

COAL KILLS

Research and Dialogue for a Just Transition

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Introduction

“We soon knew we were on the devil’s territory when we began to smell sulphur. And then we saw heat waves simmering from holes ahead of us. The smell got stronger as we moved nearer. We were walking over caves of fire. A once luscious land was now 880 hectares of hell!”

Nnimmo Bassey, Nigerian author, poet and environmental justice activist.

This is the Mpumalanga Highveld today. An area that is being devastated by mining and the inability of government to hold corporations accountable, despite the evidence of culpability. But once, not so very long ago, it was fertile and well watered. Large parts of it still is, but that is soon coming to an end. Today, in Mpumalanga, farm workers are still in the majority of those employed, but unemployment grows as coal mining companies abandon mines and flee with rehabilitation funds and leave behind ruined land, sick workers and poverty. Mining, the burning of coal, the making of liquid fuel from coal, and the smelting of metal, have not brought prosperity to the people of Mpumalanga.

The Highveld is a fertile land in the eastern part of South Africa – referred to as the bread basket of the country, where 54% of the country’s viable agricultural land is situated. It is also one of the main areas from which much of South Africa’s fresh water flows. All of this is being destroyed. In the process


of this destruction, the people of the area are dying because of air pollution from coal-fired facilities and mines. Despite tomes of evidence, government is failing to act.

This compilation of research was motivated by the words of the then Chair of the Portfolio Committee on Environmental Affairs, Mr Jackson Mthembu, an ex-worker in the steel-mills of the Highveld. He asked for local research to highlight the evidence of the impact, rather than focusing on international studies. This was at a joint meeting of affected community people, groundWork, the Centre for Environmental Rights, Earthlife and the members of the Portfolio Committee in August 2015, after a toxic tour around the burning mines and streams of toxic acid mine drainage, where destruction was clearly present. We thought it was plain to see, but we reflected on his words, and started to look around and do our own research. What we found was not surprising. People were not living well and the land was being destroyed.

groundWork’s resistance to coal expansion is tied in with our partners the Centre for Environmental Rights, a public interest law NGO, and Earthlife Africa, South Africa’s older environmental justice organisation, under the banner of “Life After Coal”. Together we work with a variety of NGOs and community people and organisations throughout the country who have done amazing work documenting the impacts of coal on people and their environments. Out of these collaborations it is clear that there is enough local evidence to respond to the challenge put to us by the Chair of the Portfolio Committee. So, what you will read in this compilation are a few summaries of recently published reports from legal, feminist, environmental justice and university-based research organisations.

It is impossible to publish all the research we found on coal impacts in Mpumalanga and South Africa. So we focused on key pieces of research. At the end of the report we have listed further reports we could not include in the main body. The

Members of parliament are taken for a walk as part of an educational “toxic tour”.



research presented focuses on social, gender, worker and environmental justice. It is written from a legal perspective to a campaigning perspective. It speaks about what is wrong in the Highveld, but it also speaks to what the possible ways forward are. The way forward is not going to be easy. It is going to require hard action by government and a rethinking of the future by local people and workers.

We work with community-based organisations who identify their own concerns and define their actions in relation to the powerful stakeholders of government and corporates. We work with local resistance and mobilisation of people acting in these spaces through supporting them with building their organisations and providing both technical and legal support. These organisations are essential partners in our work, alongside other NGOs who provide further support. It is out of this method that this work emerges. From challenging the oil refineries in south Durban in the 1990s, it was a natural progression to work in the coalfields of the Highveld.

In the 1990s I often heard of the burning coal mines in Witbank, now Emalahleni, but never witnessed it until 2015. As Nnimmo Bassey has said, it is hell. I witnessed the red glow of rocks heated by the fires. I saw the shimmer in the air as poison gasses escaped into the air we were breathing. It brought back the memories of the ground flares in the Niger Delta that I visited. There, corporates are too greedy to invest in recapturing the gasses that escape from the oil wells and the flames and shimmer of poisoned gasses is what people have to live with.

It is not a surprise that no action is taken against coal companies that destroy people and their land. Both the apartheid and the democratic South African government and political elite have been tied by the hip to coal, just as the politicians and the oil companies in Nigeria are. With these connections, impunity is common. During the World Summit on Sustainable Development in 2002, when groundWork first started challenging Eskom and its fixation with coal, I was warned by Pallo

Jordon, once Minister of Environmental Affairs, to “not **** with coal”. This was after groundWork, Friends of the Earth and CorpWatch issued Eskom an Academy Award for greenwashing – “the phenomenon of socially and environmentally destructive corporations attempting to preserve and expand their markets by posing as friends of the environment and leaders in the struggle to eradicate poverty”.

It is so often heard that South Africa needs coal to alleviate poverty and provide energy for the poor. When you walk around black working-class neighbourhoods and informal settlements of the Highveld, you have to ask the question, does coal really respond to this critical challenge that the South African government is facing? The answer is no.

The outcome of the parliamentary visit to Mpumalanga was a call by Bantu Holomisa, ex-Deputy Minister of Environmental Affairs under the Mandela government, for a study group to “consider the various responses to what had been witnessed and heard that day”.

Since then, groundWork and our community and NGO partners have been to parliament to share our experiences and research with the powers that be. This, however, is the first time that these pieces have been put together.

We hope that this report will be used by community people to challenge the status quo, be used by parliament as evidence to consider how they respond to the impacts of coal on the Highveld and coal in general, and used by workers to start thinking and working with community people on the Highveld and in other coal areas in South Africa to plan for life after coal.

Bobby Peek

Destruction of the Highveld

groundWork, Friends of the Earth South Africa

The eastern Highveld is fertile and well watered. It is the source of four major rivers – the Vaal, Olifants, Komati and Usuthu – and a critical food producing region. The ground-Work Report documents the destruction of the Highveld in two parts: Part 1 focused on mining coal and Part 2 on burning it to make electricity, synfuels and metals.

This history is dominated by big industry: Eskom, Sasol, Anglo American and Gencor (later BHP Billiton, then South32). These corporations were at the heart of the 'Minerals Energy Complex' (MEC) which shaped South Africa's development for over a century. They accumulated vast wealth but made most of the people poor.

They created the world's most unequal society. Well over half of the people in South Africa are poor and, in the townships of the Highveld, over 40% are unemployed. People say that those who have grown up with the pollution do not pass the medical tests for work in neighbouring mines and factories. Workers, mostly men, are brought into the area from elsewhere. This adds a further twist to already harsh gender and social relations. Since colonial times, the MEC has made for unsettled communities on the Highveld and in the 'sending' communities.

Coal mining started as the junior partner to gold mining. Eskom was established in 1928 to provide 'cheap and abundant' power to industry.

After the second World War, Anglo's coal mines were Eskom's biggest supplier while its gold mines were the biggest customer for cheap power. Anglo also built or bought most of the steel and metal plants on the Highveld. Sasol, meanwhile, built its first power hungry coal-to-liquids plant.

In the 1970s, when the 'oil shocks' drove up prices, the coal corporations opened up export markets with state support. Miners started to shift from labour intensive underground to capital intensive open cast mining. They could then cover their costs selling low quality coal to Eskom while making a big profit exporting high quality coal. The apartheid state was also worried about liquid fuel supplies and instructed Sasol to build the Secunda plants. To pay for it, Sasol was privatised but its future profits were guaranteed.

In 1987, Anglo brutally crushed a massive strike led by the newly formed National Union of Mineworkers. This opened the way for the neoliberal restructuring of labour even as the apartheid regime was defeated. At the core are the shrinking numbers of permanent workers. Next are casualised workers, badly paid and available for work on demand. At the edge of the labour market, are informal and unemployed workers. In this system, everyone is vulnerable to being moved outwards.

South Africa's big conglomerates, meanwhile, cut loose from the national economy. In the 1980s, they took shiploads of capital offshore and, in the late 1990s, listed on the London and New York stock exchanges.

Now, coal mining and industry on the Highveld are in decline. The big old mines are closing down and Eskom buys more coal from small and distant mines. The coal 'majors' are selling up but keeping control of exports.

Eskom and the coal 'juniors' are left in a death embrace. Anglo sold its metal plants in the 2000s.
Highveld Steel and

Vanchem went bust in 2016, leaving unpaid workers and heavy environmental liabilities.

The ruin of Land

A large part of the Highveld is dug under or dug out. Underground mining immediately interrupts the flow of groundwater. Over time, the pillars of coal left to hold the mine roof collapse. This results in subsidence at the surface. More dramatically, sinkholes can open deep vents and so increase the flow of air that gives life to underground fires.

Open cast mining simply destroys the land. For miners, the good earth atop the coal seam is the 'overburden'. On the Witbank coal field, it is typically 30 metres deep and it is blasted, dug out and piled into heaps. Rehabilitation never restores the land. Even if it is done 'properly', the water table is destroyed and the fertile soils and the rich Highveld grasslands are reduced to a poor pasture. Mostly, it is not done properly and the wasteland after coal is visible.

The ruin of water

The ruin of water follows from the ruin of land and carries the impact downstream. On the Highveld, the soil has formed on top of a semi-permeable layer of sandstone rock. This creates a 'perched' water table which provides moisture to the grasslands above and is intrinsic to the life of the soil. The many pans, wetlands and streams of the Highveld are created by and connected through this high water table.

With underground mining, the sandstone layer starts cracking when the ground slumps and the water table drains down into the mine. Open cast mining removes this layer and it cannot be restored. Further, the mine bosses, illegally but not infrequently, simply mine through pans, wetlands and streams. But even where they follow the letter of the law and leave a buffer area next to the water body, they cut off the flow from the water table so that the springs and wetlands dry out.

Acid mine drainage results when iron sulphides – known as pyrites – in rock are exposed to oxygen. The chemical reaction produces sulphuric acid which contaminates water. This acidic water then dissolves and mobilises heavy metal toxins. Acid mine drainage is produced from underground and open cast mines, from active and abandoned mines, from stock piles, discard dumps and overburden heaps. It is making a wasteland of the Highveld.

The mines also use large quantities of water to wash coal to improve the quality for export. The water turns to slurry and is heavily contaminated with toxic metals. Slurry ponds are supposed to be lined to prevent contamination of groundwater but many are not and, even where they are, the linings are prone to leak.

The big coal burning industries also pollute water. Eskom's massive ash dumps are all unlined and leach a range of toxins into the groundwater. The Duvha power station dump is directly above the Witbank Dam. Sasol has massive unlined discard dumps, ash dumps, tar pits and effluent ponds. The metal smelters produce black hills of slag which leach white toxic salts.

How could we know the earth, if we have no earth to know? If all we have of our childhood memories are disused mines, grey and matted overburden, smouldering discard coal dumps, lakes of acid mine drainage and the foul, acrid stench of coal fires?

Dust and smoke

The coal mines blast two or three times a day and each blast lifts many tonnes of earth. Immense dust clouds roll across the countryside and are often accompanied by a hailstorm of shattered rock. More coal dust is kicked up by the endless succession of coal trucks. This adds up to an estimated 136,000 tonnes a year of coarse particulates (PM₁₀).

Fires constantly break out on active mines, on abandoned mines, on coal stockpiles and on discard dumps. This is called 'spontaneous combustion'. Many fires burn for years and some burn for decades. Emissions include sulphur compounds laced with heavy metals, a cocktail of volatile organic compounds (VOCs) and toxic concentrations of methane, carbon dioxide (CO₂) and carbon monoxide (CO).

Eskom has 11 power stations on the Highveld. Duvha burns about 46,000 tonnes of coal and pumps out over 200 billion litres of dirty exhaust gas each day. Together, the Highveld power stations produce about 195 million tonnes of CO₂ a year, 1,346,000 tonnes of sulphur dioxide (SO₂), 815,000 tonnes of nitrogen oxides (NO_x) and 86,000 of particulates (PM₁₀).

Sasol's Secunda plant is the largest single point source of CO₂ in the world. Sasol refuses to give updated figures but, in 2004, Sasol Secunda emitted 52 million tonnes a year. It also produces about 190,000 tonnes of SO₂, 150,000 tonnes of NO_x, 8,000 tonnes of PM₁₀, and 400,000 tonnes of volatile organic compounds. The big

metal smelters emit around 40,000 tonnes of SO₂ a year, 4,000 tonnes of NO_x, and a massive 45,000 tonnes of particulates.

These emissions are from 'normal' operating but big industry in South Africa is notorious for producing big incidents – explosions, fires and leaks. In the 10 years to 2016, Sasol reported over 260 'significant fires, explosions and releases' in which 51 workers were killed.

Harming people

The torrent of pollution pours over the whole region. Thousands of people die and many thousands are made ill. Black working class communities get it in the face. eMbalenhle is downwind of Sasol. eMalahleni's townships are surrounded by coal mines and big metal plants – Ferrometals, Vanchem, Silicon Smelters, Transalloys and Highveld Steel.

People complain of burning eyes, inflamed sinuses, headaches and lung infections. Winter is the worst time of the year and nights are worse than days. People think that plant managers switch off pollution controls at night. Everyone sleeps with their windows closed but the pollution gets in anyway. Many use purifiers or nebulisers or are 'on oxygen'. They say, "There is nowhere to complain to. Neither government nor industry takes responsibility."

Workers get a double dose of pollution, at work and at home. For themselves, they expect an early death. Their children, they say, will never pass the medical tests to get jobs in the plants that polluted them. In early 2016, Highveld and Vanchem shut down, broken by lousy management and the collapse of commodity prices. In KwaGuqa township, next to Highveld, they say the air cleared instantly.

A Highveld worker observed that many who work there "do not make babies". She herself became pregnant only after the plant closed. Now she has a child but has lost the means of supporting her family.



Regulating air pollution

The Air Pollution Prevention Act (APPA) was passed in 1965. It made no difference to the pollution of the Highveld. It was replaced by the Air Quality Act (AQA) of 2005 which has been no more successful than the APPA [see Broken Promises]. Since 1965, the regulation of air pollution has been characterised by the following patterns which in turn reflects government's overall priorities:

1. Health is named as reason for regulation but both research on health impacts and provision for health care are neglected.
2. From the 1970s, pollution experts warned that the Highveld was the 'worst place' to build power stations because there is little wind to blow the pollution away and, particularly in winter, strong temperature inversions trap the pollution close to the ground. Eskom and Sasol ignored them.
3. Regulators are careful not to 'burden industry' with strict regulation.
4. Government has never allowed the regulators the resources for the job. Inadequate capacity at all levels has been repeatedly identified over a period of five decades.
5. Industry claims superior knowledge of pollution & control, takes the power to decide what's appropriate and looks for reasons to weaken regulation.
6. Academic knowledge of AQ issues is not translated into protection of people and ecosystems.
7. AQ monitoring systems are incomplete, dysfunctional or secret.
8. Limited improvements in regulation are the result of activist pressure against a reluctant regulator.
9. The need for public understanding of air pollution was noted from the beginning but never prioritised.

From mining to the burning of coal, profits are extracted and people are left with poisoned land, water and air. Sadly, but not unexpectedly in a neo-liberal world, government does very little to defend people in an age of a promised democracy and with a Constitution that promises much but cannot deliver for those in political power have no will to deliver.

We believe that the central organising principle of economy should be sustainability founded on economic, social and environmental justice. This means a commitment to growing human solidarity and equality as well as a relationship to the environment which enhances rather than degrades the functioning of eco-systems both for their intrinsic value and for the eco 'services' they provide. The Constitutional justification of such a redefinition is found in the Environment Right. This does not imply that economy and production are unimportant, but that the economy must serve people rather than people serving the economy. This would create the basis for a just transition.

Title: The Destruction of the Highveld in two volumes:
Digging Coal (2016) and Burning Coal (2017)
www.groundwork.org.za/reports/gWReport_2016.pdf
www.groundwork.org.za/reports/gW_Report_2017.pdf

Zero Hour

Centre for Environmental Rights (CER)

For the past fourteen years, Mpumalanga has experienced a proliferation of prospecting and mining right applications, particularly for coal. Regulation by the two departments with primary responsibility for mining – Department of Mineral Resources (DMR) and the Department of Water and Sanitation (DWS) – has been poor. Communities and the natural environment are paying an indefensibly high price as a consequence.

Alarm bells are ringing in Mpumalanga. Civil society organisations, communities, researchers, farmers and other government agencies have expressed concern about the detrimental impacts of mining on water security, soil and food security, and the health, well-being and development prospects of communities in Mpumalanga.

South Africa is a water-scarce country which is experiencing its worst drought in thirty years. Yet, while Mpumalanga contains areas of immense hydrological importance – areas that are strategic for the country's water supply – the DMR and DWS continue to grant mining and water use rights in those areas.

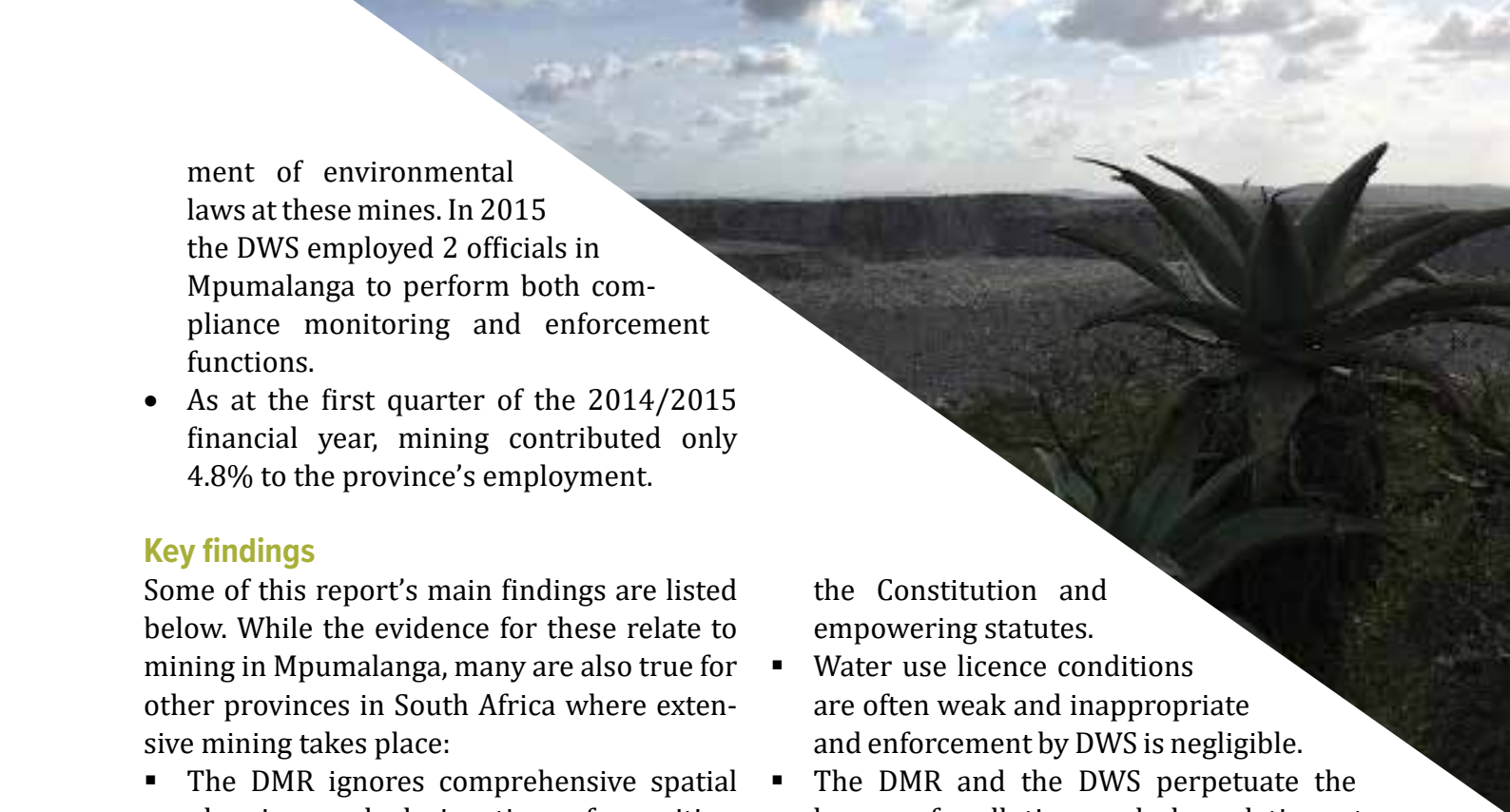
This report was compiled using an in-depth review of evidence spanning more than five years, including academic studies, reports, litigation and pre-litigation cases, access to information requests, portfolio committee submissions, and parliamentary questions and answers.

It entailed field

work in the province, community meetings and consultations, meetings with local government officials, and meetings with mining companies. Repeated attempts to engage the DMR's Mpumalanga Regional Office were unsuccessful.

Our conclusion is that Mpumalanga faces environmental threats that will have dire consequences for South Africa's future prosperity. These are some of the reasons:

- By 2014, 61.3% of the surface area of Mpumalanga fell under prospecting and mining right applications. Mining involves the removal of huge quantities of topsoil, essential for cultivation. A mere 1.5% of SA's soils are considered high potential, and 46.6% of these are found in Mpumalanga. If mining continues at its current rate, around 12% of SA's total high potential arable land will be ruined.
- On the Mpumalanga Highveld, air quality is among the worst in the world. Air pollution from mining can be caused by particle emissions from activities such as processing, blasting, wind erosion of overburden, and dust entrainment from haul trucks. With 5 000 coal trucks using Mpumalanga's roads daily, dust from mine haul roads contributes an estimated 49% of the nitrogen dioxide in the Highveld Air Pollution Priority Area.
- Mpumalanga occupies 6% of the country's land surface, but it holds 21% of its plant species. Nearly a quarter of its vegetation types are nationally gazetted as threatened. Nevertheless, 76% of Mpumalanga's grasslands have been targeted by mining and prospecting applications.
- In 2015, there were 239 operating mines and 788 derelict and ownerless mines in Mpumalanga, yet only 5 officials in the DMR were designated to monitor compliance with and enforce-



ment of environmental laws at these mines. In 2015 the DWS employed 2 officials in Mpumalanga to perform both compliance monitoring and enforcement functions.

- As at the first quarter of the 2014/2015 financial year, mining contributed only 4.8% to the province's employment.

Key findings

Some of this report's main findings are listed below. While the evidence for these relate to mining in Mpumalanga, many are also true for other provinces in South Africa where extensive mining takes place:

- The DMR ignores comprehensive spatial planning and designation of sensitive, vulnerable and important areas. This has placed South Africa's "water factories" or strategic water source areas at risk.
- The DMR grants rights without having regard to cumulative impacts on water resources, biodiversity, air quality, and food security, nor to the health or well-being of affected communities, despite the consideration of these factors being required by law.
- The DMR has failed to take steps to use existing law to demarcate sensitive and critical areas, or to refuse prospecting and mining in these areas.
- The DMR unlawfully grants rights to companies already in violation of mining legislation.
- Appeals, lodged by interested and affected parties against the granting of rights and licences in inappropriate areas, are not being decided in accordance with the law. This places an enormous burden on communities and public interest organisations to challenge these poor decisions in court.
- There are not enough qualified and experienced officials in the DMR and the DWS to ensure the enforcement of legislation and the protection of rights. Moreover, officials are not incentivised to make decisions responsibly in compliance with the Constitution and empowering statutes.
- Water use licence conditions are often weak and inappropriate and enforcement by DWS is negligible.
- The DMR and the DWS perpetuate the legacy of pollution and degradation at derelict and ownerless mines by not securing adequate financial provision for rehabilitating damage to the environment and water resources.
- As a result of inadequate enforcement, mining companies face few or no consequences for their environmental crimes, committing violations with impunity, and transferring the cost of those crimes to the taxpayer.
- The culture of secrecy plaguing the mining industry, facilitated by regulators, hides noncompliance by mining companies with the law and allows them to misrepresent their compliance status to investors. It also disempowers affected communities who need that information to defend their rights.
- The mining industry continues to benefit from a special regulatory regime implemented by the DMR rather than environment authorities, like other industries. The conflict of interest in the DMR's mandate, to promote mining, and to regulate its environmental impacts, fundamentally compromises effective regulation of the detrimental impacts of mining.

www.cer.org.za/wp-content/uploads/2016/06/Zero-Hour-May-2016.pdf

Health impacts of coal fired power plants in S.A.

Dr M Holland

This 2016 report provides estimates of the health impacts and associated economic costs of current PM_{2.5} emissions of air pollution from coal fired power stations (CFPS) in South Africa. Results are provided both as a total for all power plants, and disaggregated to individual power stations.

The analytical methods described in the report are accepted by the UN through the World Health Organisation and other agencies, such as the European Commission, US Environmental Protection Agency, the Organisation for Economic Cooperation and Development, many national governments and other bodies around the world. The reason that the methods are accepted is that they are based on decades of health research and thousands of research papers that show that breathing in fine particles and other pollutants reduces life expectancy and causes illness.

Studies in the early-mid 1990s first identified effects of long term exposure to particles on mortality and effects of short term exposures, as in the Great London Smog of 1952, have been accepted for some time. The effects of long term exposure are much greater than for short term exposures.

Results of the study demonstrate that air pollution from fine particles has a broad spectrum of effects on health, including mortality and cardiovascular

and respiratory illness. The estimated annual health cost of Eskom coal fired power stations PM_{2.5} emissions is \$int 2.37 billion (about R28 billion per year). This excludes, among other things: health impacts associated with other combustion pollutants, mining and transport of coal, contamination of water; and impacts from blasting. These costs accumulate year on year, which is clearly of great concern for plants that have lifetimes in the region of several decades.

These results do not provide a full account of the effects of coal and other fossil-derived pollutants on health for two reasons. Firstly, they omit a range of impacts that have been reported in the academic literature, and secondly, they are focused only on coal-fired power generation, and hence do not include other industrial and non-industrial sources of pollution in the Highveld Priority Area.

Governments elsewhere, from Europe to China, have acted on coal for precisely this reason. There are cases where coal bans have been introduced (for example Dublin and Hong Kong) and studies have subsequently shown an improvement in health.

The infographic opposite shows that emissions of only PM_{2.5} from Eskom's CFPSs result in some 2 200 equivalent attributable deaths every year. You can see also the annual number of hospital admissions, lost working days, cases of bronchitis and the like.

People's health and constitutional rights are also assaulted as Eskom does not meet environmental standards that are protective of people's health and well-being. Air pollution emission standards in South Africa are very weak, even compared to developing countries. South Africa's ambient air quality standards are significantly weaker than the World Health Organisational guidelines.

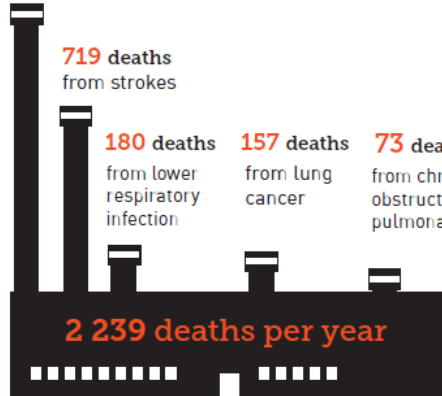


Eskom's coal-fired power stations make us ill and kill thousands of South Africans every year

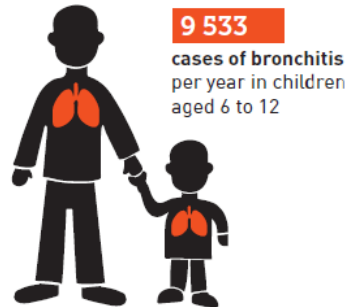
Source: Dr Mike Holland, Health impacts of coal fired power plants in South Africa, 2017

Air pollution from Eskom's coal-fired power stations cause:

1110 deaths from ischaemic (coronary) heart disease



2 781 cases of chronic bronchitis per year in adults



94 680 days of asthma symptoms per year in children aged 5 to 19

2 379 hospital admissions per year



The total costs associated with these impacts exceed

USD2.3 billion per year

996 628 lost working days per year



3 972 902 days of restricted activity per year

Based on the emissions from each Eskom power station, the most lethal Eskom power stations are:

Medupi:



364 deaths per year

- 453 cases of chronic bronchitis,
- 1552 cases of bronchitis in children ages 6-19,
- 15 412 asthma symptom days in children,
- at a cost of more than \$386 million per year

Matimba:



262 deaths per year

Kendal:



210 deaths per year

Lethabo:



204 deaths per year

Matla:



192 deaths per year

Tutuka:



192 deaths per year

These numbers exclude significant impacts of air pollution from mining (such as the effects of coal dust on workers and the public), the transportation of coal, and water contamination.

www.cer.org.za/wp-content/uploads/2017/04/Annexure-Health-impacts-of-coal-fired-generation-in-South-Africa-310317.pdf

Coal, Water and Mining: Flowing badly

Society Work and Politics

Coal mining companies in South Africa have evaded transformative water licencing laws. This study examines how and why South Africa's coal mining water regulatory systems have failed. In the light of BEE (Black Economic Empowerment) policies, it scrutinises contradictory state imperatives of promoting black elite class formation versus the protection of water resources in a water scarce country.

A case study of maize and other farming in the Highveld area of Delmas in the Mpumalanga province found that all coal mines transgressed water laws through formal and "grey zone" (under the radar) systems which legalised the illegal. This had consequences for water quality, agriculture and food security.

This is compounded by the state's weak enforcement in which the department responsible for issuing licences and monitoring and enforcement, the Department of Mineral Resources (DMR), dominates a crumbling cooperative governance regime known as the One Environmental System, which includes the Departments of Environmental Affairs (DEA) and Water & Sanitation (DWS).

Farmers resist mining but their complaints go unheard by government departments.

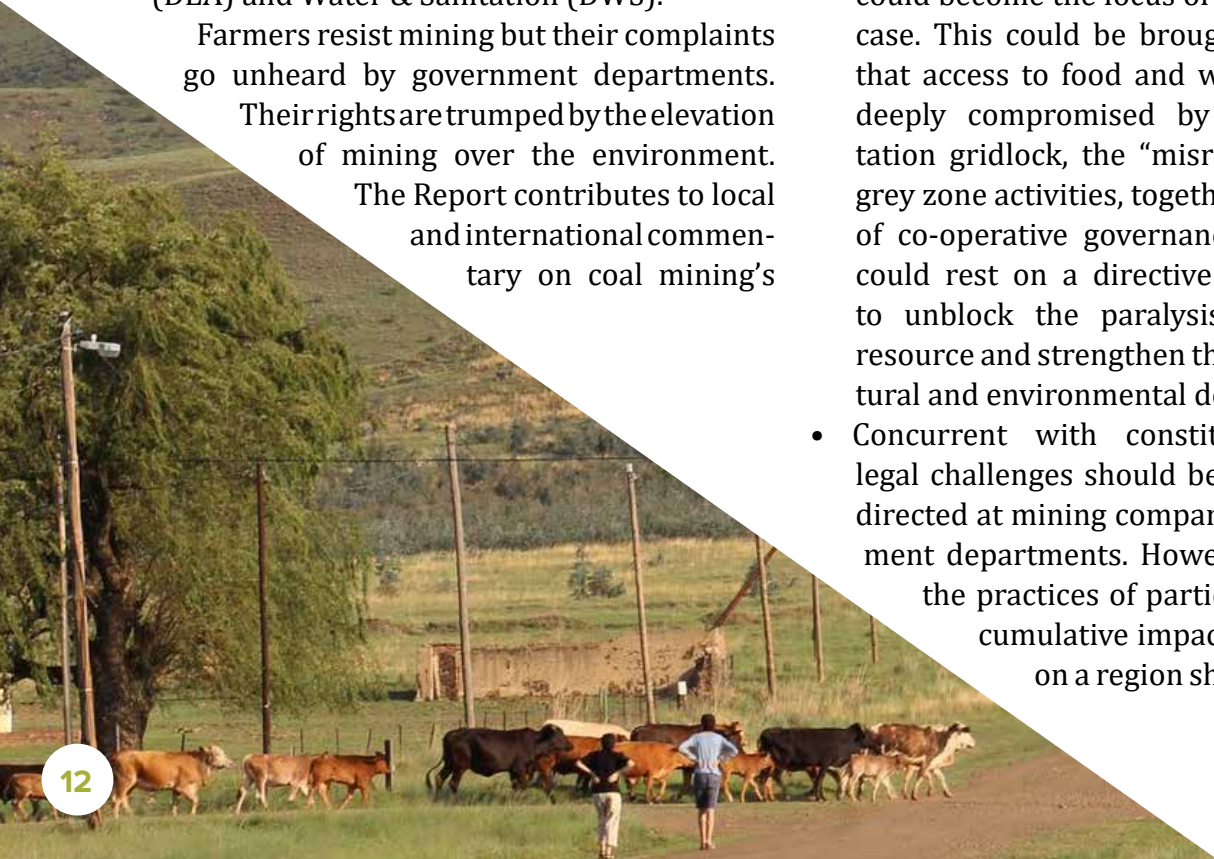
Their rights are trumped by the elevation of mining over the environment.

The Report contributes to local and international commentary on coal mining's

impacts and regulation by demonstrating the importance of analysing underlying socio/political issues which engender environmental destruction. Unless this context is unpicked, it will not be possible to understand why harmful environmental practices persist, or to advocate for change and make appropriate interventions to prevent the destruction of natural resources and the threat to South Africa's food security.

Recommendations

- A Push Back Coal coalition and research initiative already exists but needs to be strengthened and extended to deepen understandings and formulate modes of resistance. Disparate research initiatives need to be consolidated and an advocacy dimension needs to be considered.
- Initiatives are underway to undertake litigation but this needs to be extended to consider what the most strategic interventions would be. Access to targeted research would strengthen litigation, and the coalition could focus on how regulatory failure could become the focus of a Constitutional case. This could be brought on the basis that access to food and water security is deeply compromised by an implementation gridlock, the "misrule of law" and grey zone activities, together with a failure of co-operative governance. Such a case could rest on a directive to government to unblock the paralysis and properly resource and strengthen the water, agricultural and environmental departments.
- Concurrent with constitutional action, legal challenges should be multiplied and directed at mining companies and government departments. However, in isolating the practices of particular mines, the cumulative impact of coal mining on a region should not be lost.



- Pressure should also be sustained through the education of coalition, labour and fenceline community members on coal, water, food, air and other issues with a view to mobilising collective action. This would bring white farmers, specialist NGOs, trade unions, communities, small scale farmers and other interested and affected parties into a united front to protect agriculture, and ensure food and water security. Research on a just transition away from coal, for example alternatives to coal jobs, should run concurrently with such education initiatives.
- Networks of “citizen monitors” should be facilitated locally and regionally (Benchmarks Foundation is a good model) through the formation of mining, environment, water, local government and agricultural committees. Such committees should demand apposite corporate consultation and access to mines to monitor regulatory transgressions and work in tandem with government inspectors.
- The Push Back Coal Coalition, armed with appropriate research, should lobby parliament regarding the institutional strengthening of regulatory oversight and enforcement. This is necessary given that the DMR has issued numerous licences without proper consultation with the DWS. Parliament needs to consider amplifying relevant budgets to enable the employment and thorough training of sufficient inspectors. Water laws do not require public participation in the water licensing process and lobbying for its inclusion could feed into the ongoing review of the NWA.
- Monitoring representatives could meet with environmental, water, agricultural and mining Ministers and Directors General to alert them to regulatory failure, particularly of the OES, as well as to educate them on the danger that coal mining holds for food and water security. This could be done through the presentation of research and offers of assistance in strengthening gov-

ernment’s oversight capacity. The environmental minister should be urged to declare critical water and agricultural areas, such as the headwaters of water catchment areas like Delmas, as no go zones under the enabling legislation of Nempaa.

- Local monitoring committees could demand regular joint citizen/municipal consultation committees to push local government into using its powers of land rezoning through Spluma, as well as to encourage the use of municipal by-laws to contain other destructive impacts such as air pollution. The South African Local Government Association (Salga) should be brought into discussions on land use planning at local and provincial levels. Push back coal initiatives and a just transition away from coal should be integral to this discussion.
- A workshop of different stakeholders concerned with mining’s impacts on water, environment, and agricultural land should meet to plan taking forward the initiatives suggested above.

Title: Coal Water and Mining: Flowing badly. Published June 2017
www.swop.org.za

A Brief Summary of Policy Gap 9, the Coal Report

Bench Marks Foundation

While many local and international commentators, including economic and political analysts, have only recently woken up to the turmoil and risks facing the South African mining industry, the Bench Marks Foundation has been “waving red flags and ringing warning bells” for more than a decade now. The Bench Marks Foundation’s aim is to change corporate behaviour towards responsible business conduct that benefits communities and enhances the overall well-being of those most negatively impacted upon. To do our studies we use as our basis, the Principles for Global Corporate Responsibility - Bench Marks for Measuring Business Performance.

The living conditions of communities residing near coal mines are appalling and result from the poor performance on social responsibility by the mining companies and the lack of support for human rights. This report provided an overview of such serious negative impacts of coal mining in South Africa and primarily focuses on the central basin in Mpumalanga. In particular, the report highlighted the shortcomings in the policies coal mining companies currently implement to engage with the near-mine communities.

As a main concern emanating from the report, it is clear that South Africa is faced with a crisis of representation. Communities and workers increasingly feel the need to resort to violence in

their protests. Global best practice guidelines on corporate responsibility and human rights are not implemented as they should be by an industry that currently creates its wealth from dirty and non-renewable energy resources to the detriment of the environment and the misery of surrounding communities.

The report specifically focussed on the grievance mechanisms available to workers and communities in order to find remediation and justice around issues of the negative impact of mining on community health and safety and the destruction of the environment. The report concentrated on the grievance mechanisms of Anglo Coal and BHP Billiton.

Anglo Coal

Anglo introduced a standardised process across its operations for identifying and managing its impact on communities, and for addressing complaints and grievances. The tool is referred to as the “Socio- Economic Assessment Toolbox” (SEAT). The SEAT process consists of seven steps and is supposed to be implemented by all Anglo operations every three years. It covers the entire life of the mine.

The mechanism has a number of entry points through which grievances can be lodged, including a phone hotline, email and regular mail service; it now has a Facebook page as well. Staff representatives, union representatives, elected community members, local government officials, and civil society organisations may also lodge grievances.

At least one of these avenues has to be free of charge and there must be an opportunity to remain anonymous if preferred by the complainant. It is obligatory for all complaints to be recorded on Anglo’s online system. The

complaint is then categorised into Minor, Moderate or Serious. The complaint process is concluded with a final investigation report, is



entered in the company's operations risk register and the lessons learned are disseminated throughout the corporation.

The Bench Marks Foundation has previously found, in the Policy Gap for example, that the often-good intentions of head office do not necessarily translate into good practice on the ground at operations. Anglo, therefore has to make sure that all operations use the very new model for grievance procedures (included in SEAT Version 3).

The BHP Business Code of Conduct

Like SEAT of Anglo, this is a one size fits all kind of document. It does not take into account regional, national, provincial and local variations, not just in operations but also in terms of culture, politics, economics and environmental issues. Whereas Anglo's SEAT Community Toolkit has been in existence since 2004, the BHP Billiton Business Code of Conduct seems to have only been published in May 2013. Clearly it is too early to tell if the grievance procedure indicated therein will be effective or not. It anyway seems to be more employer/employee than community oriented. It seems mostly to be related to workplace and space issues. There is also an implied threat that if an issue or grievance raised is not considered "genuine" by the corporation, punitive steps may be taken against the person raising the grievance. The implied threat here is most certainly intimidatory.

BHP Billiton's engagement with communities near mines in Australia is qualitatively different from what they are in South Africa. What is clear from BHP Billiton's various reports is that BHP Billiton directly and continuously engages with communities in Australia. No doubt, it is a requirement of the excellent Australian Mining Code, which requires that Australian mining corporations apply the very strict and laudable clauses of this document when they invest outside Australia as well.

However, in South Africa, the BHP Billiton engagement with communities cannot be described as anything other than philanthropic and much of the criticism directed at Anglo American's coal operations also hold for BHP Billiton.

The impacts and externalisation of costs of coal mining

In Mpumalanga, the cumulative nature of the impact of so many mines in such a confined space makes it difficult to disaggregate the impact of one operation from all others. In this report, the cumulative impact and externalisation of costs by coal mining is discussed, and where possible individual operations are named.

In South Africa, the mining industry has an extremely cavalier attitude towards the closure of mines and the rehabilitation of the environment. The country has approximately 6 000 abandoned mines, spilling acid water and heavy metals into the environment. Mines are abandoned despite strict environmental and water legislation and a legal requirement in terms of the Minerals and Petroleum Resources Development Act for mines to set aside funds for effective mine closure.

This study shows that abandoned mines represent a major cost externalisation to society, as post closure impact is extensive.

Title: Coal Water and Mining: Flowing badly. Published June 2017
www.bench-marks.org.za/research/policy_gap_9.pdf

Broken Promises

Centre for Environmental Rights

In November 2007, following demands by civil society for intervention, the then Minister of Environmental Affairs declared 31 000 km² of the heavily-polluted Mpumalanga Highveld, then home to about 3.6 million people, a “priority area” in terms of the National Environmental Management: Air Quality Act, 2004. The Highveld Priority Area (HPA) was declared because, as the Department of Environmental Affairs (DEA) said at the time, “people living and working in these areas do not enjoy air quality that is not harmful to their health and well-being”, as required by section 24 of the Constitution.

After 2007, it took more than four years for an air quality management plan (AQMP) for the HPA to be published in March 2012. The AQMP should be reviewed after five years. The DEA’s own review of the AQMP, published for comment in February 2017, makes clear that, despite some ten years since the HPA’s declaration, air quality remains poor, with numerous exceedances of the NAAQS (in broad terms, standards set under the Air Quality Act that ambient air must meet in order for people to breathe that air without damaging their health).

The Centre for Environmental Rights (CER), groundWork, and the Highveld Environmental Justice Network (HEJN) have been supportive, active and vocal participants in the various

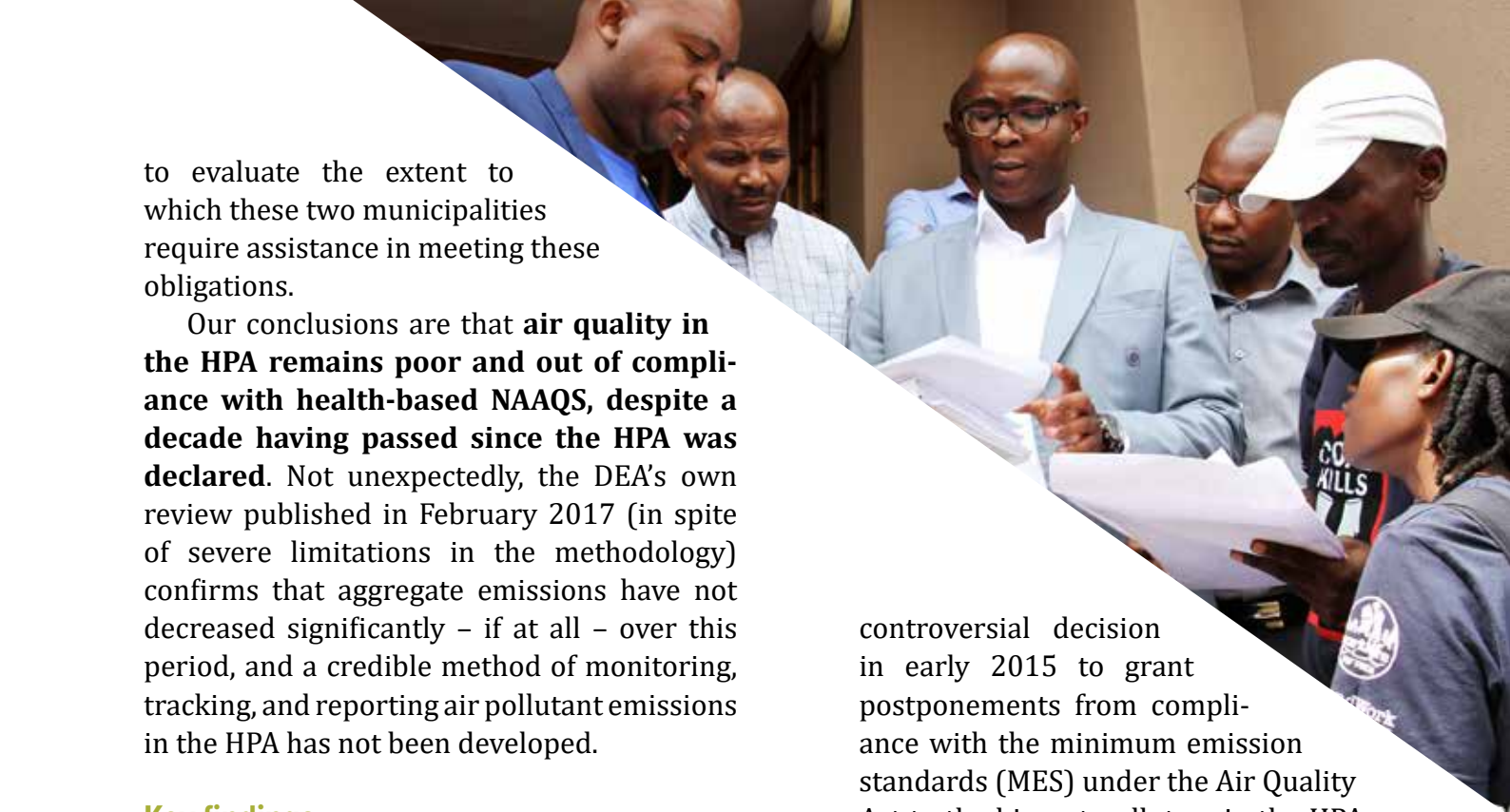
HPA processes for many years, with a particular focus on the Nkangala District Municipality (NDM) (home to towns including eMalahleni, Middelburg, Delmas and Hendrina), which hosts significant industrial, electricity generation, mining, and manufacturing activity.

Frustrated with the lack of progress and the ongoing and devastating health impacts related to this failure, the CER has, with support from groundWork and HEJN, conducted its own analysis to determine whether the declaration of the HPA and the promulgation of the AQMP have improved air quality within the HPA to protect health; and if not, why not?

This evaluation focuses on the following issues as the main challenges in reducing high levels of pollution in the HPA:

- capacity and responsibility for air quality;
- dust control measures;
- measures to reduce domestic fuel burning air pollution; and
- steps taken by industry to reduce pollution, and emissions of greenhouse gases (GHGs).

We used information from various sources, including annual reports of the National Air Quality Officer (NAQO); reports presented by government at HPA meetings; expert analysis; the DEA’s own review of the AQMP; emission data available to us; submissions made by the DEA in Parliament; and our own participations and observations. Furthermore, given the important responsibilities of local government in regulating air quality under the Constitution, and our experience and perceptions of municipalities’ difficulties in fulfilling these, a questionnaire was developed to assess the views of the NDM and the eMalahleni Local Municipality on these main issues – including whether air quality has improved since the declaration of the HPA – and



to evaluate the extent to which these two municipalities require assistance in meeting these obligations.

Our conclusions are that **air quality in the HPA remains poor and out of compliance with health-based NAAQS, despite a decade having passed since the HPA was declared.** Not unexpectedly, the DEA's own review published in February 2017 (in spite of severe limitations in the methodology) confirms that aggregate emissions have not decreased significantly – if at all – over this period, and a credible method of monitoring, tracking, and reporting air pollutant emissions in the HPA has not been developed.

Key findings

- Air quality in the HPA has not improved in the past ten years, despite the declaration of the HPA and the development of the AQMP.
- Without adequately-functioning, accredited monitoring stations, we do not know whether the air quality is actually far worse than it appears.
- It is difficult to assess directly whether key industries have reduced emissions, given that neither government nor industries make key data and documents publicly available for review.
- Negligible measures have been taken for the past ten years to reduce dust emissions, particularly from mining activities – one of the major contributors to poor air quality in the HPA.
- Limited steps have been taken to reduce air pollution in dense, low-income settlements.
- Neither NDM nor the local municipalities within the NDM have enough money or dedicated, appropriately-trained and skilled staff to implement the HPA AQMP and to enforce the Air Quality Act.
- To our knowledge, the support provided by DEA for local authorities is not only inadequate, but the NAQO's

controversial decision in early 2015 to grant postponements from compliance with the minimum emission standards (MES) under the Air Quality Act to the biggest polluters in the HPA – Eskom and Sasol – has made it significantly more difficult for air pollution in the HPA to be reduced.

- This report concludes that the HPA has, to date, dismally failed in its purpose: to improve air quality so that it at least meets the NAAQS. This means that people of the HPA are having their Constitutional rights to an environment not harmful to health and wellbeing violated. The significant air pollution means that HPA residents are dying prematurely, and suffering from respiratory and cardiac illnesses that inhibit their prosperity and wellbeing.

People living in the HPA, and organisations that have been active and vocal participants in the HPA structures, are angry and frustrated by government's failure to protect health by reducing air pollution in priority areas. Pollution is not being adequately monitored or reduced, and polluters are not being held accountable.

The report makes various recommendations to address the current issues.

http://www.groundwork.org.za/specialreports/Broken-Promises-full-report_final.pdf

Social and labour plans

Centre for Applied Legal Studies

When a company applies for the right to mine, it has to submit a number of different documents to government through the Department of Mineral Resources (DMR). One of the most important documents is its social and labour plan (SLP). The SLP is a plan of how the mine will benefit its workers and the communities they come from and live in, as well as communities near the mine. This is like a list of promises the mine makes and may include, for example, programmes for developing the skills of their workers, upgrading local roads, or providing water and sanitation in the area. For an SLP to have real impact, communities must have a say in the projects the mine selects to include in its SLP. Once the company is awarded a mining right, the commitments in the social and labour plan become legally binding. The mine must fulfill its promises or it is acting against the law.

There is, however, very little research that has been conducted on how the SLP system works in South Africa. For this reason, CALS started the social and labour plan project to investigate whether the system is able to achieve its goals of ensuring mining improves the lives of communities and workers. The table below summarises what we found in our research and what we suggest could be done to address any problems.

Communities do not have access to social and labour plans

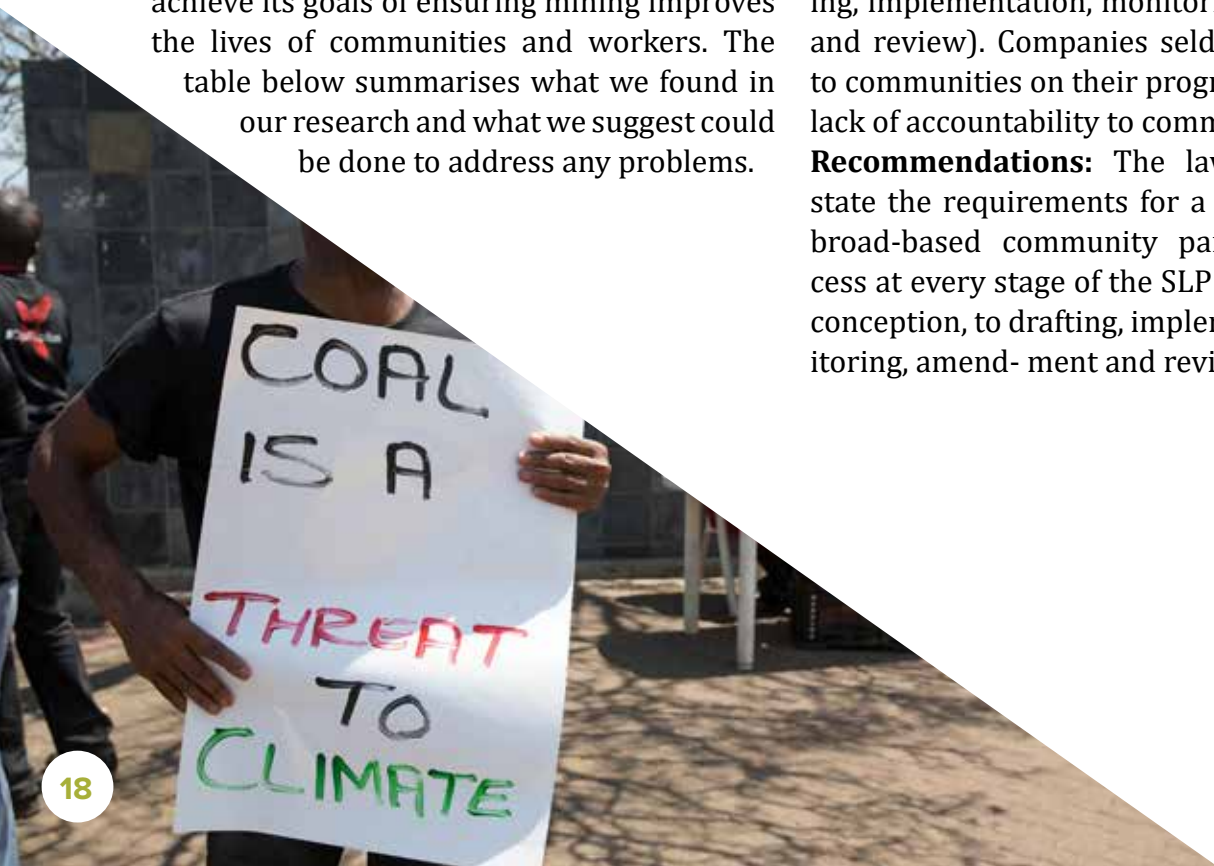
Findings: Communities struggle to access SLPs with few companies making copies available and only a handful of companies placing them on their websites. Many companies still view SLPs as confidential documents. The process of gaining access to SLPs through access to information requests is a time consuming one that further excludes communities.

Recommendations: The law must clearly state that companies and the DMR must place complete SLPs and annual compliance reports (including the budget) on their websites. The law should also require companies to provide physical copies of SLPs (including the budget) to affected communities and to translate SLPs into the first languages of people in the communities where they operate.

Communities are not part of developing social and labour plans

Findings: Few communities are allowed to meaningfully participate in the different stages of the SLP process (conception, drafting, implementation, monitoring, amendment and review). Companies seldom report back to communities on their progress so there is a lack of accountability to communities.

Recommendations: The law must clearly state the requirements for a meaningful and broad-based community participation process at every stage of the SLP (including from conception, to drafting, implementation, monitoring, amend- ment and review).



Government departments do not work together well

Findings: SLPs require many government institutions to work together. If, for example, a mine builds a school and there is no agreement with the department of basic education to supply teachers, a project will stall.

We have found there is a lack of communication, trust and agreement on everyone's roles and responsibilities. There is also a lack of integration between SLPs of different companies operating in the same area. The result is often small and piecemeal projects with little impact.

Recommendations: The law must be clearer on what the roles and responsibilities of different government organs are in SLPs. Forums for intergovernmental co-operation on SLPs and local economic development in mining areas should be set up and all core stakeholders (for example, communities) must be included.

Social and labour plans do not target women

Findings: Few SLPs directly acknowledge the particular impacts of mining on women in the broader community and on the mine site. Community projects specifically targeted at women are rare as are programmes to combat gender-based violence and discrimination on the mine site.

Recommendations: The law must, in clear language, require SLPs to include programmes to address violence and discrimination on the mine site and local economic development programmes aimed at benefiting women in the community.

Few SLPs directly acknowledge the particular impacts of mining on women in the broader community and on the mine site. Community projects specifically targeted at women are rare as are programmes to combat genderbased violence and discrimination on the mine site.

The budget for social and labour plans is not secure enough

Findings: Some companies reduce their SLP commitments when profits drop. For communities, however, the impacts of mining continue, regardless of how much money the company makes. This shows that the budget is not secure and that binding legal obligations are not taken seriously enough.

Recommendations: The law must clearly require that the budget for SLPs be placed in a separate and secure account only for SLP spend. The law must provide a formula for calculating sufficient SLP spend based on the size of the mine and its impact.

All role players in the mining sector are recognising that the present form of the SLP system is not working. What is needed is for government to initiate a process for developing an improved system that involves communities and workers in particular as central participants.

www.wits.ac.za/media/wits-university/faculties-and-schools/commerce-law-and-management/research-entities/cals/documents/programmes/environment/resources/Social%20and%20Labour%20Plans%20First%20Report%20Trends%20and%20Analysis%2030%20March%202016.pdf

No longer a life worth living

WoMin

Water is essential to survival, and to the reproduction of all peoples. For this reason, it is guaranteed as a fundamental right in the South African Constitution, echoing similar provisions in international frameworks. Yet nearly 5-million people across South Africa do not have access to piped water and source their drinking water from rivers, streams and dams. South Africa is, at the time of writing, afflicted by the worst drought in a century. In 2015, five provinces were declared disaster areas. Tens of thousands of people, predominantly rural dwellers, have lost access to water supply as rivers, streams and dams have dried up and municipalities fail to provide the needed water supplies.

No Longer a Life Worth Living Report is the story of two such communities – the Somkhele and Fuleni communities – in northern KwaZulu-Natal who face the twin crisis of water grabs by a coal mining operation and drought linked to climate change. This is a story about the water crisis, as told by women in these two communities. They are the ones who carry the brunt of the crisis, but they too are the ones who carry the hope for a different more just future.

This report is based on a Participatory Action Research (PAR) project conducted in the Somkhele and Fuleni communities over a period of eight months between April and November 2016. The PAR was led by a research

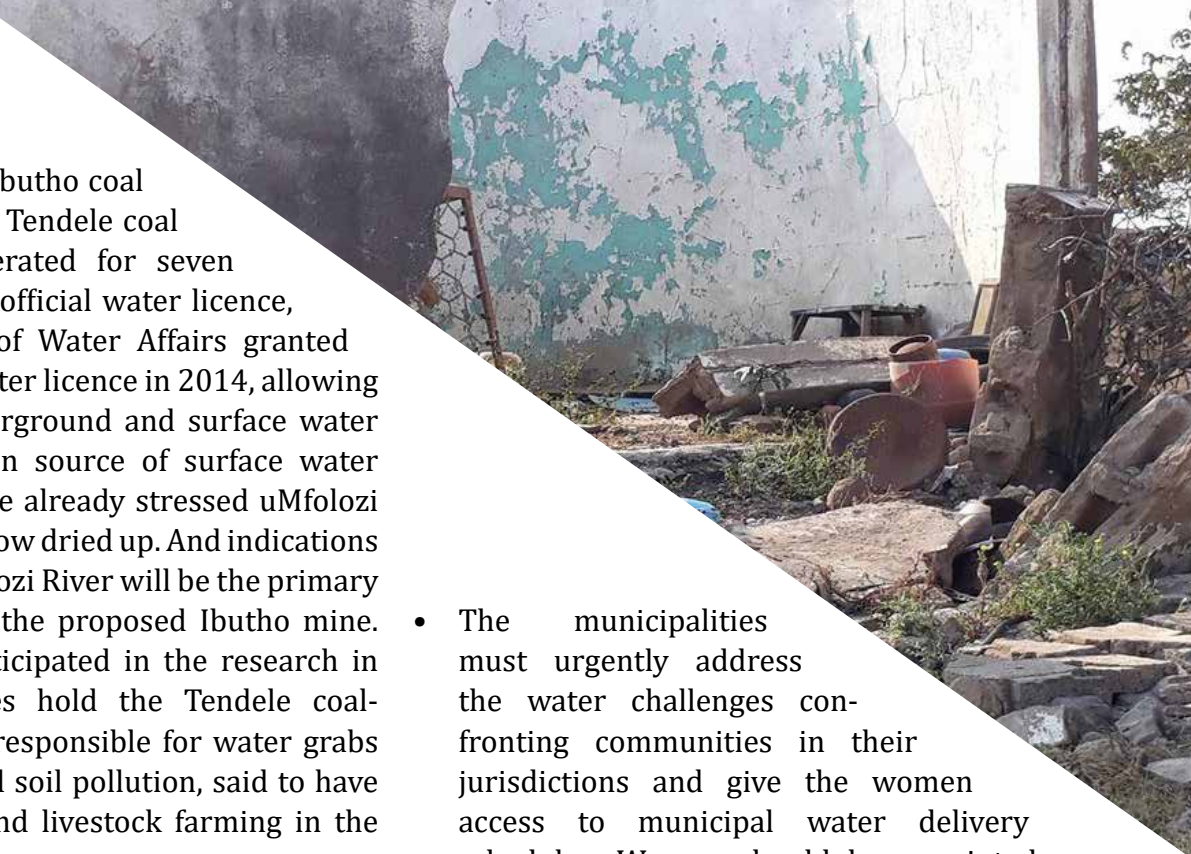
team of ten women activists, five from each of the two communities. The research conducted by the women identified problems related to the mine's water grabs, the drought and accompanying water scarcity, and the water pollution in the area. The research also addresses the outright failure of the municipality and the national Department of Water Affairs to regulate water licensing, and meet constitutional, legal and policy commitments concerning the water rights of all citizens.

Somkhele has a population of 180 000, and Fuleni is home to approximately 16 000 people. Nearly 54% of the households in these communities are female headed.

People in these communities have historically relied on crop and livestock farming, supplementing remittances from male migrants to industry and mines in other parts of the country. In recent years, farming has been decimated by the combined effects of drought, water grabs and water, air and soil pollution attributed to mining activities in the area.

The water crisis has led to the suspension of farming activities, which are heavily reliant on rains as the source of irrigation. Livestock, in which the wealth of rural dwellers is vested, has been decimated by the drought, with animal carcasses and skeletons dotting the dry terrain. The water crisis has contributed to increased hunger, poor health, greater poverty and the intensification of women's unpaid work as they walk greater distances in search of safe free drinking water and labour to take care of sick family members.

Local coal mining is one substantive cause of the water problems afflicting both communities. Somkhele is home to the Petmin Group-owned Tendele coal mine which began operations in 2007 and, if a mining licence is issued, Fuleni will soon be home to the



highly contested Ibutho coal mine. Despite the Tendele coal mine having operated for seven years without an official water licence, the Department of Water Affairs granted the company a water licence in 2014, allowing it to exploit underground and surface water sources. The main source of surface water for the mine is the already stressed uMfolozi River, which has now dried up. And indications are that the uMfolozi River will be the primary water source for the proposed Ibutho mine. Women who participated in the research in both communities hold the Tendele coal-mine principally responsible for water grabs and air, water and soil pollution, said to have destroyed crop and livestock farming in the area.

In Somkhele women allege that the mine has pumped water from the uMfolozi River, the main water supply for the local communities, and fenced off communal water sources. The gendered division of labour in these two communities assigns women primary responsibility for domestic responsibilities related to water collection, food production, processing and preparation, and family care. In families, women bear the brunt of the water scarcity and associated ill health, and this is a key reason for the PAR's focus on women.

Recommendations

As part of the research, the women of Somkhele and Fuleni developed concrete recommendations on what needs to be done to address this urgent situation and secure a better future for generations to come.

- The DWS (Department of Water and Sanitation) must not issue a water licence for Ibutho Coal in Fuleni on the basis that coal mining there will exacerbate the already critical water, environmental and ecological challenges facing the community.
- Government should revoke the water licence for Tendele coal mine and shut the mine down for the pollution of water sources and gross human rights and environmental violations.

- The municipalities must urgently address the water challenges confronting communities in their jurisdictions and give the women access to municipal water delivery schedules. Women should be appointed as community liaison officers to prevent gatekeeping and water distribution along partisan lines.
- Municipalities should develop clear procedures to make sure all households receive a fair, equitable and guaranteed water quota.
- The municipalities should create a platform for women to directly access officials to raise any service delivery concerns they may encounter.
- The municipality must investigate and take immediate action to address corruption in the supply of municipal water.
- The municipalities must respect and adhere to the Constitution and the free water policy of the DWS.
- There must be a change in cultural practices that enslave women and exclude them from community decision-making.
- Other organisations and communities should rally behind the Somkhele and Fuleni communities as they continue their fight against the Tendele mine and Ibutho Coal.

www.womin.org.za/images/WominParticipatoryActionReport_English_2017B.pdf

Just transition: The only way forward

groundWork, Friends of the Earth South Africa

South Africa's Minerals Energy Complex (MEC) created the world's most unequal society, ruined good land and sweet water, polluted the air, harmed people's health and destabilised communities. The major coal fields are now in decline and the big mining corporations are selling up to escape their liabilities. They will leave not just hundreds of abandoned mines but abandoned mining regions.

Burning coal, oil and gas also drives climate change. The world has now warmed by over 1°C above pre-industrial levels and the Highveld warms at double the global rate. This is already dangerous. Drought on the Highveld in 2015/16 withered the maize crop and sent prices spiralling. Poor people had to reduce the quantity and quality of the food they bought. Unless CO₂ emissions are rapidly reduced, global warming will hit 2°C within the next twenty years. This will be deadly. This will have a heavy impact on people's health and, ironically, power station cooling systems will start to fail.

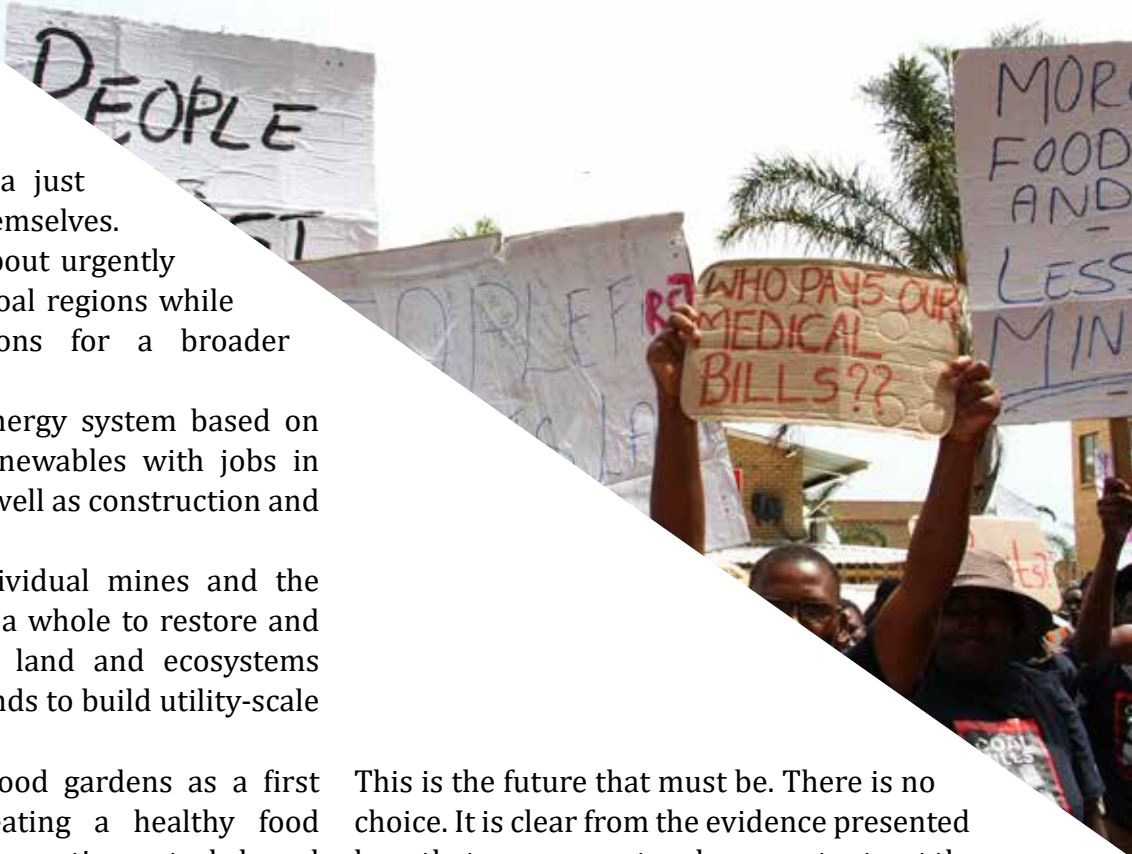
A great deal of work needs to be done if we are to respond adequately to climate change. The market and corporates have not and will not create the jobs to do it. In the coal regions, it has left over 40% of the people without employment or adequate means to live.

And more jobs are shed as mines and factories are automated or closed.

For Anglo American, a just transition is about "incremental expansion where it made sense" and "making sensible capital allocations on incremental life extensions" on thermal coal, despite all the evidence that coal and fossil fuels have to stop now. This is not a transition, let alone a just transition. This is going back to what is best for the bottom line. At best they are off-loading their past coal developments – which have caused massive environmental damage – and future development such as New Largo to companies "majority owned and controlled by historically disadvantaged South Africans". So essentially leaving the coal legacy for others to deal with.

The future is bleak and affected people have to define and make their own future. They cannot depend on government and most certainly not on the corporates that got us into this mess.

We support the call of the trade unions for a just transition to a clean, equal and democratic economic order. A just transition must be for everyone, but we think it starts on the coal fields. Workers and local communities carried the costs of the creation of the coal-based economy. They should not have to carry the cost of the transition away from coal. A just transition must be a public initiative driven by communities and workers and supported by government.



Several elements to a just transition suggest themselves. Some elements are about urgently needed work in the coal regions while others are suggestions for a broader response:

- Building a new energy system based on socially owned renewables with jobs in manufacturing as well as construction and operations;
- Rehabilitating individual mines and the mining regions as a whole to restore and detoxify damaged land and ecosystems and using these lands to build utility-scale solar farms;
- Making people's food gardens as a first step towards creating a healthy food system under democratic control, based on ecological agriculture and ensuring enough for all;
- Reconstructing settlements in anticipation of the intensified storms and droughts that climate change will bring, fixing the broken roads, water and sewage pipes, and providing proper municipal and health services that respond to those who are in most need and ensure that people's health improves;
- Building good, energy-efficient homes supplied with solar water heaters (with servicing after installation) so that people stay comfortable with minimal energy use;
- Planning to put work and amenities within people's reach and to make walking and cycling the easy options and developing safe and reliable public transport for longer trips;
- Creating a zero waste economy, eliminating built-in redundancy and throw-away products and developing high levels of recycling and composting of organic wastes;
- Introducing a basic income grant for all to enable poor and unemployed people, who are most vulnerable to climate change, to participate more actively in all areas of life.

This is the future that must be. There is no choice. It is clear from the evidence presented here that government and corporates treat the Highveld as a sacrifice zone. But the people can still save themselves, the land, the water and the air and make a just future. To do that, the people who live and work on the Highveld have to engage to create local democracies to deliver a Just Transition.

We believe that the central organising principle of economy should be sustainability founded on economic, social and environmental justice. This means a commitment to growing human solidarity and equality as well as a relationship to the environment which enhances rather than degrades the functioning of eco-systems both for their intrinsic value and for the eco 'services' they provide. The Constitutional justification of such a redefinition is found in the Environment Right. This does not imply that economy and production are unimportant, but that the economy must serve people rather than people serving the economy. This would create the basis for a just transition.

Some Other Useful Reports and Studies

Organization/Title	Web Link
South African Human Rights Commission	https://www.sahrc.org.za/home/21/files/SAHRC%20Mining%20communities%20report%20FINAL.pdf
<p>Despite extensive regulation and notable attempts by mining companies and government to implement progressive and sustainable projects, current industry practice is characterised by inconsistent legal compliance and reflects obvious legislative gaps. As a result, many mining-affected communities continue to experience significant levels of poverty and systemic inequality, which reinforces the notion that the benefits of mining operations disproportionately favour mining companies and the state, and are often to the detriment of local communities. The report highlights that a greater focus on social and environmental sustainability, coupled with the introduction of improved measures to address systemic non-compliance and ineffective monitoring, is key to ensuring that the negative impacts of the mining industry are minimised and that the rights of mining-affected communities, particularly vulnerable groups such as women, children, the elderly and people with disabilities, are upheld.</p>	
CER	
Full Disclosure	https://cer.org.za/download/CER-Full-Disclosure.pdf
<p>The Centre for Environmental Rights' Full Disclosure series of reports assesses the public disclosures of listed South African companies with significant environmental impacts. The reports analyse the extent to which these companies accurately reflect their environmental compliance records, and their environmental impacts and liabilities, in their reports to shareholders.</p>	
Health Impacts and social costs of Eskom's proposed non-compliance with South Africa's air emission standards	http://m.greenpeace.org/africa/Global/africa/publications/Health%20impacts%20of%20Eskom%20applications%202014%20_final.pdf
<p>This paper applies best practice modelling tools to provide an estimate of the health damages and economic costs that would be avoided by requiring Eskom to comply fully with the national air emission standards. The assessment of the health and economic impacts follows the impact pathway approach: estimate excess emissions resulting from Eskom's planned non-compliance with the MES. It also assess the health impacts of these increases; and value the health impacts in monetary terms.</p>	
Report on financial impact of coal on water resources	https://cer.org.za/news/water-costs-impacts-of-coal-fired-power-grossly-underestimated-in-electricity-planning
<p>Mining coal and burning it in power stations uses large amounts of water, and pollutes even more water. It imposes massive but uncounted costs on society and particularly on poor people who live in the coal regions. A new report from the Life After Coal campaign calls for these costs to our water resources to be accounted for in the Integrated Resource Plan (IRP) – South Africa's plan for the future electricity system. The report, entitled Water Impacts and Externalities of Coal Power, was compiled from a wide range of existing research on the cost of the impacts of coal mining and burning on water resources.</p>	
350.org	
Renewable Energy as best development path	http://350africa.org/files/2015/07/RE-Report_web.pdf
<p>The report highlights on-going developments in electricity supply technologies costs and knowledge of SA's excellent renewable energy resources to illustrate the socio-economic benefits that could be achieved through the prioritisation of renewable energy development, on a large scale that would support localisation of manufacturing – including a target for 40% of electricity supply from RE by 2030. It further assesses the need and rationale for national climate change mitigation beyond established commitments and the extent to which prevailing plans and proposals for coal use, such as envisaged in the SA Coal Road Map, conflict with the global mitigation goal and undermine prospects for sustainable development.</p>	

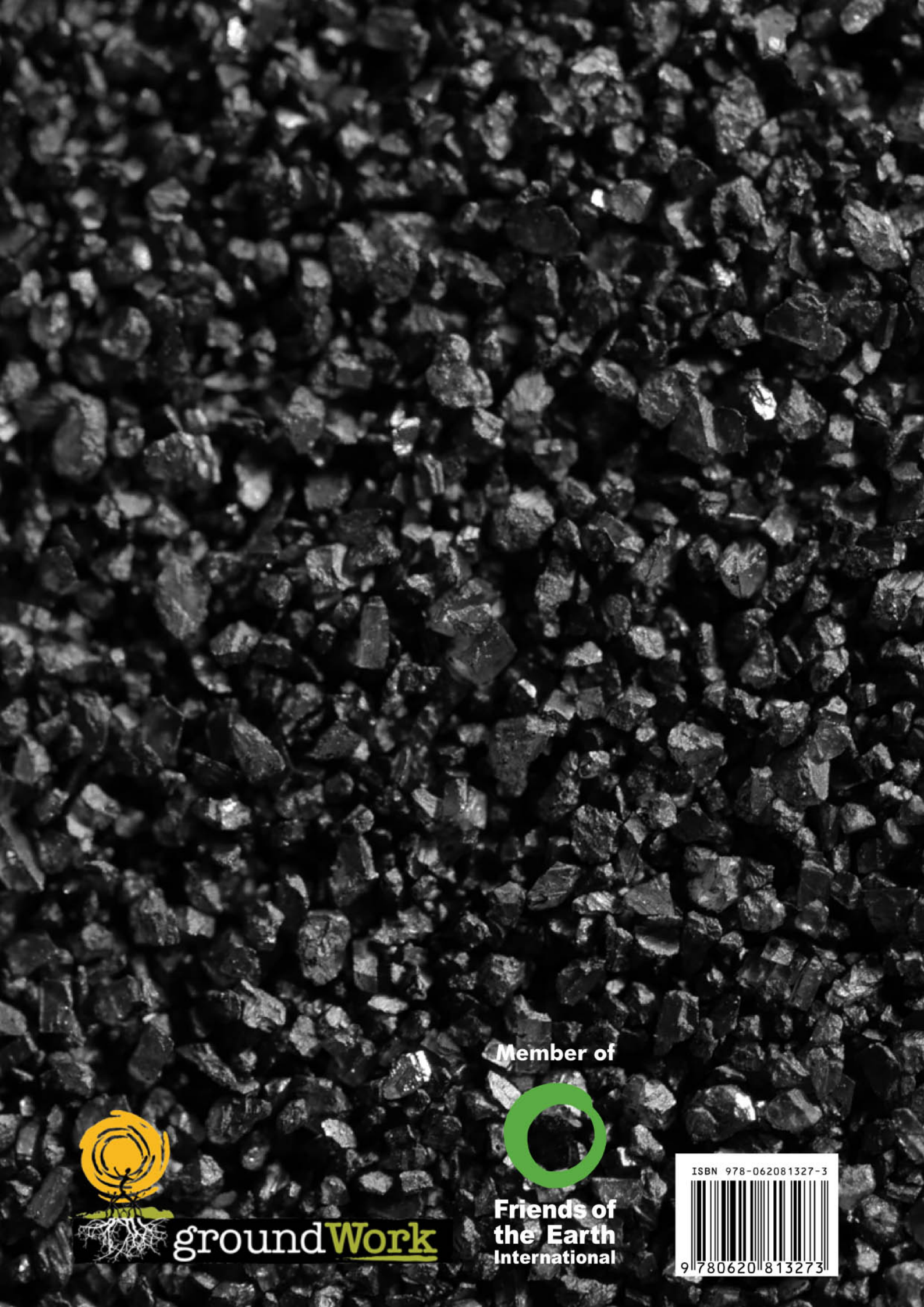
groundWork	
The World Bank and Eskom: Banking on Climate Destruction	http://www.groundwork.org.za/specialreports/worldbankeskom09.pdf
<p>The World Bank and Eskom: Banking on Climate Destruction was written in 2009 when Eskom was already in trouble and the World Bank's loan for Medupi was still being negotiated. It was part of a world-wide campaign to stop the loan. The Bank said the loan would help Eskom "achieve financial stability, increase generation capacity and efficiency, and adopt a low-carbon trajectory". The report showed why this was nonsense. Eskom's 'new build' was anything but low carbon and it would risk the financial stability of the country as well as Eskom. Subsequent events have proved it right.</p>	
Talking Energy: The groundWork Report 2013	http://www.groundwork.org.za/reports/FINAL%20Talking%20Energy.pdf
<p>Talking Energy recounts conversations with people in the Vaal, the Highveld and south Durban. We talked about household energy use, the rising price of energy, what they thought of the energy system and the key actors within it, and whether they had any ideas about an alternative system. Energy is not isolated from the rest of people's lives and people also spoke of water, sanitation, waste, housing and the general state of the neighbourhood and its infrastructure.</p>	
Meridian Economics	
Eskom's financial crisis and the viability of coal-fired power in South Africa	http://meridianeconomics.co.za/wp-content/uploads/2017/11/CoalGen-Report_FinalDoc_ForUpload-1.pdf
<p>A research report presented by Meridian Economics shows that Eskom should decommission older coal-fired power stations and consider curtailing the construction programme of Kusile in order to save costs. The investigation into individual power stations found that it makes economic sense to decommission the older coal-fired power stations early; and that avoiding the completion of Kusile units 5 and 6 could result in a net financial saving, without affecting security of supply. Based on power system modelling, the study also shows that South Africa does not need nuclear, coal or (in the foreseeable future) gas power procurement programmes, but should instead accelerate its transition to cleaner, cheaper and more sustainable energy by accelerating its procurement of renewable energy while decommissioning its older power stations.</p>	
Greenpeace	
The Poison People - Impacts of coal in Emalahleni	http://www.greenpeace.org/africa/en/campaigns/Climate-change/coal-testimonies/
<p>The Poison People report focuses on the health impacts of air pollution by Eskom in Emalahleni (Witbank) through its coal fired power stations. The report takes into account personal stories of people whose health and well being has been affected by air pollution. The people speak from a lived and ongoing experience of day-to-day suffering.</p>	
AIDC	
1 Million Climate Jobs	http://aidc.org.za/download/climate-change/OMCJ-booklet-AIDC-electronic-version.pdf
<p>In this report, the Alternative_Information_Development_Centre(AIDC) proposes a plan for at least 1000 000 new climate jobs (jobs in renewable energy, public transport, construction and agriculture that promote climate change mitigation and adaptation), that are expected to last for at least 20 years, and in many cases much longer.</p>	

More Useful Reports and Studies

Organisation/Title	Link
CER	
Broken Promises: The Failure of the Highveld Priority Area	https://cer.org.za/wp-content/uploads/2017/09/Broken-Promises-full-report_final.pdf
Electricity Demand	https://lifeaftercoal.org.za/wp-content/uploads/2017/12/Electricity-Demand-Op-ed-Final.pdf
The costs of generating electricity – a forward-looking view	https://lifeaftercoal.org.za/wp-content/uploads/2017/04/The-costs-of-generating-electricity.pdf
Time to Kick the Baseload Addiction	https://lifeaftercoal.org.za/wp-content/uploads/2017/04/Time-to-kick-baseload-addiction.pdf
Transitioning the Grid	https://lifeaftercoal.org.za/wp-content/uploads/2017/04/Transitioning-the-grid.pdf
Zero Hour	https://cer.org.za/wp-content/uploads/2016/06/Zero-Hour-May-2016.pdf
Signs of Hope?	https://cer.org.za/wp-content/uploads/2015/11/Signs-of-Hope-Nov-2015.pdf
Money Talks: Commercial Interests and Transparency in Environmental Governance	https://cer.org.za/wp-content/uploads/2014/11/CER-Money-Talks-Nov-2014.pdf
Turn on the Floodlights: Trends in Disclosure of Environmental Licenses and Compliance Data	https://cer.org.za/wp-content/uploads/2013/03/Turn-on-the-Floodlights.pdf
Barricading the Doors	https://cer.org.za/wp-content/uploads/2013/03/Barricading-The-Doors-Feb-20131.pdf
Unlock the Doors: How Greater Transparency by Public and Private Bodies can Improve the Realisation of Environmental Rights	https://cer.org.za/wp-content/uploads/2012/04/Unlock-the-Doors.pdf
Just Share	https://justshare.org.za/
Life After Coal	https://lifeaftercoal.org.za/
CER	https://cer.org.za/
SWOP	
Coal, water and mining flowing badly – looks at political and economic factors involved.	http://www.fes-southafrica.org/fileadmin/user_upload/coal_water_and_minig_flowig_badly.pdf
Labour’s response to climate change – published by the ILO	http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---gip/documents/publication/wcms_476194.pdf
Green economy – a wolf in sheep’s clothing	https://www.tni.org/files/download/green-economy.pdf
SWOP website	https://www.swop.org.za/
Earthlife Africa	
Renewables Plan A	Renewables Plan A
Employment Potential of Renewable Energy	http://earthlife.org.za/www/wp-content/uploads/2009/03/job-creation-potential-of-re-in-sa-holm.pdf
Report critiquing LTMS – long term mitigation scenario	http://earthlife.org.za/?page_id=212
Sustainable Energy Briefings	http://earthlife.org.za/sustainable-energy-briefings/
WWF	
Water Facts and Futures Rethinking South Africa’s Water Future	http://awsassets.wwf.org.za/downloads/wwf009_waterfactsand-futures_report_web_lowres.pdf

Sustainable Energy Solutions for South African Local Government	https://www.sustainable.org.za/userfiles/green%20power%20purchase(1).pdf
Food Loss and Waste: Facts and Futures	http://www.wwf.org.za/our_research/publications/?21641/Food-Loss-and-Waste-Facts-and-Futures-Report
Understanding the Food Energy and Water Nexus: Climate change, the Food Energy Water Nexus and Food security in South Africa	http://awsassets.wwf.org.za/downloads/1_a16231_wwf_climate_change_few_and_food_security_in_sa_online.pdf
Responsible Investing for Climate Change and Water in South Africa	http://awsassets.wwf.org.za/downloads/responsible_investing_for_climate_change_and_water_wwf_nov_2012.pdf
350.org	
Divestment Campaign as a response to climate inaction	http://world.350.org/africa/files/2015/10/DivestmentReport-Oct15_web.pdf
Coal Financiers in Africa and Recipients	N/A
groundWork	
Destruction of Highveld Part 1: Digging Coal	http://www.groundwork.org.za/reports/gWReport_2016.pdf
Destruction of Highveld Part 2: Burning Coal	http://www.groundwork.org.za/reports/gW_Report_2017.pdf
Report on the Vaal and Coal implications	N/A
Peak Poison – on fossil fuels in general	http://www.groundwork.org.za/reports/Peak%20Poison.pdf
Health and Coal – Mike Holland report	https://cer.org.za/wp-content/uploads/2017/04/Annexure-Health-impacts-of-coal-fired-generation-in-South-Africa-310317.pdf
Bliss of Ignorance documentary	https://youtu.be/rJBx0ARsZOM
Slow Poison (2014)	http://www.groundwork.org.za/specialreports/Slow%20Poison(e).pdf
Toxic Futures	http://www.groundwork.org.za/specialreports/Toxic%20Futures%20-%20Text.pdf
ERC	
Fossil Fuel Subsidies	https://fossilfreesa.org.za/about/position_paper/
DPP Economic effects of transitioning to low carbon economy	https://cer.org.za/news/the-transition-to-a-low-carbon-future-must-be-rapid-and-must-be-for-everyone
Lessons from other coal transitions	https://www.iddri.org/en/publications-and-events/report/lessons-previous-coal-transitions
The Socio-economic aspects of mine closure and sustainable development	https://www.saimm.co.za/Journal/v110n07p379.pdf
CSMI Waterberg scenarios	http://www.srk.co.za/files/File/South-Africa/pressreleases/2012/11_November_2012/mining_mirror_waterberg_coalfields_land_of_plenty_01_nov_2012_p26-29.pdf
Alberta just transition strategy: Support for Workers Affected by Coal Phase Out	https://www.alberta.ca/support-for-coal-workers.aspx
PAMS study of mitigation scenarios	https://cer.org.za/wp-content/uploads/2018/07/Annexure-B-CER-Comments-on-PAMs-Draft-Report-6-April-2018.pdf
Greenpeace	
Shopping Clean: Retailers and Renewable Energy	http://www.greenpeace.org/africa/en/Press-Centre-Hub/Publications/Shopping-Clean-Retailers-and-Renewable-Energy-/
Energy Revolution: South Africa Scenario	http://www.greenpeace.org/africa/en/Press-Centre-Hub/Publications/energy-revolution-South-Africa/
Green Jobs: South Africa	http://www.greenpeace.org/africa/en/Press-Centre-Hub/Publications/Green-jobs-SA-2010-presentation/

SA energy sector jobs for 2030	http://www.greenpeace.org/africa/en/Press-Centre-Hub/Publications/Green-jobs-SA-2010-presentation/
Other Publications	http://www.greenpeace.org/africa/en/Press-Centre-Hub/Publications/
Other Organisations/Departments	
<i>South African Coal Mining: Dirty Power at Whose Cost?</i>	http://www.actionaid.org/sites/files/actionaid/dirty_power_copy.pdf
<i>Womin</i> Series of reports on coal: Women, Gender, and Extractivism in Africa Women Paying the Price for Stolen Tomorrows – The impacts of mineral-based industrialisation in the Vaal, South Africa	https://womin.org.za/images/papers/Full-collection-Women-gender-and-extractivism-in-Africa.pdf https://womin.org.za/images/docs/south-africa-report.pdf
<i>Benchmarks</i> Series of reports on coal	http://www.bench-marks.org.za/research/policy_gap_9.pdf
<i>Endcoal.org</i> Factsheets: general; health and coal; clean coal; financing coal; women and coal	https://endcoal.org/wp-content/uploads/2014/09/EndCoalFactSheet_WEB.pdf https://endcoal.org/wp-content/uploads/2015/01/EndCoalClimateFactsheet2014.WEB-2.pdf https://endcoal.org/wp-content/uploads/2015/01/EndCoalWaterFactsheet2014.WEB-1.pdf https://endcoal.org/wp-content/uploads/2015/03/EndCoalCleanCoalFactsheet2015.WEB-1.pdf https://endcoal.org/wp-content/uploads/2015/04/Clean-Energy-Advantage-1.pdf https://endcoal.org/wp-content/uploads/2015/03/coal_fact-sheet_5.pdf
<i>EMG.org</i> Water and climate change	http://www.emg.org.za/images/downloads/water_cl_ch/policy-briefaug2016FINAL.pdf
<i>COSATU</i> Policy on just transition to a low carbon economy	http://www.cosatu.org.za/show.php?ID=5679
<i>David Fig</i> Reports on nuclear and shale gas (gas debate also includes fracking coal) Uranium road	http://hsf.org.za/resource-centre/focus/focus-64/DFig64.pdf
<i>DEA</i> Sustainability of decentralised energy systems	https://www.environment.gov.za/sites/default/files/reports/decentralised_renewableenergysystems_report.pdf
<i>Sabin Centre and UNEP</i> Climate change litigation globally	http://columbiaclimatelaw.com/files/2017/05/Burger-Gundlach-2017-05-UN-Envt-CC-Litigation.pdf



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