

Coal extraction data

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Climate Mitigation Services
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BHP Billiton, Australia

www.bhpbilliton.com

Melbourne

yellow column indicates original reported units.

Production / Extraction data

Year

Year	Thermal Coal		Metallurgical Coal		Total Coal	
	Gross production Mill. long tons/yr	Gross production Million tonnes/yr	Gross production Million tons/yr	Gross production Million tonnes/yr	Gross production Mill. long tons/yr	Gross production Million tonnes/yr

SI or English units?

Year	Imperial tons	tonnes
1950		
1951		
1952		
1953		
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2007		
2008		
2009		
2010		



Ref	Country	Asset	Description	Ownership
Metallurgical Coal				
33	Australia	Illawarra Coal	Underground coal mines (West Cliff, Dendrobium, Appin) in southern NSW, with access to rail and port facilities.	100%
34	Australia	BHP Billiton Mitsubishi Alliance	Integrated mine, rail and port operations, including a loading terminal at Hay Point, in the Bowen Basin, Central Queensland.	50%
35	Australia	BHP Mitsui Coal	Two open-cut coal mines in the Bowen Basin, Central Queensland.	80%
Energy Coal				
36	Australia	NSW Energy Coal	Open-cut coal mine that supplies thermal coal to export markets and for domestic electricity generation.	100%
37	Colombia	Carrejon	Largest thermal coal exporter in Colombia, with integrated rail and port facilities.	33.3%
38	South Africa	BHP Billiton Energy Coal South Africa	One of the largest producers and exporters of thermal coal in South Africa.	50-100%
39	US	New Mexico Coal	Two mines in New Mexico supplying energy coal to adjacent power stations.	100%

BHP Billiton (2011) Annual Report 2010, p. 19

Year	no data met. coal
1991-1995	7.6
interpolated	7.9
interpolated	12.2
interpolated	14.5
interpolated	16.8
interpolated	19.1
interpolated	21.4
interpolated	23.7
interpolated	26.0
interpolated	28.3
2000	30.6
2001	37.5
2002	35.4
2003	35.1
2004	36.7
2005	37.3
2006	35.6
2007	38.4
2008	35.2
2009	36.4
2010	37.4

2.3.2 Minerals continued

Manganese	BHP Billiton Group share of production Year ended 30 June	BHP Billiton Group share of production Year ended 30 June		
		2009	2008	2007
Manganese				
Saleable production ('000 tonnes)				
Hotazel, South Africa ⁽¹⁾	44.4	2,718	2,791	2,640
GENCO, Australia ⁽²⁾	60.0	3,406	2,284	3,535
Total manganese ores		6,124	4,475	6,175
Manganese alloys				
Saleable production ('000 tonnes)				
South Africa ⁽¹⁾⁽³⁾	60.0	364	301	313
Australia ⁽⁴⁾	60.0	275	212	262
Total manganese alloys		639	513	575
Metallurgical Coal⁽⁵⁾				
Production ('000 tonnes)				
Blackwater	50.0	5,729	5,382	5,622
Compass Minerals ⁽⁶⁾	50.0	6,868	6,805	6,817
Peak Downs	50.0	4,332	4,350	4,694
Sari	50.0	3,402	3,505	2,896
Norwalk Park	50.0	1,876	1,584	2,826
Gregory joint venture	50.0	2,398	2,362	2,110
Total BMA, Australia⁽⁷⁾		24,403	24,700	22,795
South Walker Creek		3,609	2,578	2,862
Patrol		2,834	2,437	2,211
Total BHP Mitsui Coal, Australia⁽⁸⁾		6,443	6,435	5,153
Illawarra, Australia		6,535	6,272	7,265
Total metallurgical coal		37,381	36,416	35,163
Energy Coal				
Production ('000 tonnes)				
Nawaji	100.0	7,465	8,363	7,533
San Juan	100.0	4,013	5,773	6,718
Total New Mexico		11,478	14,136	14,251
Douglas/Middletown ⁽⁹⁾	100.0	14,323	14,807	13,663
Khalula	100.0	10,888	11,523	13,827
Kijiangit	100.0	4,887	3,954	2,440
Optimum	—	—	—	11,262
Total BCCA⁽¹⁰⁾		30,498	29,896	45,472
Mt Arthur Coal, Australia	100.0	12,039	11,775	11,776
Cerrojoil Coal Company, Colombia	53.5	16,155	18,556	18,368
Total energy coal		48,731	46,491	60,889

(1) Saleable production is reported on the basis of payable metal.
 (2) The Patrol mining operations were placed on care and maintenance in January 2009, and continue to produce copper cathode through sulphate leaching.
 (3) Data were reclassified from the TZ Minerals International Pty Ltd Mineral Sands Annual Review 2010 and amounts represent production for the preceding year ended 31 December.
 (4) The GenCO economic interest in Richards Bay Minerals is 37.38 per cent in FY2010 (50 per cent in FY2009 and FY2008).
 (5) Saleable production is reported on the basis of payable metal.
 (6) Iron ore production is reported on a wet tonnes basis with the exception of Saranoro, being reported in dry (tailed) tonnes.
 (7) Saleable production is reported on the basis of payable metal.
 (8) Production includes the Queensland operations.
 (9) Metallurgical coal production is reported on the basis of saleable production. Production figures include some thermal coal.
 (10) Generation Skowling includes the Queensland underground mine.
 (11) Shows on 100 per cent basis. BHP Billiton interest in saleable production is 80 per cent.
 (12) The Douglas and Middletown mines are now abandoned. Comparison with the Douglas/Middletown Optimisation Project.
 (13) Figures include 1.3 million tonnes of production from the South African operations. 5.8 million tonnes, against 6.2 million tonnes historic. Listings on these tonnes were excluded in the estimates to these savings, was stated with the purchase effect from 1 July 2007.

Cell: D11**Comment:** Rick Heede:

Coal production by coal mining companies and state-owned enterprises, including subsidiaries of oil and gas companies.

Coal types produced are not ordinarily reported by coal operators (except for metallurgical coal). We distinguish, where possible and reasonably well known, between hard (bituminous and subbituminous) and soft (lignite or peat) coals, especially for the larger companies operating in regions such as Australia and India where soft coals are predominant. Soft coals have lower carbon content per tonne than do hard coals.

Cell: D14**Comment:** Rick Heede:

Australian companies reported in long tons until ~1970s (gradually converted to metric system starting in 1971, completed by 1982).

Cell: J14**Comment:** Rick Heede:

Australian companies reported in long tons until ~1970s (gradually converted to metric system starting in 1971, completed by 1982).

1 metric tonne = 2,204.6 lbs = 1.00209 long tons. 1 long ton is 2,200 lbs.

Cell: D18**Comment:** Rick Heede:

CMS assumes that production reported in tons prior to 1972 are Imperial tons (2240 lb; 1016 kg), unless defined in the Annual Report.

The Metric Conversion Act was passed in 1970. National compliance was required by 1976, but many industries made the conversion years earlier. www.measurement.gov.au

Unless specified in company reports, CMS assumes English tons prior to 1972 and metric tonnes 1972 and thereafter.

Cell: D21**Comment:** Rick Heede:

Coal production 1955-56 from Broken Hill Proprietary Company Ltd (1957) Annual Report, p. 8. Production data does not specify coal types.

Cell: D24**Comment:** Rick Heede:

Coal production 1958-1960 from Broken Hill Proprietary Ltd Australia (1961) Annual Report, p. 6. Production data does not specify coal type.

Cell: D27**Comment:** Rick Heede:

Coal production 1961-62 from Broken Hill Proprietary Company Ltd (1963) Annual Report, p. 7. Production data does not specify coal types.

Cell: D28**Comment:** Rick Heede:

Coal production 1962-66 from Broken Hill Proprietary Company Ltd (1967) Annual Report, p. 22-23. Production data does not specify coal types.

Cell: D33**Comment:** Rick Heede:

Coal production 1967-68 from Broken Hill Proprietary Company Ltd (1969) Annual Report, p. 24. Production data does not specify coal types.

Cell: D35**Comment:** Rick Heede:

Coal production in "long tons" for 1969-1970 from Broken Hill Proprietary Company Ltd (1971) Annual Report, p. 27. Production data does not specify coal types.

Cell: D37**Comment:** Rick Heede:

Coal production in long tons for 1971-73 from Broken Hill Proprietary Company Ltd and subsidiaries (1974) Annual Report, p. tk.

Cell: E40**Comment:** Rick Heede:

Coal production for 1974-81 from Broken Hill Proprietary Company Ltd and subsidiaries (1982) Annual Report, p. tk. Data now reported in metric tonnes.

Cell: H44**Comment:** Rick Heede:

Coking coal is not reported in the 1981 annual report but is instead estimated from the bar graph presented in the BHP 1983 annual report (no numeric data shown).

Cell: E48**Comment:** Rick Heede:

Coal production for 1982 and 1983 from BHP (1984) Annual Report, p. tk, estimated from bar graph of coal production (no numerical data).

Note: The BHP legend appears reversed (since it shows coking coal as ~10 x energy coal, which is inconsistent with reported numerical data for 1986 forward). Also not disclosed is whether the stacked bars show additive or separate production statistics; we assume additive.

Cell: E50**Comment:** Rick Heede:

Coal production 1984-85 is from BHP (1989) Annual Report, p. 25. We combine "clean coal for Australia" and "raw coal for North America and other countries." Coking coal reported separately.

Cell: E52**Comment:** Rick Heede:

BHP Billiton Annual reports. We have assumed that all of BHP's production of "clean coal" is thermal coal (bituminous and subbituminous), and steel "raw" coal is hard coal (probably bituminous). Some of Australia's coal regions produce lignite coals -- particularly in Victoria -- but we have no breakdowns of regional production within Australia. Regional (global) production: Australia = 53 percent; Rest of world (RSA, North America) = 37 percent.

Cell: E66**Comment:** Rick Heede:

BHP

The BHP annual report for 2001, p. 34, shows 92.9 million tonnes of energy coal production in 2001 and 93.9 Mt in 2000. We use reported production in subsequent quarterly reports for 2001, however, since reported production was revised down to 89.2 Mt; see note below.

Cell: H66

Comment: Rick Heede:

The BHP annual report for 2001 shows 92.9 million tonnes of energy coal production.

Metallurgical coal production (AnnRpt, p. 30) at 37.136 million tonnes in 2001 and 30.633 Mt in 2000.

Cell: E67

Comment: Rick Heede:

BHP (2001-2004) Quarterly reports. BHP provides poor data on production in its annual reports (e.g., 2004 rpt has three years of oil and gas data, but one datum for coal (metallurgical only) for 2004: no production table is presented in the AnnRpt appendix.

The BHP annual report for 2001 shows 92.9 million tonnes of energy coal production.

Metallurgical coal production (AnnRpt, p. 30) at 37.136 million tonnes in 2001 and 30.633 Mt in 2000.

Cell: K70

Comment: Rick Heede:

Energy Coal, AnnRpt2004, p. 20: operating mines in 2004: Queensland Coal, Illewarra Coal (Aus), Ingwe (RSA), Hunter Valley, PT Arutman (Indonesia), New Mexico Coal, Cerrejon (Colombia).

Percent production (energy coal), 4thQ 2004:

RSA: 64.3 percent; heating value: 4470 - 7400 kcal/kg

USA: 17.4 percent; heating value: 4800 - 5300 kcal/kg

Australia: 10.2 percent; heating value: 6270 kcal/kg

Colombia: 8.0 percent; heating value: 6200 kcal/kg.

Metallurgical coal: production at BMP, BHP Matsui, and Illewarra (all Australia?)

Calorific values from 6930 to 7650 kcal/kg.

Source: BHP (2005) AnnRpt 2004, pp. 180-187.

Cell: E72

Comment: Rick Heede (Dec09):

BHP-Billiton Annual report 2008, p. 97. Metallurgical coal comprises ~30 percent of total.

Cell: K74

Comment: Rick Heede:

BHP-Billiton Annual report 2008, p. 51 and 97. Metallurgical coal comprises ~30 percent of total. In 2008, metallurgical coal of 35.191 million tonnes, and energy coal of 80.868 million tonnes (70 percent of total).

Cell: E75

Comment: Rick Heede:

BHP AnnRpt 2010, page 53. "FY2008 includes 11.3 million tonnes of production from our South African Optimum operation (3.96 million tonnes export and 7.3 million tonnes domestic). Earnings on these tonnes were excluded as the entitlement to those earnings was vested with the purchaser effective from 1 July 2007."

Cell: H75

Comment: Rick Heede:

BHP AnnRpt 2010, page 53.

Cell: P80

Comment: Rick Heede:

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