



Appendix

A.1 Exchange rates

In this report, the AUD/USD exchange rate (Australian dollar relative to the US dollar) is based on the median of economic forecasters at the time that the report is prepared. The source is the Bloomberg survey of economic forecasters.

World commodity prices are typically denominated in US dollars, and exchange rate movements can have a significant effect on the actual outcomes of commodity prices and export earnings. A change in the value of the US dollar against other floating international currencies can influence movements in world resources and energy prices. A change in the Australian dollar against the US dollar will impact on export earnings for domestic commodity exporters and producers. There is substantial uncertainty surrounding any exchange rate forecast, with changes to exchange rates influenced by changes in financial market sentiment, sometimes resulting in strong volatility.

A.2 Conversion to real dollars

Nominal values and prices are converted to real dollars using on the Australian and US consumer price indexes (CPI). The Australian and US CPI forecasts are based on the median of economic forecasters at the time that the report was prepared. The source is the Bloomberg survey of economic forecasters.

Table A1: Exchange rate and inflation assumptions

	2017	2018	2019	2020
AUD/USD exchange rate	0.77	0.77	0.80	0.77
Inflation rate				
United States	97.7	100.0	102.2	104.1
	2016–17	2017–18	2018–19	2019–20
Australia	98.1	100.0	102.4	104.8

Notes: The inflation rate for Australia is used to convert Australian export values to real 2017–18 dollars. The inflation rate for the United States is used to convert commodity prices denominated in USD to real 2018 dollars. Source: Department of Industry, Innovation and Science (2018); Bloomberg (2018) Survey of economic forecasters

A.3 Time horizons

It is important to distinguish between different time horizons, as factors affecting production, consumption and prices in the short-term differ from factors affecting these components in the medium to long-term. Forecasts also become increasingly imprecise over longer time horizons, due to increased risk and uncertainty. For these reasons, the OCE uses different terminology to distinguish between short-term forecasts and medium to long-term projections, as outlined in Table A2.

Table A2: OCE terminology for time horizons

Outlook period	Years	Terminology
Current period	Current (Incomplete data or subject to revision)	Estimate
Short-term	1 to 2 years	Forecast
Medium-term	3 to 5 years	Projection

Source: Department of Industry, Innovation and Science (2018)

A.4 Commodity classifications

The Office of the Chief Economist (OCE) defines exports for each commodity by a selected set of 8–digit Australian Harmonised Export Commodity Classification (AHECC) codes. Where possible, the choice of AHECC codes is based on alignment with international trade data, to ensure that direct comparisons can be made. For example, groupings for various commodities are aligned with classifications used by the International Energy Agency, World Steel Association, International Nickel Study Group, International Lead and Zinc Study Group, International Copper Study Group and World Bureau of Metal Statistics.

In this report, benchmark prices and Australian production and exports are forecast for 21 commodities. As shown in Table A3, fourteen of these commodities are featured in a chapter of *Resources and Energy Quarterly*, while forecasts are produced for another seven commodities that are not published. Australia also exports other resources and energy commodities. These other commodities, defined as ‘other resources’ and ‘other energy’, are forecast as a group.

Table A3: Resources and energy commodities groupings and definitions

	Resources (non-energy)	Energy
Definition	Resource commodities are non-energy minerals and semi-manufactured products produced from non-energy minerals	Energy commodities are minerals and petroleum products that are typically used for power generation
Australian Harmonised Export Commodity Classification (AHECC) chapters	25 (part); 26 (part); 28 (part); 31 (part); 73 (part); 74; 75; 76; 78; 79; 80; 81	27 (part)
Commodities featured in Resources and Energy Quarterly	Aluminium; alumina; bauxite; copper; gold; iron ore; crude steel; nickel; zinc	Crude oil and petroleum products; LNG; metallurgical coal; thermal coal; uranium
Commodities not featured in Resources and Energy Quarterly, but data is available	Diamonds; lead; manganese; mineral sands; salt; silver; tin	

Notes: The AHECC chapter is the first two digits of the trade code. Groupings are made at the 8–digit level.

Source: Department of Industry, Innovation and Science (2018)

A.5 Commodity analysts and contact details

Commodity	Analyst	Email
Steel and iron ore	Joseph Moloney	joseph.moloney@industry.gov.au
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Oil	Kate Martin	kate.martin@industry.gov.au
Uranium	Mark Gibbons	mark.gibbons@industry.gov.au
Gold	Thuong Nguyen	thuong.nguyen@industry.gov.au
Aluminium, alumina and bauxite	Andrea Bath	andrea.bath@industry.gov.au
Copper	Mark Gibbons	mark.gibbons@industry.gov.au
Nickel	Mark Gibbons	mark.gibbons@industry.gov.au
Zinc	Mark Gibbons	mark.gibbons@industry.gov.au

A.6 The Australian mining boom: a tale of three phases

Year	Prices	Investment	Production
2003	46	20	55
2004	53	23	53
2005	69	29	57
2006	88	35	57
2007	88	51	61
2008	120	69	64
2009	103	96	66
2010	119	121	71
2011	138	202	71
2012	117	265	76
2013	115	254	83
2014	102	228	94
2015	85	223	98
2016	83	195	105
2017	101	122	106
2018	106	44	116
2019	94	41	121
2020	93	42	123
2021	95	35	123
2022	99	42	123
2023	102	35	121

Notes: Chart data originally published on page 4 of the *Resources and Energy Quarterly March 2018*. Price and Production are indices based on Australia's export values and volumes. Investment refers to A\$ billions of committed major resource and energy projects.

Source: Department of Industry, Innovation and Science (2018)