Published by:

Creamer Media's RESEARCH CHANNEL AFRICA

Coal

DECEMBER 2017

Sponsored by:

ZEST WEG Group

A review of South Africa's Coal sector

Picture by Ilan Solomons

The material contained in this report was compiled by Mariaan Webb and the Research Unit of Creamer Media (Pty) Ltd, based in Johannesburg.

The information in this report is correct as of November 21, 2017.

Report edited by Sheila Barradas, David Shepherd and Ria Theron.

Subscriptions and Sales
To subscribe to *Research Channel Africa* or purchase this report contact:
Creamer Media (Pty) Ltd
Tel +27 11 622 3744
Email subscriptions@creamermedia.co.za

Cover picture by Duane Daws

Table of Contents

Picture by Coal of Africa Limited

Abbreviations and acronyms

AAIC	Anglo American Inyosi Coal
AEMFC	African Exploration Mining & Finance Corporation
BEE	black economic- empowerment
CEF	Central Energy Fund
CIL	Coal India Limited
CoAL	Coal of Africa Limited
CoM	Chamber of Mines
CTL	coal-to-liquids
CSA	coal supply agreement
DMR	Department of Mineral Resources
Ebitda	earnings before interest, tax, depreciation and amortisation
EMC	Elof Mining Company
GHG	greenhouse gas
GG6	Grootegeluk 6
IPP	independent power producer
IRP	Integrated Resources Plan
JV	joint venture
KPSX	Klipspruit Life Extension
LoM	life-of-mine
MCH	Mooiplaats Coal Holdings
NCC	New Clydesdale Colliery
NDRC	National Development and Reform Commission
NUM	National Union of Mineworkers
PAR Coal	Pan African Resources Coal Holdings
PwC	PricewaterhouseCoopers
RAC	Riversdale Anthracite Colliery
RBTG	RBT Grindrod
RCBT	Richards Bay Coal Terminal
Resgen	Resource Generation
RoM	run-of-mine
SACRM	South African Coal Roadmap
SIU	Special Investing Unit
TFR	Transnet Freight Rail
IWUL	integrated water-use licence
WCC	Waterberg Coal Company
WCP	Waterberg coal project

Picture by Exxaro Resources

Units of measurement

The distinction between tonne (1 000 kg) and ton (1 016.047 kg) is maintained in this report according to the information that is reported in the public domain by each company.

Key developments

December 2016: Diversified mining major Anglo American merges its Kleinkopje and Landau mines, in Mpumalanga, into the Khwezela colliery to save costs as both mines are approaching the end of the operational lives.

December 2016: Diversified miner Exxaro Resources unveils a new black economic-empowerment (BEE) scheme that will result in its black shareholding decreasing from 50.19% to 30%. The new BEE shareholding places the company in a dispute with State-owned power utility Eskom, which demands that companies supplying its power stations have a black ownership of more than 50%.

January 2017: The Chamber of Mines and coal producers anger unions by announcing their intention to shift away from centralised bargaining to negotiate wages on a mine-by-mine basis.

January 2017: The Richards Bay Coal Terminal sets an export target of 77-million tonnes for 2017, after having exported 72.50-million tonnes of coal in 2016.

February 2017: Mining major Anglo American unveils a major shift in strategy, pulling back from plans to sell a large number of mines to focus on just platinum, diamonds and copper. The company says it may hold on to its South African export-focused coal mines and its iron-ore business, which it previously planned to exit.

March 2017: Michiel Bronn resigns as COO of Coal of Africa Limited after the Financial Services Board fines him R350 000 for insider trading. Bronn bought shares on the JSE in May 2015, three days before the company announced it had been granted a mining right.

March 2017: Junior miner Universal Coal delivers its first product from the New Clydesdale Colliery to State-owned power producer Eskom under a seven-year, 1.20-million-ton-a-year coal supply agreement.

April 2017: Triple-listed Coal of Africa Limited enters into a R275-million transaction to buy a 91% interest in the Uitkomst colliery, in KwaZulu-Natal, from Pan African Resources.

April 2017: Diversified major Anglo American announces the sale of its Eskom-tied domestic thermal coal operations in South Africa to majority black-owned start-up Sereti Resources for R2.30-billion. The sale includes three Eskom-tied mines and four closed coal assets.

April 2017: Power utility Eskom and Tegeta Exploration and Resources, which is controlled by the politically connected Gupta family, reach an arbitrated settlement over a fine levied on the Optimum coal mine, in Mpumalanga. The R2.20-billion penalty claim was originally issued to the mine's previous owner, Glencore, in August 2015.

May 2017: Cabinet approves a draft of the Mining Charter, without consulting mining companies about the regulatory changes that could dilute shareholders, raise costs and impose new levies to fund community development.

May 2017: Production starts at JSE-listed Wescoal's expanded Khanyisa colliery, in Mpumalanga, which will ramp up to 100 000 t/m over a six-month period.

May 2017: Power utility Eskom's procurement contracts, including those signed with Tegeta Exploration and Resources, are referred to the Special Investigating Unit (SIU) for investigation. The SIU will investigate all Eskom's procurement from 2007 onwards.

May 2017: State-owned Power utility Eskom demands R6.20-billion from Mpumalanga billionaire Ramesh Joe Singh, after his company Just Coal supplied the Tutuka power station with suboptimal coal worth R5.80-billion. Eskom also cancels its contract with Just Coal.

May 2017: Water and Sanitation Minister Nomvula Mokonyane lifts the suspension of the integrated water-use licence (IWUL) for Coal of Africa Limited's Makhado project, in Limpopo, bringing the project closer to production. The IWUL was suspended in April 2016, after appeals were lodged.

June 2017: Anthracite miner Petmin delists from the JSE, following a management buyout of the firm. Management bought the 577-million shares in issue for R617-million.

Key developments *(continued)*

July 2017: The world's largest independent oil trader, Vitol Group, and South Africa's Burgh Group terminate a transaction to buy a stake in the Richards Bay Coal Terminal from Tegeta Exploration and Resources.

August 2017: Gupta-owned Oakbay Investments sells Tegeta Exploration and Resources to Swiss-based Charles King for R2.97-billion. Tegeta featured prominently in former Public Protector Thuli Madonsela's State of Capture report released in November 2016, which found irregularities in its dealings with State-owned power utility Eskom.

September 2017: Diversified miner Exxaro Resources and the National Union of Mineworkers reach a three-year wage agreement, ending a wage strike at the Grootegeluk and Leeuwpan mines.

October 2017: Diversified miner Exxaro Resources signs a ten-year coal export transportation agreement with State-owned rail utility Transnet, which will increase coal volumes to the Richards Bay Coal Terminal, in KwaZulu-Natal, allowing for 7.80-million tons a year of export coal to be transported.

October 2017: Coal of Africa Limited sells the idled Mooiplaats colliery, in Mpumalanga, to MCH for R179.90-million. The company also unveils it is planning a name change to MC Mining.

November 2017: The National Union of Mineworkers signs a three-year wage agreement with coal producers participating in centralised bargaining, with the exception of Kangara Coal. The agreement is effective at Anglo American Coal, Exxaro Coal Mpumalanga, Glencore, Msobo Coal, Koornfontein Mines and Delmas Coal. Kangara Coal.

November 2017: Diversified mining and metals company South32 approves the R4.30-billion Klipspruit life extension project, in Mpumalanga, at South Africa Energy Coal and announces it will turn the South African energy coal business into a standalone entity, earmarked for further empowerment and a possible separate listing on the JSE.

Picture by Duane Daws

Business environment

2017 has been a tough year for the South African mining industry – a year of uncertainty and questions about the sustainability of the sector, as policy and regulatory concerns are stalling new investment.

Much of the policy uncertainty stems from concern about the Department of Mineral Resources' third revision of the Mining Charter, which was unilaterally gazetted in June 2017. Mining Charter Three will impose a potentially devastating set of new legal requirements on the industry.

For coal miners, the state of affairs at State-owned power utility Eskom is an added worry, amid accusations of maladministration by the State-owned group. There is concern that Eskom has been "captured" by a politically connected elite for private gain. The power utility has been accused of inflating primary energy costs by awarding over-priced coal contracts and of squeezing out incumbent coal majors.

The mining industry is lacking the confidence that is needed to drive additional investment. PricewaterhouseCoopers' (PwC's) 'SA Mine: 9th edition' states that capital expenditure is at a ten-year low.

Mining executives have warned that the rolling crisis at Eskom, which changed CEOs four times in 2017, poses a risk to investment in coal mines that are meant to supply the power utility. Well-known coal mining analyst Xavier Prévost, from XMP Consulting, has warned that Eskom could lose as much as 70% of its coal supply if replacement mines are not developed.

Coal mine investments stalled following the 2015 appointment of Brian Molefe as Eskom CEO. In January 2016, Eskom migrated from investment in cost-plus mines, which large coal miners are operating, to a model focusing on securing more expensive coal on the open market. As a result, companies that are supplying power stations under cost-plus contracts are divesting from coal, selling off their operations or entering into new markets. Eskom states in its 2017 integrated annual report that it will invest in cost-plus mines and that it will spend R9.40-billion on financing overdue expansion over the next five years.

A downturn in the global coal industry has also affected investment in South African coal mines, as many of the large producers and exporters have embarked on a global reassessment of their coal strategies. There is also investor pressure on companies holding significant carbon resources. Diversified mining and metals company South32 has unveiled plans to reduce its exposure to South Africa, announcing in November 2017 that it would separately manage its coal operations in the country.

Diversified mining major Anglo American in 2016 announced it would exit coal, but in February 2017 signalled that it might hold on to its South African export-focused coal mines. The group, however, is selling its Eskom-tied domestic thermal coal mines in South Africa.

Eskom bought 120.30-million tons of coal in the 2016/17 financial year ended March (2015/16: 118.70-million tons). In the 2016 calendar year, South Africa's coal production amounted to 251.01-million tons (2015: 252.08-million tons), according to statistics by the Department of Mineral Resources, cited by the Chamber of Mines in its 'Facts and Figures 2016' report. Of total sales of 250.34-million tons in 2016, 181.43-million tons were sold into the domestic market and 68.91-million tons were exported. In value terms, export sales amounted to R50.47-billion and domestic sales to R61.49-billion.

The export market previously outperformed domestic sales, but this changed in 2014, when the spot price for thermal coal dropped sharply in the wake of lower coal consumption in China.

Coal has made a comeback and was labelled 2016's "hottest commodity" as Australian prices – the benchmark for Asia – doubled to $100/t by November that year. The South African coal export price also rose sharply, from $50/t at the beginning of 2016 to $89/t by November. After pulling back to $72.50/t in May 2017, the price for exports from the Richards Bay Coal Terminal (RBCT) stood at $86/t in September 2017.

The strong international market for coal is reflected in the record volumes being railed to the RBCT, which is situated on the KwaZulu-Natal coast. The export coal line moved a record 37.80-million tons in the six months to September 2017.

Most major coal importers in Asia have increased purchases in 2017. China, which is the world's largest consumer of the fossil fuel, increased its imports by 13.70% in the first nine months of 2017, compared with the same period of 2016.

The question remains how long coal will continue to play a significant role in the global energy mix before it is replaced by lower carbon alternatives, such as natural gas or renewable energy technologies. Analysts have different views on the long-term prospects of the coal industry.

Global coal production and consumption

One the world's fastest growing energy resources, global coal production fell by a record amount in 2016, while consumption decreased on every continent, except in Africa, the latest BP review of world energy trends has shown.

The 'BP Statistical Review of World Energy', published in June 2017, shows 2016's coal production fell by 6.20%, or 231-million tonnes of oil equivalent, to 3.66-billion tonnes of oil equivalent, as China's output dropped by a record 7.90%, or 140-million tonnes of oil equivalent.

Global coal consumption fell by 53-million tonnes of oil equivalent, or 1.70%, registering its second successive yearly decline. The largest declines were seen in the US and China, where coal usage fell by 33-million tonnes of oil equivalent and 26-million tonnes of oil equivalent, respectively. US coal consumption is at a level last seen in the 1970.

Coal's share of global primary energy consumption fell to 28.10% in 2016 – the lowest share since 2004.

"The turnaround in the fortunes of coal over the past few years is stark: It is only four years ago that coal was the largest source of energy demand growth. There may be further ups and downs in the fortunes of coal over coming years, but the weakness in recent years does seem to signal a fairly decisive break from the past," the BP document states.

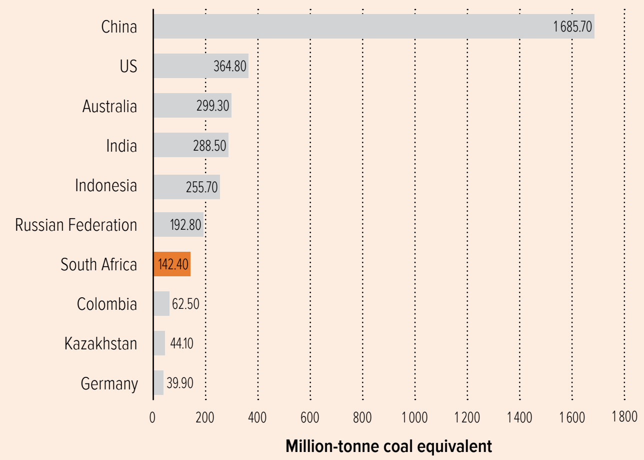
The shift is said to reflect the increasing availability and competitiveness of natural gas and renewable energy, combined with government and societal pressure to shift towards cleaner, lower carbon fuels.

BP reports that the long-term forces have given rise to near-term tensions and dynamics. In China, for instance, measures were introduced to cut excess coal capacity and improve the productivity and profitability of remaining mines. Coal mines were also restricted to operating for a maximum of 276 days, down from 330 days. The result of these measures was a sharp fall in 2016's production and a big jump in prices.

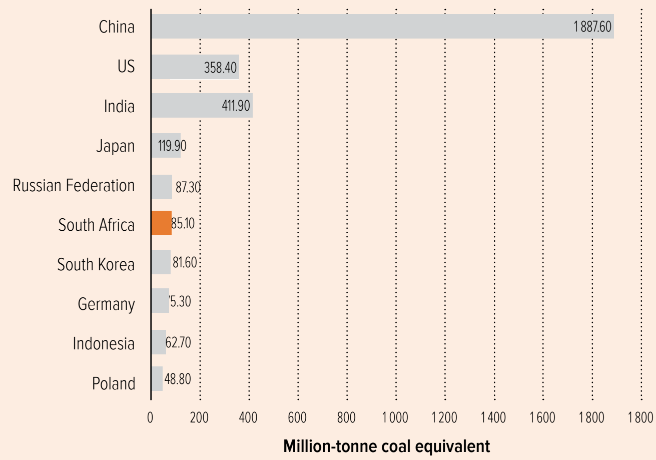
The sharp rise in prices depressed coal demand, particularly in the power sector, where natural gas and renewable energy stepped in.

BP says that the UK is a striking example of a long-term shift away from coal, noting that coal production and consumption have fallen back to levels last seen almost 200 years ago at the time of the Industrial Revolution. The country's coal consumption was 11-million tonnes of oil equivalent, compared with about 40-million tonnes of oil equivalent a decade earlier.

Top coal producers 2016



Top coal consumers 2016



Source: BP Statistical Review of World Energy 2017

Main participants

Anglo American is the single-largest producer of coal in the country, followed by Exxaro Resources, Sasol Mining, South32 and Glencore. Together, these companies produce about 80% of South Arica's coal between them.

Exxaro is expected to become the single-largest local coal producer over the next two years, as Anglo American is scaling back its coal portfolio.

More junior miners are entering the coal mining industry as power utility Eskom – the main buyer of domestic coal – is championing an emerging miner strategy. The junior coal mining group comprises about 50 or 60 miners, according to XMP Consulting senior coal analyst Xavier Prévost. These enterprises are supported by government through Eskom's commitment to procure coal from the junior sector, but they find it hard to survive in a low coal-price environment.

Junior miners are also struggling to find financing for their operations, as the political situation in the country is impacting on investor perception.

Coal miners are mostly focused on the Mpumalanga coalfields, which have traditionally been the most important in South Africa. However, as these deplete, other coalfields have been touted as potential replacements, such as those located in the Waterberg region of Limpopo. Coal from the Mpumalanga coalfields is significantly easier to mine than that of the Waterberg, which require specific types of washing plants and highly skilled technicians to transform the product into a usable coal.

For firms wanting to open a mine in the Waterberg, finding a market for the production will be key. An estimated 80% of the coal found in the Waterberg will only be of good enough quality to burn in power stations, but most of Eskom's current power stations are located about 500 km away in Mpumalanga.

Other constraints include a lack of water, which is vitally important for coal processing. Prévost points out that about 50% of the run-of-mine (RoM) coal from Exxaro's Grootegeluk mine, which is located in the Waterberg, is discarded. This, he says, shows the importance of beneficiation of Waterberg coal and highlights what an impact a shortage of water will have on operations.

Major producers

Anglo American South Africa

Anglo American South Africa is a division of globally diversified miner Anglo American, which in 2016 announced its future focus is only on diamonds, platinum and copper.

In the South African coal market, the company owns and operates seven mines – Goedehoop, Greenside, Kleinkopje, Landau, New Denmark, Isibonelo and New Vaal. It also has a 73% shareholding in Anglo American Inyosi Coal (AAIC), a broad-based black economic empowerment (BEE) company created in 2010, which holds the Kriel mine, the Zibulo multiproduct mine and the greenfields New Largo, Elders and Heidelberg projects.

The Kleinkopje and Landau mines were merged into the Khwezela colliery in December 2016. Both mines are reaching the end of their operational lives, which means that it became economically unviable for the two operations to continue as separate entities, each with their own overheads and individual support structures.

Anglo American South Africa is scaling down its coal operations and in April 2017 announced the sale of the Eskom-tied New Vaal, New Denmark and Kriel collieries, as well as four closed collieries with reopening potential to Seriti Resources. Seriti is majority owned by historically disadvantaged South Africans and is led by Mike Teke.

The R2.30-billion transaction will transform the BEE start-up into the second-largest provider of thermal coal to parastatal Eskom, supplying 22% of the power utility's yearly coal requirements, with contractual tons to be supplied being 37-million tons a year.

Eskom has to approve the ceding of three coal supply agreements (CSAs) from Anglo American to Seriti. This is the last outstanding condition, following the Competition Commission's sanctioning of the deal and the Department of Mineral Resources' (DMR's) approval of mining rights transfers. The transaction is expected to be concluded by the end of 2017. The sale has received the backing of the National Union of Mineworkers and Solidarity.

Sereti has expressed interest in acquiring the undeveloped New Largo coal project, which is earmarked to provide coal to Eskom's new 4 800 MW Kusile power station, which is at an advanced stage of construction. AAIC has not yet signed a supply agreement with Eskom, which is requiring new coal suppliers to be 51% black-controlled.

Selling the greenfield project will help complete Anglo American's exit from operations that provide coal to Eskom.

Anglo American South Africa's coal mines produced 53.80-million tons in 2016 (2015: 50.30-milion tons). The implementation of productivity improvement initiatives resulted in production from export mines increasing by 9% to 24.60-million tons and output from Eskom-tied mines increasing by 7% to 19.10-million tons.


State-owned power utility Eskom is championing an emerging coal miner strategy

Picture by Duane Daws

The earnings before interest, tax, depreciation and amortisation (Ebitda) from the South African coal mines increased by 37% to $473-million, mainly owing to a 9% increase in the export thermal coal price. Sales of 53.60-million tons at an average price of $60/t generated revenue of $2.11-billion in 2016.

In the first six months of 2017, the South African coal mines produced 25.34-million tons (six months to June 2016: with 25.36-million tons). Primary export thermal coal production decreased to 8.12-million tons (six months to June 2016: 8.27-million tons), owing to operational challenges at Khwezela, associated with the integration of the Kleinkopje and Landau mines.

Production from the Eskom-related mines declined marginally to 13.26-million tons (six months to June 2016: 13.10-million tons).

The South African coal mines generated $1.24-billion in revenue in the first half of 2017 and registered a 73% year-on-year increase in underlying Ebitda to $281-million.

Seriti Resources

Headed by CEO Mike Teke, Seriti Resources is jointly owned by four equal anchor shareholders comprising Teke's Masimong Group Holdings,

Thebe Investment Corporation, headed by executive chairperson Vusi Khanyile, Zungu Investments Company, led by Sandile Zungu, and the black-women-led Community Investment Holdings Projects, which was established in 1995 by Dr Anna Mokgokong and Joe Madungandaba.

KwaThema-born Teke, 52, has reached the uppermost positions in business, including being director of a number of public companies, all beyond his starting point as a R76-a-week labourer at Van Leer, in Springs, Gauteng, in 1984.

A former Chamber of Mines president, Teke was also until recently chairperson of the Richards Bay Coal Terminal, where he is still on the board.

Teke has ambitions for the 79% black-owned Seriti to become a massive diversified mining company that could conceivably take over Anglo American's Kumba Iron Ore and eventually become an across-the-board diversified mining giant.

Source: *Mining Weekly*

Anglo American is forecasting thermal coal export production from the South African mines and its Cerrejón operation, in Colombia, to be at the low-end of its guidance of 29-million tons to 31-milion tons, owing to operational challenges at the Khwezela mine.

Exxaro Resources

Exxaro Resources is a diversified mining group with coal operations in Mpumalanga and Limpopo, supplying Eskom, and other domestic and export markets. The company has eight managed coal mines, producing power station, steam and metallurgical coal. The Mafube mine is a joint venture (JV) with Anglo American.

In 2016, Exxaro produced 43.40-million tons of coal (2015: 44.20-million tons). Production from the group's commercial mines decreased from 33.70-million tons in 2015 to 34.90-million tons in 2016, owing to the sale of the Inyanda mine, in Mpumalanga, to a consortium comprising Burgh Group and Lurco Group.

Power station coal production from the Eskom-tied mines decreased from 9.30-million tons in 2015 to 7.90-million tons in 2016, following the closure of the Arnot mine. The mine, which delivered coal to the power station by a conveyor belt, was shuttered after Eskom controversially terminated a 40-year CSA in December 2015.

The termination agreement triggered a series of events that resulted in the now well-publicised R650-million prepayment to Tegeta Exploration and Resources, which was held up as suspicious by former Public Protector Thuli Madonsela in her 'State of Capture' report. Tegeta was previously owned by the politically connected Gupta family.

The Mafube JV's CSA for the Arnot power station was also cancelled in favour of agreements with smaller coal suppliers. Further, Eskom has not extended the Leeuwpan mine's CSA to supply the Majuba power station and contracts are coming to an end for two other power stations at the end of 2017.

The contract cancellations mean that two former Eskom mines – Leeuwpan and Mafube – are now also producing coal for the export market. Exxaro increased its exports from 6.20-million tons in 2015 to 7.90-million tons in 2016. About 60% of the group's export coal is sold to the Indian market. The greater freedom to export coal previously contracted to Eskom has been a financial boon for Exxaro.

Exxaro generated R20.67-billion from its coal mines in 2016, compared with R18.09-billion in the 2015.


Majuba power station coal yard

In the first half of 2017, coal revenue increased by 10% year-on-year to R10.67-billion. Production increased from 21.40-million tons in the first half of 2016 to 21.94-million tons in the first half of 2017. Total sales volumes decreased from 21.52-million tons to 21.91-million tons in the half-year period, as export sales declined by 17% owing to congestion at the Richards Bay Coal Terminal (RBCT). Exxaro notes in its interim results statement that the export market remains strong for its product.

The group expects its domestic thermal coal volumes for the second half of 2017 to remain at current levels.

Commentators contend that Exxaro has been the coal supplier most affected by the power utility's harsher stance towards major producers in recent years. The State-owned electricity producer, which is pursuing a black emerging miner strategy, is increasingly turning to smaller coal suppliers for their feedstock requirements.

In 2015, the Exxaro board approved a decision to pursue a diversification strategy to reduce its dependency on Eskom. Eskom sales account for about 86% of the coal Exxaro produces.

The relationship between Exxaro and Eskom took further strain when the mining company proposed a new BEE transaction in December 2016, which lowers BEE ownership from 50.19% to 30%. Exxaro has explained that one of the key considerations in opting for a 30% BEE replacement transaction is that a new BEE consortium would have had to raise R16.70-billion to fund a new 50% shareholding transaction. Eskom has not been supportive of the new BEE shareholding, with former acting CEO Matshela Koko describing the unwinding of the previous empowerment structure as a "slap in the face" to the utility.

Glencore

Glencore is one of the world's largest diversified mining companies. In South Africa, the company has a strong presence in the coal and ferroalloy sectors. The group's South African coal operations are located in Mpumalanga and produce thermal coal for the domestic and export markets.

The company owns the iMpunzi and Tweefontein complexes, as well as a 74% shareholding in the Goedgevonden JV with African Rainbow Minerals and a 49.90% shareholding in Izimbiwa Coal, which owns mines near Middelburg and Kendal. Izimbiwa Coal is a JV with Shanduka Resources.

The production is split 40:60 between the domestic and export markets. In 2016, Glencore's South African mines produced 29.30-million tons of thermal coal, of which 17.20-million tons were for the export market. Production decreased from 37-million tons in 2015, when the Optimum mine still formed part of the group's producing assets. The mine was placed in business rescue and subsequently sold, after a public feud with Eskom.

Production declined from 14.10-million tons in the first half of 2016 to 13.50-million tons in the first half of 2017. Thermal coal exports amounted to 8.70-million tons (H1 2016: 8.40-million tons) and domestic sales to 4.80-million tons (H1 2016: 5.70-million tons) in the 2017 interim period. The lower output was as a result of scheduled closures of smaller mines.

Glencore's South African coal assets generated $1.35-billion in revenue in 2016, compared with $1.46-billion in 2015. Its interim revenue increased from $545-million in the first half of 2016 to $730-million in the first half of 2017.

Sasol Mining

Sasol Mining is a subsidiary of petrochemicals group Sasol and produces coal to supply the coal-to-liquids (CTL) plant in Secunda, Mpumalanga. The coal mining operations are at Bosjesspruit, Brandspruit, Middelbult, Syferfontein and Twistdraai, the Secunda area, and Sigma, near Sasolburg, in the Free State.

Besides feedstock for Sasol Synfuels, the group also exports about three-million tons a year of coal from its Twistdraai mine.

Sasol Mining was hit by a protracted wage-related strike in the 2017 financial year ended June. The division's output fell by 11% from 40.30-million tons in 2016 to 36-million tons in 2017. To deliver its full commitment to Secunda Synfuels, Sasol Mining had to buy external coal and diverted a portion of its export production to the synfuels business.

Sasol Mining increased its external purchases to eight-million tons in 2017 (2016: five-million tons) and lowered its external sales to three-million tons (2016: 3.20-million tons).

Sasol Mining reported turnover of R18.96-billion in the 2017 financial year (2016: R16.98-million) and an operating profit of R3.73-billion (2016: R4.74-billion). Ebitda amounted to R5.66-billion (2016: R6.44-billion). The strike and external coal purchases resulted in a R1.40-billion net additional cost.

The group stated in its 2017 results announcement, published in August, that a business improvement programme to improve productivity and cost efficiency was under way. "We expect to see our mines return to the targeted level of operational performance in the next 12 months."

The lower productivity in the 2017 financial year resulted in the normalised cost of production increasing by 13% to R270/t. The business improvement programme will seek to limit the increases to inflation and has set a targeted unit cost of production of between R260/t and R270/t for 2018.

Sasol Mining is investing R14-billion on a mine replacement programme to ensure uninterrupted coal supply to its CTL plants until 2050. The programme involves four new mines – Thubelisha, Impumelelo, Shondoni and Tweedraai – which will replace the long-servicing Twistdraai, Brandspruit, Middelbult and part of the Syferfontein operations respectively. The mine replacement programme is nearing completion.

South32

Australia-headquartered South32 has coal mining operations near eMalahleni and Middelburg, in Mpumalanga. Four collieries – the underground Khutala mine and the opencast Klipspruit, Middelburg and Wolvekrans mines – produce coal for the domestic and export market.

The group announced plans in November 2017 to turn its South African energy coal business into a standalone entity, earmarked for further empowerment and a possible separate listing on the JSE in 2018. South32 has said that the creation of a standalone business will simplify its global portfolio management and will also open the way for greater transformation potential.

The group's South Africa energy coal production decreased from 31.68-million tons in the financial year ended June 2016, to 28.91-million tons in 2017. Production was affected by adverse weather and the associated delay in the development of new mining areas at the Wolvekrans-Middelburg Complex.

In the 2017 financial year, South32 sold 16.92-million tons of coal to domestic clients (2016: 17.17-million tons) and exported 11.80-million tons (2016: 15.16-million tons). The 22% decrease in export sales is owing to a severe storm in June that affected the RBCT and deferred shipments into the 2018 financial year.

The company has warned that delayed development of new pits will continue to weigh on its performance in the 2018 financial year, but that production will improve in the 2019 financial year.

Production is forecast to decrease to 27.50-million tons in 2018, before improving to 29.35-million tons in 2019.

South32's South African energy coal business generated revenue of $1.10-billion in 2017, which was an improvement on $1-billion in 2016.

South32 is progressing projects to extend the life of the Klipspruit and Khutula collieries. The R4.30-billion Klipspruit Life Extension (KPSX) project will be export oriented, but its relation to Eskom's new coal-fired Kusile power station under construction could result in it playing a role in domestic supply. It announced a positive investment decision in November 2017.

The Khutula life extension project has progressed to feasibility study stage, with the results of a study expected by the end of 2017 or in early 2018. Eskom is funding the study.

South32 CEO Graham Kerr has said that the group will continue to invest in its thermal coal assets, but that it will not consider making any acquisitions in the sector, owing to concerns about carbon pricing, climate change and changes in the future global energy mix.

Smaller producers

African Exploration Mining & Finance Corporation (AEMFC) is the State-owned mining company established in 2007 to produce coal for electricity generation. AEMFC is operating one mine, Vlakfontein, near Ogies, in Mpumalanga. The mine has a coal supply agreement with Eskom until 2020. AEMFC sold 1.45-million tons of coal to Eskom during the 2016/17 financial year, ended March 2017.

The company's expansion project to 2.50-million tons a year – the Vlakfontein mine extension project – is at an advanced stage. First production is expected in the 2018/19 financial year. AEMFC is also studying the Klippoortjie mine, which is at the feasibility stage and is awaiting regulatory approval and finalisation of the surface rights. The project requires a capital injection of R540-million. Klippoortjie is about 40 km from AEMFC's existing openpit operations. The Central Energy Fund (CEF) reports in its 2016/17 annual report that the R2.90-bilion T Project is at a capital raising stage and that AEMFC is seeking to secure a CSA with Eskom. First coal from the mine, near Kinross, in Mpumalanga, is expected in the second half of the 2018/19 financial year.

AMEFC reported turnover of R376.07-million in the financial year ended March 2016, compared with R235.36-million in the previous financial year. The company is currently held in the CEF, which falls under the Department of Energy, but will be transferred to the DMR at the start of the 2018 financial year in March.

Buffalo Coal has operations near Dundee, in KwaZulu-Natal. The company's two operating mines are the Magdalena thermal coal mine and the Aviemore anthracite colliery, with a calcine processing plant located nearby at its Coalfields site. About 50% of its production is exported, with the balance used locally in the steel, paper and other sectors. The company has no contracts with Eskom and currently has no plans to supply coal to the utility.

Buffalo has implemented various restructuring initiatives in recent years, but continues to experience operational challenges and financial pressures. In 2016, Buffalo

Buffalo Coal's Magdalena mine

Picture by Ilan Solomons

produced 1.56-million tons of RoM coal and processed 920 222 t of saleable product. This compares with 1.73-million tons of RoM and saleable production of 949 369 t in 2015.

RoM production totalled 721 373 t in the first six months of 2017, compared with 792 734 t in the comparative period. The lower RoM production is as a result of difficult geological mining conditions encountered at the Magdalena underground mine. Saleable production decreased from 477 996 t in the first half of 2016 to 384 241 t in the first half of 2017. The company is opening new ground at Magdalena, called Panel 417, which will increase production for the rest of the year.

Two new sections are planned for the Aviemore mine, once a new north adit is completed in 2020. The new sections will allow the Aviemore plant to run at full capacity.

Net revenues earned increased from R576.54-million in 2015 to R641.18-million in 2016. The miner's net loss narrowed from R561.82-million to R45.54-million in the same period. Net revenue increased from R287.90-million in the first half of 2016 to R313.10-million in the first half of 2017. The net loss for the first six months of 2017 was R2.73-million, compared with a loss of R612 458 in the first half of 2016.

In August 2017, the company was in default of Investec repayments totalling R7.50-million. At June 30, the group had a shareholders' deficiency of R220.06-million (December 2016: 221.70-million) and a working capital deficiency of R217.04-million (December 2016: R192.75-million).

Canyon Coal is an unlisted miner with three collieries in Mpumalanga-Hakhano and Singani, near Middelburg, and Phalanndwa, near Delmas. These opencast operations produce bituminous coal for domestic and export markets. Current production is about 3.60-million tons a year, which the company will increase to ten-million tons a year by 2020. Canyon is adding two Gauteng-based colliery projects to its portfolio of operational mines – the Ukufisa project, in Springs, and the Khanye project, in Bronkhorstspruit. Plans are at an advanced stage to bring Ukufisa and Khanye into operation by the end of 2017. Ukufisa has coal reserves of 170-million tons, including an extension project. The company plans to produce 500 000 t/m of coal over a 25-year life-of-mine. Canyon has not yet secured a CSA with State-owned power utility Eskom, but the firm believes the quality of coal and the mine's proximity to the utility's power stations make it an "ideal and cost-effective" supply option for Eskom. Other projects include the 118-million-ton De Wittekrans project, near Hendrina, in Mpumalanga, which previously belonged to now defunct Continental Coal.

Mining at De Wittekrans is planned to start in the first half of 2018, producing about 3.20-million tons a year of RoM coal. The Springfield project, in Gauteng, is expected to start opencast operations in 2019, producing about six-million tons a year of RoM coal over a life span of 50 years.

Coal of Africa Limited (CoAL) is a developer and producer of thermal and coking coal, with assets including the idled Vele colliery and the Makhado project in the vicinity of Musina, in Limpopo, as well as the newly acquired Uitkomst colliery near Utrecht, in KwaZulu-Natal. The company, which has proposed a name change to MC Mining, said in October 2017 that it was reviewing a potential second cash generating acquisition.

The Makhado project has been rescoped to a significantly smaller operation, producing between 1.70-million and 1.80-million tons a year saleable coal. In September 2017, the board approved the so-called Makhado Lite project which will cost between $90-million and $110-million to build, rather than $281-million previously estimated.

While Makhado is unlikely to generate cash flow during its preproduction phase over the next two to three years, CoAL in April 2017 announced the acquisition of the operational Uitkomst colliery from JSE-listed Pan African Resources for R275-million in cash and shares. The acquisition means CoAL has re-entered the market as a coal producer. For the year ended June 30, 2017, prior to the effective date of the acquisition, the Uitkomst colliery produced 508 510 t of coal, comprising 458 350 mined tons and 50 160 bought-in tons.

As part of CoAL's strengthening of its balance sheet, the company sold its Mooiplaats colliery, which has been on care and maintenance since 2013, to a consortium of investors for R179.90-million in October 2017.

The disposal of the thermal colliery situated in the Ermelo coalfields, adjacent to Eskom's Camden power station, is expected to yield operational cost savings to CoAL of $1.40-million a year.

IchorCoal is an international mining company with a focus on thermal coal production in South Africa. It forms part of Sapinda Holdings, which was founded by German entrepreneur Lars Windhorst. IchorCoal and Sapinda have agreed to convert all outstanding shareholder loans to equity and in June 2017 the first tranche of debt was converted, with 6.75-million shares having been issued to IchorCoal for €2.70-million. Soon after former ArcelorMittal South Africa CEO Nonkululeko Nyembezi-Heita joined IchorCoal as CEO in 2014, the company had publically announced its intention to become a midtier coal producer and had tried its hand at industry consolidation with an offer for Universal Coal, which failed to progress. IchorCoal is now selling its main assets, including the 74% stake that it holds in Vunene Mining, which operates the Usutu Colliery in the Ermelo coalfield of Mpumalanga, and its 74% interest in Penumbra Coal Mining, which it acquired from Continental Coal in December 2015. A sale agreement in respect of Vunene was concluded in August 2017. IchorCoal also owns a 45% interest in Mbuyelo Coal, which holds the Vlakvarkfontein, Manungu, Welgemeend and Welstand projects, in Mpumalanga.

No recent information on the operational or financial performance of IchorCoal is publically available.

Petmin is a multicommodity mining company that is focused on producing products that support the steel value chain, including metallurgical anthracite, which is produced at its Somkhele mine, in KwaZulu-Natal. In the 2016 financial year ended June, Somkhele produced 1.24-million tons of anthracite, compared with 1.34-million tons in the year before. The company's results for the 2017 financial year were not published, as Petmin was delisted from the JSE in June 2017, following a R617-million management buyout.

Tegeta Exploration and Resources was formed in 2006 to develop the mining assets of the Gupta-owned Oakbay Investments Group, but was sold to Swiss-based Charles King for R2.97-billion in August 2017, as the controversial family faced growing pressure over allegations of State capture. Tegeta's main assets are the Optimum and Koornfontein mines, in Mpumalanga, as well as the Optimum Coal Terminal at the RBCT. The company acquired these assets in 2015, when it bought Optimum Coal Holdings from Glencore for R2.15-billion. The Optimum mine supplies State-owned power utility Eskom's Hendrina power station and the Koornfontein mine supplies the Komati power station. Tegeta's dealings with Eskom are being subjected to an intensifying degree of criticism. Procedural issues relating to its coal contracts with Eskom have become the subject of several investigations.

In November 2017, it emerged that Tegeta had threatened to cut coal supply to the Hendrina power station, threatening power supply. Investigative news website Amabhungane reported that the company wanted Eskom to increase the amount that itpaid for coal. The mining firm has also reportedly been exporting coal, while it starved Eskom of supply it is entitled to. Newswire Reuters reports that Eskom had admitted on November 30 that coal stocks at its Hendrina power station were below the 20-day supply requirement.

Tegeta previously owned the Brakfontein coal colliery, but it has been transferred to another Gupta-owned company, Shiva Coal. In 2015, the Brakfontein colliery secured a deal to supply coal to Eskom's Majuba power station following executive changes at the power utility. Initially, the contract was for 65 000 t/m, but this was increased to 200 000 t/m. The Brakfontein CSA is worth R4-billion over ten years. Coal from the colliery has repeatedly failed quality assurance tests.

The Optimum mine was fined R2.18-billion for delivering substandard coal when it was still owned by Glencore. The penalty put Optimum into bankruptcy protection in August 2015 after Eskom refused to amend an unprofitable CSA. Tegeta and Eskom reached an arbitrated settlement of R577-million in April 2017, leading to questions about the substantial difference in the original fine compared with the settlement amount. Eskom's explanation is that installation of a crusher in 2010 resulted in a higher coal-quality rejection rate from Optimum than was justifiable, but that this had come to light only after several years of investigation.

A damning PricewaterhouseCoopers (PwC) report, commissioned by Eskom and reviewed by the National Treasury, shows that the Brakfontein mine started supplying coal to the power utility before Tegeta had cleared regulatory requirements, including a water-use licence and adequate infrastructure to test the quality of its coal.

Finance Minister Malusi Gigaba has ordered a forensic investigation into the company's dealings with Eskom. The PwC report deals with Tegeta's acquisition of Optimum Coal Holdings and its CSAs with the power utility.

Business rescue practitioner Piers Marsden testified in Parliament in November 2017 that Eskom had agreed to pay Tegeta almost R600-million in advance for coal on the same day it became clear that the Gupta-affiliated company was short of that same sum to purchase the Optimum mine. The former Public Protector in her 'State of Capture' report has described a prepayment for a CSA between Eskom and the Optimum mine as a potential violation of the Public Finance Management Act on Eskom's part and possibly fraud on Tegeta's part.

The Brakfontein CSA will also be investigated by the Special Investigating Unit, which will probe all Eskom's procurement contracts from 2007 onwards. No recent information on the operational or financial performance of Tegeta-owned mines is publically available.

Universal Coal has a portfolio of producing, development and exploration assets in Mpumalanga and Limpopo, including the operating 70.50%-owned Kangala and the New Clydesdale Colliery (NCC) Roodekop mine. The miner also owns 50.29% in the Brakfontein thermal coal project, in Mpumalanga, and two coking coal projects, Berenice/Cygnus and Somerville, in Limpopo.

The company started production at its first mine, Kangala, near Delmas, in February 2014 and became a multimine producer in September 2016, when its NCC mine, near Kriel, started operations. The Kangala operation has a CSA with Eskom.

he underground operations at NCC are mainly geared for the export market, while its opencast operations, which started in January 2017, are producing domestic thermal coal and metallurgical coal. NCC delivered its first product to Eskom in March 2017 and is expected to report nameplate capacity early in the 2018 financial year.

The two mines produced 4.42-million tons of RoM coal in the financial year ended June 2017, a 35% improvement on the 3.27-million tons of the previous financial year. Total coal sales increased by 47% to three-million tons, of which 2.60-million tons were sold to the domestic market and 400 000 t exported.

Universal plans to expand its Kangala operation and has bought a 29% interest in the adjacent Eloff project, which hosts a mineral resource of 242-million tonnes. The company's 49%-held subsidiary Universal Coal Development IV acquired the stake in July 2017 for A$4.35-million.

The miner reported revenue of A$149.30-million for the 2017 financial year (2016: A$97.58-million) and profit of A$4-million (2016: A$16.45-million).

Kangala Colliery

Picture by Duane Daws

Wescoal (including Keaton Energy) has expanded significantly in 2017, with the acquisition of Keaton Energy for R526.83-million. The acquisition, which was announced in February and concluded in July, gives Wescoal a coal resource of more than 230-million tons, as well as four operating mines and three processing plants in Mpumalanga. The combined RoM production from the group is expected to be more than six-million tons a year and revenues should exceed R3-billion.

The group has a medium-term ambition of producing eight-million tons a year of RoM coal. Wescoal mining division comprises the Khanyisa and Intibane collieries, near Ogies, as well as the Elandspruit colliery, near Middelburg. RoM production from these operations increased from 1.81-million tons in the 2016 financial year ended March to 3.37-million tons in the 2017 financial year. Group revenue increased from R1.59-billion in 2016 to R2.12-billion in 2017.

Keaton Energy published its full-year results to March 2017 before the Wescoal transaction was concluded. Keaton's Vanggatfontein near Delmas, sold 2.15-million tons of washed 2- and 4-seam thermal coal to Eskom in the 2017 financial year, down 4% on the previous year's production of 2.24-million tons. Sales of 5-seam metallurgical coal were 35 961 t, compared with 98 252 t in the previous year, reflecting a decision to use the plant for toll washing. Keaton's Vaalkrantz was on care and maintenance and has been classified as an "asset held for sale".

Wescoal reported in an October 2017 update that the integration of Keaton was progressing well.


Picture by Duane Daws

Wescoal has BEE ownership of at least 51%, which meets the State-owned power utility's black ownership demands. Wescoal has stated its intention to be a key player in the consolidation of the South African junior coal mining sector. The Keaton acquisition gives Wescoal a larger financial and operating base from which to pursue further acquisitions. CEO Waheed Sulaiman said in a Miningmxarticle in June 2017 that Wescoal was ready to expand the company quickly, pointing out that its BEE status placed it in a pole position to supply Eskom. The company has contracts to supply 7.80-million tons of coal to Eskom over a five-year period.

Alexkor targets Eskom coal supply agreement

State-owned diamond miner Alexkor will invest in a coal-washing plant in the Witbank-Middelburg area and use its relationship with Eskom to get a coal supply agreement, acting CEO Vimal Bansi said in the company's latest annual report.

According to financial daily Business Day, Bansi has said that Alexkor is negotiating with the owners of the coal plant who are keen to enter into a joint venture. The company is taking all steps to ensure the business model satisfies the Public Finance Management Act and Treasury regulations. Coal will be sourced from junior emerging miners.

Alexkor has battled to make profits from its on- and offshore licence area in the Northern Cape, which is now operated as a pool-and-share joint venture after a settlement agreement with the local Richtersveld community several years ago. It has been investigating other options to diversify activities.

Source: Business Day

Coal resource developers

Acacia Coal is an Australian junior focusing on anthracite projects in South Africa. Acacia has bought a 74% interest in Riversdale Anthracite Colliery (RAC) from Rio Tinto, with the balance to be held by a BEE partner. The RAC's product is well suited for use in South Africa's ferrochrome industry. Drilling and feasibility studies previously completed demonstrated the RAC project as a high-grade, low-impurity anthracite asset. In February 2017, Acacia announced a maiden resource statement for the RAC project, with an initial resource estimated to be nine-million tons of high-quality, low-sulphur and low-phosphorus anthracite. Subsequently, the firm undertook a ten-hole drill campaign to increase the confidence level of the resource. In April, an updated resource was announced, comprising ten-million tons of high-quality, low-sulphur and low-phosphorus anthracite in total resources in the Gus Seam, of which 86% were in the measured and indicated category. A prefeasibility study was completed in May 2017. The highlights of the study include that the RAC project will cost an estimated $24-million to build on an outsourced operational model, with sustaining capital of $7.85-million. RAC is forecast to generate an average 438 000 t/y of sales for an initial eight-year mine life.

Resource Generation (Resgen) is developing the Boikarabelo opencast mine in the Ellisras basin, in Limpopo. The mine's first phase is expected to produce six-million tons a year of saleable coal by 2020 and volumes are expected to increase to 12-million tons a year by 2022, when the second phase is completed. About 60% of the mine's production will be exported in terms of an offtake agreement with Indian power producers and 40% will be delivered to the domestic market.

The company is applying for an export entitlement either through the RBCT or the RBT Grindrod Terminals (RBTG). Boikarabelo will be connected to an existing rail system that will allow for access to domestic markets and the coal terminals of Richards Bay for export shipments using a 44 km rail loop link, which has to be built. The rail link will be built by RME, a subsidiary of Transnet Freight Rail.

Resgen is working on securing project financing to allow for the construction of the $545-million mine to start, but it has been a complex exercise as the project itself is the collateral. In the absence of traditional collateral to offer lenders, Resgen has to persuade them of the economic viability and completeness of the project. In August 2016, Resgen operating subsidiary Ledjadja Coal agreed on commercial terms with a financing syndicate, including FirstRand Bank, the Industrial Development Corporation, the Public Investment Corporation and Noble Resources. Lenders were expected to start their credit approval processes in mid-2017. However, in the absence of a CSA from Eskom some lenders have formally declined to process the credit approval process to a conclusion, which means that source of financing is no longer available.

Resgen is now working on securing alternative funding sources that are not linked to committed domestic coal supply. Frequent management changes at Eskom have been blamed for the delay in signing the CSA. The lenders with whom Resgen is now in negotiations are reportedly familiar with the project. In November 2017, Resgen reported that the lenders had completed their due diligence investigations and that they were engaged in their respective internal credit approval processes. Once those have been obtained, the parties propose to execute term sheets recording the principal terms of the proposed funding.

Resgen has received credit approval for the full funding of the rail link from the Development Bank of Southern Africa.

To expand the Boikarabelo project's economic base, a bankable feasibility study on a 600 MW independent mine-mouth power station is being fast-tracked to operate as an approved independent power producer (IPP). Environmental and land use approvals have been obtained for a 300 MW IPP. A provisional equity structure under which the Resgen and Ledjadja Coal, will have direct equity interests is under discussion.

Corporate activity

Anglo and Seriti Resources

The R2.30-billion sale of Anglo American's coal mines supplying power utility Eskom to Seriti Resources is 2017's largest deal in the local coal mining industry. The transaction was announced in April 2017. The Competition Commission has approved the deal and the Department of Mineral Resources (DMR) has sanctioned the transfer of mining rights from Anglo American to Seriti. By November 2017, the only outstanding condition was that Eskom had to approve the ceding of three CSAs from Anglo American to Seriti. The transaction is expected to be concluded by the end of 2017.

CoAL and Mooiplaats Coal Holdings (MCH)

In September 2017, CoAL entered into a sale of shares and claims agreement with MCH and Mooiplaats Mining, in terms of which the coal company and its BEE partner Ferret Mining & Environmental Services would sell its shares in the Mooiplaats thermal colliery, adjacent to the Camden power station, near Ermelo, for R179.90-million.

The MCH consortium comprises young black professionals, future Mooiplaats colliery employees, communities, To The Point Growth Specialists and experienced coal mining executives, including former Continental Coal CEO Don Turvey. The consortium is funded by the newly established Last Mile Fund created by Africa Rainbow Capital, Bernard Swanepoel, Sipho Nkosi and Clinton Halsey. CoAL embarked on a formal sales process for the colliery in 2013.

CoAL has said that it is reviewing the potential disposal of further noncore assets.

CoAL and Pan African Resources Coal Holdings (PAR Coal)

In April 2017, CoAL entered into an agreement with Pan African Resources to buy 100% of the shares in and claims against PAR Coal for R275-million. PAR Coal holds a 91% shareholding in the Uitkomst colliery, near

Utrecht, in KwaZulu-Natal, with the remaining 9% held by broad-based trusts and strategic entrepreneur's trust. The Competition Commission approved the transaction in June 2017, which is also the month in which the conditions precedent were fulfilled.

CoAL confirmed in September 2017 that it was reviewing a "second cash generating transaction", without providing further details. The company has previously expressed its ambition to consolidate the local coal sector. According to Miningmx, the company had planned to bid for Keaton Energy in a joint offer with Pan African Resources. Wescoal now owns Keaton Energy.

Keaton Energy and Wescoal

Coal miner and trader Wescoal made an offer for junior coal miner Keaton Energy in February 2017. The companies agreed in May to increase the aggregate scheme consideration from R525.59-million to R526.83-million, comprising a cash component of R351-million and 87.80-million shares. The transaction excluded Keaton's assets – Leeuw Mining and Exploration, and Amalahle – marked for disposal. The transaction gained approval from both companies' shareholders, as well as the Competition Commission in June and was declared unconditional. Wescoal believes the South African coal market is ripe for consolidation, as the market requires substantial investment and recapitalisation to meet domestic and export requirements. The group has stated its intention to play a significant role in consolidating the junior coal mining sector.

Petmin and Bidco

Petmin's principle business is the mining of anthracite coal, as well as smaller volumes of thermal coal, from its Somkhele mine, in KwaZulu-Natal. The company delisted from the JSE in June 2017, as newly incorporated public company Bidco's acquisition of all of Petmin's shares became unconditional. Bidco made two separate but concurrent offers, comprising the scheme and the standby offer in December 2016, to acquire all or a portion of the Petmin shares in issue, excluding the Petmin shares held by Petmin's subsidiaries.

Bidco will be operated by current Petmin management, while board representatives from leading, midmarket private equity business CapitalWorks will also be appointed.

Tegeta Exploration and Resources and Charles King

Oakbay Investments, which is owned by the politically connected Gupta family, announced in August 2017 that it was selling Tegeta Exploration and Resources to Swiss-based company Charles King, for R2.97-billion. Tegeta is at the centre of former Public Protector Thuli Madonsela's State of Capture report, which found irregularities in its dealings with State-owned power utility Eskom.

The sale is subject to regulatory requirements and fulfilment of conditions in the agreement, which is expected to be completed within 12 months. The DMR has welcomed the transaction.

Tegeta Exploration and Resources, Vitol Group and Burgh Group

Global oil trader Vitol and South Africa's Burg Group in July 2017 walked away from a deal to buy a stake in the Richards Bay Coal Terminal (RBCT) from Tegeta Exploration and Resources. The deal, which Bloomberg News first reported on in September 2016, would have resulted in Vitol and Burgh acquiring the Optimum Coal Terminal from Tegeta, giving the consortium a 7.61% in RBCT and the rights to ship about eight-million tons a year of coal.

Universal Coal and Elof Mining Company (EMC)

Universal Coal has acquired a 29% interest in EMC, which holds two prospecting rights near Delmas, in close proximity to the miner's existing Kangala operation, in Mpumalanga. Universal bought the initial interest in EMC through UCDIV, which is owned by Universal (49%) and Ndalamo Resources (51%), for AR4.35-million. UCDIV is the 100% beneficial owner of Universal's New Clydesdale Colliery.

Selected coal mining projects

Belfast – Exxaro Resources

Exxaro Resources' Belfast project, in Mpumalanga, contains measured mineral resources of 83-million tons. The first phase of the R3.20-billion project entails the development of a new greenfield openpit coal mine, including a coal handling and preparation plant. At full capacity, the mine will deliver 2.70-million tons a year of thermal coal, comprising 220-million tons a year of A-grade thermal coal and 500 000 t/y of lower-grade Eskom coal. The life-of-mine (LoM) is 17 years. The project is scheduled to be commissioned by 2019, depending on the progress with a rezoning objection. Should a rezoning appeal be heard this year, construction is expected to start before the end of 2017.

Boikarabelo – Resource Generation

The Boikarabelo project in the Waterberg coalfield of Limpopo, is being developed by Resource Generation.

The project has a coal resource of 995-million tons. The mine will be developed using a two-phased approach to limit upfront capital expenditure.

The first phase will deliver about 15-million tons a year of RoM coal, which will equate to about six-million tons of product coal. Of this, about 3.60-million tons will be exported and about 2.40-million tons will be used domestically. Phase 2 will involve ramping up production to 12-million tons of product thermal coal. Phase 1 construction will start once project funding is secured and is currently targeted for the first quarter of 2018. Commissioning is set to occur in the second quarter of 2020 with first coal deliveries scheduled for mid-2020.

Brakfontein – Universal Coal

The project is located in the Delmas district, about 20 km from the Kangala colliery, in Mpumalanga. Universal Coal owns 50.29% of the project with the potential to acquire up to 74%.

The project has a mineral resource of 75.80-million tons. The project hosts bituminous coal that will have to be beneficiated to produce saleable products. A single thermal coal product for domestic power generation, produced at a wash density of 1.80, is considered to be the most economic. The project has received all licences required for development and is currently subject to detailed mine development and offtake discussions. Brakfontein is expected to contribute 1.20-million tons of saleable product to the company's revenue. The project will be integrated with existing infrastructure and excess capacity at the Kangala operation.

Grootegeluk 6 Phase 2 (GG6) – Exxaro Resources

GG6 is situated in the Waterberg and is the largest capital project in Exxaro's five-year, R20-billion capital expenditure programme. The R4.80-billion project was approved in the first quarter of 2017. GG6 will produce 1.70-million tons a year, with first production of semisoft coking coal expected in the company's 2020 financial year. The project will provide Exxaro with additional export volumes and more power station coal. The company has committed to a take-or-pay arrangement with Transnet.

Exxaro will spend R1.30-billion on a 12-million-tonne-a-year rapid load-out station in the Waterberg, which is scheduled to be operational in the first half of 2019. This will enable Exxaro to load 200-wagon trains within three to four hours. A ten-year agreement with Transnet allows for 7.80-million tonnes of export coal to be transported, of which three-million tonnes will arise out of the Waterberg once all the region's projects have ramped up.

Grootegeluk truck and shovel

Picture by Exxaro Resources

Impumelelo – Sasol Mining

The Impumelelo colliery, near Secunda in Mpumalanga, forms part of Sasol's R14-billion coal replacement programme. The Impumelelo colliery will replace the Brandspruit mine and involves the construction of an 8.50-million-ton-a-year mine, which is upgradeable to 10.50-million tons a year. The coal will be delivered to the Sasol Synfuels complex using a conveyor. Phase 1 of the Brandspruit project was completed in June 2016, while Phase 2 is on track for completion in June 2019. The project cost is estimated to be R4.60-billion.

Klipspruit Life Extension (KPSX) – South32

The R4.30-billion KPSX project is an expansion of the Klipspruit mine, near Ogies, in Mpumalanga. Klipspruit, which produces coal for the export market, will reach the end of its life in 2019 and the project will extend that to 2037. South32 announced a positive investment decision in November 2017. Development activity at KPSX is expected to begin before year-end, with first coal from the opencast operation in 2019. The investment is expected to generate an internal rate of return of more than 20%, by releasing 616-million tonnes of coal resource at the Klipspruit South and Weltevreden deposits, as well as fulfilling half of the company's current rail obligations with State rail enterprise Transnet. Besides export tons, the project could also deliver longer-term domestic market options. It is located near the new Kusile power station, for which Eskom has not yet signed a CSA. South32 was compelled to take the DMR to court in 2017 to obtain permission to incorporate ground it already owned within the Klipspruit mining right, after having faced two years of delays in obtaining the approval.

Leeuwpan Life Extension – Exxaro Resources
The Leeuwpan Life Extension project, in Mpumalanga, is in the implementation and construction phase, with completion scheduled for the second quarter of 2018. The project entails the development of an opencast mine with a seven-year LoM, producing 2.70-million tons a year of thermal and metallurgical coal for the domestic and export markets. Exxaro plans to spend R522-million on project.

Mafube – Exxaro Resources and Anglo American
The project is located east of Middelburg, in Mpumalanga, and is a 50:50 joint venture between Exxaro Resources and Anglo American. The project has a measured resource of 133.60-million tons and an indicated resource of 10.10-million tons. It entails building a 3.10-million-ton-a-year opencast mine to deliver thermal coal for the domestic and export markets. Exxaro gave final approval for the R1.90-billion project in November 2016. Construction is under way and is expected to be completed in mid-2018.

Makhado – Coal of Africa Limited
Makhado is CoAL's flagship project, containing 344.80-million mineable tons. The company has downscaled the project, announcing in September 2017 that the board had approved a so-called Makhado Lite version. The revised plan lowers production to 1.70-million tons a year of saleable coal, comprising 700 000 t/y to 800 000 t/y of hard coking coal and 900 000 t/y to one-million tons a year of export-quality thermal coal. This compares with a previous feasibility study estimate of 5.50-million tons a year of thermal and hard coking coal. The timeframe for the construction phase was brought down from 26 months to 12 months, and the peak funding to develop the operation was reduced from \$281-million, or \$406-million before foreign exchange fluctuations, to between \$90-million and \$110-million with a project payback period of four years. The project adjustment is largely as a result of CoAL keeping its Vele colliery on care and maintenance and the recognition that the recently acquired Uitkomst colliery will provide only limited cash flow. The Makhado Lite project has the requisite regulatory approvals and the company is working to secure access to two key properties that allows it to complete the confirmatory geotechnical work required before construction will start. This is expected to be completed by late in the first half of 2018 or early in the second half, with construction set to follow in the first half of 2019.

Moabsvelden – Wescoal (Keaton Energy)
The Moabsvelden project near Delmas, in Mpumalanga, now forms part of Wescoal, after the company acquired Keaton Energy in June 2017. Keaton had envisaged building a mine to produce 1.07-million tons a year of coal to supply Eskom. The plan is to eventually integrate Moabsvelden into the nearby Vanggatfontein mine, with the combined operation producing four-million tons a year. By the time Keaton was bought out by Wescoal, it had not yet secured a CSA with Eskom. The project is fully permitted having secured an integrated water-use licence, a mining right and environmental authorisation. Wescoal reported in October that "project development work is progressing as a short-term objective and is on track to be completed in January 2018".

Shondoni – Sasol Mining
The project involves the construction of a new mine to replace output from Sasol's mature Middelbult coal mine, which is nearing the end of its useful life. The extractable reserves at Shondoni are estimated at about 190-million tons, which translates into an operating life of 20 years. The mine is expected to produce 9.20-million tons of coal a year and use a 21-km-long conveyor system to transport the coal to Sasol Coal Supply. Phase 1 of the project was completed in August 2016 and Phase 2 was scheduled to be completed in September 2017. The project has an approved budget of R5.50-billion and is expected to be completed within budget at R5.20-billion.

Thabametsi – Exxaro Resources
The first phase of the R2.80-billion Thabametsi thermal coal mine, near Lephalale, in Limpopo, is under way. At full capacity, Phase 1 will supply about 3.90-million tons a year, with first production expected in 2020. The mine will supply the associated power station, which has been selected as a preferred bidder in the first window of the coal baseload IPP procurement programme. The project has a measured resource of 270-million tons and an indicated resource of 749-milion tons.

Waterberg coal project (WCP) – Sekoko Resources
Unlisted black-owned mining investment firm Sekoko Resources is hoping to revive the WPC. The company owns a 30% stake in the WPC and an interest in the Waterberg Coal Company (WCC), which is now delisted from the ASX and JSE and considered a shell. Mining news website Miningmx reports that Sekoko plans to scale down the WCP, spending R300-million to build Phase 1, which will entail supplying 600 000 t/y to Eskom. The company plans to use the cash flow from supplying Eskom to develop an export product. The original WCP entailed a four-million-ton-a-year export component, ten-million tons a year of supply to Eskom's Majuba power station and an IPP component, which would have used any surplus or waste coal mined from the export and Eskom projects for power generation. The WPC is a JV between WCC, which was previously the lead partner, Firestone Energy and Sekoko Resources.

Local sales

Although less carbon-intensive energy sources, such as wind and solar power, have entered the South African energy space and are making inroads, coal remains a vital part of the energy mix.

Coal currently provides for the majority of South Africa's primary energy needs. Of the average of 180-million tons that is sold into the domestic market each year, 53% is used for electricity generation, 33% for petrochemical production by Sasol, 12% for metallurgical industries and 2% for domestic heating and cooking.

The domestic coal mining industry is dependent on power utility Eskom. The State-owned firm operates 13 coal-fired power stations and is building two new ones. Its coal-powered generation capacity is about 36 400 MW, excluding the Medupi and Kusile power stations that are under construction. Faced with a newfound capacity surplus, Eskom, however, is considering the accelerated decommissioning of five coal-fired power stations: Camden, Grootvlei, Kriel, Hendrina and Komati, which will have an impact on its coal consumption.

Eskom's supply woes of recent years have led to decreased electricity production and sales and, thus, lower coal consumption.

The utility burned 125-million tons of coal in 2008, compared with 114-million tons in 2016.

Large coal mining companies, including Anglo American South Africa, Exxaro Resources, Glencore and South32, control the majority of sales to Eskom. These companies generally have long-term, fixed-price and cost-plus contracts with the utility. An "emerging miner" strategy is being pursued and now demands that Eskom coal suppliers be 51% black owned. The major suppliers, none of which meets this requirement, are generally protected from the ownership demands by long-term contracts.

Eskom's coal purchases have become the subject of several investigations

Picture by Duane Daws

The parastatal is paying more for coal from small mines than for product from the large Eskom-tied mines that were purpose built to supply power plants. Smaller mines incur transport costs and sometimes the quality of coal is not up to specification. Financial daily Business Day reports that a 3 600 MW power plant requires a 30 t coal delivery every minute of the day, making supplies from small miners a logistics problem.

Statistics by the Department of Mineral Resources, cited by the Chamber of Mines in its 'Facts and Figures 2016' report, show that domestic sales earned the coal mining industry significantly more in 2016, than ten years ago. The total value of domestic sales in 2016 surged to R61.49-billion (181.43-million tons sold), compared with R16.25-billion in 2006 (117.05-million tons sold).

Eskom's coal purchases have become the subject of several investigations and inquiries following serious allegations of corruption and maladministration. Public Enterprises Minister Lynne Brown has referred all Eskom's procurement contracts, including its coal contracts, to the Special Investigation Unit for investigation. Contracts from 2007 onwards will be probed. The investigation has been sparked by concerns raised about the contract that Tegeta Exploration and Resources has to supply Eskom coal from its Brakfontein mine.

Much of the focus at Parliament's Public Enterprises Portfolio Committee inquiry into State capture, held in late October, focused on Eskom's coal contracts. For the hearing, research professor Anton Eberhard compiled the Eskom Inquiry Reference Book with Catrina Godinho at the University of Cape Town's Graduate School of Business. The reference book notes that Eskom's average coal costs are now close to R400/t, up from R190/t in 2011. Eberhard argues that burgeoning coal costs have led to electricity tariffs increasing by more than 400% over the past decade.

Besides Eskom offtake, two new independent power producer (IPP) coal-fired plants are in the pipeline – the 557.30 MW Thabametsi project, in Limpopo, and the

306 MW Khanyisa project, in Mpumalanga. The Coal Baseload Independent Power Producer Procurement Programme aims to procure 2 500 MW. The balance of the allocation will follow at a later stage.

Future demand for domestic coal sales depend on the electricity generation path that South Africa adopts. The country is updating its long-term electricity plan. In November 2016, the Department of Energy published a draft updated Integrated Resources Plan (IRP), the least-cost route (base case) of which calls for 15 000 MW of new coal capacity by 2050.

In terms of the IRP, coal will remain a significant part of the mix until the mid-2030s. The base case lowers the contribution of coal to the energy mix in terms of installed capacity from about 70.95% in 2016, to 44% in 2030 and 18.85% in 2050. In terms of energy contribution, coal's share will fall from 81.70% in 2016, to 68.98% in 2030 and 31.60% in 2050.

The IRP document explains that a higher share of installed capacity for each technology does not necessarily result in a higher share of energy contribution for that technology.

Coal and nuclear technologies contribute the most to the energy share and are referred to as baseload options with load factors above 85%, whereas gas is considered midmerit with lower load factors.

Power utility Eskom has warned that should coal-fired power station capacity be displaced, it would have many interrelated impacts. "A reduced requirement for coal will directly affect the coal industry, impacting on the livelihood of communities and mines in areas surrounding affected power stations. The full impact has not been quantified but could have a significant impact on an already distressed economy," the electricity generating company states in its 2017 integrated report.

Coal currently provides for the majority of South Africa's primary energy needs

Picture by Duane Daws

Coal exports

World's largest thermal coal exporters (in million tonnes)					
	2015	2016	2017 f	2018 f	2019 f
Australia	202	202	199	199	199
Colombia	81	82	82	84	88
Indonesia	366	369	374	367	354
Russia	133	144	151	153	155
South Africa	77	75	76	76	78
US	25	18	33	27	25

Source: Australian Department of Industry, Innovation and Science September 2017)

f – forecast

South Africa is the world's fifth biggest thermal coal exporter, after Indonesia, Australia, Russia and Columbia. South Africa exported 75-million tonnes in 2016, down about two-million tonnes on the 77-million tonnes exported in 2015. The country's exports are overshadowed by Indonesia, which exported 369-million tonnes and Australia, which exported 202-million tonnes in 2016.

Most of the exported coal goes through the Richards Bay Coal Terminal (RBCT), situated in KwaZulu-Natal, with only a small percentage of exports going through the Richards Bay and Durban harbours, also in KwaZulu-Natal, and through Mozambique. The RBCT exported a record 75.40-million tons of coal in 2015, but this fell to 72.50-million tons in 2016. The terminal has set an export target of 77-million tons for 2017.


Richards Bay Coal Terminal

Picture by Duane Daws

Two-thirds of South Africa's coal exports are sent to destinations in the Far East, with India being the most important market. The country accounted for 55% of South Africa's coal exports in 2016.

The Indian government has declared that it will strive for thermal coal self-sufficiency and that imports will be reduced to zero over the next few years. State-owned Coal India Limited (CIL) is chasing a one-billion-ton-a-year production target by 2020 and has been instructed to commit assured supply to all privately owned power producers, which have built their power stations based on imported feedstock.

Mining Weekly reports that government-owned and -operated power companies in India have to achieve 'nil imports' of coal by March 2018. Many commentators, including the Indian government's policymaking advisory body, are critical of the production target that has been set for CIL.

India's self-sufficiency push is twofold – one is to raise domestic coal production and the other is to increase the efficiency of coal use. In 2016, South Africa gained some market share from Indonesia in sales to India, as power utilities required more coal with a higher calorific content. Australia's Office of the Chief Scientist forecasts that a shift towards the use of more supercritical power stations, which require higher grades of coal to operate at maximum efficiency, should benefit South Africa and Australia, both of which are producers of coal with high calorific value.

After Asia follows Europe as the second-largest regional market for South African coal and then Africa, the Middle East and the Americas.

Africa is forecast to become an increasingly important export market for South Africa over the next decade-and-a-half. Noble Group's head of energy coal analysis, Rodrigo Echeverri, expects Africa to become the largest export market by 2030. South Africa's current coal export of four-million tons a year to Africa is expected to expand to 38-million tons by 2030. Demand from the Middle East is also forecast to rise sharply, from about four-million tons in 2016 to 26-million tons a year by 2030. The increasing African and Middle Eastern demand is forecast to erode exports to India and Pakistan.

According to a February 2017 Fin24 article, Echeverri based his calculations on the probability that another 20 000 MW of power projects would be commissioned in Africa over the timeframe. The forecast excludes demand from the cement industry.

However, many commentators are sceptical about South Africa's ability to increase its exports to 80-million tons over the next 10 to 15 years, despite Transnet Freight Rail's (TFR's) investment in its coal line and the RBCT's 91-million-ton-a-year export capacity.

Financial Mail cites Rand Merchant Bank business development director for resources, Henk de Hoop, as saying that infrastructure capacity constraints are less of an issue for the expansion of South Africa's coal exports than they were before. In the recent commodities boom, South Africa's coal producers were unable to take full advantage of high prices because Transnet could not rail expanded volumes to the RBCT.

Underinvestment by coal miners, largely as a result of policy developments, is more likely to hamper coal exports. One policy development of particular concern pertains to the restriction of the export of strategic minerals, such as coal. In accordance with the Mineral and Petroleum Resources Development Amendment Act, the Mineral Resources Minister will be able to designate certain minerals as strategic so that they can be used for local beneficiation. This will require producers to offer a certain percentage in prescribed quantities, qualities and timelines at the mine-gate price, or at an agreed price. No exports will be allowed without Ministerial approval. However, there is concern about the constitutionality of such a declaration, as it could be argued that restricting exports is tantamount to an expropriation of income. President Jacob Zuma has referred the Bill back to Parliament, partly owing to reservations about the constitutionality of the provision, but these concerns have been rejected by the National Council of Provinces. The Bill is expected to be passed in Parliament by December 2017.

Coal beneficiation plant

Picture by Creamer Media

Coal logistics

Road transportation

Of the 120-million tons of coal a year that Eskom buys from coal miners, 60% is transported by conveyor, 30% by road and 10% by rail. The utility transports about 40-million tons a year of coal.

Eskom has contracts with 58 transporters to deliver coal to its power stations. The utility cancelled transportation agreements with six companies in February 2017 after an investigation showed that these freight companies had introduced additional trucks into the coal road transportation system.

The utility has four-year contracts in place with these coal transporters. The contracts will come to an end in March 2018.

The Coal Transportation Forum has raised its concern about the impact that the introduction of more renewable-energy power to the grid will have on coal transportation jobs. The forum marched on the Union Buildings in February demanding that President Jacob Zuma reverse an announcement to conclude outstanding renewable-energy independent power producer contracts. The forum argues that thousands of jobs will be lost if less coal is transported by road.

In March, the forum approached the High Court in Pretoria to interdict government from implementing the renewable-energy plans.

Eskom is pressing ahead with a strategy to reduce the number of trucks that are required to transport coal to power stations. However, an element of road haulage will always be involved in transporting coal for power stations, owing to the flexibility that it provides.

Migrating Eskom coal from road to rail will reduce the fatalities on South Africa's roads and reduce damage and congestion.

The 2017 National Budget allocated R2.40-billion for upgrades and maintenance to the country's coal haulage roads.

Rail transportation

State-owned Transnet Freight Rail (TFR), a division of Transnet, is the custodian of the county's rail infrastructure. TFR operates a dedicated railway line that handles coal exports by connecting mines in the Waterberg, in Limpopo, and operations in Mpumalanga with the Richards Bay Coal Terminal (RBCT), in KwaZulu-Natal.

Thirty per cent of coal is transported by road

Pic by Duane Daws

TFR increased its volumes on the coal line by 2.40% from 72.10-million tons in 2015/16 to 73.80-million tons in the 2016/17 financial year to March.

The coal line achieved a record 7.22-million tons in September 2017, surpassing a record of 7.14-million tons achieved in the preceding month. This has culminated in export coal achieving the highest midyear record of 37.80-million tons.

Transnet export coal rail volumes

2013	2014	2015	2016	2017
69.20 Mt	68.10 Mt	76.3 Mt	72.10 Mt	73.80 Mt

Source: Transnet
*Mt – million tons

Transnet is expanding its capacity on the coal export channel by increasing initial capacity on the corridor to 81-million tons a year and, thereafter, to 97.50-million tons a year. In the financial year to March 31, 2017, R145-million was invested in the coal line expansion to 81-million tons a year, including the upgrade of yards, lines and electrical equipment.

TFR completed the Stage 1 expansion of the coal line between the Waterberg and Richards Bay in 2016. This phase involved the construction of a 1.8-km-long passing loop at Matlabas, enabling 100-wagon trains to cross without disrupting the operation of other trains on the line. Following the completion of this expansion, Exxaro in October 2017 signed a ten-year coal export transportation agreement with TFR, which enables the mining company to continue with its Grootgeluk 6 Phase 2 expansion project, in the Waterberg. The agreement between Exxaro and TFR will allow for 7.80-million tons of export coal to be transported, of which three-million tons will come from the Waterberg once all the projects are ramped up.

The Stage 2 expansion of TFR's Waterberg programme is under way and will increase export rail capacity from two-million tons a year to six-million tons a year through incremental upgrades of the existing rail networks and using additional loops. This phase will be completed in March 2019.

TFR is working on a potential expansion to double the Waterberg capacity to 12-million tons a year by about 2020. Beyond 2020, Transnet could expand the capacity of the line to 24-million tons a year if there is sufficient demand. However, a new line will be needed to accommodate more than 24-million tons a year.

The Swaziland Rail Link project, which entails a rail line between Lothair, in Mpumalanga, and Sidvokodvo, in Swaziland, has implications for coal exports, as it is designed to relieve pressure on the Ermelo–Richards Bay line.

The line will relieve the corridor of almost all its general freight (about 15-million tons to 17-million tons a year), which will align the rail network with the coal-handling capacity at RBCT. This should facilitate an increase in exports, initially from the Mpumalanga coal mines, but progressively from the Waterberg, in Limpopo, and eventually also from neighbouring Botswana.

The SwaziLink feasibility study has been completed and the project will be taken to investors by the end of 2017.

Transnet reports in its 2017 annual report that demand for coal transportation for Eskom power generation is unlikely to be affected in the short to medium term, as South Africa is locked into coal-powered generation. However, coal exports could be affected negatively before 2020.

Export Terminals

The privately owned RBCT is situated in the deep-water port of Richards Bay on the north-eastern coastline of South Africa. The terminal is owned by large, medium and small coal mining companies.

The terminal has a nameplate capacity of 91-million tons a year and preliminary research has been done on a further expansion (Phase 6) to 110-million tons a year, although there are no immediate plans to approve such an expansion. Four-million tons of capacity under the Quattro banner is allocated to junior miners.

The 40-year old RBCT is in the midst of a R1.40-billion equipment-replacement project, which will be completed in January 2018.

RBCT exported well below its nameplate capacity in 2016, with 72.57-million tons of coal leaving the facility in 2016, compared with 75.38-million tons in 2015. RBCT has set an export target of 77-million tons for 2017.

Exports under the Quattro scheme are falling well short of the four-million-ton-a-year entitlement that junior coal miners have. In 2015, exports amounted to 2.20-million tons and in 2016 to only 1.80-million tons. The RBCT is reallocating the unused export volumes to other existing Quattro members and to potential new members. It is understood that emerging coal miners are funnelling exports through traders instead of directly through Quattro.

Richards Bay Coal Terminal export volumes				
2012	2013	2014	2015	2016
68.34 Mt	70.23 Mt	71.29 Mt	75.38 Mt	72.27 Mt

Source: Richards Bay Coal Terminal
Mt – million tons

In January 2017, RBCT listed its owners as: Anglo Operations, ARM Coal, South32, Exxaro Coal, Exxaro Coal Mpumalanga, Exxaro Coal Central, Glencore Operations South Africa, Kangra Coal, Koornfontein Mines, Optimum Coal Terminal, Sasol Mining, South Dunes Coal Terminal, South African Coal Mine Holdings, Tumelo Coal Mines and Umcebo Mining.

A significant ownership change that was mooted in the past year, revolves around the Optimum Coal Terminal, which has a 7.50% stake in the RBCT. A consortium comprising Burgh Group and Vitol in 2016 proposed to acquire the entitlement, which Tegeta Exploration and Resources gained through the controversial deal to take Optimum Coal Holdings out of business rescue.

Miningmx reports that existing members of the RBCT were uneasy about the prospect of Vitol taking a stake in the terminal because they held pre-emptive rights over the purchase of export quotas from other members.

Members were also understood to be opposed to Vitol becoming a member because it was a pure trading company without operating mines in South Africa. In July 2017, Vitol withdrew from the proposed transaction.

In August 2017, Tegeta was sold to Switzerland's Charles King for R2.97-billion.

Besides the RBCT, coal is also being exported through Transnet Port Terminals' Richards Bay multipurpose terminal, which shipped 1.40-million tons in the 2016/17 financial year to the end of March.

RBT Grindrod (RBTG), a joint venture (JV) between black-owned RBT Resources (50.10%) and JSE-listed Grindrod (49.90%), also provides coal export facilities. The JV has existing capacity of 3.20-million tons through the Navitrade terminal, but this will be increased to 4.50-million tons a year in the short term and potentially to 20-million tons a year in the long term. No specific dates have been provided for the expansions.

RBTG coal terminal will also develop an inland coal hub to allow junior miners to consolidate their volumes to enable those with low production volumes to access export markets and to exploit economies of scale as a collective.

The RBTG terminal increased its coal contracted capacity to 2.90-million tons a year by June 30, 2017, which is a 47% improvement on 2016's contracted capacity. Grindrod has stated in its interim report that it is working with TFR to optimise rail resources and berth capacity.

Grindrod also owns and operates the Matola coal and magnetite terminal in Mozambique, which exports South African coal. The terminal was recently expanded and now has an export capacity of 7.50-million tons a year. A further expansion to 20-million tons a year is in a feasibility study stage. In the first half of 2017, the Matola terminal improved its capacity utilisation with throughput of 2.70-million tons a year, which equates to 73% capacity utilisation. This compares with capacity utilisation of 30% in the first half of 2016.

Picture by Duane Daws

Labour

The South African coal industry provided direct employment to 77 506 people in 2016, representing about 17% of total employment in the mining sector.

The country's coal mines are among the safest in the world, according to the Chamber of Mines, but has not yet achieved the mining industry's target of "zero harm". In 2016, four people died in coal mines, compared with 2015's five deaths. In the first three months of 2017, two fatalities were reported.

Overall, the South African mining industry reported 73 fatalities in 2016, compared with 77 during 2015 and 83 in 2014.

Occupational diseases reported by the coal sector reduced by 4% in 2016, according to statistics provided by the Department of Mineral Resources.

The South African coal sector has been using a centralised bargaining system for wage negotiations under the auspices of the Chamber of Mines (CoM), although coal producers have indicated that they want to shift to a decentralised system.

Wage negotiations

When the process of central collective bargaining started several years ago, the premise was that it would produce generally similar settlements so that employees in the same categories would have fairly similar terms and conditions of employment across the industry.

Over time, however, the coal wage agreements have increasingly reflected different settlement levels between coal companies. Business circumstances and financial positions differ between coal companies and this is demonstrated by wage agreements and substantive employment conditions in place across the local coal sector.

In January 2017, the CoM announced that they would not be negotiating wages under a centralised bargaining system and that coal producers, instead, would discuss wages on a mine-by-mine basis. The move angered unions, with Solidarity accusing the CoM and coal mining companies of negotiating in bad faith, while the National Union of Mineworkers (NUM) threatened to call a strike.

A number of coal miners agreed to conduct centralised negotiations under the auspices of the CoM in June. These included Anglo American Coal, Delmas Coal, Exxaro Coal Mpumalanga, Kangra Coal, Koornfontein Mines and Glencore.

By October, Solidarity reported that the offer from the CoM was favourable and that the offer was conducive to industry stability. The wage offer ranges from 5.50% to 7.50% and involves a 7.50% wage increase at the Anglo Coal, Exxaro and Glencore mining houses, a 7% increase from Kangra and a 5% increase at Delmas Coal and Msobo. Provision has also been made for an increase in housing and travelling allowances and the union has negotiated four months of maternity leave for female employees.

The NUM signed a three-year wage agreement with coal producers in November averting a sector-wide strike. The agreement is effective from June 1 for officials and July 1 for lowest paid workers at the mines participating in the CoM wage negotiations, with the exception of Koornfontein Mines, which will be implemented from July 1 and Delmas Coal, which will implement the agreement on July 1 for all employees.

The wage agreement includes salary adjustments ranging from 5% to 7.5% for different category employees. Kangara Coal, however, was unable to agree to the terms signed by the other coal producers, which resulted in the NUM calling a strike at the coal mine.

Exxaro's Grootegeluk and Leeuwpan mines negotiated wage increases directly with unions, while the group's other mines are housed in Delmas Coal and Exxaro Coal. The NUM embarked on a nine-day strike at Grootegeluk and Leeuwpan before a three-year wage agreement was reached in September. Solidarity has also signed a three-year wage agreement with the two mines.

Exxaro did not disclose the terms of the agreement, but the NUM and Solidarity said that the parties had agreed on increases of 10%, 8.50% and 7.50% for 2017, and 7.50% for 2018 and 2019 respectively. The company also agreed to increase the housing and on standby allowances, while adjustments were made to family responsibility leave.

Environmental considerations

The coal industry has been in environmentalists' sights for decades, as the combustion of coal results in the emission of various harmful gases and particulate matter into the atmosphere and also produces a significant amount of waste. The mining activities associated with the extraction of coal also have dire consequences for the environment.

As more smaller coal mines (with shorter life spans) are opening to benefit from Eskom's emerging miner strategy, new areas area being targeted for operations, posing a substantial threat to wetlands and farmland.

Ten years ago, six companies accounted for more than 90% of South Africa's production and eight collieries mined more than 60% of the country's coal. In 2006, 93 mines produced all of the country's coal and by 2016, this number had increased to 148 mines, although production rose by only 10%.

Citing the Department of Environmental Affairs, the Star newspaper reported in March 2017 that more than 60% of Mpumalanga falls under applications for rights to either mine or prospect or coal. In 2013, prospecting rights covered 25.40% of the province's wetlands, 32.20% of its freshwater priority areas and 41.80% of its grasslands.

Indian-owned Atha-Africa Ventures has been given approval to build a coal mine in the Mabola Protected Environment, outside Wakkerstroom, in Mpumalanga. Comprising mostly of wetlands, pans and grassland, the area is a source of four major rivers – the Tugela, the Vaal, the Usutu and the Pongola. These rivers provide water to a significant number of downstream water users, who will be affected if the sources of those rivers are compromised.

The Department of Mineral Resources granted Atha-Africa a mining right in 2015, shortly after the declaration of the protected area by the Mpumalanga government. Since then, Atha has received licences and approvals from the Mpumalanga Environment Department, the Department of Water and Sanitation, and Environmental Affairs Minister Edna Molewa. A coalition of eight civil society and community organisations launched proceedings in the Pretoria High Court in June 2017 against the company, asking the court to stop any activities inside the Mabola protected area.

A shift to smaller coal mines is also impacting on mine rehabilitation as these mines are more likely than larger sites to close or be abandoned. South Africa is estimated to have about 6 000 abandoned mines spilling acid water and heavy metals into the environment, despite environmental and water legislation requiring effective mine closure.

Coal miners and the carbon tax

The proposed carbon tax that the South African government intends implementing at the end of 2017 or in early 2018 will have implications for the mining industry, including the coal sector. The draft carbon tax Bill, published in November 2015, calls for an initial marginal carbon tax of R120/t of carbon dioxide produced.

The introduction of the carbon tax is expected to add about 10% in costs to the metal and mining industry, which companies have warned could discourage investment, limit growth and dampen job creation. Concerned parties argue that the cost positioning of the country's coal export sector will be threatened by reductions in coal project valuations by as much as 30%, which will, in turn, threaten that sector's competitiveness by 7%, compared with larger country producers.

Professional services firm Accenture, has calculated the impact of the carbon tax on the mining industry and has found that the tax is likely to result in a $187.50-million earnings before interest, tax, depreciation and amortisation (Ebitda) loss across the mining industry. Diversified miners will experience the greatest impact, at $119-million, followed by the gold sector at $39.60-million. The impact on the coal industry, according to Accenture, is an Ebitda loss of $2.60-million, or an Ebitda margin loss of 0.6%.

Source: Accenture

Coal major Exxaro Resources states that legislative changes with regard to the emission of greenhouse gases are becoming more onerous as government implements the Paris Agreement, under which South Africa takes a peak, plateau and decline approach to emissions.

The miner makes specific reference to the successful legal proceedings by Earthlife Africa to set aside the environmental authorisation of Exxaro's proposed 600 MW Thabametsi coal-fired power station, in Limpopo. The power station is owned by a consortium including Japan's Marubeni – which is the lead developer – as well as Kepco, diversified miner Exxaro

Resources, Royal Bafokeng Holdings, KDI, Tirisano and the Public Investment Corporation. The environmental justice group has argued that the proper climate change impact assessment has not been undertaken.

The Department of Environmental Affairs' chief director granted Thabametsi an environmental authorisation for the power station in February 2015, against which Earthlife Africa appealed.

The Minister of Environmental Affairs upheld the decision in March 2016.

North Gauteng High Court Judge John Murphy ordered the Environmental Affairs Ministry in September 2017 to complete a climate change assessment before construction of the plant could proceed, noting that approval was granted without comprehensively assessing or considering the impact of the proposed plant. Thabametsi was awarded preferred bidder status in South Africa's Coal Baseload Independent Power Producer Procurement Programme in October 2016.

Coal will be sourced from Phase 1 of Exxaro's Thabametsi's mine.

Coal stockpile

Picture by Duane Daws

Outlook

The coal market is expected to continue to benefit from developments in China in the short term, as the country's National Development and Reform Commission (NDRC) seeks to reduce coal overcapacity and ensure mine safety. The NDRC-ordered reforms gave coal prices a lift in 2016 and continued to do so in 2017.

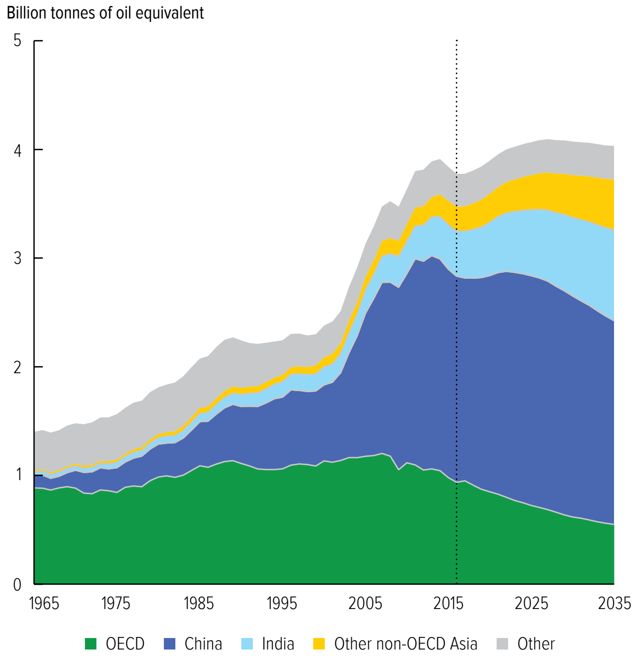
The World Bank reports in its 'Commodity Markets Outlook', published in October 2017, that coal prices are forecast to rise to an average of $85/metric ton (Australian spot) this year, up 29% on 2016, owing to China's reforms. However, prices are expected to retreat to $70/metric ton in 2018, as demand slows, especially in China as a result of an environmentally motivated initiative to reduce coal consumption.

In the long run, the reform of China's economy will have a significant impact on the coal market. BP states in its 'Statistical Review of World Energy 2017' that China's coal consumption will reach a plateau in the next 20 years – a sharp contrast to the rapid growth of much of the past 20 years. Even so, China will remain the largest market for coal, accounting for almost 50% of global consumption in 2035.

India, which is South Africa's largest export market, will double its share of global coal demand to 20% by 2035, with more than two-thirds of the new demand projected to feed into the power sector. The US Energy Information Agency states that India will surpass the US as the second-largest coal consumer before 2020. However, India is increasingly turning inwards and is aiming to be fully self-sufficient.

Renewable energy and natural gas will surpass coal in the power sector of the Organisation for Economic Cooperation and Development countries, with gas expected to overtake coal as the world's second-largest fuel in about a decade.

Coal consumption by region



Source: BP

In South Africa, lower carbon technologies will also play an increasingly larger role in the country's energy mix, which will impact on mines producing coal for the domestic market. The Department of Energy is finalising the Integrated Resources Plan (IRP), which will outline the country's approach to new electricity capacity until 2050. The IRP was released for public comment in November 2016 and should be finalised by February 2018.

Research by the Council for Scientific and Industrial Research Energy Centre shows that South Africa's least-cost electricity mix, by 2050, includes predominantly solar photovoltaic and onshore wind, contributing 79% of the country's electrical energy.

Picture by Ilan Solomons

SARCM administrator's views on coal sector

Since the release of the South African Coal Roadmap (SACRM) in July 2013, there has been no impetus by government or coal miners to implement any of its recommendations.

The SACRM was developed to identify possible scenarios that might impact on the coal industry, particularly with regard to power generation. At the time, State-owned power utility Eskom had warned that coal supply was dangerously close to being insufficient to meet the country's future demand. Consequently, the study was initiated to identify the obstacles preventing coal miners and the power generator from finding a mutually beneficial strategy to mitigate the myriad of challenges.

Fossil Fuel Foundation director Rosemary Falcon, who is also the SACRM administrator, told *Mining Weekly* in August 2017 that, following the launch of the roadmap, government lent its support to renewable-energy generation technologies, particularly solar. "There has been a very big push for renewables, so, in effect, the demand for coal has dropped dramatically. The view has been that coal is no longer important, so there is no need to take the industry any further," she says.

While renewables have been receiving a great deal of attention globally, owing to the pressure on nations to lower carbon emissions and, thus, the impact of greenhouse-gas (GHG) emissions, Falcon highlights that there are several important interventions that can be taken to clean up coal and to balance the environmental equation.

"There is so much that can be done to use coal cleanly, as many clean technologies do exist to mitigate the GHG and carbon emissions the world is so concerned about."

However, Falcon points out that the industry is faced with numerous challenges, including declining grades of coal, which are at times incompatible with South Africa's power stations, and a lack of consistency of product received from suppliers, particularly junior coal miners.

Nevertheless, she points out that these challenges represent an opportunity for a coal-cleaning sector, which is now taking root in South Africa and in developing countries such as China, India and other Far East economies.

In instances where junior miners are grouped together, Falcon recommends establishing a coal-washing facility to help junior miners share the cost burden of washing, which has been done in the country with great success. Further, junior miners could improve their revenue streams by selling a higher-quality and more expensive coal product.

To improve the emissions of coal-fired power stations, Falcon notes that existing plants can be, and indeed have been, adapted to cope with the lower quality of local coal. For example, an ignition arch can be added to small-scale industrial boilers to allow a longer ignition time for "coal that is reluctant to burn".

Picture by Duane Daws

Source: *Mining Weekly*

Main sources

Acacia Coal. 2017 annual report (September 2017).

African Exploration Mining & Finance Corporation. 2016 annual report (March 2016).

African News Agency. Eskom demands R6.2bn from Mpumalanga coal supplier (May 15, 2017).
African News Agency. Eskom gave Tegeta prepayment on day Optimum purchase price was due inquiry hears (November 1, 2017).

Anglo American. 2016 annual report (February 2017).
Anglo American. June-quarter production report (July 20, 2017).

Bloomberg News. Eskom says Gupta-linked miner settles fine in arbitration (April 11, 2017).
Bloomberg News. Anglo said to have bids in for New Largo from Seriti (May 22, 2017).
Bloomberg News. Vitol drops plan to buy Gupta stake in RBCT (July 18, 2017).

BP Statistical Review of World Energy (June 2017).

Buffalo Coal. 2016 financial results (May 12, 2017).
Buffalo Coal. Second quarter 2017 financial results (September 2017).

Business Day. Who will bear cost of Eskom's supplier empowerment drive? (January 30, 2017).
Business Day. Anglo American signals major shift in strategy on asset sales (February 21, 2017).
Business Day. Coal Transportation Forum welcomes delay in green energy deals (April 12, 2017).
Business Day. Mining Charter should not be given status of law, says Chamber of Mines (June 28, 2017).
Business Day. South32 mine could solve Kusile hurdle (September 7, 2017).
Business Day. Alexkor targets Eskom coal supply agreement (October 16, 2017).

Business Report. Days of coal mines are numbered as Eskom shifts focus (March 28, 2017).

Central Energy Fund. 2016/17 annual report (2017).

Chamber of Mines. Facts and figures 2016 (March 2017).

City Press. Environmentalists win bid to stop mining in protected area for now (June 28, 2017).

Coal of Africa Limited. Acquisition of Uitkomsts colliery (April 2017).
Coal of Africa Limited. 2017 annual report (September 2017).
Coal of Africa Limited. Sale of the Mooiplaats colliery (October 2, 2017).

Department of Energy. Integrated Resource Plan update (November 2016).

Department of Mineral Resources.

Engineering News. Eskom's reputational platform is burning (July 20, 2017).

Eskom. Press release: Eskom cleans up its coal suppliers (February 6, 2017).
Eskom. Integrated annual report 2017 (July 2017).

EWN. Treasury forensic investigation into Tegeta to answer questions on Eskom deal (August 5, 2017).

Exxaro. 2017 interim results (August 17, 2017).
Exxaro. 2016 annual report (March 8, 2017).

Fin24. SA coal to dominate as African demand expands (February 5, 2017).

Financial Mail. Coal: A slow-burning issue (February 14, 2017).

Glencore. 2017 half-year results (August 10, 2017).
Glencore. 2017 annual report (March 2, 2017)

Grindrod. 2016 annual report (March 31, 2017).
Grindrod. 2017 interim results (August 23, 2017).

Miningmx. SA Coal exports slide amid evaporation of BEE supply (January 31, 2017).
Miningmx. Sekoko intends to resuscitate scaled down Waterberg project (June 9, 2017).
Miningmx. Wescoal already lining up the next target after Keaton Energy (June 28, 2017).
Miningmx. Optimum's stake in the RBCT changes hands again (August 23, 2017).
Miningmx. Eskom leadership crisis may damage security of coal supply (September 11, 2017).
Miningmx. Exxaro agrees 7.5% to 10% wage deal to end Grootegeluk strike (September 22, 2017).
Miningmx. CoAL opts for 'Makhado Lite' after project rescope slashes capex 70% (September 29, 2017).
Miningmx. New Motsepe-Swanepoel axis buys CoAL's Mooiplaats for R180m (October 2, 2017).

Mining Online. Xavier Prevost: Coal warrior (November 22, 2016).

Mining Weekly. Eskom reiterates 50%-plus black ownership requirement for coal suppliers (December 5, 2016).
Mining Weekly. Carbon tax would have costly implications for mines – Accenture (January 27, 2017).
Mining Weekly. RBCT targeting export of 77Mt of coal in 2017 (January 31, 2017).
Mining Weekly. CoM confirms dispute over move to decentralised coal wage negotiations (February 1, 2017).
Mining Weekly. Wescoal pursues Keaton in R525m acquisition (February 3, 2017).
Mining Weekly. Domestic coal sales becoming more important than export market – Prevost (February 6, 2017).
Mining Weekly. RBCT targeting export of 77Mt of coal in 2017 (February 10, 2017).
Mining Weekly. Universal starts supply to Eskom (March 10, 2017).
Mining Weekly. CoAL COO fined for insider trading in South Africa (March 16, 2017).
Mining Weekly. Strike threatens coal sector (March 17, 2017).
Mining Weekly. India assures domestic coal supply to plants based on imported feedstock (May 24, 2017).
Mining Weekly. Wescoal's Khanyisa Complex produces first coal (May 24, 2017).
Mining Weekly. Miranda Mineral Holdings to sell noncore Sesikhona Klipbrand colliery (May 25, 2017).
Mining Weekly. CoAL's share price rises as Minister lifts Makhado water licence suspension (May 29, 2017).
Mining Weekly. Scopa welcomes SIU investigation into Eskom's coal deals (May 30, 2017).
Mining Weekly. Keaton, Wescoal shareholders approve acquisition (June 2, 2017).
Mining Weekly. Wescoal, Keaton merger gets Competition Commission go-ahead (June 7, 2017).
Mining Weekly. Civil society takes Atha-Africa to court (June 22, 2017).
Mining Weekly. Greenhouse tightening as govt imposes Paris agreement – Exxaro (June 26, 2017).
Mining Weekly. Universal expects output to hit 3Mt in 2017, significantly improves cash flow (July 10, 2017).
Mining Weekly. Universal buys interest in project adjacent to Kangala colliery (July 12, 2017).
Mining Weekly. Buffalo Coal in push to slash debt and improve safety and operational efficiency (July 21, 2017).
Mining Weekly. Seriti coal deal edging forward positively – Anglo (July 27, 2017).
Mining Weekly. Concern raised over lack of support for coal roadmap (August 23, 2017).
Mining Weekly. Resgen seeks alternative funding not linked to coal contract (August 25, 2017).
Mining Weekly. Embattled Buffalo Coal relies on seventh renegotiation with Investec (August 24, 2017).
Mining Weekly. South32 sees upswing in South African, Mozambique aluminium production (August 24, 2017).
Mining Weekly. Exxaro, NUM wage agreement halts strike (September 22, 2017).
Mining Weekly. TFR's Natcor, coal lines achieve records in September (September 27, 2017).
Mining Weekly. Exxaro, Solidarity sign three-year wage agreement (September 28, 2017).
Mining Weekly. R20bn Swai Rail Link being prepared for presentation to investors before year-end (October 2, 2017).

Mining Weekly. Chamber of Mines offer favourable – Solidarity (October 3, 2017).
Mining Weekly. Exxaro, Transnet ink ten-year coal transportation agreement (October 3, 2017).
Mining Weekly. Canyon Coal optimistic about local mining industry despite headwinds (October 13, 2017).
Mining Weekly. Keaton units perform in line with expectations – Wescoal (October 17, 2017).
Mining Weekly. Exxaro spending R20bn on coal projects (November 10, 2017).
Mining Weekly. Resgen will have funding to commission Boikarabelo (November 15, 2017).
Mining Weekly. South32 okays R4.3bn project, eyes JSE for rejigged energy coal (November 27, 2017).

News24. Guptas sell Tegeta to Swiss owner (August 23, 2017).

PricewaterhouseCoopers. SA Mine: 9th Edition (September 2017).

Resource Generation. 2017 annual report (September 2017).

Reuters. NUM says coal strike to begin on November 19 (November 10).

Sasol. Production and sales metrics for 2017 financial year (July 25, 2017).
Sasol. 2016 annual report (August 28, 2017).

State Capacity Research Project. Eskom inquiry reference book (August 2017).

The Star. Days of coal mines are numbered as Eskom shifts focus (March 28, 2017).

Transnet. 2017 annual report (July 2017).

US Energy Information Administration. International Energy Outlook 2017 (September 14, 2017).

Wescoal. 2017 annual report (August 2017).
Wescoal. Voluntary strategic update (October 17, 2017).

World Bank. World Commodity Outlook (October 2017).

http://www.indexmundi.com

Picture by Duane Daws

creamer media

Coal 2017:
A review of South Africa's Coal sector