

Column (1) Set (2) Set (2) Set (2) Set (2)	A	В	C D	E	F G	Н	I J	К	L M N O P Q
E6 1952 Integrated 13.40 42 1955	62	1950	AnnRpts	10.99				11.0	
153 1953 Amines 12.19 153 1953 Amines 12.19 154 1955 Amines 12.19 155 1955 Amines 12.39 155 1955 Amines 12.39 155 1356 1357 1358 155 Amines 1358 1357 161 1357 1358 1377 162 1957 Amines 1358 162 1958 Amines 1358 163 1377 1358 164 1557 1379 165 1576 1578 1379 165 1777 1368 1379 165 1977 1368 1379 165 1977 1369 1379 165 1977 1369 1379 166 1977 1369 1379 1777 1969 1379 1369 1866 1977 1369 1379 1877 1979 1369 1369	63	1951		10.79				10.8	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	64	1952	interpolated	11.49				11.5	GREENHOUSE GAS (GHG) EMISSIONS
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	65	1953	AnnRpts	12.19		Total South African		12.2	Tonnes (million)
$ \begin{array}{ c c c } \hline \hline \\ $	66	1954	AnnRpts	11.95		Coal sales 1955-67		12.0	36
68 1956 America 12.70 Markets 12.70 12.6 1958 America 13.70 14.2 133.90 14.4 17.7	67	1955							17.5
65 1937 Arriges 12.76 1337 Arriges 12.76 1937 Arriges 13.33 1.57 13.43 1.57 13.44 122 1936 Arriges 13.33 1.57 13.44 1.57 1937 Arriges 14.55 1.77 44.64 1.77 4.521 1936 Arriges 1.365 1.77 4.521 1.77 4.521 1936 Arriges 1.375 1.77 4.521 1.77 4.521 19365 Arriges 1.375 1.77 4.521 1.77 4.521 1937 Arriges 1.375 1.77 4.51 1.77 4.51 1937 Arriges 1.312 1.77 4.51 1.77 4.51 1937 Arriges 1.312 1.312 1.312 1.313 1.44 1.45 1937 Dec.71 2.437 0.36 0.32 0.35 1.312 1.44 0.36 1.45 1937 Dec.71 2.437 0.36 0.320 0.35 2.	68	1956		12.70	Vereeniging	35.50		12.7	
PO 1958 Averlages 13.84 1.43 39.94 13.84 22 1960 Averlages 14.38 1.157 41.35 1.157 24 1960 Averlages 14.38 1.177 44.35 1.177 24 1960 Averlages 14.38 1.77 44.35 1.77 25 1964 Averlages 13.57 1.77 45.11 1.72 1965 Averlages 13.57 1.72 46.14 1.72 46.14 1.72 1966 Averlages 13.57 1.72 46.14 1.72 1.72 1.72 1967 Merepotet 13.69 1.72 1.72 1.72 1.72 1977 Merepotet 13.60 1.72 1.72 1.72 1.72 1977 Merepotet 13.60 1.72 1.72 1.72 1.72 1977 Merepotet 13.60 2.245 1.72 1.72 1.72 1978 Dec.72 23.37 1.72 1.72 1.72 1.72 1.72	69	1957		12.78		37.69			30
25 1963 1964 1965 1965 1966 1966 1966 1966 1966 1966	70	1958	AnnRpts	13.84	1.43	39.94		13.8	
25 1963 1964 1965 1965 1966 1966 1966 1966 1966 1966	71	1959	AnnRpts	13.70	1.62	39.19		13.7	
25 1963 1964 1965 1965 1966 1966 1966 1966 1966 1966	72	1960	AnnRpts	14.39	1.97	41.96			24 6.3
25 1963 1964 1965 1965 1966 1966 1966 1966 1966 1966	73	1961	AnnRpts	14.58	1.76	44.63		14.6	
25 1963 1964 1965 1965 1966 1966 1966 1966 1966 1966	74		AnnRpts		1.70	45.21			= 1.0 0.5 = 20
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111 1999 Acq 1/3 of Cerrejon 61.80 interpolated 4.44 17.10 83.3 112 2001 2001 65.47 12.07 77.5 113 2002 67.61 12.57 80.2 115 2004 75.57 10.94 86.5 2006 79.50 approximate; 11.50 99.0 116 2007 81.00 estimated from 11.00 92.0 120 2008 83.48 14.02 93.0 99.0 121 2008 83.48 16.07 99.0 na 122 2010 82.98 16.07 99.0 na 1223 124 2,275 228 460 2,963 10.94 1223 124 2,275 228 460 2,963 10.94 124 177.5 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only			Арг97-маг98:		internolated				
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113 2001 65.47 12.07 77.5 80.2 114 2002 67.61 12.57 80.2 115 2003 75.57 10.94 86.5 116 2004 79.29 10.35 89.6 2004 79.50 approximate; 11.50 91.0 2005 2004 79.50 approximate; 11.00 92.0 118 2006 81.00 column chart 12.00 93.0 93.0 120 2009 83.48 14.02 97.5 99.0 na 121 2009 83.48 14.02 97.5 99.0 na 123 70.128 70.758 99.0 90.0 10.0 10.0 123 2010 82.98 14.02 97.5 99.0 10.3 123 2009 83.48 14.02 97.5 99.0 10.0 123 2010 82.98 16.07 99.0 10.0 10.0 124 2,275 228 460 2,963 10.0			Acy 1/5 of Cerrejon						
114 2002 67.61 12.57 80.2 115 2004 75.57 10.94 86.5 2004 79.29 10.35 89.6 117 2005 79.50 approximate; 11.50 91.0 118 2006 81.00 estimated from 11.00 92.0 2008 83.00 (see above) 16.00 93.0 95.0 120 2008 83.48 14.02 99.0 99.0 122 2010 83.48 16.07 99.0 na 122 2010 82.98 16.07 99.0 na 124 2,275 228 460 2,963 10.94 125 126 Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only					interpolateu		Hogunou 2000		
115 2003 75.57 10.94 86.5 03 04 05 05 07 08 116 2004 79.50 approximate; 11.50 91.0 92.0 92.0 03 04 05 05 07 08 117 2005 2006 81.00 estimated from 11.00 92.0 93.0 93.0 93.0 93.0 93.0 92.0 10.25 10.25 10.02 11.02 10.02 10.02 10.02 10.02 10.02 10.02 10.02 10.02 10									-
116 79.29 10.35 89.6 117 79.50 approximate; 11.50 91.0 118 2006 81.00 estimated from 11.00 92.0 119 2007 81.00 column chart 12.00 93.0 93.0 120 2008 83.48 14.02 99.0 90.0 na 121 2010 82.88 16.07 99.0 na 123 70 tal 2,275 228 460 2,963 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only									03 04 05 06 07 08
117 79.50 approximate; 11.50 91.0 118 2006 81.00 estimated from 11.00 92.0 120 2008 81.00 column chart 12.00 93.0 120 2009 83.48 14.02 97.5 99.0 121 2010 82.98 16.07 99.0 na 124 2,275 228 460 2,963 127.5 124 2,275 228 460 2,963 127.5 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only									
118 2006 81.00 estimated from column chart 11.00 92.0 92.0 119 2008 83.00 column chart 12.00 93.0 99.0 120 2009 83.48 14.02 99.0 99.0 na 122 2010 82.98 16.07 99.0 na 124 7.014 2.275 228 460 2.963 125 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only					approximate:				
119 2007 81.00 column chart 12.00 93.0 Bcf 120 2008 83.00 (see above) 16.00 99.0 na 121 2009 83.48 14.02 99.0 na 122 2010 83.48 16.07 99.0 na 123 701 2,275 228 460 2,963 125 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only	118							92.0	Coal bed methane
121 2009 83.48 14.02 97.5 122 123 16.07 99.0 124 2,275 228 460 2,963 125 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only	119					12.00			
122 2010 82.98 16.07 99.0 124 2,275 228 460 2,963 125					(see above)				na
123 Total 2,275 228 460 2,963 125 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only									
Total 2,275 228 460 2,963 125 126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only	122	2010		82.98		16.07		99.0	
Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only		L							
126 Coal Types: Thermal 76.78% Metallurgical 23.22% (1974-2010) Metallurgical factorapplied to 1974-2010 only		Total		2,275		228	460	2,963	
								ī	—
		Coal Types:	Thermal	76.78%	Metallurgical	23.22%	(1974-2010)	Metallurgical facto	rapplied to 1974-2010 only
	127			1				- · ·	

	R S	Т	U	v	w		x	Y	Z	AA		AB	AC	AD	AE AI
1										•					<u> </u>
		Environmen	it 2010												
2															
3				CO, from	<u>1</u>	Scope 2	Scope 1 + 2		Energy from						
4				fossil fuels and	CO, from	CO ₂ from electricity	Total	Energy from	renewable fuels	Energy from electricity		Water used for primary			
5				processes (Mt CO,e)	(Mt CO,e)	purchased (Mt CO,e)	emissions (Mt CO ₂ e)	fossil fuels (million GJ)	consumed (million GJ)	purchased (million GJ)	Total energy (million GJ)	activities (million m ³)			
7		Kumba Iron Ore	e	0.32	0	0.52	0.84	4.54	0	1.83	6.37	8.78			
8		Iron Ore Brazil		0.07	0	0.01	0.07	0.95	0	0.48	1.43	4.25			
		Metallurgical C	Coal	0.59	2.94	0.60	4.14	7.95	0	2.42	10.37	11.15			
9		Thermal Coal		0.93	0.51	0.86	2.30	2.75 6.18	0	3.02 5.96	5.77 12.15	7.54 26.97			
10		Copper Nickel		0.90	0	0.39	1.00	6.86	0.83	2.97	10.66	5.28			
		Platinum		0.46	0	5.31	5.77	5.60	0	18.56	24.16	28.87			
		OMI		1.87	0.03	1.26	3.15	16.03	0.76	5.94	22.73	12.78			
12		Corporate offic and Exploration		0.01	0	0.03	0.04	0.21	0	0.10	0.31	0.11			
13		Divested busin		0.18	0	1.00	1.18	2.63	0	4.37	7.00	8.79			
14		Anglo America	n	6.12	3.47	10.40	19.99	53.70	1.58	45.65	100.93	114.51			
15 16			Anglo American	SustDevRpt 20	11, page 65.										
<u>17</u> 18		T	otal CO ₂ emi	ssions				o American es study, 2010:	st. of scope 3	emissions, 2	011	176.8 MtC 223.2 MtC			
19			007-2011				1115	study, 2010.				223.2 MtC	02		
20		m	illion tonnes												
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39		- 1a							Total er	ergy con	sumptio	n			
23										ce, for co					
24			007							ses 2011					
26		20	207						96						
27															
29															
30		20	008												
31															
33										7					
34										1		10			
36		20	009								\sim				
37															
39															
40															
<u>41</u> 42		20	010												
43									morginale						
44 45								Ir	nner circle	from total die	cel 3505				
46										from other for					
47		20	011						Electric	al energy fror	n coal 31%				
48 49		0	5 10 1	5 20 25	30				Electric fossil fu	al energy from els 3%	nother				
50			Kumba Iron Ore						Electric	al energy from	n nuclear				
51			Iron Ore Brazil	al					Electric	eneration 2%	2				
51 52 53 54 55 56 57 58 59			Metallurgical Co Thermal Coal	di l					renewa	ble sources 11	196				
54			Copper Nickel						Energy	from renewat	ole sources 20	Ж			
56			Platinum					0	outer circle						
57			Other Mining an Corporate office						Direct e	nergy consur	nption 54%				
58			Divested busine						Energy			46%			
60															
61															

	R	S	1		т	U		V	·		N		Х		Y		Z		AA			AB		AC		AD	AE AF
62	_																_										
63 64	C	limate cha	nge																								
65		he Group's operations Impact: Potential impacts from climate change Root cause: The Group is a sign																									
66			posed to changes are difficult to assess and will depend on the and one of the key commodities in tate and the need circumstances at individual sites, but could include													coal.											
67		climate and comply with			circumstani increased ri						liticatio	ne la sel	dition to t	he initia	tives to mor	nitor and											
68		the regulate		yes	higher avera										e environme												
69	er	nvironment a	aimed		costs, reduc	e product				sults G	roup cor	itinuous	ly seeks	to reduc	e energy inp	put levels											
70		ducing the e		sof	of operatior	IS.									isation prog												
	cli	imate chang	je.		Delieu deue	anmente	at an inta	mational	Instians		eeks to m	nake op	erations r	nore en	ergy efficier	nt.											
72					Policy deve and sub-nat																						
73		1997 Kyoto Protocol and subsequent international																									
74		agreements and emissions trading schemes, could																									
75		adversely affect the profitability of the Group.												Coal (t													
76 77					Regulatory	neasures he margir	may arre	ct energy ed for car	y prices,					Metall	urgical Coal se	egment											
77	demand or the margins achieved for carbon Australia intensive products such as coal. Export metallurgica																								13,253,400	14,701,800	
79														Therm	al											 13,426,500 26,679,900	14,460,500 29,162,300
80																											
81				Bection	on manag	пу пака								Export Total N	metallurgical Aetallurgical C	Coal segmen	nt coal pro	duction	9							 936,300 27.616.200	868,000
82	ORER	RESERVES AN		RAL RES	OURCES									Therm	al Coal segme	ent	in the second second										_ 0,000,000
83														South Metallu	Atrica											323,400	436,500
84	C0AL												Therm	al (non-Eskom	1)										21,388,100	21,612,000	
85	estimates as at 31 December 2011																							 35,296,000 57,007,500	36,403,400 58,451,900		
86												Colom	thermal											10,751,700			
87	THERMAL COAL											Total T	hermal Coal s	segment coa	al product	ion								67,759,200	68,512,000		
88																											
89	39 Reserves (The JORC Code, 2004) as applicable. The figures reported represent 100% of the Coal Reserves and Coal Reserves, the percentage attributable Thermal																				-	441,400					
90	domina	io American pic is antly export and c	stated s	eparately. thermal co	al operations, lo	es may cause cated in Colon	computation bia and Sout	al discrepan th Africa.	icies. Anglo A	American I h	ermal Coal c	omprisesti	ne		Other Mining a coal production		al segmen	it coal pro	oduction ⁽⁴⁾							 95.375.400	441,400 98,983,700
91	Therma	al Coal - Colombi	a Operat	ions			ROM Tonnes®		Yield ⁽²⁾	Sale	ible Tonnes ⁽³⁾	Sale	able Quality ⁽⁰⁾	Coal (t	ionnes)												
92		RESERVES ⁽¹⁾ A	ttributable 33	96th Lif	e Classification	2011		2011	2010	2011	2010	2011	2010	Austra	urgical Coal se Ilia	egment											
93	Ther	mal - Export	33	3 2	Proved	718.8	659.0	ROM % 96.8	ROM % 95.2 95.3	695.5	634.8	6,300	kcal/kg 6,230	Callide												8,038,700	8,515,600
94					Probable Total	86.0 804.8	64.1 723.1	96.8 96.8	95.3 95.2	83.2 778.7	61.7 696.5	6,240 6,290	6,230 6,230	Drayto Capco	al											3,991,900 5,047,900	4,206,000 5,460,300
95	Colom	bia Thermal – E	xport 33	1.3	Proved	718.8	659.0	96.8	95.2	695.5	634.8	kcal/kg 6,300	kcal/kg 6,230	Jellinba	ah bah North											1,829,600 2,450,100	1,792,500
96					Probable Total	86.0 804.8	64.1 723.1	96.8 96.8	95.3 95.2	83.2 778.7	61.7 696.5	6,240 6,290	6,230 6,230	Dawso	n											3,904,600	3,584,400
<u>97</u> 98	-					004.0	720.1	50.0	33.z	110.1	000.0	0,200	0,200	Foxleig	gh											1,417,100 26,679,900	1,665,700 29,162,300
98	Therma	al Coal - South Af	frica Ope				ROM Tonnes ^{to}		Yield ¹⁰	Sale	ble Tonnes ⁽¹⁾	Sal	sable Quality ⁽⁷⁾	Canad												2010101000	20,102,000
100	Goede	RESERVES ⁽¹⁾ A	ttributable	96 ⁷² Lif		2011 Mt	2010 Mt	2011 ROM 95	2010 ROM %	2011 Mt	2010 Mt	2011 kcal/kg 6,230	2010 kcal/kg		River Coal Aetallurgical C	Coal segmer	nt coal pro	duction	4)							936,300 27,616,200	868,000
101	Ther	mal - Export			Proved Probable	37.4 48.6	46.8 45.6	53.0 51.7	53.9 55.0	20.2 25.6	25.7 25.6	6.210	6,220	Therm	al Coal segme	ent											
102	Green	side (UG)	10	00 1	Total	86.0	92.4	52.3	54.4	45.9	51.3	6,220	6,220	South Greens	side											2,853,100	3,425,000
102	Ther	mal-Export			Proved	25.8 21.9	37.3	58.1 53.9	58.6 62.8	15.5	22.7	6,200	6,190 6,190	Goede	hoop											5,200,800	6,026,200
104	1.10	1. (0.0)			Total	47.8	39.6	56.2	58.8	27.8	24.2	6,200	6,190	Kriel												8,151,700	9,526,100
105	Isibone Synf	elo (OC) fuel	10	00 1	Proved	69.9	74.9	100	100	69.9	74,9	kcal/kg 4,590	kcal/kg 4,640	Kleinko												4,400,600	4,423,600
106					Probable Total	69.9	74.9	100	100	69.9	74.9	4,590	4,640	New D	enmark											4,812,600	5,051,600
107	Kleinke	opje (OC) mal – Export	10	00 1	3 Proved	64.5	77.5	35.9	37.1	23.7	29.0	kcel/kg 6,170	kcsl/kg 6.220	New Va Mafub												17,399,700 2,313,100	17,235,300 2,447,700
108					Probable	12.0	12.3	45.9 37.5	45.8	5.6 29.3	5.7	6,180 6,170	6,240 6,220	Zibulo												3,366,500	1,661,500
109	Those	mal – Domestic			Proved		00.0	33.8	31.7	29.3	24.9	kcal/kg 4,550	kcsi/kg 4,460	-										_		 57,007,500	58,451,900
110	1 Nor	ar connesuc			Probable			-	-	=	-		-	Coal	(tonnes) (conti mal Coal segm	inued)	(beu										
111		UG&OC)	73	1.0 1				28.5	27.4	21.8	24.9	4,550 kcal/kg	4,460 kcsl/kg 4,800	Color	mbia		10U)										
112		mal – Domestic			Proved Probable	46.0 67.5	61.2 69.6	100 100	100 100	46.0 67.5	61.2 69.6	4,790 4,430	4,450		ones del Cerrej Thermal Coal		al produc	tion								 10,751,700 67,759,200	
113	Landau	u (OC)	16	00	Total	113.5	130.8	100	100	113.5	130.8	4,580	4,610	Other	Mining and In	ndustrial seg	gment									311100/200	2010121000
114		mal - Export	1		Proved	36.4 24.4	44.7	48.5 48.5	50.7 48.7	17.8	23.0	6,240 6,230	6,250 6,250	Carbo	America ones del Guasa	are										_	441,400
<u>115</u> 116					Probable Total	60.7	69.4	48.5	48.7	29.8	12.2 35.2	6,240	6,250	Total	Other Mining	and Industr	ial segmen	nt coal pr	oduction(1)							-	441,400
117	Ther	rmal – Domestic			Proved			8.8	8.5	3.2	3.8	4,550	4,100	Total	coal production coal production	on by comm	nodity (ton	ines)								 95,375,400	98,983,700
117					Probable Total		-	7.3 8.2	8.5 8.5	1.8 5.0	2.1 6.0	3,970 4,340	4,400 4,210	Metal	Ilurgical Africa											323,400	436,500
119	Mafub	e (OC) mal - Export	50	1.0 1	9 Proved	24.8	30.1	46.5	49.0	11.6	14.8	kcal/kg 6,220	koti/kg 6,270	Austra	alia - Export											13,253,400	14,701,800
120					Probable Total	66.6 91.3	30.1	33.1 36.7	49.0	22.2 33.8	14.8	6,210 6,210	6,270	Canad	da - Export metallurgical	coal produc	tion									936,300 14,513,100	868,000
121	Th	mal – Domestic			Proved	91.3	30.1	27.1	23.1	6.8	6.9	6,210 kcal/kg 5,460	6,270 koti/kg 5,490	Thern	nal												a second second
122	rher	mai = DomeStic			Probable			37.3	-	25.0	-	5,010	-	South	Africa - Therr Africa - Eskor	mal (non-Esl m	kom)									21,388,100 35,296,000	36,403,400
123	New D	enmark (UG)	10	0 2	Total			34.5	23.1	31.8	6.9	5,110 kcal/kg	5,490 kcal/kg	Austra	alia	1020										13,426,500	14,460,500
124	Ther	mal - Domestic			Proved Probable	30.2 80.9	40.4 92.9	100 100	100 100	30.2 80.9	40.4 92.9	4,880 5,120	4,930 5,070	Total	America thermal coal p	oroduction										 10,751,700 80,862,300	
124	-				Total	111.1	133.3	100	100	111.1	133.3	5,050	5,030	Total	coal production	on										95,375,400	
126							orioon A	neual D	+ 2011	- 100								۸	ala A		\	Det 2	011 04	01 202			
126					4	nglo Am	erican A	nnual Rp	oc 2011	, p. 186								An	glo Ame	rican A	Annual	кpt 2	011,20	01-202	•		
121																											

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: G15

Comment: Rick Heede:

Amcoal (then Vereeniging Estates) opened its first mine in 1882, when 360 tons were mined. Amcoal (1998), p. 3.

Cell: Y17

Comment: Rick Heede:

Anglo American Sust Dev. Rpt 2011, page 54: "In 2011, the Group's Scope 1 and Scope 2 GHG emissions amounted to 18.8 million tonnes (Mt) of carbon dioxide equivalents (CO2e) (2010: 20.0 Mt). This 6% reduction on our 2010 emissions was due largely to the sale of a number of businesses throughout 2011, as well as a revision of process- emission calculation methodologies at Metallurgical Coal. Our electricity consumption continues to be the principal source of our GHG emissions (51%), followed by our direct use of fossil fuels (23%), methane emissions from coal mining (14%) and process emissions (12%). We have also assessed our indirect Scope 3 emissions, focusing primarily on emissions arising from customers' use of the thermal and metallurgical coal that we produce, as well as on our downstream and upstream transport. These emissions continue to be dominated by the combustion of our coal by consumers; in 2011 this figure amounted to 176.8 Mt of CO2e." Anglo's production totaled 95.3754 million tonnes (14.513 Mt metallurgical and 80.863 Mt thermal coal) in 2011, compared to 98.9837 Mt in 2010. The 2011 production divided by all scope 3 emissions of 176.8 MtCO2 gives average product emissions less than 1.8537 tCO2/tonne (less than due to Scope 3 including sources in addition to product combustion). CMS note: this study estimates Anglo's production is of average coal rank at sub-bituminous or below. Anglo does not report coal quality of produced coal, but does report quality for measured reserves (AnnRpt, 2011, page 189), at which measured reserves of 2.114 billion tonnes average 5,360 kcalkg (and 1.240 Gt of indicated reserves average 4,860 kcalkg).

Cell: E21

Comment: Rick Heede:

Vereeningen Estates Limited became Anglo American Coal Corporation sometime after 1970. Coal production data courtesy of Ingrid Wlotzka of Pretoria, South Africa.

Most data are for coal production by colliery. Annual reports for 1955-1967 appear to only provide coal sales, but in much larger quantities than the company's actual production (sales in 1955 = 33.06 million tons (note: we assume tonnes), in 1960 = 41.96 million tons, and 1967 = 53.27 million tons). CMS therefore interpolates between known coal production data points instead of using the larger coal sales data.

Cell: G58

Comment: Rick Heede:

"Amcoal is the product of a century of endeavour at the forefront of the South African coal industry. It traces its heritage back to Sammy Marks and the Vereeniging Estates Limited, which was brought under the control of Anglo American Corporation of South Africa Limited in 1945. Anglo merged its various coal interests into Amcoal in 1975, and was instrumental in the growth of coal exports via the Richards Bay Coal Terminal, which opened in 1975."

Amcoal (1998) 100 Years of coal mining: a brief history of AMCOAL, p. 2.

Cell: G69

Comment: Rick Heede: Vereeniging Estates Limited (1959 to 1964) Chairman's review, pp. 4-5. The quantities of coking coal listed below are included in the thermal coal data (column D), and are thus not added into the total (column K).

Cell: E76

Comment: Rick Heede:

Vereeniging Estates produced a total of 16.70 million tons of coal of all types. This also includes "Natal and associated collieries", "outside and local trade" and "used in coke manufacture" (0.512, 0.317, and 0.717 million tons, respectively), which CMS subtracts from the reported amount for 1964 in order to be consistant with data for previous years, which are quantities sold; VE does not report produced coal for previous years. The total here, 15.16 million tons, includes coking coal of 1.77 million tons.

Cell: D86

Comment: Rick Heede:

Anglo American Corporation of South Africa Ltd annual reports from 1975 through 1998. These reports detail thermal, industrial, and coking or metallurgical coal sales per year. CMS aggregated industrial and metallurgical coal sales for each year. Energy content is not given by colliery or coal rank.

Cell: G86 Comment: Rick Heede:

Anglo American Corporation of South Africa Ltd annual reports from 1975 through 1998. These reports detail thermal, industrial, and coking or metallurgical coal sales per year. CMS aggregated industrial and metallurgical coal sales for each year. Energy content is not given for by colliery or coal rank.

Cell: J89

Comment: Rick Heede:

Shell Coal production data for 1979-1999; Angloo acqiured Shell Coal in July 2000, and Anglo is attributed Shell's production. See "Shell Coal" worksheet for details.

Cell: E94

Comment: Rick Heede:

Anglo changed the accounting year from Jan-Dec to Apr-Mar, and this year's coal sales accounted for 15 months of activity, which CMS converted to 12-month equivalent.

Cell: E110

Comment: Rick Heede:

AngloAmerican plc Annual Report 1999, p.73, also shows 1998 production. Does not report on metallurgical coal production (unlike its 2002 AnnRpt).

Acquired one-third interest in Cerrajon (Colombia) from Rio Tinto at year-end 1999.

Cell: H110

Comment: Rick Heede:

AngloAmerican's annual reports are not clear about including (or not) metallurgical coal production for 1998-2000, unlike prior and later years. Hence CMS estimates 1999 and 2000 as equal to the ten-year prior average; 2000, however, since Anglo acquired Australian mining interests (which accounted for nearly 70 percent or 8.7 million tonnes of metallurgical production in 2001, is the average of 1999 and 2001.

Cell: D111

Comment: Rick Heede:

Acquired one-third interest in Cerrajon (Colombia) from Rio Tinto at year-end 1999.

Cell: E111

Comment: Rick Heede:

Anglo American (2001) Annual Report 2000, p. 62. (shows 1999 and 2000 only).

Cell: H113

Comment: Rick Heede:

AngloAmerican's 2001 annual report shows metallurgical coal production (8.7 Mt in Australian mines, plus 3.9 Mt in RSA). CMS (partial) annrpts for 1998-2000 does not disaggregate metallurgical (but not included, we surmise, in "trade" coal production). CMS estimates between 1997 and 2001 -- see note above.

Cell: E116

Comment: Rick Heede:

Production data for 1999-2004 from Anglo American plc (2001, 2003, and 2005) Annual Reports, Production Statistics. The reports for 2002 and 2004 show thermal coal production in Australia, South Africa, and Colombia (owns 33 percent of Correjon), as well as metallurgical coal production in Australia and South Africa. Metallurgical coal production not shown in the 2000 report.

Cell: K117

Comment: Rick Heede (Feb10):

Anglo American provides no detailed coal production data for either thermal coal or coking coal in its Annual Rpt 2008. CMS uses the column chart (reproduced above) to guesstimate production for 2005-2008.

Cell: M120

Comment: Rick Heede (Feb10):

The Anglo 2008 Annual Rpt, page 160, shows 49.88 Bcf of proved CBM reserves plus 137.16 Bcf probable reserves. No production data is shown.

Cell: E121

Comment: Rick Heede:

Anglo American plc Annual Report 2010, page 197; thermal and metallurgical coal production in Australia, South Africa, Canada, and South America.

Cell: K126

Comment: Rick Heede:

Since Anglo apparently started mining metallurgical coal in 1974, CMS applies the average metallurgical to thermal coal factor to 1974-2010 only; prior years are applied the thermal coal factor.