

Coal - balance between supplies to Eskom and exports

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The South African coal mining industry is very often portrayed as a poor cousin to the gold and platinum sectors. And more often than not, when coal is under the spotlight, the emphasis is on supplies to Eskom. The true contribution of coal to the South African economy and the significant size of the industry are rarely appreciated.

The majority of coal mines are still based in Mpumalanga, in the vicinities of Witbank, Middelburg, Belfast, Secunda, and Ermelo. These mines supply numerous Eskom power stations, as well as Sasol's facilities in Secunda, and they also produce a significant amount of export thermal coal. Coal mining in KwaZulu-Natal is on the decline and no longer significant. There is one coal mine in the Free State – New Vaal, which supplies the Lethabo power station. Limpopo has the very large Grootegeluk coal mine, supplying the Matimba power station and which in due course will supply the new Medupi power station. In the near future the centre of gravity of the South African coal industry will shift from Mpumalanga to Limpopo as coal reserves become depleted in Mpumalanga. However, this shift will not be a simple case of more of the same in just a different location. The Limpopo coalfields are very different to those in Mpumalanga in terms of mining and coal washing. While Grootegeluk is leading the way, new mining projects in Limpopo will require different approaches, and future developments will need innovation and extended project execution. Beneficiation of coal in South Africa has progressed significantly in terms of the quantity of coal that is washed, unit process capacities, and processing of finer coal. Coal washing plants are being designed with ever-increasing capacities. A recent example is the Phola plant, a joint venture between Anglo American and BHP Billiton, which treats over one million tons per month of run-of-mine coal. The capacities of crushers, screens, and DMS cyclones, in particular, have increased significantly in recent years. The processing of fine coal, -1 mm, has gone beyond spirals and now encompasses hindered settling classifiers and froth flotation. The dewatering of fine coal products is receiving a lot of attention in South Africa.

Coking coal required by the South African iron and steel industry is largely imported. Some coking coal is produced from the Limpopo coalfields, but only on a limited scale. The development of coking coal resources in Limpopo is an important objective for reducing coking coal imports, and adds further incentive for the more rapid development of the Limpopo coalfields. Two types of thermal coal are produced in South Africa. The lower grade thermal coal is supplied to the Eskom power stations. In some cases the run-of-mine thermal coal requires only crushing and screening, but in the future all thermal coal supplied to Eskom will require washing as run-of-mine qualities further diminish. The higher grade thermal coal is exported through Richards Bay to numerous global markets. There is a significant difference in quality between low and high grade – 15 to 18 MJ/kg calorific value for Eskom compared with over 27 MJ/kg for export. Recently, however, there has been an increase in demand from India for an 'intermediate' quality, of just over 20 MJ/kg. This of course has sparked the debate over the 'strategic' value of coal in South Africa. There should be a secure supply of coal for the Eskom power stations, but at the same time coal mining companies will obtain greater profits from export coal, even from the lower grade Indian market. Therefore, as the shift from Mpumalanga to Limpopo progresses, it will become increasingly important to achieve a correct balance between supplies to Eskom and exports in order to ensure the future sustainability of the South African coal mining industry.