Deloitte.

Economic forecasts 2023/24

Forecasting Reference Group Presentation

28 February 2024

Deloitte
Access Economics

Introduction

Introduction

Scope of work

- Deloitte Access Economics has been engaged by the Australian Energy Market Operator Limited (AEMO) to develop long term macroeconomic forecasts for Australia across three distinct scenarios outlined in AEMO's 2023 Inputs, Assumptions and Scenarios Report (IASR).
- The three scenarios — Step Change, Progressive Change and Green Energy Exports — 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 published in the 2024 Electricity Statement of Opportunities (ESOO) and Gas Statement of Opportunities (GSOO).
- The macroeconomic forecasts presented in this report were finalised in February 2024. The forecasts do not take into account data released after the Australian Bureau of Statistics (ABS) September quarter 2023 National Accounts (released in December 2023).

Introduction

Forecast variables

- The forecasts cover economic indicators at the national level and across all states and territories for the variables listed in the table below.

Table 1: Forecast variables

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

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

Introduction

Scenario description

- The three scenarios incorporate a range of differing assumptions related to the pace of population and economic growth, the degree of policy coordination, the rate of technology use and improvements in energy efficiency, and climate change.

Table 2: Key parameters, by scenario

Parameter	Green Energy Exports	Step Change	Progressive Change
Emissions reduction target by 2030	At least 43%	At least 43%	At least 43%
Temperature increase by 2100	~1.5°c	~1.8°c	~2.6°c
Global economic growth and policy coordination	High growth, strong coordination	Moderate growth, strong coordination	Lower growth, lower coordination
Australian economic and demographic drivers	High	Moderate	Low
Rate of technological advancement	High, significant development in hydrogen technology as well as virtual power plants (VPP)/consumer energy resources (CER)	High, increasing prevalence of VPP/CER	Lower
Hydrogen use	Faster cost reduction. High production for domestic and export use	Medium-Low production for domestic use, with minimal export hydrogen	Low production for domestic use, with no export hydrogen
Energy efficiency	Higher	Moderate	Lower
Supply chain barriers	Less challenging	Moderate	More challenging
IEA 2021 World Energy Scenario	Net Zero Emissions (NZE)	Sustainable Development Scenario (SDS)	Stated Policies Scenario (SPS)
Equivalent Representative Concentration Pathway Scenario	RCP1.9	RCP2.6	RCP4.5

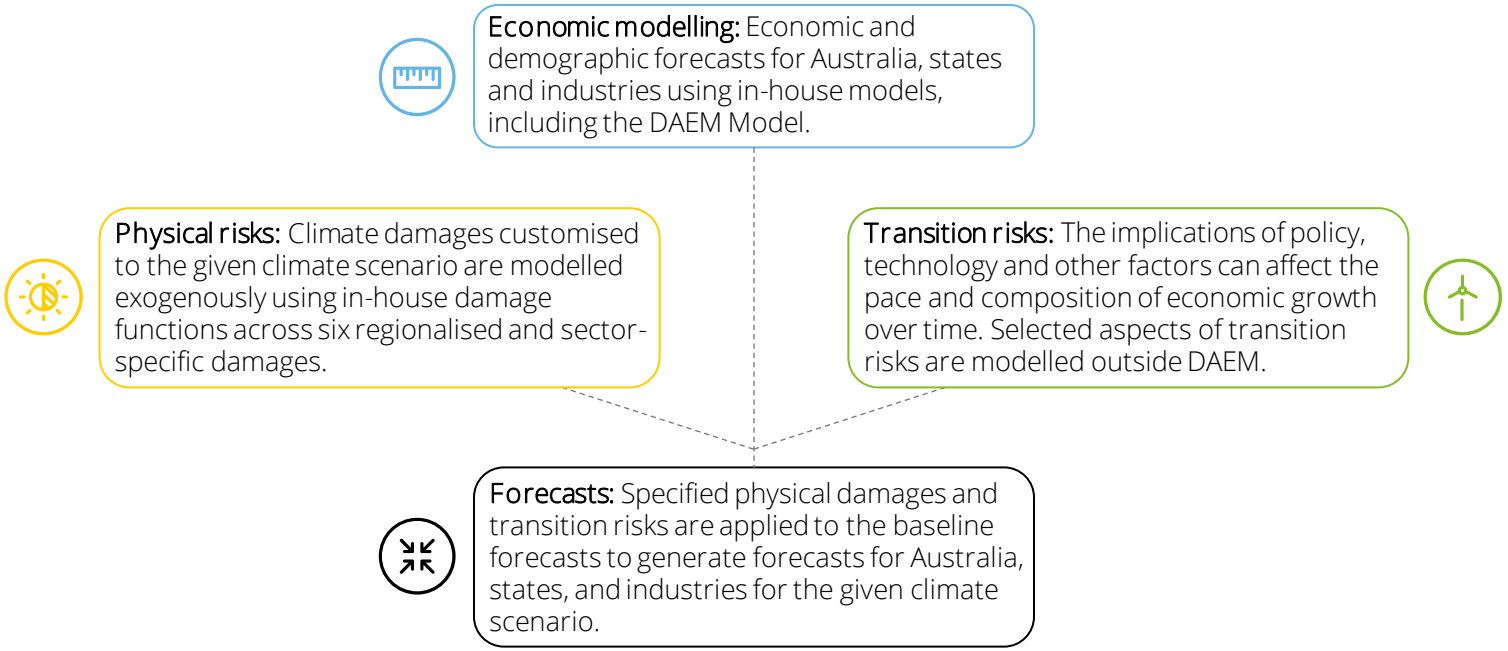
Source: AEMO 2023 Inputs, Assumptions and Scenarios Report

Introduction

Modeling overview

- The forecasts have been developed using the Deloitte Access Economics Macroeconomic (DAEM) Model, 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.

Figure 1: Modelling overview



Step Change

Step Change

Population growth is expected to decline over time leading to slowing GDP growth

- The Australian economy slowed throughout 2023 as elevated inflation and higher interest rates have weighed on household consumption.
- Population growth is forecast to decline from record highs but will remain elevated for some time yet, helping to offset otherwise weak consumer spending.
- Economic growth is expected to begin to pick up towards the end of 2024 and into 2025 as inflation moderates and pressure on household budgets eases.
- Longer run economic growth is driven by demographics, labour force participation and productivity growth. Overall, GDP growth is forecast to average 1.9% per year over the forecast period to 2055-56 .

Chart 1: Step Change population

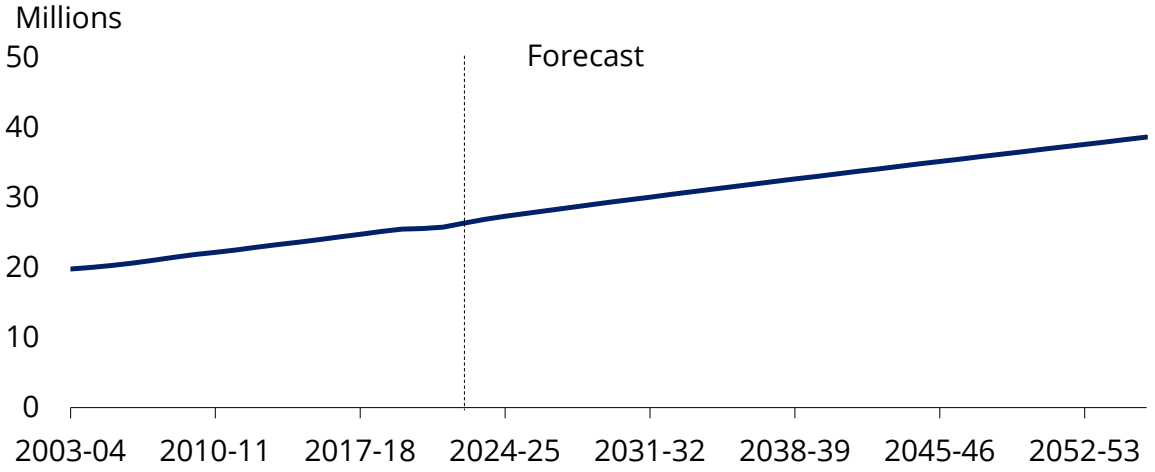
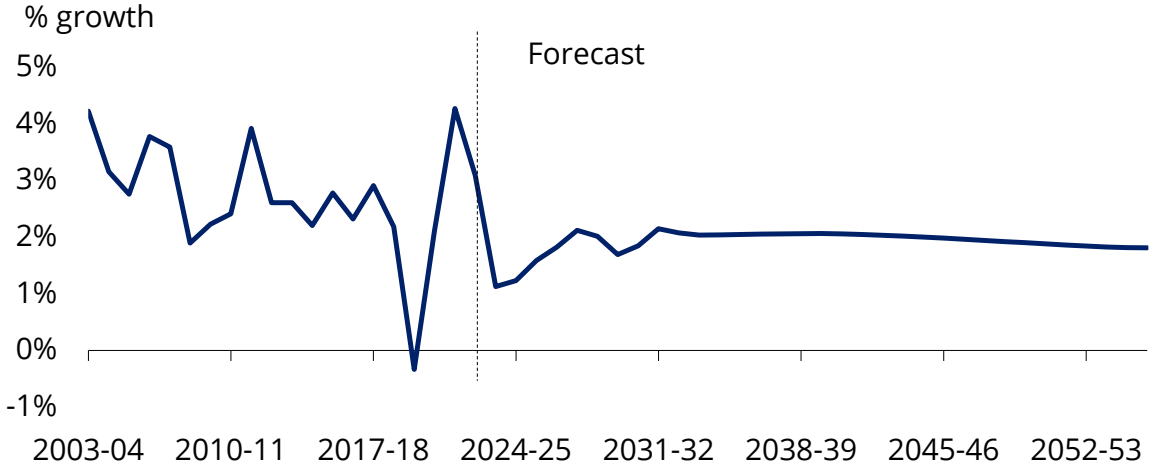


Chart 2: Step Change GDP growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

Step Change

Real wages growth is expected to remain steady in the long run

- Real household disposable income fell by 3.5% in 2022-23. A forecast decline in inflation and interest rates through 2024 and 2025 is expected to support disposable income growth.
- In the long run, household disposable income growth is expected to slow, mainly driven by declining employment growth.
- Long run growth in dwelling investment is forecast based on the underlying demand for new housing, along with an allowance for replacement of existing stock.
- Over the forecast period dwelling completions are forecast to grow at a compound annual growth rate (CAGR) of 1.0%, marginally below forecast population growth.

Chart 3: Step Change household disposable income growth

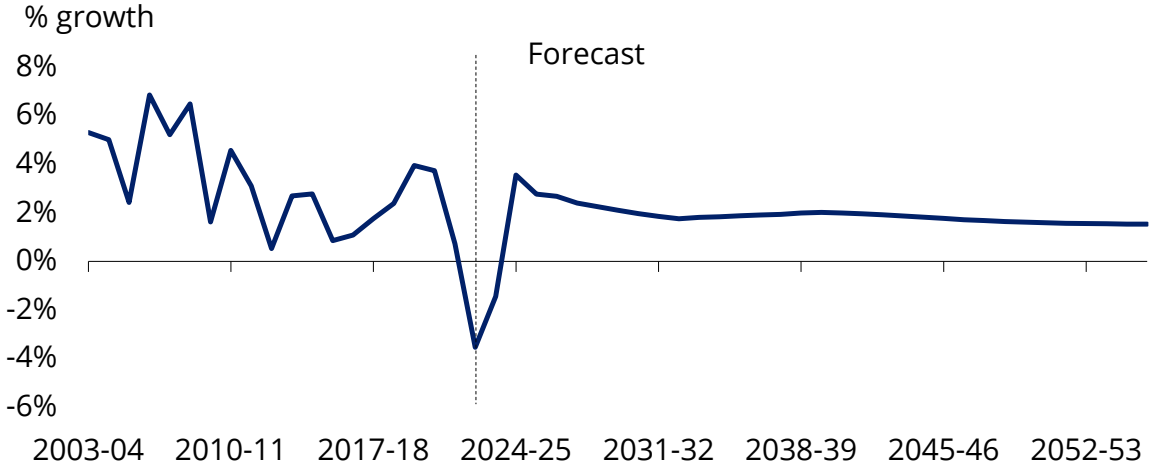
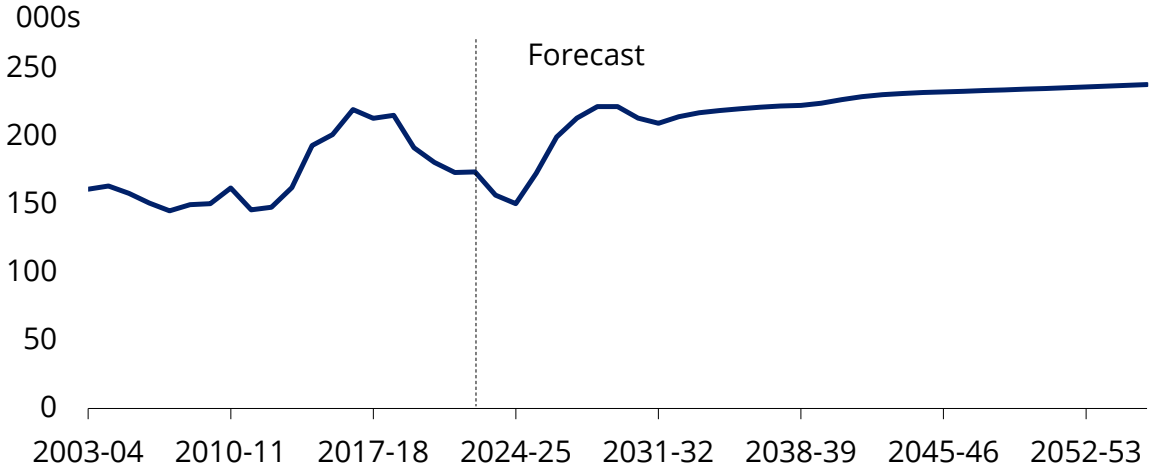


Chart 4: Step Change dwelling completions



Source: Australian Bureau of Statistics, Deloitte Access Economics

Step Change

Industrial production is expected to lag services industries growth over the long run

- Industrial production includes the mining, manufacturing and utilities industries.
- In the long run, Australia's **mining industry** is forecast to shrink as a share of the economy as demand for fossil fuel commodities falls. Activity in the **manufacturing industry** is expected to remain weak across the forecast period reflecting persistent structural issues.
- Activity across Australia's **services industries** has softened in line with a slowdown in consumer spending. Activity is broadly expected to rebound in late 2024 and 2025.
- In the long term, services industries are largely expected to continue their long running trend of outperforming growth in the broader economy.

Chart 5: Step Change industrial production components

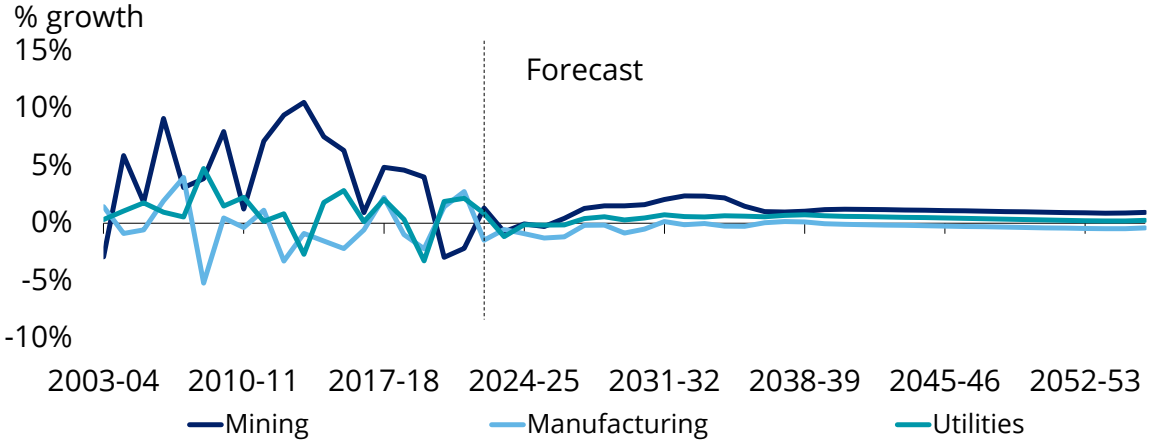
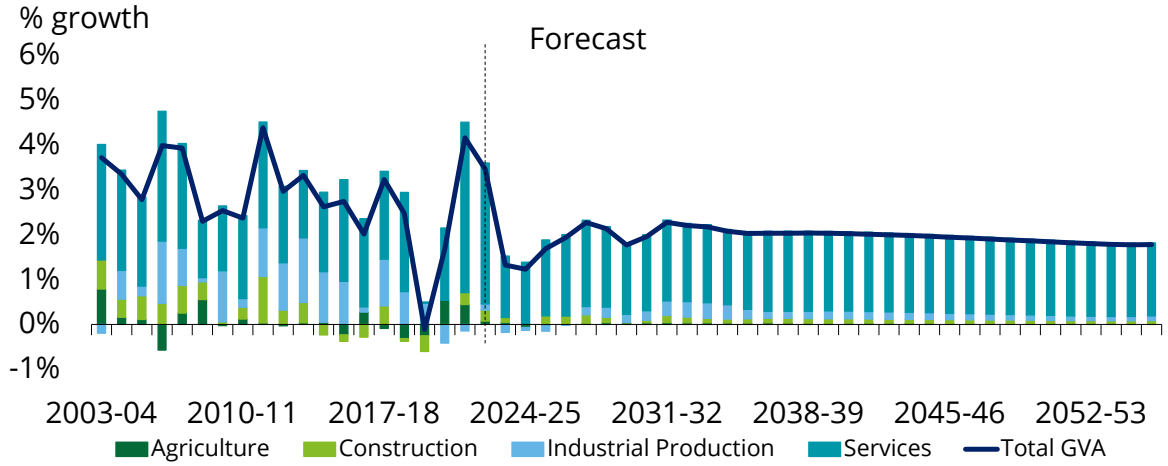


Chart 6: Step Change industry contributions to growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

Step Change

Long run GSP growth is driven by population, labour force participation and productivity

- In the long run, GSP growth across states and territories is forecast to decrease over time. This is driven by moderating population growth and labour force participation nationally.
- States with the lowest long term population growth, Tasmania and South Australia, are expected to have the lowest GSP growth over the forecast period.
- State and territory household disposable income is driven by state employment and wages growth. States with stronger population and GSP growth in the long run, such as Victoria and Queensland, are expected to have relatively high growth in household disposable income over the forecast period.

Chart 7: Step Change GSP forecast

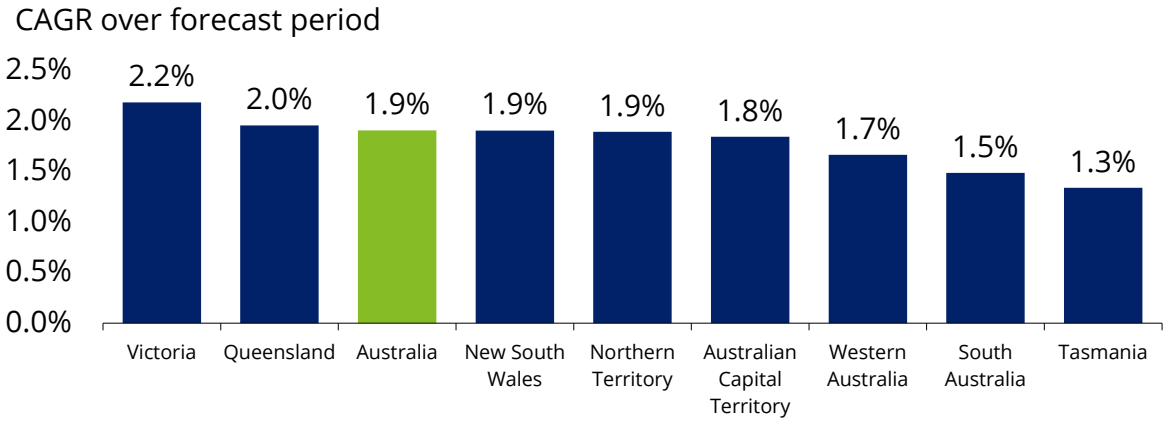
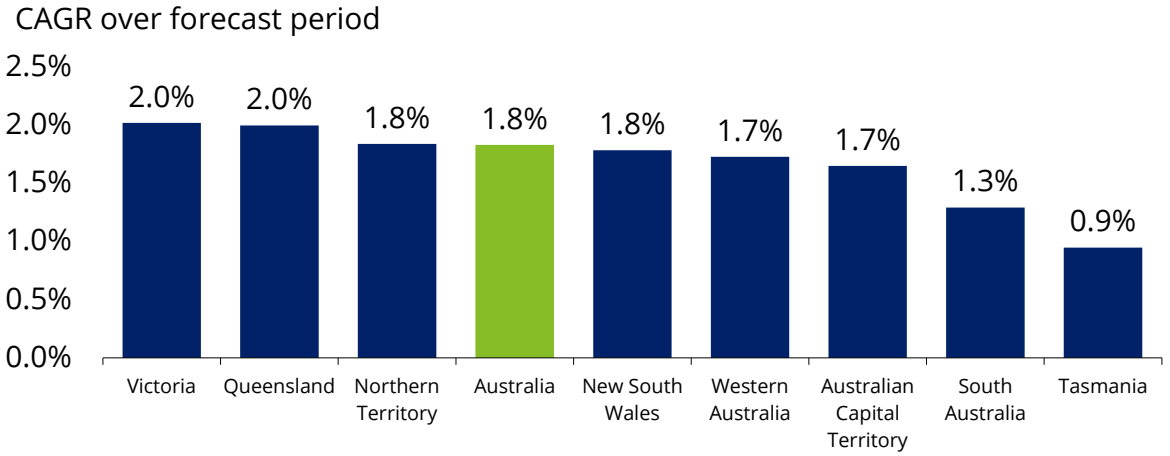


Chart 8: Step Change household disposable income forecast



Note: Forecast period refers to CAGR from 2022-23 to 2055-56
Source: Deloitte Access Economics

Alternative scenarios

Alternative scenarios

The effects of climate change on the economy differ under each alternative scenario

- **Green Energy Exports** presents an upside 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. GDP growth is forecast to decline from around 2.8% in 2031-32 to 2.6% by 2055-56.
- **Progressive Change** presents a downside 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. GDP growth is forecast to decline from 1.7% in 2031-32 to 1.2% by 2055-56.

Chart 9: Alternative scenarios population level

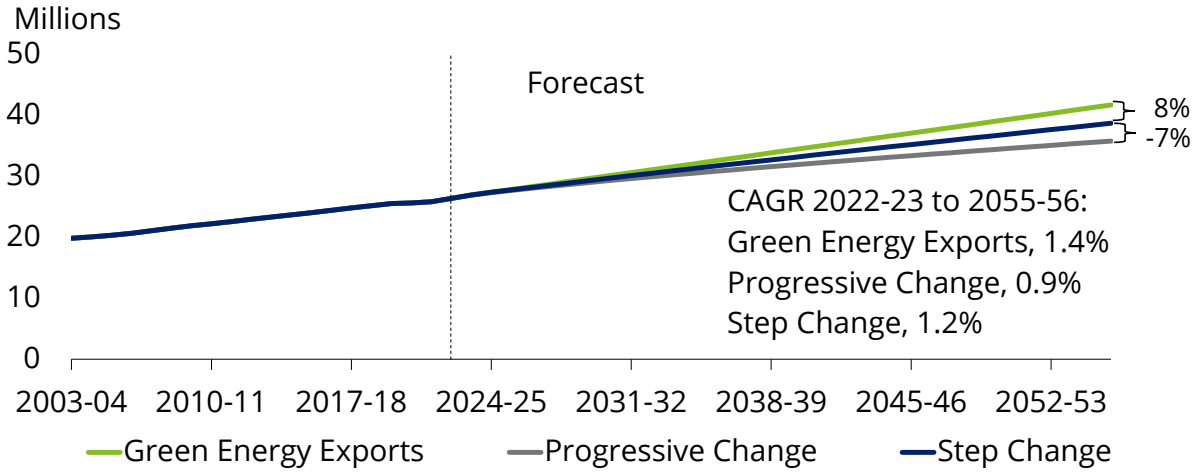
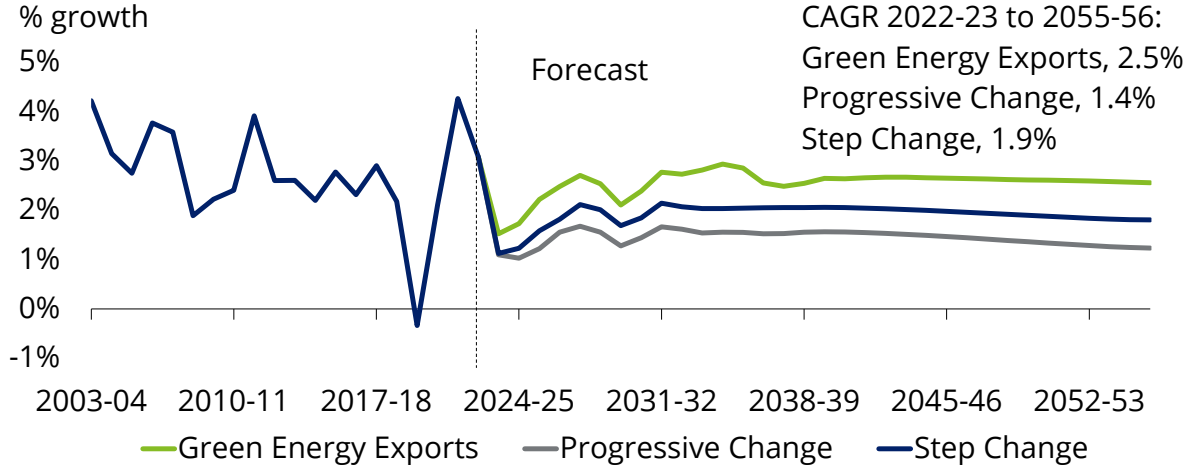


Chart 10: Alternative scenarios GDP growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

Alternative scenarios

Population and household growth are highest under the Green Energy Exports scenario

- Over the long term, higher productivity growth in the **Green Energy Exports** scenario drives faster wage growth, leading disposable income to be 24% higher relative to the Step Change scenario by 2055-56.
- Conversely, weaker productivity growth in the **Progressive Change** scenario leads to slower wage growth, with disposable income 13% lower than Step Change by 2055-56.
- Higher population and household growth under the **Green Energy Exports** scenario increases underlying demand for housing, driving higher dwelling investment and completions. In the **Progressive Change** scenario, labour shortages and capacity constraints in the construction sector hamper growth in dwelling investment.

Chart 11: Alternative scenarios household disposable income

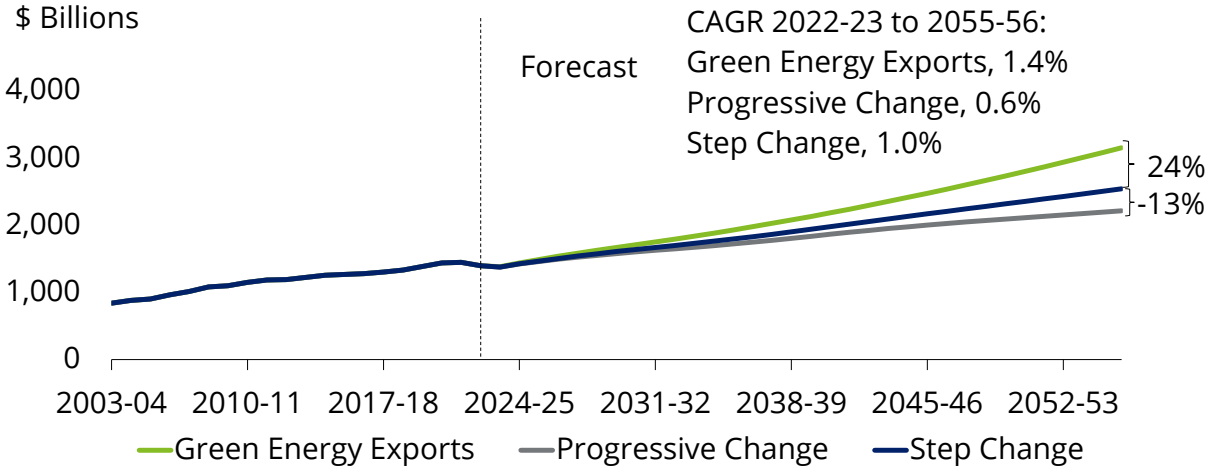
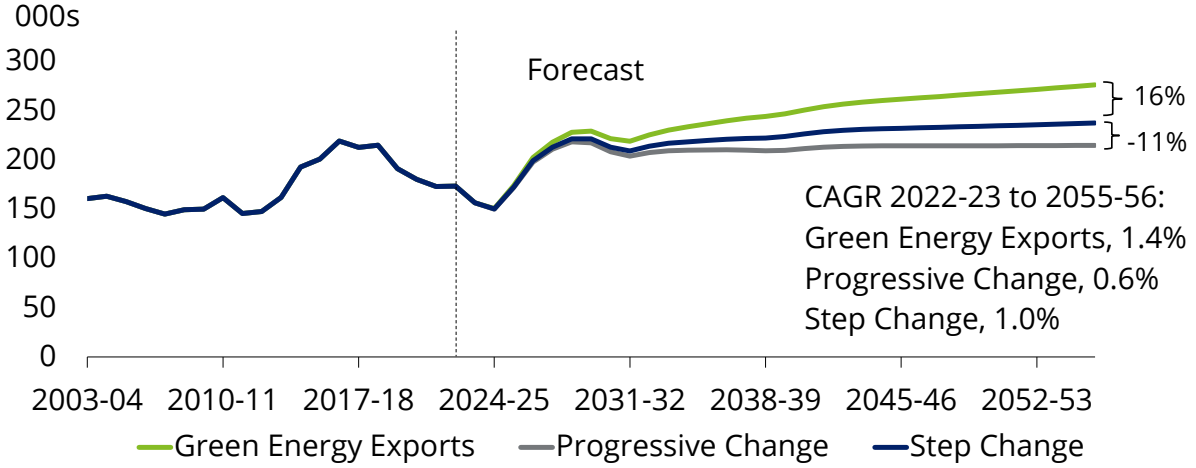


Chart 12: Alternative scenario dwelling completions



Source: Australian Bureau of Statistics, Deloitte Access Economics

Alternative scenarios

Industry growth is stronger under Green Energy Exports than Progressive Change

- An increase in the size of the economy under the **Green Energy Exports** scenario will improve all industry growth profiles. The emergence of a green hydrogen industry drives higher industrial production output.
- Under the **Progressive Change** scenario, industry growth is lower growth due to the smaller population and lower productivity growth. A constraint on net emissions weighs further on higher emissions intensive industries.
- Services industries see stronger growth under the **Green Energy Exports** scenario due to a larger overall economy and stronger population growth. Weaker economic and demographic factors slow services industry growth under the **Progressive Change** scenario.

Chart 13: Alternative scenarios industrial production growth

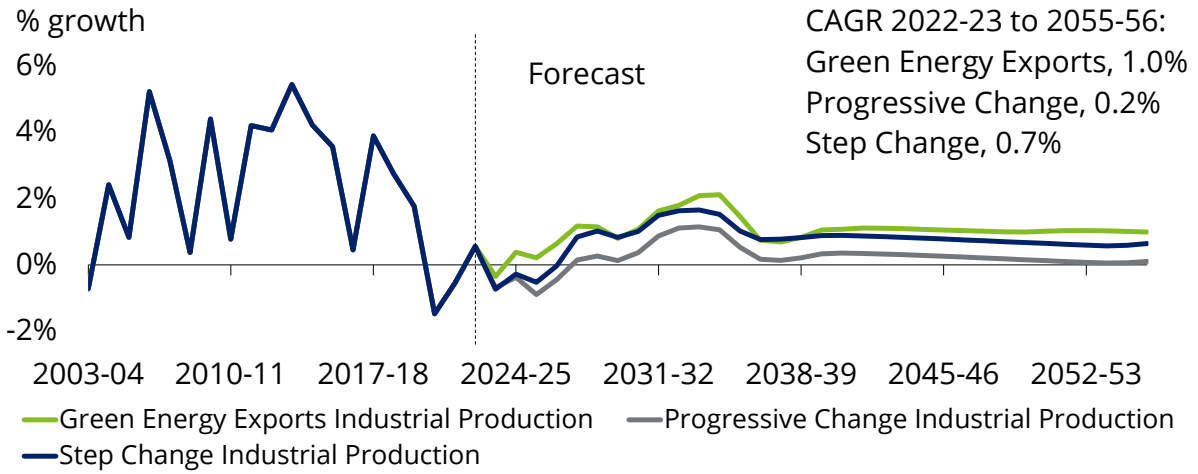
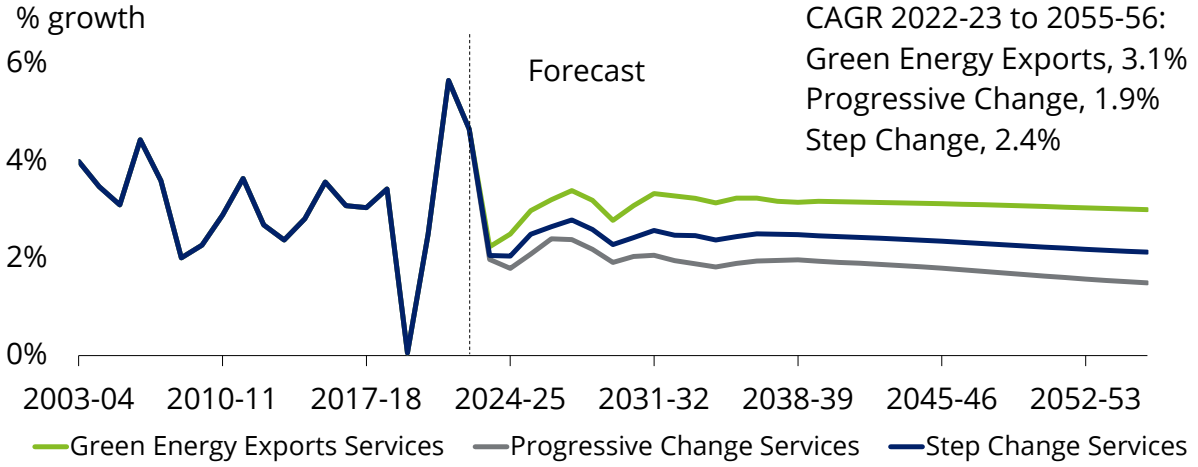


Chart 14: Alternative scenarios services growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

Alternative scenarios

Forecast comparison across states and territories by scenario

Chart 15: New South Wales GSP growth

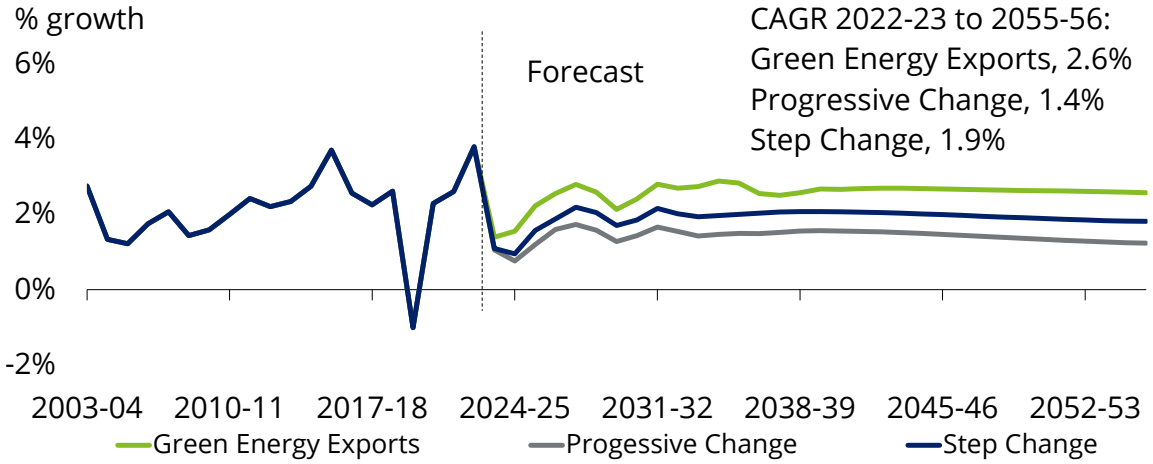


Chart 16: Victoria GSP growth

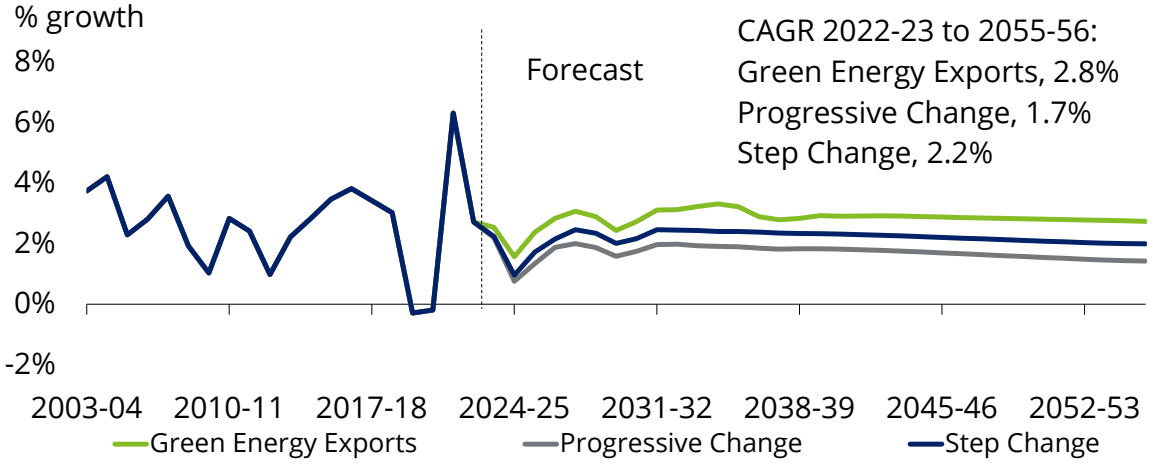


Chart 17: Queensland GSP growth

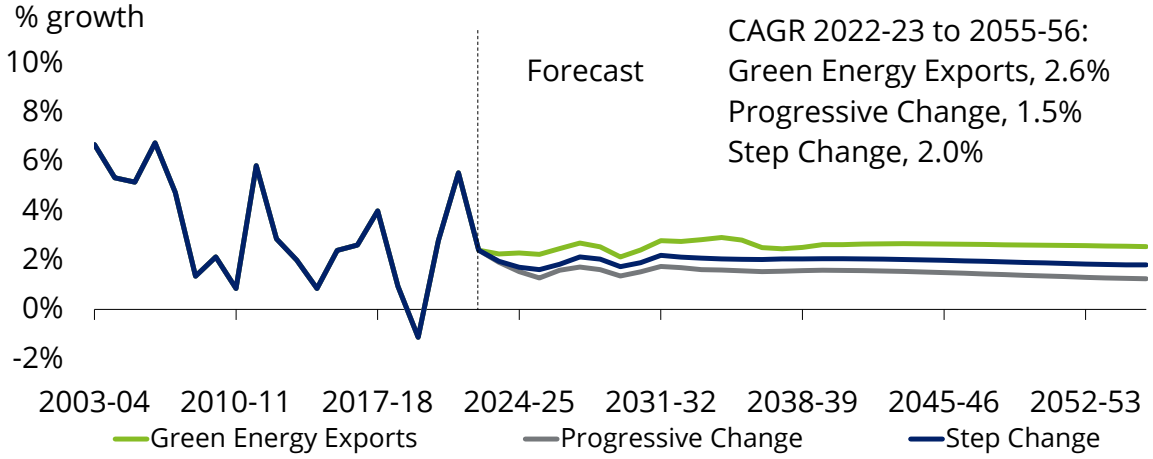
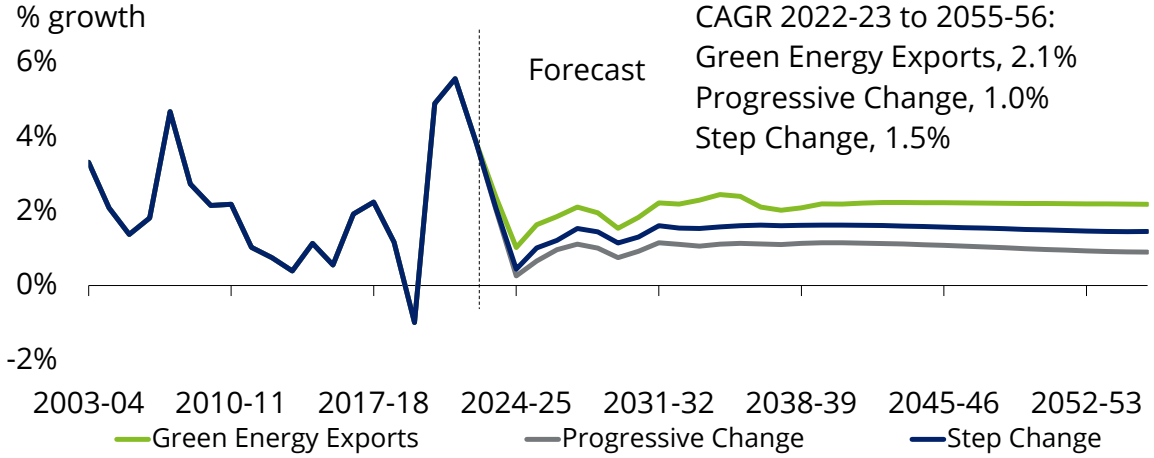


Chart 18: South Australia GSP growth



Source: Australian Bureau of Statistics, Deloitte Access Economics

Alternative scenarios

Forecast comparison across states and territories by scenario

Chart 19: Western Australia GSP growth

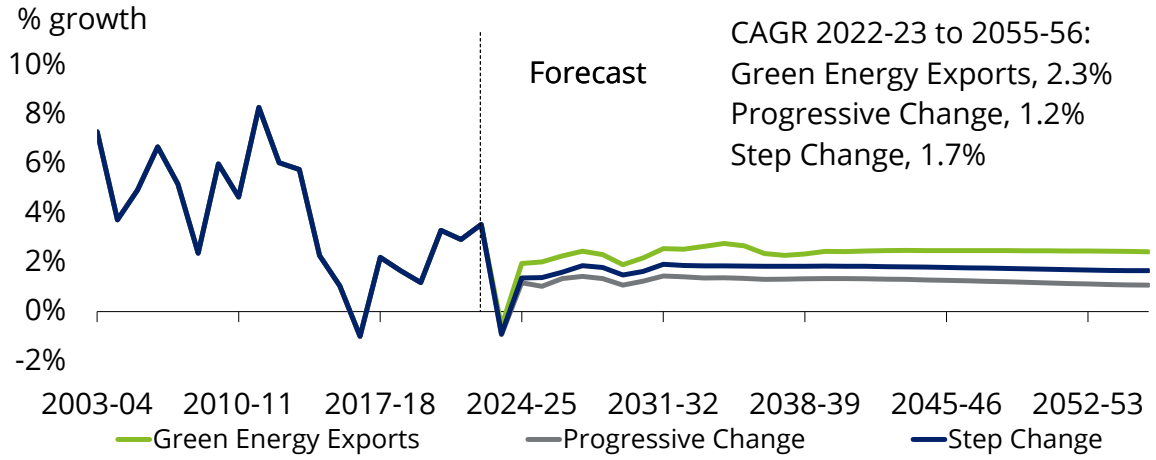


Chart 20: Tasmania GSP growth

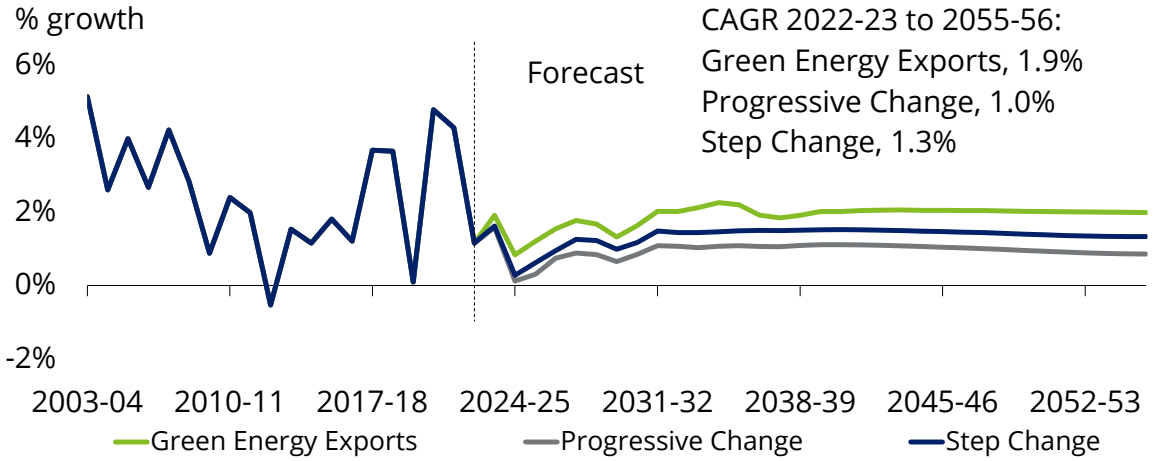


Chart 21: Northern Territory GSP growth

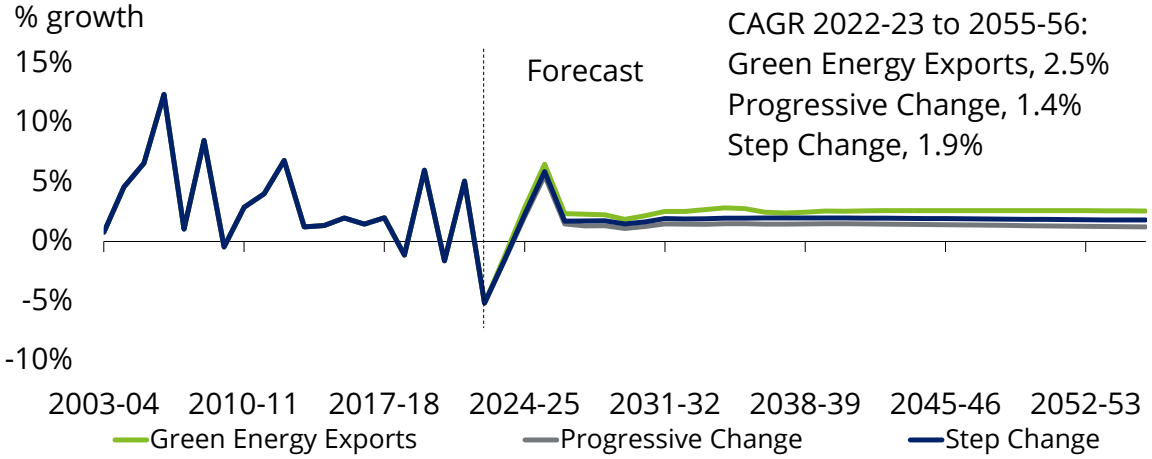
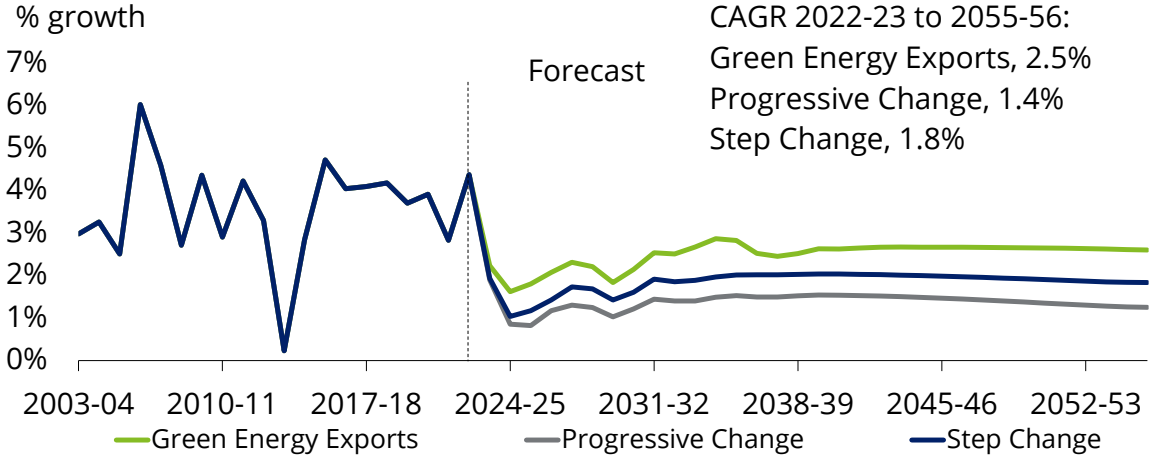


Chart 22: Australian Capital Territory GSP growth

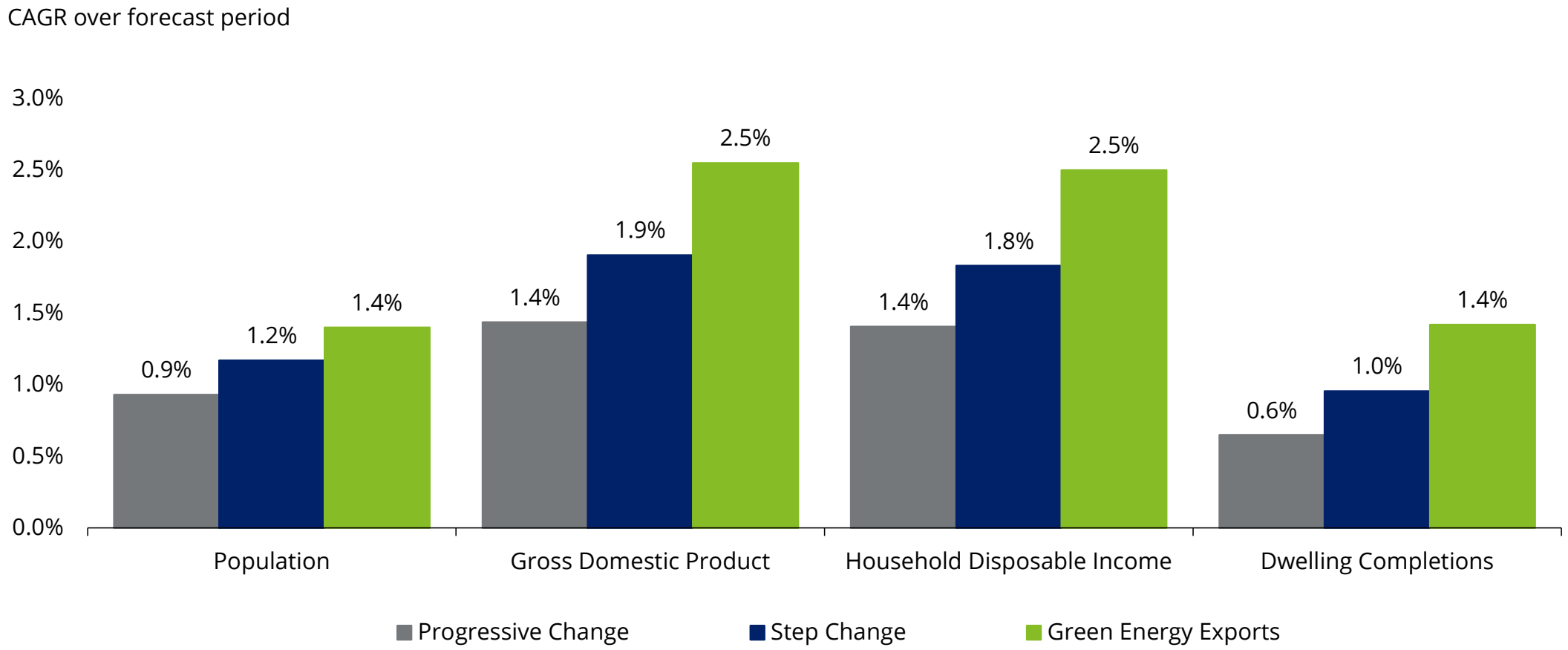


Source: Australian Bureau of Statistics, Deloitte Access Economics

Alternative scenarios

Forecast comparison across scenarios

Chart 23 : Key national variables growth over the forecast period



Note: Forecast period refers to CAGR from 2022-23 to 2055-56
Source: Deloitte Access Economics

Comparison to Oxford Economics Australia

Comparison to Oxford Economics Australia

Step Change scenario forecast comparison

- In the Step Change scenario Deloitte Access Economics forecasts GDP to be around 6% lower in 2054-55 compared to Oxford Economics Australia Step Change forecasts published in the *2022 Macroeconomic Projection Report: Final* published 13 July 2022.*
- Similarly, household disposable income is forecast to be around 5% lower by 2054-55 relative to Oxford Economics Australia Step Change scenario forecasts.
- Deloitte Access Economics forecasts a more subdued short term outlook, in part reflecting softer conditions at the time the forecasts were prepared.

Chart 24: Australia GDP comparison

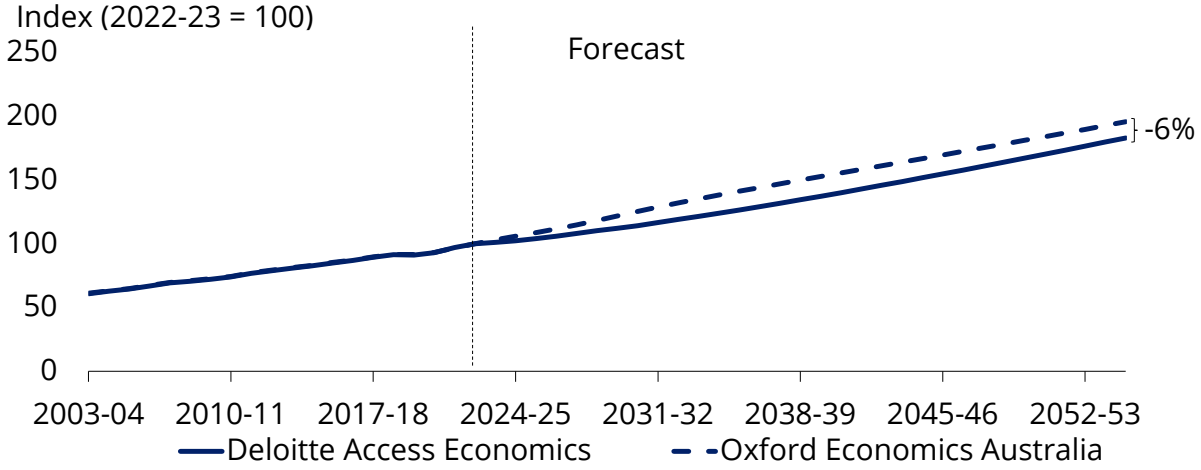
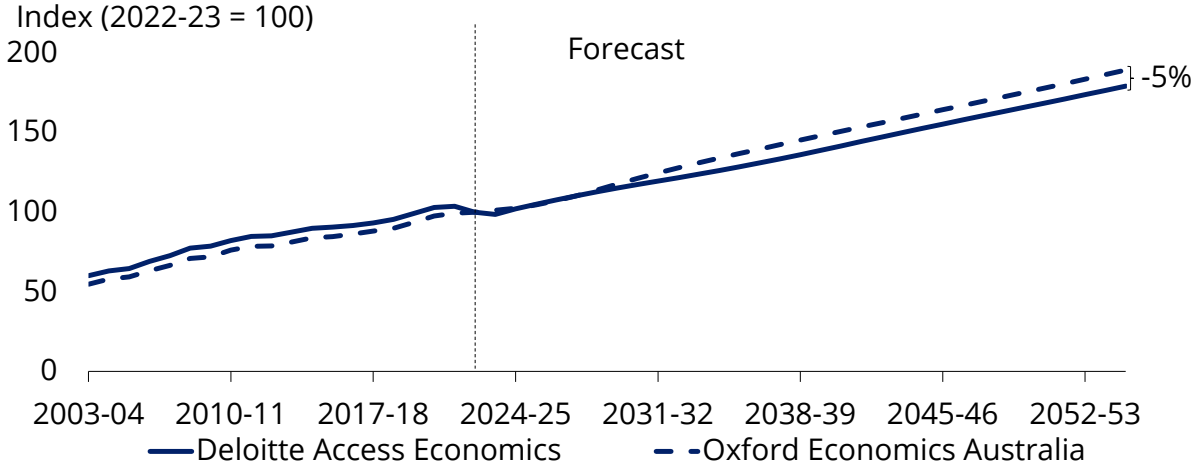


Chart 25: Australia household disposable income comparison



Source: Deloitte Access Economics, Oxford Economics Australia

* Report available at: <https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/2023-inputs-assumptions-and-scenarios-consultation/supporting-materials-for-2023/bis-oxford-economics-2022-macroeconomic-outlook-report.pdf>

Comparison to Oxford Economics Australia

Step Change scenario forecast comparison

- The different forecast growth rate between Deloitte Access Economics and Oxford Economics Australia at state level reflect several factors including a weaker shorter term national forecast by Deloitte Access Economics as well as differing long run population and growth assumptions for each state and territory.

Chart 26: State gross state product forecasts

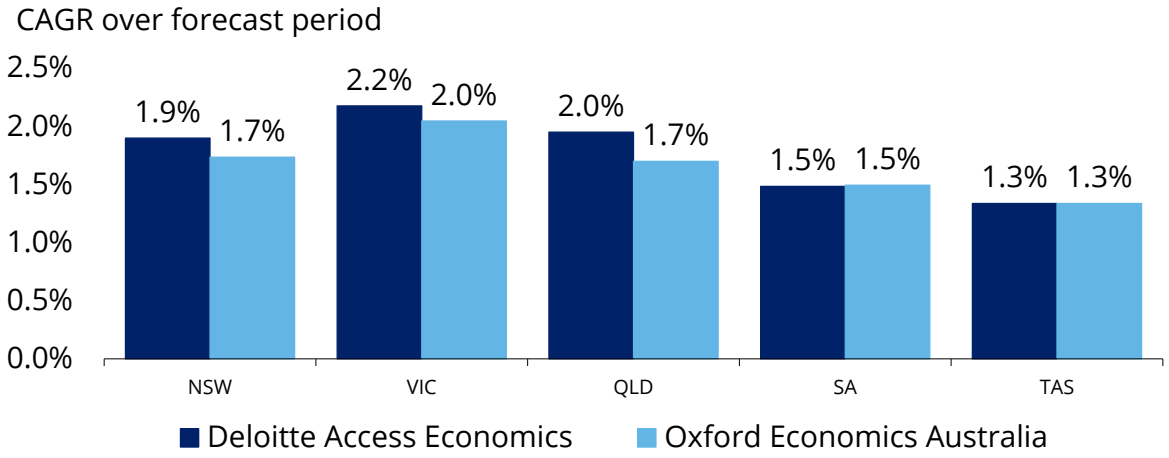
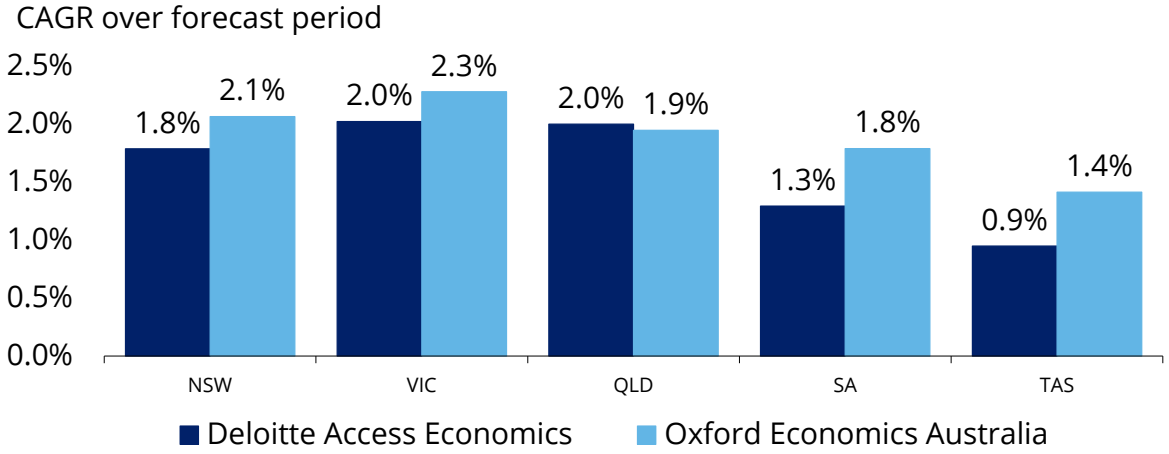


Chart 27: State household disposable income forecast



* Forecast period is 2022-23 to 2055-56 for Deloitte Access Economics and 2022-23 to 2054-55 for Oxford Economics Australia

Source: Deloitte Access Economics, Oxford Economics Australia

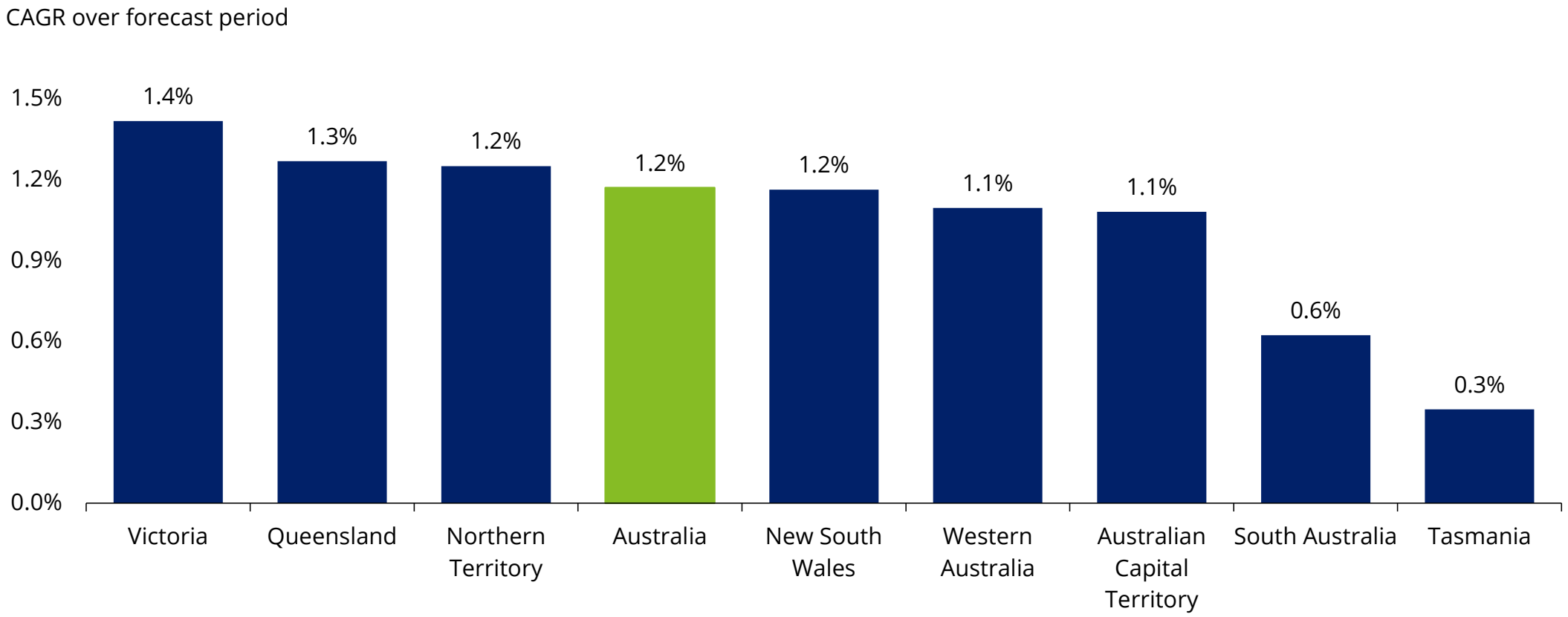
Questions

Appendix

Appendix

Step Change population growth forecast

Chart 28: Population growth across the forecast period



Note: Forecast period refers to CAGR from 2022-23 to 2055-56
Source: Deloitte Access Economics

Appendix

The key data sources used by Deloitte Access Economics are listed in the table below

Table 3: Data sources

Variable	Data source	Release date
GDP and GSP	ABS – Australian National Accounts: State Accounts 2022-23	21/11/2023
State final demand	ABS – Australian National Accounts: National Income, Expenditure and Product September 2023	6/12/2023
Household disposable income	ABS – Australian National Accounts: National Income, Expenditure and Product September 2023	6/12/2023
Population	ABS – National, state and territory population June 2023	14/12/2023
Dwelling completions	ABS – Building Activity, Australia September 2023	17/01/2024
GVA by industry	ABS – Australian National Accounts: National Income, Expenditure and Product September 2023	6/12/2023
Consumer price index (CPI)	ABS – CPI, Australia December Quarter 2023	31/01/2024
AUD:USD exchange rate	Reserve Bank of Australia (RBA) – Statistical Tables	31/12/2023

Source: Deloitte Access Economics

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