Coal extraction data

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BHP Billiton, Australia

yellow column indicates original reported units

www.bhpbilliton.com Melbourne

Production / Extraction data

Year	Thermal Coal		Metallurgical Coal		Total Coal	
	Gross production	Gross production	Gross production	Gross production	Gross production	Gross production
	Mill. **long** tons/yr	Million tonnes/yr	Million tons/yr	Million tonnes/yr	Mill. **long** tons/yr	Million tonnes/yr
1950						
1951						
1952	SI or English units?					
1953						
1954	Imperial tons	tonnes				
1955	2.38	2.42				2.4
1956	2.52	2.56				2.6
1957	3.01	3.06				3.1
1958	3.17	3.22				3.2
1959	3.37	3.42				3.4
1960	3.53	3.59				3.6
1961	3.61	3.67				3.7
1962	4.17	4.24				4.2
1963	4.36	4.43				4.4
1964	4.72	4.80				4.8
1965	5.33	5.42				5.4
1966	5.95	6.05				6.0
1967	5.92	6.01				6.0
1968	6.10	6.20				6.2
1969	6.72	6.83				6.8
1970	7.10	7.21				7.2
1971	7.14	7.25				7.3
1972	6.16	6.26				6.3
1973	7.38	7.50				7.5
1974		6.89				6.9
1975		7.17				7.2
1976		6.31				6.3
1977		6.56				6.6
1978		6.33		1.0		7.3
1979		7.03		0.9		7.9
1980		5.81		1.4		7.2
1981		7.38		1.6		9.0
1982		9.2		1.8		11.0
1983		10.3		2.2		12.5
1984		9.2		8.6		17.8
1985		25.6		9.3		34.9
1986		30.2		9.6		39.8
1987		27.8		11.7		39.5
1988		27.5		9.4		36.8
1989		30.8	no data met. coal	8.8		39.5
1990		31.0	1991-1995	7.6		38.6
1991		32.5	interpolated	9.9		42.4
1992		33.8	interpolated	12.2		46.0
1993		37.3	interpolated	14.5		51.8
1994		36.8	interpolated	16.8		53.6
1995		39.6	interpolated	19.1		58.7
1996	interpolated	50.5	interpolated	21.4		71.9
1997	interpolated	61.3	interpolated	23.7		85.1
1998	interpolated	72.2	interpolated	26.0		98.2
1999	interpolated	83.0	interpolated	28.3		111.4
2000		93.9		30.6		124.5
2001		89.2		37.5		126.7
2002		79.9		35.4		115.3
2003		82.9		35.1		118.0
2004		87.4		36.7		124.1
2005		87.4		37.3		124.7
2006		85.8		35.6		121.4
2007		87.0		38.4		125.5
2008		80.9		35.2		116.1
2009		66.4		36.4		102.8
2010		66.1		37.4		103.5
Total		**1,703**		**642**		**2,345**

Coal Types: Thermal 71.14% | Metallurgical 28.86% | (1978-2010 only)

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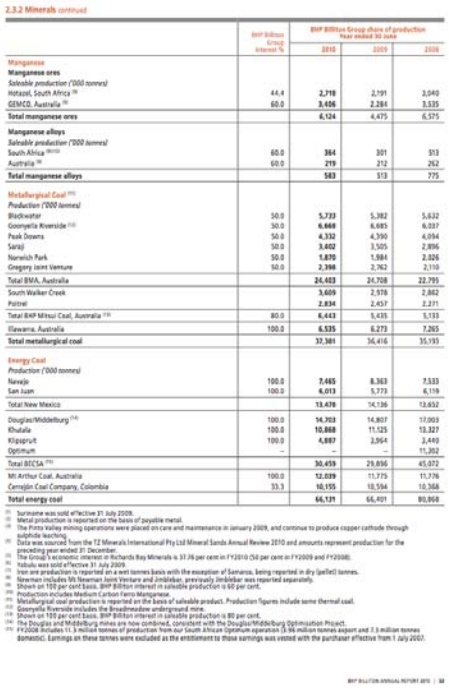
Metallurgical Coal

Ref	Country	Asset	Description	Ownership
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

Ref	Country	Asset	Description	Ownership
36	Australia	NSW Energy Coal	Open-cut coal mine that supplies thermal coal to export markets and for domestic electricity generation	100%
37	Colombia	Cerrejón	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



BHP Billiton AnnRpt 2010, page 53.

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. I 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:

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 reportd 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 Illawarra (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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