scenarios, AEMO's assumption that there is no temporary overshooting of the target net emissions pathway is a binding constraint on emissions and economic activity. Aggregate net emissions are constrained by the net zero target pathway. While Deloitte Access Economics does not explicitly capture the method of decarbonising (e.g. carbon offset or removal programs), the net zero pathway constraint means that emissions-intensive industries are most affected by the subsequent reduction in output. It is noted that the constraint is on the total quantity of net emissions at the aggregate economy level.

In the Green Energy Exports and Exportless 1.5 Degrees scenarios, the target net emissions pathway serves as a guide but does not constitute a constraint to economic activity because, unlike in the Step Change and Progressive Change scenarios, the economy's net emissions remain below the target pathway. Lower net emissions in these scenarios are underpinned by greater use of renewables to produce hydrogen which, along with an accelerated expansion in renewable energy capacity, is used to decarbonise the domestic economy.

2.3 Forecast summary

Growth in the economy remains weak across all scenarios in 2024-25 due to the lagged effect of tight monetary policy, cost-of-living challenges and weakness in dwelling construction activity. Demand and supply in the economy are expected to move into balance over time. This will place downward pressure on inflation and interest rates, while the subsequent recovery in household income will support an acceleration in the rate of economic growth.

In the medium to long term, variations in demographic profiles, labour productivity growth, decarbonisation pathways, and global conditions result in divergent economic futures across the four scenarios. The rate of economic growth slows over time across all scenarios as the drivers of growth – population growth, labour force participation, and productivity growth – moderate compared to historical rates.

In the Step Change scenario, an ageing population weighs on growth and contributes to a downward trend in the total fertility rate. Net migration does not completely counterbalance the slowdown in fertility, resulting in population growth slowing through the forecast period.

Assumptions around population growth in this scenario broadly align with the 'medium' scenario projections published by the ABS (2023b) and the Baseline from the 2023 Intergenerational Report (IGR) published by Treasury (August 2023).[xi] Slowing population growth translates to weaker growth in the labour force. Long-term labour productivity growth is initially assumed to track the historical average. However, several factors, including the continued shift from goods to services industries (in which rates of productivity growth tend to be lower), geopolitical risks, as well as physical damages from climate change, are expected to place downward pressure on the rate of productivity growth. Relatively slow growth in population and moderate gains in labour productivity translates into real GDP growing at a (CAGR) of 1.8% over the forecast period – compared to a CAGR of 2.7% in the two decades prior to 2022-23. This forecast growth profile filters through to states and industries. However, the constraints imposed by adhering to Australia's decarbonisation commitments mean that emissions-intensive industries are most affected by the subsequent reduction in output.

The Green Energy Exports scenario is driven by more favourable assumptions around growth in the population and economy relative to Step Change. The adverse effects of climate change are also less damaging in comparison to the Step Change scenario. This is because a combination of policy and technology drives a surge in clean energy. Economic activity shifts from hard-to-abate industries such as mining to other sectors of the economy, including services sectors which also gain from a larger and more productive labour force. Despite the general slowdown in mining, critical minerals output increases due to strong demand and targeted industrial policy. Investment in renewable energy infrastructure and hydrogen production supports the construction, manufacturing, and utilities industries. A quicker and more coordinated global drive to decarbonise also results in Australia exporting renewable hydrogen and critical minerals to global markets. Australia's economy grows at a CAGR of 2.5% over the forecast period.

The Exportless 1.5 Degrees scenario is underpinned by the same economic and demographic profile as the Green Energy Exports scenario. However, Australia does not export renewable hydrogen in this scenario. As a result, economic output is slightly lower than in Green Energy Exports but above Step Change. The effects on output are largest for the manufacturing industry, with output 12% lower than in the Green Energy Exports scenario by the end of the forecast period.

The Progressive Change scenario is a downside scenario in which population growth and labour productivity slow more sharply than in the Step Change scenario. Efforts to mitigate the adverse effects of climate change are also less coordinated in the Progressive Change scenario. As a result, a smaller and less productive economy also contends with a heavier climate change burden. Some industries that are more vulnerable to the effects of climate change are hit harder than others by physical effects such as elevated heat stress, rising sea levels, and more frequent extreme weather events. The economy grows well below trend through the forecast period, recording a CAGR of just 1.3%.

3 Step Change

3.1 Overview of the scenario

3.1.1 Scenario narrative

The Step Change scenario is the central scenario in this report. In 2024-25, economic growth is affected by current economic challenges such as elevated inflation, high interest rates, subdued consumer spending and weak dwelling investment. The rate of growth is forecast to accelerate in the near term as the effect of these pressures subsides. Over the medium term, the scenario incorporates moderate economic and population growth assumptions.

The Step Change scenario assumes a faster pace of decarbonisation compared to the Progressive Change scenario and a slower pace compared to the Green Energy Exports and Exportless 1.5 Degrees scenarios. Strong policy coordination supports the development and uptake of technologies required to drive the energy transition. There is strong appetite and willingness to invest in CER such as batteries, solar PV and EVs. There are also improvements in energy efficiency and a greater level of consumer engagement via the use of VPPs and V2G. This ensures Australia meets the commitments of the Paris Agreement and achieves economy-wide transition to net zero emissions by 2050. The rise in global temperatures is limited to below 2°C compared to pre-industrial levels by 2100.

The level of hydrogen production is assumed to remain moderately low and largely focused on domestic use.

3.1.2 Economic and demographic assumptions

Deloitte Access Economics uses several key assumptions when producing forecasts for the Australian population and economy in the Step Change scenario. For population, this includes changes to the level of net overseas migration and the number of births per woman (the total fertility rate). For the Australian economy, the rate of labour productivity – the amount of output produced per worker – is set by assumption in the long term.

Deloitte Access Economics uses a cohort-component demographic model to produce forecasts of the Australian population. Those population forecasts are then used as an input, alongside key economic assumptions, to the DAEM. The key variables set by assumption in the Step Change scenario are discussed further below.

Population

Changes in Australia's population occur via natural increase (births minus deaths) and net overseas migration. Levels of net overseas migration are largely driven by a range of external social, economic, and political factors. Net overseas migration is set by assumption, based on a combination of:

- Recent trends in migration
- Short-term expectations driven by projections released by the Department of Immigration and Border Protection
- Longer-term expectations driven by Australia's history as a nation of relatively strong immigration, and the practical requirements needed to keep labour supply growing sufficiently to maintain economic growth.

The level of net overseas migration to Australia is forecast to average 250,000 persons per annum over the medium and longer term. This is broadly equivalent to the assumptions adopted by the ABS (2023b), in the

'Medium' scenario of its recent population projections.[4] The figure of 250,000 was assumed for Step Change because at this level, when held over the long term, net overseas migration as a share of the total population averages 0.72% over the entire forecast period, closely aligning with the 0.74% share of total population that net overseas migration accounted for over the four decades prior to the pandemic (1980-2019).

The rate of natural increase in the population is influenced by assumptions for the total fertility rate and life expectancy. Over the long term, the total fertility rate is expected to decline modestly in line with the forecast ageing of the Australian population. The total fertility rate is forecast to fall from an estimated 1.61 in 2023-24 to 1.58 by the end of the forecast period in 2057-58.[5]

Productivity

Improvements in productivity are fundamental to economic growth and the key source of per capita income growth in the long term. Higher rates of productivity growth therefore flow through to a larger economy and higher industry output.

The rate of productivity growth is determined by government policies, decisions taken by businesses and investors, as well as changes in the structure of the global and Australian economies.

The Step Change scenario assumes long-term productivity growth of 1.2% per annum (before considering the effect of specified climate change related parameters on productivity). This is in-line with the level specified in the base case for the 2023 IGR[6] and the average observed in the four decades to 2022-23.

3.1.3 Climate change assumptions

The Step Change scenario is nested within the broader context of the IEA's APS. The APS describes a global decarbonisation narrative in which there is widescale change in the energy sector and a sharp reduction in energy-related air pollution. The Step Change scenario also maps to the RCP 2.6 where relevant. The RCP 2.6 represents very stringent global mitigation efforts which limit the rise in global mean temperature relative to the pre-industrial period to less than 2˚C by 2100.

Domestically, the scenario assumes that investment in and the coordination of CER contributes to decarbonisation in energy production and some parts of transportation. This is represented by the relatively high uptake of VPPs and V2G, greater demand side participation in electricity generation, and accelerated demand for solar PV, batteries and EVs. Deloitte Access Economics' modelling takes this into account by assuming that the emissions intensity of economic activity tracks the latest Federal Government projections published by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in November 2023. For the Step Change scenario, emissions per unit of economic output by industry are assumed to be consistent with DCCEEW's 'with additional measures' scenario.

While net emissions decline, AEMO's assumption that there is no temporary overshoot of the target net emissions pathway is a binding constraint on economic activity in the Step Change scenario. As such, Deloitte Access Economics' modelling imposes further reductions in economic activity to ensure the target net emissions pathway is not exceeded. The resulting changes in the economy are evident in the industry structure at the end of the forecast period.

[4] The latest ABS population projections assume 225,000 net migrants per annum in the base case, 175,000 per annum in the low case and 275,000 per annum in the high case.

[5] As a comparison, the ABS population projections include a long-term assumption for the total fertility rate of 1.60 in the base case, 1.45 in the low case and 1.75 in the high case.

[6] The 2023 IGR includes a long-term assumption of 1.2% annual growth in labour productivity in the base case, 0.9% in the low case and 1.5% in the high case. The 2023 IGR is available here: https://treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf

3.2 National forecasts and outlook

3.2.1 Gross domestic product

The global economy is at a turning point in late 2024 with central banks increasingly shifting their attention from fighting inflation towards supporting economic growth. Interest rates have already been cut in the United States, Europe and the United Kingdom. The continued easing of monetary policy settings through 2024-25 is expected to support economic activity.

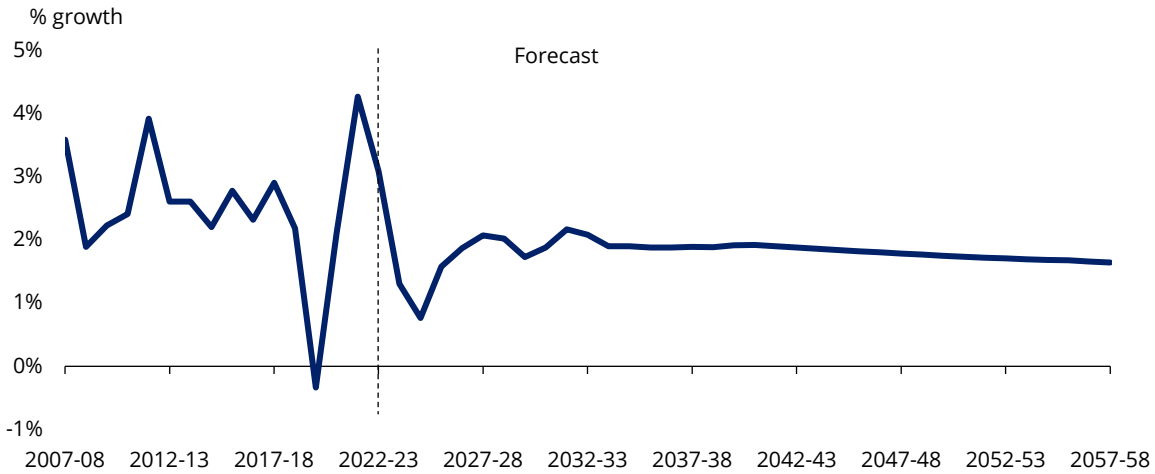
The Australian economy is growing at its slowest annual rate – excluding the pandemic – since the early 1990s recession. Inflation and high interest rates have put pressure on many households and businesses, while dwelling investment has been weighed down by a lack of capacity in the construction industry.

The pace of growth is expected to lift through 2025. Household incomes will be supported by modest real wage gains, personal income tax cuts, other government spending and rebates, as well as lower interest rates. It will take slightly longer for dwelling investment to grow meaningfully, while some areas of previous strength – such as net exports and population growth – are forecast to add less to the economy over the coming years.

Trends such as the renewable energy transition and digitisation are important medium-term drivers of business investment, while elevated public investment in infrastructure will support construction activity in the coming years. Government spending is forecast to add to the economy over the medium term amid growing expenditure on social programs (such as delivering care for older, younger and disabled Australians), interest payments and defence.

Economic growth is driven by structural factors including demographics, labour force participation and productivity growth over the long term. Overall, GDP growth is forecast to average 1.8% per year over the forecast period to 2057-58 (see Chart 3.1), below the 2.7% in the two decades prior to 2022-23. The forecast for slower economic growth is due to the forecast ageing of the Australian population, as well as the effect of climate change on labour productivity.

Chart 3.1: Step Change GDP growth, Australia, 2003-04 to 2057-58



Source: ABS (2024a), Deloitte Access Economics

The rate of population growth is forecast to decline over time. This is largely due to the ageing of the Australian population and subsequent fall in the fertility rate. Net overseas migration is steady over the forecast period and is the primary driver of population growth in the long term. Net overseas migration – as a share of the population – is forecast to return to around the share observed in the four decades prior to the pandemic.

The labour force participation rate is also expected to gradually decline over the forecast period to 2057-58 as the population ages, shifting a rising proportion of the population out of the workforce.

Growth in labour productivity across the forecast period is expected to be underpinned by the increasing adoption of digital technologies, improvements in technology, greater participation in the expanding knowledge economy (e.g. through reduced barriers to education and a trend towards lifelong learning) as well as the targeted use of Australia's skilled migration program. There are also several factors that are expected to place downward pressure on the rate of productivity growth. These include the continued shift from goods to services industries (in which rates of productivity growth tend to be slower), geopolitical risks, as well as climate change.

While productivity growth is expected to remain relatively stable in the long term, physical and transition risks from climate change will weigh on growth in productivity in the Step Change scenario.

Fluctuations in GDP growth across the first decade of the forecast period are largely related to the housing cycle. Dwelling investment is expected to increase over the next few years to catch up with the record migration and as supply chain pressures unwind. Activity is expected to peak around 2028-29 before growth in dwelling investment eases and returns to long-term trend growth over time.

3.2.2 Household disposable income

Real HDI fell by 3.4% in 2022-23, the first fall since the early 1990s recession. High inflation, elevated interest rates and bracket creep – that has pushed up average income tax rates – have eroded the solid nominal labour income gains from a resilient labour market and significant award wage increases. Strong population growth has supported aggregate disposable income, though real HDI per capita has fallen back to 2017 levels.

Looking forward, a forecast decline in inflation and interest rates in 2025 should support disposable income growth, as will the personal income tax cuts that came into effect from 1 July 2024.[xii] However, a gradual easing of labour market conditions over this period is expected to see nominal wage growth slow. Overall, HDI is expected to increase from 2024-25 but it is forecast to take until the mid-2030s until household income (adjusted for inflation and population) returns to the peak seen in 2020-21.

In the long term, HDI is largely driven by employment and wages growth. An ageing population is expected to see an increasing proportion of the population out of the workforce leading to declining employment growth over time. Real wages growth is expected to remain relatively steady and grow broadly in line with productivity growth.

HDI growth is expected to slow over time, growing at a CAGR of 2.0% over the forecast period to 2057-58, compared to the CAGR of 2.9% in the two decades to 2022-23. This slowdown is primarily driven by declining employment growth, as well as the negative effects of climate change on labour productivity growth.

3.2.3 Dwelling investment

The housing crisis continues to be a challenge for the Australian economy. The lack of housing supply relative to demand has driven up the cost of buying or renting a property. A shortage of workers, the growing cost of materials, elevated financing costs, and difficulty obtaining necessary approvals have all combined to see dwelling investment fall to a record low as a share of the economy.

The shortage of new housing supply comes at a time when near record high migration and population growth have significantly increased housing demand. The strong demand for housing is expected to lead to a ramp up in dwelling investment in the medium term. However, it is likely to take some time for construction industry capacity to recover from current labour and materials shortages. This will delay the pace at which dwelling construction activity can increase in the near term.

Another factor supporting growth in the medium term is the Federal Government's target of 1.2 million new, well-located homes over the five years from mid-2024. The Federal Government has a range of related commitments to boost housing supply, including to support the delivery of 10,000 new affordable dwellings with state and territory governments agreeing to match this commitment for a total of 20,000 dwellings over five years.[xiii] Deloitte Access Economics predicts that closer to 1 million dwelling completions will be reached over the next five years.

Over the long term, growth in dwelling investment and housing commencements are expected to mostly reflect underlying demand for new housing, along with an allowance for replacement of the existing stock. Underlying demand is determined by population growth and the associated formation of new households. Growth in new households is expected to be slightly above growth in the total population as average household size gradually declines. With population and household growth lagging overall GDP growth, dwelling investment is forecast to increase at a slower rate than the broader Australian economy.

Dwelling completions are expected to grow by a CAGR of 0.9% across the forecast period, marginally below population growth of 1.1% per annum.

3.2.4 Industry output

Agriculture industry output has fallen slightly from the record high achieved in 2021-22. In the medium term, growth in the agriculture industry is expected to be driven by strong global demand for Australian agriculture. Growth in the industry is expected to be below growth in the broader economy as climate change causes increasing extreme weather events and droughts weigh on crop production.

Despite elevated commodity prices, mining industry output has been disrupted by operational constraints and wet weather in 2023-24. Mining activity is expected to remain subdued in the near term as weaker global demand – particularly from China – weighs on exports. In the medium term, industry output is expected to gain pace, as more production from iron ore, coal and other metals projects comes online and global economic growth accelerates.

Over the long term, mining industry growth will increasingly be driven by exports of critical minerals used in renewable energy technology as the global economy transitions towards net zero emissions by 2050. However, this transition will also hit exports of fossil fuel commodities such as thermal coal. The combination of these forces will see the mining industry shrink as a share of the economy over time.

The manufacturing industry, in 2023-24, continued its decades long trend of growing at a slower rate than the broader economy. In 2024-25, weak demand from downstream industries such as construction is likely to weigh on output. Activity is expected to remain weak across the forecast period as structural issues, such as high labour costs and competition from low-cost producers in Asia are only partly offset by government policy efforts to boost the industry.

Extreme weather conditions have increased household electricity demand and supported activity in the electricity, gas, water and waste services industry. Industry growth is expected to gradually decline in the near term as population growth slows. Over the long term, continued improvements in energy and water resource efficiency will weigh on demand from growth in the size of the population. This is expected to see the industry grow more slowly than the economy overall.

Weak residential construction activity has weighed on construction industry output. This has only partially been offset by work done on large scale infrastructure projects. In the short term, the industry is likely to struggle as capacity constraints weigh on activity. However, strong underlying drivers including population growth that is near record highs, and a large infrastructure pipeline, as well as an eventual unwinding of capacity pressures, will see growth rebound in the medium term.

Over the long term, population growth will underpin demand for housing and infrastructure projects. The transition to net zero and the associated emissions reduction targets are also expected to increase activity.

Growth in transport, postal and warehousing industry output is expected to slow in the short term as the tailwind from the COVID-19 rebound in tourism fades and weak household spending weighs on travel. The forecast recovery in household consumption should support growth over the coming years, while slowing rates of population growth will constrain industry output in the longer term.

Services industries comprise approximately two thirds of the Australian economy and therefore tend to drive trends in the broader economy.[7] Growth in many services industries slowed in 2023-24, particularly for those exposed to consumer spending such as retail trade and accommodation and food services. This has been somewhat offset by strength in public sector industries such as health care and social assistance, and public administration and safety.

In the short and medium term, the broader economic rebound should lift services industry output. In the long term, services industry output is expected to grow at a faster rate compared to output in the broader economy.

The information, media and telecommunications industry is forecast to be among the fastest growing industries nationally. This reflects continued technological innovation and increased demand for new software, computing (evidenced via increased investment in data centres) and other emerging technologies.

3.2.5 Exchange rate

Movements in the USD:AUD exchange rate typically reflect movements in the prices paid for Australian commodity exports as well as interest rate differentials between Australia and the United States.

The difference between Australian and United States interest rates is expected to narrow through the remainder of 2024 and into 2025. The US Federal Reserve began its rate cutting cycle in September 2024 and signalled further interest rate cuts are likely in the near term. Meanwhile the RBA is not expected to cut rates until early 2025. This should provide some support to the Australian dollar in the near term. Conversely, moderating commodity prices are expected to place downward pressure on the Australian dollar.

Over the long term, interest rates in both countries are expected to stabilise at equilibrium levels, while the terms of trade is also assumed to stabilise. This is expected to see the exchange rate level out at $1.39 Australian dollars per US dollar.

3.2.6 Forecast summary

A summary of the key national-level forecasts for the Step Change scenario is shown in Table 3.1 below.

[7] Services industries in this report are defined as all 1-digit ANZSIC industries expect 'Agriculture, forestry and fishing', 'Mining', 'Manufacturing', 'Electricity, gas, water and waste services' and 'Construction'.

Table 3.1: Forecast summary for the Step Change scenario

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58	Forecast period*
GDP						
$ billions	$2,405	$2,593	$3,141	$3,777	$4,472	-
CAGR over previous decade	*2.4%*	*1.9%*	*1.9%*	*1.9%*	*1.7%*	*1.8%*
HDI						
$ billions	$1,397	$1,535	$1,844	$2,264	$2,767	-
CAGR over previous decade	*1.6%*	*1.7%*	*1.9%*	*2.1%*	*2.0%*	*2.0%*
USD:AUD exchange rate						
$A/$US	$1.49	$1.41	$1.39	$1.39	$1.39	-
Change over previous decade	*4.3%*	*0.9%*	*-0.2%*	*0.0%*	*0.0%*	*-0.2%*
Population						
Persons (millions)	26.4	28.6	32.3	35.8	39.0	-
CAGR over previous decade	*1.4%*	*1.4%*	*1.2%*	*1.0%*	*0.9%*	*1.1%*
GVA by industry						
Agriculture ($ billion)	$61.9	$63.6	$71.8	$77.3	$80.8	-
CAGR over previous decade	*1.4%*	*1.6%*	*1.2%*	*0.7%*	*0.5%*	0.8%
Mining ($ billion)	$321.0	$334.9	$394.3	$430.9	$459.9	-
CAGR over previous decade	*3.4%*	*0.9%*	*1.6%*	*0.9%*	*0.7%*	1.0%
Manufacturing ($ billion)	$124.0	$120.8	$120.1	$113.7	$105.1	-
CAGR over previous decade	*-0.4%*	*-0.3%*	*-0.1%*	*-0.5%*	*-0.8%*	-0.5%
Utilities ($ billions)	$45.2	$45.7	$47.6	$47.8	$47.4	-
CAGR over previous decade	*0.6%*	*0.3%*	*0.4%*	*0.1%*	*-0.1%*	0.1%
Construction ($ billion)	$158.6	$178.3	$200.5	$220.8	$236.2	-
CAGR over previous decade	*0.3%*	*1.3%*	*1.2%*	*1.0%*	*0.7%*	1.1%
Services ($ billion)	$1,345	$1,504	$1,909	$2,395	$2,942	-
CAGR over previous decade	3.1%	2.8%	2.4%	2.3%	2.1%	2.3%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58. 'Utilities' is the Electricity, Gas, Water and Waste Services industry.

Source: ABS (2024a, 2024b), RBA, Deloitte Access Economics

3.3 State and territory forecasts and outlook

3.3.1 New South Wales

New South Wales is Australia's largest state economy, accounting for nearly one-third of the nation's economic output and population. The state has a diversified service-driven economy with less reliance on commodity prices compared to mining states in Australia's north and west.

In the near term, the pace of economic growth in New South Wales is forecast to accelerate as higher household incomes support stronger gains in spending. An anticipated interest rate cut in early 2025 is expected to have a proportionally large effect in New South Wales given the state's relatively high share of household debt. Dwelling investment is forecast to grow strongly over the coming five years, though the shortage of workers and elevated development costs will constrain the supply of new homes in the near term. Areas of previous strength, such as net exports (including from the state's large education and tourism industries), business investment and population growth, are forecast to contribute less to economic growth in the coming years.

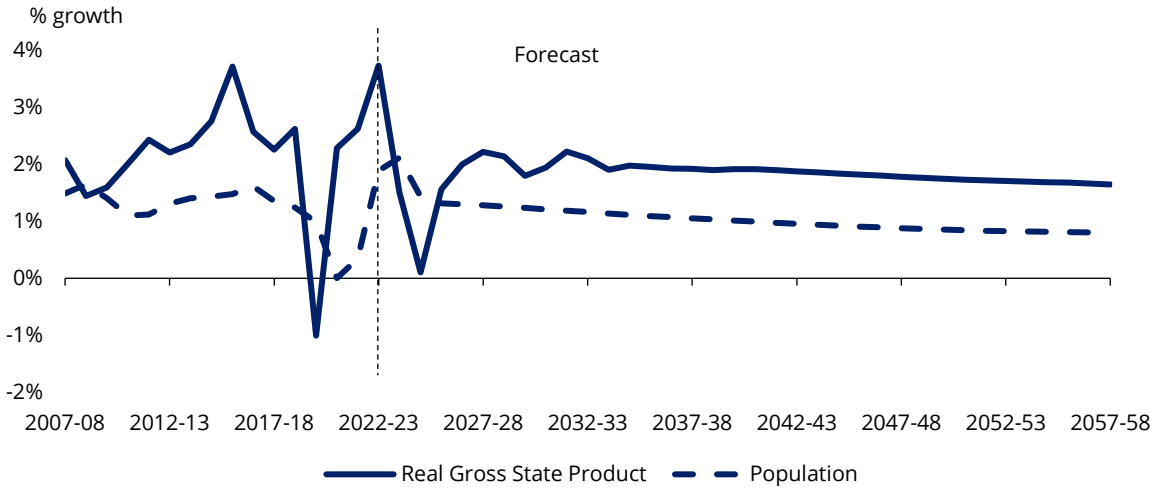
Growth over the medium to long term is driven by a combination of the increase in population, the rate of labour force participation and productivity growth. The rate of growth in New South Wales' economy is forecast to slow due to an ageing population, which will weigh on both population growth and labour force participation. These trends are expected to mirror national patterns, however, New South Wales is expected to continue receiving a proportionally high share of international migrants to Australia. These migrants tend to be younger than the average Australian, resulting in a slower pace of population ageing in New South Wales compared to many other states and territories. The effect of this trend on total population growth will be partly offset by continued negative net interstate migration (more people leaving New South Wales to other jurisdictions within Australia than entering New South Wales from those jurisdictions). Overall, total population growth in New South Wales is expected to grow at a slightly slower rate compared to the national population.

As population growth and labour force participation decline, productivity will become the key driver of economic growth and living standards. The rate of productivity growth is forecast to decelerate in New South Wales over the long term. This mirrors trends observed at the national level. Labour productivity in New South Wales is forecast to grow at a similar annual rate compared to productivity in the national economy.

Dwelling construction in New South Wales is forecast to grow at a similar annual rate compared to national activity over the medium to long term. Building activity is driven by population growth and the subsequent formation of households in the state over the forecast period.

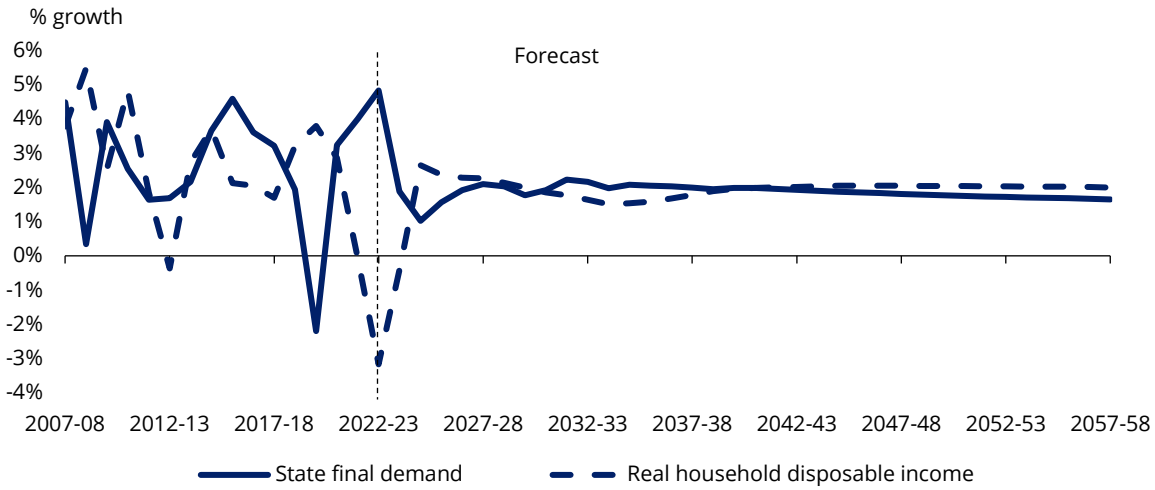
The largest services industries in New South Wales – financial and insurance services, professional services, and health care and social assistance – are expected to account for approximately half of the growth in total industry output over the forecast period. This is expected to offset forecast declines in manufacturing and utilities industry output. Relatively modest gains are forecast in the mining and agriculture industries – in part because of climate change. The construction industry is also forecast to fall as a share of the state economy. This reflects the strength in the forecast growth in services, despite the record infrastructure investment pipeline and an anticipated acceleration in housing construction in the medium to long term.

Chart 3.2: Real GSP and population growth, New South Wales



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.3: SFD and HDI, New South Wales



Source: ABS (2024a), Deloitte Access Economics

3.3.2 Victoria

Victoria is Australia's second largest economy in terms of both population and economic output. Victoria's economy is service-industry oriented, with less reliance on mining. The state's largest industries by employment are health and community services, professional services, and retail. Education is another crucial industry, being Victoria's largest services export.

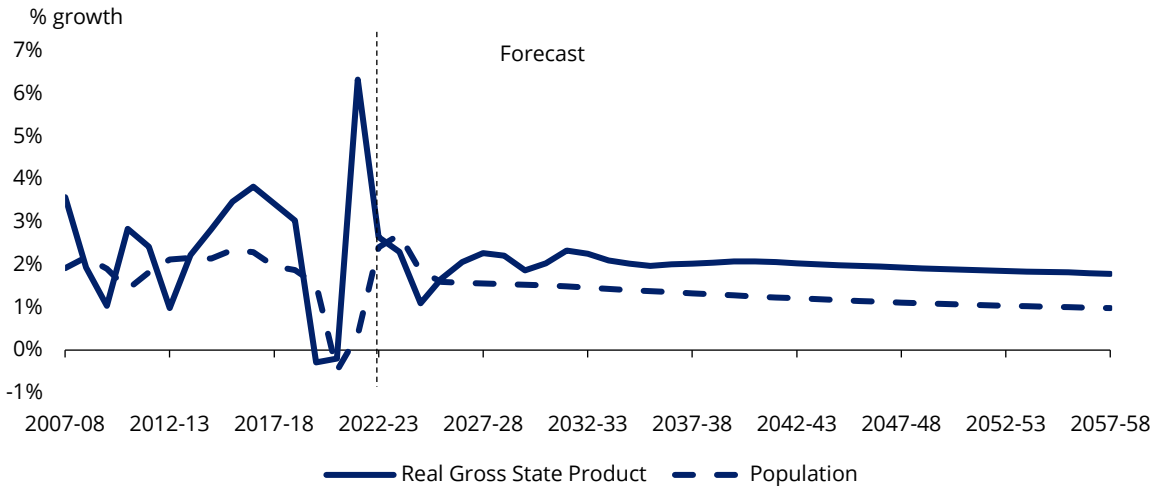
Higher household consumption is expected to drive the recovery in economic growth over the next few years. Dwelling investment will also accelerate as the construction industry works through the existing pipeline and addresses the acute shortage of housing – though the acceleration in activity will be limited by labour shortages and high costs. Although business investment is expected to continue growing, it will be at more moderate levels compared to the strong growth seen in recent years. The business investment outlook is bolstered by a substantial pipeline of non-residential and engineering construction projects.

In line with national trends, the rate of growth in Victoria's economy in the long term will decelerate due to an ageing population. The natural increase in population is expected to follow national trends, with declining fertility rates impacting growth. However, Victoria's rate of population growth is expected to be higher than the national rate. Net overseas migration is expected to be the dominant driver of population growth in the long term accounting for 60% of state population growth. Victoria receives a large share of international migrants to Australia, especially international students. This will support growth in the total population and slow the ageing of the state's population. Net interstate migration is also expected to support population growth, as Victoria historically has positive net interstate migration.

Dwelling construction in Victoria is forecast to grow at a similar annual rate to national activity over the medium to long term. Labour productivity in Victoria is expected to grow at a similar annual rate to the national economy.

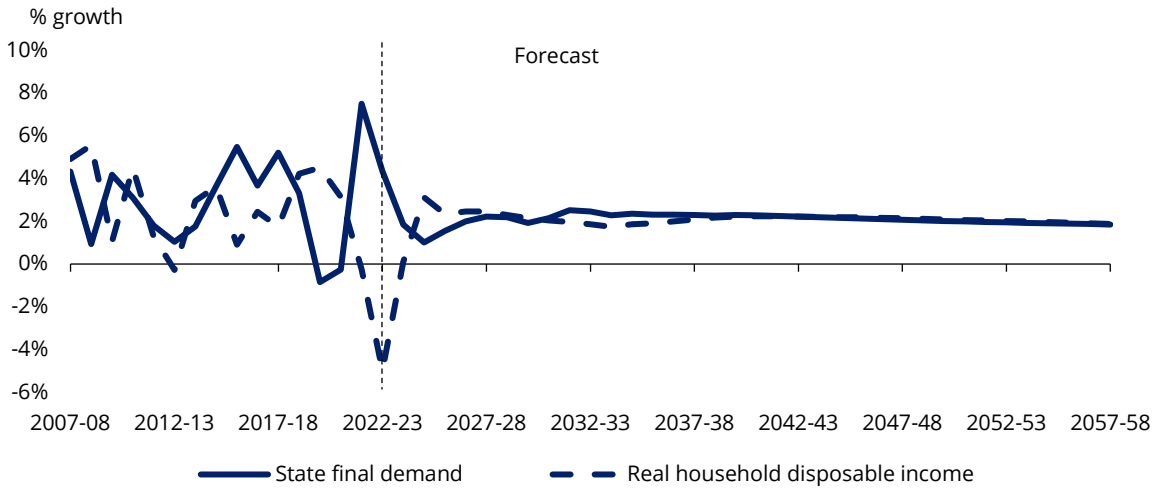
Like New South Wales, services industries such as health care and social assistance, financial and insurance services, and professional services are expected to drive economic output over the forecast period. This will offset declines in the mining and manufacturing industries, along with subdued growth in the agriculture and construction industries. Victoria accounts for almost one third of Australia's total manufacturing output. Structural challenges, such as international competition and higher labour costs, have historically led to a decline in the industry, and this trend is expected to continue over the forecast period.

Chart 3.4: Real GSP and population growth, Victoria



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.5: SFD and HDI, Victoria



Source: ABS (2024a), Deloitte Access Economics

3.3.3 Queensland

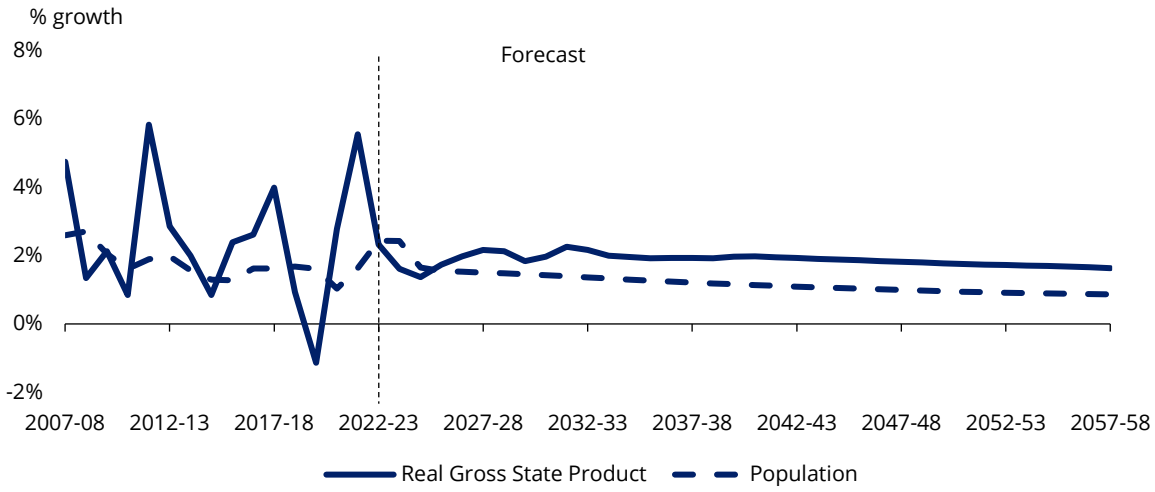
Queensland accounts for approximately one-fifth of the Australian population and economy. Consistent with national trends, Queensland's economy is expected to recover in the short term amid an increase in household consumption. Dwelling investment will add to the economy from 2025-26 onwards alongside continued growth in business investment and government spending. Net exports are expected to add less to the Queensland economy over the medium term. Lower commodity prices will weigh on the value of the state's mining exports, while slower growth in international visitor arrivals and domestic trips will affect tourism exports.

Growth in the Queensland population is forecast to slow over time as the state's population ages. However, Queensland is expected to have a higher population growth rate compared to the national average. This is largely due to Queensland's attractiveness as a destination for both overseas and interstate migrants. The most prevalent age groups among net interstate migrants in 2022-23 were young families (including individuals aged 30-39 years and children aged 9 year and under). The share of interstate migrants aged over 70 years has also increased significantly in the last two decades, partly offsetting the effect of families migrating to Queensland on the labour force participation rate. The faster rate of population growth in Queensland compared to the national average is a key driver of higher rates of growth in the state's economy over the long term.

Dwelling construction in Queensland is forecast to grow at a faster rate than the national average, driven by a higher population growth rate and the formation of new households. Labour productivity in Queensland is forecast to grow at a similar annual rate to productivity in the national economy.

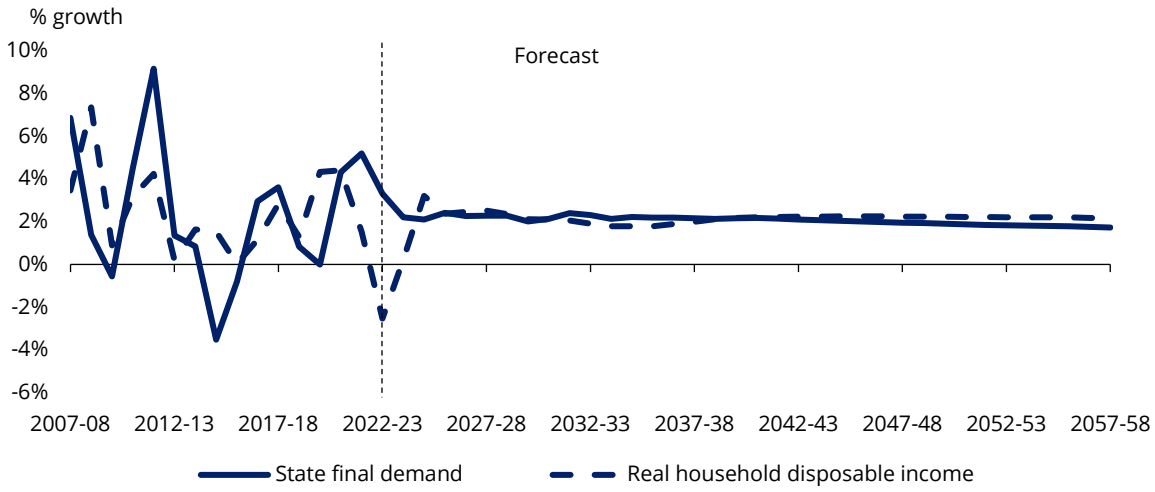
In the long term, Queensland's proportionally large mining industry output will decrease as a share of the economy as the net zero transition weakens demand for fossil fuel commodities. Since Queensland primarily mines coal and natural gas, the opportunity to benefit from mining the minerals needed for the energy transition is limited when compared to jurisdictions such as Western Australia. In line with national trends, Queensland's service industries are expected to increase their share of economic output. Health care and social assistance; professional, scientific and technical services; and financial and insurance services are projected to increase as a share of the state economy over the forecast period. Agriculture, vital for regional Queensland, is expected to decline as a share of the economy over the forecast period as climate change makes production more challenging.

Chart 3.6: Real GSP and population growth, Queensland



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.7: SFD and HDI, Queensland



Source: ABS (2024a), Deloitte Access Economics

3.3.4 South Australia

Over the past four decades, South Australia's economy has recorded slower growth in output and incomes compared to the national average. This has been partly driven by the state's industry mix – with a relatively large share of Australia's manufacturing capacity in South Australia – slower rates of population growth, as well as lower rates of labour force participation. The trend of slower growth compared to the national average reversed during the pandemic but has since re-emerged.

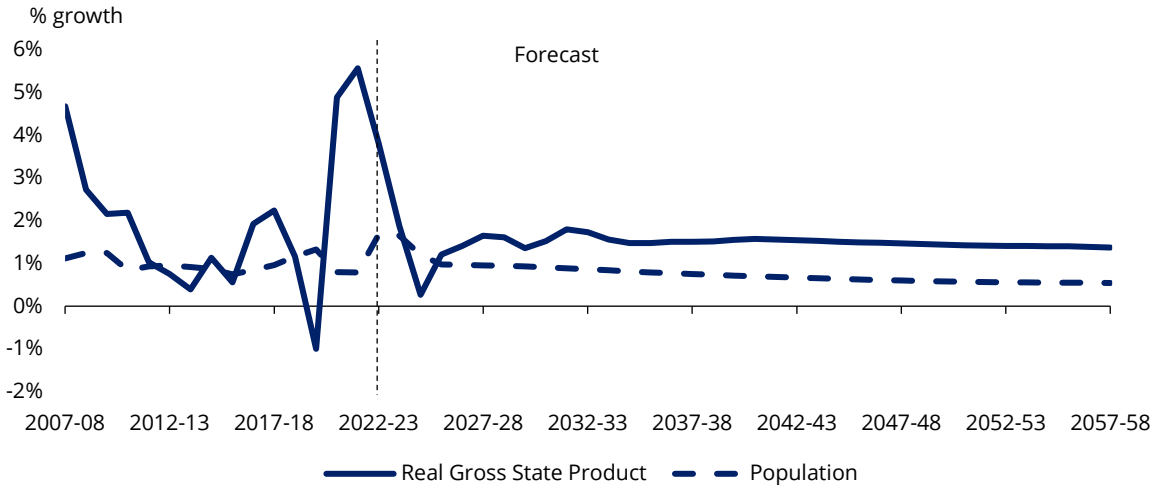
In the near term, similarly to other states, growth in South Australia's economy is expected to improve. South Australia's economy will be supported by a strong labour market, high levels of government consumption and investment, and a recovery in household consumption. Business investment is also expected to drive economic growth over the near term, while dwelling investment will also be a key driver of economic growth in South Australia – with strong gains in dwelling values in the state supporting new investment.

In the long term, South Australia's economy is expected grow at a slower pace than the national economy. This is primarily due to the state's older age structure, which causes the population to age faster than the national average, leading to lower labour participation and contributing to weaker productivity gains. Net overseas migration will be the main driver of population growth, with negative net interstate migration weighing on the population. The main age group leaving South Australia is younger, working-aged people, which contributes to a structurally lower rate of labour force participation and relatively older population in South Australia.

Dwelling construction is forecast to grow at a slower rate than the national average as lower rates of population growth and household formation weighs on underlying demand for housing. HDI is expected to be below the Australian average due to the lower employment growth resulting from slower population growth. Labour productivity in South Australia is forecast to grow at a similar annual rate compared to productivity in the national economy.

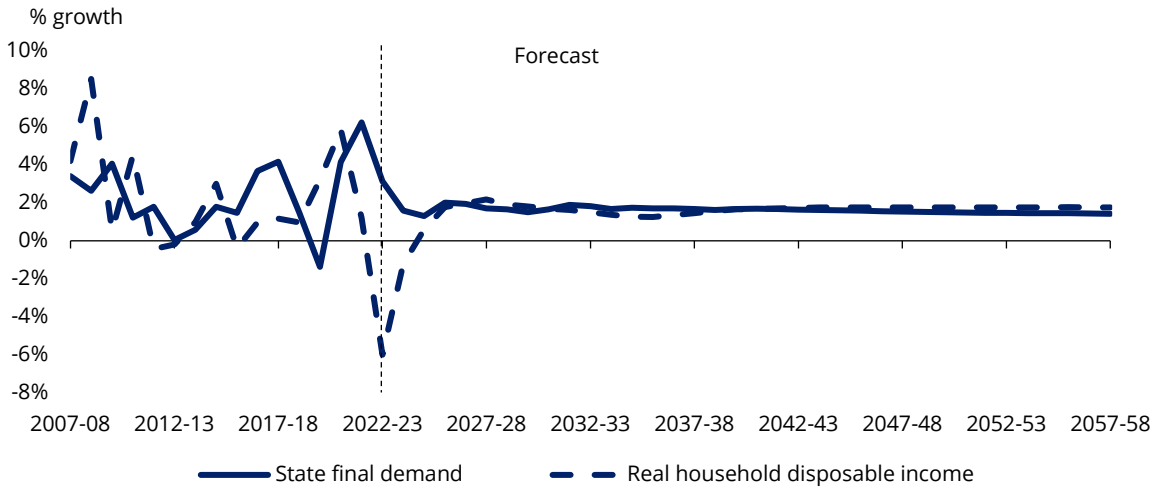
In the long term, a large proportion of the growth in total industry output will be concentrated in services. The state's ageing population will underpin a relatively large increase in health care and social assistance industry output. This will somewhat offset the decline in key South Australian industries such as agriculture and manufacturing (despite South Australia receiving a large share of Australian defence industry investment). The decline in these industries is due to a combination of challenges arising from climate change and long-running structural challenges.

Chart 3.8: Real GSP and population growth, South Australia



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.9: SFD and HDI, South Australia



Source: ABS (2024a), Deloitte Access Economics

3.3.5 Western Australia

The Western Australia economy is expected to recover over the next few years. Compared with the national average, growth in household consumption did not slow by as much in Western Australia in response to elevated inflation and higher interest rates. Public spending is expected to make a larger contribution to economic growth in the near term. Moderating commodity prices are expected to weigh on exports, but this will be partly offset by slower growth in imports. Dwelling and business investment are forecast to add to the state's economy in the medium term – though growth in business investment will be lower than in the past five years.

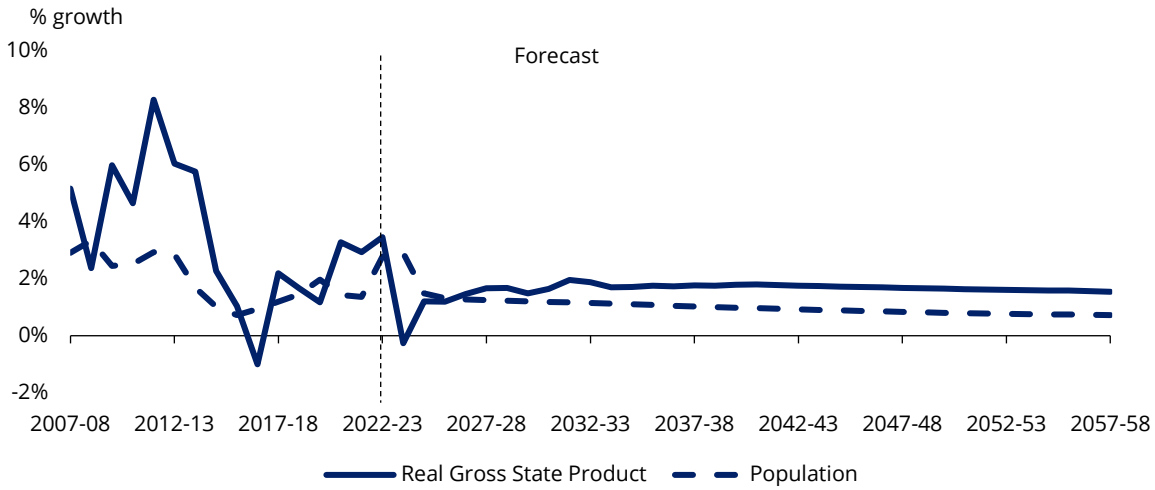
In the long term, Western Australia is expected to have slightly lower economic growth than the national growth rate. The primary reason for this is slower population growth, which can be attributed to the expected slowdown in activity in the mining industry. The mining industry plays a key role in attracting migrants from interstate and overseas via the proportionally high incomes available to employees. Lower growth in mining industry output and employment will contribute to a corresponding decline in net migration.

Labour productivity in Western Australia is forecast to grow at a similar annual rate compared to productivity in the national economy.

Over the long term, growth in Western Australia's large mining industry will be driven by the export of minerals essential for supporting the global transition to net zero emissions. The demand for fossil fuel commodities such as coal and gas will fall over the same period. Consequently, the mining industry is forecast to decline as a share of the state's economy over time. The agriculture industry share of total output will also decline due to the physical effects of climate change on the environment. Temperatures are projected to rise sharply in parts of central and northern Western Australia, meaning the state could experience more pronounced effects on labour productivity due to higher temperatures compared to other Australian state or territories.

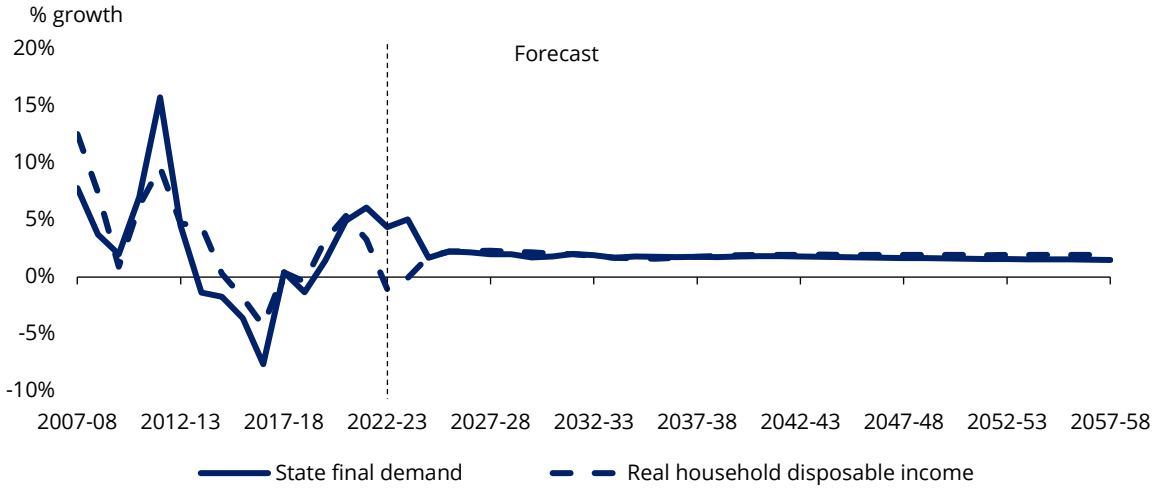
Services industries are expected to grow their share of total output in Western Australia. However, the professional, scientific and technical services industry is expected to decline as a share of the economy over the forecast period. This is linked to the smaller role of the mining industry in the state's economy over time. Growth in services output will instead be led by the health care and social assistance, and financial and insurance services industries.

Chart 3.10: Real GSP and population growth, Western Australia



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.11: SFD and HDI, Western Australia



Source: ABS (2024a), Deloitte Access Economics

3.3.6 Tasmania

Tasmania's economy has grown at a slower rate compared to the Australian economy in recent years, as trends that supported growth during the pandemic unwound – such as a reduction in migration from Tasmania to the mainland. This trend of lower growth in Tasmania's population and economy, relative to Australia, is expected to continue. Over the near term, household consumption, government expenditure and business investment are expected to be the drivers of economic growth. Dwelling investment is expected to improve from 2025-26, but at a softer rate compared to other states and territories.

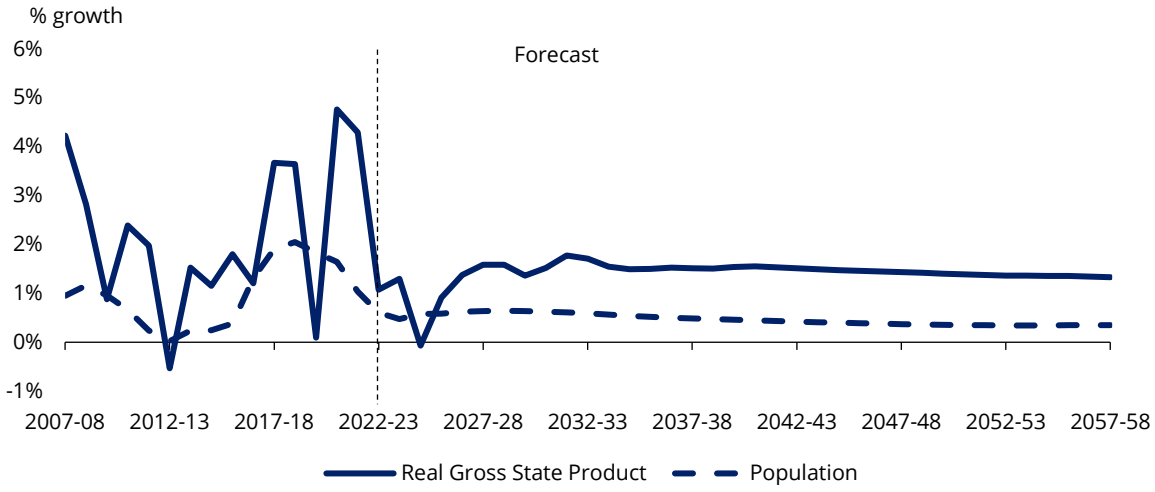
In the long term, Tasmania's economic growth is projected to remain below the national average. This is attributed to slower rates of population growth as younger Tasmanians migrate interstate and the state attracts a small share of overseas migrants. The state is also expected to have a lower fertility rate compared to the national average over the forecast period. Tasmania's relatively old population will age at a faster rate than the national population, leading to a proportionally large decline in the labour force participation rate.

Over the forecast period, an ageing population will contribute to slower growth in HDI in Tasmania compared to other jurisdictions. Labour productivity in Tasmania is forecast to grow at a higher annual rate compared to

productivity in the national economy. This is because Tasmania is expected to experience smaller reductions in productivity resulting from climate change when compared to the rest of the country.

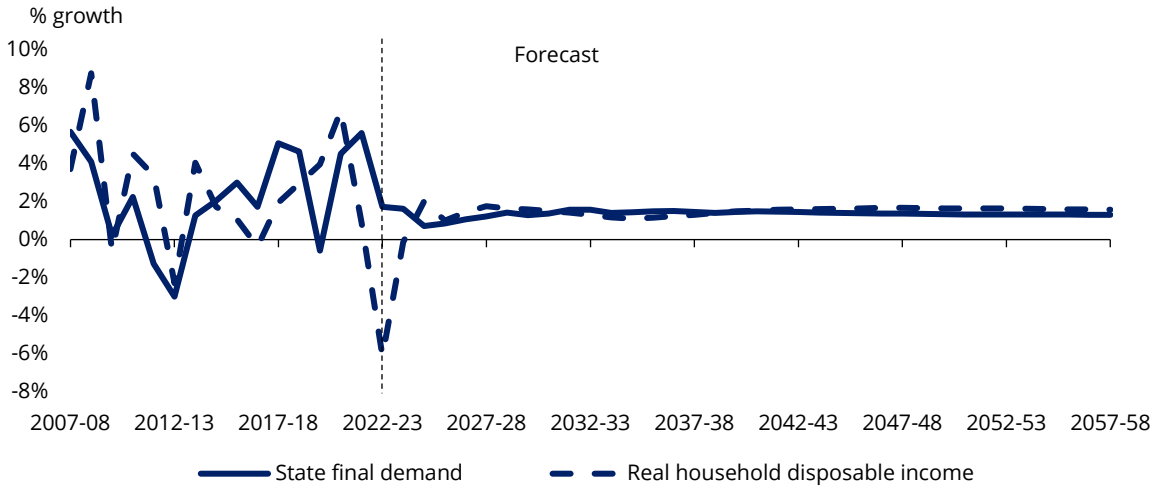
Tasmania's ageing population will underpin demand for health care and social assistance, with the industry projected to account for almost one quarter of the state's output. The slower rate of population growth will weigh broadly across the economy, with particularly large effects for industries – such as construction – where demand is linked to the size of the population.

Chart 3.12: Real GSP and population growth, Tasmania



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.13: SFD and HDI, Tasmania



Source: ABS (2024a), Deloitte Access Economics

3.3.7 Northern Territory

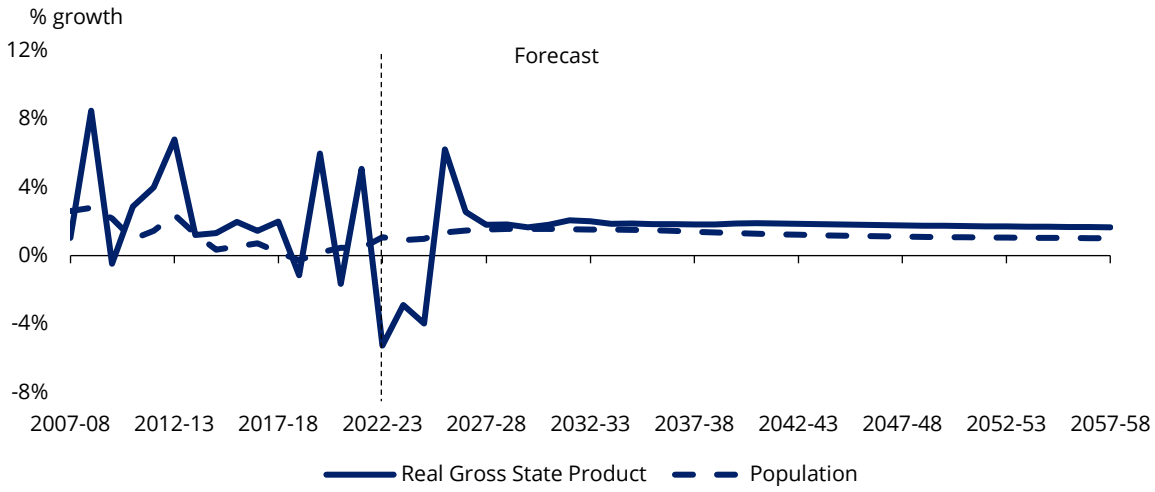
The Northern Territory economy is expected to experience a slower recovery compared to other jurisdictions over the coming years. Household consumption is forecast to grow, but subdued near-term population growth will weigh on the rate of growth. The improvement to household balance sheets from interest rate cuts is also expected to add less to consumption in the Northern Territory compared to other jurisdictions. This is because the average new owner occupier mortgage in the Northern Territory is approximately three quarters as large as the equivalent national mortgage. The pickup in overall economic growth will instead be driven by a recovery in dwelling investment, business investment and net exports.

The Northern Territory is expected to have a slightly higher population growth over the long term compared to the national equivalent. Higher population growth is a result of the Northern Territory having a younger age profile and subsequent higher fertility rate than the national average. Population growth in the Northern Territory is primarily driven by the natural increase, as the region receives only a small proportion of overseas migrants and generally has transient net interstate migration.

Dwelling construction in the Northern Territory is forecast to grow at a faster annual rate compared to national activity over the medium to long term. Even though population growth is expected to be higher, the territory's economy is forecast to grow at a slower rate than the national economy. This is due to slower labour productivity growth and lower participation in the Northern Territory. Overall, real HDI is forecast to grow marginally faster than the national average because of slightly higher population growth in the Territory.

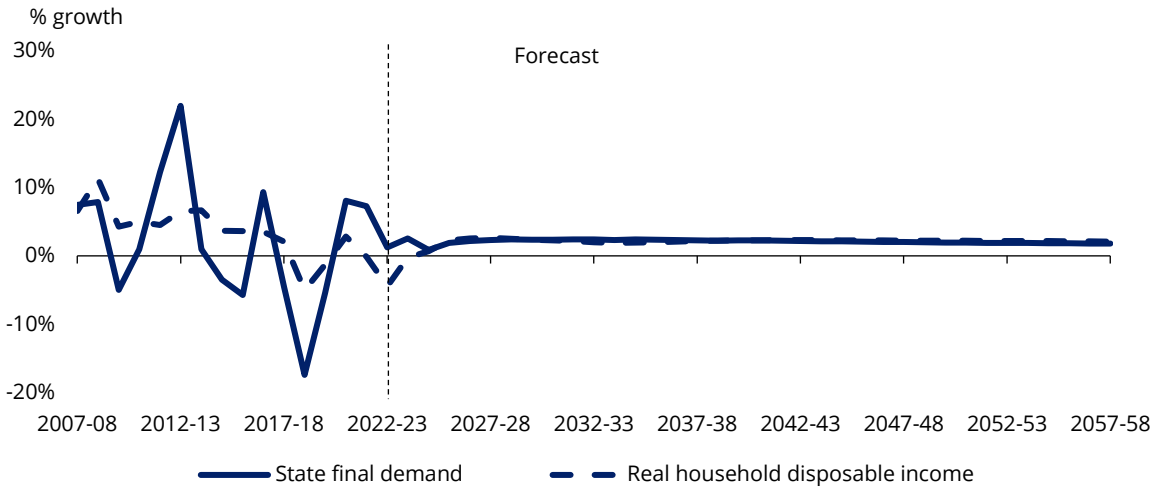
Over the long term, demand for fossil fuel commodities is expected to decrease as the global economy transitions towards net zero emissions. This will see the Northern Territory's key industry decline as a share of the economy over time. Within the services sector, health care and social assistance is expected to grow at a faster rate than other service industries – continuing the trend observed over the past two decades.

Chart 3.14: Real GSP and population growth, Northern Territory



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.15: SFD and HDI, Northern Territory



Source: ABS (2024a), Deloitte Access Economics

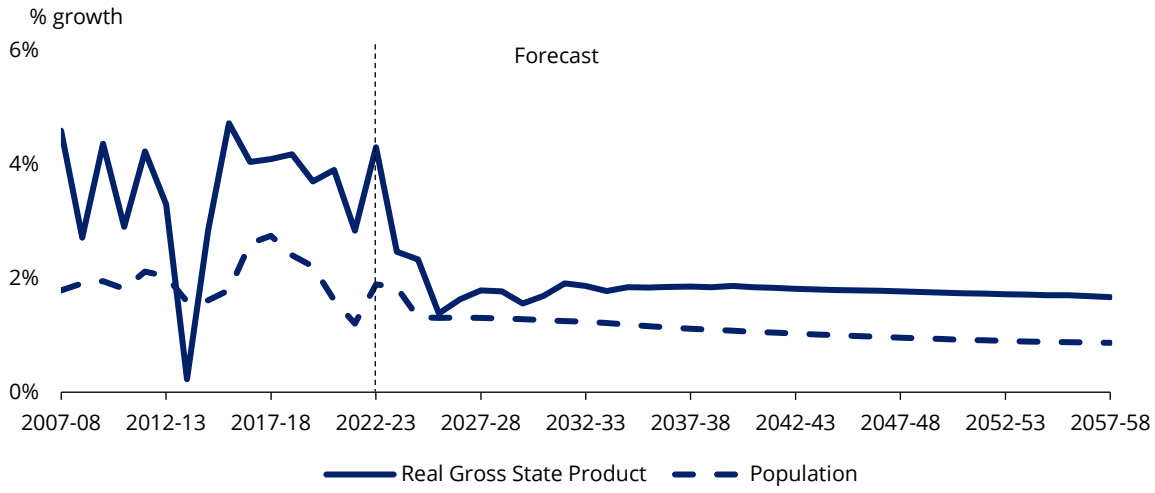
3.3.8 Australian Capital Territory

The Australian Capital Territory's (ACT) economy has grown at a faster rate compared to the Australian economy in recent years. This trend is expected to narrow in the near term. An improvement in HDI will support continued growth in household consumption – though the uplift will be smaller compared to the national equivalent. Business investment is expected to be a prominent driver of economic growth for ACT in the near term, largely due to increased investment in machinery and equipment. Dwelling investment is anticipated to be weak in the coming year, due to tight financing conditions and high construction costs, and then lift in the following years.

Growth in the ACT economy is forecast to decelerate in line with national trends over the forecast period. The territory's population will grow at a similar pace to the national population, supported by positive net overseas and interstate migration. Similar rates of growth are forecast, when compared to the national rate, for labour productivity, HDI and dwelling investment.

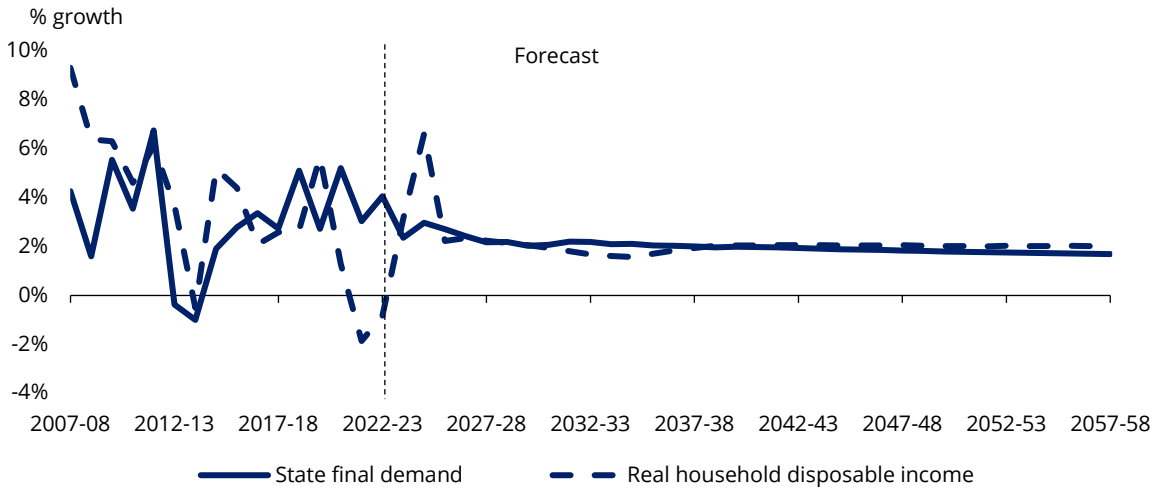
In the long term, while the public administration and safety industry will remain a significant share of total output, the industry is forecast to grow at a slower pace than other services industries – particularly professional services and information media and telecommunications. In line with national trends, health care and social assistance is expected to grow strongly amid increased demand for health and aged care services. The ACT economy has little exposure to primary industries such as mining and agriculture, as well as a relatively small share of national manufacturing output.

Chart 3.16: Real GSP and population growth, Australian Capital Territory



Source: ABS (2023a, 2024b), Deloitte Access Economics

Chart 3.17: SFD and HDI, Australian Capital Territory



Source: ABS (2024a), Deloitte Access Economics

3.3.9 State and territory forecast summary tables

Table 3.2: State and territory forecasts, Step Change scenario, CAGR over previous decade

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58	Forecast period*
GSP						
New South Wales	2.4%	1.8%	2.0%	1.9%	1.7%	1.8%
Victoria	2.7%	2.1%	2.1%	2.0%	1.8%	2.0%
Queensland	2.2%	1.9%	2.0%	1.9%	1.7%	1.9%
South Australia	2.0%	2.1%	1.6%	1.5%	1.4%	1.5%
Western Australia	2.3%	1.8%	1.7%	1.7%	1.6%	1.6%
Tasmania	2.3%	1.9%	1.6%	1.5%	1.4%	1.4%
Northern Territory	1.1%	0.6%	1.9%	1.8%	1.7%	1.6%
Australian Capital Territory	3.5%	2.8%	1.8%	1.8%	1.7%	1.8%
SFD						
New South Wales	2.9%	2.0%	2.0%	1.9%	1.7%	1.9%
Victoria	3.4%	2.2%	2.3%	2.2%	1.9%	2.1%
Queensland	1.6%	2.5%	2.2%	2.1%	1.8%	2.1%
South Australia	2.5%	2.2%	1.7%	1.6%	1.5%	1.6%
Western Australia	0.1%	2.8%	1.8%	1.8%	1.6%	1.8%
Tasmania	2.9%	2.1%	1.4%	1.4%	1.3%	1.4%
Northern Territory	-1.3%	0.1%	2.4%	2.2%	1.9%	2.1%
Australian Capital Territory	3.0%	3.3%	2.1%	1.9%	1.7%	2.0%
HDI						
New South Wales	1.9%	1.6%	1.8%	2.0%	2.0%	1.9%
Victoria	1.8%	1.7%	2.0%	2.2%	2.0%	2.1%
Queensland	1.6%	2.0%	2.0%	2.2%	2.2%	2.1%
South Australia	1.1%	1.0%	1.5%	1.7%	1.8%	1.6%
Western Australia	0.9%	1.9%	1.9%	1.9%	1.9%	1.9%
Tasmania	1.6%	1.4%	1.3%	1.6%	1.6%	1.5%
Northern Territory	1.1%	0.0%	2.2%	2.3%	2.2%	2.1%
Australian Capital Territory	2.0%	2.3%	1.8%	2.0%	2.0%	2.2%
Population						
New South Wales	1.2%	1.2%	1.2%	1.0%	0.8%	1.0%
Victoria	1.7%	1.5%	1.4%	1.2%	1.0%	1.3%
Queensland	1.6%	1.7%	1.3%	1.1%	0.9%	1.2%
South Australia	1.0%	1.1%	0.8%	0.7%	0.6%	0.8%
Western Australia	1.5%	1.7%	1.1%	0.9%	0.8%	1.0%
Tasmania	1.1%	1.0%	0.6%	0.4%	0.4%	0.5%
Northern Territory	0.5%	0.8%	1.5%	1.2%	1.1%	1.3%
Australian Capital Territory	2.0%	1.6%	1.2%	1.0%	0.9%	1.1%
Dwelling completions						
New South Wales	3.9%	-2.0%	1.7%	0.4%	0.1%	0.9%
Victoria	1.2%	0.4%	0.5%	0.8%	0.2%	1.0%
Queensland	1.3%	1.1%	1.0%	0.4%	0.0%	1.6%
South Australia	3.3%	1.5%	-3.9%	-0.1%	0.1%	-0.9%
Western Australia	-2.0%	1.0%	-0.5%	0.6%	0.0%	0.9%
Tasmania	4.6%	-1.0%	-3.6%	-1.8%	0.3%	-2.8%
Northern Territory	-7.9%	5.0%	2.0%	0.4%	0.5%	3.2%
Australian Capital Territory	0.6%	0.3%	-1.3%	0.3%	0.2%	-0.6%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58.

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

Table 3.3: State and territory forecasts, Step Change scenario, levels (as specified)

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58
GSP ($ millions)					
New South Wales	733,087	788,713	960,239	1,154,455	1,366,662
Victoria	535,489	587,585	721,777	880,812	1,057,408
Queensland	464,580	507,320	619,045	747,842	886,636
South Australia	134,209	143,008	166,857	194,032	223,195
Western Australia	418,775	441,261	523,882	622,788	730,408
Tasmania	38,584	40,600	47,383	54,990	63,034
Northern Territory	30,123	31,166	37,501	45,016	53,327
Australian Capital Territory	48,767	53,630	64,079	76,708	90,959
SFD ($ millions)					
New South Wales	719,447	782,761	956,968	1,156,595	1,371,785
Victoria	577,759	629,301	788,485	979,969	1,188,067
Queensland	438,792	490,597	610,168	749,648	898,733
South Australia	144,687	157,479	186,422	218,896	253,222
Western Australia	257,330	292,870	350,860	417,706	487,996
Tasmania	43,884	46,334	53,503	61,621	70,239
Northern Territory	29,483	32,490	41,067	50,923	61,497
Australian Capital Territory	65,794	74,535	91,707	110,913	131,914
HDI ($ millions)					
New South Wales	458,373	501,850	597,065	728,716	890,997
Victoria	327,923	363,665	442,957	550,731	671,463
Queensland	271,780	302,291	367,824	458,184	570,163
South Australia	86,228	90,865	105,681	125,185	148,967
Western Australia	166,715	181,421	218,315	264,496	320,496
Tasmania	27,817	29,545	33,749	39,473	46,353
Northern Territory	17,173	18,577	23,000	28,847	35,804
Australian Capital Territory	40,366	47,482	56,906	69,707	85,139
Population (persons (thousands))					
New South Wales	8,277	8,910	9,990	10,981	11,921
Victoria	6,747	7,394	8,531	9,612	10,650
Queensland	5,407	5,891	6,736	7,505	8,223
South Australia	1,841	1,950	2,122	2,266	2,396
Western Australia	2,848	3,090	3,458	3,790	4,091
Tasmania	573	590	624	651	675
Northern Territory	252	268	312	352	391
Australian Capital Territory	463	497	560	620	679
Dwelling completions (total (thousands))					
New South Wales	48.6	53.3	63.0	65.7	66.6
Victoria	56.5	68.3	71.9	77.6	79.1
Queensland	32.7	49.4	54.7	57.1	57.1
South Australia	11.6	12.4	8.4	8.3	8.4
Western Australia	15.2	20.8	19.7	21.0	21.1
Tasmania	3.4	2.1	1.5	1.2	1.3
Northern Territory	0.6	1.4	1.7	1.8	1.9
Australian Capital Territory	5.4	4.8	4.2	4.3	4.4

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

4 Progressive Change

4.1 Overview of the scenario

4.1.1 Scenario narrative

The Progressive Change scenario assumes a slower pace of decarbonisation and weaker macroeconomic outlook compared to the Step Change, Green Energy Exports and Exportless 1.5 Degrees scenarios. Progressive Change is consistent with achieving a 43% emissions reduction by 2030, but the rise in the global temperature is not expected to remain below 2°C compared to pre-industrial levels by 2100.

The weaker economic outlook will weigh on the rate of electrification. Lower disposable incomes are likely to slow the uptake of CER investments compared to the other scenarios. This contributes to more muted improvements in energy efficiency in the Progressive Change scenario. Renewable hydrogen production is assumed to remain low and be limited to domestic use only in this scenario.

4.1.2 Economic and demographic assumptions

The Progressive Change scenario assumes a slower rate of growth in the Australian population, as well as the global and Australian economies when compared to the Step Change and Green Energy Export scenarios. The assumptions underpinning the Progressive Change scenario are outlined below.

Population

Under the Progressive Change scenario, the level of net overseas migration to Australia is assumed to average 200,000 persons per annum over the medium and longer term. This is above the 'Low' scenario adopted by the ABS in the population projections data release[8] and compares to an average of 215,000 persons per annum in the decade to 2022-23. The total fertility rate is assumed to fall from an estimated 1.58 in 2022-23 to 1.43 by the end of the forecast period in 2057-58, marginally below the ABS 'Low' scenario.[9]

Productivity

The Progressive Change scenario assumes long-term productivity growth of 0.9% per annum (before considering the effect of specified climate change related parameters on productivity). This is in line with the level specified in the 2023 IGR 'Low' scenario[10] and the average observed in the two decades to 2022-23.

4.1.3 Climate change assumptions

The Progressive Change scenario unfolds against the backdrop of the of the IEA's STEPS and aligns to RCP 4.5. The STEPS is a conservative scenario in which clean energy investment and decarbonisation do not accelerate over time, but rather proceed in a business as usual manner. This implies that although clean energy investment continues, it gradually turns out to be a case of too little too late. Relatively lower consumer uptake of clean energy technology, and a more challenging and less coordinated global backdrop results in slower and less efficient climate action. As a result, the global mean temperature relative to the pre-industrial period is

[8] The ABS population projections include a long-term assumption of 225,000 net migrants per annum in the base case, 175,000 per annum in the low case and 275,000 per annum in the high case.
[9] The ABS population projections include a long-term assumption for the TFR of 1.60 in the base case, 1.45 in the low case and 1.75 in the high case.
[10] The 2023 IGR includes a long-term assumption of 1.2% annual growth in labour productivity in the base case, 0.9% in the low case and 1.5% in the high case. The 2023 IGR is available here: https://treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf

projected to rise above 2˚C by 2100. Physical damages from climate change are larger in the Progressive Change scenario compared to the Step Change scenario.

Deloitte Access Economics' modelling of the Progressive Change scenario assumes that the emissions intensity of economic activity by industry is consistent with the 'baseline' scenario published by DCCEEW in November 2023.[xiv] AEMO's assumption that there is no temporary overshooting of the target net emissions pathway is a binding constraint on economic activity in the Progressive Change scenario. As such, Deloitte Access Economics' modelling imposes reductions in economic activity to ensure the target net emissions pathway is not exceeded. This affects the industry structure of the economy over time, with downward pressure placed on output in emissions-intensive industries.

4.2 National forecasts and outlook

4.2.1 Gross domestic product

Persistently high global inflation limits the pace of monetary policy easing by international central banks in the near term. This leads to weaker global economic growth in the Progressive Change scenario relative to the Step Change scenario. Supply chain barriers are slow to unwind as geopolitical tensions weigh on global economic activity.

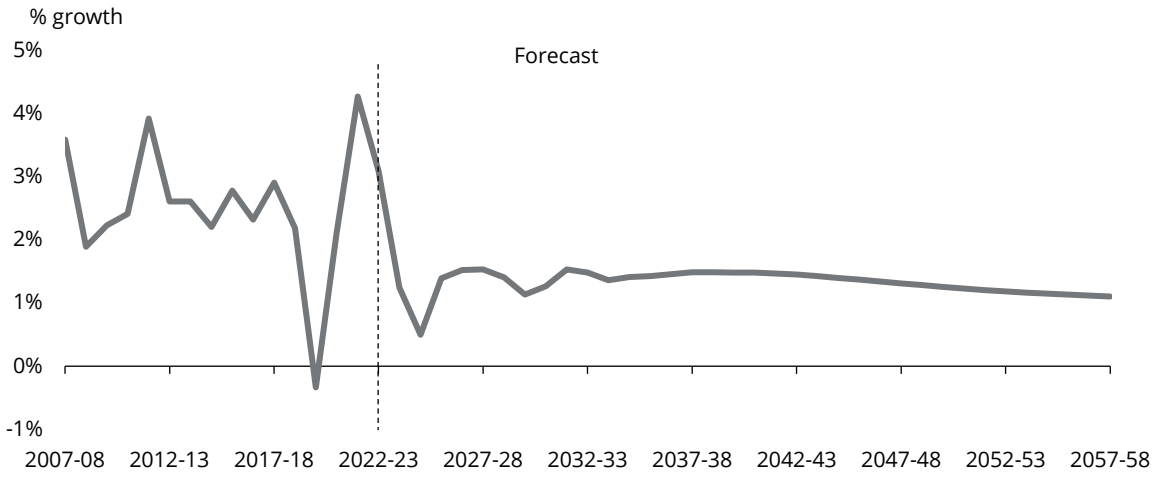
Subdued global economic activity leads to weaker demand for Australian exports. The slowdown in productivity growth following the pandemic continues in the near term, providing a headwind for domestic economic growth. The weaker economic outlook places downward pressure on migration to Australia, with net overseas migration falling to a lower level compared to the Step Change scenario.

In the long term, productivity growth fails to rebound from the post-pandemic slump, entrenching lower GDP growth. Population growth remains subdued due to lower overseas migration and the ageing of the Australian population – which occurs at a faster rate due to effect of fewer migrants on the fertility rate over time.

Poor global coordination on climate change action and a slower rollout of renewable energy technology leads to greater effects from physical damages and transition risks. Increased heat stress and extreme weather events harm productivity and economic growth.

GDP growth is forecast to decelerate over the forecast period reflecting the slower increase in the population, subdued productivity growth, and lower labour force participation rates (see Chart 4.1). Annual GDP growth in the Progressive Change scenario is forecast to decline from around 1.5% in 2032-33 to 1.1% by 2057-58 – with the economy 15% smaller compared to the Step Change scenario by the end of the forecast period.

Chart 4.1: Progressive Change GDP growth, Australia



Source: ABS (2024a), Deloitte Access Economics

4.2.2 Household disposable income

In line with a weaker profile for GDP growth relative to the Step Change scenario, HDI growth is also weaker in the Progressive Change scenario.

Over the long term, weak productivity growth causes slower wage growth leading disposable income to be 12% lower compared to the Step Change scenario by 2057-58.

4.2.3 Dwelling investment

In the short term, more persistent labour shortages and capacity constraints in the residential construction industry hamper growth in dwelling investment relative to the Step Change scenario. In the long term, lower population growth and household formation also lead to lower underlying demand for new housing relative to the Step Change scenario. This leads to a lower level of housing commencements and completions. Overall, dwelling completions are forecast to be 8% lower in 2057-58 compared to the Step Change scenario.

4.2.4 Industry output

Compared to the Step Change scenario, lower productivity and population growth reduce the total size of the economy and influence the growth profile for all industries. These are the main factors that drive the output in the low carbon emitting services industries.

Industries with higher emissions intensities – such as utilities and manufacturing – experience lower growth in the Progressive Change scenario. These industries are also most affected by the constraint posed by the target emissions pathway required to achieve net zero emissions by 2050. Slower rates of population growth and productivity growth weigh on all industries. There are particularly large effects – when compared to the Step Change scenario – for services industries exposed to discretionary spending such as accommodation and food services.

4.2.5 Exchange rate

The main factor affecting the USD:AUD exchange rate relative to the Step Change scenario is a weaker global economy that reduces demand for Australian exports and lowers the terms of trade, putting downward pressure on the Australian dollar.

Over the long term, interest rates in both countries are expected to stabilise at equilibrium levels. While interest rates are expected to differ in both countries relative to Step Change, the interest rate differential is expected to remain unchanged. The exchange rate is expected to settle at $1.41 Australian dollars per US dollar. This is higher than the level in the Step Change scenario and reflects the weaker terms of trade (largely due to commodity prices) in the Progressive Change scenario.

4.2.6 Forecast summary

A summary of the key national-level forecasts for the Progressive Change scenario is shown in Table 4.1 below.

Table 4.1: Forecast summary for the Progressive Change scenario

	History	Forecast				
	2022-23	2027-28	2037-38	2047-48	2057-58	Forecast period*
GDP						
$ billions	$2,405	$2,558	$2,938	$3,383	$3,804	-
CAGR over previous decade	*2.4%*	*1.7%*	*1.4%*	*1.4%*	*1.2%*	*1.3%*
HDI						
$ billions	$1,397	$1,507	$1,739	$2,081	$2,443	-
CAGR over previous decade	*1.6%*	*1.5%*	*1.4%*	*1.8%*	*1.6%*	*1.6%*
USD:AUD exchange rate						
$A/$US	$1.49	$1.43	$1.41	$1.41	$1.41	-
Change over previous decade	*4.3%*	*1.0%*	*-0.1%*	*0.0%*	*0.0%*	*-0.1%*
Population						
Persons (millions)	26.4	28.4	31.3	33.7	35.8	-
CAGR over previous decade	*1.4%*	*1.4%*	*1.0%*	*0.7%*	*0.6%*	*0.9%*
GVA by industry						
Agriculture ($ billion)	$61.9	$62.9	$66.5	$70.8	$73.3	-
CAGR over previous decade	*1.4%*	*1.5%*	*0.6%*	*0.6%*	*0.3%*	0.5%
Mining ($ billion)	$321.0	$328.6	$362.9	$392.6	$415.6	-
CAGR over previous decade	*3.4%*	*0.7%*	*1.0%*	*0.8%*	*0.6%*	0.7%
Manufacturing ($ billion)	$124.0	$117.7	$105.0	$96.7	$89.0	-
CAGR over previous decade	*-0.4%*	*-0.6%*	*-1.1%*	*-0.8%*	*-0.8%*	-0.9%
Utilities ($ billions)	$45.2	$44.7	$42.9	$43.1	$42.8	-
CAGR over previous decade	*0.6%*	*0.1%*	*-0.4%*	*0.0%*	*-0.1%*	-0.2%
Construction ($ billion)	$158.6	$174.0	$183.0	$199.8	$212.6	-
CAGR over previous decade	*0.3%*	*1.0%*	*0.5%*	*0.9%*	*0.6%*	0.8%
Services ($ billion)	$1,345	$1,485	$1,788	$2,109	$2,410	-
CAGR over previous decade	3.1%	2.6%	1.9%	1.7%	1.3%	1.7%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58. 'Utilities' is the Electricity, Gas, Water and Waste Services industry.

Source: ABS (2024a, 2024b), RBA, Deloitte Access Economics

4.3 State and territory forecasts and outlook

The state and territory forecasts for the Progressive Change scenario are summarised in the tables below. The state-level trends discussed in the Step Change scenario (see section 3.3) are also applicable for the Progressive Change scenario. Differences between the Step Change and Progressive Change scenarios at the national level (see section 4.2) are expected to flow through to the state and territory forecasts.

Australia's two largest states – New South Wales and Victoria – are estimated to see the largest change in output between the Step Change and Progressive Change scenarios. This is partly linked to the size of the respective state economies. The smallest difference is expected in Tasmania, linked to the state's more modest exposure to the physical effects of climate change when compared to other jurisdictions.

Forecasts for GVA by industry are included in Appendix B.2.

Table 4.2: State and territory forecasts, Progressive Change scenario, CAGR over previous decade

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58	Forecast period*
GSP						
New South Wales	2.4%	1.6%	1.4%	1.4%	1.2%	1.3%
Victoria	2.7%	1.9%	1.5%	1.5%	1.3%	1.5%
Queensland	2.2%	1.8%	1.5%	1.5%	1.2%	1.4%
South Australia	2.0%	1.9%	1.0%	1.1%	0.9%	1.0%
Western Australia	2.3%	1.6%	1.2%	1.3%	1.1%	1.1%
Tasmania	2.3%	1.8%	1.1%	1.1%	0.9%	1.0%
Northern Territory	1.1%	0.5%	1.4%	1.4%	1.2%	1.2%
Australian Capital Territory	3.5%	2.7%	1.3%	1.4%	1.2%	1.3%
SFD						
New South Wales	2.9%	1.8%	1.4%	1.4%	1.2%	1.3%
Victoria	3.4%	2.1%	1.7%	1.7%	1.4%	1.6%
Queensland	1.6%	2.3%	1.7%	1.6%	1.3%	1.6%
South Australia	2.5%	2.0%	1.1%	1.1%	0.9%	1.1%
Western Australia	0.1%	2.6%	1.2%	1.2%	0.9%	1.2%
Tasmania	2.9%	2.0%	0.9%	1.0%	0.8%	0.9%
Northern Territory	-1.3%	0.0%	1.8%	1.7%	1.4%	1.6%
Australian Capital Territory	3.0%	3.1%	1.6%	1.4%	1.2%	1.5%
HDI						
New South Wales	1.9%	1.4%	1.3%	1.7%	1.6%	1.5%
Victoria	1.8%	1.5%	1.6%	1.9%	1.6%	1.7%
Queensland	1.6%	1.8%	1.6%	2.0%	1.8%	1.8%
South Australia	1.1%	0.8%	1.1%	1.4%	1.3%	1.2%
Western Australia	0.9%	1.7%	1.4%	1.7%	1.5%	1.5%
Tasmania	1.6%	1.2%	1.0%	1.4%	1.2%	1.1%
Northern Territory	1.1%	-0.2%	1.8%	2.1%	1.8%	1.8%
Australian Capital Territory	2.0%	2.1%	1.4%	1.8%	1.6%	1.8%
Population						
New South Wales	1.2%	1.1%	0.9%	0.6%	0.5%	0.8%
Victoria	1.7%	1.4%	1.2%	0.9%	0.8%	1.1%
Queensland	1.6%	1.7%	1.1%	0.9%	0.7%	1.0%
South Australia	1.0%	1.1%	0.6%	0.4%	0.3%	0.5%
Western Australia	1.5%	1.7%	0.9%	0.7%	0.5%	0.8%
Tasmania	1.1%	1.0%	0.4%	0.2%	0.1%	0.3%
Northern Territory	0.5%	0.8%	1.3%	1.0%	0.8%	1.0%
Australian Capital Territory	2.0%	1.6%	1.0%	0.8%	0.6%	0.9%
Dwelling completions						
New South Wales	3.9%	-2.1%	1.1%	0.2%	0.0%	0.6%
Victoria	1.2%	0.0%	0.0%	0.7%	0.3%	0.8%
Queensland	1.3%	0.9%	0.7%	0.3%	0.0%	1.4%
South Australia	3.3%	1.2%	-5.1%	-0.5%	-0.2%	-1.6%
Western Australia	-2.0%	0.7%	-1.4%	0.6%	0.1%	0.6%
Tasmania	4.6%	-1.3%	-4.9%	-2.9%	-0.8%	-3.9%
Northern Territory	-7.9%	4.7%	1.5%	0.3%	0.6%	3.0%
Australian Capital Territory	0.6%	0.0%	-2.6%	0.2%	0.3%	-1.0%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58.

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

Table 4.3: State and territory forecasts, Progressive Change scenario, levels (as specified)

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58
GSP ($ millions)					
New South Wales	733,087	777,539	896,677	1,031,074	1,158,209
Victoria	535,489	579,296	673,415	785,236	893,282
Queensland	464,580	500,696	581,167	674,234	761,422
South Australia	134,209	141,081	156,308	174,243	190,598
Western Australia	418,775	435,252	490,277	558,587	622,762
Tasmania	38,584	40,096	44,685	50,029	54,937
Northern Territory	30,123	30,759	35,182	40,505	45,628
Australian Capital Territory	48,767	52,910	60,008	68,794	77,448
SFD ($ millions)					
New South Wales	719,447	769,206	886,336	1,018,674	1,142,349
Victoria	577,759	619,295	734,182	872,494	1,006,512
Queensland	438,792	483,696	570,347	668,987	760,705
South Australia	144,687	154,976	173,397	193,576	211,219
Western Australia	257,330	287,325	322,813	362,502	396,048
Tasmania	43,884	45,691	50,160	55,182	59,499
Northern Territory	29,483	31,981	38,408	45,434	52,106
Australian Capital Territory	65,794	73,491	85,795	98,984	111,565
HDI ($ millions)					
New South Wales	458,373	492,642	561,512	666,252	779,846
Victoria	327,923	357,041	417,151	505,939	592,697
Queensland	271,780	297,051	348,237	424,867	509,814
South Australia	86,228	89,236	99,720	115,114	131,350
Western Australia	166,715	178,137	205,652	242,978	282,812
Tasmania	27,817	29,031	31,991	36,628	41,387
Northern Territory	17,173	18,247	21,716	26,614	31,774
Australian Capital Territory	40,366	46,632	53,705	64,238	75,423
Population (persons (thousands))					
New South Wales	8,277	8,839	9,625	10,264	10,815
Victoria	6,747	7,339	8,247	9,046	9,764
Queensland	5,407	5,861	6,568	7,159	7,669
South Australia	1,841	1,937	2,056	2,137	2,197
Western Australia	2,848	3,070	3,354	3,582	3,768
Tasmania	573	587	610	622	628
Northern Territory	252	266	303	334	362
Australian Capital Territory	463	494	545	588	627
Dwelling completions (total (thousands))					
New South Wales	48.6	52.7	58.9	60.2	60.4
Victoria	56.5	66.2	66.3	71.3	73.8
Queensland	32.7	48.6	51.9	53.7	53.7
South Australia	11.6	12.0	7.1	6.8	6.7
Western Australia	15.2	20.1	17.5	18.5	18.7
Tasmania	3.4	2.1	1.2	0.9	0.8
Northern Territory	0.6	1.4	1.6	1.7	1.8
Australian Capital Territory	5.4	4.7	3.6	3.7	3.8

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

5 Green Energy Exports

5.1 Overview of the scenario

5.1.1 Scenario narrative

The Green Energy Exports scenario assumes a faster pace of growth in the economy and population compared to the Step Change and Progressive Change scenarios. The scenario assumes a quicker adoption of clean technologies and a faster pace of decarbonisation compared to both the Step Change and Progressive Change scenarios, leading to faster and deeper cuts to emissions across the economy. This supports an economy-wide transition to net zero emissions well before 2050, while comfortably meeting the commitments of the Paris Agreement. Green Energy Exports presents a future pathway in which global temperature rise is limited to 1.5°C compared to pre-industrial levels by 2100.

Australian domestic policy is expected to be supported by international efforts, with positive macroeconomic spillovers generated from the transition.

The level of hydrogen production is assumed to steadily increase and is provided for both domestic and export use. Along with renewable hydrogen, export of critical minerals is assumed to partially offset the forecast decline of more carbon-intensive energy exports such as coal.

5.1.2 Economic and demographic assumptions

The macroeconomic assumptions underpinning the Green Energy Exports scenario are outlined below.

Population

Under the Green Energy Exports scenario, the level of net overseas migration to Australia is forecast to average 300,000 persons per annum over the medium and long term. This is above the 'High' scenario adopted by the ABS in the population projections data release[11] and compares to an average of 215,000 persons per annum in the decade to 2022-23.

The rate of natural increase in the population is influenced by assumptions around the total fertility rate. The total fertility rate is forecast to increase from an estimated 1.58 in 2022-23 to 1.73 by the end of the forecast period in 2057-58, in line with the ABS 'High' scenario[12].

Productivity

The Green Energy Exports scenario assumes long-term productivity growth of 1.5% per annum (before considering the effect of specified climate change related parameters on productivity). This is in line with the level specified in the 2023 IGR 'High' scenario[13] and exceeds the average observed in the two decades to 2022-23.

5.1.3 Climate change assumptions

The Green Energy Exports scenario maps to the IEA's Net Zero Emissions scenario and RCP 1.9. This outlines a decarbonisation pathway in which the global economy achieves net zero emissions by 2050, with several

[11] The ABS population projections include a long-term assumption of 225,000 net migrants per annum in the base case, 175,000 per annum in the low case and 275,000 per annum in the high case.
[12] The ABS population projections include a long-term assumption for the TFR of 1.60 in the base case, 1.45 in the low case and 1.75 in the high case.
[13] The 2023 IGR includes a long-term assumption of 1.2% annual growth in labour productivity in the base case, 0.9% in the low case and 1.5% in the high case. The 2023 IGR is available here: https://treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf

advanced economies reaching net zero earlier. Global efforts to decarbonise are very well coordinated and rapid mitigation policies limit the rise in global mean temperature relative to the pre-industrial period to less than 1.5˚C by 2100.

In the Green Energy Exports scenario, the Australian economy achieves net zero emissions well before 2050. This is enabled by capitalising on Australia's abundant natural endowment of sun, wind and water. Renewable sources of energy and green hydrogen power the economy. Additionally, global demand and the favourable domestic economy, including targeted industrial policy, support Australia to become an exporter of renewable hydrogen and a larger exporter of critical minerals. This will occur alongside a fall in traditional commodity exports such as thermal coal. This is expected to weigh on the rate of economic growth as well as the mining industries share of total economic output.

5.2 National forecasts and outlook

5.2.1 Gross domestic product

In the short term, the global economy achieves a soft landing with a more rapid fall in global inflation compared to the Step Change scenario. This allows a greater degree of international monetary policy easing which in turn boosts global economic growth.

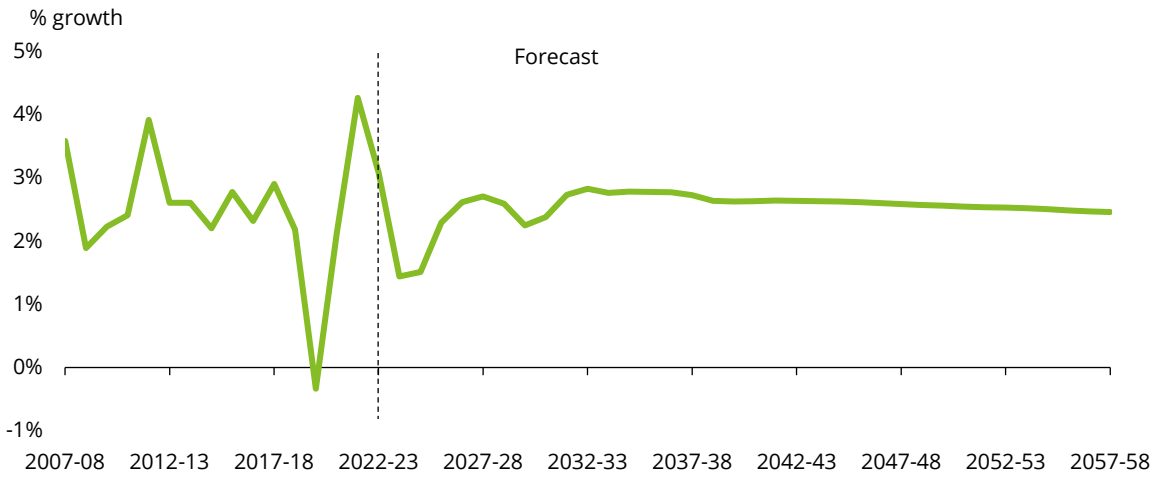
Australian GDP growth accelerates faster than in the Step Change scenario as a faster easing of inflation pressures and monetary policy adds to household spending. A higher level of net overseas migration adds to population growth, while a stronger global economy boosts demand for Australian exports.

Over the long term, productivity continues to grow strongly relative to the Step Change scenario as businesses invest more in new technologies, increasing the capital to labour ratio and making workers more productive. Higher fertility rates and overseas migration mean that population growth is also a higher compared to the Step Change scenario.

The adverse effects of climate change are less damaging in comparison to the Step Change scenario. This reflects improved global coordination on climate change, a faster rollout of renewable energy technology and increased investment in the energy system. More muted physical damages reduce the hit to productivity and GDP growth in the Green Energy Exports scenario relative to Step Change.

Annual GDP growth is forecast to gradually decline from around 2.8% in 2032-33 to 2.5% by 2057-58 – with the economy 29% larger compared to the Step Change scenario by the end of the forecast period.

Chart 5.1: Green Energy Exports GDP growth, Australia, 2003-04 to 2057-58



Source: ABS (2024a), Deloitte Access Economics

5.2.2 Household disposable income

In line with a stronger profile for productivity and population growth relative to the Step Change scenario, HDI growth is also stronger in the Green Energy exports scenario. Over the long term, higher productivity growth leads to faster wage growth with disposable income around 28% higher compared to the Step Change scenario by 2057-58.

5.2.3 Dwelling investment

In 2024-25, capacity constraints in the residential construction industry unwind more rapidly relative to the Step Change scenario. This is because higher overseas migration eases labour shortages and lower inflation reduces input costs. This adds to housing investment and the number of dwelling completions in the near term.

Faster population growth and household formation leads to greater underlying demand for new housing over time. This results in a higher level of dwelling investment and completions compared to the Step Change scenario. Dwelling completions are 15% higher in 2057-58 compared to the Step Change scenario.

5.2.4 Industry output

Compared to the Step Change scenario, higher productivity and population growth increases the total size of the economy which is reflected in the output growth profile across all industries.

These economic and demographic factors are the primary driver of stronger output in the low emitting services industries. However, the emergence of an Australian and global green hydrogen industry has important implications for several industries.

Hydrogen production and processing will boost output in the manufacturing industry. However, the outlook for the mining industry is mixed as fossil fuel exports such as thermal coal are phased out during the transition to net zero emissions. Long-term growth in the mining industry is increasingly driven by the production and export of critical minerals that are used in the manufacture of renewable energy technologies including batteries and wind turbines.

Output in the utilities industry increases due to higher population growth and as demand for green energy power rises over the long term. The construction industry will also benefit as the necessary infrastructure to manufacture, process and export hydrogen is developed. This will add to growth in output in the construction industry for the period in which production capacity is being expanded, with a subsequent slowdown in growth following the peak in investment.

5.2.5 Exchange rate

The main factor affecting the USD:AUD exchange rate relative to the Step Change scenario is a stronger global economy that increases demand for Australian exports leading to higher commodity export prices. This in turn leads to a higher terms of trade which puts upward pressure on the Australian dollar.

Over the long term, interest rates in both countries are expected to stabilise at equilibrium levels. The interest rate differential is expected to remain unchanged relative to the Step Change scenario. The exchange rate is expected to settle at $1.37 Australian dollars per US dollar. This is lower than the level in the Step Change scenario and reflects the stronger terms of trade (largely due to commodity prices) in the Green Energy Exports scenario.

5.2.6 Forecast summary

A summary of the key national-level forecasts for the Green Energy Exports scenario is shown in Table 5.1 below.

Table 5.1: Forecast summary for the 'Green Energy Exports scenario

	History	Forecast				
	2022-23	2027-28	2037-38	2047-48	2057-58	Forecast period*
GDP						
$ billions	$2,405	$2,670	$3,472	$4,499	$5,771	-
CAGR over previous decade	*2.4%*	*2.2%*	*2.7%*	*2.6%*	*2.5%*	*2.5%*
HDI						
$ billions	$1,397	$1,578	$2,023	$2,680	$3,547	-
CAGR over previous decade	*1.6%*	*2.0%*	*2.5%*	*2.9%*	*2.8%*	*2.7%*
USD:AUD exchange rate						
$A/$US	$1.49	$1.40	$1.37	$1.37	$1.37	-
Change over previous decade	*4.3%*	*0.8%*	*-0.2%*	*0.0%*	*0.0%*	*-0.2%*
Population						
Persons (millions)	26.4	28.8	33.4	37.9	42.2	-
CAGR over previous decade	*1.4%*	*1.5%*	*1.5%*	*1.3%*	*1.1%*	*1.3%*
GVA by industry						
Agriculture ($ billion)	$61.9	$65.6	$77.5	$90.2	$102.0	-
CAGR over previous decade	*1.4%*	*1.9%*	*1.7%*	*1.5%*	*1.2%*	1.4%
Mining ($ billion)	$321.0	$346.6	$419.3	$492.1	$566.8	-
CAGR over previous decade	*3.4%*	*1.2%*	*1.9%*	*1.6%*	*1.4%*	1.6%
Manufacturing ($ billion)	$124.0	$127.7	$138.4	$139.6	$137.8	-
CAGR over previous decade	*-0.4%*	*0.2%*	*0.8%*	*0.1%*	*-0.1%*	0.3%
Utilities ($ billions)	$45.2	$48.2	$54.1	$57.2	$60.3	-
CAGR over previous decade	*0.6%*	*0.8%*	*1.2%*	*0.6%*	*0.5%*	0.8%
Construction ($ billion)	$158.6	$186.4	$224.1	$256.8	$296.0	-
CAGR over previous decade	*0.3%*	*1.7%*	*1.9%*	*1.4%*	*1.4%*	1.8%
Services ($ billion)	$1,345	$1,539	$2,109	$2,858	$3,818	-
CAGR over previous decade	3.1%	3.0%	3.2%	3.1%	2.9%	3.0%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58. 'Utilities' is the Electricity, Gas, Water and Waste Services industry.

Source: ABS (2024a, 2024b), RBA, Deloitte Access Economics

5.3 State and territory forecasts and outlook

The state and territory forecasts for the Green Energy Exports scenario are summarised in the tables below. The key state-level trends discussed in the Step Change scenario (see section 3.3) are also applicable for the Green Energy Exports scenario. Differences between the Step Change and Green Energy Exports scenarios at the national level (see section 5.2) are expected to flow through to the state and territory forecasts.

The largest change in output between the Step Change and Green Energy Exports scenarios is expected in New South Wales and Victoria, as well as Western Australia – in part due to the state's importance in industries supporting the global transition to net zero emissions.

Forecasts for GVA by industry are included in Appendix B.2.

Table 5.2: State and territory forecasts, Green Energy Exports scenario, CAGR over previous decade

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58	Forecast period*
GSP						
New South Wales	2.4%	2.1%	2.7%	2.6%	2.5%	2.5%
Victoria	2.7%	2.4%	2.8%	2.8%	2.7%	2.7%
Queensland	2.2%	2.2%	2.7%	2.6%	2.5%	2.6%
South Australia	2.0%	2.4%	2.3%	2.3%	2.2%	2.2%
Western Australia	2.3%	2.1%	2.5%	2.5%	2.4%	2.3%
Tasmania	2.3%	2.2%	2.2%	2.2%	2.1%	2.1%
Northern Territory	1.1%	0.9%	2.6%	2.6%	2.5%	2.4%
Australian Capital Territory	3.5%	3.1%	2.5%	2.6%	2.5%	2.5%
SFD						
New South Wales	2.9%	2.3%	2.8%	2.8%	2.6%	2.7%
Victoria	3.4%	2.6%	3.0%	3.0%	2.8%	2.8%
Queensland	1.6%	2.8%	2.9%	2.9%	2.6%	2.8%
South Australia	2.5%	2.5%	2.4%	2.4%	2.3%	2.4%
Western Australia	0.1%	3.2%	2.6%	2.7%	2.5%	2.7%
Tasmania	2.9%	2.4%	2.1%	2.2%	2.1%	2.1%
Northern Territory	-1.3%	0.4%	3.1%	3.0%	2.7%	2.8%
Australian Capital Territory	3.0%	3.6%	2.8%	2.7%	2.6%	2.8%
HDI						
New South Wales	1.9%	1.8%	2.4%	2.8%	2.9%	2.7%
Victoria	1.8%	2.0%	2.7%	3.0%	2.8%	2.8%
Queensland	1.6%	2.2%	2.6%	3.0%	3.0%	2.8%
South Australia	1.1%	1.3%	2.2%	2.5%	2.6%	2.3%
Western Australia	0.9%	2.2%	2.5%	2.7%	2.8%	2.6%
Tasmania	1.6%	1.7%	1.9%	2.3%	2.4%	2.2%
Northern Territory	1.1%	0.2%	2.8%	3.1%	3.0%	2.8%
Australian Capital Territory	2.0%	2.6%	2.5%	2.8%	2.8%	2.9%
Population						
New South Wales	1.2%	1.3%	1.4%	1.2%	1.1%	1.3%
Victoria	1.7%	1.6%	1.7%	1.5%	1.3%	1.5%
Queensland	1.6%	1.8%	1.6%	1.3%	1.1%	1.4%
South Australia	1.0%	1.2%	1.1%	0.9%	0.8%	1.0%
Western Australia	1.5%	1.8%	1.4%	1.2%	1.0%	1.3%
Tasmania	1.1%	1.1%	0.8%	0.6%	0.6%	0.7%
Northern Territory	0.5%	0.9%	1.7%	1.5%	1.3%	1.5%
Australian Capital Territory	2.0%	1.7%	1.4%	1.3%	1.1%	1.3%
Dwelling completions						
New South Wales	3.9%	-1.7%	2.3%	0.7%	0.6%	1.4%
Victoria	1.2%	0.6%	1.0%	1.0%	0.5%	1.3%
Queensland	1.3%	1.2%	1.4%	0.7%	0.4%	2.0%
South Australia	3.3%	1.9%	-2.8%	0.0%	0.2%	-0.5%
Western Australia	-2.0%	1.4%	0.1%	0.9%	0.4%	1.4%
Tasmania	4.6%	-0.6%	-2.5%	-1.0%	0.9%	-2.0%
Northern Territory	-7.9%	5.2%	2.9%	0.7%	1.0%	3.8%
Australian Capital Territory	0.6%	0.8%	-0.8%	0.6%	0.6%	-0.1%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58.

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

Table 5.3: State and territory forecasts, Green Energy Exports scenario, levels (as specified)

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58
GSP ($ millions)					
New South Wales	733,087	812,474	1,063,045	1,378,300	1,768,795
Victoria	535,489	605,330	800,468	1,055,638	1,376,694
Queensland	464,580	522,025	681,910	885,184	1,133,863
South Australia	134,209	147,200	184,118	230,308	286,452
Western Australia	418,775	454,307	578,903	740,820	940,360
Tasmania	38,584	41,738	51,891	64,275	78,967
Northern Territory	30,123	32,056	41,318	53,366	68,449
Australian Capital Territory	48,767	55,203	70,768	91,306	117,402
SFD ($ millions)					
New South Wales	719,447	807,695	1,064,667	1,399,299	1,804,886
Victoria	577,759	648,943	873,272	1,175,372	1,543,385
Queensland	438,792	504,984	672,980	893,821	1,159,195
South Australia	144,687	162,431	206,613	263,090	330,275
Western Australia	257,330	302,553	392,771	510,621	651,661
Tasmania	43,884	47,710	58,929	73,375	90,567
Northern Territory	29,483	33,383	45,153	60,420	78,797
Australian Capital Territory	65,794	76,586	100,669	132,029	170,442
HDI ($ millions)					
New South Wales	458,373	516,155	656,285	866,831	1,150,661
Victoria	327,923	374,059	486,534	652,700	861,392
Queensland	271,780	310,588	401,772	538,017	722,314
South Australia	86,228	93,399	115,733	148,028	190,899
Western Australia	166,715	186,544	239,646	313,416	411,199
Tasmania	27,817	30,347	36,787	46,240	58,637
Northern Territory	17,173	19,094	25,186	34,049	45,768
Australian Capital Territory	40,366	48,814	62,346	82,362	108,929
Population (persons (thousands))					
New South Wales	8,277	8,981	10,362	11,709	13,033
Victoria	6,747	7,449	8,820	10,186	11,537
Queensland	5,407	5,922	6,906	7,855	8,769
South Australia	1,841	1,962	2,188	2,396	2,594
Western Australia	2,848	3,110	3,565	3,999	4,412
Tasmania	573	592	639	681	720
Northern Territory	252	270	321	370	420
Australian Capital Territory	463	499	576	653	730
Dwelling completions (total (thousands))					
New South Wales	48.6	55.0	68.9	74.0	78.2
Victoria	56.5	70.0	77.2	85.2	89.9
Queensland	32.7	50.2	57.7	62.0	64.4
South Australia	11.6	12.9	9.7	9.7	9.9
Western Australia	15.2	21.6	21.9	23.9	24.9
Tasmania	3.4	2.2	1.7	1.6	1.7
Northern Territory	0.6	1.5	1.9	2.1	2.3
Australian Capital Territory	5.4	5.0	4.6	4.9	5.2

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

6 Exportless 1.5 Degrees

6.1 Overview of the scenario

6.1.1 Scenario narrative and assumptions

The Exportless 1.5 Degrees scenario is identical to the Green Energy Exports scenario in all aspects but does not include the export of hydrogen.

Like the Green Energy Exports scenario, the Exportless 1.5 Degrees scenario assumes a faster pace of economic and demographic growth compared to the Step Change and Progressive Change scenarios. There is rapid electrification of the energy sector and aggressive decarbonisation of the wider economy. Australia meets the commitments of the Paris Agreement with relative ease and achieves net zero emissions before 2050. Investment in CER is fast and coordinated. Global temperature rise is limited to 1.5°C compared to pre-industrial levels by 2100.

The level of hydrogen production is assumed to steadily increase, but it is provided primarily for domestic use. Unlike the Green Energy Exports scenario, there is no role for the export of renewable hydrogen across the forecast period. The export of critical minerals is assumed to expand, while the export of more emissions-intensive energy commodities such as coal is expected to contract.

The key assumptions underpinning the Exportless 1.5 Degrees scenario are the same as the assumptions made in the Green Energy Exports scenario outlined in 5.1.2 and 5.1.3.

6.2 National forecasts and outlook

6.2.1 Gross domestic product

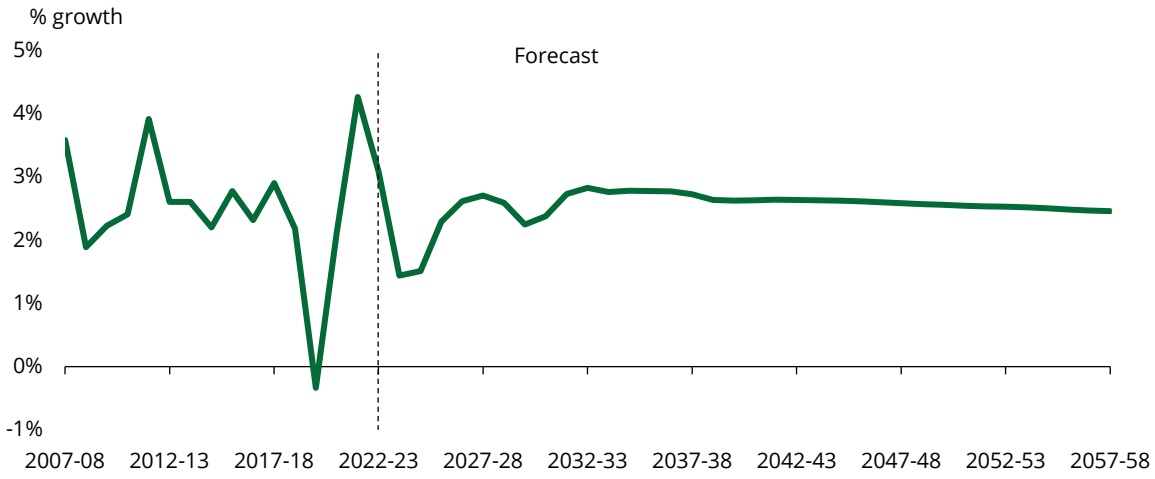
The global economy experiences a soft landing as global inflation eases and growth rebounds. This provides support to the Australian economy which also benefits from stronger productivity growth and elevated overseas migration relative to the Step Change Scenario. Over the long term, faster growth in the population and productivity result in GDP that is consistently higher than in the Step Change Scenario.

Across the forecast period the economy experiences the same boost from population and productivity growth as the Green Energy Exports Scenario, as well as the same muted physical climate change damages. This leads a very similar GDP growth profile (Chart 6.1).

However, while the outcomes for the domestic renewable hydrogen industry are the same as the Green Energy Exports scenario, there are no hydrogen exports. This means there is less construction activity needed to build the export capacity as well as fewer commodity exports. This leads to slightly lower output over time when compared to the Green Energy Exports scenario.

By the end of the forecast period, GDP is forecast to be 0.3% lower compared to the Green Energy Exports scenario but 29% higher than the Step Change Scenario. The effects of the Exportless 1.5 Degrees scenario, relative to Green Energy Exports, are concentrated in industries related to the production and export of hydrogen – such as manufacturing.

Chart 6.1: Exportless 1.5 Degrees GDP growth, Australia, 2003-04 to 2057-58



Source: ABS (2024a), Deloitte Access Economics

6.2.2 Household disposable income

In line with a slightly smaller economy relative to the Green Energy Exports Scenario, HDI growth is also marginally lower. HDI is 0.2% lower compared to Green Energy Exports scenario and 28% higher than in the Step Change Scenario in 2057-58.

6.2.3 Dwelling investment

The residential construction industry experiences the same unwinding of capacity constraints and easing of input costs as the Green Energy Exports scenario. In the long term, the same rates of population growth and household formation as the Green Energy Exports scenario leads to the same underlying demand for new housing. Dwelling completions are therefore the same as in the Green Energy Exports scenario across the forecast period.

6.2.4 Industry output

The main driver of industry output is the overall size of the economy which in turn is driven by productivity and population growth. With no difference in the key macroeconomic and demographic assumptions relative to the Green Energy Export scenario, the industry profile for all services industries is unchanged. However, the emergence of an Australian green hydrogen industry, with no role for exports, has important implications for several other industries.

The lack of any significant hydrogen exports reduces the overall amount of green hydrogen produced. This mainly affects manufacturing industry output which is around 12% smaller in 2057-58 compared to the Green Energy Exports scenario.

The construction industry experiences lower growth through the short to medium term, relative to Green Energy Exports Scenario, as less infrastructure needs to be built to support the export of green hydrogen. The utilities industry also has slightly lower growth in the short and medium term as the boost to output from hydrogen production is lower when compared to the Green Energy Exports scenario.

6.2.5 Exchange rate

Compared to the Green Energy Exports Scenario there is no change in the two underlying drivers of the USD:AUD exchange rate – terms of trade and interest rate differentials. The exchange rate is expected to settle at $1.37 Australian dollars per US dollar. This is lower than the Step Change scenario and reflects the stronger terms of trade (largely due to commodity prices) in the Exportless 1.5 Degrees scenario.

6.2.6 Forecast summary

A summary of the key national-level forecasts for the Exportless 1.5 Degrees scenario is shown in Table 6.1 below.

Table 6.1: Forecast summary for the Exportless 1.5 Degrees Scenario

	History	Forecast				
	2022-23	2027-28	2037-38	2047-48	2057-58	Forecast period*
GDP						
$ billions	$2,405	$2,667	$3,453	$4,483	$5,755	-
CAGR over previous decade	*2.4%*	*2.2%*	*2.6%*	*2.6%*	*2.5%*	*2.5%*
HDI						
$ billions	$1,397	$1,576	$2,013	$2,671	$3,539	-
CAGR over previous decade	*1.6%*	*1.9%*	*2.5%*	*2.9%*	*2.9%*	*2.7%*
USD:AUD exchange rate						
$A/$US	$1.49	$1.40	$1.37	$1.37	$1.37	-
Change over previous decade	*4.3%*	*0.8%*	*-0.2%*	*0.0%*	*0.0%*	*-0.2%*
Population						
Persons (millions)	26.4	28.8	33.4	37.9	42.2	-
CAGR over previous decade	*1.4%*	*1.5%*	*1.5%*	*1.3%*	*1.1%*	*1.3%*
GVA by industry						
Agriculture ($ billion)	$61.9	$65.6	$77.5	$90.2	$102.0	-
CAGR over previous decade	*1.4%*	*1.9%*	*1.7%*	*1.5%*	*1.2%*	1.4%
Mining ($ billion)	$321.0	$346.6	$419.3	$492.1	$566.8	-
CAGR over previous decade	*3.4%*	*1.2%*	*1.9%*	*1.6%*	*1.4%*	1.6%
Manufacturing ($ billion)	$124.0	$126.7	$130.5	$123.9	$121.8	-
CAGR over previous decade	*-0.4%*	*0.2%*	*0.3%*	*-0.5%*	*-0.2%*	0.0%
Utilities ($ billions)	$45.2	$47.6	$52.6	$57.2	$60.3	-
CAGR over previous decade	*0.6%*	*0.7%*	*1.0%*	*0.8%*	*0.5%*	0.8%
Construction ($ billion)	$158.6	$184.5	$214.6	$256.7	$296.0	-
CAGR over previous decade	*0.3%*	*1.6%*	*1.5%*	*1.8%*	*1.4%*	1.8%
Services ($ billion)	$1,345	$1,539	$2,109	$2,858	$3,818	-
CAGR over previous decade	3.1%	3.0%	3.2%	3.1%	2.9%	3.0%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58. 'Utilities' is the Electricity, Gas, Water and Waste Services industry.

Source: ABS (2024a, 2024b), RBA, Deloitte Access Economics

6.3 State and territory forecasts and outlook

The state and territory forecasts for the Exportless 1.5 Degrees scenario are summarised in the tables below. The key state-level trends discussed in the Step Change scenario (see section 3.3) are also applicable for the Exportless 1.5 Degrees scenario. Differences between the Step Change and Exportless 1.5 Degrees scenarios at the national level (see section 6.2) are expected to flow through to the state and territory forecasts.

The absence of a hydrogen export industry results in a smaller Australian economy in the Exportless 1.5 Degrees scenario compared to the Green Energy Exports scenario. This is assumed to flow through to proportionally smaller state and territory economies, reflecting that funding has been provided for hydrogen production hubs across Australia.[xv] The only exception is the Australian Capital Territory, where no material

hydrogen production (or export) is expected across the forecast period, resulting in no change in output compared to the Green Energy Exports scenario.

Forecasts for GVA by industry are included in Appendix B.2.

Table 6.2: State and territory forecasts, Exportless 1.5 Degrees scenario, CAGR over previous decade

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58	Forecast period*
GSP						
New South Wales	2.4%	2.0%	2.7%	2.7%	2.5%	2.5%
Victoria	2.7%	2.4%	2.8%	2.8%	2.7%	2.7%
Queensland	2.2%	2.2%	2.7%	2.7%	2.5%	2.6%
South Australia	2.0%	2.3%	2.2%	2.3%	2.2%	2.2%
Western Australia	2.3%	2.1%	2.4%	2.5%	2.4%	2.3%
Tasmania	2.3%	2.2%	2.2%	2.2%	2.1%	2.1%
Northern Territory	1.1%	0.9%	2.5%	2.6%	2.5%	2.4%
Australian Capital Territory	3.5%	3.1%	2.5%	2.6%	2.5%	2.5%
SFD						
New South Wales	2.9%	2.3%	2.8%	2.8%	2.6%	2.7%
Victoria	3.4%	2.5%	3.0%	3.1%	2.8%	2.8%
Queensland	1.6%	2.8%	2.9%	2.9%	2.6%	2.8%
South Australia	2.5%	2.5%	2.4%	2.5%	2.3%	2.4%
Western Australia	0.1%	3.2%	2.6%	2.7%	2.5%	2.7%
Tasmania	2.9%	2.4%	2.1%	2.3%	2.1%	2.1%
Northern Territory	-1.3%	0.4%	3.0%	3.0%	2.7%	2.8%
Australian Capital Territory	3.0%	3.6%	2.8%	2.7%	2.6%	2.8%
HDI						
New South Wales	1.9%	1.8%	2.4%	2.8%	2.9%	2.7%
Victoria	1.8%	2.0%	2.6%	3.0%	2.8%	2.8%
Queensland	1.6%	2.2%	2.6%	3.0%	3.0%	2.8%
South Australia	1.1%	1.3%	2.1%	2.5%	2.6%	2.3%
Western Australia	0.9%	2.2%	2.5%	2.7%	2.8%	2.6%
Tasmania	1.6%	1.7%	1.9%	2.3%	2.4%	2.1%
Northern Territory	1.1%	0.2%	2.8%	3.1%	3.0%	2.8%
Australian Capital Territory	2.0%	2.6%	2.5%	2.8%	2.8%	2.9%
Population						
New South Wales	1.2%	1.3%	1.4%	1.2%	1.1%	1.3%
Victoria	1.7%	1.6%	1.7%	1.5%	1.3%	1.5%
Queensland	1.6%	1.8%	1.6%	1.3%	1.1%	1.4%
South Australia	1.0%	1.2%	1.1%	0.9%	0.8%	1.0%
Western Australia	1.5%	1.8%	1.4%	1.2%	1.0%	1.3%
Tasmania	1.1%	1.1%	0.8%	0.6%	0.6%	0.7%
Northern Territory	0.5%	0.9%	1.7%	1.5%	1.3%	1.5%
Australian Capital Territory	2.0%	1.7%	1.4%	1.3%	1.1%	1.3%
Dwelling completions						
New South Wales	3.9%	-1.7%	2.3%	0.7%	0.6%	1.4%
Victoria	1.2%	0.6%	1.0%	1.0%	0.5%	1.3%
Queensland	1.3%	1.2%	1.4%	0.7%	0.4%	2.0%
South Australia	3.3%	1.9%	-2.8%	0.0%	0.2%	-0.5%
Western Australia	-2.0%	1.4%	0.1%	0.9%	0.4%	1.4%
Tasmania	4.6%	-0.6%	-2.5%	-1.0%	0.9%	-2.0%
Northern Territory	-7.9%	5.2%	2.9%	0.7%	1.0%	3.8%
Australian Capital Territory	0.6%	0.8%	-0.8%	0.6%	0.6%	-0.1%

*Note: Forecast period refers to CAGR from 2022-23 to 2057-58.

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

Table 6.3: State and territory forecasts, Exportless 1.5 Degrees scenario, levels (as specified)

	History 2022-23	Forecast 2027-28	2037-38	2047-48	2057-58
GSP ($ millions)					
New South Wales	733,087	811,353	1,057,117	1,373,323	1,763,795
Victoria	535,489	604,495	796,004	1,051,826	1,372,802
Queensland	464,580	521,304	678,107	881,987	1,130,658
South Australia	134,209	146,997	183,091	229,477	285,642
Western Australia	418,775	453,680	575,675	738,145	937,702
Tasmania	38,584	41,680	51,602	64,043	78,744
Northern Territory	30,123	32,012	41,088	53,173	68,256
Australian Capital Territory	48,767	55,203	70,768	91,306	117,402
SFD ($ millions)					
New South Wales	719,447	806,532	1,060,374	1,399,239	1,804,886
Victoria	577,759	648,008	869,751	1,175,322	1,543,384
Queensland	438,792	504,257	670,266	893,783	1,159,195
South Australia	144,687	162,197	205,780	263,079	330,275
Western Australia	257,330	302,117	391,187	510,599	651,661
Tasmania	43,884	47,642	58,691	73,372	90,567
Northern Territory	29,483	33,335	44,971	60,418	78,797
Australian Capital Territory	65,794	76,586	100,669	132,029	170,442
HDI ($ millions)					
New South Wales	458,373	515,501	652,939	864,049	1,147,845
Victoria	327,923	373,585	484,053	650,605	859,284
Queensland	271,780	310,195	399,723	536,291	720,546
South Australia	86,228	93,280	115,143	147,552	190,432
Western Australia	166,715	186,308	238,425	312,410	410,192
Tasmania	27,817	30,309	36,599	46,092	58,493
Northern Territory	17,173	19,069	25,057	33,940	45,656
Australian Capital Territory	40,366	48,814	62,346	82,362	108,929
Population (persons (thousands))					
New South Wales	8,277	8,981	10,362	11,709	13,033
Victoria	6,747	7,449	8,820	10,186	11,537
Queensland	5,407	5,922	6,906	7,855	8,769
South Australia	1,841	1,962	2,188	2,396	2,594
Western Australia	2,848	3,110	3,565	3,999	4,412
Tasmania	573	592	639	681	720
Northern Territory	252	270	321	370	420
Australian Capital Territory	463	499	576	653	730
Dwelling completions (total (thousands))					
New South Wales	48.6	55.0	68.9	74.0	78.2
Victoria	56.5	70.0	77.2	85.2	89.9
Queensland	32.7	50.2	57.7	62.0	64.4
South Australia	11.6	12.9	9.7	9.7	9.9
Western Australia	15.2	21.6	21.9	23.9	24.9
Tasmania	3.4	2.2	1.7	1.6	1.7
Northern Territory	0.6	1.5	1.9	2.1	2.3
Australian Capital Territory	5.4	5.0	4.6	4.9	5.2

Source: ABS (2023a, 2024a, 2024b, 2024c), Deloitte Access Economics

7 Conclusion

The long-term macroeconomic forecasts presented in this report cover four scenarios that outline plausible demographic, economic, and decarbonisation pathways for Australia.

Deloitte Access Economics has developed these forecasts using a large-scale macro-econometric model that allows for the development of a consistent set of forecasts at the national, state and territory, and industry levels. Upstream models that quantify key assumptions around the global economy, demographics, and climate change are used as inputs to the macro-econometric model.

The Step Change scenario is used as a central scenario. The Green Energy Exports scenario and the Exportless 1.5 Degrees scenarios present upside narratives, while the Progressive Change scenario details a downside case. The Exportless 1.5 Degrees scenario is identical to the Green Energy Exports scenario except that there is no role for the export of renewable hydrogen.

The macroeconomic modelling undertaken shows the lagged effect of tight monetary policy, cost-of-living challenges, and weakness in dwelling construction activity across the scenarios. As demand and supply in the economy move towards a better balance, monetary policy is projected to ease, and growth is expected to accelerate. Beyond the near-term, variations in demographic profiles and labour productivity paths result in divergent economic futures across the scenarios. These variations at the national level are filtered through to the state and territory level and to industries.

In the Step Change scenario, economic growth over the forecast period is more modest than growth in the decade prior to the pandemic. An ageing population weighs on growth and contributes to a downward trend in the total fertility rate. Net migration does not completely counterbalance the slowdown in fertility, so population growth slows and translates to weaker growth in the labour force. Long-term labour productivity growth is initially assumed to track the historical average. However, the physical and transition risks presented by climate change drag labour productivity growth lower. Relatively slow growth in population and moderate growth in labour productivity translates into moderate growth in real GDP over the forecast period. This growth profile filters through to states and industries. The constraints imposed by adhering to Australia's decarbonisation commitments forces output in certain industries to grow at a slower rate than the overall economy. Australia's economy grows at a CAGR of 1.8% over the forecast period from 2022-23 to 2057-58.

In the Progressive Change scenario, population growth and labour productivity slow more sharply than in the Step Change scenario. Efforts to mitigate the adverse effects of climate change are less concerted and coordinated. As a result, a smaller and less productive economy also contends with a heavier climate change burden. Some industries that are more vulnerable to the effects of climate change are hit harder than others by physical impacts of climate change. The economy grows well below trend through the forecast period, recording a CAGR of just 1.3% over the forecast period.

The Green Energy Exports scenario is driven by more favourable assumptions around population and economic growth relative to Step Change. These assumptions result in a relatively faster pace of GDP growth over the forecast period. The adverse effects of climate change are also less damaging in comparison to the Step Change scenario because of a combination of policy and technology drives a surge in clean energy supported by targeted industrial policy. Economic activity shifts from hard-to-abate industries such as mining to other sectors of the economy, including services sectors which also gain from a larger and more productive labour force. A quicker and more coordinated global drive to decarbonise results in Australia exporting renewable hydrogen to global markets and accelerating its export of critical minerals. Australia's economy grows at a CAGR of 2.5% over the forecast period.

The Exportless 1.5 Degrees scenario differs from the Green Energy Exports scenario only because Australia does not export renewable hydrogen to global markets. The economy is 0.3% smaller compared to the Green Energy Exports scenario in 2057-58, while manufacturing industry output is 12% lower over the same period.

Endnotes

[i] Roberto Roson and Martina Sartori, Estimation of Climate Change Damage Functions for 140 Regions in the GTAP9 Database, World Bank Group, June 2016

[ii] Australian Bureau of Statistics (2024a), Australian National Accounts: National Income, Expenditure and Product March 2024

[iii] Australian Bureau of Statistics (2023a), Australian National Accounts: State Accounts 2022-23

[iv] Australian Bureau of Statistics (2024b), National, state and territory population December 2023

[v] Australian Bureau of Statistics (2024c), Building Activity, Australia March 2024

[vi] Australian Bureau of Statistics (2024d), Consumer Price Index, Australia June Quarter 2024

[vii] Reserve Bank of Australia, Statistical Tables, accessed on 1 October 2024

[viii] United Nations, What is Climate Change?, accessed on 12 August 2024

[ix] Malin Andersson, Claudio Baccianti, Julian Morgan, Climate change and the macro economy, Occasional Paper Series, European Central Bank, June 2020

[x] Reserve Bank of Australia, Climate Change and Financial Risk, Bulletin – June 2023
Michael S. Gibson, Director of Supervision and Regulation, Board of Governors of the Federal Reserve System, Climate-Related Financial Risks, 18 July 2023
European Central Bank, Managing climate-related risks, accessed on 19 March 2024
Bank of England, Climate change, accessed on 19 March 2024

[xi] Australian Bureau of Statistics (2023b), Population Projections, Australia; The Treasury, 2023 Intergenerational Report, August 2023

[xii] The Treasury, Tax cuts to help with the cost of living, accessed on 1 October 2024

[xiii] The Treasury, Increasing housing supply, accessed 1 October 2024

[xiv] Australian Government, Department of Climate Change, Energy, the Environment and Water, Australia's emissions projections 2023, accessed on 8 August 2024

[xv] Australian Government, Department of Climate Change, Energy, the Environment and Water, Growing Australia's hydrogen industry, accessed 1 October 2024

Appendix A Comparison to other forecasts

Table A.1 below compares Deloitte Access Economics' forecast accuracy for annual GDP growth in Australia to the Consensus Economics forecast accuracy in the same year. Consensus Economics is a firm that compiles economic forecasts from different forecasters. The Consensus Economics forecast is taken as the average (mean) of the surveyed forecasts.

Forecasts from January of each year are considered for comparison (i.e. forecasts for 2011 are taken from January 2011 Consensus Economics forecasts publication and from January 2011 Deloitte Access Economics forecasts). Deviations of each forecast from the actual annual GDP growth rate for each calendar year are shown in percentage point (ppt) terms. This is measured as the absolute difference between the actual GDP growth and the forecast GDP growth for the calendar year.

The data indicates that Deloitte Access Economics' forecasts have been closer, on average, to actual GDP growth than Consensus forecasts. Deloitte Access Economics' historical consistency in better forecast accuracy is also evident.

Additionally, FocusEconomics, a leading global provider of macroeconomic intelligence, announced Deloitte Access Economics as the most accurate forecaster of Australian inflation and the Australian exchange rate through 2023.

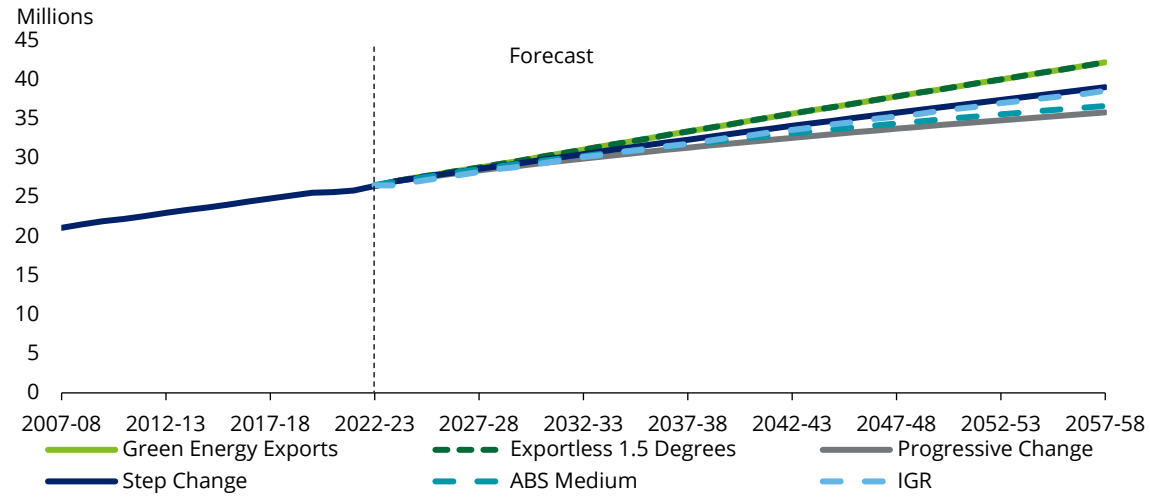
Table A.1: Forecast accuracy comparison

Year	Actual	Forecast deviation	
	Annual GDP growth	Deloitte Access Economics	Consensus
2011	2.77%	0.03ppt	0.33ppt
2012	3.80%	0.20ppt	0.40ppt
2013	2.23%	0.27ppt	0.37ppt
2014	2.59%	0.01ppt	0.11ppt
2015	2.35%	0.05ppt	0.35ppt
2016	2.72%	0.82ppt	0.12ppt
2017	2.42%	0.12ppt	0.08ppt
2018	2.85%	0.05ppt	0.15ppt
2019	1.82%	0.98ppt	0.88ppt
2020	-2.13%	4.23ppt	4.83ppt
2021	5.55%	1.15ppt	2.05ppt
2022	3.81%	0.21ppt	0.01ppt
2023	2.06%	0.33ppt	0.26ppt
Average	2.53%	0.65ppt	0.77ppt

Source: ABS (2023), Consensus Economics, Deloitte Access Economics. Forecast deviation is measured as the absolute percentage point difference between actual GDP growth and the forecast GDP growth.

Chart A.1 below compares the population forecasts across the four scenarios to forecasts from the ABS *Population Projections, Australia 2022 (base) – 2071* Medium Series and the 2023 IGR.[14]

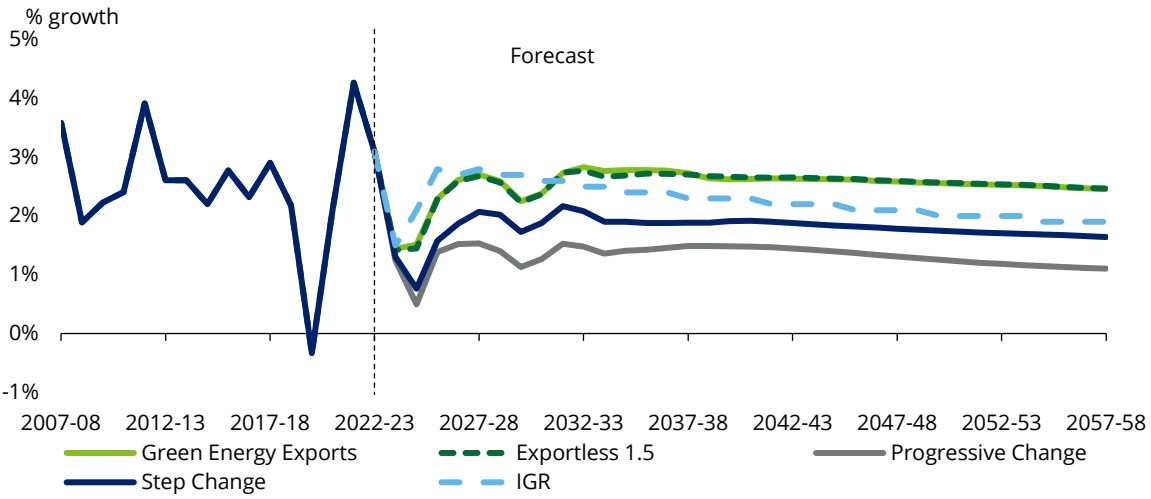
Chart A.1: Population forecast comparison



Source: ABS (2024b, 2023b), 2023 IGR, Deloitte Access Economics

Chart A.2 below compares the GDP growth forecasts across the four scenarios to forecasts from the 2023 IGR.

Chart A.2: GDP growth forecast comparison



Source: ABS (2024a), 2023 IGR, Deloitte Access Economics

[14] 2023 IGR available at: https://treasury.gov.au/sites/default/files/2023-08/p2023-435150.pdf

Table A.2 and Table A.3 below compare the short-term (2023-24 to 2027-28) GSP and population forecasts in the Step Change scenario to various State Treasury forecasts from 2024-25 budgets.

Table A.2: GSP forecast comparison, Step Change and State/Territory Treasuries

State/Territory	Forecast	2023-24	2024-25	2025-26	2026-27	2027-28
New South Wales	Step Change	3.7%	1.5%	0.1%	1.6%	2.0%
	State Treasury	*1.5%*	*2.0%*	*2.0%*	*2.3%*	*2.3%*
Victoria	Step Change	2.6%	2.3%	1.1%	1.7%	2.1%
	State Treasury	*2.0%*	*2.5%*	*2.8%*	*2.8%*	*2.8%*
Queensland	Step Change	2.3%	1.6%	1.4%	1.7%	2.0%
	State Treasury	*3.0%*	*3.0%*	*2.5%*	*2.3%*	*2.3%*
South Australia	Step Change	3.8%	1.9%	0.3%	1.2%	1.4%
	State Treasury	*1.3%*	*1.5%*	*1.8%*	*2.0%*	*2.0%*
Western Australia	Step Change	3.5%	-0.3%	1.2%	1.2%	1.5%
	State Treasury	*1.8%*	*2.0%*	*2.0%*	*2.3%*	*2.3%*
Tasmania	Step Change	1.1%	1.3%	-0.1%	0.9%	1.4%
	State Treasury	*2.0%*	*1.3%*	*2.0%*	*2.5%*	*2.5%*
Northern Territory	Step Change	-5.2%	-2.9%	-4.0%	6.2%	2.6%
	State Treasury	*4.9%*	*2.3%*	*7.1%*	*4.1%*	*2.1%*
Australian Capital Territory	Step Change	4.3%	2.5%	2.3%	1.4%	1.6%
	State Treasury	*3.0%*	*2.8%*	*3.3%*	*3.5%*	*3.8%*

Source: Deloitte Access Economics, state/territory 2024-25 budgets

Table A.3: Population forecast comparison, Step Change and State/Territory Treasury

State/Territory	Forecast	2023-24	2024-25	2025-26	2026-27	2027-28
New South Wales	Step Change	1.9%	2.1%	1.4%	1.3%	1.3%
	State Treasury	*2.1%*	*1.2%*	*1.2%*	*1.1%*	*1.1%*
Victoria	Step Change	2.4%	2.7%	1.8%	1.6%	1.6%
	State Treasury	*2.3%*	*1.8%*	*1.7%*	*1.7%*	*1.7%*
Queensland	Step Change	2.4%	2.4%	1.7%	1.6%	1.5%
	State Treasury	*2.5%*	*1.5%*	*1.5%*	*1.3%*	*1.3%*
South Australia	Step Change	1.7%	1.6%	1.2%	1.0%	1.0%
	State Treasury	-	-	-	-	-
Western Australia	Step Change	2.8%	2.9%	1.5%	1.3%	1.3%
	State Treasury	*2.8%*	*1.8%*	*1.7%*	*1.7%*	*1.7%*
Tasmania	Step Change	0.6%	0.5%	0.6%	0.6%	0.6%
	State Treasury	*0.4%*	*0.4%*	*0.5%*	*0.7%*	*0.7%*
Northern Territory	Step Change	1.1%	0.9%	1.0%	1.4%	1.5%
	State Treasury	*0.8%*	*0.9%*	*1.1%*	*1.1%*	*1.1%*
Australian Capital Territory	Step Change	1.9%	1.8%	1.3%	1.3%	1.3%
	State Treasury	*2.0%*	*1.8%*	*1.8%*	*1.8%*	*1.8%*

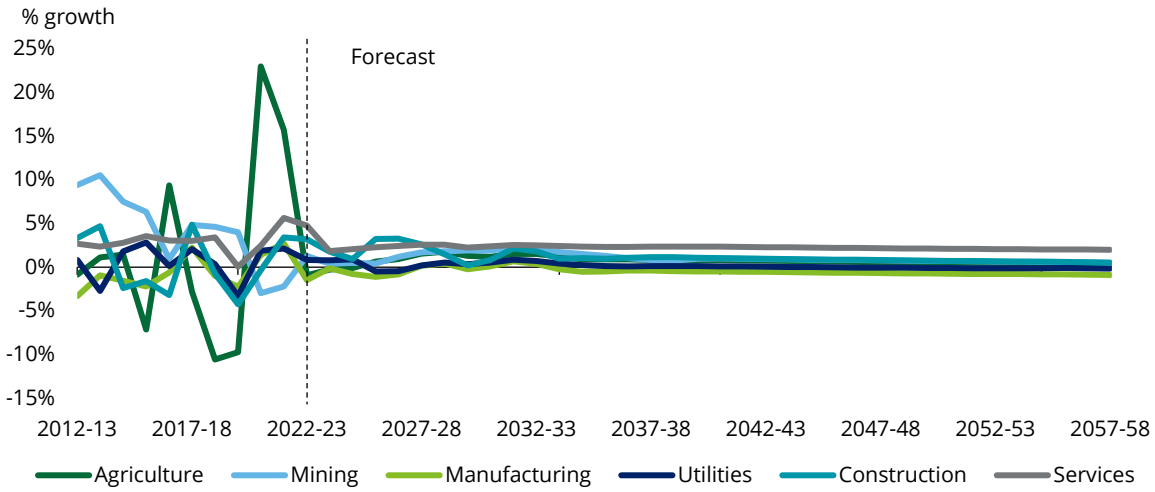
Source: Deloitte Access Economics, State/Territory 2024-25 Budgets

Appendix B Summary charts and tables

B.1. Summary charts

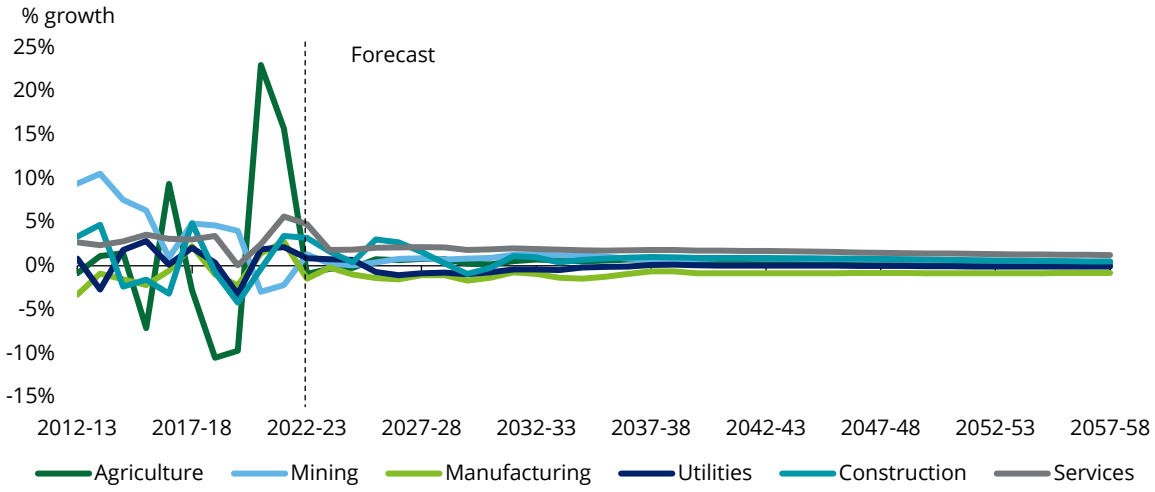
The charts below present the industry GVA forecasts across the four scenarios at the national level.

Chart B.1: Step Change industry GVA growth, Australia



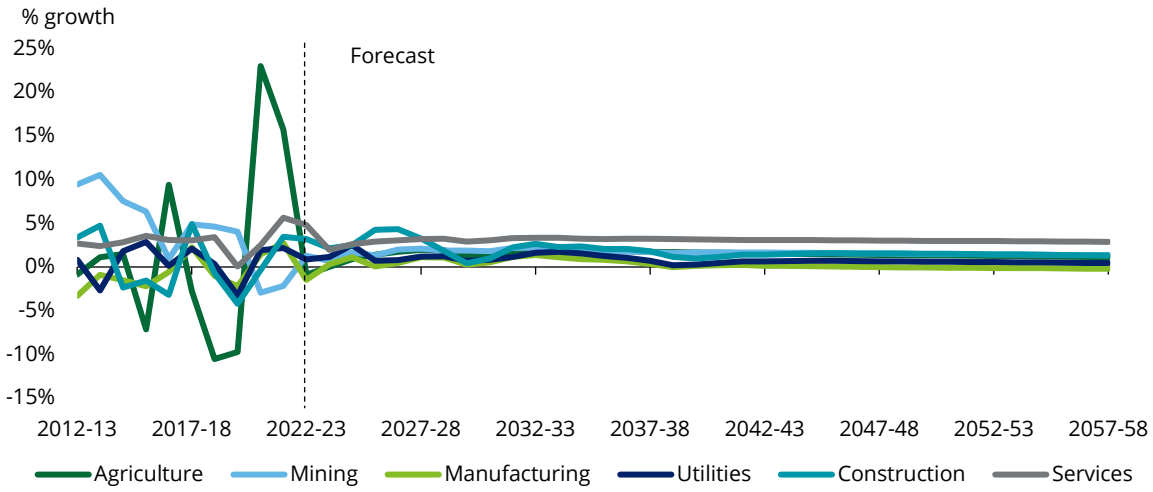
Source: ABS (2204a), Deloitte Access Economics

Chart B.2: Progressive Change industry GVA growth, Australia



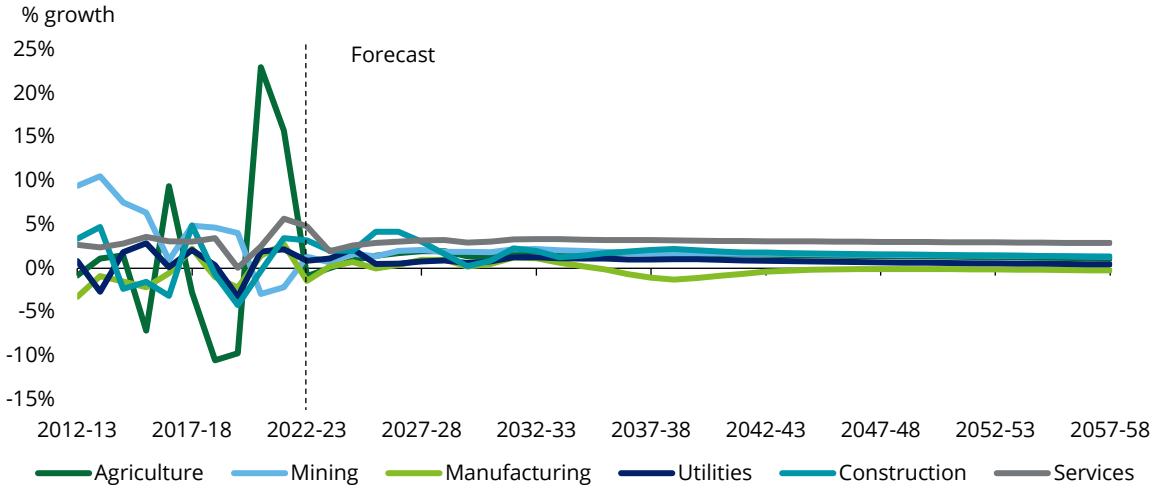
Source: ABS (2024a), Deloitte Access Economics

Chart B.3: Green Energy Exports industry GVA growth, Australia



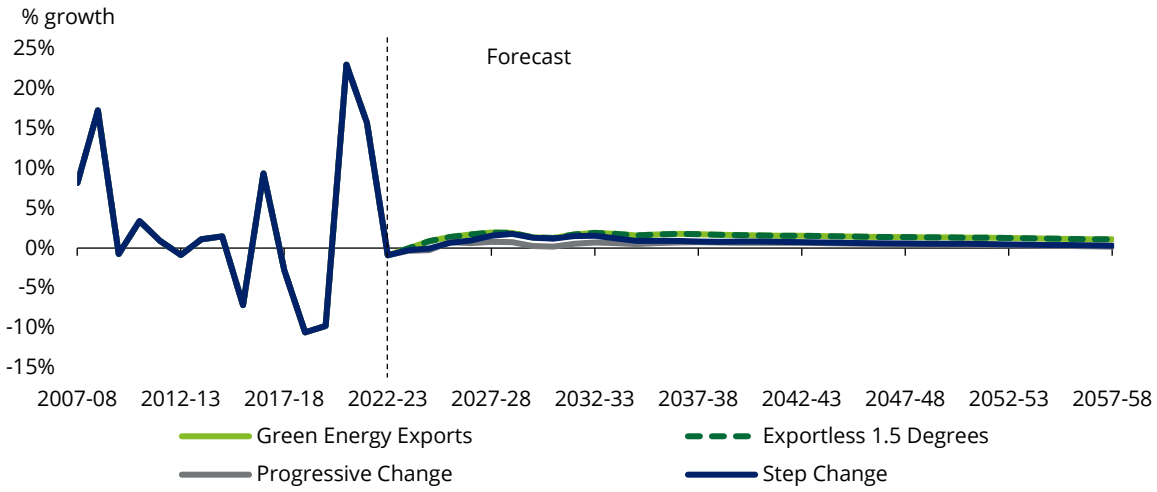
Source: ABS (2024a), Deloitte Access Economics

Chart B.4: Exportless 1.5 Degrees industry GVA growth, Australia



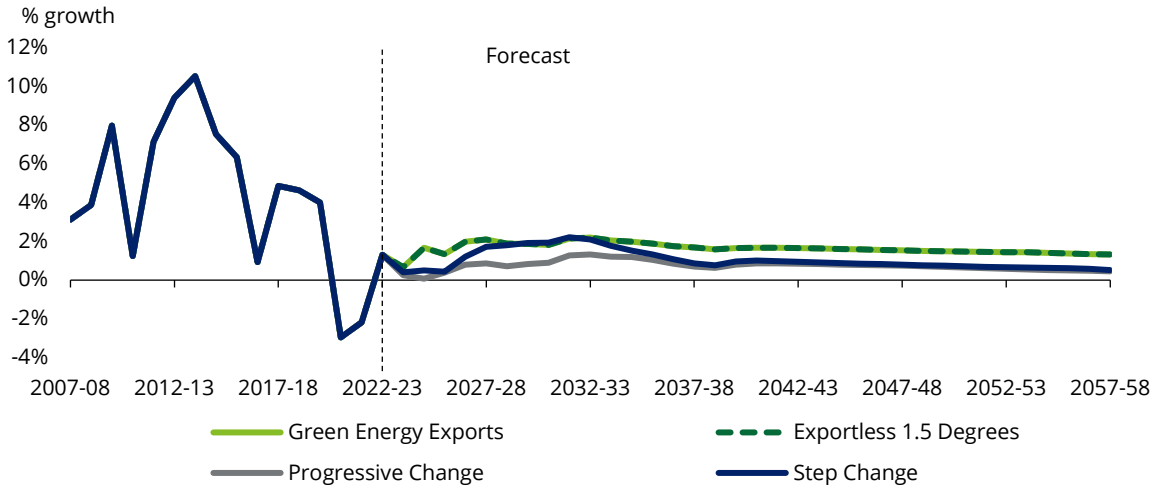
Source: ABS (2024a), Deloitte Access Economics

Chart B.5: Agriculture industry GVA growth by scenario



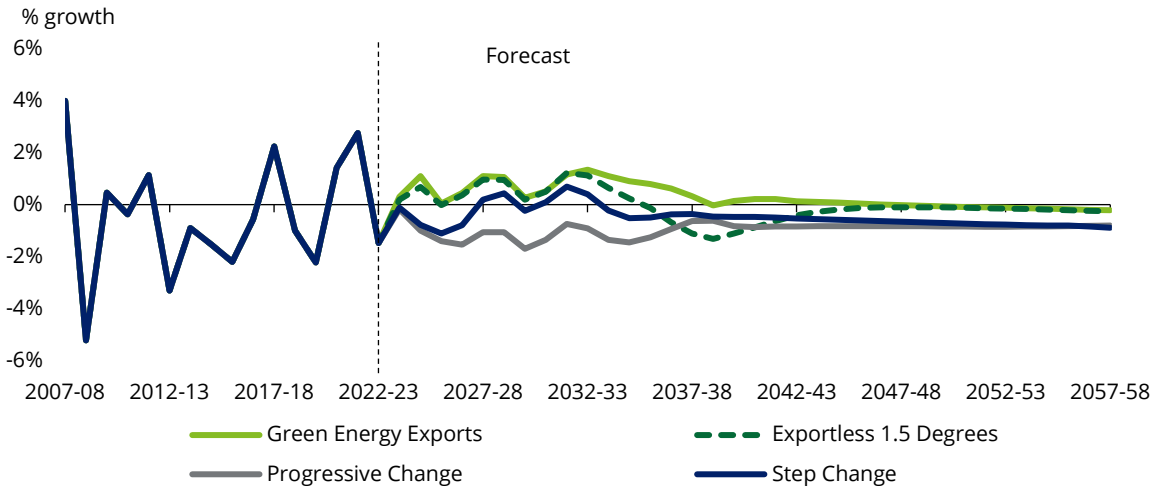
Source: ABS (2024a), Deloitte Access Economics

Chart B.6: Mining industry GVA growth by scenario



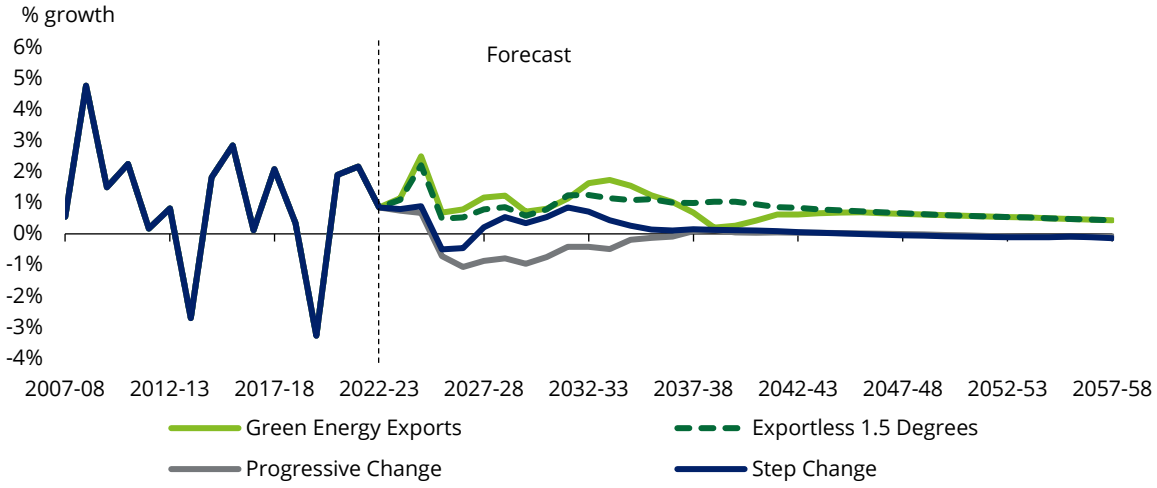
Source: ABS (2024a), Deloitte Access Economics

Chart B.7: Manufacturing industry GVA growth by scenario



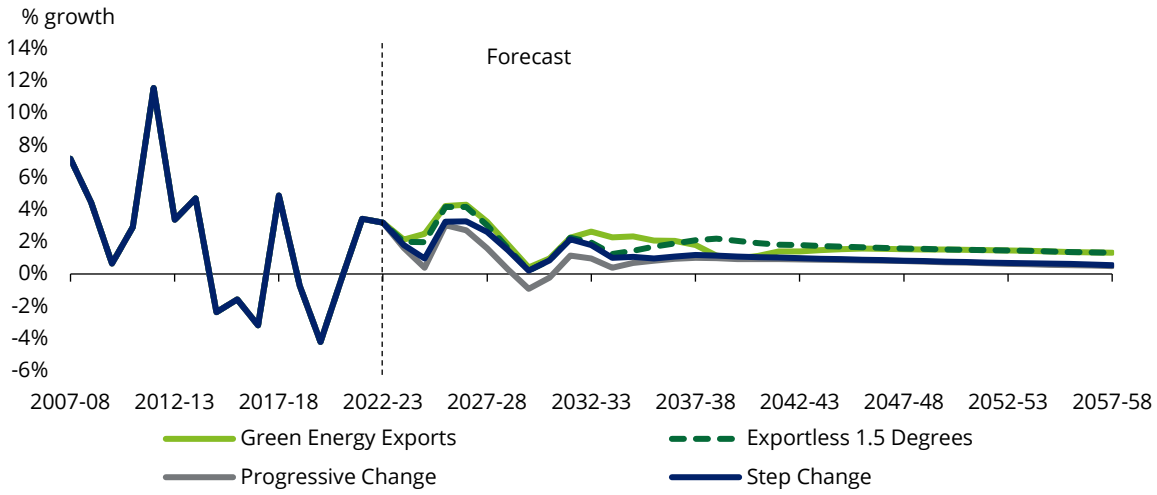
Source: ABS (2024a), Deloitte Access Economics

Chart B.8: Utilities industry GVA growth by scenario



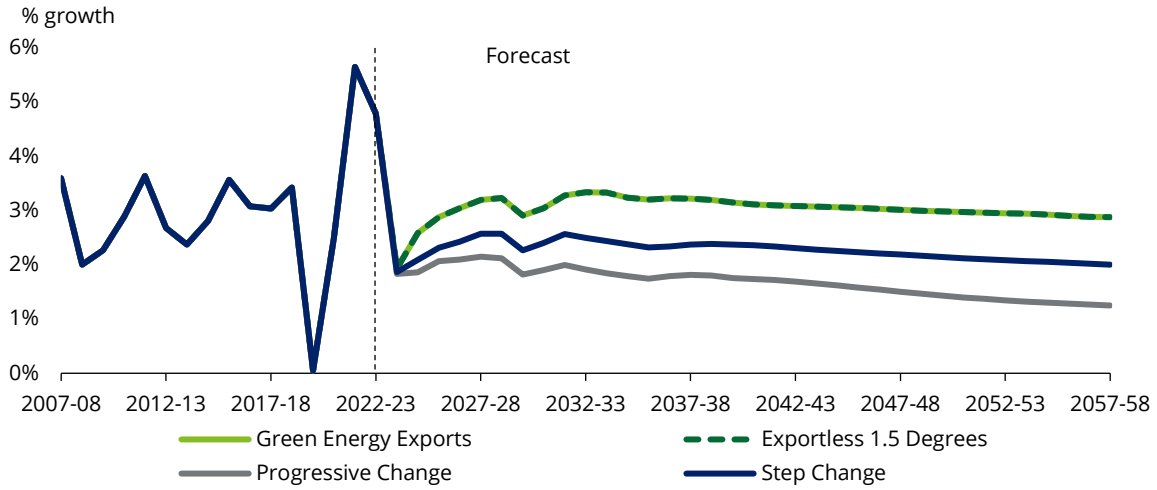
Source: ABS (2024a), Deloitte Access Economics

Chart B.9: Construction industry GVA growth by scenario



Source: ABS (2024a), Deloitte Access Economics

Chart B.10: Services industry GVA growth by scenario



Source: ABS (2024a), Deloitte Access Economics

B.2. Summary table

The table below presents the industry GVA forecasts across the four scenarios for each of the eight states and territories.

Table B.1: Industry GVA by scenario, CAGR from 2022-23 to 2057-58

Industry	Scenario	Agriculture	Mining	Manufacturing	Utilities	Construction	Services
New South Wales	Progressive Change	0.3%	0.2%	-1.8%	-0.4%	0.8%	1.7%
	Step Change	0.6%	0.5%	-1.4%	-0.2%	1.1%	2.3%
	Exportless 1.5 Degrees	1.3%	0.8%	-1.1%	0.4%	1.8%	3.1%
	Green Energy Exports	1.3%	0.8%	-0.6%	0.4%	1.8%	3.1%
Victoria	Progressive Change	0.7%	-1.2%	-1.0%	0.3%	1.1%	1.9%
	Step Change	1.0%	-0.9%	-0.5%	0.5%	1.4%	2.5%
	Exportless 1.5 Degrees	1.6%	-0.2%	-0.1%	1.3%	2.1%	3.3%
	Green Energy Exports	1.6%	-0.2%	0.3%	1.3%	2.1%	3.3%
Queensland	Progressive Change	0.9%	0.8%	0.0%	-0.1%	1.0%	1.7%
	Step Change	1.2%	1.1%	0.5%	0.2%	1.3%	2.3%
	Exportless 1.5 Degrees	1.9%	1.6%	1.0%	1.0%	1.9%	3.0%
	Green Energy Exports	1.9%	1.6%	1.3%	1.0%	1.9%	3.0%
Western Australia	Progressive Change	0.1%	0.9%	-0.8%	-0.5%	0.5%	1.1%
	Step Change	0.4%	1.1%	-0.3%	0.0%	0.8%	1.7%
	Exportless 1.5 Degrees	1.1%	1.8%	0.0%	0.5%	1.4%	2.5%
	Green Energy Exports	1.1%	1.8%	0.4%	0.5%	1.4%	2.5%
South Australia	Progressive Change	0.3%	0.3%	-1.0%	-0.6%	0.5%	1.3%
	Step Change	0.6%	0.6%	-0.5%	-0.1%	0.8%	1.9%
	Exportless 1.5 Degrees	1.2%	1.3%	0.0%	0.4%	1.4%	2.6%
	Green Energy Exports	1.2%	1.3%	0.3%	0.4%	1.4%	2.6%
Tasmania	Progressive Change	-0.2%	0.1%	-1.0%	-0.7%	0.0%	1.3%
	Step Change	0.1%	0.4%	-0.5%	-0.5%	0.3%	1.8%
	Exportless 1.5 Degrees	0.8%	1.0%	-0.1%	0.3%	1.0%	2.5%
	Green Energy Exports	0.8%	1.0%	0.3%	0.3%	1.0%	2.5%
Northern Territory	Progressive Change	0.7%	1.1%	-0.2%	-0.5%	1.0%	1.3%
	Step Change	0.9%	1.4%	0.3%	-0.2%	1.3%	1.9%
	Exportless 1.5 Degrees	1.6%	2.0%	0.7%	0.6%	2.0%	2.6%
	Green Energy Exports	1.6%	2.0%	1.1%	0.6%	2.0%	2.6%
Australian Capital Territory	Progressive Change	0.8%	-2.7%	0.0%	0.1%	0.8%	1.6%
	Step Change	1.1%	-2.4%	0.4%	0.3%	1.1%	2.2%
	Exportless 1.5 Degrees	1.8%	-1.8%	1.2%	1.1%	1.7%	2.9%
	Green Energy Exports	1.8%	-1.8%	1.2%	1.1%	1.7%	2.9%
Australia	Progressive Change	0.5%	0.7%	-0.9%	-0.2%	0.8%	1.7%
	Step Change	0.8%	1.0%	-0.5%	0.1%	1.1%	2.3%
	Exportless 1.5 Degrees	1.4%	1.6%	0.0%	0.8%	1.8%	3.0%
	Green Energy Exports	1.4%	1.6%	0.3%	0.8%	1.8%	3.0%

Source: ABS (2024a), Deloitte Access Economics

Appendix C Comparison of current and previous forecasts

This appendix notes some key considerations when comparing the 2024-25 Economic Forecasts presented in this report (finalised in October 2024) and those in the 2023-24 Economic Forecasts report (finalised in April 2024) prepared by Deloitte Access Economics.

The resulting forecast growth rates in the 2023-24 and 2024-25 forecasts are, in most cases, highly consistent. The following factors contribute to differences between the 2023-24 and 2024-25 forecasts:

- The rebasing of historical chain volume measures conducted by the ABS
- Revisions to historical data conducted by the ABS (for example, to include new and updated data sources, changes in classification, and changes in methods)
- Refinements to the climate change assumptions used by Deloitte Access Economics
- The emissions and economic activity constraint imposed by AEMO scenario assumptions, and changes in emissions data published by DCCEEW that inform the modelling of this constraint
- The inclusion of changes in relevant government policies such as FMIA and the migration strategy
- Minor changes to Deloitte Access Economics' modelling approach affecting HDI
- The inclusion of additional historical data in the 2024-25 forecasts that may differ from the estimate for that period in the 2023-24 forecasts
- Minor changes to factors that can disproportionately affect smaller regions.

These factors are discussed in further detail throughout the remainder of the Appendix.

C.1. Climate modelling and changes in scenario definitions

Climate change modelling

Deloitte Access Economics' modelling splits the effects of climate change into two categories – physical risks and transition risks. This is in keeping with the broad consensus within the literature on the consequences of climate change.

Physical risks cover the damages that are likely to affect land, labour, and capital in the country. Deloitte Access Economics models physical damages to align with an emissions pathway or climate scenario via a set of in-house damage functions.

While the approach to modelling the potential physical impacts of climate change has not been altered, damage functions are subject to regular review and development, including to reflect the latest available data. This regular update of damage functions has contributed to some of the differences between current and previous forecasts.

Transition risks arise from the mitigating actions taken in response to climate change. In the Step Change and Progressive Change scenarios, AEMO's assumption that there is no temporary overshooting of the target net emissions pathway is a binding constraint on emissions and economic activity. This constraint determines the modelling of transition risks under the Step Change and Progressive Change scenarios.

Data on emissions across sectors is published by DCCEEW on a quarterly basis as part of the National Greenhouse Accounts. Deloitte Access Economics uses this data to model and impose the binding constraints on emissions and economic activity. The 2024-25 Economic Forecasts in the Step Change and Progressive Change scenarios reflect emissions data published by DCCEEW in May 2024. This included emissions data up to 2021-22 as well as revisions to the emissions data across sectors for prior years. The 2023-24 Economic

Forecasts used an earlier version of the emissions data published by DCCEEW that included emissions data up to 2020-21.

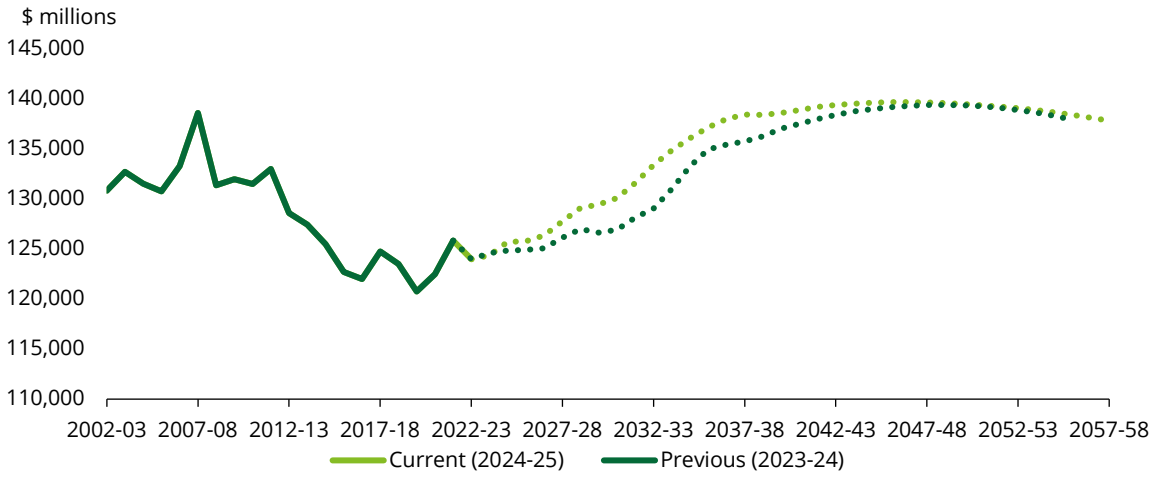
Changes to scenario definitions

Some differences between the current and previous forecasts are informed by the variations in scenario definitions. The 2024-25 Economic Forecasts align with the scenario descriptions in AEMO's Draft 2025 Inputs, Assumptions and Scenarios Report Consultation Paper. The 2023-24 Economic Forecasts align with the scenario descriptions in AEMO's 2023 Inputs, Assumptions, and Scenarios Report.

One of the key differences in the scope of the scenarios is the inclusion of the FMIA policy and the Migration Strategy, both of which were outlined in detail in the 2024-25 Federal Budget. While the current forecasts reflect these government policies, the previous forecasts do not. For a deeper discussion on how key government policies are included in the current forecasts please refer to *Box 2.1: Key government policies and how they are reflected in Deloitte Access Economics' forecasts* in section 2.2.2.

The effect of changes to scenario definitions can be observed in the outlook for manufacturing industry GVA. The FMIA policy is expected to add to the demand for Australian manufacturing in the Green Energy Exports scenario. This has placed upward pressure on forecast manufacturing industry GVA relative to the equivalent scenario in the 2023-24 forecasts (see Chart C.1 and Chart C.2). Other factors also contribute to the difference in the forecasts. This includes updated climate modelling, with emissions intensive industries such as manufacturing, likely to experience proportionally larger changes in output. The assumption of no temporary overshooting of the target net emissions pathway (which is a binding constraint on emissions and economic activity in the Step Change and Progressive Change scenarios) means that individual industries and jurisdictions will see output increase or decrease depending on their respective emissions profiles.

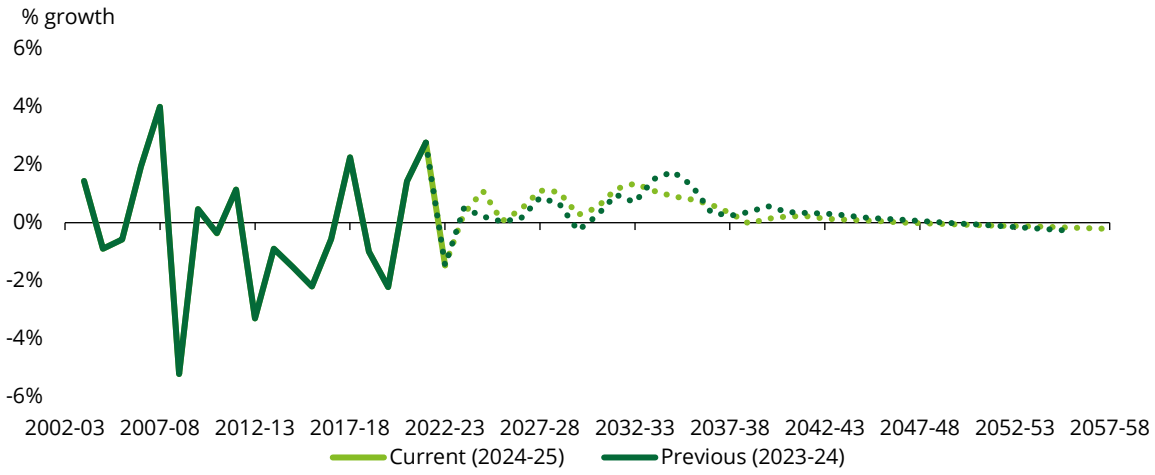
Chart C.1: Australian manufacturing industry GVA, Green Energy Exports, $ million



Source: ABS (2024a), Deloitte Access Economics

Note: the solid line represents historical data, the dotted line represents forecast data.

Chart C.2: Australian manufacturing industry GVA, Green Energy Exports, annual % growth

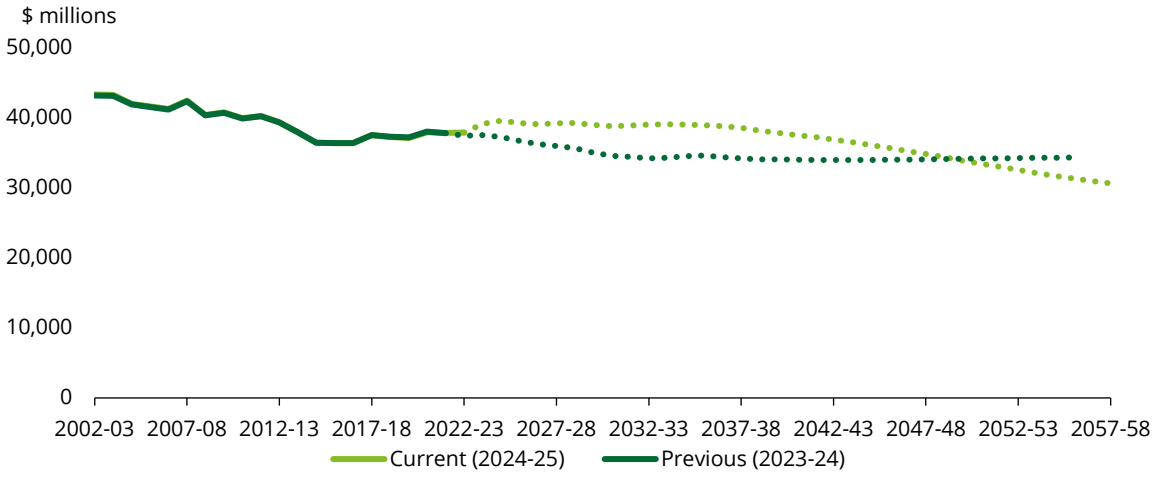


Source: ABS (2024a), Deloitte Access Economics

Note: the solid line represents historical data, the dotted line represents forecast data.

The combined effect of these factors on the manufacturing industry is more discernible when comparing manufacturing industry GVA at the state level. This is especially true in the case of states with relatively large shares of the national manufacturing GVA such as NSW (see Chart C.3 and Chart C.4). The higher level of output in the short and medium term, compared to the 2023-24 forecasts, largely reflects the ramp-up of renewable hydrogen production and critical minerals processing. Yet differences in climate change assumptions also contribute to the differences in the forecast for manufacturing industry output. A similar pattern holds in the case of manufacturing GVA in Victoria and Queensland.

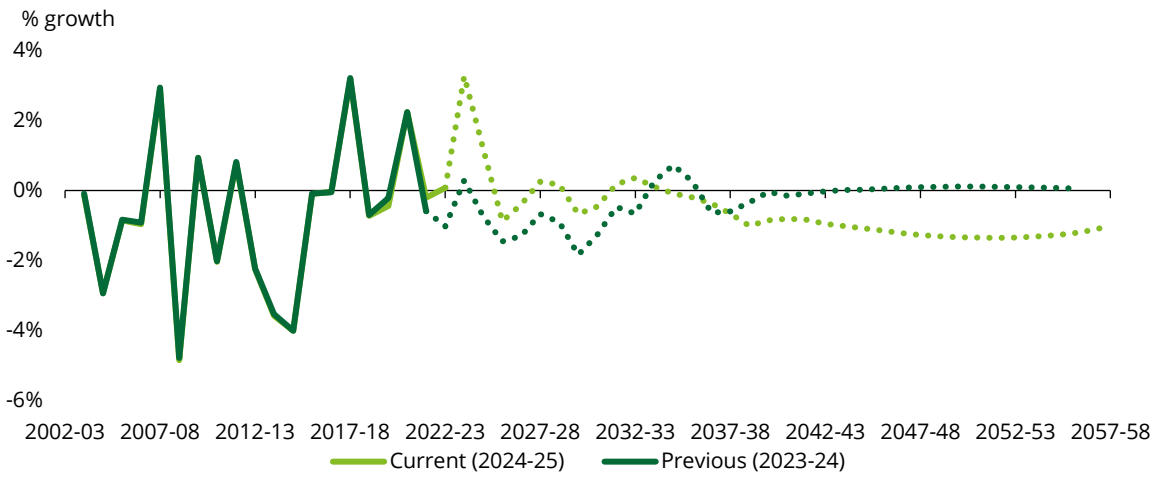
Chart C.3: New South Wales manufacturing industry GVA, Green Energy Exports, $ million



Source: ABS (2024a), Deloitte Access Economics

Note: the solid line represents historical data, the dotted line represents forecast data.

Chart C.4: New South Wales manufacturing industry GVA, Green Energy Exports, annual % growth



Source: ABS (2024a), Deloitte Access Economics

Note: the solid line represents historical data, the dotted line represents forecast data.

C.2. Historical data

Rebasing of historical chain volume measures

Deloitte Access Economics' forecasts for GDP, GSP, SFD, and GVA use historical data from the ABS in chain volume measure terms. These volume measures only vary with changes in the quantity of commodities produced or sold. Chain volume measures value quantities by using prices in a base period, with that base period updated annually by the ABS.

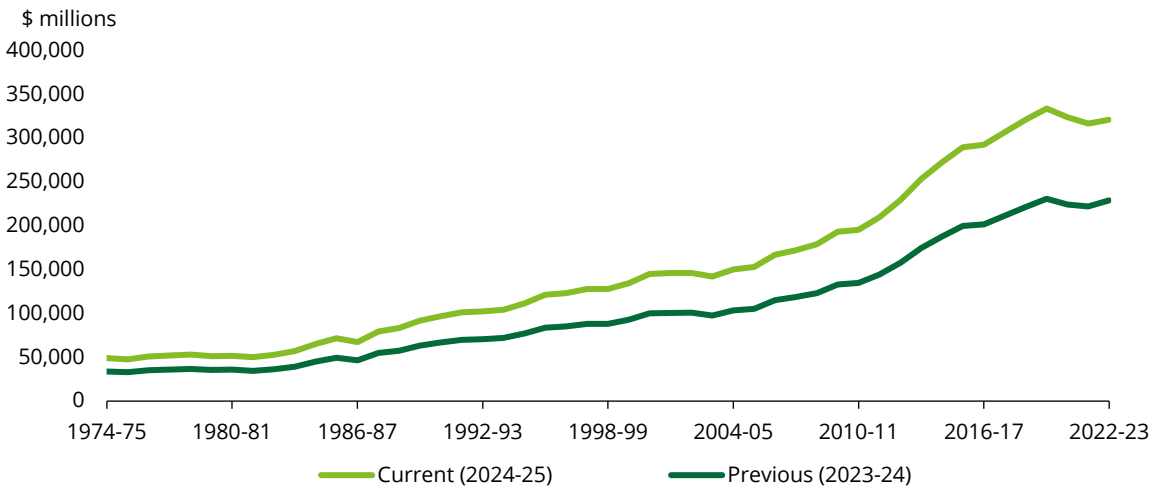
This rebasing results in changes in the historical actuals for industry GVA in level terms, but it does not result in revisions to growth rates. The 2024-25 report includes historical data with a reference year for prices of 2021-22, while the 2023-24 report includes historical data with a reference year for prices of 2020-21.

The industries with the largest revisions to national industry GVA, in level terms, due to this rebasing are:

- Mining industry GVA has been revised 45% higher (from 1974-75 to 2022-23) when using 2021-22 prices instead of 2020-21 prices.
- Agriculture, forestry, and fishing industry GVA has been revised 12% higher
- Manufacturing industry GVA has been revised 7% higher.

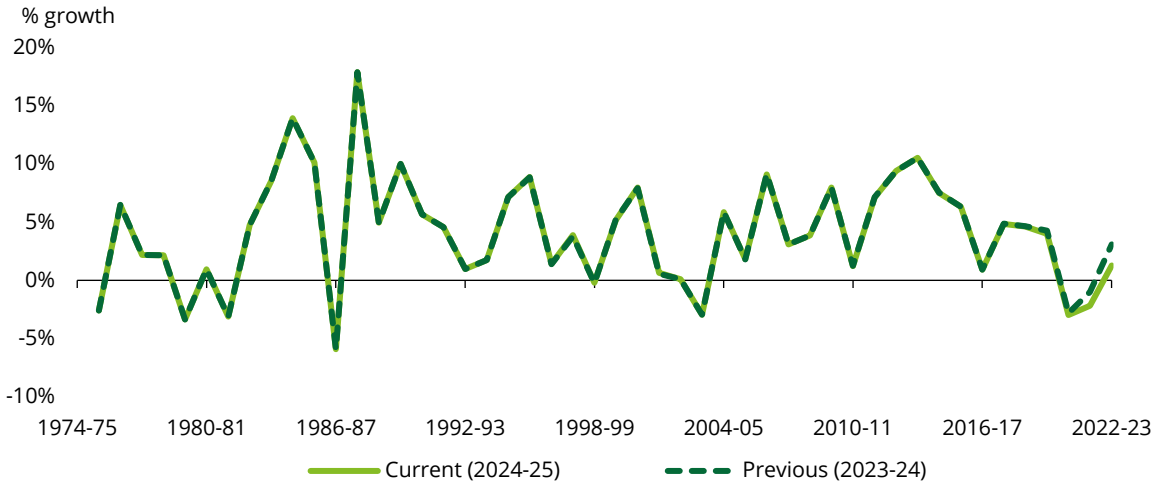
An example of this rebasing, for Australian mining industry GVA, is included in Chart C.5 (levels, $ million) and Chart C.6 (annual % growth).

Chart C.5: Historical Australian mining industry GVA, $ million



Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

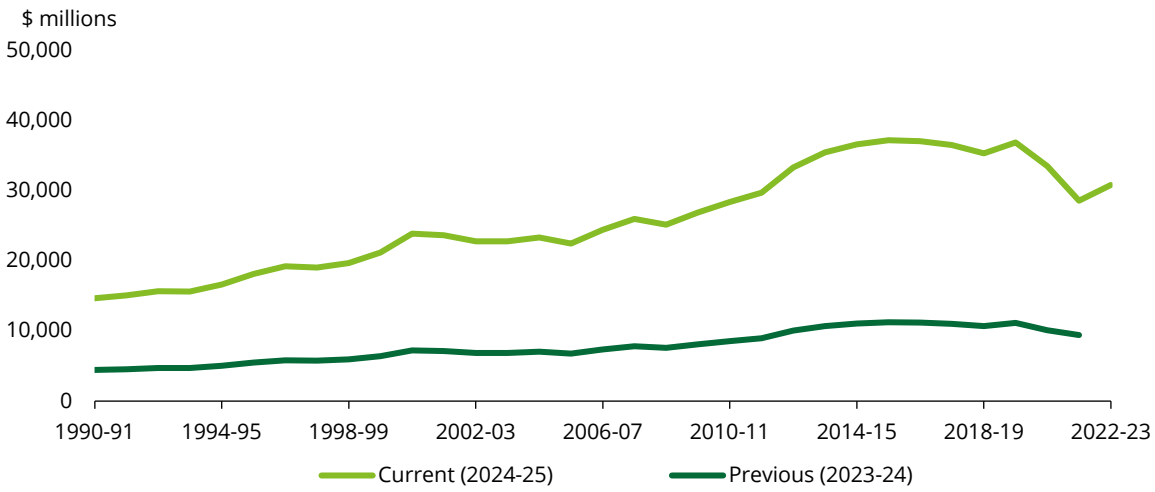
Chart C.6: Historical Australian mining industry GVA, annual % growth



Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

The changes to historical ABS data at the national level are also reflected at the state and territory level. The charts below show the difference in mining industry GVA in New South Wales. The change in the base year for prices used to calculate chain volume measures, from 2020-21 to 2021-22, has resulted in a shift in the level of output across the historical period.

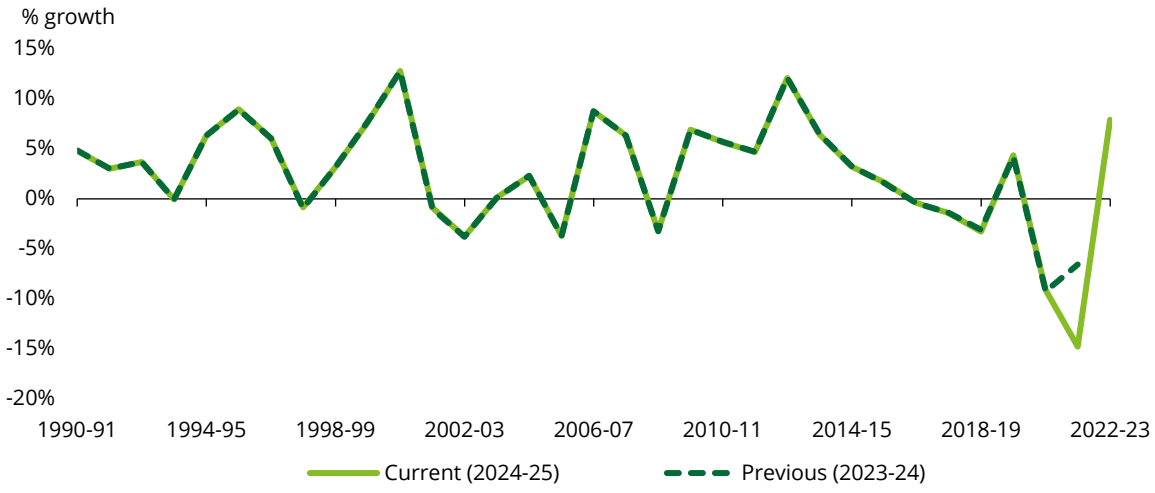
Chart C.7: Historical New South Wales mining industry GVA, $ million



Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

The annual growth rates for industry GVA are unaffected by this rebasing. There may be some differences in growth rates in recent years reflecting revisions conducted by the ABS rather than the rebasing of chain volume measures. These revisions are discussed further in the section below.

Chart C.8: Historical New South Wales mining industry GVA, annual % growth



Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

Revisions to historical data by the ABS

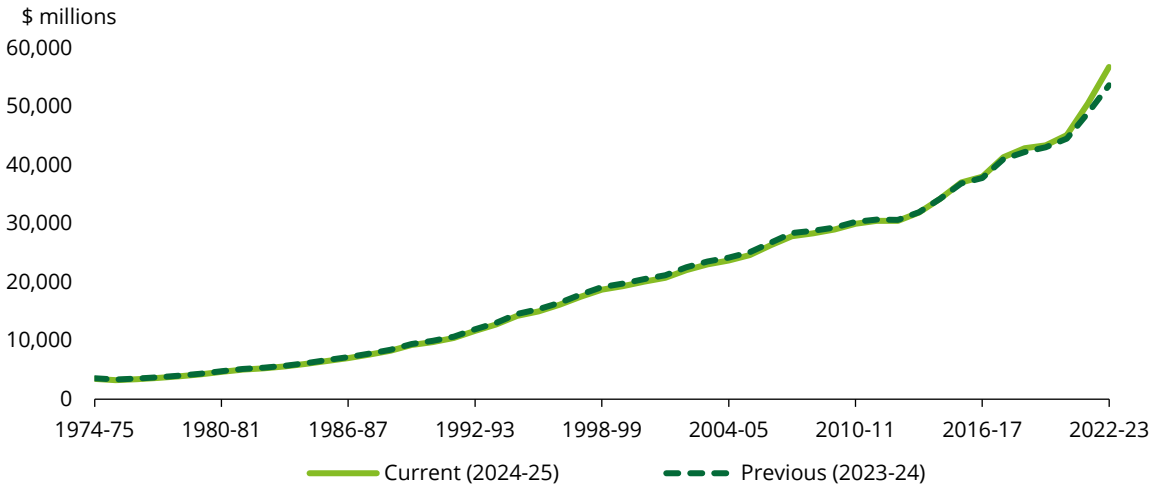
The Australian National Accounts data are regularly revised, in addition to the change in the reference year for prices discussed above. This can be due to the inclusion of new and updated data sources, changes in classification and changes in methods. These revisions, if they occur, can alter growth rates but tend to relate to data in the last few years.

For example, the ABS noted that the largest revisions to GVA in the 2022-23 National Accounts occurred in:

- The information media and telecommunications and professional, scientific and technical services industries, due to the review of the way software related businesses were classified across the two industries.

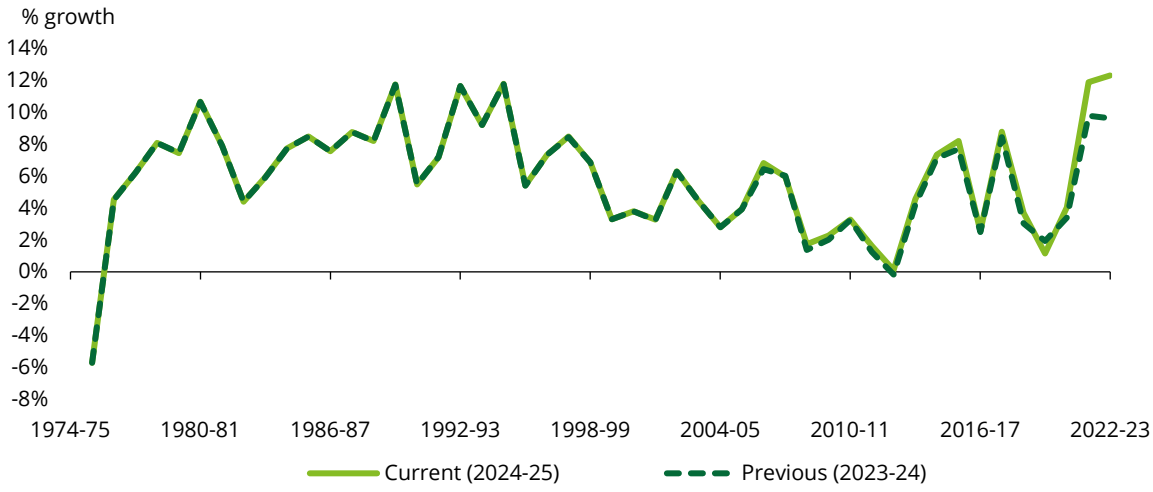
- The financial and insurance services industry due to improvements to the measure of the finance industry and source data revisions.

Chart C.9: Historical Australian information media and telecommunications industry GVA, $ million



Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

Chart C.10: Historical Australian information media and telecommunications industry GVA, annual % growth

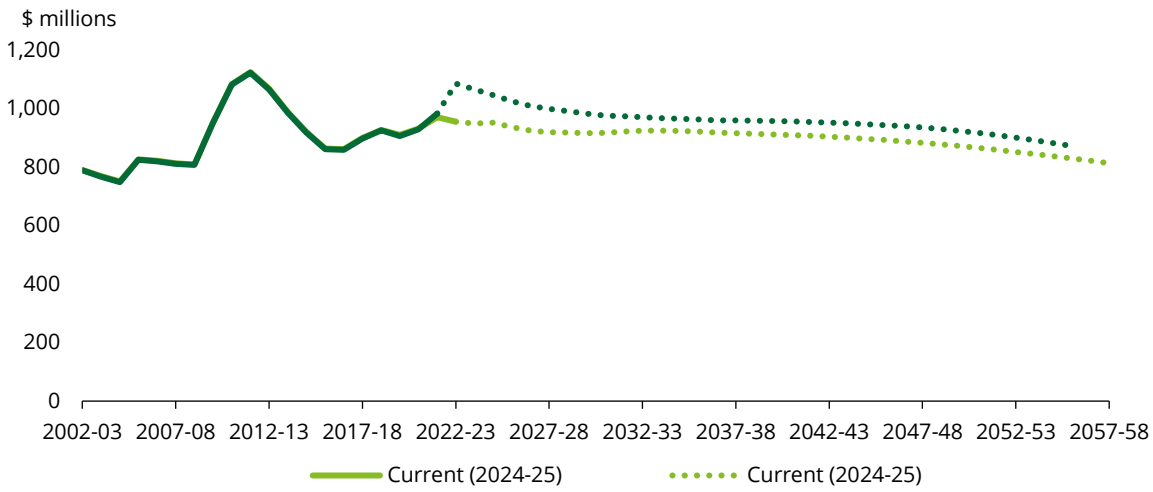


Source: ABS (2024a, Australian National Accounts: National Income, Expenditure and Product June 2023)

Inclusion of new historical actuals

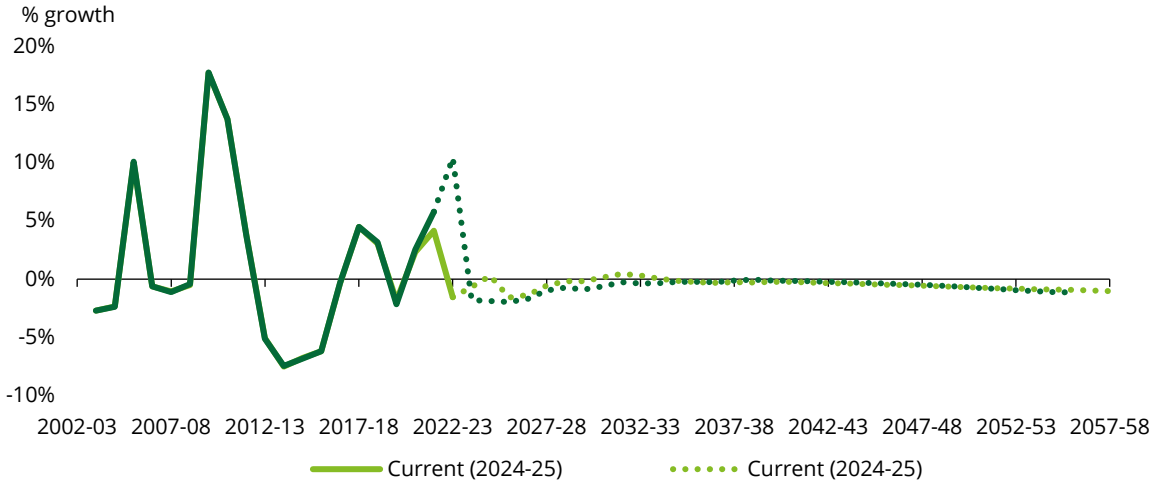
The 2024-25 Economic Forecasts include an additional year of historical data for industry GVA by state and territory. There are some instances where this new historical actual was higher or lower than the estimate produced by Deloitte Access Economics in the 2023-24 Economic Forecasts. The forecast annual growth rates are closely aligned over the medium term, but the change in the starting point of the forecast results in a difference in the level over time (see Chart C.11 and Chart C.12).

Chart C.11: Tasmanian electricity, gas and water supply industry GVA, Step Change, $ million



Source: ABS (2023a, Australian National Accounts: State Accounts 2021-22 financial year), Deloitte Access Economics
Note: the solid line represents historical data, the dotted line represents forecast data.

Chart C.12: Tasmanian electricity, gas and water supply industry GVA, Step Change, annual % growth



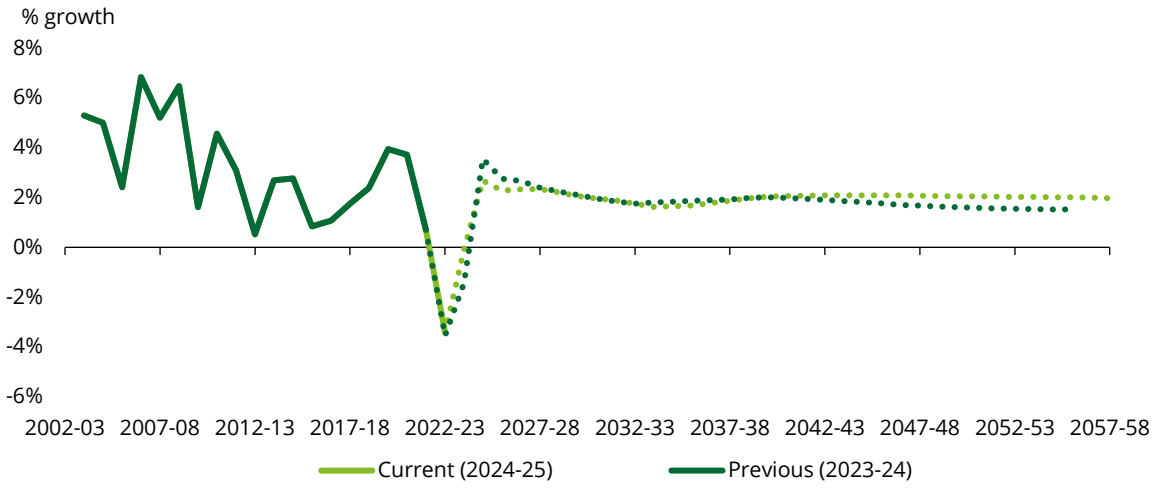
Source: ABS (2023a, Australian National Accounts: State Accounts 2021-22 financial year), Deloitte Access Economics
Note: the solid line represents historical data, the dotted line represents forecast data.

More substantial differences between the historical actual for 2022-23 (used in the 2024-25 Economic Forecasts) and the previous estimate for that financial year (in the 2023-24 Economic Forecasts) are more likely to occur across smaller industries and jurisdictions – which tend to see larger volatility in historical data.

C.3. Household disposable income

Real household disposable income is forecast to grow at a slightly faster annual rate over the long run in the 2024-25 Economic Forecasts compared to the 2023-24 Economic Forecasts. This reflects a change in Deloitte Access Economics' modelling. The Wage Price Index (WPI) is now being used as the primary measure of wage growth (previously average weekly earnings). Over the long run the WPI grows in line with the sum of labour productivity and CPI inflation. This flows through to household incomes for Australia and each state and territory.

Chart C.13: Australian household disposable income, Step Change, annual % growth



Source: ABS (2024a), Deloitte Access Economics

Note: the solid line represents historical data, the dotted line represents forecast data.

Limitation of our work

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Deloitte.

Contact us

Deloitte Access Economics
ACN: 149 633 116
6 Brindabella Circuit
Brindabella Business Park
Canberra Airport ACT 2609
Tel: +61 2 6263 7000

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