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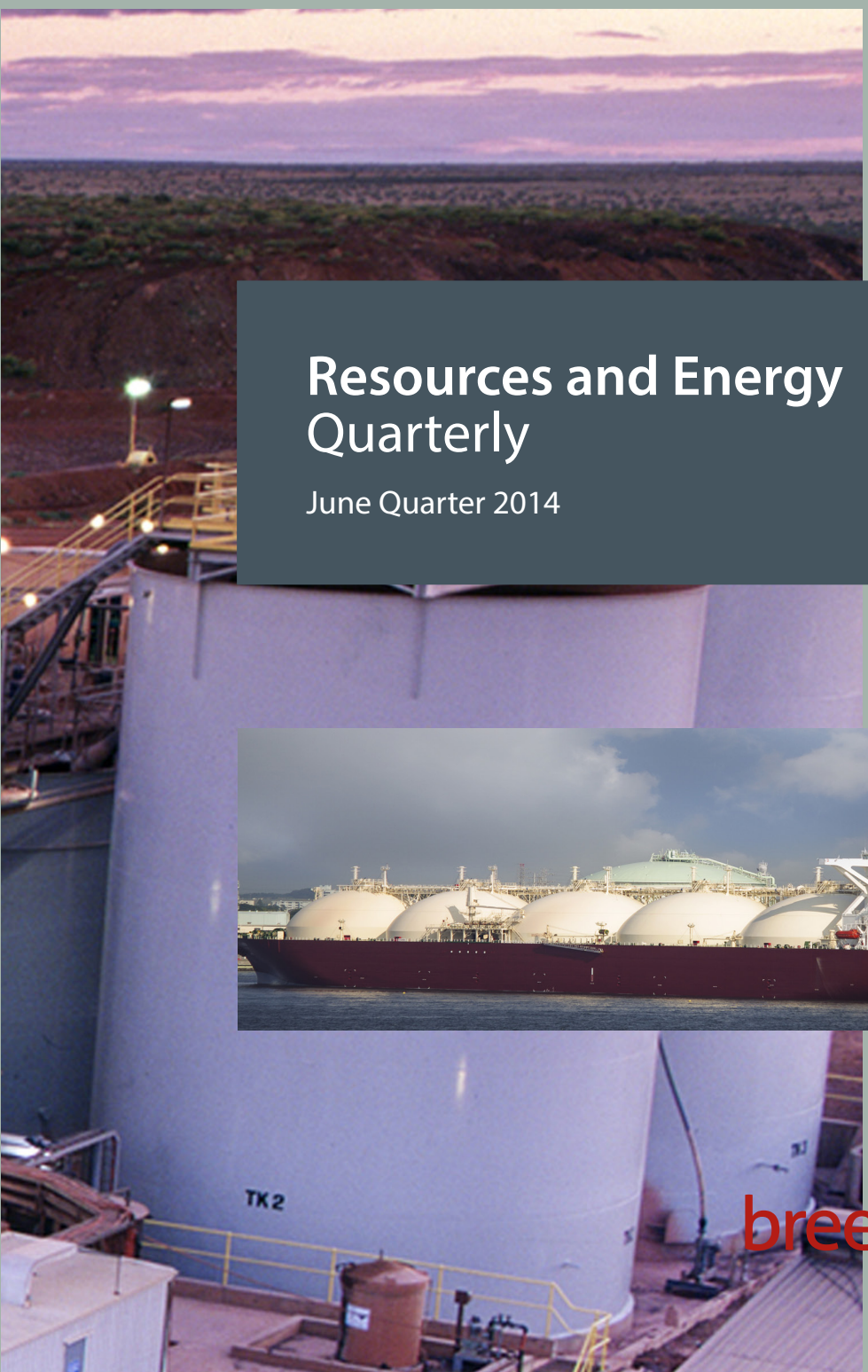
Bureau of Resources and Energy Economics



Resources and Energy Quarterly

June Quarter 2014

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Foreword

The Resources and Energy Quarterly provides data on the performance of Australia's resources and energy sectors and analysis of key commodity markets. This release of the Resources and Energy Quarterly contains an update of BREE's short-term commodity forecasts and overview of key commodity market issues.

Australia is continuing to see the transition from the investment phase of the mining boom to the production phase. Throughout 2013-14 the production of key resources and energy commodities has increased, supported by continuing demand growth in key markets. In 2013-14 the value of Australia's resource and energy exports is estimated to have increased by 11 per cent to $196 billion. However, moving forward price pressures will continue to impact on domestic producers with falling commodity prices and a persistently strong dollar impacting on export values. This will draw a sharp focus towards managing costs and enhancing productivity in the sector. In 2014-15, Australia's export earnings are forecast to increase 2.6 per cent to $201 billion.

Wayne Calder
Deputy Executive Director
Bureau of Resources and Energy Economics

Contents

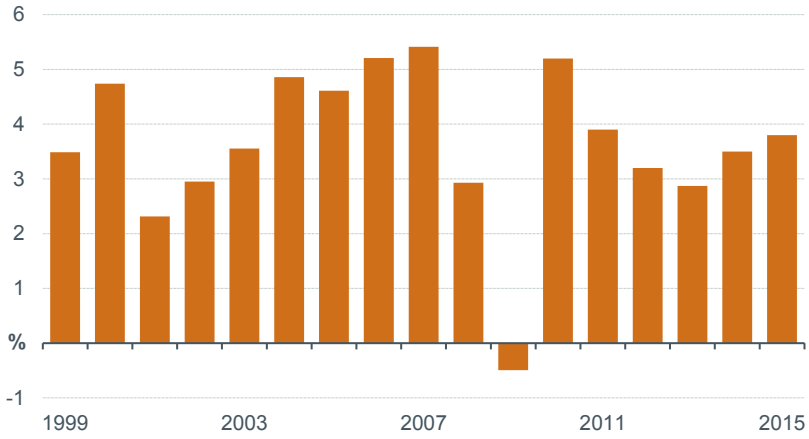
Macroeconomic outlook

The global economy

The global economy is expected to grow by 3.5 per cent in 2014, underpinned by strong activity in China and the US. Economic growth in OECD economies is assumed to be 2.2 per cent in 2014 (see Table 1). The US economic recovery is expected to strengthen during 2014, with macroeconomic indicators remaining largely positive since the first quarter. Higher growth is also forecast in the UK and Germany. GDP in emerging economies is assumed to grow by 4.8 per cent in 2014. China will be a major driver of this growth, albeit at a slower pace than previous years. India is also expected to exhibit stronger GDP growth in 2014 following a change in government.

Developments in China and the United States are expected to continue to have an important bearing on global economic prospects in 2015, contributing to world GDP expanding by a forecast 3.8 per cent.

Figure 1: World growth outlook



Sources: IMF; BREE.

Table 1: Key world macroeconomic indicators

%	2011	2012	2013	2014 a	2015 a
Economic growth b					
OECD	1.9	1.6	1.3	2.2	2.5
United States	1.8	2.8	1.9	2.3	2.8
Japan	–0.6	1.9	1.5	1.3	1.4
European Union 28	1.5	–0.6	0.2	1.2	1.5
Germany	3.4	0.9	0.5	1.7	1.9
France	2.0	0.0	0.3	1.0	1.4
United Kingdom	1.1	0.2	1.9	2.8	3.0
South Korea	3.7	2.0	2.8	3.5	3.5
New Zealand	1.3	3.2	2.4	3.2	3.2
Emerging economies	6.2	4.9	4.7	4.8	5.1
Non-OECD Asia	8.1	6.6	6.5	6.4	6.6
South East Asia d	4.5	6.1	5.2	5.0	5.3
China e	9.3	7.8	7.7	7.2	7.4
Chinese Taipei	4.1	1.3	2.1	3.0	3.5
India	6.3	3.2	4.4	4.6	4.8
Latin America	4.6	2.9	2.7	2.6	3.0
Middle East	3.9	4.6	2.4	3.1	4.1
World c	3.9	3.2	3.0	3.5	3.8
Inflation rate b					
United States	3.1	2.1	1.5	2.3	2.3

a BREE assumption. **b** Change from previous period. **c** Weighted using 2012 purchasing power parity (PPP) valuation of country gross domestic product by IMF. **d** Indonesia, Malaysia, the Philippines, Thailand and Vietnam. **e** Excludes Hong Kong.
Sources: BREE; ABS; IMF; OECD.

Outlook for key economies

The US

In the first quarter of 2014, US GDP growth was revised down to -1.0 per cent (annualised) due to a harsh winter. However, GDP growth through the year to the first quarter of 2014 was up 2.1 per cent as the country's economic recovery continued and was driven by increased consumer spending (up 2.5 per cent) and exports (up 3.7 per cent). Unemployment in the US was 6.3 per cent in May and jobless claims remained around a seven year low.

The US Federal Reserve continued to wind down stimulus measures and in June 2014 announced monthly bond purchases would be tapered to US$35 billion. In 2014, the US economy is assumed to expand by 2.3 per cent although there are risks to this outlook including low consumer confidence and spending as well as the impact of the further tapering of QE3. In 2015, US GDP growth is forecast to pick up to around 2.8 per cent.

China

The Chinese economy grew by 7.4 per cent year-on-year in the first quarter of 2014, the lowest rate of growth in 18 months. These results raised concerns that China's growth was decelerating faster than anticipated, with a number of other economic indicators such as investment and real estate also exhibiting weaker growth. While the Central Government has ruled out any major stimulus measures to boost economic growth to ensure it meets its 7.5 per cent target, they have announced a series of more focused support measures. These include the introduction of tax exemptions for small businesses until 2016; the construction of new housing to rejuvenate low socio-economic areas and accelerating the construction of rail projects with more than 7000 kilometres of new rail expected to be constructed in 2014.

In addition, local government officials have been requested to fast-track delayed spending to assist growth in the short term. Early indications are that these measures have had some effect. For example, the official manufacturing Purchasing Managers Index (PMI) increased to 50.8 in May, the highest in five months. Despite these short-term measures, the Central Government remains committed to implementing structural reforms required to transition the Chinese economy to slower, more sustainable growth.

The Chinese Government will continue to face a number of challenges in steering the economy in this transition including managing the high level of debt through measures to constrain credit growth and higher interest rates to limit credit availability; retiring surplus production capacity; aligning growth objectives with the greater focus on environmental amenity; and stimulating domestic consumption through improved labour mobility and income distribution. China's economy is forecast to grow by 7.2 per cent in 2014 and 7.4 per cent in 2015.

India

The Indian economy expanded by 4.6 per cent year-on-year in the first quarter. It is widely anticipated that India's economic growth will improve throughout the rest of the year following the election of the Bharatiya Janata Party, led by Narendra Modi, which achieved the first outright majority in more than three decades. The Modi Government was elected on promises to increase economic growth, create jobs and improve the provision of basic services such as electricity and water.

Narendra Modi has a history of successful reform as Chief Minister of the state of Gujarat and there are expectations that he will be able to achieve this at a national level. It is estimated that 6.2 trillion Rupees (US$105 billion) worth of projects were delayed last year because of inefficient government processes. To this effect, the road transport Minister has requested the National Highways Authority of India to prioritise completion of more than two dozen projects that have been progressing slowly.

Capital investment accounts for around 35 per cent of India's economy and is expected to be the major driver of economic growth as exports are affected by weak global demand and domestic consumption by high inflation and interest rates. India's economic growth is assumed to be 4.6 per cent in 2014 and 4.8 per cent in 2015.

Japan

Japan's GDP is forecast to increase 1.3 per cent in 2014 and then a further 1.4 per cent in 2015. While the Japanese government's latest stimulus plans have so far had moderate success increased competition in key export markets and rising public debt will remain a constraint in the short to medium term.

The US$182 billion fiscal stimulus package announced in December 2013 has been positive for Japan's economic growth. In the first quarter of 2014 capital spending rose 4.9 per cent and contributed almost 1 per cent to first quarter GDP growth of 1.5 per cent. However structural reforms have stalled, particularly increasing female participation in the workforce and immigration.

South Korea

The South Korean economy is assumed to grow by 3.5 per cent in 2014 and 2015. Economic growth is expected to be driven by increased exports, particularly to the US, and construction. However South Korean household debt presents a risk to this economic growth. Household debt is growing faster than the economy and is currently 1.6 times annual disposable income, compared to the OECD average of 1.3 times.

The EU

In the March quarter 2014 Euro area GDP grew slowly, increasing by only 0.2 per cent from the previous quarter, and 0.9 per cent compared to a year ago. Euro area unemployment for April remained at elevated levels at 11.7 per cent. In 2014, the EU 28 is expected to return to modest economic growth with GDP assumed to increase by 1.2 per cent. In 2015 the EU 28 is assumed to grow by 1.5 per cent. These moderate rebounds in economic growth are expected as a result of lower unemployment, stabilising domestic consumption and increased production in the short term. In April 2014 euro area industrial production grew by 1.4 per cent year-on-year, driven by consumer and intermediate goods.

The performance across EU 28 economies has been mixed. Germany, which accounts for the largest portion of EU GDP, grew by 0.8 per cent in the first quarter of 2014. The United Kingdom, described by the IMF as rebounding strongly, reported consumer confidence at record high levels in May 2014. In 2014 UK GDP is forecast to grow at 3 per cent. However, the positive economic indicators in the UK and Germany continue to be offset by other countries. In the first quarter of 2014, decreases in GDP were reported in the Netherlands, Cyprus, Italy, Portugal and Greece. France, the euro area's second largest contributor to growth, showed no growth at all. High levels of unemployment in Italy (12.6 per cent in March 2014), Spain (25.2 per cent in March 2014) and Greece (26.6 per cent in March 2014) are expected to weigh on Euro area recovery.

To combat the persistently low-growth and high-unemployment economies in the euro area, the European Central Bank has reduced its deposit rate to less than zero. This unprecedented monetary policy move is aimed at managing the deflation risk that is stemming from tight credit conditions constraining both investment and consumer spending in the region.

Economic outlook for Australia

Australia's GDP growth rate rebounded to 1.1 per cent in the March quarter 2014 (in seasonally adjusted terms). Lower interest rates have produced some positive results in dwellings construction which was up 4.7 per cent in the quarter. While there are indications of moderate improvements in non-mining sectors of the economy, the mining sector still remains the principal source of economic growth. Although mining investment has begun to taper, production of key mineral commodities have increased substantially in the past twelve months. Iron ore export volumes in the March quarter were up 27 per cent year-on-year and marked the mining boom's continuing transition to the production phase. In seasonally adjusted terms, mining industry gross value added increased 8.6 per cent and was by far the largest contributor to GDP growth in the March quarter.

The economic indicators for the Australian economy for the first half of 2014 are encouraging and give some optimism that the financial year 2013–14 will be the second year of above-trend growth for Australia since the GFC. GDP growth is forecast to increase to 3.1 per cent in 2013–14, up from 2.6 per cent in 2012–13 (see Table 2). However, maintaining this growth rate in 2014–15 may prove challenging as the Australian economy still faces several risks in the short term including the high value of the Australian dollar, a looming drop in capital investment

that will be driven mainly, but not exclusively, by the construction of large resources projects winding up, and addressing the cost-productivity imbalance that has made Australia a high cost country to do business relative to the rest of the world. As a result of these economic challenges, Australia's GDP growth rate is forecast to moderate to around 2.5 per cent in 2014–15.

Table 2: Key macroeconomic assumptions for Australia

	unit	2010–11	2011–12	2012–13	2013–14 a	2014–15 a
Economic growth bc	%	2.3	3.6	2.6	3.1	2.5
Inflation rate b	%	3.1	2.3	2.4	3.0	2.8
Interest rate d	%	4.7	4.3	3.1	2.5	2.5
Exchange rate e	US$/A$	0.99	1.03	1.03	0.92	0.90

a BREE assumption. **b** Change from previous period. **c** Seasonally adjusted chain volume measures. **d** Median RBA cash rate.
e Average of daily rates.
Sources: BREE; ABS; RBA.

The Australian dollar remains at elevated levels despite the latest decline in commodity prices. The effect of the deterioration in the terms of trade has been offset by the effect of the expansionary monetary policies of several international central banks. The growth in global liquidity has translated into growing demand for the Australian dollar which is increasing in popularity as a 'safe' currency due to the relative strength of the Australian economy. The exchange rate has averaged around 0.92 in 2013–14 and is forecast to moderate to around 0.90 US dollars per Australian dollar in 2014–15. The effect of monetary policies in key economies is a key risk to this forecast and may result in a higher value for the Australian dollar.

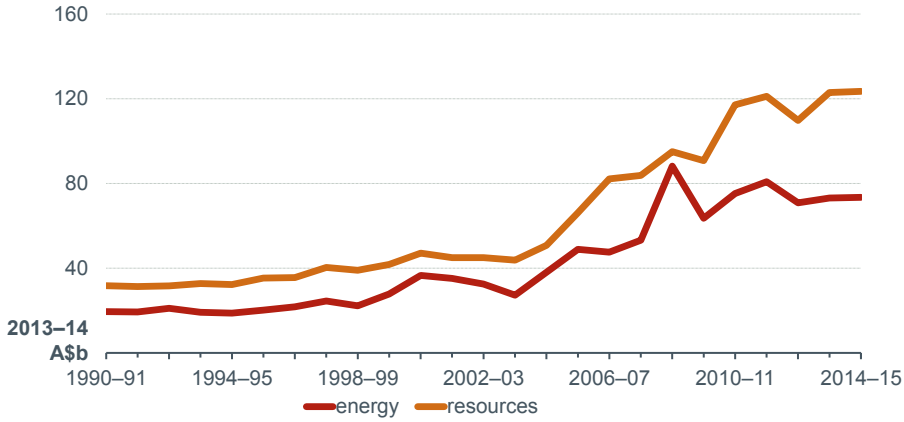
Australia's resource and energy commodities, production and exports

Throughout 2013–14 Australian mineral and energy commodity producers have been challenged by declining commodity prices. Although world consumption of almost all mineral and energy commodities has increased, substantial increases in supplies have put pressure on most suppliers to cut prices to remain competitive in international markets. Most commodity markets are now well supplied and still undergoing a shakeout that is forcing the highest cost suppliers to exit the market. Australian producers are not immune from this and there have been several mines, notably in the coal industry, that have been forced to close in the past twelve months. Further closures and production curtailments are expected in the next year. Even though Australian producers have been successful in delivering productivity and cost reduction programs they still find themselves at the wrong end of the cost curve. In some cases, the cost reductions of Australian producers have been negated by the stubbornly high Australia dollar which has appreciated since the start of 2014 while the currencies of competitors have depreciated.

Despite tighter commodity market conditions and lower margins for domestic producers, Australia's total export earnings for mineral and energy commodities are forecast to increase 11 per cent in 2013–14 to total $196 billion, supported by robust growth in both mineral and energy commodity export volumes (see Figure 2). Mineral commodity export earnings are

forecast to increase 15 per cent to total $122.9 billion, mainly due to substantial growth in iron ore export volumes. Export earnings from energy commodities are forecast to increase 6 per cent to total $73.2 billion, underpinned by higher earnings from LNG, crude oil and metallurgical coal.

Figure 4: Australia's resources and energy export earnings



Sources: BREE; ABS.

In 2014–15 growth in export volume is forecast to moderate but still underpin export earnings increasing 2.6 per cent to total $201 billion. Higher iron ore and LNG export volumes will be the main driver of this increase. The growth in iron ore export volumes will mainly be from recently started mines delivering a full year of production rather than new mines starting up in 2014–15, whereas the growth in LNG export volumes will come from new LNG plants starting production. The US dollar-Australian dollar exchange rate is a key risk to the forecast growth in export earnings and a higher than forecast exchange rate will result in lower export earnings.

Table 3: Australia's resources and energy commodity exports, by selected commodities

		volume			value		
	unit	2013–14f	2014–15 f	% change	2013–14f	2014–15 f	% change
Alumina	kt	18 549	16 966	–8.5	5 658	5 865	3.7
Aluminium	kt	1 536	1 431	–6.8	3 288	2 945	–10.4
Copper	kt	1 017	1 039	2.1	8 672	8 820	1.7
Gold	t	277	284	2.5	13 171	12 735	–3.3
Iron ore	Mt	637	721	13.2	74 138	76 445	3.1
Nickel	kt	223	225	0.6	3 024	3 605	19.2
Zinc	kt	1 621	1 721	6.2	2 487	3 151	26.7
LNG	Mt	24	27	13.5	16 131	18 917	17.3
Metallurgical coal	Mt	177	180	1.9	22 934	20 832	–9.2
Thermal coal	Mt	192	197	2.2	16 402	15 208	–7.3
Oil	kbd	316	339	7.3	13 587	15 304	12.6
Uranium	t	5 369	6 413	19.4	525	660	25.8

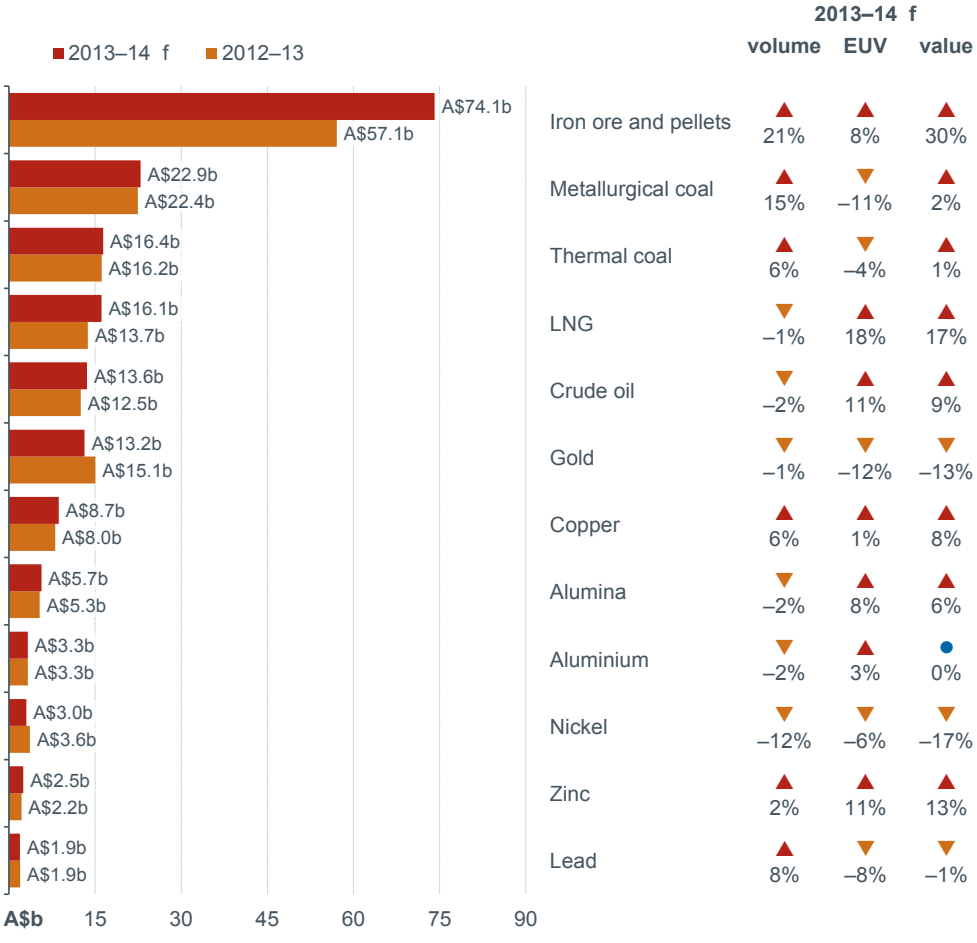
f BREE forecast.
Sources: BREE; ABS.

Table 4: Short term outlook for Australia's resources and energy commodities

	unit	2011–12	2012–13	2013–14 f	2014–15 f	% change
Value of exports						
Resources and energy	A$m	192 523	176 053	196 103	201 438	2.7
– real b	A$m	201 989	180 600	196 103	196 941	0.4
Energy	A$m	77 029	69 058	73 179	75 147	2.7
– real b	A$m	80 817	70 841	73 179	73 469	0.4
Resources	A$m	115 493	106 996	122 924	126 291	2.7
– real b	A$m	121 172	109 759	122 924	123 472	0.4
Volume of mine production						
Resources and energy	index	94.1	100.0	108.1	116.1	7.3
– resources	index	93.7	100.0	112.9	123.0	9.0
– energy	index	94.6	100.0	102.7	108.3	5.4
Gross value	A$m	184 822	169 011	188 259	193 380	2.7
– real b	A$m	193 909	173 376	188 259	189 063	0.4

b In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS.

Australia's major resources and energy commodity exports



f BREE forecast.
EUV is export unit value

Energy outlook

Oil

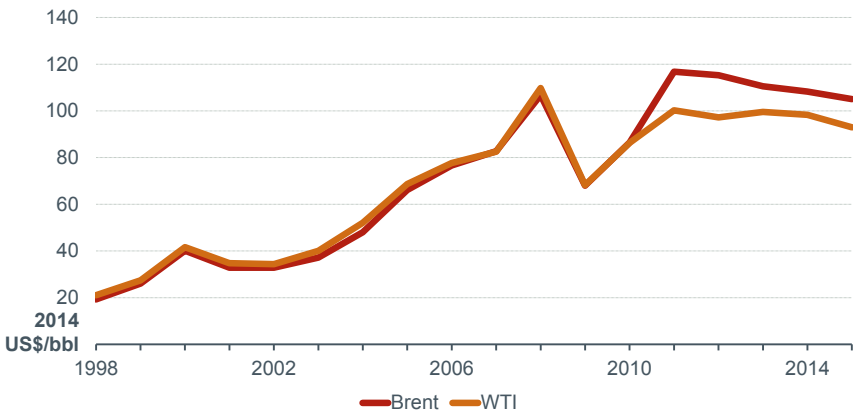
Pam Pham

Oil prices

Brent prices eased in the March quarter 2014, relative to December quarter 2013, as a result of higher production and lower demand due to a number of refineries undergoing maintenance; while the West Texas Intermediate (WTI) price increased as US crude oil inventories at Cushing, Oklahoma, fell. In the March quarter 2014, the Brent price averaged US$108 a barrel and the WTI price averaged US$99 a barrel. For 2014 as a whole, the Brent price is forecast to remain relatively stable at around US$108 a barrel, supported by an improved demand outlook as some refineries return from maintenance. Higher US production will drive the WTI price down marginally to average US$98 a barrel in 2014.

Oil prices are projected to fall in 2015, underpinned by higher output from the US, Canada and Saudi Arabia. In 2015, the Brent price is projected to average US$107 a barrel and the WTI price US$95 a barrel (see Figure 1).

Figure 1: Annual WTI and Brent oil prices



Sources: BREE; EIA.

World oil consumption

World oil consumption is forecast to average 92.6 million barrels a day in 2014, up by 1.3 per cent relative to 2013. Most of this rise is attributable to continued growth in non-OECD consumption, with OECD consumption remaining relatively unchanged from 2013. This trend is expected to continue in 2015, with world oil consumption forecast to increase by 1.4 per cent to average 93.9 million barrels a day.

Non-OECD Asia, particularly China and India, will continue to lead world oil consumption growth in 2014 and 2015. Increasing passenger vehicle ownership associated with higher household income in India and China will contribute to this growth. New oil-fired electricity generation capacity coming online in the Middle East to support the growing population and an expanding industry and energy sector will also boost demand for oil.

In OECD economies, oil consumption is forecast to remain relatively stable at around 46 million barrels a day in 2014 and 2015, underpinned by a marginal increase in US demand, which will offset lower consumption in OECD-Europe and Japan.

In the US, improvements in business confidence and employment coupled with a rebound of the manufacturing sector contribute to a forecast marginal increase in consumption in 2014. Meanwhile, ongoing improvement in fuel efficiency in the transport sector continues to reduce OECD-Europe oil consumption.

Japan's oil demand is forecast to decline further in the short to medium term as the Japanese government actively seeks to restart some of its nuclear power units and increases its reliance on the relatively cheaper coal for power generation to cope with high energy import costs.

World oil production

World oil production is forecast to average 93.6 million barrels a day in 2014, and increase by 1.6 per cent to 95.1 million barrels a day in 2015. The production growth will come from both OPEC and non-OPEC economies.

In 2014, non-OPEC production is forecast to increase by 2.7 per cent to average 56.2 million barrels a day, supported by expanding unconventional supplies from the US and Canada, and offshore fields in Brazil. Continued improvements in drilling productivity will see US production rising in near-term; while increased investment in production capacity will contribute to Canadian production growth. Increased exploration and production activities in a number of offshore oil fields will drive the expansion in Brazil's production. In 2015, non-OPEC production is projected to increase by 2.1 percent, to average 57.4 million barrels a day.

In the OPEC region, oil production is forecast to increase in the short term as members raise production in response to supply outages from the temporary shutdowns of the Brega oil port in Libya and Iraq's Kirkuk–Ceyhan oil pipeline. Adding to this, Saudi Arabia is forecast to increase production to meet demand during its peak summer season and to run the newly commissioned desalinisation plant in Jubail. This results in forecast OPEC production increasing

by 1.7 per cent to average 37.4 million barrels a day in 2014. In 2015, OPEC production is projected to increase moderately by 0.9 per cent to average 37.7 million barrels a day. This is underpinned by Iraqi production growth assuming plans to increase its crude oil production remain on track. Nonetheless, the pace of growth may be limited due to persistent attacks on Iraq's export infrastructures and disputes with the northern Kurdish region over the right to develop oil fields.

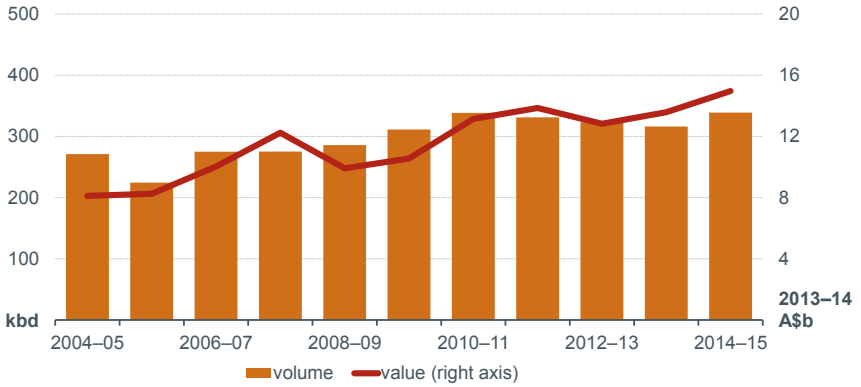
Over the outlook period, world oil production is projected to increase by 1.1 per cent a year to average 98.8 million barrels a day in 2019, largely supported by projected increases in unconventional oil production in North America.

Australia's production and exports

Australia's oil production increased in the March quarter of 2014, supported by the restarting of the Vincent and Pyrenees fields and higher production from the Fletcher-Finucane and Montara projects and the Surprise oil field in the Northern Territory. However, continued decline in production from mature fields and the delay in the start-up date of the Coniston project to the third quarter of 2014 are estimated to have lowered Australia's production and exports for 2013–14 as a whole. In 2013–14, Australia's oil production is estimated to have averaged 359 thousand barrels a day, down by 2 per cent relative to 2012–13. Production is forecast to increase in 2014–15, by 7.3 per cent to average 385 thousand barrels a day as the Coniston project (estimated capacity of 22 thousand barrels a day) and the Balnaves project (30 thousand barrels a day) in the Carnarvon basin commence.

Despite a fall in export volume in line with production, the value of Australia's crude oil and condensate exports are estimated to have increased by 8.7 per cent to $13.6 billion in 2013–14 as the Australian dollar depreciates (see Figure 2). Export earnings are forecast to increase further in 2014–15 to $15.3 billion, underpinned by both higher export volumes and an assumed continued depreciation of the Australian dollar.

Figure 2: Australian crude oil and condensate exports



Source: BREE.

Table 1: Oil outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Production b	Mbd	91.1	91.5	93.6	95.1	1.6
Consumption b	Mbd	89.9	91.4	92.6	93.9	1.4
WTI crude oil price						
– nominal	US$/bbl	94.1	97.8	98.3	94.9	–3.5
– real c	US$/bbl	97.2	99.5	98.3	93.0	–5.4
Brent crude oil price						
– nominal	US$/bbl	111.6	108.7	108.2	107.2	–1.0
– real c	US$/bbl	115.3	110.6	108.2	105.1	–2.9
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Crude oil and condensate						
Production b	kbd	415	366	359	385	7.3
Export volume b	kbd	331	323	316	339	7.3
– nominal value	A$m	13 205	12 503	13 587	15 304	12.6
– real value d	A$m	13 854	12 826	13 587	14 962	10.1
Imports b	kbd	508	516	506	483	–4.5
LPG						
Production be	kbd	66	61	61	66	8.3
Export volume b	kbd	36	41	42	45	6.8
– nominal value	A$m	971	1 088	1 280	1 482	15.8
– real value d	A$m	1 019	1 116	1 280	1 449	13.2
Petroleum products						
Refinery production b	kbd	655	670	647	597	–7.8
Exports bg	kbd	20	16	12	13	3.3
Imports b	kbd	382	408	414	473	14.3
Consumption bh	kbd	926	943	951	989	4.0

b Number of days in a year is assumed to be exactly 365. A barrel of oil equals 158.987 litres. **c** In current calendar year US dollars. **d** In current financial year Australian dollars. **e** Primary products sold as LPG. **g** Excludes LPG. **h** Domestic sales of marketable products.
f BREE forecast.
Sources: BREE; ABS; IEA; Energy Information Administration (US Department of Energy); Geoscience Australia.

Gas

Tom Willcock

Prices

Prices for delivered LNG into Northeast Asia largely increased over the March quarter compared to the previous quarter. Japanese landed prices rose from US$16.4 a gigajoule in December to US$17.6 a gigajoule in March. South Korean and Chinese prices for delivered LNG also increased, but more moderately over the past six months. These price rises were mostly due to higher oil prices, which are the basis for pricing LNG contracts, as spot trading was flat (in a tight market spot cargoes tend to command a significant price premium on contracted volumes). Higher values for LNG delivered into Northeast Asia are reflected in higher average realised prices reported by the North West Shelf (NWS) project, which rose from $13.6 a gigajoule in December to $14.2 a gigajoule in March.

Over the short-term, Northeast Asian spot and contract prices are expected to ease. High inventories, after a milder than expected Northern winter, and anticipation of a similarly mild summer should subdue spot prices (as spot cargoes are contracted in advance of delivery, prices tend to reflect buyer expectations). Concurrently, easing oil prices are forecast to contribute to lower contract prices. Surplus volumes at a number of regional LNG export projects, including Bintulu in Malaysia, Australia's NWS and Papua New Guinea (PNG) LNG, are also expected to contribute to softer prices.

Global LNG developments

There have been two major developments in global LNG markets recently. PNG LNG, a 6.9 million tonne a year project operated by ExxonMobil, started ahead of schedule and delivered its first cargo in May. Papua New Guinea (PNG) is now the sixth largest LNG exporter in the Asia-Pacific region. The project is expected to sell a small number of cargoes into regional spot markets in coming months prior to contracted deliveries to Sinopec (China), CPC (Chinese Taipei), and TEPCO and Osaka Gas (Japan) starting in September or October.

A major pipeline deal between Russia and China was also announced in May (although this will not affect Chinese LNG imports over the forecast period). Under the US$400 billion agreement, Russia will supply China with up to 38 billion cubic metres of gas a year for 30 years from 2018. Gas will be piped from fields in Central and Eastern Russia to China through the Northeast border near Heihe and to Vladivostok. Not only does pipeline gas represent a substantial low cost competitor to LNG supply to China in the medium to longer term, it is expected to considerably improve the viability of Vladivostok LNG (a planned 10 to 15 million tonnes a year project) and LNG plant expansions (or new projects) at the nearby Sakhalin fields.

LNG imports by Australia's key trading partners increased in the March quarter. Imports to Japan, China and South Korea were all above December levels, largely due to seasonal buying (volumes were almost unchanged when compared to the March 2013 quarter). Northeast

Asian demand is expected to ease over the remainder of 2014 due to high inventories going into summer. Increased regasification capacity in Japan, China and South Korea along with the start-up of new LNG export projects in PNG and Australia is expected to ease market tightness and support import growth later in the forecast period. Asian LNG imports (including India) are forecast to grow from around 168 million tonnes in 2013 to 182 million tonnes in 2015.

Australian production and exports

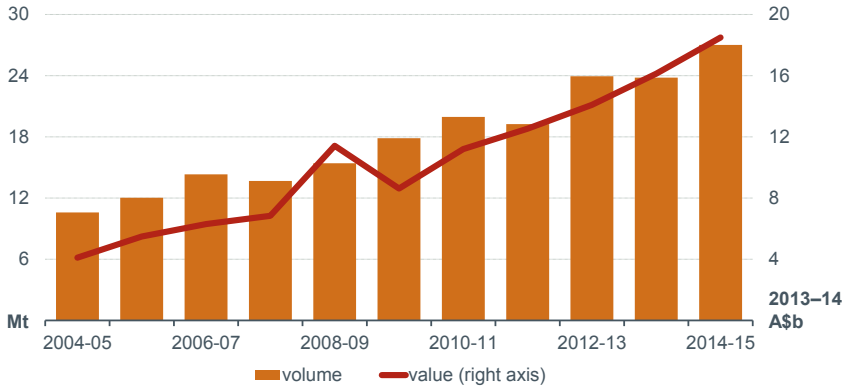
Australian gas production was 15.0 billion cubic metres in the March quarter, a slight decrease on December production. BHP, Santos and Origin all reported lower production volumes at key basins (Gippsland, Cooper, and Otway respectively). This was largely due to some natural decline in field performance and planned operational downtime in these basins, as well as to lower seasonal demand, particularly on the East Coast. In the Western market, the NWS project increased domestic production in response to higher demand, but most other producers reported lower output.

Gas production is estimated to be around 62.1 billion cubic metres in 2013–14, unchanged from 2012–13 (table 1). This is a result of a flat domestic market combined with an export sector running close to capacity. However, production is forecast to grow in 2014–15 as the first of Australia's seven LNG projects currently under construction are slated to begin operations. Queensland Curtis LNG (QCLNG), at 84 per cent complete in March, is the most advanced and is expected to begin production in December 2014. It will add 8.5 million tonnes a year of LNG export capacity when fully operational and will be the first project to export LNG from coal seam gas anywhere in the world.

Gladstone (GLNG) and Gorgon LNG, both 80 per cent complete in March, are expected to achieve first-LNG by June quarter 2015 (and will comprise another 24.3 million tonnes a year of capacity when fully operational). These three projects represent the first stages of a significant expansion which is forecast to increase Australian gas production to 68.4 billion cubic metres in 2014–15. The other four projects under construction are expected to be completed beyond the forecast period.

Australia exported 6.0 million tonnes of LNG in the March quarter, unchanged from December. Slight increases in production at Darwin LNG and the NWS project due to improved plant reliability were offset by lower production from Pluto LNG caused by poorer plant performance. Total export volumes for 2013–14 are estimated to be relatively flat at 23.8 million tonnes (compared with 23.9 million tonnes in 2012–13). LNG export volumes are forecast to grow by 13 per cent in 2014–15, to 27.0 million tonnes, with the start-up of the QCLNG, GLNG and Gorgon projects.

Figure 1: Australian LNG exports



LNG export values grew strongly in the March quarter to $4.4 billion, from $3.8 billion in the December quarter. This was a result of favourable contract renegotiations at Pluto and slightly higher oil-linked contract prices generally, which offset flat export volumes. Total export earnings for 2013–14 were an estimated $16.1 billion (figure 1), a 14 per cent increase on the $14.0 billion in exports in 2012–13 (in real 2013–14 dollars). This growth is largely due to the depreciation of the Australian dollar, as export volumes are almost unchanged. Export earnings are forecast to continue growing, reaching $18.9 billion in 2014–15. In contrast to 2013–14, this expected 15 per cent growth in export values in 2014–15 will be due to increased volumes, as exchange rates and oil prices are expected to ease only slightly.

Table 1: Gas outlook

	unit	2011–12	2012–13	2013–14 f	2014–15 f	% change
Australia						
Production b	Bcm	54.3	62.1	62.1	68.6	10.5
– Eastern market	Bcm	21.6	22.4	21.6	26.4	22.5
– Western market	Bcm	32.1	39.0	39.9	41.5	4.2
– Northern market	Bcm	0.7	0.7	0.7	0.7	–0.3
LNG export volume c	Mt	19.3	23.9	23.8	27.0	13.5
– nominal value	A$m	11 949	13 741	16 131	18 917	17.3
– real value d	A$m	12 537	14 096	16 131	18 495	14.7

b Production includes both sales gas and gas used in the production process (i.e. plant use). **c** Volume includes gross Darwin LNG exports. **d** In current financial year Australian dollars. f BREE forecast. Sources: BREE; ABS; company reports; World Bank.

Thermal coal

Kate Penney

Prices

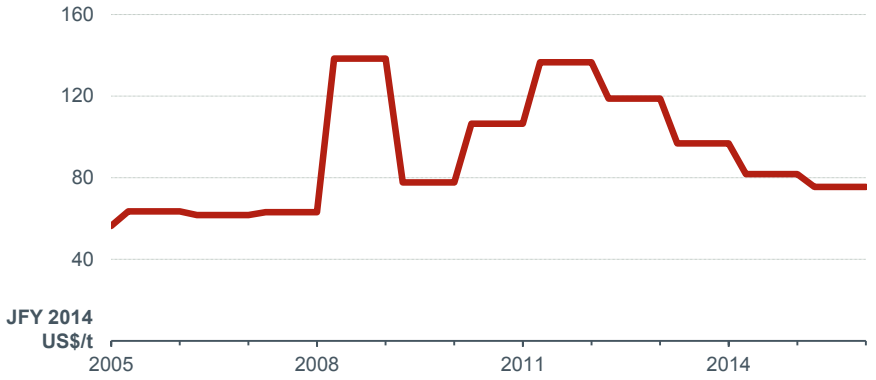
Newcastle free on board spot prices for 6000 kilocalorie per kilogram coal continued on a downward trajectory in the first half of 2014, averaging around US$76 a tonne in the first five months. Prices were US$84 a tonne in January and declined progressively to around US$73 a tonne by mid-April as demand weakened and production increased. Prices have since stabilised at around US$73 a tonne.

Although coal consumption in key Asia-Pacific markets is increasing, coal prices are expected to remain subdued throughout the rest of 2014 in response to a continued abundance of supply. Lower coal prices have affected the profitability of many producers who have been forced to explore options for cutting costs (see box) or suspend production. Since some of these producers are locked into long-term take-or-pay contracts for infrastructure services, particularly in Australia, they have been reluctant to close facilities. However, after a sustained period of lower prices, several companies have announced their intention to close unprofitable mines over the next two years. These closures should ease some of the downward pressure on prices.

The 2014 Japanese Financial Year (JFY, April 2014 to March 2015) benchmark contract price settled at US$81.80 a tonne, around US$9 higher than the prevailing spot price at the time of negotiation. While this represented a 14 per cent decline on the 2013 JFY contract price of US$95, following the depreciation of the Australian dollar over the past year, the price received by Australian producers was approximately US$2 a tonne, or 2 per cent, lower.

Coal consumption in the Asia-Pacific is forecast to increase further in 2015; however the global supply overhang is expected to persist in 2015 and generate continued softness in spot prices. As such, contract prices for JFY 2015 are forecast to decline by a further 6 per cent to settle at around US$77 a tonne.

Figure 1: JFY thermal coal prices



Source: BREE.

Thermal coal consumption and trade

World trade in thermal coal is forecast to increase by 1 per cent to 1035 million tonnes in 2014, and a further 1.9 per cent to 1055 million tonnes in 2015. The stability coal provides as a source of baseload power and its relatively low-cost in the absence of carbon policies will continue to support the use of coal, particularly in emerging economies. As the largest importer and exporter of thermal coal, respectively, developments in China and Indonesia's coal markets will continue to have an important bearing on world coal trade. Although the development of renewable energy sources is increasing rapidly in emerging markets, this growth is still not sufficient to meet the increase in energy demand, let alone force a reduction in coal consumption in most countries.

World thermal coal imports

China

The Chinese Government continued to announce a series of policy and legislative measures aimed at improving air quality in early 2014. While this has been widely expected to dent China's coal use, early indications suggest that China's coal imports will continue to register robust growth in 2014. Based on customs data, China's imports of thermal coal (including lignite) increased by 8 per cent year-on-year to 91 million tonnes in the first four months of 2014.

Although China intends to increase the use of renewable energy sources, coal will remain an important energy source to ensure stable electricity supply. UBS Securities estimate that around 36 gigawatts of new coal-fired capacity will be developed in 2014, with a further 42 gigawatts in 2015. Partly offsetting this increase in coal demand will be the expected increased utilisation of hydropower associated with greater water availability.

Growth in China's imports may be affected by increasing competitiveness of domestic coal and the potential for restrictions on the importation of low grade coal. Shenhua, the largest coal producer and price setter in China, has reduced its offer prices to domestic utilities multiple times over the course of 2014.

The Jingzhongnan railway (capacity of 150 million tonnes a year) connecting Shanxi West and the Rizhao Port in Shandong is expected to be completed by the end of 2014. Coal was previously delivered by truck and the completion of the railway is expected to reduce the cost of transportation. Further, the rail will connect to several other railways, potentially opening up new markets in Hubei, Hunan and Jiangxi provinces.

Lower coal prices have affected the profitability of Chinese mines, particularly in Inner Mongolia and Shanxi. There are reports that almost half the small-scale operators in Shanxi and half of the private operators in Ordos, Inner Mongolia have idled operations in response to weakening demand and low prices.

China's thermal coal imports are forecast to increase by 4 per cent to 260 million tonnes in 2014

and 3 per cent to 267 million tonnes in 2015.

India

India's thermal coal imports in 2014 are forecast to increase by 4 per cent to 135 million tonnes. In 2015, imports are forecast to increase by a further 4 per cent in 2015 to 141 million tonnes. Since most of India's coal imports are acquired by state-owned utilities, purchases of thermal coal were relatively subdued in the lead-up to the May 2014 election. It is expected that imports will gather pace after the election.

Several new coal-fired power plants that will use a combination of domestic and imported coal have been commissioned in early 2014. The National Thermal Power Corporation completed a sixth unit at the Rihand plant (500 megawatts) in Madhya Pradesh; a twelfth unit at the Vindhyachal plant (500 megawatts) in Uttar Pradesh; and a second unit at the Mauda plant (500 megawatts) in Maharashtra. Jindal Power, a private operator, commissioned a further two units at its Tamnar plant (combined 1200 megawatts) in Chhattisgarh; Avantha Power's Korba West Power Company commissioned its 600 megawatt Raigarh plant in Chhattisgarh; and Rajasthan Rajya Vidyut Utpadan Nigam Ltd commissioned its 600 megawatt Kalisindh plant. Calcutta Electric Supply Corporation (CESC) plans to commission the first unit of is Tadali plant (300 megawatts) in mid-2014.

Japan

In 2014, Japan's coal imports are forecast to remain steady at around 137 million tonnes. Japan's new energy policy was passed by cabinet in mid-April 2014, reaffirming the role of coal as an important baseload source of energy. The cost-competitiveness of coal has supported plans to build new, high efficiency, facilities. However, most of these are unlikely to become operational until closer to the end of the decade.

Japan's entire nuclear fleet remains closed and there is still uncertainty about the timing and speed of restarts. Despite this uncertainty, there is limited upside potential for Japan's coal imports because most coal-fired facilities are operating at close to capacity. Most of these plants have been running continuously since the Fukushima incident in order to meet the shortfall in electricity generation following the closure of nuclear reactors. Typically, these plants are closed for periodic maintenance and inspection every two to three years. It is possible that some of these plants will be temporarily closed over the next two years to undertake these activities, which may result in short term declines in coal-use. In 2015, Japan's imports of thermal coal are forecast to decline by 2 per cent to 135 million tonnes.

South Korea

South Korea is forecast to import 97 million tonnes of thermal coal in 2014, 1 per cent higher than 2013. Growth in coal imports is expected to be adversely affected by the introduction of an import tax from 1 July. The tax will charge US$16.20 a tonne for low energy coal (less than 5000 kilocalories net as received) and US$18.10 for high calorific coal. However, it is unlikely to result in any significant change in volumes over the short term as coal will still be required to meet electricity demand and many South Korean coal-fired plants are designed to run most efficiently using lower calorific coal. In 2015, South Korea's coal imports are forecast to increase by 2 per cent to 99 million tonnes.

World thermal coal exports

Australia

Australia's exports of thermal coal are forecast to increase by 2 per cent to 190 million tonnes in 2014 and a further 3 per cent to 197 million tonnes in 2015, supported by higher output from new capacity and producers seeking to reduce unit costs. Cockatoo Coal completed its Baralaba North expansion in May 2014. Cockatoo Coal expects production to reach one million tonnes by the end of 2014. This expansion will replace output from the existing Baralaba mine which is scheduled to exhaust its resources this year. It is intended to increase capacity up to 3.5 million tonnes a year by early 2016 to correspond with the commissioning of the Wiggins Island Coal Terminal.

This will be partly offset by lower output and mine closures over the next two years because of declining profitability (see box). Anglo American's Drayton operations in New South Wales will be lower because of delays in obtaining approvals for developments to extend the life of the mine, which is expected to exhaust its resources in 2015. Following difficulties in obtaining approval, Anglo American has scaled back plans for expansion. In early 2014 Glencore Xstrata announced that it would close its Newlands mine in Queensland and Vale announced it would close its Integra coal complex in New South Wales.

The cost cutting drive

High costs, the strong Australian dollar and declining coal prices have reduced the profitability of many Australian coal producers. While the longer term outlook for the industry remains largely positive, in the short term companies need to find solutions to remain viable. Companies have the choice of continuing to operate at a loss; close mines; alter the product mix to optimise costs; or pursue other cost cutting measures.

A number of mines have been closed and planned projects delayed over the past two years. This combined with other staffing cuts has resulted in the coal sector's workforce being reduced by around 12 000 people. Despite the announced job cuts, ABS data indicate that employment in the sector has increased. This is likely the result of some reclassification of support functions and the increase in employment associated with the commissioning of new mines. Growth in employment in the sector is expected to taper over the forecast period.

Some of the larger companies have been looking at other approaches to reduce their costs such as reducing exploration activity, purchasing fewer inputs, negotiating for better prices, and changing working rosters so that staff have longer breaks. There is also a greater drive for improving productivity.

In another approach, Rio Tinto is reprocessing waste material from its Hail Creek metallurgical coal mine in Queensland, selling it as thermal coal product. They intend to swap around 300 000 tonnes of metallurgical coal production with recycled thermal coal because it costs less to produce and has a higher margin.

Indonesia

Indonesia's exports of thermal coal are forecast to increase by 2 per cent to 420 million tonnes in 2014. Exports will be dependent on domestic output and the potential for China to implement a ban on imports of low quality coal.

In late March, the Indonesian Government relaxed the cap on coal production to be 421 million tonnes, up from around 400 million tonnes outlined earlier in the year, as major producers argued they need to increase their output in 2014 to offset the effects of lower prices on profitability. Despite a strong March quarter for some of Indonesia's major producers, many companies have scaled back their production plans for 2014 in response to lower prices and concerns about muted demand from China, particularly if a ban on low quality coal is implemented. Following the implementation of more rigorous paperwork checks at Indonesian ports, the Government is expecting the volume of unlawful production to decline dramatically in 2014.

In May, the Indonesian Government announced its intention to relax the domestic supply obligation that requires producers to set aside a proportion of their production for the domestic market. Should this be passed, it may increase the volume of material available for export. However, if the Chinese ban on low quality coal be implemented, Indonesia is likely to be the hardest hit and could limit exports. This coal may be diverted to the Indian market, where coal-fired plants are designed to use lower-quality coal.

Colombia

Colombia's exports were restricted at the beginning of 2014 as Drummond was banned from exporting coal until they had finished construction of a direct loading port to meet new environmental guidelines. The new facilities have now been completed, with an initial operating capacity of 30 million tonnes a year. This is expected to expand to 60 million tonnes a year in August when a second ship loader is completed. Exports will also be affected by the closure of Colombian Natural Resources' La Francia and El Hatillo mines after their port was closed in January because they failed to upgrade their facilities to meet the new requirements.

Despite these setbacks, Colombia's exports of thermal coal are forecast to increase by 7 per cent to 81 million tonnes in 2014, largely owing to a number of supply disruptions that limited exports in 2013. Exports are forecast to increase by another 11 per cent in 2015 to 90 million tonnes.

South Africa

Exports from South Africa are expected to be affected by a number of stoppages during early 2014. In February, a power failure at the terminal prevented loading for a few days and resulted in a growing queue of vessels. An oil spill in April also resulted in loading delays. The terminal is scheduled to close for ten days in May for annual maintenance. Exports from South Africa are forecast to increase by 4 per cent to 76 million tonnes in 2014 and by 5 per cent to 80 million tonnes in 2015.

The US

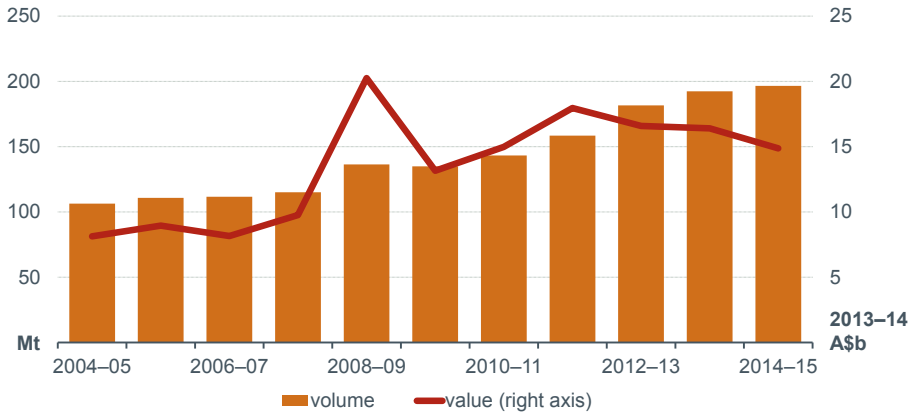
In early 2014, US coal-use increased in response to a cold winter and higher gas prices. Domestic rail congestion has prevented domestic material from reaching utilities and resulted in increased US imports of coal, largely from Colombia. These infrastructure limitations are also expected to limit growth in US exports of thermal coal in 2014, declining by a forecast 13 per cent to 41 million tonnes. This trend is expected to continue into 2015, with exports forecast to decline a further 15 per cent to 35 million tonnes. As a high-cost supplier to the Asia-Pacific, exports from the US are also loss-making at current prices.

Australia's export volumes and values

Australia's exports of thermal coal in 2013–14 are estimated to have increased by 6 per cent to 192 million tonnes, supported by higher production at a number of operations including Ulan, Beltana and Ravensworth North Opencut. Increased volumes more than offset lower prices, contributing to a 2 per cent increase in earnings to $16.5 billion.

In 2014–15, exports are forecast to be 197 million tonnes, an increase of 2.2 per cent (see figure 2). Earnings from thermal coal exports are forecast to be $15.2 billion as lower prices and a relatively strong Australian dollar more than offset higher volumes.

Figure 2: Australia's thermal coal exports



Sources: BREE; ABS.

Table 1: Thermal coal outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Contract prices [b]						
– nominal	US$/t	115	95	82	77	–5.9
– real [c]	US$/t	119	97	82	75	–7.7
Coal trade	Mt	989	1 023	1 035	1 055	1.9
Imports						
Asia	Mt	691	738	755	770	2.0
China	Mt	218	251	260	267	2.7
Chinese Taipei	Mt	56	56	57	58	1.8
India	Mt	123	130	135	141	4.4
Japan	Mt	132	137	137	135	–1.5
South Korea	Mt	94	96	97	99	2.1
Europe	Mt	215	210	208	216	3.7
European Union 27	Mt	168	165	159	162	2.1
other Europe	Mt	47	45	50	54	8.7
Exports						
Australia	Mt	171	188	190	197	3.6
Colombia	Mt	82	76	81	90	11.1
Indonesia	Mt	380	411	420	413	–1.7
Russia	Mt	116	110	108	105	–2.8
South Africa	Mt	74	73	76	80	5.3
United States	Mt	51	47	41	35	–14.6
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Production	Mt	215.9	238.9	245.7	250.5	2.0
Export volume	Mt	158.4	181.7	192.4	196.6	2.2
– nominal value	A$m	17 118	16 169	16 402	15 208	–7.3
– real value [d]	A$m	17 960	16 587	16 402	14 869	–9.3

b Japanese Fiscal Year (JFY), starting April 1, fob Australia basis. BREE Australia–Japan average contract price assessment for steaming coal with a calorific value of 6700 kcal/kg gross air dried. **c** In current JFY US dollars. **d** In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS; IEA; Coal Services Pty Ltd; Queensland Department of Natural Resources and Mines.

Resources outlook

Steel and steel-making raw materials

Ben Witteveen and Kate Penney

World steel consumption

World steel consumption in 2014 is forecast to increase by 2.8 per cent, relative to 2013, to total 1.59 billion tonnes (see Table 1). In 2015 world steel consumption is forecast to increase by around 2.4 per cent to total 1.63 billion tonnes. Growth in the next two years is forecast to be driven by residential and infrastructure development in China and increased consumption in India.

Table 1: World steel consumption and production (Mt)

Mt	2012	2013	2014 f	2015 f	% change
Crude steel consumption					
European Union 28	156	139	142	146	2.8
United States	102	103	104	107	3.0
Brazil	28	28	29	30	3.0
Russia	49	48	48	49	1.5
China	688	700	721	741	2.8
Japan	69	70	69	70	1.0
South Korea	56	55	57	59	3.5
India	77	79	84	89	6.5
World steel consumption	1 541	1 544	1 587	1 625	2.4
Crude steel production					
European Union 28	169	167	166	167	0.2
United States	89	87	88	89	1.5
Brazil	35	34	36	36	2.0
Russia	71	69	70	71	1.0
China	709	775	795	814	2.4
Japan	107	111	112	113	1.0
South Korea	69	66	67	69	2.0
India	77	81	85	91	7.0
World steel production	1 537	1 602	1 634	1 668	2.1

f BREE forecast.
Sources: BREE; World Steel Association.

China's steel consumption is forecast to increase by 3.0 per cent in 2014 to total 721 million tonnes. This growth is down from 2013 due to a downturn in residential construction activity in China and lower growth in steel-intensive manufactured items. This has in part been driven by economic reforms that have targeted the financial services, steel and energy sectors.

Tighter credit conditions in China have resulted in lower building approvals and construction activity so far in 2014. In the first four months of 2014, residential construction starts in China

(which account for around two thirds of overall construction activity) declined 28 per cent from the same period in 2013. In response to declining construction activity and falling house prices, several local governments have eased home purchase restrictions such as minimum deposit requirements (the minimum deposit requirement is around 50 per cent) and the People's Bank of China has requested banks speed up mortgage lending. In March the central Government also announced a US$162 billion package to redevelop more than 4.8 million residences in lower socio-economic areas. A moderate rebound in approvals and construction activity is expected in 2014, but it is likely that these will remain below the growth rates seen in previous years.

Investment in rail infrastructure remains a key source of steel consumption in China and in the first four months of 2014 was up US$750 million. In April the Chinese government announced plans to expand the national rail system by more than 7000 kilometres in 2014—1400 kilometres more than in 2013. Almost 80 per cent of the additional rail construction will be carried out in the rural central and western regions that are becoming increasingly important in driving China's economic growth.

In 2015, higher construction activity and continued investment in infrastructure in China are expected to underpin steel consumption increasing a further 2.7 per cent in 2015 to 741 million tonnes. However, the prospect of lower housing prices due to the overhang of unoccupied properties remains a key risk to the level of construction activity in 2015.

Steel consumption in India is forecast to grow by 7 per cent in 2014, relative to 2013, to total 84 million tonnes. The recently elected Modi Government in India is expected to accelerate infrastructure development, particularly in rural areas, which should underpin higher steel consumption in India. India's steel consumption is forecast to grow a further 7 per cent in 2015 to 89 million tonnes as a result of this infrastructure investment. However, schedule risks remain in the regulatory approval process in India and may delay the start of some of these projects.

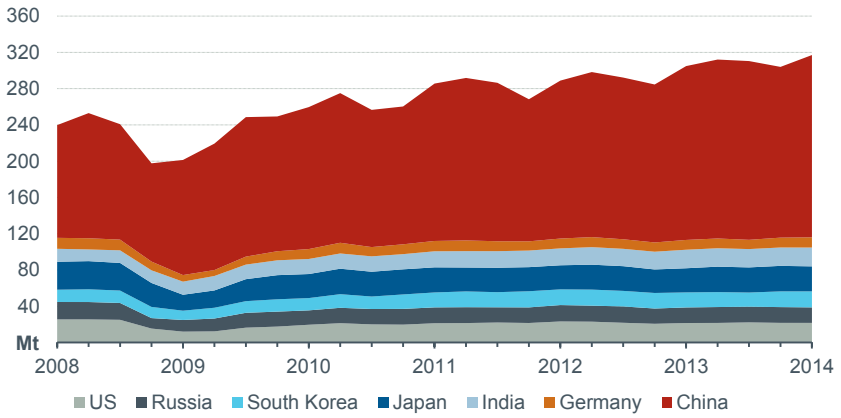
Japan's steel consumption is forecast to decline by approximately 1.0 per cent in 2014 to 69 million tonnes due to a reduction in the export growth rate. In March export volumes fell 2.5 per cent from the same time last year. Export growth has remained subdued even with a depreciating Yen, which is 19 per cent lower now than in 2012. Japan has faced increased competition from South Korea and China in steel intensive exports like cars and ships, leading to a decline in export growth and export oriented steel consumption. Japan's steel consumption is forecast to increase by 1.0 per cent in 2015 to 70 million tonnes as both monetary easing and fiscal stimulus improve demand for steel.

The moderate economic rebound underway in the European Union is expected to support steel consumption increasing 2.0 per cent in 2014 and 2.4 per cent in 2015 to 142 and 146 million tonnes respectively. Steel consumption in the US is forecast to increase by 1.0 per cent in 2014 to 104 million tonnes and then by a further 3.0 per cent in 2015 to 107 million tonnes. US Steel consumption growth in 2014 and 2015 is expected to be driven by non-residential construction, particularly transportation infrastructure and commercial buildings, which in April grew by 6 per cent and 8 per cent respectively year-on-year.

World steel production

World steel production in 2014 is forecast to increase by 2.0 per cent, relative to 2013, to total 1.63 billion tonnes. The main driver of world steel production growth in 2014 is expected to be China which in 2013 accounted for around 50 per cent of global output (see Figure 1).

Figure 1: Quarterly steel production



Source: World Steel Association.

In 2014 Chinese steel production is forecast to increase by 2.7 per cent to 795 million tonnes. China's steel production growth is forecast to slow in 2014 due to lower demand in key growth areas like housing construction, tightening credit requirements in the sector, high stock levels and a government commitment to reducing pollution. Despite the directed closures in older and less efficient steel mills China still has significant spare production capacity that can support higher output as evidenced by the 4.9 per cent increase in steel production in the year to May.

World steel production is forecast to grow by a further 2.1 per cent in 2015 to 1.67 billion tonnes. China will again be the main driver of growth in world steel production and is forecast to expand their production by 2.4 per cent to 814 million tonnes. Continued low steel prices and tighter margins are expected to put increased pressure on a number of steel mills to close, particularly smaller and less efficient producers. However, larger steel producers are expected to more than offset these closures through higher utilisation rates at their existing facilities.

Steel production in India is forecast to increase by 5 per cent in 2014 to total 85 million tonnes. Growth will be underpinned by the need for steel in meeting the Modi Government's planned investment in infrastructure and ongoing urbanisation. In 2015 India's steel production is forecast to increase by 7 per cent to 91 million tonnes, also underpinned by government investment in infrastructure.

OECD economies are forecast to exhibit modest growth in steel production for 2014 and 2015. Steel production in the European Union is forecast to decrease by 0.5 per cent in 2014

at 166 million tonnes, production in Italy and Spain is expected to contract slightly due to subdued construction activity in these countries. European Union steel production is forecast to grow by less than 1 per cent in 2015 to 167 million tonnes as the region continues to recover economically.

Steel production in the US is forecast to increase by 1.0 per cent in 2014 to 88 million tonnes and then a further 1.5 per cent in 2015 to 89 million tonnes. Forecast growth in the US is expected to be driven by increased activity in the construction industry. Higher interest rates in 2015 as the US Federal Reserve's QE3 program draws down is a downside risk and higher rates may constrain both residential and commercial construction in 2015.

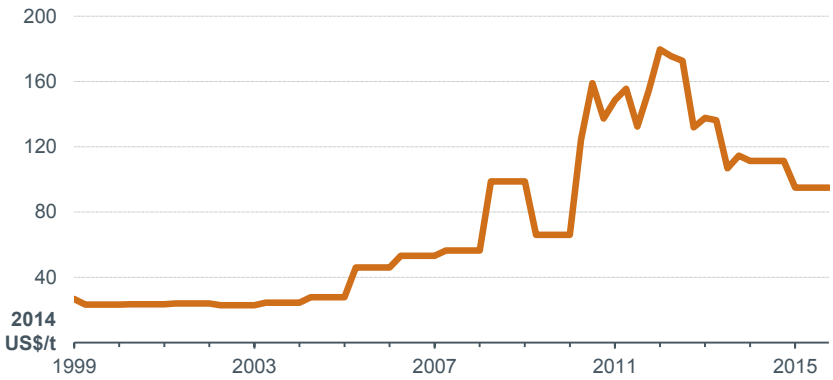
Iron ore prices

Iron ore spot prices have steadily declined in 2014, after starting the year at US$122 a tonne (free on board (FOB) Australia) spot prices have declined to around US$82 a tonne in mid-June. Although steel production in China remains historically high, high iron ore port stocks and low steel prices have combined with a surge in the availability of supply coming from Australia to push prices down. The five years since iron ore prices have moved to 'spot pricing' have demonstrated that the spot price is both highly volatile and cyclical. While the iron ore price is expected to rebound later in 2014 as port stock levels in China ease and steel demand picks up again, the abundance of supply that has come online will limit the prospects of iron ore prices rebounding to the high levels of 2013.

Iron ore producers in China have recently reduced their operating costs; however at current prices a large proportion of China's domestic production is still assessed as loss-making. If the same economic reforms in China that have pushed unprofitable steel mills to close are also applied to China's iron ore miners, it is likely that a number will close before the end of 2014. This loss in market supply is unlikely to fully offset the substantial increase in supply from Australia in 2014, but should provide some price support later in the year. In 2014, the iron ore spot price is forecast to average US$105 a tonne, 16 per cent lower than 2013 (see Figure 2).

In 2015 iron ore prices are forecast to decrease a further 7.6 per cent and average US$97 a tonne. Although steel production in China is forecast to increase in 2015, increasing competition among iron ore exporters to sell their additional production is expected to intensify and push prices lower.

Figure 2: Iron ore prices, FOB Australia



Note: JFY contract prices until April 2010, average spot prices thereafter.
Sources: BREE; Bloomberg.

World trade in iron ore

World trade in iron ore is forecast to increase by 7 per cent in 2014 to total 1.31 billion tonnes (see Table 2). The increase in world supply of iron ore, particularly from Australia and Brazil, is expected to drive this increase. Australia and Brazil are forecast to increase exports by around 130 million tonnes in 2014 with China expected to consume the majority of this increase. World trade is forecast to increase by a further 6 per cent in 2015 and to total 1.39 billion tonnes. Australia and Brazil will again underpin this increase with their exports forecast to increase by around 110 million tonnes in 2015.

Table 2: World iron ore trade (Mt)

Mt	2012	2013	2014 f	2015 f	% change
Iron ore imports					
European Union 28	121	128	127	126	–0.7
Japan	131	136	136	138	1.4
China	745	820	869	927	6.6
South Korea	66	63	64	65	2.9
Iron ore exports					
Australia	492	579	680	764	12.3
Brazil	327	330	361	386	6.9
India (net exports)	16	9	10	14	37.6
Canada	35	36	36	31	–12.5
South Africa	54	48	49	49	1.6
World trade	1 154	1 225	1 311	1 391	6.1

f BREE forecast.
Sources: BREE; Bloomberg; UNCTAD.

Iron ore imports

China is expected to remain the key driver of growth in world iron ore consumption in 2014 and its imports are forecast to increase 6 per cent to 869 million tonnes. Although growth in steel production is expected to slow in 2014, the proportion of domestically sourced iron ore used in China's steel mills is expected to decrease due to the availability of cheaper imports from Australia and Brazil. This substitution towards cheaper seaborne iron ore is expected to continue in 2015, particularly if landed prices in China remain below US$100 for an extended period in 2014. At this price a number of China's iron ore mines are unprofitable and are expected to close down.

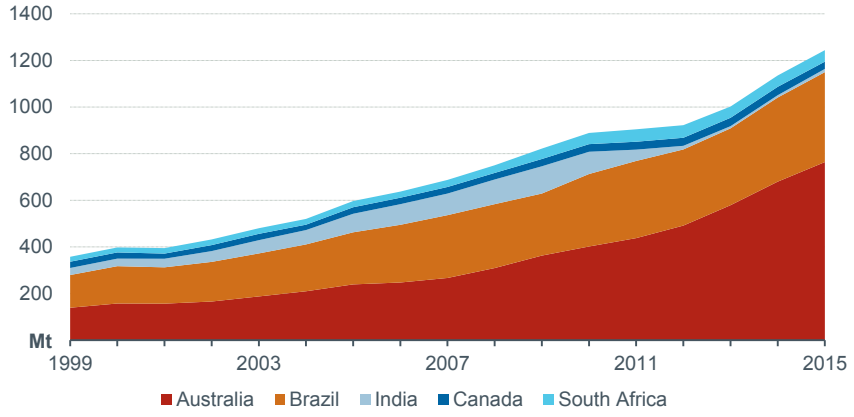
In 2014 Japan's iron ore imports are forecast to remain broadly unchanged from 2013 at 136 million tonnes. Steel production at Japan's mills is expected to moderate in line with subdued export demand for steel and steel intensive products. Japan's imports of iron ore are forecast to grow by less than 1 per cent in 2015 and to total 138 million tonnes.

Iron ore exports

Australia is forecast to supply the majority of the increase, lifting the volume of exports by 17 per cent in 2014 to 680 million tonnes (see Figure 3). The increase in Australian exports will be supported by the expansions in production and infrastructure capacity in the Pilbara that were completed in 2013 and early 2014. Lower iron ore prices are unlikely to affect the production rates of most iron ore mines in the Pilbara which have some of the lowest production costs in the world. The potential tug boat workers strike at Port Hedland is a risk to Australia's exports in 2014. While the loss of 1 or 2 days of shipments leaving the port can be made up through the year, the prospect of ongoing industrial action may prove more disruptive. Given the high levels of existing iron ore port stocks in China and abundance of other supplies, this is unlikely to provide significant support to iron ore prices in 2014.

Brazil is also forecast to increase exports by 10 per cent in 2014 to 361 million tonnes. The ongoing ban of the Valemax bulk freighter docking at Chinese ports remains a costly obstacle for Brazilian producer Vale; however, Brazil's iron ore exports to China were still 17 per cent higher for the first five months of 2014, relative to the same period in 2013, at 65 million tonnes.

Figure 3: Major iron ore exporters



Sources: BREE; UNCTAD.

In April India's Supreme Court lifted a ban on iron ore mining in the western state of Goa that had been in place since 2012. Prior to the ban India had been the third largest exporter of iron ore, after Australia and Brazil, exporting around 118 million tonnes a year. However, following the ban exports fell to around 15 million tonnes. Production in Goa is expected to begin in the second half of 2014 and increase in 2015. However, in the short term most Indian production is likely to remain in India to reduce its iron ore imports that the steel industry has been reliant on during the production bans.

Australia is again forecast to drive the majority of growth in in world iron ore exports in 2015. Australia's iron ore exports are forecast to increase by a further 12 per cent to 764 million tonnes. This increase will be supported by the recently started mines in the Pilbara operating for a full year as well as continued productivity improvements and debottlenecking plans.

Brazil is also forecast to increase exports by 7 per cent to 386 million tonnes. In late 2015 Vale's large S11D mine in the Para region within Brazil is expected to begin production. At full capacity it is expected to produce 90 million tonnes of iron ore annually.

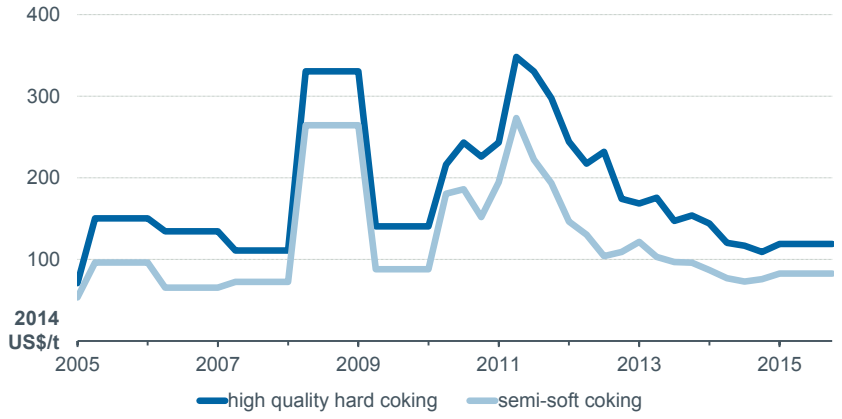
Metallurgical coal prices

Metallurgical coal spot prices declined steadily over the first half of 2014 underpinned by weaker demand growth and increased supply from the US, China, Canada, Russia and Australia. Benchmark contract prices for high-quality metallurgical coal delivered in the June quarter 2014 settled at US$120 a tonne, down from US$143 a tonne in the March quarter. Contract prices are expected to decrease further over the course of 2014 in response to continued surplus supply. For 2014 as a whole, contract prices are forecast to average around US$123 a tonne, and reflect lower spot prices in the second half of 2014.

At prevailing prices many metallurgical coal producers are unprofitable and with current cost structures these prices are unsustainable. Some companies have opted to close capacity, largely in North America and Australia, while others are choosing to change their product mix to produce more thermal coal, which is currently attracting higher margins. Metallurgical coal prices are forecast to rebound in 2015 as this supply response starts to take effect. However, the price recovery is unlikely to be rapid as take-or-pay contracts are preventing some companies from reducing output and there are likely to be delays before announced cuts materialise.

Consumption of metallurgical coal is forecast to continue to increase in 2015 in line with forecast higher steel production, particularly in China. However, production is forecast to increase at a faster pace and continue to contribute to softness in metallurgical coal prices. Average contract prices for 2015 are forecast to decline by 1 per cent to US$121 a tonne (see Figure 4).

Figure 4: Metallurgical coal benchmark prices, FOB Australia



Source: BREE.

World trade in metallurgical coal

World trade of metallurgical coal is forecast to increase by 2.0 per cent to 321 million tonnes in 2014. China is expected to remain the largest source of import demand, while the majority of additional supply will be sourced from Australia. In 2015, world trade is forecast to increase by a further 2.8 per cent to 330 million tonnes.

Metallurgical coal imports

In 2014, China's imports of metallurgical coal are forecast to increase by 5 per cent to 98 million tonnes. China is the world's largest producer of metallurgical coal, but still imports a large volume of coal. This, in part, is influenced by the price differential between domestic and imported coal. Prevailing metallurgical coal prices have forced a number of Chinese producers to suspend production or shutdown. Accordingly, China is expected to import more metallurgical coal despite some weakness in the steel market associated with slowing real estate investment and concerns over credit availability. China's metallurgical coal imports are forecast to increase by a further 6 per cent to 104 million tonnes in 2015.

Outside of China, import growth is forecast to remain relatively subdued consistent with forecast steady steel production. India's imports of metallurgical coal are forecast to remain stable at 37 million tonnes in 2014 and 2015. However, there could be a surge in infrastructure investment following the change in government which may increase the demand for metallurgical coal over the forecast period. Metallurgical coal imports into Japan, South Korea and the European Union are forecast to remain at around 55 million tonnes, 33 million tonnes and 41 million tonnes, respectively.

Metallurgical coal exports

Although lower prices are affecting the profitability of a number of companies, major exporters continued to increase output in early 2014.

Australia's metallurgical coal exports are forecast to increase by 2.9 per cent to 175 million tonnes in 2014 and a further 5 per cent to 183 million tonnes in 2015, supported by the completion of new capacity including Caval Ridge, Daunia, Maules Creek, Metropolitan, Baralaba expansion, North Goonyella and Middlemount. Offsetting some of these increases will be the announced closure of capacity that is no longer considered economically viable such as Glencore Xstrata's Ravensworth underground mine in Queensland and Vale's Integra complex in New South Wales.

Many Australian producers are locked into long-term take-or-pay contracts that make cutting production an uncommercial option. As such, output at a number of operations has been increased to reduce unit costs and has been contributing to the surplus in global supply. In an effort to ensure that operations remain sustainable, many Australian coal companies are assessing options to improve efficiency and reduce costs (see box in thermal coal assessment for further details). As part of these efforts, BHP Billiton Mitsubishi Alliance (BMA) announced it had cancelled its contract with Downer EDI for pre-strip works—site preparation for new mining activity—at its Goonyella Riverside mine in Queensland.

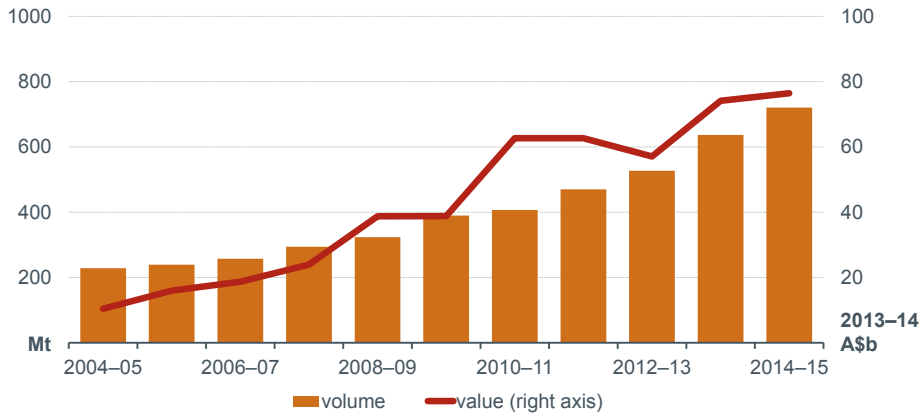
Exports from the US are forecast to decline by 4.6 per cent in 2014 to 57 million tonnes. The US is expected to use more coal domestically, supported by stronger steel production and demand from coal-fired power plants. Stronger domestic demand for thermal coal in light of higher gas prices has encouraged some producers to sell low-grade metallurgical coal to utilities. Exports from the US are forecast to decline by a further 1.6 per cent to 56 million tonnes in 2015.

Australian exports

In 2013–14 Australia's exports of iron ore are estimated to have increased by 21 per cent, relative to 2012–13, to total 637 million tonnes (see Figure 5). The surge in exports was driven by new mines including Jimblebar (35 million tonnes a year) that began operations ahead of schedule, Solomon Hub Stage 1 (60 million tonnes a year), and the Nammuldi expansion (26 million tonnes a year). The value of Australia's iron ore exports in 2013–14 is estimated to have increased by 30 per cent, relative to 2012 –13, to total $74.1 billion, underpinned by higher export volumes.

In 2014–15 Australia's iron ore export volumes are forecast to increase by a further 13 per cent to total 721 million tonnes. Export growth is expected to be driven by recently completed mines and expansions ramping up to full capacity and producing for a full year. In 2014–15, the value of Australia's iron ore exports is forecast to increase by 3.1 per cent to $76.4 billion. This increase in export values will be supported higher volumes which are expected to offset forecast lower iron ore prices in 2014–15.

Figure 5: Australia's iron ore exports

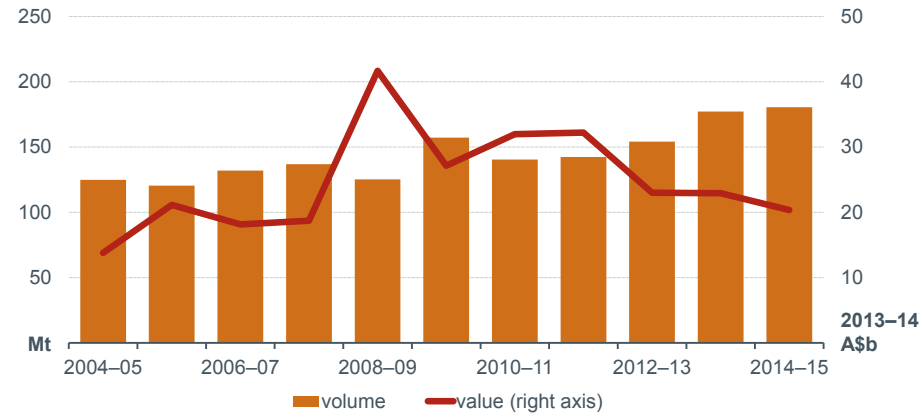


Sources: BREE; ABS.

Australia's metallurgical coal export volumes are estimated to have increased by 15 per cent to 177 million tonnes in 2013–14. Earnings from metallurgical coal exports are estimated to have increased by 2.2 per cent to $22.9 billion as higher volumes more than offset lower received prices.

In 2014–15, exports of metallurgical coal are forecast to increase by a further 1.9 per cent, as the commissioning of new capacity over the past few years more than offsets lost production from facilities closed over the forecast period. Earnings from Australia's metallurgical coal exports are forecast to decline by 9 per cent to $20.8 billion in 2014–15 as forecast lower prices and a resilient Australian dollar more than offset the effect of higher volumes.

Figure 6: Australia's metallurgical coal exports



Sources: BREE; ABS.

Table 3: Steel, iron ore and metallurgical coal outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Prices [b]						
Iron ore [c]						
– nominal	US$/t	121.6	125.8	105.2	96.5	–8.2
– real [d]	US$/t	125.6	128.0	105.2	94.6	–10.0
Metallurgical coal [e]						
– nominal	US$/t	210.0	158.5	122.5	121.3	–1.0
– real [d]	US$/t	216.8	161.3	122.5	118.9	–3.0
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Production						
Iron and steel [gs]	Mt	5.38	4.85	4.53	4.33	–4.4
Iron ore	Mt	503.8	555.5	657.3	735.7	11.9
Metallurgical coal	Mt	146.9	159.5	179.4	184.4	2.8
Exports						
Iron and steel [gs]	Mt	1.19	0.99	0.87	0.85	–3.1
– nominal value	A$m	983	820	724	699	–3.4
– real value [h]	A$m	1 032	842	724	684	–5.6
Iron ore	Mt	470.0	527.0	636.6	720.7	13.2
– nominal value	A$m	62 695	57 075	74 138	76 445	3.1
– real value [h]	A$m	65 778	58 549	74 138	74 738	0.8
Metallurgical coal	Mt	142.4	154.2	177.2	180.5	1.9
– nominal value	A$m	30 700	22 434	22 934	20 832	–9.2
– real value [h]	A$m	32 210	23 014	22 934	20 367	–11.2

b fob Australian basis. **c** Spot price, 62% iron content basis. **d** In current calendar year US dollars. **e** Contract price assessment for high-quality hard coking coal. **g** Includes all steel items in ABS, *Australian Harmonized Export Commodity Classification*, chapter 72, 'Iron and steel', excluding ferrous waste and scrap and ferroalloys. **h** In current financial year Australian dollars.
f BREE forecast. **s** BREE estimate.
Sources: BREE; ABS; World Steel Association; UNCTAD.

Gold

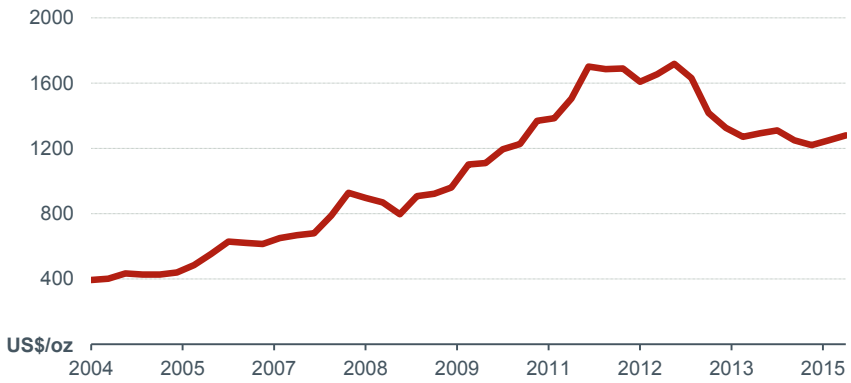
Emma Richardson

Prices

In the first half of 2014 higher gold fabrication demand was mostly offset by declining investment purchases. As a result gold prices were less volatile despite geopolitical concerns in the Ukraine. The continued tapering of the US Federal Reserve's QE3 program seems to have already been factored into market price expectations and announcements of additional tapering appear to have had little impact on gold prices in 2014. In the March quarter 2014 the LBMA gold spot price averaged US$1293 an ounce, a 2 per cent increase on the previous quarter but still 21 per cent lower than the first quarter 2013. In the June quarter 2014 gold prices have so far averaged around US$1282 an ounce and traded between US$1244 to US$1324 an ounce.

The gold spot price is forecast to average US$1261 an ounce for 2014 as a whole, down 11 per cent relative to 2013. A moderate rebound is forecast in 2015, primarily due to the continued growth in jewellery purchases in key emerging markets. The appeal of gold as an investment asset is expected to remain subdued in current market conditions as inflation in major economies is well contained, general economic conditions are improving and other asset classes are expected to provide better returns in the short term. In 2015, the average gold spot price is forecast to increase 3 per cent to US$1295 an ounce (see Figure 1).

Figure 1: Quarterly gold prices



Sources: BREE; LBMA.

Consumption

In the first quarter of 2014 gold purchases reported by the World Gold Council remained at 1075 tonnes, relatively unchanged from the previous year but 13 per cent higher than the previous quarter. Central bank purchases increased in response to lower gold prices in early 2014. Russia's gold reserves rose from 33.5 million ounces in March 2014 to 34.4 million ounces in April, with Kazakhstan, Ukraine and Iraq also recording increases in their gold holdings.

For the full year 2014 world gold fabrication consumption is forecast to increase 4.5 per cent, relative to 2013, to total 2732 tonnes. This forecast increase in gold consumption will be underpinned by increases in both jewellery purchases and investment consumption. China, which overtook India as the world's largest consumer of gold in 2013, is expected to remain the principal source of growth in gold consumption in 2014. Continued growth in both the size and incomes of China's middle class has driven substantial increases in jewellery purchases over the past few years. In the first quarter of 2014, China's jewellery purchases increased 10 per cent, year-on-year, to 203 tonnes (based on World Gold Council data).

Although China is the world's largest gold miner, there was a substantial increase in its gold imports recently. In 2013, China's gold imports were up 79 per cent, relative to 2012, to 1497 tonnes, but in the first quarter of 2014 down 10 per cent year on year to 333 tonnes.

As a result of the growing importance of gold to China's economy, Chinese banks and the central Government are manoeuvring to increase their influence on world gold markets. The People's Bank of China has approved the Shanghai Gold Exchange to increase its gold trade to position it as a competitor to the existing LBMA and Comex markets. This approval also coincides with a relaxing of gold import regulations in China. Although not completed, the Industrial and Commercial Bank of China also moved to purchase the Deutsche Bank seat on the LMBA and take a greater role in price determinations. Such moves are not entirely unexpected given the recent allegations of gold market manipulation (evidenced by the recent fine against Barclays Bank) and China's growing importance to gold markets.

In 2013 India implemented restrictions on gold imports and on the movement of assets including gold to combat its high current account deficit. As a result of these restrictions, India's purchases of gold decreased 23 per cent year on year to 105 tonnes in the third quarter of 2013. Gold purchases decreased further in the first quarter of 2014 with jewellery purchases down 9 per cent year-on-year to 146 tonnes and net gold imports available for domestic consumption down 52 per cent over the same period. The Reserve Bank of India announced it would ease the import restriction measure, allowing major jewellery exporters to resume imports for the first time since July 2013.

In 2015 world gold fabrication consumption is forecast to increase 2.1 per cent to total 2789 tonnes, underpinned by jewellery consumption increasing 2.5 per cent to 2390 tonnes. Growth in jewellery purchases are expected to be driven by China, though there is the downside risk that lower economic growth rates may negatively impact consumer sentiment and result in lower consumption growth. Investor demand for gold is forecast to rebound in 2015 and total 1291 tonnes.

Production

According to Thompson Reuters' GFMS, world gold mine production reached a record total of 3022 tonnes in 2013, 6 per cent increase compared to 2012. With world gold prices falling and new mines reaching full production, growth in world production is expected to moderate in the next few years. In 2014 world gold mine production is forecast to increase to be 3058 tonnes, 1 per cent higher than 2013. Increased output in China, Mongolia, Peru and the Democratic Republic of Congo are expected to underpin this increase.

In 2015 world mine production is forecast to increase a further 1.4 per cent to 3102 tonnes. The slow rate of growth in world gold production is due to new mines in China and Mongolia reaching full production and companies focusing on maximising productivity under lower world prices.

Australia

Mine Production

In the March quarter 2014 Australia's gold mine production was 68 tonnes, a decrease of 4 per cent on the previous quarter but an increase of 9 per cent from the same period of 2013. The new Tropicana gold mine in Western Australia achieved full production in December 2013 and produced 120 579 ounces in the first quarter of 2014. However, a number of Western Australian mine sites experienced challenging conditions in early 2014 with rain hindering production.

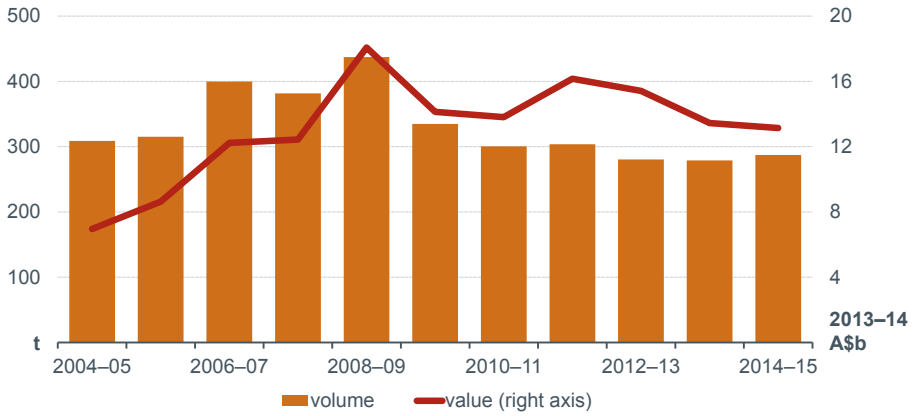
In 2013–14 Australia's mine production is forecast to be 272 tonnes, an increase of 7 per cent from 2012–13. This increase in production is due to new mines, such as Tropicana and the Cadia Valley expansions, ramping up to full production. In 2014–15 mine production is forecast to be 271 tonnes; this decrease of 0.5 per cent is due to expected lower output at several mines that are ramping down production as they approach the end of their mine life.

Exports

Australia's exports of gold continue to increase and the value of gold to the Australian economy has increased. In the March quarter 2014, Australia exported 79 tonnes of gold worth $3.6 billion. This included 46 tonnes exported to China, up 27 per cent relative to March quarter 2013.

In 2013–14 the volume of gold exports is estimated to be 277 tonnes and worth around $13.1 billion to Australia's economy. In 2014–15, the volume of Australia's gold exports is forecast to be at around 284 tonnes with the value of exports forecast to decrease to $12.7 billion due to lower average gold prices (see Figure 2).

Figure 2: Australia's gold exports



Sources: BREE; ABS.

Table 1: Gold outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Fabrication consumption b	t	2 303	2 614	2 732	2 789	2.1
Mine production	t	2 861	3 022	3 058	3 102	1.4
Price c						
– nominal	US$/oz	1 668	1 411	1 261	1 295	2.7
– real d	US$/oz	1 722	1 436	1 261	1 270	0.7
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Mine production	t	255	255	272	271	–0.5
Export volume	t	304	280	277	284	2.5
– nominal value	A$m	15 462	15 056	13 171	12 735	–3.3
– real value e	A$m	16 222	15 445	13 171	12 451	–5.5
Price						
– nominal	A$/oz	1 621	1 561	1 409	1 393	–1.1
– real e	A$/oz	1 701	1 602	1 409	1 362	–3.3

b Includes jewellery consumption and industrial applications. **c** London Bullion Market Association AM price. **d** In current calendar year US dollars. **e** In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS; Gold Fields Mineral Services; London Bullion Market Association; World Gold Council.

Aluminium

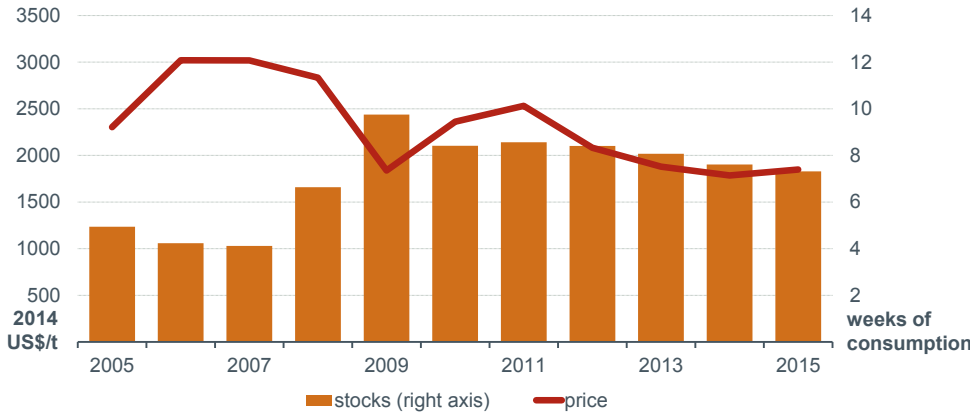
Simon Cowling

Prices

The spot price for aluminium averaged US$1708 a tonne during the first quarter of 2014, decreasing by 3.4 per cent compared to the previous quarter. After falling to a four and a half year low of around US$1640 in February, prices rebounded to peak at over US$1870 in early June. As a result of continued consumption growth, albeit at moderate levels, and production curtailments prices are expected to be higher in the second half of 2014. For 2014 as a whole, the average aluminium price is forecast to decrease by 3.3 per cent, relative to 2013, to US$1785 (see Figure 1). Aluminium stocks are expected to decrease from around 8.1 weeks of consumption at the end of 2013 to around 7.6 weeks of consumption at the end of 2014.

Prices are forecast to remain high over the course of 2015 as the supply–demand balance continues to tighten, resulting in a drawdown of stocks to 7.3 weeks of consumption. In 2015, the average aluminium price is forecast to increase by 6 per cent to US$1887 a tonne.

Figure 1: Annual aluminium prices and stocks



Sources: BREE; LME.

Consumption

In 2014, world aluminium consumption is forecast to increase by around 4.2 per cent compared to 2013 to total 48.1 million tonnes. China is expected to be the principal driver of the increase, with consumption rising by 5.0 per cent to 23 million tonnes. Forecast ongoing expansion in the automotive and construction industries are expected to underpin the increase. Consumption in Europe is forecast to increase at a more moderate 1.0 per cent to total 7.6 million tonnes as the economic recovery continues slowly.

World consumption in 2015 is forecast to increase to around 49.7 million tonnes, 3.3 per cent higher than 2014. China's consumption is forecast to increase by 3.8 per cent to 23.9 million tonnes in 2015, supported by increased demand for automobiles and other aluminium intensive consumer items. Consumption in India is forecast to increase by 14 per cent to 2.0 million tonnes due to investment in infrastructure. Improving economic conditions in the US, particularly higher car production and construction activity, is expected to underpin aluminium consumption increasing 5.2 per cent to total 5.2 million tonnes in 2015.

Production

In 2014, global aluminium production is forecast to increase by 0.4 per cent in 2014, relative to 2013, to total 48.0 million tonnes. Production in China is forecast to increase by 5.5 per cent to total 23.3 million tonnes. Previously idled capacity, including Xinfa Group's two Shanxi refineries Jiaokou Feimei Aluminium (1.2 million tonne increase) and Xinfa Chemical (1 million tonne increase), is expected to be restarted during the year and will underpin the growth in China's output. Capacity reduction programmes implemented in 2013 and 2014 in response to lower prices, higher production costs and market oversupply are expected to offset the production increases in China. The majority of these cuts are focused in Europe, with production forecast to total 7.4 million tonnes, a decrease of 7 per cent.

In 2015, world aluminium production is forecast to increase by around 3.5 per cent to total 49.7 million tonnes. China's production is forecast to increase by 4.0 per cent to total 24.2 million tonnes in line with its 12th Five Year Plan targets. Production is forecast to remain steady in the United States, with restarts of curtailed capacity in Canada forecast to increase production by 2.3 per cent to 2.8 million tonnes. Production growth in the Middle East (6 per cent to 6.4 million tonnes) will also support the increase in world production.

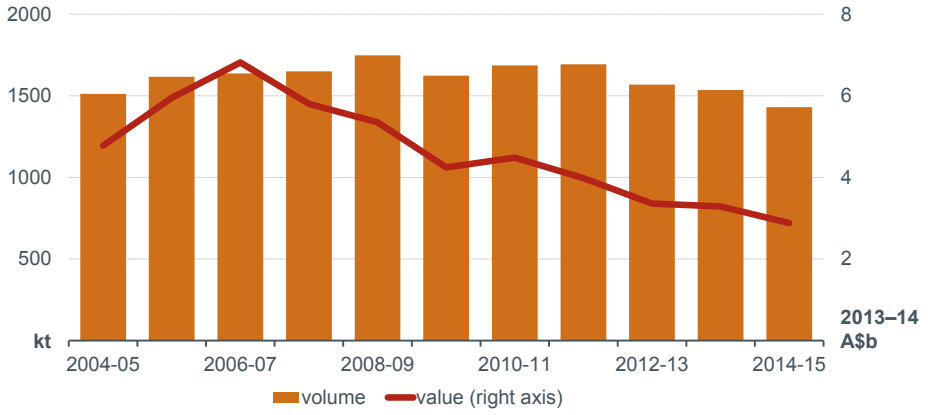
Australia

Australia's production and exports

In 2013–14, Australia's aluminium production is estimated to have decreased by 1.3 per cent relative to 2012–13, to total 1.8 million tonnes. The closure of Alcoa's Point Henry smelter (190 000 tonnes capacity) and a reduction in output at Rio Tinto's Boyne Island smelter in response to higher Queensland electricity prices underpinned the decline. The shutdown program of the Point Henry smelter will support a further decrease in production in 2014–15. The smelter is set to gradually reduce output before closing in August 2014. As a result, Australia's aluminium production is forecast to decrease by 8 per cent in 2014–15 to 1.6 million tonnes.

Australia's aluminium export volumes are estimated to decline by 2.1 per cent to 1.54 million tonnes in 2013–14 (see Figure 2). Despite lower volumes, export earnings are estimated to remain steady at around $3.3 billion in 2013–14. Export volumes are forecast to mirror production volumes in 2014–15, decreasing by 7 per cent to total 1.43 million tonnes. Subsequently, export earnings are forecast to decrease by 10 per cent to $2.9 billion.

Figure 2: Annual aluminium exports by volume and value



Sources: BREE; LME.

Alumina

Prices

In 2014, alumina spot prices are forecast to decrease by 0.5 per cent relative to 2013 to average US$326 a tonne. Increasing aluminium prices and bauxite supply concerns will be the principal drivers of an increase in prices in 2015. The alumina spot price is forecast to rise to US$332, an increase of 2 per cent compared to 2014.

Australia's alumina production

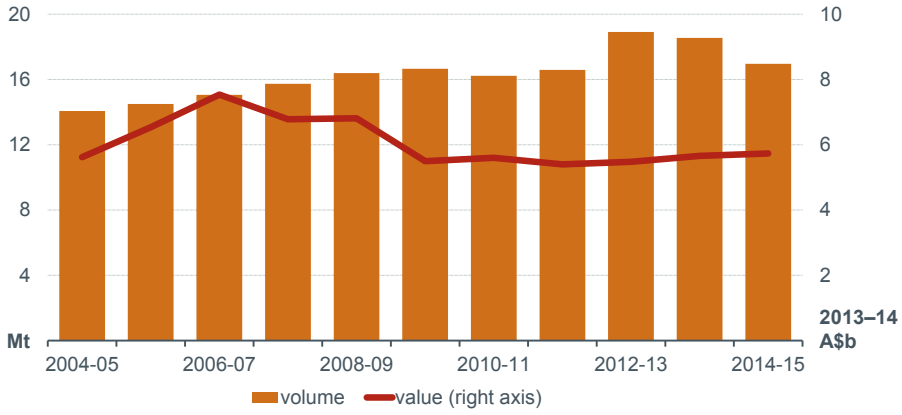
In 2013–14, Australia's alumina production is expected to remain at similar levels to 2012–13 levels as the suspension of operations at Gove is scheduled for June 2014. The closure of the Gove refinery removes around 2.7 million tonnes of alumina from Australia's production capacity and will result in production decreasing to 20.1 million tonnes in 2014–15.

Australia's alumina exports

Australian alumina export volumes are estimated to have declined by 1.9 per cent to 18.5 million tonnes in 2013–14. Reflecting lower production, alumina export volumes are forecast to decrease by 9 per cent in 2014–15 to total 17.0 million tonnes.

Australia's alumina export values are estimated to increase around 6 per cent in 2013–14 to $5.7 billion, mainly due to the effect of a lower Australian-US dollar exchange rate. Despite the forecast decrease in export volumes in 2014–15, export earnings are forecast to rise due to higher global prices and a weaker Australian dollar. Export values are forecast to total $5.9 billion, an increase of 3.7 per cent (see Figure 3).

Figure 3: Annual alumina exports by volume and value



Sources: BREE; LME.

Bauxite exports

In 2013–14, Australia's bauxite export volumes are estimated to have increased by around 18 per cent, relative to 2012–13, to total 14.9 million tonnes. Although world bauxite demand is expected to increase, Indonesia's export ban on mineral ores and concentrates has created a shortfall in world supply this year. Indonesia's bauxite exports are expected to decrease from around 55 million tonnes in 2013 to 1 million tonnes in 2014, a 98 per cent decrease.

As a result of the increase in Australia's export volumes and a higher bauxite price, Australia's bauxite export earnings in 2013–14 are estimated to have increased by 38 per cent to $527 million. Assuming that the Indonesian ban remains intact, Australia's exports of bauxite are forecast to increase by a further 14 per cent in 2014–15, to total 16.9 million tonnes. Reduced Australian domestic demand due to closures of upstream processing facilities will further support the increase. The value of bauxite exports is forecast to increase by a further 12 per cent in 2014–15 to $591 million.

Table 1: Aluminium outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Primary aluminium						
Production	kt	46 339	47 822	48 027	49 684	3.5
Consumption	kt	45 543	46 194	48 148	49 739	3.3
Closing stocks b	kt	7 361	7 171	7 050	6 995	–0.8
– weeks of consumption		8.4	8.1	7.6	7.3	–4.0
Prices						
World aluminium c						
– nominal	US$/t	2 017	1 847	1 785	1 887	5.7
	USc/lb	91.5	83.8	81.0	85.6	5.7
– real d	US$/t	2 082	1 879	1 785	1 850	3.6
	USc/lb	94.4	85.2	81.0	83.9	3.6
Alumina spot						
– nominal	US$/t	319.0	327.3	325.8	332.3	2.0
– real d	US$/t	329.3	333.0	325.8	325.7	–0.0
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Production						
Primary aluminium	kt	1 938	1 788	1 765	1 626	–7.9
Alumina	kt	19 283	21 645	21 693	20 055	–7.5
Bauxite	Mt	72.9	78.9	81.3	82.2	1.1
Consumption						
Primary aluminium	kt	235	220	229	195	–14.9
Exports						
Primary aluminium	kt	1 693	1 569	1 536	1 431	–6.8
– nominal value	A$m	3 797	3 276	3 288	2 945	–10.4
– real value e	A$m	3 984	3 361	3 288	2 879	–12.4
Alumina	kt	16 592	18 914	18 549	16 966	–8.5
– nominal value	A$m	5 146	5 342	5 658	5 865	3.7
– real value e	A$m	5 399	5 480	5 658	5 734	1.3
Bauxite	kt	10 518	12 567	14 856	16 899	13.8
– nominal value	A$m	296	382	527	591	12.1
– real value e	A$m	311	392	527	578	9.6
Total value						
– nominal	A$m	9 239	9 000	9 474	9 401	–0.8
– real e	A$m	9 693	9 232	9 474	9 191	–3.0

b Producer and LME stocks. **c** LME cash prices for primary aluminium. **d** In current calendar year US dollars. **e** In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS; LME; World Bureau of Metal Statistics.

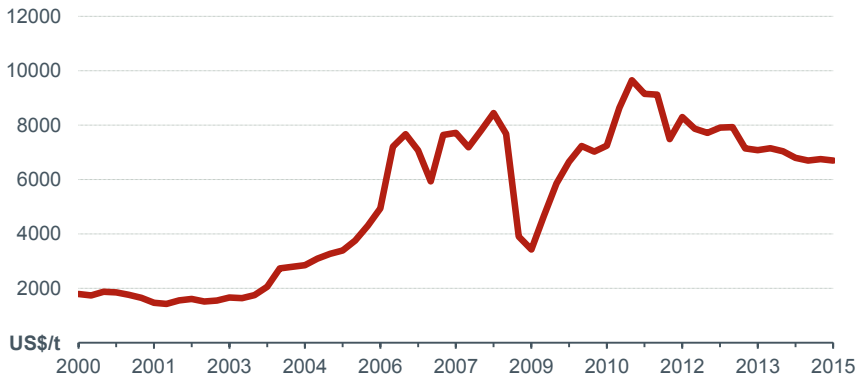
Copper

Emma Richardson

Prices

In the first quarter of 2014 the LME copper spot price averaged US$7038 a tonne, a decrease of 1.6 per cent from the previous quarter. Since the end of the first quarter copper prices decreased further and were US$6725 a tonne in mid-June 2014. Slowing economic growth rates in China, particularly housing and infrastructure investment, and increased availability of supply have kept prices down in 2014. For the full year, copper prices are forecast to average US$6822 tonne in 2014, a decrease of almost 7 per cent from 2013 (see Figure 1).

Figure 1: Quarterly copper prices



Sources: BREE; LME.

The growth in supply from recently started mines is expected to outpace consumption growth in 2015 and push prices to lower levels. The average copper price is forecast to decrease further and average US$6643 a tonne, 2.6 per cent lower than 2014 (see Figure 2). Slower than expected growth in China and the financial sector reforms that aim to reduce the use of copper as collateral are downside risks to the forecast copper price, and may push prices even lower in 2014.

Figure 2: Annual copper prices and stocks

Sources: BREE; LME; WBMS.

Consumption

In the first three months of 2014 world refined copper use was 5.4 million tonnes, an increase of 11 per cent compared to 2013. China was the principal source of the growth with its copper consumption up 23 per cent to 2.5 million tonnes. By comparison, copper consumption excluding China grew a more sedate 2 per cent in the same period. Higher incomes leading to spending on electrical goods and technology and the transport and equipment sector are expected to have contributed to the increase in copper consumption.

In 2014 world refined copper consumption is forecast to increase 4 per cent, relative to 2013, to total 21.9 million tonnes. Copper consumption in China is forecast to increase in 2014 as a result of continued investment in its electricity grid and technology and electronic goods production. In the short term there are downside risks to China's copper consumption. In June 2014 China's authorities launched an investigation into Quingdao Port which may have used copper stockpiles as collateral against multiple loans. The use of copper as collateral to obtain loans has increased recently due to China's tight credit market. The Quingdao investigation coupled with China's move to decrease reserve requirement ratios could decrease the attractiveness of copper as collateral and decrease China's investment purchases of copper in the short term.

Moderate increases in construction activity and increased production of electrical goods in China, as well as continued improvements in US construction activity, are expected to support higher copper consumption in 2015. World copper consumption is forecast to increase a further 3.6 per cent and total 22.6 million tonnes.

Production

Mine production

In 2014 world copper mine production growth is expected to slow to 4.6 per cent and total 19.1 million tonnes. New mine production will contribute to growth but as market conditions do not support further investment it is expected that productivity improvements at existing mines will be a greater source of new supply in the short term. New projects that are expected to ramp up to full production in 2014 include the Ministro Hales and Sierra Gorda mines in Chile as well as Peru's Toromocho mine.

In January 2014 Indonesia implemented a ban on mineral ore exports and a higher tax on copper concentrate exports to encourage greater domestic production of refined copper. This appears to have had an effect on output with the International Copper Study Group reporting 26 per cent lower copper concentrate production in Indonesia in January and February 2014. Newmont halted production at its Batu Hijau mine after the announcement and invoked force majeure on 5 June 2014 due to continuing negotiations with the Indonesian government over the future of the mine.

In 2015, world copper mine production is expected to increase by 5.6 per cent to 20.2 million tonnes due to new mines, such as La Bambas (sold to MMG Limited in April 2014) in Chile, ramping up to full production and continued efforts to increase productivity at existing operations.

Refined production

Refined copper production is forecast to increase to 22.2 million tonnes in 2014, 3.7 per cent higher than 2013. The ramp up in production after a period of considerable global investment is expected to outweigh policy decisions that will put downward pressure on refined production in 2014. China is phasing out its least efficient copper smelters throughout 2014 identifying 512 000 tonnes of copper smelting capacity to be phased out. The smelting capacity is expected to be taken up by other refineries (such as Minmetals Hunan copper cathode project) and have limited impact on total production.

In 2015 world refined production is forecast to be 22.9 million tonnes, an increase of 3.4 per cent on 2014 as new refining capacity moves into production. Mongolia's Oyu Tolgoi is undergoing a cost cutting review making its planned expansion unlikely. In July 2013 Turquoise Hill Resources (a Rio Tinto subsidiary) announced the delay of the expansion at the Oyu Tolgoi mine amid negotiations with the Mongolian government around project finance and the approvals process.

Australia

Production

In the March quarter 2014 Australia's copper mine production was 252 000 tonnes, a decrease of 3.3 per cent from the December quarter but 1.1 per cent higher than the previous year. Copper production in Western Australia was hampered by poor weather in the Pilbara region and Aditya Birla cited a sinkhole incident as a cause of disruptions to its Nifty project.

In 2013–14, Australia's copper mine production is estimated to achieve a historical high and exceed 1 million tonnes, an increase of 3.4 per cent from the previous year. The increased production is underpinned by new mines ramping up to full production including Cadia East and DeGrussa and continued productivity gains at a number of mines.

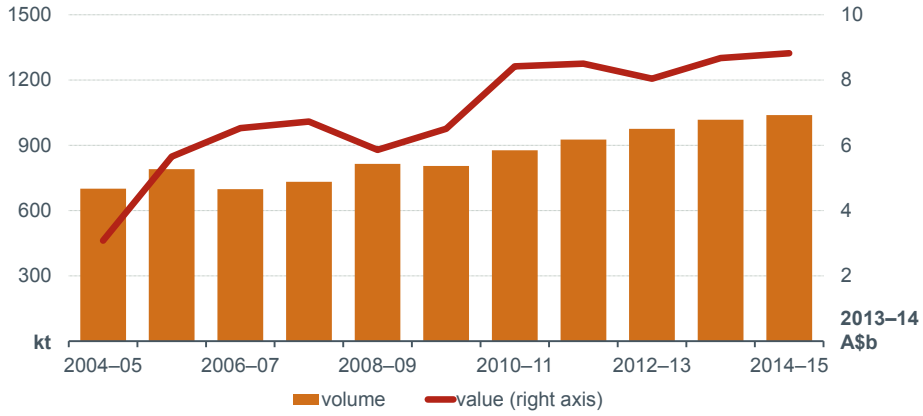
In 2014–15 Australia's mine production is forecast to total 1.07 million tonnes, an increase of over 6 per cent from 2013–14. The ramp up to full production at new mines such as Prominent Hill (95 000 tonnes a year) and Rocklands (480 000 tonnes a year) are expected to increase Australia's mine production in 2015.

In 2013–14, Australia's refined copper production is estimated to total 493 000 tonnes, compared to 454 000 tonnes the previous year. This 9 per cent increase is mainly attributable to CST Mining's Lady Annie SX-EW processing facility (20 000 tonnes a year) reaching full production and productivity improvements at other operations.

Exports

In the first quarter of 2014 Australia exported 264 000 tonnes of copper (by metallic content) with a value of $2.2 billion. In 2013–14 the value of copper exports is estimated to have increased almost 8 per cent to around $8.7 billion and export volumes by copper content are expected to be around 1 million tonnes (see Figure 3). In 2014–15, the value of Australia's copper exports is forecast to increase 2 per cent to $8.8 billion and export volume by copper content is forecast remain at similar levels to 2013–14 at around 1 million tonnes.

Figure 3: Australia's copper exports



Sources: BREE; ABS.

Table 1: Copper outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Production						
– mine	kt	17 086	18 300	19 146	20 217	5.6
– refined	kt	20 304	21 395	22 185	22 944	3.4
Consumption	kt	20 054	20 993	21 852	22 644	3.6
Closing stocks	kt	1 061	905	1 239	1 538	24.2
– weeks of consumption		2.8	2.2	2.9	3.5	19.8
Price LME						
– nominal	US$/t	7 948	7 326	6 822	6 643	–2.6
	USc/lb	361	332	309	301	–2.6
– real b	US$/t	8 206	7 455	6 822	6 512	–4.5
	USc/lb	372	338	309	295	–4.5
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Mine output	kt	930	970	1 003	1 066	6.2
Refined output	kt	486	454	493	499	1.4
Exports						
– ores and conc. c	kt	1 814	2 182	2 146	2 188	1.9
– refined	kt	395	360	433	432	–0.1
Export value						
– nominal	A$m	8 501	8 044	8 672	8 820	1.7
– real d	A$m	8 919	8 251	8 672	8 623	–0.6

b In current calendar year US dollars. **c** Quantities refer to gross weight of all ores and concentrates. **d** In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS; International Copper Study Group; LME; World Bureau of Metal Statistics.

Nickel

Ben Witteveen

World

World nickel prices rebounded in early 2014 as a result of the Indonesian ban on the export of mineral ores. In 2013 Indonesia supplied 21 per cent of world nickel and the withdrawal of its exports from world markets at the start of 2014 has led to prices climbing from around US$14 000 a tonne in January to more than US$21 000 in May. Nickel prices have since moderated to around US$18 000 in mid-June.

In preparation for the Indonesian export ban, LME stocks of nickel increased to an historic high of 8 weeks world consumption in January. During the first quarter 2014 stocks remained high and combined with steady China's consumption, at around 80 000 tonnes a month, moderated the effect of the ban on prices, which averaged $14 643 a tonne.

For the full year 2014, the nickel price is forecast to average US$17 644 a tonne, 17 per cent higher than 2013. The nickel price in 2015 is forecast to increase further and average around US$18 250 a tonne as a result of continuing tight supply conditions (see Figure 1).

Figure 1: Annual nickel prices and stocks

Sources: BREE; LME.

Nickel consumption in China is expected to remain the principal source of world nickel demand. China accounted for 51 per cent of total nickel consumption in 2013 with 897 000 tonnes. In 2014, China's nickel consumption is forecast to increase 7 per cent to 960 000 tonnes in line with its increased steel production. Total world nickel consumption is forecast to increase to 1.85 million tonnes, 5 per cent higher than 2013. As a result, China's share of world nickel consumption is expected to rise to 52 per cent. Nickel consumption is forecast to increase further in 2015, with China's and total world consumption increasing to 965 000 tonnes and 1.87 million tonnes, respectively.

In the March 2014 quarter world mine production declined 21 per cent, from 186 000 tonnes in January to 153 000 in March (a year-on-year decline of 14 per cent). The key driver of this fall was the introduction of an export ban on unrefined ores in Indonesia. Following the ban Indonesian mine production declined 73 per cent, from 55 000 tonnes in January to 15 000 tonnes in March (a year-on-year fall of 69 percent). For the full year 2014 Indonesia's nickel mine production is forecast to decrease to around 150 000 tonnes. This is around a third of its 2013 production of 477 000 tonnes.

The soft nickel market conditions that prevailed throughout much of 2013 are expected to reverse in 2014 due to the drop in nickel supply from Indonesia. Indonesia was the largest supplier of nickel ore to China and although it is estimated there are large stockpiles of nickel ores in China these stockpiles are not expected to support current output through 2014. Exports of nickel from the Philippines are forecast to increase to meet some of the shortfall in nickel. However, the size of the drop in Indonesia's exports and the impact of lower quality ore from the Philippines is forecast to result in a 4 per cent drop in China's refined nickel production to around 630 000 tonnes in 2014.

World refined nickel production in 2014 is forecast to decrease by 2 per cent to total 1.90 million tonnes. World nickel consumption in 2014 is forecast to increase by 4 per cent to total 1.85 million tonnes. The increase in consumption is expected to drawdown stocks, which by 2015 are forecast to have declined by 32 per cent to 271 000 tonnes (or 8 weeks consumption). In 2015 world refined nickel production is forecast to decrease by a further 8 per cent to 1.75 million tonnes, driven by a forecast decrease in China's production. In 2015, world nickel consumption is forecast to grow by 1 per cent to total 1.87 million tonnes.

Australia

Production

Australian nickel mine production in 2013–14 is estimated to have declined by 11 per cent, relative to 2012–13, to 218 000 tonnes. The fall is primarily due to a decline in production at Nickel West as operations at the Perseverance mine remain suspended due to safety concerns as well as production curtailments in response to lower prices at several mines in 2013. In 2014–15 Australian mine production is forecast to remain at around 218 000 tonnes.

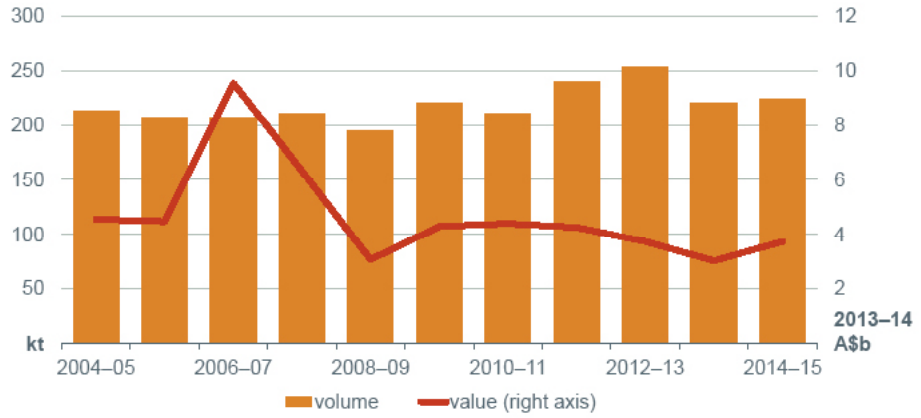
Australia's refined nickel production in 2013–14 is estimated to have increased by 3 per cent to 139 000 tonnes, supported by an increase in the proportion of ore refined domestically. This proportion is forecast to increase from 49 per cent in the September quarter 2013 to a high of 62 per cent in the March 2014 quarter. Australian refined nickel production in 2014–15 is forecast to increase by 1 per cent to 141 000 tonnes, underpinned by an expected increase in the nickel content of unrefined ore.

Exports

Following lower nickel production in early 2014, Australia's exports in 2013–14 are estimated to have decreased by 12 per cent to total 223 000 tonnes. Earnings from nickel exports are estimated to have contracted by 19 per cent to $3 billion because of lower volumes and prices through most of 2013-14. Starting in April the price of nickel increased from US$15 735 a tonne to US$19 310 by the end of May, a 23 per cent increase.

In 2014–15 export volumes are forecast to increase by 0.6 per cent to 225 000 tonnes. A forecast increase in production and prices is expected to increase earnings from nickel exports by 19 per cent to $3.6 billion in 2014–15 (see Figure 2).

Figure 2: Australia's nickel exports



Sources: BREE; ABS.

Table 1: Nickel outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Production						
– mine	kt	2 151	2 275	1 984	1 915	–3.5
– refined	kt	1 751	1 941	1 898	1 746	–8.0
Consumption	kt	1 659	1 772	1 854	1 873	1.0
Stocks	kt	217	353	397	271	–31.9
– weeks of consumption		6.8	10.4	11.1	7.5	–32.5
Price LME						
– nominal	US$/t	17 508	15 025	17 644	18 250	3.4
	Usc/lb	794	682	800	828	3.4
– real b	US$/t	18 076	15 290	17 644	17 892	1.4
	Usc/lb	820	694	800	812	1.4
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Production						
– mine cs	kt	235	242	218	218	–0.1
– refined	kt	122	135	139	141	1.3
– intermediate	kt	70	61	67	68	0.1
Export volume ds	kt	240	253	223	225	0.6
– nominal value s	A$m	4 056	3 642	3 024	3 605	19.2
– real value es	A$m	4 256	3 736	3 024	3 525	16.6

b In current calendar year US dollars. **c** Nickel content of domestic mine production. **d** Includes metal content of ores and concentrates, intermediate products and nickel metal. **e** In current financial year Australian dollars. **f** BREE forecast. **s** BREE estimate.
Sources: BREE; ABS; International Nickel Study Group; LME; World Bureau of Metal Statistics.

Zinc

Simon Cowling

Zinc prices and stocks

During the March quarter the spot price of zinc averaged US$2031 a tonne, an increase of 6 per cent over the previous quarter. Prices are forecast to rise progressively over the remainder of the year underpinned by increasing consumption and tighter supply to average US$2084 for the year as a whole, an increase of 9 per cent relative to 2013.

Global zinc consumption is forecast to increase by 4.2 per cent to total 13.5 million tonnes. China is forecast to remain the largest consumer of zinc in 2014 (6 per cent increase to total 6.1 million tonnes). Production disruptions in the March quarter at Vedanta's Lisheen (Ireland) and Black Mountain (South Africa) mines due to accidents are expected to be offset by increases in production from Australia and China. Mine production is forecast to increase by around 1.9 per cent to total 13.5 million tonnes in 2014. Refined zinc production is forecast to total 13.3 million tonnes, an increase of 3.4 per cent compared to 2013. Increased production from China and the start of Horsehead Holding's 150 000 tonne plant in the United States will underpin the increase.

In 2015, expected ongoing strength in demand for galvanised steel products to support construction investment in emerging economies is forecast to underpin zinc consumption growing 4.0 per cent to 14.1 million tonnes. The increase in consumption will support a forecast rise in average zinc prices to US$2235 a tonne, an increase of 7.3 per cent. With the forecast rise in prices raising the profitability of mining operations, zinc mine production is forecast to increase by 2.8 per cent to 13.9 million tonnes. Refined production is forecast to increase 4.6 per cent, relative to 2014, to total 13.9 million. The growth in both mined and refined output will be driven by increases in China.

Figure 1: Annual zinc prices and stocks

Sources: BREE; ILZSG; LME.

Australia

Production

Australia's mined production of zinc (total metallic content) is estimated to have increased by 2.4 per cent to 1.5 million tonnes in 2013–14 underpinned by increased output from recently commissioned projects. These include Glencore Xstrata's Lady Loretta mine (126 000 tonnes) and George Fisher expansion as well as Perilya's Broken Hill mine (45 000 tonnes). The increase will be further supported by the expected start-up of phase 3 of Glencore Xstrata's McArthur River project (200 000 tonnes). These increases will be partially offset by reduced output at MMG's Century (500 000 tonnes) and Golden Grove (80 000 tonnes) mines during the March quarter, impacted by wet weather and mine management plans respectively. Australia's refined zinc production is estimated to have increased by 0.7 per cent due to incremental production improvements, to total 499 000 tonnes in 2013–14.

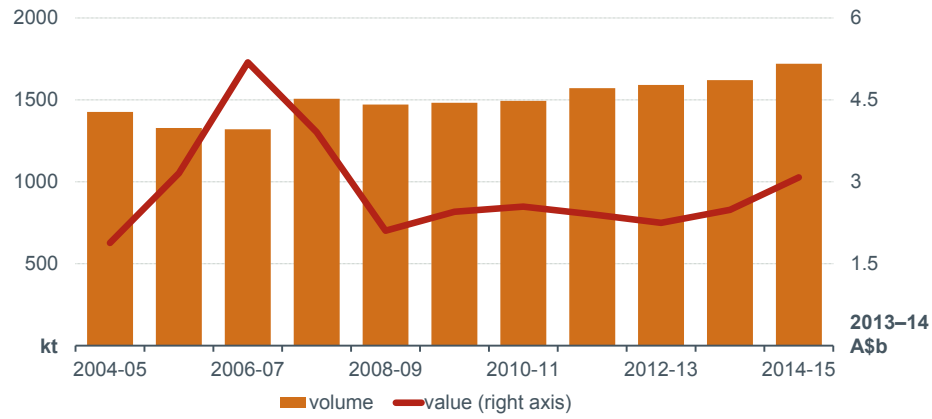
In 2014–15, Australia's mined production of zinc (total metallic content) is forecast to increase by 8 per cent to total 1.7 million tonnes. Recently commissioned projects achieving full production capacity will drive the increase but this is expected to be partially offset by reduced output from MMG's Century mine as it approaches end of life production. Refined zinc production in 2014–15 is forecast to remain relatively stable at 2013–14 levels. Plans to cease refined zinc metal production after the redevelopment of Nyrstar's Port Pirie smelter (end of 2015) are not expected to significantly impact Australia's refined zinc production in 2014–15.

Exports

The increase in Australia's zinc ores and concentrates production (total metal content) will support a rise in export volumes. In 2013–14, zinc export volumes are estimated to increase by 1.9 per cent, relative to 2013–14, to total 1.6 million tonnes. The increase in export volumes will drive an estimated 10 per cent increase in export values to $2.5 billion, further supported by rising global prices and an assumed depreciation of the Australian dollar.

In 2014–15, export volumes are forecast to increase by 6 per cent to 1.7 million tonnes, in line with increased Australian production. Export values are forecast to grow to $3.1 billion, an increase of 24 per cent. Forecast higher export volumes and prices, in conjunction with an assumed depreciation in the Australian dollar, will continue to drive the increase.

Figure 2: Australia's zinc exports



Sources: BREE; ABS.

Table 1: Zinc outlook

	unit	2012	2013	2014 f	2015 f	% change
World						
Production						
– mine	kt	13 138	13 210	13 463	13 836	2.8
– refined	kt	12 627	12 892	13 334	13 943	4.6
Consumption	kt	12 388	12 982	13 524	14 059	4.0
Closing stocks	kt	2 211	1 888	1 698	1 582	–6.8
– weeks of consumption		9.3	7.6	6.5	5.9	–10.4
Price						
– nominal	US$/t	1 947	1 910	2 084	2 235	7.3
	USc/lb	88	87	95	101	7.3
– real b	US$/t	2 010	1 944	2 084	2 191	5.1
	USc/lb	91	88	95	99	5.1
		2011–12	**2012–13**	**2013–14 f**	**2014–15 f**	
Australia						
Mine output	kt	1 567	1 507	1 543	1 670	8.3
Refined output	kt	505	496	499	498	–0.2
Export volume						
– ore and conc. c	kt	2 382	2 472	2 521	2 750	9.1
– refined	kt	456	433	439	437	–0.5
– total metallic content	kt	1 572	1 591	1 621	1 721	6.2
Export value						
– nominal	A$m	2 292	2 193	2 487	3 151	26.7
– real d	A$m	2 404	2 250	2 487	3 081	23.9

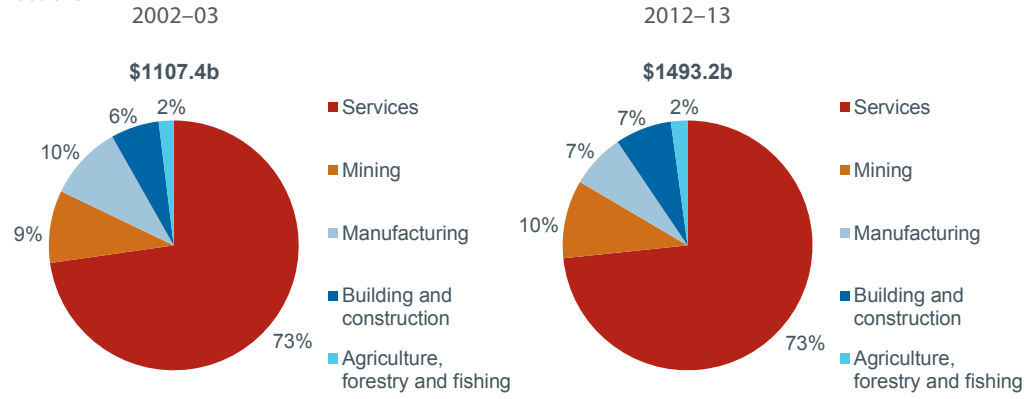
b In current calendar year US dollars. **c** Quantities refer to gross weight of all ores and concentrates. **d** In current financial year Australian dollars. **f** BREE forecast.
Sources: BREE; ABS; International Lead Zinc Study group.

Resources and Energy Quarterly

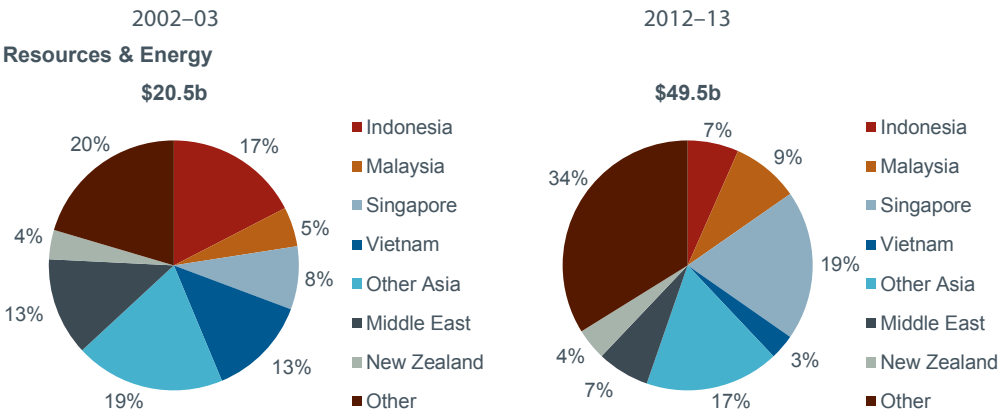
Statistical tables

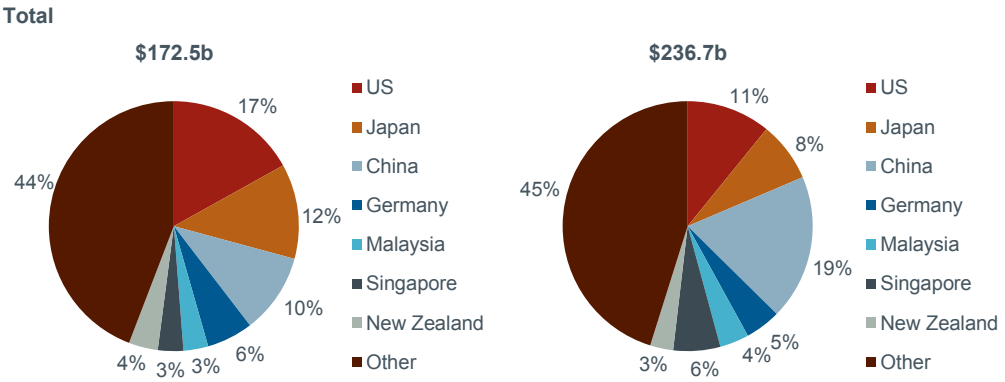
Contribution to GDP

Australia



Principal markets for Australian imports in 2012–13 dollars



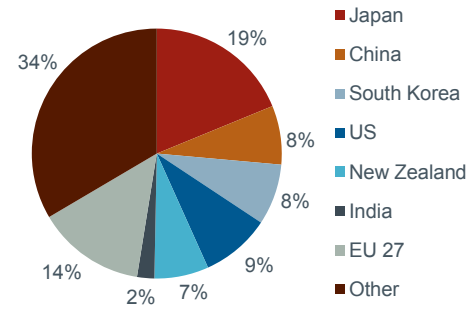


Principal markets for Australian exports in 2012–13 dollars

Total

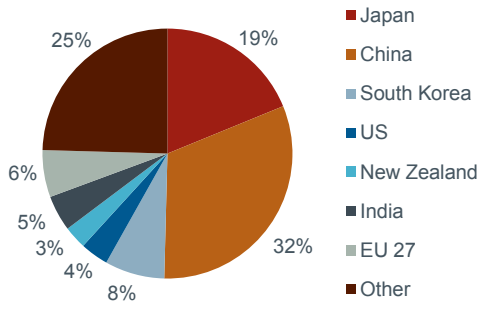
2002–03

$149.7b



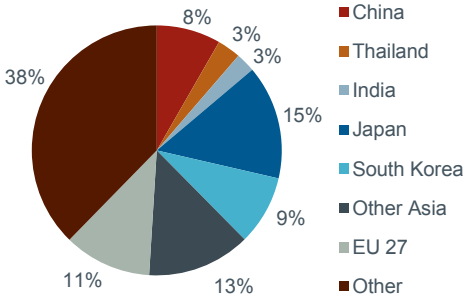
2012–13

$247.2b

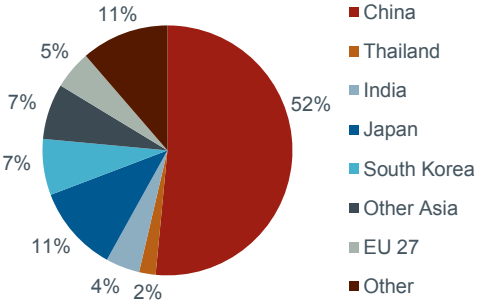


Resources

$41.9b

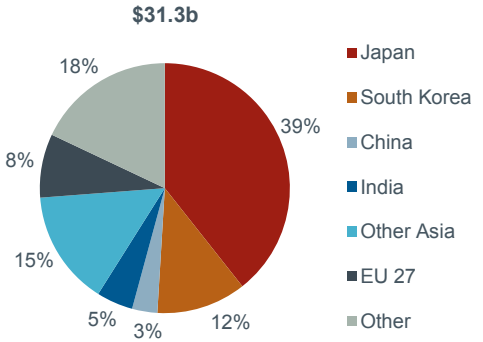


$104.1b

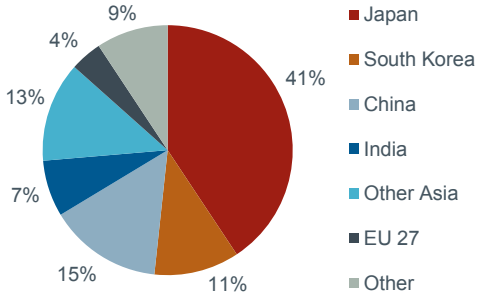


Energy

$31.3b

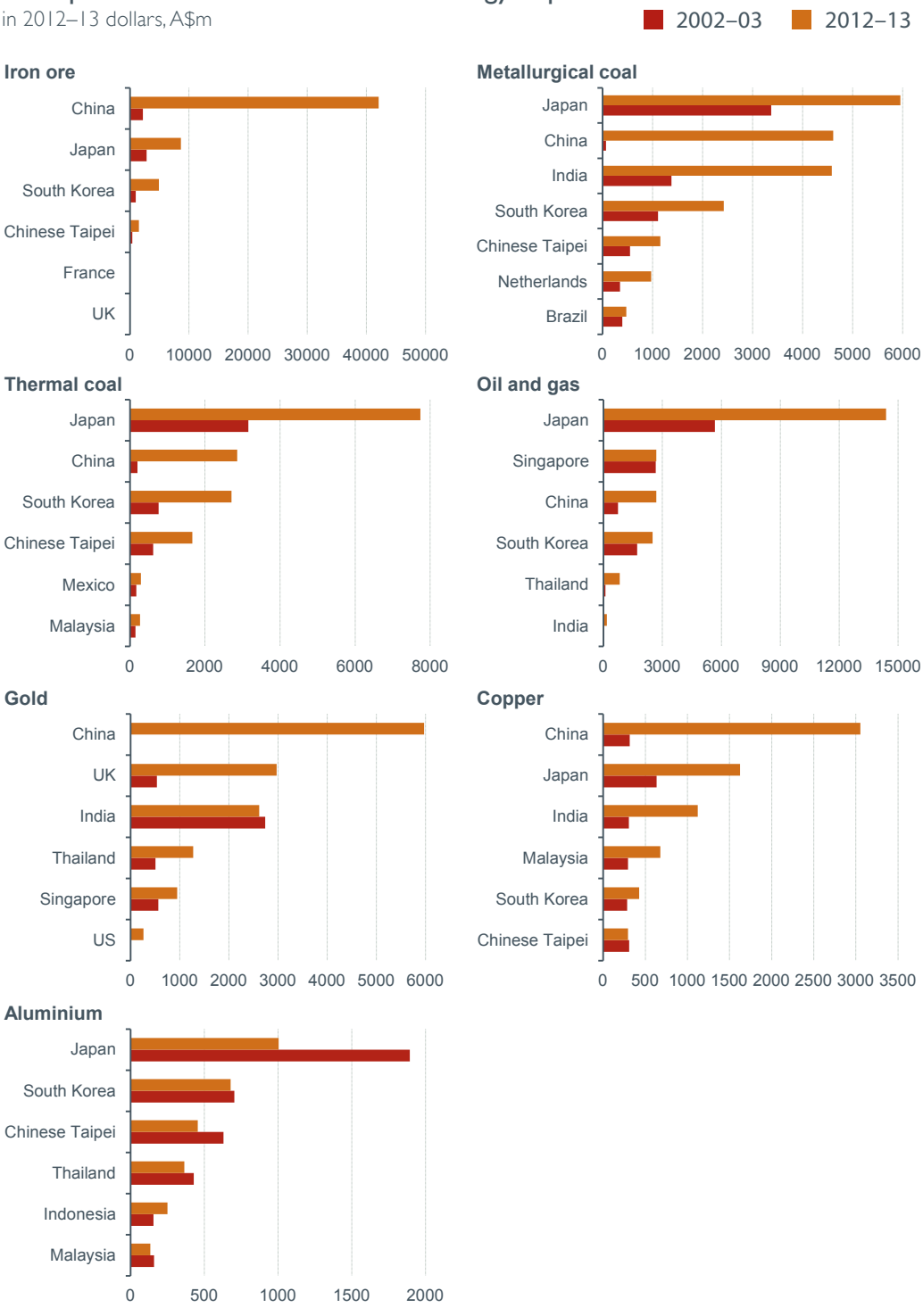


$69.5b



Principal markets for resources and energy exports

in 2012–13 dollars, A$m



1 Annual exports summary, Australia, Balance of payments basis

At current prices, $m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Resources and energy							
Coal, coke and briquettes	21 928	24 603	54 954	36 790	44 101	48 216	38 914
Other fuels	15 641	18 889	20 706	18 984	23 594	25 691	26 424
Metalliferous ores and other minerals bs	36 137	41 930	52 725	54 106	79 849	85 812	79 688
Gold	10 740	12 272	17 508	14 300	14 256	16 650	16 235
Other metals cs	21 773	18 211	14 358	14 031	15 963	14 564	13 135
Total s	106 220	115 904	160 251	138 211	177 764	190 934	174 396
Total commodities sector s	136 619	145 879	194 168	168 684	212 130	228 304	213 443
Other merchandise s	33 001	37 046	37 447	33 121	34 892	36 805	35 476
Total merchandise s	169 620	182 925	231 615	201 805	247 022	265 109	248 919
Services	46 557	49 822	51 846	50 349	50 299	50 529	52 808
Total goods and services	216 177	232 747	283 461	252 154	297 321	315 638	301 727
Chain volume measures, $m d							
Resources and energy							
Coal, coke and briquettes	35 129	37 311	39 032	46 390	44 980	48 216	52 729
Other fuels	19 326	19 196	20 303	21 997	25 753	25 691	27 650
Metalliferous ores and other minerals bs	62 607	68 059	67 511	77 746	79 781	90 219	101 132
Gold	17 981	18 541	20 618	16 070	15 462	16 650	16 775
Other metals cs	14 107	13 907	14 358	13 668	14 356	15 216	15 345
Total s	149 150	157 014	161 822	175 871	180 332	195 992	213 631
Total commodities sector s	179 224	184 479	191 907	206 280	212 532	232 467	253 405
Other merchandise s	38 482	40 642	37 760	40 292	37 313	32 643	29 484
Total merchandise s	217 706	225 121	229 667	246 572	249 845	265 110	282 889
Services	52 715	54 880	55 295	52 652	51 545	50 528	51 776
Total goods and services	270 289	279 892	284 792	299 430	301 353	315 638	334 664

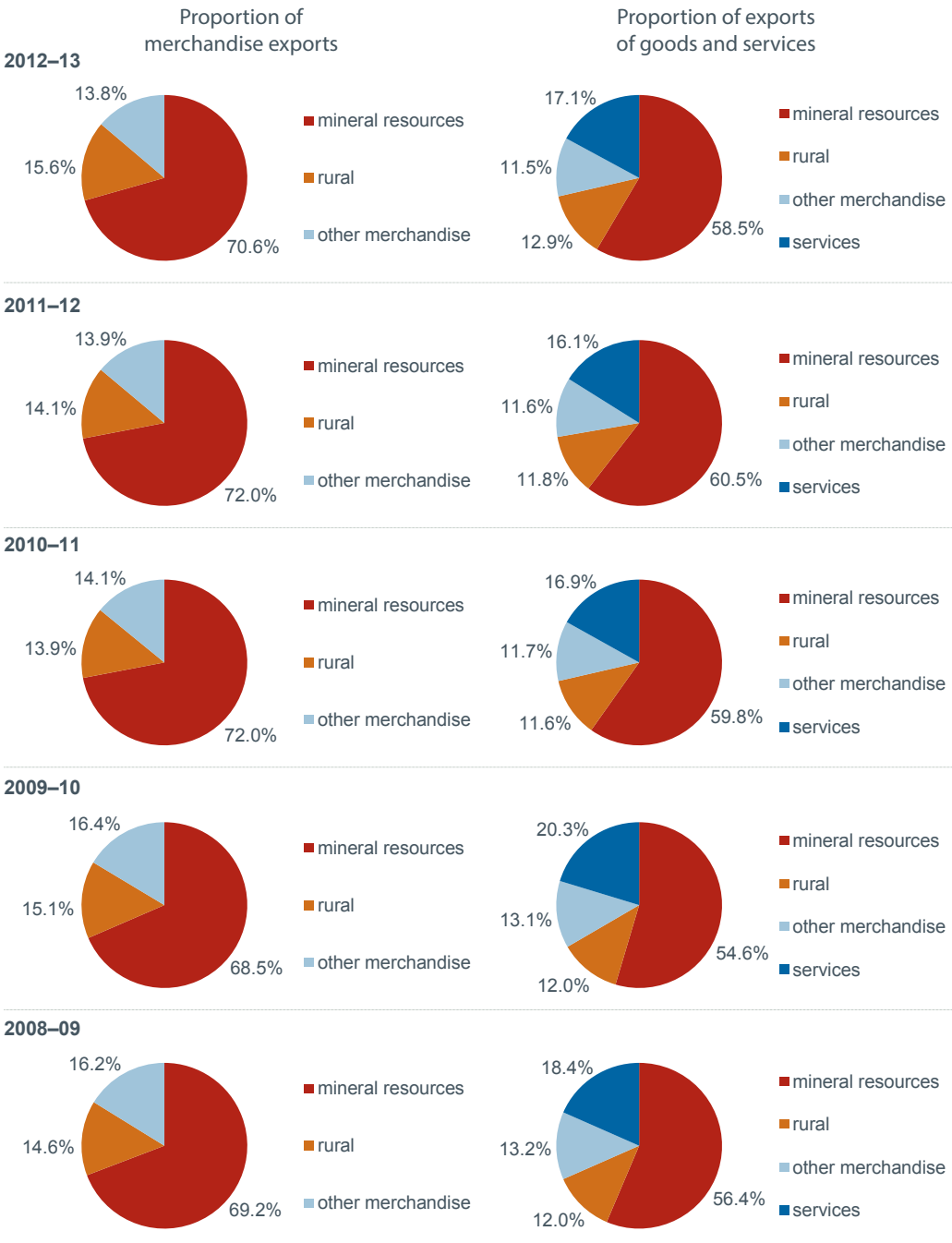
b Includes diamonds, which are not included in the balance of payments item by the ABS. **c** Includes BREE estimates for steel and nickel, which are retained as confidential by the ABS. **d** For a description of chain volume measures, see ABS, Introduction to chain volume measures, in the Australian National Accounts, cat. no. 5248.0, Canberra. Reference year is 2009–10. **s** BREE estimate.
Sources: BREE; ABS, Balance of Payments and International Investment Position, Australia, cat. no. 5302.0, Canberra.

2 Annual unit export returns, Australia

Annual indexes	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Metals and other minerals	201.5	199.8	225.8	210.3	281.2	271.2	236.9
Energy	206.6	235.8	398.3	258.9	319.1	343.7	280.1
Total resources and energy	204.3	214.3	290.6	229.3	296.3	299.0	253.8

In Australian dollars. Base: 1989–90 = 100.
Source: BREE.

3 Contribution to exports by sector, balance of payments basis, Australia



Rural includes farm, forest and fisheries products.
Sources: BREE; ABS.

4 Annual industry gross value added, Australia [bc]

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Agriculture, forestry and fishing	25 197	27 635	32 485	32 191	33 384	33 725	32 794
Mining							
Mining (excludes services to mining)	105 201	101 349	104 683	113 496	115 560	123 885	138 865
Exploration and mining support services	7 723	9 019	9 182	8 909	9 251	10 234	10 834
Total	112 466	110 115	113 591	122 411	124 846	134 119	149 699
Manufacturing							
Food, beverage and tobacco product	23 839	24 369	23 536	24 273	24 276	24 482	24 382
Textile, clothing and other manufacturing	8 764	7 859	7 134	5 834	5 628	5 391	5 251
Wood and paper products	7 909	7 728	7 109	7 291	6 864	6 299	6 476
Printing and recorded media	5 224	5 565	4 645	4 274	4 267	3 812	4 158
Petroleum, coal, chemical, etc, product	19 311	20 376	18 269	18 973	18 979	19 481	19 231
Non-metallic mineral products	5 431	6 158	6 154	6 058	5 953	5 587	5 507
Metal products	18 678	18 456	18 165	17 388	18 181	18 185	16 947
Machinery and equipment	19 914	20 791	19 933	21 183	20 760	21 655	21 760
Total	107 525	110 423	104 605	105 058	104 885	104 892	103 713
Construction	89 197	96 553	100 375	100 889	103 679	114 786	115 629
Electricity, gas, water and waste services	33 007	35 156	36 604	36 970	37 985	38 008	37 642
Taxes less subsidies on products	89 923	90 718	89 814	89 365	91 686	93 428	94 371
Statistical discrepancy	– 2	0	0	0	– 17	0	– 347
Gross domestic product	1287 864	1352 242	1375 809	1402 813	1434 258	1486 071	1525 604

b Chain volume measures, reference year is 2010–11. **c** ANZSIC 2006.
Source: ABS, Australian National Accounts: National Income, Expenditure and Product, cat. no. 5206.0, Canberra.

5 Annual volume of mine production indexes, Australia

index	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Energy b	118.5	113.7	127.1	118.7	120.9	126.7	134.6
Metals and other minerals	124.3	124.1	119.6	123.2	138.9	141.0	143.6
Total resources and energy	121.2	119.0	123.7	120.8	129.6	133.5	139.1

b Includes uranium.
Note: The indexes are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100.
Source: BREE.

6 Annual employment, Australia bc

'000 people	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Agriculture, forestry and fishing	352	355	363	369	350	335	307
Mining							
Coal	27	26	35	41	47	55	46
Oil and gas extraction	10	11	15	15	13	15	20
Metal ore	46	47	49	52	69	82	84
Other mining (including services)	53	62	72	66	75	97	115
Total	136	146	170	173	204	249	266
Manufacturing							
Food, beverages and tobacco	215	230	227	228	228	227	217
Textiles, clothing, footwear and leather	51	50	48	46	44	39	40
Wood and paper product	77	70	68	64	56	55	52
Printing, publishing and recorded media	51	54	51	52	55	42	47
Petroleum, coal and chemical product	92	98	90	88	84	88	91
Non-metallic mineral product	36	42	40	37	37	38	35
Metal product	161	159	157	146	147	146	128
Other manufacturing	342	360	348	343	334	319	329
Total	1 025	1 063	1 029	1 004	986	955	940
Other industries	8 876	9 144	9 338	9 459	9 750	9 881	9 920
Total	10 388	10 708	10 899	11 003	11 290	11 419	11 432

b Average employment over four quarters. **c** ANZSIC 2006. Caution should be used when using employment statistics at the ANZSIC subdivision and group levels due to estimates that may be subject to sampling variability and standard errors too high for most practical purposes.
Source: ABS, Labour Force, Australia, cat. no. 6291.0, Canberra.

7 Annual business income, Australia [b]

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Mining	40 311	40 184	67 402	49 889	76 563	69 853	47 928
Manufacturing							
Food, beverages and tobacco	4 532	5 757	6 166	8 168	na	5 609	4 848
Textiles, clothing, footwear and leather	548	501	245	409	na	449	162
Wood and paper product	1 085	1 184	667	615	719	542	583
Printing, publishing and recorded media	578	620	170	439	na	461	151
Petroleum, coal and chemical product	3 859	6 192	2 159	3 676	3 164	2 184	2 203
Non-metallic mineral product	1 108	1 359	978	1 155	1 008	833	749
Metal product	10 004	7 924	3 781	2 662	2 277	– 750	222
Machinery and equipment	1 640	1 937	2 695	3 383	3 657	1 484	2 162
Other manufacturing	762	851	637	712	na	452	227
Total	24 116	26 325	17 498	21 219	na	11 264	11 307
Other industries (including services)	89 872	100 641	73 482	100 419	na	104 066	112 492
Total (including services)	154 299	167 150	158 382	171 527	199 675	185 183	171 727

b Company profits before income tax, based on ANZSIC 2006.
Source: ABS, Australian National Accounts: National Income, Expenditure and Product, cat. no. 5206.0, Canberra; Company Profits, Australia, cat. no. 5651.0, Canberra; Business Indicators, Australia, cat. no. 5676.0, Canberra; Australian Industry, cat. no. 8155.0, Canberra.

8 All banks lending to business, Australia [b]

$b	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Agriculture, fishing and forestry	59.7	60.5	58.7	58.1	60.7	60.0	58.3	58.5
Mining	17.0	18.8	18.1	18.8	21.0	24.1	25.9	26.5
Manufacturing	42.2	41.0	39.7	39.5	39.6	38.7	38.0	41.8
Construction	29.2	28.9	27.6	27.8	27.5	27.8	27.7	28.4
Wholesale, retail trade, transport and storage	100.8	100.5	102.3	102.2	103.0	104.1	103.1	105.3
Finance and insurance	101.1	102.7	103.0	104.2	107.2	112.3	122.8	124.8
Other	343.7	342.4	344.5	347.1	351.3	352.8	354.5	357.6
Total	693.8	694.8	694.0	697.7	710.4	719.8	730.4	742.8

b Includes variable and fixed interest rate loans outstanding plus bank bills outstanding.
Source: RBA, Bank Lending to Business – Selected Statistics, Bulletin Statistical Table D8.

9 Annual capital expenditure of private enterprises, Australia

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
At current prices							
Gross fixed capital formation [b]							
All sectors	302 297	339 341	355 508	360 274	376 205	417 657	430 370
New capital expenditure							
Mining [c]	23 621	29 201	37 977	35 185	46 847	81 997	94 709
Manufacturing							
Food, beverages and tobacco	2 256	2 596	2 492	2 566	2 882	2 721	2 523
Textiles, clothing, footwear and leather	139	112	118	140	70	115	154
Wood and paper product	759	928	897	719	610	787	433
Printing, publishing and recorded media	353	396	450	452	187	257	157
Petroleum, coal and chemical product	1 767	2 126	2 239	2 207	2 320	2 802	2 726
Non-metallic mineral product	467	474	609	731	806	795	652
Metal product	4 761	4 137	4 608	3 689	4 017	4 323	1 882
Machinery and equipment	1 436	1 110	1 160	1 112	1 340	1 366	788
Other manufacturing	58	164	108	126	111	60	93
Total	12 106	12 340	12 682	11 743	12 343	13 227	9 470
Total surveyed industries	87 475	96 833	113 201	107 104	119 341	154 841	160 530
Chain volume measures [d]							
Gross fixed capital formation [b]							
All sectors	317 188	347 329	354 739	362 208	375 541	417 637	427 232
New capital expenditure							
Mining	25 835	30 989	38 013	35 331	46 847	81 144	93 539
Manufacturing	12 282	12 637	12 234	11 423	12 343	13 309	9 486
Other selected industries	48 457	53 393	58 787	58 564	60 151	60 526	56 800
Total surveyed industries	86 989	97 266	109 126	105 507	119 341	154 956	159 824

b Estimates taken from ABS national accounts, which include taxation-based statistics. **c** ANZSIC 2006 Division B. **d** Reference year is 2009–10.
Sources: BREE; ABS, Australian National Accounts: National Income, Expenditure and Product, cat. no. 5206.0, Canberra; Private New Capital Expenditure and Expected Expenditure, Australia, cat. no. 5625.0, Canberra.

10 Annual private mineral exploration expenditure, Australia

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Energy [b]							
Petroleum							
Onshore	498	494	492	749	757	920	1 363
Offshore	1 727	2 541	3 318	2 746	2 559	2 277	3 430
Total	2 226	3 035	3 811	3 494	3 315	3 197	4 793
Coal	193	235	297	321	520	834	544
Uranium	114	232	185	169	214	154	70
Total	2 533	3 501	4 293	3 984	4 049	4 185	5 407
Metals and other minerals							
Gold	456	593	438	575	652	768	662
Iron ore	285	450	589	524	665	1 151	1 011
Base metals, silver and cobalt [c]	555	783	519	457	670	796	564
Mineral sands	37	37	31	na	na	na	38
Diamonds	27	22	10	na	na	na	6
Other	47	111	154	147	196	199	161
Total	1 407	1 995	1 741	1 742	2 218	2 965	2 442
Total expenditure	3 940	5 496	6 034	5 727	6 267	7 150	7 849

b Includes uranium. **c** Base metals include copper, lead, nickel and zinc.
Source: ABS, Mineral and Petroleum Exploration, Australia, cat. no. 8412.0, Canberra.

11 Annual world indicator prices

	unit	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Energy								
Crude oil								
Dubai	US$/bbl	60.9	90.2	63.9	73.4	75.1	109.2	105.7
West Texas Intermediate	US$/bbl	63.4	96.8	70.3	75.2	89.3	94.3	91.8
Brent dated	US$/bbl	64.0	95.2	68.8	74.5	96.0	110.7	108.2
Uranium (U_3O_8) b	US$/lb	81.1	80.8	51.3	43.8	57.1	51.5	43.4
Minerals and metals c								
Aluminium	US$/t	2 690	2 667	1 868	2 016	2 383	2 166	1 937
Copper	US$/t	7 080	7 785	4 919	6 691	8 671	8 193	7 675
Gold d	US$/oz	639	823	874	1 092	1 372	1 671	1 605
Iron ore e	USc/dmtu	42.6	46.6	83.9	56.3	104.2	132.0	107.0
Lead	US$/t	1 694	2 891	1 454	2 098	2 396	2 127	2 132
Manganese g	US$/t	258	541	1 340	545	768	544	515
Nickel	US$/t	37 909	28 564	13 322	19 390	23 963	19 275	16 390
Silver	USc/oz	1 274	1 544	1 289	1 688	2 880	3 309	2 894
Tin	US$/t	11 417	17 908	14 611	16 172	26 222	22 297	21 450
Zinc	US$/t	3 667	2 605	1 405	2 065	2 241	2 020	1 926

b Average of weekly restricted spot prices over the period, published by Ux Consulting. **c** Average LME spot price unless otherwise stated. **d** London gold AM fix, London Bullion Market Association. **e** Australian hematite fines to Japan (fob) for Japanese Fiscal Year commencing 1 April. **g** 44 per cent Mn, CIF Tianjin.
Sources: BREE; Cameco; London Bullion Market Association; LME; UNCTAD; US Department of Energy.

12 Annual world production, consumption, stocks and trade

	unit	2007	2008	2009	2010	2011	2012	2013
Energy								
Crude oil								
Production								
World [b]	mbd	85.7	86.5	85.6	87.2	84.5	91.1	91.4
OPEC [c]	mbd	34.9	35.8	34.1	34.6	35.0	37.6	36.7
Consumption [b]	mbd	86.5	86.2	85.6	88.4	88.8	89.9	91.0
Coal								
Production								
Hard coal [d]	Mt	4 848	4 996	5 121	5 450	5 811	5 979	na
Brown coal [e]	Mt	880	883	856	861	911	905	na
Exports								
Metallurgical coal	Mt	227	235	224	279	274	290	314
Thermal coal	Mt	710	716	739	806	867	989	1 023
Uranium (U_3O_8)								
Production [gs]	kt	48.6	51.6	60.4	63.9	63.3	67.6	69.0
Consumption	kt	77.7	76.2	77.2	79.8	73.8	75.1	76.7
Metals								
Bauxite production	kt	209 014	217 412	193 038	203 460	242 256	262 052	273 113
Alumina production	kt	74 120	77 564	73 667	81 023	89 289	92 359	95 903
Aluminium								
Production	kt	38 186	39 960	37 162	41 504	44 776	46 344	48 206
Consumption	kt	37 409	36 900	34 572	40 181	42 471	45 534	46 441
Closing stocks [h]	kt	2 961	4 709	6 485	6 502	6 999	7 361	7 177
Iron and steel								
Production								
Iron ore [i]	Mt	1 699	1 693	1 588	1 836	1 873	1 849	1 981
Pig iron	Mt	946	927	900	1 036	1 086	1 106	1 164
Crude steel	Mt	1 344	1 330	1 220	1 416	1 518	1 537	1 602
Iron ore trade	Mt	830	897	948	1 055	1 112	1 154	1 225
Gold								
Mine production	t	2 497	2 429	2 612	2 739	2 838	2 861	2 989
Supply	t	3 986	4 014	4 381	4 462	4 517	4 477	3 887
Fabrication consumption	t	3 103	3 027	2 519	2 787	2 760	2 613	2 937

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12 Annual world production, consumption, stocks and trade *continued*

	unit	2007	2008	2009	2010	2011	2012	2013
Base metals								
Copper								
Production j	kt	18 043	18 501	18 549	19 215	19 819	20 304	21 413
Consumption	kt	18 143	18 138	18 130	19 314	19 554	20 054	21 003
Closing stocks	kt	682	842	1 133	994	981	1 061	908
Lead								
Production j	kt	8 351	9 075	9 242	9 851	10 599	10 212	10 593
Consumption	kt	8 367	9 072	9 245	9 815	10 444	10 154	10 615
Closing stocks	kt	268	307	390	447	604	640	599
Nickel								
Production j	kt	1 419	1 382	1 317	1 440	1 613	1 751	1 941
Consumption	kt	1 326	1 278	1 234	1 465	1 607	1 659	1 772
Closing stocks	kt	125	155	234	213	172	217	353
Tin								
Production j	kt	349	332	336	356	367	363	350
Consumption	kt	357	337	325	370	382	363	360
Closing stocks	kt	35	32	46	35	30	33	27
Zinc								
Production j	kt	11 345	11 774	11 281	12 895	13 073	12 524	13 139
Consumption	kt	11 232	11 574	10 915	12 649	12 705	12 290	13 198
Closing stocks	kt	638	820	1 221	1 562	1 769	2 211	1 897

b 1 million litres (1 megalitre) a year equals about 17.2 barrels a day. **c** Includes OPEC natural gas liquids. **d** Includes anthracite, bituminous and coking coal, and for some countries sub-bituminous coal. **e** Refers to lignite as published in IEA Coal Information. **g** World production data have been revised to exclude reprocessed uranium. **h** LME and producer stocks. **i** China's iron ore production adjusted to world average. **j** Primary refined metal. **s** BREE estimate.

Sources: BREE; ABS; Thomson Reuters Gold Fields Mineral Services; International Atomic Energy Agency; IEA; World Steel Association; International Lead–Zinc Study Group; International Nickel Study Group; UNCTAD; World Bureau of Metal Statistics.

13 Annual commodity production, Australia

	unit	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Energy								
Coal								
Black, saleable s	Mt	325.4	326.2	339.6	367.4	345.2	363.9	396.7
Black, raw s	Mt	417.0	422.8	446.2	475.2	454.0	480.2	529.1
Petroleum								
Crude oil and condensate	ML	27 651	25 610	26 407	25 583	25 772	24 068	21 268
Petroleum products b	ML	38 795	39 575	39 546	37 200	38 490	36 775	36 891
Gas c	Bcm	41	42	44	50	53	56	62
LPG (naturally occurring)	ML	4 550	3 971	3 930	4 097	3 907	3 813	3 529
Uranium (U_3O_8)	t	9 589	10 123	10 311	7 109	7 069	7 657	8 999
Metalliferous minerals and metals								
Aluminium								
Bauxite	Mt	62.7	63.5	64.1	67.8	68.8	72.9	78.9
Alumina	kt	18 506	19 359	19 597	20 057	19 041	19 283	21 645
Aluminium (ingot metal)	kt	1 954	1 964	1 974	1 920	1 938	1 938	1 788
Copper								
Mine production e	kt	859	847	890	819	952	930	970
Refined	kt	435	444	499	395	485	486	454
Gold								
Mine production e	t	250.8	229.7	217.8	239.8	264.7	254.5	254.5
Iron and steel								
Ores and concentrates g	Mt	288	325	353	423	447	504	555
Iron and steel	Mt	8.0	8.2	5.6	6.9	7.3	5.4	4.8
Lead								
Mine production e	kt	642	641	596	617	697	634	639
Refined h	kt	191	203	213	189	190	174	159
Bullion	kt	114	152	155	148	133	144	148
Manganese								
Ore, metallurgical grade	kt	5 046	5 428	3 730	5 795	6 784	7 104	7 402
Metal content of ore	kt	2 037	2 188	1 504	2 365	2 756	2 893	2 960
Nickel i								
Mine production e	kt	191	190	185	157	195	235	242
Refined, class I s	kt	104	105	95	114	90	107	125
Refined, class II j	kt	15	15	15	6	10	16	9
Total ore processed k	kt	225	222	213	197	236	276	285

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13 Annual commodity production, Australia *continued*

	unit	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Metalliferous minerals and metals (continued)								
Silver								
Mine production e	t	1 674	1 867	1 764	1 809	1 792	1 862	1 696
Refined	t	618	605	751	698	712	847	1 057
Tin								
Mine production es	t	2 061	1 767	4 045	19 829	18 410	8 150	6 637
Titanium s								
Ilmenite concentrate	kt	2 383	2 205	1 932	1 398	1 275	1 331	1 335
Leucoxene concentrate	kt	169	153	117	123	200	228	228
Rutile concentrate	kt	279	332	285	361	467	440	465
Synthetic rutile	kt	729	672	732	553	542	480	484
Titanium dioxide pigment	kt	207	201	214	222	204	204	204
Zinc								
Mine production e	kt	1 229	1 431	1 288	1 362	1 479	1 567	1 507
Refined	kt	496	507	506	515	499	505	496
Zircon concentrate s	kt	564	563	485	408	674	706	613
Other minerals								
Diamonds	’000 ct	24 632	16 528	15 169	11 138	8 027	8 373	9 730

b Excludes production from petrochemical plants. **c** Includes ethane, methane and coal seam gas. **d** Uranium is included with energy. **e** Primary production, metal content. **g** Excludes iron oxide not intended for metal extraction. **h** Includes lead content of lead alloys from primary sources. **i** Products with a nickel content of 99 per cent or more. Includes electrolytic nickel, pellets, briquettes and powder. **j** Products with a nickel content of less than 99 per cent. Includes ferronickel, nickel oxides and oxide sinter. **k** Includes imported ore for further processing. **s** BREE estimate.
Sources: BREE; ABS; Coal Services Pty Limited; International Nickel Study Group; Queensland Government, Department of Natural Resources and Mines.

14 Annual volume of commodity exports, Australia

	unit	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Resources								
Metalliferous minerals and metals								
Aluminium								
Bauxite	kt	5 700	7 917	7 470	8 023	8 595	10 518	12 567
Alumina	kt	15 056	15 739	16 395	16 653	16 227	16 592	18 914
Aluminium (ingot metal)	kt	1 638	1 650	1 748	1 624	1 686	1 693	1 569
Copper								
Ores and concentrates d	kt	1 493	1 694	1 797	1 928	1 750	1 814	2 182
Refined	kt	290	296	361	271	375	395	360
Gold e	t	400	382	437	335	301	304	280
Iron and steel								
Iron ore and pellets	Mt	257	294	324	390	407	470	527
Iron and steel g	kt	2 648	2 131	1 741	1 549	1 785	1 186	993
Lead								
Ores and concentrates d	kt	422	308	381	491	494	438	462
Refined	kt	215	193	261	186	213	217	221
Bullion	kt	112	169	147	151	93	159	133
Manganese d	kt	4 667	5 105	3 226	5 648	6 190	6 853	6 718
Nickel es	kt	207	211	194	221	210	240	253
Titanium s								
Ilmenite concentrate	kt	999	894	1 538	1 763	1 804	2 045	2 040
Leucoxene concentrate	kt	134	69	61	18	27	31	31
Rutile concentrate	kt	307	399	550	575	491	334	368
Synthetic rutile	kt	508	513	512	513	517	536	485
Titanium dioxide pigment	kt	171	175	141	181	195	179	142
Refined silver	t	431	335	423	420	198	269	497
Tin e	t	1 867	3 079	4 159	6 031	5 426	4 895	6 322
Zinc								
Ores and concentrates d	kt	1 948	2 323	2 101	2 271	2 317	2 382	2 472
Refined	kt	374	411	451	425	410	456	433
Zircon concentrate hs	kt	555	637	685	748	963	846	779
Other minerals								
Diamonds	'000 ct	24 632	16 528	16 279	10 355	9 900	11 526	12 160
Energy								
Crude oil b	ML	15 965	15 975	16 588	18 064	19 638	19 212	18 762
LPG	ML	2 824	2 589	2 500	2 776	2 471	2 115	2 386
LNG cs	Mt	14	14	15	18	20	19	24
Petroleum products	ML	1 752	1 807	1 164	850	760	1 151	943
Metallurgical coal	Mt	132	137	125	157	140	142	154
Thermal coal	Mt	112	115	136	135	143	158	182
Uranium (U_3O_8) s	t	9 519	10 139	10 114	7 555	6 950	6 917	8 391

b Includes condensate and other refinery feedstock. **c** 1 million tonnes of LNG equals approximately 1.4 billion cubic metres of gas. **d** Quantities refer to gross weight of all ores and concentrates. **e** Quantities refer to total metallic content of all ores, concentrates, intermediate products and refined metal. **g** Includes all steel items in ABS, Australian Harmonized Export Commodity Classification, ch. 72, 'Iron and steel', excluding ferrous waste and scrap and ferroalloys. **h** Data from 1991–92 refer to standard grade zircon only. **s** BREE estimate.
Sources: BREE; ABS, International Trade, Australia, cat. no. 5465.0, Canberra; Australian Mining Industry Council; Department of Foreign Affairs and Trade; International Nickel Study Group.

15 Annual value of commodity exports (fob), Australia

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Resources							
Metalliferous minerals and metals							
Aluminium							
Bauxite s	108	206	192	178	229	296	382
Alumina	6 243	5 809	6 015	4 969	5 218	5 146	5 342
Aluminium (ingot metal)	5 650	4 967	4 724	3 838	4 178	3 797	3 276
Copper b							
Ores and concentrates	3 914	4 151	3 618	4 526	5 130	5 386	5 337
Refined	2 612	2 579	2 245	1 980	3 292	3 115	2 707
Gold b	10 320	10 903	16 146	12 996	13 016	15 462	15 056
Iron and steel							
Iron ore and pellets	15 512	20 511	34 239	35 075	58 387	62 695	57 075
Iron and steel	1 743	1 562	1 363	1 120	1 303	983	820
Lead b							
Ores and concentrates	855	757	645	998	1 301	1 184	1 083
Refined	457	674	560	425	511	475	463
Bullion	268	595	432	409	248	541	397
Manganese c	482	1 532	1 406	1 395	1 407	1 229	1 347
Titanium							
Ilmenite concentrate d	113	104	171	197	198	225	224
Leucoxene concentrate	42	23	37	11	17	22	22
Rutile concentrate	259	277	335	382	390	252	262
Synthetic rutile s	361	305	258	269	315	294	264
Titanium dioxide pigment	408	375	396	448	527	571	436
Nickel s	7 912	5 412	2 717	3 875	4 096	4 056	3 642
Refined silver	221	187	245	254	164	268	535
Tin b	25	42	70	101	126	102	123
Zinc b							
Ores and concentrates	2 590	2 031	935	1 237	1 479	1 375	1 383
Refined	1 707	1 319	923	977	893	917	810
Zircon concentrate e	478	421	540	370	532	327	194
Total metalliferous minerals and metals	62 280	64 745	78 212	76 031	102 955	108 719	101 182
Other minerals							
Diamonds s	726	625	676	471	366	386	398
Other	4 843	6 169	4 770	5 298	5 556	6 143	5 122
Total other minerals	5 808	7 026	5 683	6 016	6 174	6 774	5 814
Total resources	68 088	71 771	83 895	82 047	109 129	115 493	106 996

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15 Annual value of commodity exports (fob), Australia *continued*

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Energy							
Crude oil g	8 317	10 484	8 757	9 534	12 245	13 205	12 503
LPG	1 038	1 182	1 044	1 105	1 068	971	1 088
LNG	5 222	5 854	10 079	7 789	10 437	11 949	13 741
Bunker fuel h	1 295	1 457	1 537	1 315	1 508	1 589	1 607
Other petroleum products	1 098	1 323	788	566	526	890	692
Metallurgical coal	15 039	16 038	36 813	24 526	29 793	30 700	22 434
Thermal coal	6 758	8 365	17 885	11 886	13 956	17 118	16 169
Uranium (U_3O_8) s	660	887	990	757	610	607	823
Total energy							
Derived as sum of above	39 427	45 591	77 892	57 478	70 143	77 029	69 058
On balance of payments basis (ex. bunker fuel)	37 569	43 492	75 660	55 774	67 695	73 907	65 336
Total resources and energy exports							
Derived as sum of above	107 515	117 362	161 788	139 525	179 272	192 523	176 053
On balance of payments i	106 220	115 904	160 251	138 211	177 764	190 934	174 394
Total agricultural exports							
At current prices	31 748	31 344	35 905	32 079	36 079	38 095	37 394
On balance of payments i	30 400	29 975	33 917	30 473	34 366	37 370	39 047
Total commodity exports j							
Derived as sum of above	139 263	148 706	197 693	171 605	215 351	230 617	213 448
On balance of payments i	136 619	145 879	194 168	168 684	212 130	228 304	213 441

b Value of metals contained in host mine and smelter products are not available separately and are included in the value of the mineral product or metal in which they are exported. **c** Value refers to that of ores and concentrates. **d** Excludes leucoxene and synthetic rutile; data from 1991–92 refer to bulk ilmenite only. **e** Data refer to standard grade zircon only. **g** Includes condensate and other refinery feedstock. **h** International ships and aircraft stores.
i As derived in table 1. **j** Sum of resources, energy and agricultural commodity exports. **s** BREE estimate.
Sources: BREE; ABS, International Trade, Australia, cat. no. 5465.0, Canberra.

16 Annual value of imports, Australia

$m	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Resources and energy							
Aluminium (ingot metal)	11	10	10	27	18	37	86
Diamonds	397	444	417	442	397	407	414
Ferroalloys	116	154	181	118	127	106	85
Gold (refined and unrefined)	5 309	7 311	11 250	7 739	5 426	6 814	4 885
Ingot steel	2 479	2 225	3 191	1 889	2 121	2 113	1 755
Iron ore	338	311	269	259	417	223	117
Petroleum							
Crude oil [b]	13 360	17 149	14 727	15 031	20 183	21 125	20 396
Natural gas	800	724	2 166	1 219	1 929	2 151	2 421
Petroleum products [c]	7 784	12 730	13 129	11 296	11 445	16 720	17 948
Phosphate rock	32	80	193	10	57	55	64
Phosphates	267	778	549	347	628	503	411
Silver	98	80	223	107	490	950	435
Other	707	483	794	1 183	859	1 464	1 569
Total resources and energy	31 698	42 479	47 098	39 666	44 097	52 668	50 587

b Includes condensate and other refinery feedstock. **c** Includes LPG.
Sources: BREE; ABS, International Trade, Australia, cat. no. 5465.0, Canberra.

17 Quarterly commodity production, Australia

	unit	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Aluminium									
Bauxite	kt	18 696	19 623	20 119	18 936	20 264	20 750	21 169	19 185
Alumina	kt	4 828	5 530	5 690	5 100	5 323	5 380	5 725	5 408
Aluminium (ingot metal)	kt	474	459	451	437	442	450	449	431
Coal									
Black, raw	Mt	124	134	137	121	141	146	130	140
Black, saleable	Mt	92	101	103	92	103	112	101	106
Copper									
Mine production bs	kt	228	238	241	249	242	244	261	252
Blister cs	kt	116	97	94	115	112	96	123	123
Refined s	kt	127	107	103	123	121	104	132	133
Diamonds	'000 ct	1 724	2 496	2 045	2 027	3 163	3 115	3 177	2 483
Gold									
Mine production bs	t	63	62	66	62	65	68	70	68
Refined	t	77	78	76	72	76	77	81	76
Iron									
Iron ore and concentrates	kt	129 848	132 896	138 389	133 600	150 605	158 631	166 369	162 558
Iron and steel s	kt	1 204	1 287	1 200	1 187	1 176	1 184	1 099	1 156
Lead									
Mine production bs	kt	171	158	147	146	188	191	186	176
Bullion c	kt	36	40	35	30	43	37	34	36
Refined	kt	48	28	45	40	46	41	50	49
Manganese	kt	1 725	1 870	1 878	1 803	1 852	1 836	1 957	1 672
Nickel									
Mine production bs	kt	62	62	61	58	61	62	53	50
Intermediate	kt	21	13	13	18	17	19	16	15
Refined, class 1	kt	28	32	27	32	35	34	33	32
Refined, class 2	kt	4	3	2	2	2	2	2	2
Petroleum, field									
Crude oil and condensate e	ML	5 995	6 253	5 630	4 380	5 005	5 231	4 671	4 869
LPG (naturally occurring)	ML	918	1 025	824	795	884	1 005	787	823
Gas d	Mcm	14 162	16 950	15 686	14 761	14 629	16 128	15 645	15 031
Petroleum, total refinery	ML	8 351	9 610	9 356	9 173	8 365	8 489	8 811	9 499
Silver s									
Mine production b	t	528	405	369	418	505	444	473	483
Refined	t	181	161	271	329	297	294	302	229
Tin mine production bs	t	1 475	1 565	1 880	1 600	1 592	1 666	1 614	1 491
Uranium (U_3O_8) s	t	1 847	2 401	2 400	1 982	2 216	1 740	1 646	1 016
Zinc s									
Mine production b	kt	400	360	409	346	392	380	405	359
Refined	kt	128	124	129	115	128	123	132	119

b Total metallic content of minerals produced. **c** Metallic content. **d** Includes methane, ethane and coal seam gas. **e** Energy Quest. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS, Canberra; Coal Services Pty Limited; Queensland Government, Department of Mines and Energy; Perth Mint.

18 Quarterly commodity exports, by volume, Australia

	unit	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Aluminium									
Bauxite	kt	2 678	2 769	2 594	2 960	4 244	4 368	4 090	2 669
Alumina b	kt	4 108	4 660	5 176	4 401	4 677	4 474	4 940	4 781
Aluminium (ingot metal)	kt	403	399	425	359	385	410	387	356
Coal, black									
Metallurgical	Mt	35.9	34.4	40.0	37.6	42.3	42.8	47.3	42.8
Thermal	Mt	40.7	44.9	48.4	41.5	46.8	48.8	51.1	46.9
Copper c	kt	242	223	271	227	254	243	260	264
Diamonds ds	'000 ct	3 040	3 040	3 040	3 040	3 040	2 433	3 034	3 230
Gold cs	t	83.0	69.4	67.8	67.7	75.6	64.8	73.4	71.2
Iron									
Iron ore and pellets	kt	123 022	125 286	134 870	124 919	141 944	151 355	160 809	158 538
Iron and steel s	kt	258	260	260	251	222	214	252	201
Lead cs	kt	187	165	181	137	195	181	214	176
Manganese ore and concentrates	kt	2 038	1 648	1 615	1 902	1 553	1 608	1 991	1 643
Nickel es	kt	64.2	60.6	67.4	58.8	66.5	58.5	58.2	51.1
Petroleum									
Crude oil and other refinery feedstock	ML	5 060	5 665	5 376	3 665	4 056	4 622	4 043	4 335
LNG s	Mt	5.3	6.4	6.2	5.9	5.4	6.0	6.0	6.0
LPG	ML	532	694	540	535	617	640	559	670
Refinery products	ML	468	356	190	177	221	205	159	139
Tin cs	t	1 499	1 519	1 766	1 462	1 575	1 801	1 639	1 732
Titanium s									
Ilmenite concentrate	kt	268	246	246	271	271	305	305	278
Leucoxene concentrate	kt	8	8	8	8	8	8	9	9
Rutile concentrate	kt	74	86	89	35	35	87	87	62
Synthetic rutile s	kt	123	126	121	84	86	56	57	55
Titanium dioxide pigment	kt	37	27	33	44	42	43	43	43
Zinc c	kt	403	379	408	344	460	362	437	410
Zircon concentrate s	kt	136	196	193	156	156	185	185	189

b Includes aluminium hydroxide. **c** Metallic content of all ores, concentrates, intermediate products (where applicable) and refined metal.
d Unsorted and sorted. **e** Includes metal content of ores and concentrates, intermediate products and nickel metal. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

19 Quarterly commodity exports, by value (fob), Australia

$m	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Aluminium								
Bauxite	76	79	73	87	143	156	153	92
Alumina b	1 231	1 254	1 424	1 288	1 376	1 377	1 480	1 504
Aluminium (ingot metal)	862	792	897	777	810	905	836	819
Coal, black								
Metallurgical	6 619	5 842	5 402	5 191	5 999	5 789	6 410	5 801
Thermal	4 218	4 247	4 305	3 562	4 054	4 383	4 397	4 141
Copper c	2 186	1 894	2 194	1 857	2 099	2 078	2 228	2 240
Diamonds ds	93	107	97	100	93	88	75	76
Gems, other than diamonds	13	12	9	10	23	18	13	14
Gold, refined	4 211	3 785	4 089	3 614	3 568	3 113	3 354	3 611
Iron								
Iron ore and pellets	15 532	12 903	12 968	14 694	16 510	18 498	19 791	19 111
Iron and steel s	199	201	219	217	183	174	206	171
Lead c	570	468	560	388	528	502	535	444
Manganese ore and concentrates	369	316	291	374	367	374	436	355
Nickel cs	1 081	936	909	851	946	821	738	591
Petroleum								
Crude oil and other refinery feedstock	3 464	3 738	3 600	2 486	2 680	3 422	3 012	3 309
LNG	3 144	3 557	3 367	3 357	3 459	3 989	3 796	4 406
LPG	244	285	280	257	267	296	295	392
Refinery products	347	245	138	130	179	177	118	127
Silver, refined	121	60	19	203	252	73	58	70
Tin c	29	27	36	29	31	36	35	38
Titanium								
Ilmenite concentrate	56	56	56	56	56	56	57	31
Leucoxene concentrate	6	6	6	6	6	6	6	6
Rutile concentrate	64	63	63	67	70	70	73	73
Synthetic rutile s	67	69	65	64	66	65	65	65
Titanium dioxide pigment	127	81	91	134	129	119	123	130
Zinc c	578	518	562	499	614	560	606	657
Zircon concentrate	63	59	57	33	45	54	61	57
Other mineral resources e	1 280	1 727	1 346	752	1 237	1 124	836	3 105
Total resources and energy g	47 065	43 592	43 389	41 360	46 055	48 557	50 012	51 588
Total merchandise	66 259	62 398	62 112	58 656	65 753	68 753	70 307	69 042
Total goods and services	78 745	75 132	75 351	72 213	79 031	82 539	84 756	83 718

b Includes aluminium hydroxide. **c** Value of all ores, concentrates, intermediate products (where applicable) and refined metal. **d** Unsorted and sorted.
e Derived as the difference between total resources and energy exports, below, and the sum of the above items. **g** Total resources and energy exports on an BREE balance of payments basis. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

20 Quarterly resources and energy export unit returns, Australia b

	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Energy	336.9	317.7	297.0	291.6	293.6	323.6	314.7	327.2
Resources	282.5	250.0	244.5	269.1	262.7	276.7	261.6	286.2
Total resources and energy	304.1	276.4	265.2	278.7	275.3	295.2	282.2	302.7

b Base: 1994–95 = 100.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

21 Quarterly commodity imports, Australia

	unit	Jun–12	Sep–12	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Quantity									
Diamonds b	'000 ct	122	160	73	102	72	74	75	221
Iron ore	kt	844	1 325	1 004	735	1 118	1 108	1 123	434
Ingot steel	kt	473	475	469	377	357	359	348	424
Ferroalloys	kt	14	15	22	9	10	9	7	10
Petroleum									
Crude oil and other refinery feedstock	ML	7 210	8 553	7 551	7 085	6 777	6 910	7 427	7 344
Natural gas	kt	814	1 108	1 221	1 206	1 256	1 356	1 160	1 273
Refinery products	ML	5 288	5 153	6 235	5 535	6 736	5 787	6 479	5 577
Phosphate rock	kt	61	177	53	66	127	58	98	115
Value									
Diamonds b	$m	98	108	110	98	99	139	125	141
Gold c	$m	1 442	1 564	1 223	979	1 119	1 451	1 000	1 175
Iron ore	$m	31	43	25	19	30	29	27	15
Ingot steel	$m	515	507	464	393	392	408	385	448
Ferroalloys	$m	26	29	23	16	17	18	14	19
Nickel	$m	18	18	13	12	42	37	44	34
Petroleum									
Crude oil and other refinery feedstock	$m	5 348	5 640	5 195	4 983	4 578	5 189	5 720	5 877
Natural gas	$m	401	580	604	638	600	728	na	na
Refinery products	$m	4 186	3 916	4 773	4 314	4 946	4 845	5 351	4 810
Phosphate rock	$m	10	29	9	7	19	9	14	16
Silver	$m	98	104	119	97	115	119	111	159
Other	$m	515	471	535	436	492	488	585	462
Total	$m	12 688	13 007	13 093	11 991	12 449	13 459	13 376	13 155

b Includes sorted and unsorted, gem and industrial diamonds, and diamond dust and powder. **c** Refined and unrefined bullion.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

22 Quarterly private resources and energy exploration expenditure, Australia

			quarters					
$m	**2011–12**	**2012–13**	**Dec–12**	**Mar–13**	**Jun–13**	**Sep–13**	**Dec–13**	**Mar–14**
Energy								
Petroleum								
Onshore	919.7	1 363.2	354.6	283.4	449.5	305.1	303.9	273.9
Offshore	2 277.3	3 430.2	1 044.0	726.3	851.6	810.2	799.4	739.2
Total	3 197.0	4 793.4	1 398.6	1 009.7	1 301.1	1 115.3	1 103.3	1 013.1
Coal	834.3	544.0	149.2	104.5	119.7	109.6	106.4	101.8
Uranium	153.6	69.5	20.8	12.4	12.8	16.1	11.0	6.4
Total energy	4 184.9	5 406.9	1 568.6	1 126.6	1 433.6	1 241.0	1 220.7	1 121.3
Metals and other minerals								
Copper	442.6	319.3	92.1	61.0	63.7	54.6	43.5	36.2
Diamonds	na	6.3	1.6	1.6	1.7	0.0	3.1	2.5
Gold	768.0	661.8	162.7	154.7	150.0	132.2	116.5	81.7
Iron ore	1 150.6	1 011.3	278.4	248.2	204.2	222.2	184.2	115.2
Mineral sands	na	37.8	11.0	7.2	8.7	0.0	8.1	6.5
Nickel, cobalt	265.4	164.5	49.3	31.0	40.3	37.8	19.2	16.8
Silver, lead and zinc	87.5	79.8	19.6	18.5	20.6	13.1	12.3	10.1
Other	199.3	161.1	39.2	33.1	42.9	52.8	43.1	30.8
Total metals and other minerals	2 965.1	2 441.9	653.9	555.3	532.1	512.7	430.0	299.8
Total expenditure	7 150.0	7 848.8	2 222.5	1 681.9	1 965.7	1 753.7	1 650.7	1 421.1

Note: Data for the most recent period is preliminary.
Source: ABS.

23 Resources and energy prices

	Alumina average EUV	Aluminium LME cash	Gold London AM fix	Iron ore average EUV [b]	Thermal coal average EUV	Metallurgical coal average EUV	WTI spot price [c]	Brent spot price [c]
	A$/t	US$/t	US$/oz	A$/t	A$/t	A$/t	US$/bbl	US$/bbl
2010–11	321.5	2 383	1 372	143.5	97.4	212.1	89.3	96.0
2011–12	310.1	2 166	1 671	133.4	108.0	215.6	95.1	112.1
2012–13	282.4	1 937	1 605	108.3	89.0	145.5	92.1	108.6
January 2013	287.9	2 038	1 672	106.8	85.5	136.2	94.8	113.0
February 2013	290.6	2 053	1 631	114.2	86.3	139.5	95.3	116.2
March 2013	299.1	1 913	1 592	112.3	85.4	137.0	93.1	108.5
April 2013	287.1	1 857	1 491	112.0	83.3	139.6	92.0	102.5
May 2013	290.2	1 831	1 417	111.7	87.6	140.2	94.4	102.5
June 2013	304.6	1 816	1 343	106.4	88.7	143.9	95.8	102.9
July 2013	312.8	1 768	1 284	110.5	89.9	138.5	104.5	107.9
August 2013	306.7	1 815	1 346	117.9	91.0	134.4	106.6	111.3
September 2013	304.3	1 760	1 348	117.7	88.0	131.1	106.4	111.6
October 2013	294.7	1 812	1 314	113.1	84.5	130.6	100.5	109.2
November 2013	298.9	1 749	1 277	115.4	84.4	137.1	93.0	108.0
December 2013	304.6	1 739	1 222	121.7	88.6	137.8	97.5	110.6
January 2014	318.4	1 726	1 243	122.1	90.6	138.0	94.5	108.1
February 2014	318.9	1 694	1 299	116.9	89.3	132.0	100.8	108.9
March 2014	306.2	1 704	1 337	105.5	84.5	134.6	100.8	107.5

	Uranium industry spot price [d]	Copper LME cash	Lead LME cash	Zinc LME cash	Silver London fix [e]	Nickel LME cash	Rutile average EUV [g]	Zircon average EUV [h]
	US$/lb	US$/t	US$/t	US$/t	USc/troy oz	US$/t	A$/t	A$/t
2010–11	57.1	8 671	2 396	2 241	2 880	23 963	793	552
2011–12	51.5	8 193	2 127	2 020	3 309	19 275	802	449
2012–13	43.4	7 675	2 132	1 926	2 894	16 390	1 068	277
January 2013	43.9	8 049	2 340	2 033	3 106	17 465	1 788	1 242
February 2013	42.0	8 070	2 376	2 129	3 033	17 734	1 873	1 226
March 2013	42.3	7 663	2 183	1 936	2 879	16 728	1 588	1 168
April 2013	40.5	7 203	2 030	1 853	2 536	15 635	1 535	1 111
May 2013	40.5	7 229	2 028	1 829	2 304	14 951	1 550	1 156
June 2013	39.6	7 004	2 104	1 839	2 111	14 271	1 412	1 286
July 2013	34.8	6 893	2 048	1 836	1 971	13 705	1 758	1 351
August 2013	34.5	7 182	2 173	1 895	2 189	14 282	1 543	1 360
September 2013	35.0	7 161	2 088	1 848	2 256	13 780	1 575	1 357
October 2013	34.5	7 189	2 111	1 883	2 192	14 070	1 361	1 229
November 2013	36.1	7 066	2 090	1 869	2 076	13 729	1 291	1 131
December 2013	34.5	7 203	2 133	1 974	1 961	13 915	1 376	1 221
January 2014	35.5	7 295	2 149	2 038	1 991	14 079	1 235	1 231
February 2014	35.4	7 152	2 106	2 035	2 083	14 195	1 143	1 165
March 2014	34.0	6 668	2 056	2 018	2 074	15 660	1 147	1 131

b Lump and fines. **c** US Department of Energy, Energy Information Administration. **d** Average of weekly restricted spot price published by The Ux Consulting Company. **e** London fix rate from May 2001; Handy and Harman, commercial bar, minimum 99.9 per cent prior to May 2001. **g** Bagged only after August 1999. **h** Bagged only after September 1999. **s** BREE estimate.
EUV is export unit value.
Sources: ABS; LME; London Bullion Market Association; The Ux Consulting Company; US Department of Energy.

24 Aluminium

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine									
Bauxite									
Queensland	kt	21 563	25 280	6 518	5 783	6 800	6 971	6 787	6 116
Western Australia s	kt	43 768	45 733	11 533	11 235	11 608	11 796	12 110	11 265
Northern Territory	kt	7 565	7 929	2 068	1 918	1 857	1 983	2 271	1 804
Australia s	kt	72 895	78 942	20 119	18 936	20 264	20 750	21 169	19 185
Alumina content s	kt	27 989	30 762	7 869	7 309	7 940	8 150	8 282	7 443
Smelter and refinery									
Alumina	kt	19 283	21 645	5 690	5 100	5 323	5 380	5 725	5 408
Aluminium (ingot metal)	kt	1 938	1 788	451	437	442	450	449	431
Exports									
Quantity									
Bauxite	kt	10 518	12 567	2 594	2 960	4 244	4 368	4 090	2 669
Alumina bc	kt	16 592	18 914	5 176	4 401	4 677	4 474	4 940	4 781
Aluminium (ingot metal)									
Chinese Taipei	kt	168	220	60	52	58	49	53	46
Indonesia	kt	137	119	30	27	34	29	27	17
Japan	kt	587	479	155	94	100	143	112	105
South Korea	kt	264	326	84	93	87	79	75	64
Malaysia	kt	81	66	16	14	17	19	17	16
Thailand	kt	144	172	34	44	52	37	35	28
Total	kt	1 693	1 569	425	359	385	410	387	356
Value									
Bauxite	$m	296	382	73	87	143	156	153	92
Alumina bc	$m	5 146	5 342	1 424	1 288	1 376	1 377	1 480	1 504
Aluminium (ingot metal)	$m	3 797	3 276	897	777	810	905	836	819
Imports									
Quantity									
Bauxite	kt	6.9	3.9	1.1	0.9	0.6	0.1	1.3	0.5
Alumina bc	kt	9.5	11.1	2.5	3.5	3.0	2.9	4.2	3.8
Aluminium (ingot metal)	kt	15.4	38.5	8.4	10.7	12.3	13.2	11.7	12.9
Value									
Bauxite	$m	3.4	1.9	0.5	0.4	0.3	0.1	0.7	0.3
Alumina b	$m	11.5	10.9	2.5	3.2	2.7	2.6	4.3	6.2
Aluminium (ingot metal)	$m	37.3	86.5	18.7	24.3	27.4	31.8	26.8	30.1
Prices									
Alumina d	A$/t	310	282	275	293	294	308	300	314
Aluminium									
LME cash e	US$/t	2 166	1 937	1 996	2 003	1 835	1 781	1 769	1 708
Australia d	A$/t	2 242	2 089	2 109	2 167	2 102	2 206	2 163	2 301

b Includes aluminium hydroxide. **c** Country details confidential. **d** Average export unit value. **e** High grade. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

25 Coal

	unit	2011–12	2012–13	quarters Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine									
Black coal, raw									
Underground s	Mt	96.2	113.5 N7	27.7	27.1	30.3	30.6	31.3	30.2
Open cut s	Mt	387.1	418.9 N8	108.9	93.9	110.5	115.5	98.7	110.1
New South Wales	Mt	221.0	245.8 N1	62.4	58.0	63.1	68.2	62.3	64.8
Queensland s	Mt	249.7	273.8 N2	70.9	59.9	74.7	74.8	64.6	72.3
Western Australia s	Mt	8.5	9.1 N5	2.3	2.3	2.3	2.3	2.3	2.3
South Australia s	Mt	3.6	3.1 N3	0.9	0.7	0.7	0.7	0.7	0.7
Tasmania s	Mt	0.4	0.5 N4	0.1	0.1	0.1	0.1	0.1	0.1
Australia	Mt	483.2	532.4 N6	136.5	121.0	140.8	146.1	129.9	140.3
Black coal, saleable									
Underground s	Mt	74.1	85.3 25	20.8	20.8	21.7	23.3	22.3	20.8
Open cut s	Mt	291.4	313.3 24	82.0	70.7	81.5	88.9	78.3	85.7
New South Wales	Mt	167.2	185.6 10	46.8	43.1	48.4	52.1	46.7	48.3
Queensland s	Mt	188.2	202.7 11	53.3	45.9	52.2	57.5	51.4	55.7
Western Australia s	Mt	7.0	7.5 14	1.9	1.9	1.9	1.9	1.9	1.9
South Australia s	Mt	2.9	2.5 12	0.7	0.5	0.5	0.5	0.5	0.5
Tasmania s	Mt	0.3	0.4 13	0.1	0.1	0.1	0.1	0.1	0.1
Australia	Mt	365.6	398.6 15	102.8	91.6	103.1	112.2	100.6	106.5
Exports									
Quantity									
Metallurgical coal, high quality									
Brazil	Mt	2.3	2.1 34	0.5	0.4	0.5	0.3	0.4	0.4
China	Mt	9.8	20.4 57	8.1	5.4	5.8	7.2	8.5	7.0
Chinese Taipei	Mt	4.5	4.4 33	1.0	1.2	1.4	1.3	1.2	1.2
European Union 27	Mt	15.9	14.7 61	3.4	3.1	4.3	4.0	3.8	3.9
India	Mt	23.3	23.6 37	5.5	5.2	6.9	5.8	7.3	6.5
Japan	Mt	22.1	20.9 32	4.5	5.3	5.1	4.9	5.4	5.6
South Korea	Mt	8.9	7.4 35	1.6	2.0	1.8	1.9	2.2	2.4
Total	Mt	91.6	96.7 58	25.4	23.2	26.7	26.1	29.6	27.9
Metallurgical coal, other b									
European Union 27	Mt	1.7	2.0 56	0.5	0.7	0.6	0.4	0.3	0.3
India	Mt	6.0	7.2 60	2.1	1.4	2.1	2.2	2.3	2.1
Japan	Mt	18.0	19.3 29	4.1	4.8	5.4	5.2	5.7	4.7
Total	Mt	50.8	57.5 54	14.6	14.4	15.6	16.8	17.8	15.0
Total metallurgical coal	Mt	142.4	154.2 63	40.0	37.6	42.3	42.8	47.3	42.8
Thermal coal									
Chinese Taipei	Mt	17.5	17.9 22	4.5	4.4	4.4	4.5	4.6	4.7
China	Mt	28.5	38.1 cal	11.4	7.9	11.3	11.7	11.6	11.4
Japan	Mt	69.8	77.6 23	19.3	17.6	20.3	21.6	22.7	18.8
South Korea	Mt	28.8	33.4 26	8.7	8.3	8.1	7.4	9.0	8.6
Total	Mt	158.4	181.7 77	48.4	41.5	46.8	48.8	51.1	46.9
Other coal c	Mt	0.6	0.4 41	0.3	0.2	0.0	0.0	0.0	0.0

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25 Coal *continued*

				quarters					
	unit	**2011–12**	**2012–13**	**Dec–12**	**Mar–13**	**Jun–13**	**Sep–13**	**Dec–13**	**Mar–14**
Exports (continued)									
Value									
Metallurgical coal									
High quality	$m	21 707	15 266	3 701	3 481	4 067	3 766	4 309	4 032
Other quality	$m	8 993	7 168	1 701	1 710	1 932	2 024	2 101	1 768
Total metallurgical coal	$m	30 700	22 434	5 402	5 191	5 999	5 789	6 410	5 801
Thermal coal	$m	17 118	16 169	4 305	3 562	4 054	4 383	4 397	4 141
Other coal	$m	94	37	16	20	0	0	0	0
Total coal	$m	47 912	38 641	9 724	8 774	10 053	10 172	10 807	9 941
Coke	$m	302	268	72	67	59	40	34	71
Prices **d**									
Metallurgical coal									
High quality	A$/t	237.0	157.9	145.7	150.1	152.4	144.4	145.7	144.8
Other quality	A$/t	177.1	124.7	116.6	119.0	124.1	120.7	118.1	118.2
Thermal coal	A$/t	108.0	89.0	88.9	85.8	86.7	89.7	86.1	88.2

b Country details confidential for various time periods for Brazil, Chinese Taipei, North Korea, Italy, Pakistan and South Korea–commencing from October 1996. c Quantity details for coke not available. **d** Average export unit value. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; Australian Bureau of Statistics, Canberra; Coal Services Pty Limited; Queensland Government, Department of Mines and Energy.

26 Copper

	unit	2011–12	2012–13	quarters Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Copper ore and concentrates b	kt	3 417	3 740	899	999	957	954	1 012	1 029
Copper content of all minerals produced									
New South Wales c	kt	172	174	41	43	47	50	49	46
Queensland c	kt	272	279	71	75	68	80	75	75
Western Australia c	kt	147	215	59	50	49	56	52	55
South Australia	kt	313	274	62	73	70	51	77	76
Tasmania	kt	25	29	8	7	6	6	7	1
Australia c	kt	930	970	241	249	242	244	261	252
Smelter and refinery s									
Blister (primary) d	kt	449	417	94	115	112	96	123	123
Refined (primary)	kt	486	454	103	123	121	104	132	133
Exports									
Quantity									
Copper ore and concentrates b									
China e	kt	577	925	226	264	272	191	280	261
India	kt	584	510	161	139	76	151	84	82
Japan	kt	386	493	148	83	144	79	97	90
South Korea	kt	191	120	10	21	39	51	57	57
Philippines	kt	9	76	68	4	0	41	10	33
Total	kt	1 814	2 182	637	514	558	536	532	532
Refined copper									
China e	kt	146	166	30	43	67	74	81	58
Chinese Taipei	kt	51	31	9	5	3	6	4	3
Germany	kt	0	1	0	0	1	0	0	0
Indonesia	kt	31	18	7	2	2	2	4	3
Japan	kt	1	0	0	0	0	0	1	19
South Korea	kt	2	0	0	0	0	0	0	0
Malaysia	kt	89	90	18	31	19	12	18	26
Singapore	kt	1	0	0	0	0	0	0	0
Thailand	kt	44	34	12	5	4	4	3	7
Vietnam	kt	21	15	5	3	2	1	1	3
Total	kt	395	360	82	91	100	99	114	122
Copper content of all primary materials exported g	kt	926	976	271	227	254	243	260	264
Value									
Copper ore and concentrates	$m	5 386	5 337	1 560	1 165	1 373	1 311	1 341	1 277
Refined copper	$m	3 115	2 707	634	692	726	767	887	963
Total	$m	8 501	8 044	2 194	1 857	2 099	2 078	2 228	2 240
Prices h									
LME cash	US$/t	8 193	7 675	7 909	7 928	7 146	7 079	7 153	7 054
Australia	A$/t	7 929	7 472	7 611	7 635	7 217	7 720	7 708	7 852

b Gross weight. **c** Includes copper cathode and copper precipitate. **d** Copper content. **e** Excludes Hong Kong. **g** Copper content of all ores and concentrates, slags, residues, intermediate products, refined copper, copper powder and flakes. **h** Based on LME cash, midday, high grade, 25 tonne warrants. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

27 Diamonds and other gemstones

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Diamonds									
Northern Territory	'000 ct	0	0	0	0	0	0	0	0
Western Australia	'000 ct	8 373	9 730	2 045	2 027	3 163	3 115	3 177	2 483
Australia	'000 ct	8 373	9 730	2 045	2 027	3 163	3 115	3 177	2 483
Exports									
Quantity									
Diamonds									
Unsorted s	'000 ct	11 455	12 087	3 025	3 019	3 022	2 381	3 018	3 217
Sorted gem	'000 ct	71	72	15	21	17	52	16	13
Sorted industrial b	'000 ct	0	1	0	0	1	0	0	0
Total s	'000 ct	11 526	12 160	3 040	3 040	3 040	2 433	3 034	3 230
Value									
Diamonds									
Unsorted s	$m	256	258	66	65	57	36	18	17
Sorted gem	$m	130	140	31	35	37	51	57	60
Sorted industrial b	$m	0	0	0	0	0	0	0	0
Total s	$m	386	398	97	100	93	88	75	76
Opals									
Rough	$m	4	6	1	1	3	2	1	1
Cut and polished	$m	36	31	5	7	13	10	10	9
Total	$m	40	37	6	8	16	12	10	10
Sapphires									
Rough	$m	1	6	1	1	3	2	1	1
Total	$m	1	6	1	1	3	2	1	1
Other gemstones c	$m	6	11	2	2	4	4	3	3
Total gemstones	$m	47	55	9	10	23	18	13	14
Imports									
Quantity									
Diamonds									
Unsorted s	'000 ct	1	0	0	0	0	0	0	0
Sorted gem	'000 ct	261	246	69	58	53	68	68	59
Sorted industrial b	'000 ct	60	0	0	0	0	0	0	0
Dust and powder	'000 ct	316	161	4	44	19	6	7	162
Value									
Diamonds									
Unsorted s	$m	0	0	0	0	0	0	0	0
Sorted gem	$m	404	414	110	98	99	139	125	141
Sorted industrial b	$m	2	0	0	0	0	0	0	0
Dust and powder	$m	1	1	0	0	0	0	0	0
Total	$m	407	414	110	98	99	139	125	141

b Excludes dust, powder and unsorted diamonds. **c** Includes cut and polished sapphires from 1 July 2000. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

28 Gold

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Gold content of all minerals produced									
New South Wales	t	27.7	29.1	6.7	7.5	8.2	8.3	8.0	7.7
Victoria	t	4.5	5.4	1.9	1.7	1.5	1.7	1.6	1.6
Queensland	t	15.7	15.9	4.0	3.8	4.4	4.7	3.9	4.4
Western Australia	t	179.4	180.6	48.0	43.0	45.1	45.7	49.0	47.4
South Australia	t	14.1	12.3	2.9	3.1	3.3	3.0	3.7	3.1
Tasmania	t	3.8	2.4	0.6	0.6	0.6	0.5	0.4	0.3
Northern Territory	t	9.5	8.8	1.6	2.3	2.3	3.8	3.8	3.2
Australia	t	254.5	254.5	65.7	62.0	65.3	67.8	70.4	67.7
Refinery									
Primary									
Australian origin	t	204.2	204.5	52.6	50.1	53.0	53.6	60.2	55.6
Overseas origin	t	61.7	62.3	14.9	14.9	16.9	16.7	17.9	16.7
Secondary									
Australian origin	t	4.6	4.4	1.0	1.0	1.4	0.6	0.2	0.1
Overseas origin	t	51.0	30.7	7.0	5.7	5.0	6.4	3.0	3.3
Total	t	321.5	301.9	75.5	71.7	76.2	77.3	81.3	75.8
Exports									
Quantity									
Refined and unrefined bullion									
China	t	83.0	121.8	18.4	36.4	43.7	42.3	50.5	46.1
Hong Kong, China	t	3.3	2.4	0.5	0.6	0.8	1.0	0.5	0.9
India	t	57.7	42.5	11.8	8.5	15.6	0.7	0.0	0.0
Singapore	t	22.0	18.7	5.0	1.5	0.6	9.0	8.5	23.2
Thailand	t	32.4	25.1	4.7	16.8	0.2	2.9	3.3	0.8
United Kingdom	t	89.6	50.1	24.3	2.7	5.3	1.9	4.2	4.8
Total	t	303.7	280.5	67.8	67.7	75.6	64.8	73.4	71.2
Value									
Refined	$m	15 462	15 056	4 089	3 614	3 568	3 113	3 354	3 611
Imports									
Value									
Refined and unrefined bullion	$m	6 814	4 885	1 223	979	1 119	1 451	1 000	1 175
Prices									
London AM fix	US$/oz	1 671	1 605	1 719	1 631	1 417	1 326	1 271	1 293
Australia	A$/oz	1 621	1 561	1 655	1 571	1 427	1 448	1 370	1 441

s BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; London Bullion Market Association; Perth Mint.

29 Iron

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Iron ore and concentrate b									
Western Australia	kt	488 679	540 351	134 791	129 229	147 029	154 469	162 153	158 421
South Australia s	kt	10 780	10 788	2 575	3 144	2 408	2 965	2 800	2 800
Tasmania s	kt	2 293	1 850	523	477	418	497	666	587
Northern Territory s	kt	2 000	2 500	500	750	750	700	750	750
Australia s	kt	503 751	555 490	138 389	133 600	150 605	158 631	166 369	162 558
Iron content s	kt	312 270	344 257	85 789	82 795	93 318	98 218	103 103	95 044
Iron and steel cs	kt	5 383	4 850	1 200	1 187	1 176	1 184	1 099	1 156
Exports									
Quantity									
Iron ore and pellets									
Pellets, sinters and briquettes	kt	2 227	2 079	547	435	473	620	637	376
Fines	kt	354 960	399 768	101 724	94 780	108 034	116 997	122 011	122 028
Lump and run of mine	kt	112 856	125 170	32 598	29 703	33 436	33 737	38 160	36 134
China d	kt	333 885	393 403	100 866	92 912	107 858	113 803	126 780	122 273
Japan	kt	76 572	75 983	19 097	18 121	20 219	21 236	19 207	18 246
South Korea	kt	46 303	43 721	11 562	10 817	9 957	12 339	11 755	13 939
Total iron ore and pellets	kt	470 043	527 018	134 870	124 919	141 944	151 355	160 809	158 538
Iron content	kt	291 374	326 612	83 607	77 415	87 952	93 713	99 658	98 176
Steel									
Iron and steel s	kt	1 186	993	260	251	222	214	252	201
Scrap	kt	2 148	2 072	595	386	657	510	620	463
Value									
Iron ore and pellets									
Pellets, sinters and briquettes	$m	368	256	63	60	61	86	96	59
Fines	$m	45 897	42 112	9 499	10 932	12 152	13 807	14 561	14 112
Lump and run of mine	$m	16 431	14 706	3 406	3 702	4 297	4 605	5 135	4 940
Total	$m	62 695	57 075	12 968	14 694	16 510	18 498	19 791	19 111
Steel									
Iron and steel s	$m	983	820	219	217	183	174	206	171
Scrap	$m	1 016	848	232	157	266	208	256	216
Total	$m	2 000	1 668	451	374	449	382	462	387
Imports									
Quantity									
Iron ore e	kt	4 555	4 181	1 004	735	1 118	1 108	1 123	434
Iron and steel	kt	1 841	1 677	469	377	357	359	348	424
Ferroalloys	kt	65	56	22	9	10	9	7	10
Value									
Iron ore e	$m	223	117	25	19	30	29	27	15
Iron and steel	$m	2 113	1 755	464	393	392	408	385	448
Ferroalloys	$m	106	85	23	16	17	18	14	19
Total	$m	2 443	1 957	512	427	439	455	426	482
Prices									
Australia g	A$/t	133.4	108.3	96.1	117.6	116.3	122.2	123.1	120.5

b For use in iron and steel making; includes pellets for Tasmania. **c** Includes recovery from scrap. **d** Excludes Hong Kong. **e** Includes limonite ore used in the production of refined nickel products. **g** Average export unit value for iron ore and pellets.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; World Steel Association.

30 Lead

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Lead ore and concentrates	kt	892	903	206	205	269	273	270	258
Lead content of all minerals produced									
New South Wales	kt	79	97	22	23	24	25	22	24
Queensland	kt	455	445	104	102	132	125	124	118
Western Australia	kt	10	14	0	0	10	17	19	17
South Australia	kt	9	11	3	2	3	4	0	0
Tasmania	kt	39	25	7	6	7	8	9	7
Northern Territory	kt	42	47	11	12	12	13	12	10
Australia	kt	634	639	147	146	188	191	186	176
Smelter and refinery									
Refined lead (primary) b	kt	174	159	45	40	46	41	50	49
Domestic despatches									
Refined lead	kt	20	19	4	5	6	4	3	5
Exports									
Quantity									
Lead concentrate									
China	kt	153	173	59	28	45	32	76	72
European Union 27	kt	53	58	27	11	21	23	18	10
Japan	kt	71	59	21	11	11	11	22	11
South Korea	kt	134	121	21	20	48	50	22	15
Total	kt	438	462	129	81	137	135	153	119
Lead bullion c									
United Kingdom	kt	159	133	45	25	41	28	45	33
Total	kt	159	133	45	25	41	28	45	33
Refined lead									
India	kt	32	41	9	9	10	11	9	11
South Korea	kt	38	44	10	11	12	9	12	15
Malaysia	kt	77	21	2	2	3	2	2	11
South Africa	kt	9	13	3	5	3	2	1	3
Thailand	kt	12	21	4	6	7	4	4	3
Vietnam	kt	17	38	11	10	11	13	13	8
Total	kt	217	221	49	53	57	53	54	56
Lead content of all primary materials exported ds	kt	703	678	181	137	195	181	214	176
Value									
Lead concentrate	$m	1 184	1 083	325	192	277	302	283	212
Lead bullion	$m	541	397	133	77	128	77	123	95
Refined lead	$m	475	463	101	119	123	122	129	137
Total	$m	2 200	1 943	560	388	528	502	535	444
Prices									
LME cash e	US$/t	2 127	2 132	2 199	2 301	2 053	2 102	2 111	2 104
Australia g	A$/t	2 241	2 172	2 230	2 362	2 090	2 089	2 138	2 082

b Includes lead content of lead alloys from primary sources. **c** Includes a substantial precious metal content, mainly silver. **d** Lead content of all ores, concentrates, slags, residues, bullion, and refined lead. **e** Based on LME cash, midday, standard grade, minimum 25 tonne warrants. **g** Nyrstar, 99.97–99.99 per cent, fob/for Port Pirie. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

31 Manganese

				quarters					
	unit	**2011–12**	**2012–13**	**Dec–12**	**Mar–13**	**Jun–13**	**Sep–13**	**Dec–13**	**Mar–14**
Production									
Manganese ore and concentrates									
Western Australia s	kt	1 930	1 647	417	458	336	503	429	432
Northern Territory	kt	5 174	5 755	1 461	1 345	1 515	1 333	1 528	1 241
Australia s	kt	7 104	7 402	1 878	1 803	1 852	1 836	1 957	1 672
Manganese content s	kt	2 893	2 960	752	722	731	744	778	671
Exports									
Quantity									
Manganese ore and concentrates	kt	6 853	6 718	1 615	1 902	1 553	1 608	1 991	1 643
Value									
Manganese ore and concentrates	$m	1 229	1 347	291	374	367	374	436	355
Prices									
Australia b	A$/t	179.3	200.5	180.0	196.8	236.0	232.3	219.0	215.9

b Average export unit value for managanese ore and concentrates. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

32 Nickel

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production bs									
Mine									
Nickel content									
Western Australia	kt	235	242	61	58	61	62	53	50
Tasmania	kt	0	0	0	0	0	0	0	0
Australia	kt	235	242	61	58	61	62	53	50
Smelter and refinery									
Intermediate nickel	kt	70	61	13	18	17	19	16	15
Refined nickel, class 1 c	kt	107	125	27	32	35	34	33	32
Refined nickel, class 2 d	kt	16	9	2	2	2	2	2	2
Exports									
Quantity									
Nickel e	kt	240	253	67	59	66	59	58	51
Value									
Nickel ore and concentrates	$m	1 126	1 164	321	259	292	212	205	142
Intermediate products g	$m	724	579	125	134	154	155	123	133
Refined nickel, class 1 c	$m	2 007	1 784	439	426	475	425	379	428
Refined nickel, class 2 d	$m	198	115	24	32	25	30	30	26
Total	$m	4 056	3 642	909	851	946	821	738	591
Imports									
Value									
Primary nickel products h	$m	281	186	38	31	67	62	69	45
Prices									
LME cash i	US$/t	19 275	16 390	16 967	17 314	14 963	13 916	13 909	14 643
	A$/t	18 696	15 953	16 315	16 667	15 084	15 186	14 986	16 331

b Details of production of nickel metal, matte, oxide, sinter and nickel–cobalt sulphide are not available. **c** Products with a nickel content of 99 per cent or more. Includes electrolytic nickel, pellets, briquettes and powder. **d** Products with a nickel content of less than 99.8 per cent. Includes ferronickel, nickel oxides and oxide sinter. **e** Includes metal content of ores and concentrates, intermediate products and nickel metal. **g** Includes matte and speiss for further refining. **h** Includes matte, sinter and intermediate products; ferronickel, unwrought nickel metal and alloys and scrap. Also includes value of limonite ore used in the production of refined nickel products. **i** Average cash settlement price for melting grade refined nickel. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

33 Petroleum

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Field									
Crude oil	ML	16 584	13 696	3 698	2 636	3 194	3 161	2 941	3 166
Condensate	ML	7 484	7 572	1 932	1 744	1 811	2 070	1 731	1 703
Total	ML	24 068	21 268	5 630	4 380	5 005	5 231	4 671	4 869
LPG	ML	3 813	3 529	824	795	884	1 005	787	823
Methane	Mcm	46 735	54 177	13 693	12 859	12 699	14 135	13 658	13 035
Ethane	Mcm	331	327	66	69	96	96	88	75
Coal seam gas	Mcm	7 282	7 522	1 927	1 834	1 835	1 896	1 898	1 921
Refinery									
Refinery input	ML	38 973	37 777	9 916	9 519	8 706	8 839	9 378	8 933
Refinery output									
LPG	ML	1 020	951	234	248	209	258	250	219
Automotive gasoline	ML	15 661	15 635	3 895	3 925	3 686	3 894	3 772	3 559
Aviation gasoline	ML	91	92	17	22	21	22	32	20
Aviation turbine fuel	ML	5 488	5 546	1 415	1 461	1 191	1 280	1 332	1 295
Kerosene	ML	0	3	1	0	1	0	3	2
Heating oil	ML	12	9	3	3	0	1	3	1
Automotive diesel oil	ML	8 798	12 701	3 307	3 156	2 922	2 795	3 290	3 121
Industrial and marine diesel fuel	ML	3 938	189	54	34	45	44	45	49
Fuel oil (excl. refinery fuel)	ML	966	902	272	242	182	131	182	187
Lubricating oil base stock	ML	– 5	0	0	0	0	0	na	na
Bitumen	ML	427	233	82	49	30	12	44	46
Other products	ML	153	241	75	34	81	51	83	38
Total	ML	38 015	38 868	9 356	9 173	8 365	8 489	8 811	9 499
Sales									
LPG									
Automotive use [b]	ML	1 908	1 825	466	445	453	433	467	472
Total	ML	3 612	3 595	891	833	899	878	879	833
Automotive gasoline									
Premium unleaded	ML	2 449	2 490	644	620	603	618	645	618
Regular unleaded	ML	11 313	11 089	2 880	2 718	2 675	2 734	2 759	2 646
Other unleaded	ML	5 000	5 079	1 301	1 259	1 244	1 236	1 265	1 203
Total	ML	18 762	18 659	4 825	4 597	4 522	4 588	4 669	na
Aviation gasoline	ML	84	81	20	18	21	20	18	16
Aviation turbine fuel	ML	7 336	7 655	1 979	1 868	1 880	2 004	2 019	1 968
Kerosene	ML	13	26	6	16	2	2	2	5
Heating oil	ML	4	6	2	2	1	1	3	1
Automotive diesel oil	ML	21 642	22 617	5 872	5 362	5 810	5 754	5 910	5 501
Industrial and marine diesel fuel	ML	0	0	0	0	0	0	0	0
Fuel oil	ML	942	717	181	203	186	160	223	254
Lubricating oil and greases	ML	348	341	85	83	86	84	84	81
Bitumen	ML	730	735	224	176	183	144	167	133
Other products	ML	283	265	62	76	65	70	35	27
Total	ML	53 758	54 697	14 147	13 236	13 656	13 704	14 010	13 326

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33 Petroleum

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Field									
Crude oil	ML	16 584	13 696	3 698	2 636	3 194	3 161	2 941	3 166
Condensate	ML	7 484	7 572	1 932	1 744	1 811	2 070	1 731	1 703
Total	ML	24 068	21 268	5 630	4 380	5 005	5 231	4 671	4 869
LPG	ML	3 813	3 529	824	795	884	1 005	787	823
Methane	Mcm	46 735	54 177	13 693	12 859	12 699	14 135	13 658	13 035
Ethane	Mcm	331	327	66	69	96	96	88	75
Coal seam gas	Mcm	7 282	7 522	1 927	1 834	1 835	1 896	1 898	1 921
Refinery									
Refinery input	ML	38 973	37 777	9 916	9 519	8 706	8 839	9 378	8 933
Refinery output									
LPG	ML	1 020	951	234	248	209	258	250	219
Automotive gasoline	ML	15 661	15 635	3 895	3 925	3 686	3 894	3 772	3 559
Aviation gasoline	ML	91	92	17	22	21	22	32	20
Aviation turbine fuel	ML	5 488	5 546	1 415	1 461	1 191	1 280	1 332	1 295
Kerosene	ML	0	3	1	0	1	0	3	2
Heating oil	ML	12	9	3	3	0	1	3	1
Automotive diesel oil	ML	8 798	12 701	3 307	3 156	2 922	2 795	3 290	3 121
Industrial and marine diesel fuel	ML	3 938	189	54	34	45	44	45	49
Fuel oil (excl. refinery fuel)	ML	966	902	272	242	182	131	182	187
Lubricating oil base stock	ML	– 5	0	0	0	0	0	na	na
Bitumen	ML	427	233	82	49	30	12	44	46
Other products	ML	153	241	75	34	81	51	83	38
Total	ML	38 015	38 868	9 356	9 173	8 365	8 489	8 811	9 499
Sales									
LPG									
Automotive use [b]	ML	1 908	1 825	466	445	453	433	467	472
Total	ML	3 612	3 595	891	833	899	878	879	833
Automotive gasoline									
Premium unleaded	ML	2 449	2 490	644	620	603	618	645	618
Regular unleaded	ML	11 313	11 089	2 880	2 718	2 675	2 734	2 759	2 646
Other unleaded	ML	5 000	5 079	1 301	1 259	1 244	1 236	1 265	1 203
Total	ML	18 762	18 659	4 825	4 597	4 522	4 588	4 669	na
Aviation gasoline	ML	84	81	20	18	21	20	18	16
Aviation turbine fuel	ML	7 336	7 655	1 979	1 868	1 880	2 004	2 019	1 968
Kerosene	ML	13	26	6	16	2	2	2	5
Heating oil	ML	4	6	2	2	1	1	3	1
Automotive diesel oil	ML	21 642	22 617	5 872	5 362	5 810	5 754	5 910	5 501
Industrial and marine diesel fuel	ML	0	0	0	0	0	0	0	0
Fuel oil	ML	942	717	181	203	186	160	223	254
Lubricating oil and greases	ML	348	341	85	83	86	84	84	81
Bitumen	ML	730	735	224	176	183	144	167	133
Other products	ML	283	265	62	76	65	70	35	27
Total	ML	53 758	54 697	14 147	13 236	13 656	13 704	14 010	13 326

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33 Petroleum *continued*

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Exports									
Quantity									
Crude oil and other refinery feedstock									
China	ML	4 397	2 798	838	371	979	1	0	0
Chinese Taipei	ML	410	684	202	106	65	107	4	4
Japan	ML	1 817	1 730	491	442	379	27	27	62
South Korea	ML	1 807	2 391	614	514	522	623	274	3
New Zealand	ML	126	271	130	15	25	5	5	3
Singapore	ML	3 702	4 049	1 020	539	809	809	518	674
United States	ML	451	266	170	0	0	0	0	0
Total	ML	19 212	18 762	5 376	3 665	4 056	4 622	4 043	4 335
LNG s	Mt	19	24	6	6	5	6	6	6
LPG	ML	2 115	2 386	540	535	617	640	559	670
Refinery products									
Automotive gasoline	ML	175	100	10	16	31	68	12	8
Aviation turbine fuel	ML	7	24	4	15	3	4	4	3
Diesel fuel c	ML	130	91	16	27	9	13	19	21
Fuel oil	ML	485	220	23	13	30	7	23	10
Aviation gasoline	ML	30	33	10	4	12	7	11	8
Lubricants	ML	304	440	120	99	123	104	66	83
Other products	ML	21	35	7	3	13	2	23	7
Total	ML	1 151	943	190	177	221	205	159	139
Ships' and aircraft stores									
Aviation turbine fuel	ML	1 985	1 985	496	496	496	496	496	496
Fuel oil	ML	269	267	69	65	65	65	65	65
Other products	ML	34	38	6	4	21	9	4	9
Total	ML	2 288	2 289	571	565	583	570	565	571
Value									
Crude oil and other refinery feedstock	$m	13 205	12 503	3 600	2 486	2 680	3 422	3 012	3 309
LNG	$m	11 949	13 741	3 367	3 357	3 459	3 989	3 796	4 406
LPG	$m	971	1 088	280	257	267	296	295	392
Refinery products									
Automotive gasoline	$m	127	76	7	11	24	57	9	6
Aviation turbine fuel	$m	6	15	2	10	1	2	3	3
Diesel fuel c	$m	115	75	13	19	14	19	17	23
Fuel oil	$m	314	114	11	6	17	4	12	5
Aviation gasoline	$m	30	28	8	2	12	5	10	8
Lubricants	$m	261	333	87	73	93	83	56	76
Other products	$m	36	52	11	8	17	7	10	7
Total	$m	890	692	138	130	179	177	118	127
Total	$m	25 752	26 461	6 912	5 737	6 060	7 385	6 739	7 727
Ships' and aircraft stores									
Aviation turbine fuel	$m	1 368	1 376	342	346	346	352	354	356
Fuel oil	$m	187	185	47	45	45	46	46	46
Other products	$m	34	47	8	5	27	11	6	14
Total	$m	1 589	1 607	397	395	417	409	405	416

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34 Sales of petroleum products, by state marketing area

ML	NSW [b]	Vic	Qld	WA	SA	Tas	NT	Australia
March quarter 2014								
LPG [c]								
Automotive use [d]	132	220	45	27	43	3	2	472
Total	228	304	142	56	77	18	7	833
Automotive gasoline								
Premium unleaded	297	112	107	62	22	13	4	618
Regular unleaded	403	893	632	366	259	75	19	2 646
Other unleaded [e]	746	160	203	55	34	5	0	1 203
Total	1 446	1 165	942	483	315	93	23	4 467
of which sales to retailers	1 283	989	794	438	248	44	15	3 811
Aviation gasoline	3	3	4	3	1	0	2	16
Aviation turbine fuel	845	346	398	260	77	5	38	1 968
Kerosene	0	0	4	0	0	0	0	5
Heating oil	0	0	0	0	0	1	0	1
Automotive diesel oil	1 123	892	1 537	1 332	403	99	115	5 501
of which sales to retailers	507	419	390	263	123	12	12	1 726
Industrial and marine diesel fuel	0	0	0	0	0	0	0	0
Fuel oil [g]	163	0	57	31	0	3	0	254
Lubricating oil and greases	19	13	23	16	6	1	1	81
Bitumen	2	32	60	18	17	5	0	133
Other products [h]	14	6	3	2	2	0	0	27
Total	3 843	2 762	3 171	2 200	898	226	187	13 287

b Includes Australian Capital Territory. **c** Includes sales for petrochemical feedstock. **d** This is a minimum level and includes only direct sales by the oil industry. The data do not include volumes sold to distributors etc. that are subsequently used or sold for automotive use. **e** Includes proprietary brand and other blends. **g** Excludes refinery fuel. **h** Sales of LPG for petrochemical feedstock are included in LPG sales.
Note: Data is preliminary.
Source: BREE.

35 Phosphate

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Imports									
Quantity									
Phosphate rock									
China	kt	1	0	0	0	0	0	0	0
Morocco	kt	183	183	53	0	66	0	0	32
Nauru	kt	72	60	0	0	30	41	30	15
Total	kt	319	423	53	66	127	58	98	115
Phosphates									
Diammonium [b]	kt	142	214	50	105	59	28	10	71
Monammonium [c]	kt	704	544	76	319	146	12	125	323
High analysis [d]	kt	91	134	31	59	43	13	40	79
Value									
Phosphate rock	$m	55	64	9	7	19	9	14	16
Phosphates									
Diammonium [b]	$m	75	105	25	50	29	14	4	31
Monammonium [c]	$m	393	270	42	153	71	7	49	143
High analysis [d]	$m	34	36	11	16	9	3	9	16
Prices									
Australia [e]	A$/t	161.2	147.8	176.8	104.3	147.4	152.8	138.3	135.4

b P_2O_5 equivalent: 46 per cent. **c** P_2O_5 equivalent: 50 per cent. **d** P_2O_5 equivalent: 48 per cent. **e** Average import unit value.
Note: Data for the most recent period is preliminary.
Sources: ABS; Queensland Government, Department of Mines and Energy; Government of South Australia, Primary Industries and Resources South Australia.

36 Silver

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Silver content of all minerals produced									
New South Wales	t	81	102	27	25	31	37	38	35
Queensland	t	1 471	1 384	290	350	407	341	358	387
Western Australia	t	65	50	8	3	22	19	24	17
South Australia	t	21	23	8	7	7	6	7	6
Tasmania	t	171	76	20	17	23	26	32	24
Northern Territory	t	53	61	16	15	15	16	14	13
Australia	t	1 862	1 696	369	418	505	444	473	483
Refinery									
Refined silver	t	847	1 057	271	329	297	294	302	229
Exports									
Quantity									
Refined silver bullion	t	269	497	11	141	279	31	3	24
Value									
Refined silver b	$m	268	535	19	203	252	73	58	70
Imports									
Value									
Refined silver bullion	$m	950	435	119	97	115	119	111	159
Prices									
World c	USc/oz	3 309	2 894	3 261	3 009	2 323	2 135	2 082	2 048
Australia d	A$/kg	1 012	899	991	925	721	771	725	718

b Includes refined bullion, powder, unwrought silver and semi-manufactured forms. **c** London Bullion Market Association, fixed rate. **d** Nyrstar, fob/fot Port Pirie. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; London Bullion Market Association.

37 Tin

				quarters					
	unit	**2011–12**	**2012–13**	**Dec–12**	**Mar–13**	**Jun–13**	**Sep–13**	**Dec–13**	**Mar–14**
Production									
Mine									
Tin content of all minerals produced									
Western Australia s	t	3 150	320	80	80	80	80	80	80
Tasmania	t	5 000	6 317	1 800	1 520	1 512	1 586	1 534	1 411
Australia s	t	8 150	6 637	1 880	1 600	1 592	1 666	1 614	1 491
Exports									
Quantity									
Tin concentrate	t	12 285	13 044	4 097	2 853	3 061	3 442	3 256	3 366
Tin content of primary materials exported bs	t	4 895	6 322	1 766	1 462	1 575	1 801	1 639	1 732
Value									
Tin concentrate	$m	102	123	35	29	31	36	34	38
Total	$m	102	123	36	29	31	36	35	38
Imports									
Quantity									
Refined tin	t	593	483	112	151	105	118	164	166
Value									
Refined tin	$m	13	10	2	3	2	3	4	4
Prices									
LME c	US$/t	22 297	21 450	21 560	24 125	20 905	21 268	22 948	22 648

b Tin content of tin ores and concentrates and refined tin. **c** LME official close. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

38 Titanium minerals

				quarters					
	unit	**2011–12**	**2012–13**	**Dec–12**	**Mar–13**	**Jun–13**	**Sep–13**	**Dec–13**	**Mar–14**
Exports s									
Quantity									
Ilmenite concentrate b	kt	1 581	1 035	246	271	271	305	305	278
Leucoxene concentrate	kt	31	31	8	8	8	8	9	9
Rutile concentrate	kt	315	246	89	35	35	87	87	62
Synthetic rutile	kt	536	416	121	84	86	56	57	55
Titanium dioxide pigment	kt	179	146	33	44	42	43	43	43
Value									
Ilmenite concentrate b	$m	225	224	56	56	56	56	57	31
Leucoxene concentrate	$m	22	22	6	6	6	6	6	6
Rutile concentrate	$m	252	262	63	67	70	70	73	73
Synthetic rutile	$m	294	264	65	64	66	65	65	65
Titanium dioxide pigment	$m	571	436	91	134	129	119	123	130
Prices cs									
Ilmenite concentrate b	A$/t	142	217	228	205	207	185	187	110
Leucoxene concentrate	A$/t	693	713	714	711	711	713	712	705
Rutile concentrate	A$/t	802	1 068	706	1 899	1 985	806	837	1 182
Synthetic rutile	A$/t	549	635	542	760	771	1 161	1 148	1 169
Titanium dioxide pigment	A$/t	3 191	2 987	2 757	3 062	3 069	2 728	2 850	3 000

b From January 1992, bulk only. **c** Average export unit value. **s** BREE estimate. **na** Not available.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS.

39 Uranium

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Uranium oxide (U_3O_8)	t	7 657	8 999	2 400	1 982	2 216	1 740	1 646	1 016
Uranium (U content)									
South Australia	t	3 708	3 974	995	920	1 074	958	969	862
Northern Territory	t	2 785	3 657	1 040	761	806	517	427	0
Australia	t	6 493	7 631	2 035	1 680	1 880	1 476	1 396	862
Exports bs									
Quantity									
Uranium oxide (U_3O_8) s	t	6 917	8 391	na	na	na	na	na	na
Value									
Uranium oxide (U_3O_8) s	$m	607	823	na	na	na	na	na	na
Prices									
Uranium oxide (U_3O_8) s									
Industry spot c	US$/lb	51	43	42	43	40	35	35	35
Australia ds	A$/kg	88	98	na	na	na	na	na	na

b ABS confidentiality: no country details to July 2009 and no details from August 2009. **c** Cameco. **d** Average export unit value. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ASNO; Cameco.

40 Zinc

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Production									
Mine s									
Zinc ore and concentrates	kt	3 360	3 226	854	746	830	819	880	746
Zinc content of all minerals produced									
New South Wales	kt	121	157	37	36	38	43	36	36
Queensland	kt	1 031	971	281	219	259	245	268	233
Western Australia	kt	89	68	10	11	17	12	25	9
South Australia	kt	22	24	7	4	6	5	0	0
Tasmania	kt	107	78	20	20	22	24	28	36
Northern Territory	kt	199	209	53	56	51	51	48	46
Australia	kt	1 567	1 507	409	346	392	380	405	359
Smelter and refinery									
Refined zinc (primary)	kt	505	496	129	115	128	123	132	119
Domestic despatches									
Refined zinc	kt	60	63	15	15	15	14	18	14
Exports									
Quantity									
Zinc concentrates									
Belgium–Luxembourg	kt	48	132	11	71	37	26	76	110
China	kt	938	826	244	151	252	187	327	193
Germany	kt	115	70	30	10	30	32	30	30
India	kt	51	45	10	0	10	0	11	0
Japan	kt	276	304	100	48	86	52	102	54
South Korea	kt	445	495	103	108	185	117	72	162
Netherlands	kt	273	279	98	36	71	72	0	0
Spain	kt	197	155	34	44	20	25	60	45
Thailand	kt	40	57	11	7	21	10	21	4
Total	kt	2 382	2 472	641	507	752	521	729	625
Refined zinc									
China	kt	123	163	37	40	36	29	44	27
Chinese Taipei	kt	70	46	9	9	15	17	13	15
Hong Kong, China	kt	46	57	11	12	18	19	16	13
India	kt	5	7	2	2	2	1	2	2
Indonesia	kt	13	26	4	7	11	9	7	9
Malaysia	kt	27	16	3	3	5	5	5	6
United States	kt	133	67	23	24	0	24	0	24
Total	kt	456	433	100	108	104	119	101	109
Zinc content of all primary materials exported bs	kt	1 572	1 591	408	344	460	362	437	410
Value									
Zinc concentrates	$m	1 375	1 383	378	286	419	315	401	412
Refined zinc	$m	917	810	184	213	196	244	205	245
Total	$m	2 292	2 193	562	499	614	560	606	657
Prices									
LME cash c	US$/t	2 020	1 926	1 949	2 033	1 840	1 859	1 909	2 031
Australia d	A$/t	2 088	1 946	1 966	2 102	1 853	1 852	1 956	2 019

b Zinc content of all ores, concentrates, slags, residues, intermediate products, refined zinc, zinc powders, flakes and dust. **c** LME cash, midday, registered brands, minimum 98 per cent, 25 tonne warrants. **d** Nyrstar SH Grade, 98.5 per cent. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; ABS; LME.

41 Zircon

				quarters					
	unit	2011–12	2012–13	Dec–12	Mar–13	Jun–13	Sep–13	Dec–13	Mar–14
Exports s									
Quantity									
Zircon concentrate	kt	729	700	193	156	156	185	185	189
Value									
Zircon concentrate	$m	327	194	57	33	45	54	61	57
Prices b									
Zircon concentrate	A$/t	449	277	295	214	288	293	330	299

b Average export unit value. **s** BREE estimate.
Note: Data for the most recent period is preliminary.
Sources: BREE; Australian Bureau of Statistics, Canberra.

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