

Coal and water don't mix

By [Janine Howard](#)

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There is a collective breath-holding to see whether the uninterrupted power supply we've enjoyed for the last year or so is a flash in the pan. In reality, South Africa has been experiencing what can be described as at best an unreliable electricity supply and, at worst, as an energy crisis, since 2007.

Load shedding had become a way of life for most businesses and households for the past nine-odd years, thanks to some key operational blunders such as backlogs in maintenance and delays in construction of power stations.

Such an unstable power supply naturally has major impacts for the South African economy as it deters investment and stifles growth in all sectors of the economy. In fact, Lugisa Fuzile, director-general for the national treasury, has said that resolving South Africa's electricity crisis has the potential to add up to 1% to the country's growth.

Therefore, while it is clear that the electricity crisis needs to be resolved, the continued emphasis placed by the government on coal-fired power stations is worrying in the South African context.



Coal generation: an outdated approach

Presently approximately 90% of South Africa's energy generation is as a direct result of making use of coal. This figure is indicative of an outdated approach to energy generation in a world which is moving away from coal fired-power towards clean sustainable energy generation. One such instance is Germany, which announced that in October 2016 it will commence procedures to take ignite coal power stations off its energy grid.

There are extensive environmental reasons why renewable energy sources should be preferred to coal power generation. Further, it is difficult to argue that South Africa should not be making use of renewable energy generation when, in the context of, for instance, solar power, one considers that our 24-hour global solar radiation average is more than double that of Europe.

However, perhaps the most pressing reason for why emphasis should be moving away from coal-generated power relates to South Africa's present water crisis which, in the context of systemic regulatory mismanagement in the coal mining industry, is having social and economic impacts which rival those of the electricity crisis.

Water shortage

South Africa is a dry country with approximately 464mm of rainfall per annum, whereas the global average is approximately 860mm per annum. Therefore, water scarcity has always been a concern in South Africa and has historically been a cause for conflict between the country's two largest economic sectors, namely, mining and agriculture.

These tensions and South Africa's general position as a "dry" country are not aided by the fact that it is presently experiencing a national drought which has devastated the agricultural industry. This drought saw the minister of cooperative governance and traditional affairs, earlier this year, declare eight out of South Africa's nine provinces to be drought disaster areas.

It is well known that both coal mining and coal-fired power stations require excessive amounts of water in order to operate. Moreover, coal-fired power stations require clean water and are often located in rural areas where even residents may not have access to clean water.

This is notwithstanding the constitutional right of all South Africans to have access to adequate water. Also, in light of the ongoing drought, coal mining operations, which are often located in areas of extreme hydrological importance, are now threatening the water security of entire communities and larger scale food security.

Regulatory mismanagement

The impact of coal mining and coal-fired power stations on water resources has been exacerbated by the department of water affairs awarding water use licenses and the department of mineral resources awarding coal mining and prospecting rights in relation to ecologically sensitive areas.

Further, the department of water affairs has been notorious for backlogs in awarding water use licenses which has, in multiple instances, resulted in mining operations taking place unchecked without the valid licenses. It is also worth noting that as a result of the solution to the national electricity crisis being directed at coal, there is undue pressure on the regulatory bodies concerned to ensure that all rights and licenses are awarded.

In addition to the above, there has been what the Centre for Environmental Rights, in its 2016 Report entitled: *Zero Hour: poor governance of Mining and the Violation of Environmental Rights in Mpumalanga*, identified as a lack of officials to monitor and enforce compliance. Thus, there is a systemic problem of rights and licenses being irresponsibly awarded and then compliance not been adequately monitored.

Therefore, it is not uncommon for mining and prospecting rights to be awarded in areas where there are serious water and biodiversity considerations. As a result of such rights and licenses being awarded, it has fallen to surrounding communities and civil society to lodge appeals and bring concerns to the attention of the relevant regulatory bodies.

This obligation to correct poor licensing decisions is an onerous burden to place on interested and affected parties who are often rural communities which have not been properly consulted or adequately informed of both their rights and the impact that such licenses will have on the surrounding environment and their day-to-day lives.

Civil society and communities

It is against the backdrop described above that the actions of various community groups and farmers are making an inroad and bringing considerations such as climate change and drought into the decision-making arena.

One such example of community action is that earlier this year Coal of Africa Limited, a listed coal exploration company, had its integrated water use license for the Makhado coking and thermal coal project suspended following an appeal launched by the Vhembe Mineral Resources Stakeholders group and other interested parties.

The company was granted a new order mining right in 2015, is intended to be an open-cast coal mining project in Limpopo. The water use license was suspended, notwithstanding the fact that in 2012 Coal of Africa Limited signed a memorandum of agreement with local farmers for the efficient use of water from the Nzhelele River.

In terms of this memorandum of understanding, the community and farmers gave up portions of their own water-use entitlements as the agreement sought to improve the stability of water supply to the Makhado Project. Therefore, notwithstanding the fact that there was an agreement between the two parties, on appeal, the water use license was suspended.

Conclusion

The proactive stance of civil society intersecting with corrective action by regulatory bodies is an encouraging step. Pushback and the spread of awareness by groups such as the Centre for Environmental Rights, are doing much to try and correct the impacts of coal mines and coal-fired power stations on water resources.

However, in order to properly protect South Africa's water resources and balance water needs with those of the country's electricity deficit, there will have to be a change of the government's approach to energy. This because for as long as the primary focus to resolve the electricity crisis is coal, the pressure to irresponsibly award mining rights and water use licenses will continue.

Continued reliance on coal and coal-fired power stations needs to be revisited for a number of environmental reasons, but in the wake of the ongoing drought and the continued threat to water resources, such reconsideration has become all the more urgent.

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