

A B C D E F G H I J K L M N O

Coal extraction data

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 Climate Mitigation Services
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Exxaro, South Africa

yellow column indicates original reported units

Investor-owned

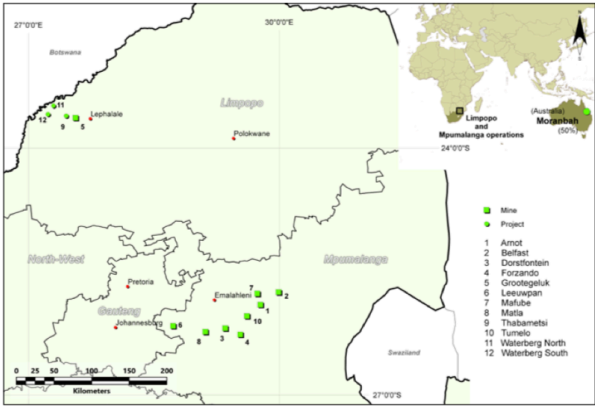
www.exxaro.com Pretoria West

Production / Extraction data

Year	Thermal coal		Metallurgical		Total Coal	
	Gross production	Gross production	Gross production	Gross production	Gross production	Gross production
	Million tonnes/yr	Million tonnes/yr	Million tonnes/yr	Million tonnes/yr	Million tonnes/yr	Million tonnes/yr

- 1950
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- 2016
- 2017
- 2018

Established in 2006. Spun off from Kumba Resources



2018 Rpt, p. 89.

	Thermal coal million tonnes	Metallurgical & coking million tonnes	Total coal million tonnes
1998	13.64	3.40	17
1999	12.33	2.82	15
2000	13.30	3.10	16
2001	13.45	3.54	17
2002	14.76	3.49	18
2003	15.34	3.63	19
2004	15.71	3.74	19
2005	16.07	3.77	20
2006	36.93	4.83	42
2007	38.36	2.96	41
2008	42.27	2.56	45
2009	43.81	2.02	46
2010	41.17	2.82	44
2011	37.73	2.30	40
2012	41.10		41
2013	40.20		40
2014	41.40		41
2015	44.20		44
2016	43.40		43
2017	45.57	0.09	46
2018	47.81	0.02	48
Total	659	45	704

Thermal coal	Percent thermal	Metallurgical	% metallurgical	Total coal
355	88.75%	45	11.25%	400
Percent thermal and metallurgical based on 1998-2011 production only				

<https://www.exxaro.com/investors/integrated-reports>

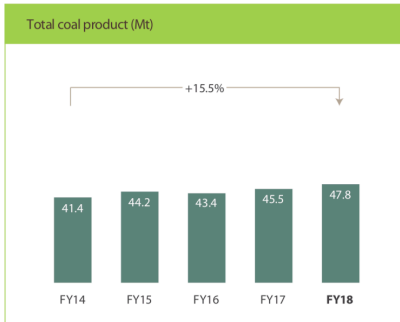
Coal business performance

Coal production and sales volumes (000 tonnes)

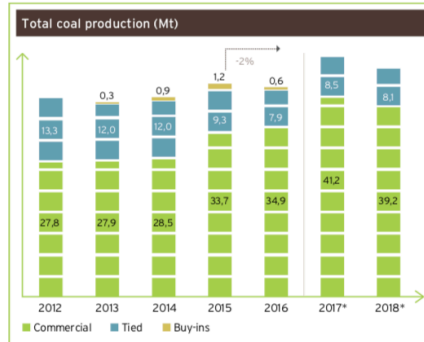
	Production		Sales	
	FY18	FY17	FY18	FY17
Thermal	44 417	42 843	43 967	43 258
Commercial – Waterberg	27 375	23 406	25 364	22 466
Commercial – Mpumalanga	10 433	12 037	4 033	5 777
Exports commercial			7 965	7 612
Tied	6 609	7 400	6 605	7 403
Metallurgical				
Commercial – Waterberg	2 323	2 132	1 197	1 190
Total coal	46 740	44 975	45 164	44 448
Semi-coke	23	86	33	88
Total coal (excluding buy-ins)	46 763	45 061	45 197	44 536
Thermal coal buy-ins	1 049	504		
Total coal (including buy-ins)	47 812	45 565	45 197	44 536



Exxaro Integrated Annual Report 2018, page 80



Exxaro Integrated Annual Report 2018, page 80



Exxaro Integrated Annual Report 2016, page 73.

Operation	Products	Production for year ended 31 December (000t)		
		2012	2011	2010
Grootegeluk mine	Power station coal (Eskom)	13 976	14 909	14 294
	Semi-soft coking coal	2 027	1 862	2 419
	Steam coal	1 513	1 460	1 441
Leeuwpaan mine	Power station coal (Eskom)	2 320	2 151	1 688
	Steam coal	1 524	1 879	1 408
Tshikondeni mine	Coking coal (ArcelorMittal)	339	299	285
Mafube coal	Steam coal			
Inyanda mine	Steam coal	1 845	1 918	1 779
Exxaro Reductants	Char	43	142	114
Arnot mine	Power station coal (Eskom)	2 081	2 291	4 173
Matla mine	Power station coal (Eskom)	10 948	10 150	12 288
New Clydesdale mine	Steam coal	717	628	850
North Block Complex	Power station coal (Eskom)	2 717	2 265	2 674
	Steam coal		81	697

Exxaro Integrated Annual Report 2012, page 6: Coal mining.

000 tonnes produced	12 months ended 31 December			
	2010	2009	2008	2007
COAL	2 419	2 020	2 560	2 962
Coking coal	2 134	1 752	2 233	2 499
Grootegeluk	265	268	327	463
Tshikondeni				
Power station coal (Eskom)	36 767	36 562	36 700	34 246
Grootegeluk	14 924	15 324	14 581	14 510
Leeuwpaan	1 688	1 247	1 188	956
Matla	12 298	11 273	13 230	13 030
Arnot	4 173	5 213	4 965	3 702
New Clydesdale			115	156
North Block Complex	2 674	2 822	2 271	1 892
Mafube	1 020	683		
Steam coal	7 502	6 638	5 574	4 111
Grootegeluk	1 441	1 207	1 387	1 486
Leeuwpaan	1 408	1 259	1 801	1 421
New Clydesdale	650	822	984	814
North Block Complex	697	691	561	391
Inyanda	1 779	1 843	841	
Mafube	1 327	816		
Char	114	38		
Total coal production	46 802	45 258	44 834	41 319

Exxaro Integrated Annual Report 2010, page 10.

'000 tonnes	2006	12 months ended 31 December		12 months ended 30 June	
		2005	2004	2003	2002
IRON ORE					
Production					
Sishen ¹	28 692	28 458	27 609	27 110	26 168
Thabazimbi ¹	2 418	2 529	2 503	2 484	2 389
Total	31 110	30 987	30 112	29 594	28 557
Sales					
Export ¹	21 495	22 113	20 923	20 446	20 946
COKING COAL					
Production					
Grootegeluk	2 133	1 859	1 972	1 781	1 830
Tshikondeni	363	414	437	381	377
Total	2 496	2 273	2 409	2 162	2 207
THERMAL COAL (Eskom)					
Production ²	34 599	14 573	14 383	13 869	13 036
Sales to Eskom ²	34 665	14 703	14 356	14 097	13 051
THERMAL/METALLURGICAL COAL					
Production					
Grootegeluk	1 585	1 551	1 403	1 323	1 313
Leeuwpaan	1 504	1 442	1 249	1 610	1 456
New Clydesdale ²	1 107				
North block complex ²	469				
Total	4 665	2 993	2 652	2 933	2 769

¹ Included in the 2006 figures is 12 months information for comparative purposes.
² Physical information includes Eyewitness Coal mines for 12 months even though only acquired effective 1 November 2006.

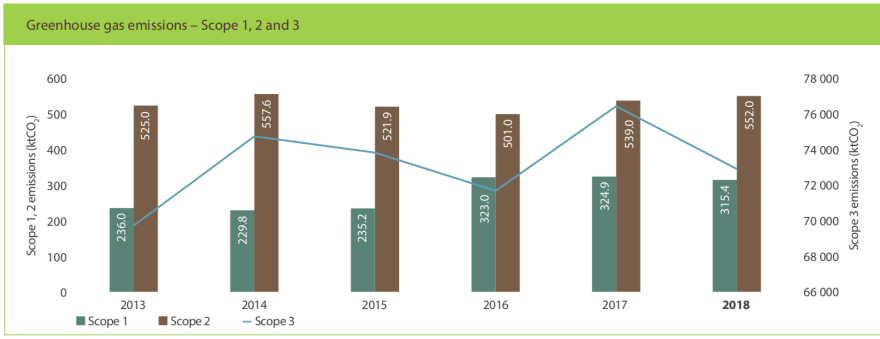
Exxaro Annual Report 2006, page 4.

	2003	Years ended 30 June			
		2002	2001	2000	1999
IRON ORE PRODUCTION (000 TONNES)	26 188	25 903	24 842	22 669	21 001
Sishen	2 389	2 421	2 202	2 156	2 901
Thabazimbi					
Total	28 557	28 324	27 044	24 825	24 502
SALES	20 946	19 916	18 057	18 750	16 842
Sishes exports (000 tonnes)					
COKING COAL PRODUCTION (000 TONNES)	1 830	1 670	1 536	1 312	1 207
Grootegeluk	377	404	408	375	343
Tshikondeni					
Duma coal					
Hibane					
Total	2 207	2 074	2 126	2 073	1 987
THERMAL COAL PRODUCTION (000 TONNES)	13 036	13 351	12 037	12 261	11 495
Production	13 051	13 198	11 934	12 072	11 829
Sales to Eskom					
OTHER COAL PRODUCTION (000 TONNES)	1 313	1 194	1 258	1 152	706
Grootegeluk	1 456	1 631	1 575	934	906
Leeuwpaan					
Northfield					
Hibane					
Total	2 769	2 825	2 833	2 086	1 672

Kumba Resources Annual Report 2003, page 1.

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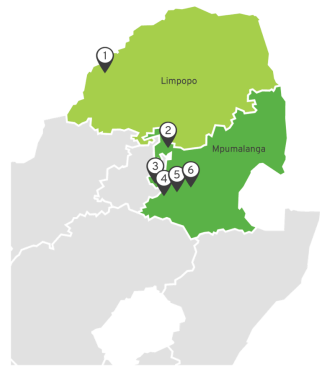
Exxaro Integrated Annual Report 2018, page 70.
We performed ahead of target, with carbon intensity of 5.3kt CO₂e per total tonnes mined compared 5.4kt in 2017. project Much of this is due to energy initiatives at Grootegeluk and Matla, such as energy monitoring and the 1MW solar grid

OPERATIONS

Location	Market	Product	Resources (inclusive)	Reserves	Mining method	Run of mine	Life of mine
1) ARNOT							
South of Middelburg	Domestic (Eskom)	Thermal coal	138.5Mt measured; 64.3Mt indicated	-	Open-cut	-	-
2) BELFAST							
South of Belfast	Export	Thermal coal	81Mt measured; 22.4Mt indicated	45.7Mt proved	Open-cut	-	17 years
3) DORSTFONTEIN COMPLEX							
North-east of Kriel	Export	Thermal coal	156.4Mt measured; 137.5Mt indicated	54.3Mt proved; 40.5Mt probable	Open-cut and underground	2.89Mt	23 years
4) FORZANDO COMPLEX							
North of Bethal	Export	Thermal coal	82.4Mt measured; 52.4Mt indicated	38.6Mt proved; 15.9Mt probable	Underground	2.07Mt	10+ years*
5) GROOTEGELUK COMPLEX							
West of Lephalale	Domestic and export	Thermal, metallurgical and coking coal	2.844Mt measured; 1.017Mt indicated	2.576Mt proved; 645Mt probable	Open-cut	57.2Mt	22+ years*
6) LEEUWPAN							
South-east of Delmas	Domestic and export	Thermal and metallurgical coal	101Mt measured; 2.6Mt indicated	53.7Mt proved; 6.2Mt probable	Open-cut	6.65Mt	12 years
7) MAFUBE							
East of Middelburg	Domestic and export	Thermal coal	124.5Mt measured; 10.1Mt indicated	62Mt probable	Open-cut	3.44Mt	12 years
8) MATLA							
West of Kriel	Domestic (Eskom)	Thermal coal	713Mt measured; 97Mt indicated	171.6Mt proved; 16.3Mt probable	Underground	6.7Mt	6+ years*
10) TUMELO							
North-west of Hendrina	Domestic and export	Thermal coal	8.7Mt measured; 0.2Mt indicated	Not yet declared	Underground	-	Under care and maintenance

Exxaro Integrated Annual Report 2018, page 13.

With the country's highest resource concentrations, Mpumalanga, Limpopo and the surrounding regions have been at the epicentre of the local coal mining industry for decades. It's no surprise then that this is where Exxaro's mines can be found.



- 1) Grootegeluk**
Market: Domestic and Exports
Product: Thermal, Metallurgical, and Coking coal
Production: 23.4Mt
Life of Mine: 35+ years
- 2) Mafube (50% Ownership)**
Market: Domestic and Export
Product: Thermal Coal
Production: 3.4 Mt
Life of Mine: 15 + years with JV Anglo Coal
- 3) Leeuwpan**
Market: Domestic and Exports
Product: Thermal and Metallurgical Coal
Production: 3.8 Mt
Life of Mine: 11+ years
- 4) Matla**
Market: Domestic
Product: Thermal Coal
Production: 8.5 Mt
Life of Mine: 30+ years
- 5) Dorstfontein Complex**
Market: Export
Product: Thermal Coal
Production: 2.5 Mt
Life of Mine: 15 years
- 6) Forzando Complex**
Market: Export
Product: Thermal Coal
Production: 2.0Mt
Life of Mine: 11+ years

Cell: H9**Comment:** Rick Heede:

Exxaro Resources (formerly part of Kumba Resources) is a large coal and heavy minerals mining company in South Africa. The company operates facilities and offices in Africa, Asia, Europe and Australia. The company is listed on the Johannesburg Stock Exchange and at 31 December 2016, had assets of R59.931 billion and a market capitalisation of R32.05 billion. The company was formerly known as Kumba Resources Limited and changed its name to Exxaro Resources Limited in November 2006. The company is based in Pretoria West, South Africa. Exxaro Resources Limited is a subsidiary of Main Street 333 Proprietary Limited. <https://en.wikipedia.org/wiki/Exxaro> (Jun19)

Kumba Resources was reorganized in November 2006 when coal and heavy minerals operations were spun off to newly created companies Kumba Iron Ore (Heavy minerals) and Exxaro Resources(Coal).

Cell: K11**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: D65**Comment:** Rick Heede:

Kumba Resources Annual Report 2003 coal production for 1998 to 2003. CAI adds Thermal coal and 50% of "other coal" (the other 50% allocated to coking and metallurgical coal. Thus, in 2002, thermal coal totaled 13.64 Mt, and coking plus metallurgical coal totaled 3.40 Mt. (See table below.)

Cell: D70**Comment:** Rick Heede:

Exxaro Annual Report 2006 coal production for 2003 to 2006. CAI adds Thermal coal and 50% of "other coal" (the other 50% allocated to coking and metallurgical coal. (See table below.)

Cell: D74**Comment:** Rick Heede:

Exxaro Integrated Annual Report 2010, page 10.

Cell: D77**Comment:** Rick Heede:

Exxaro Integrated Annual Report 2012, page 6: Coal mining.

Cell: D79**Comment:** Rick Heede:

Exxaro Integrated Annual Report 2016, page 73. Exxaro does not show precise production data. CAI uses figure of total production 2012-2016 (reproduced below), including "buy-ins" (which are not defined, and included in our table).

Cell: E84**Comment:** Rick Heede:

Exxaro Intergrated Annual Report for 2018, page 80 and 84: thermal coal production (excluding "buy-ins") of 46.763 Mt, and very small semi-coke production (0.023 Mt). See table below.