



STUDY



## When only the coal counts –

German co-responsibility  
for human rights in the  
South African coal sector

by Dr. Melanie Müller and Armin Paasch



**MISEREOR**  
IHR HILFSWERK

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A deceptively romantic scene at the Medupi power plant in Lephalale, Limpopo.

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## Foreword

► The emission of greenhouse gases from burning coal has long been recognised as one of the biggest contributors to climate change globally. South Africa obtains 90 percent of its energy from coal and ranks amongst the highest greenhouse gas emitters. The government justifies its continued investment in coal-fired power plants on the grounds of needing to provide citizens with access to electricity. Many households in South Africa however still lack access to electricity while others struggle to afford the excessive costs for basic electricity.

The South African Government has recently reaffirmed the importance of addressing the country's energy challenges, in order to stimulate economic growth and development in an environmentally friendly manner. However, it is failing to come up with a tangible plan to transform the energy sector and address the problem of energy poverty. The South African Government lacks a clear vision and strong commitment to accelerate the shift to cleaner alternative energy that is urgently needed.

This report shows that the new coal power plants of Kusile in Mpumalanga and Medupi in Limpopo –

that are still under construction – pose massive threats to the environment and human rights of vulnerable and marginalized communities surrounding the plants.

The protection of human rights and the environment is one of the primary duties of every State. South Africa’s declaration and commitment to human rights manifests in its famed Constitution. The Constitution is considered a model and is one of the most progressive in the world particularly in its recognition of environmental rights. However, the examples of Kusile and Medupi show significant shortcomings in the implementation of these rights. Two decades of deregulation have perpetuated and entrenched the perverse tendency to privilege corporate interests over public goods and human rights of communities. Environmental and social costs are externalized at the expense of these communities who pay a high price for cheap coal.

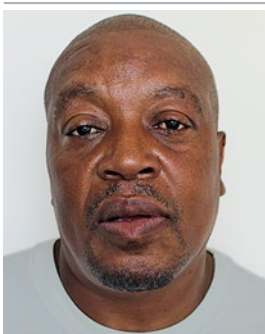
German stakeholders are among those who bear considerable responsibility for this. At least 19 German companies are involved in the construction of the two power plants. Loans from the state owned KfW

IPEX Bank and two export credit guarantees by the German government have contributed to the construction of the power plants. German energy companies have a clear responsibility to undertake human rights due diligence whenever they import coal from South Africa. This study shows that neither the German government nor German companies are sufficiently complying with their human rights obligations and responsibilities.

South Africa and Germany not only have to comply with human rights obligations but are also compelled to adhere to the requirements under the Paris Climate Agreement. While South Africa has taken some positive steps to promote renewable energy it continues to expand its coal mining operations and invests in new coal and nuclear power plants. Germany is considered to be a frontrunner in transforming its energy system, it nevertheless persists in promoting the export of German coal technology. This undermines energy transformation of countries abroad. While the publishers of this report welcome the partnership between Germany and South Africa it recommends that alternative renewable energy be the focus of the collaboration. ◀



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## Summary and conclusions

➤ The present study examines the extent to which the German government is fulfilling its human rights commitments and German companies are meeting their human rights responsibilities in respect of South Africa's coal sector. The study takes the United Nations Guiding Principles on Business and Human Rights as its basis. It focuses both on the involvement of German stakeholders in the coal-fired power plants operated by South Africa's partly state-owned energy company Eskom at Kusile (Mpumalanga Province) and Medupi (Limpopo) and on the German energy companies that import coal from South Africa. It pays particular attention to the environment-related human rights to water, food and health.

The study comes to the conclusion that the German government and KfW IPEX Bank failed to properly identify the environmental and human rights risks of the construction of the two coal-fired power plants of Kusile and Medupi and the associated operations before becoming involved in the projects. Not one of the 19 German companies involved in the power plants has accepted, when queried by MISEREOR, that it has partial responsibility for the human rights impacts. German coal importers do acknowledge the human rights risks of coal mining and electricity generation from coal in South Africa and have taken steps to counter them, but there is a lack of transparency with regard to the results of risk assessments and the conclusions that the companies draw from them.

All this emphasises the urgent need to establish in law the human rights due diligence obligations of German companies in connection with their foreign transactions. Furthermore, in relation to KfW IPEX Bank and the German government's promotion of foreign trade the study reveals failings in terms of human rights standards, impact assessments, prevention and mitigation measures, monitoring, grievance mechanisms, transparency and consultation, all of which demonstrate the need for fundamental reform. While it is true that there have been some improvements to the applicable standards of KfW IPEX Bank and the German government's promotion of foreign trade, these changes are far from sufficient to prevent similar failings in connection with future projects.

In addition, the study's findings confirm that in general the construction of coal-fired power plants, especially in the affected regions, does not contribute to the development of the poorest sections of the population, who rarely obtain access to electricity and are seldom considered for the newly created jobs. The public infrastructure is not being expanded sufficiently to cope with the vast influx of migrant workers. And, finally, the construction of new coal-fired power plants prolongs the use of environmentally damaging energy from coal, which not only has directly detrimental impacts on air and water quality but also contributes significantly to climate change. ◀

## Human rights problems and risks

### ➤ The Kusile coal-fired power plant in eMalahleni

The Kusile coal-fired power plant is located in **Mpumalanga Province**, the heartland of South African coal mining. The region has for many years been severely affected by the environmental and social consequences of coal mining. For example, the water supply is very poor: only 55 percent of the inhabitants of the nearby town of **eMalahleni** (previously Witbank) have piped water in their homes. In addition, the quality of the region's water is jeopardised by the widespread problem of acid mine drainage, which in many places leaches unfiltered into groundwater and rivers, polluting them

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eMalahleni  
(previously Witbank):

'Place of coal'

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with heavy metals. Operation of the new Kusile power plant will involve pumping 160 million cubic metres of water per year from the Vaal River via an elaborate water transport system; the Vaal has hitherto supplied the en-



White deposits are evidence of acid mine drainage, which pollutes the lakes and water in the region around eMalahleni.

tire Gauteng Province with water. As long ago as 2007 the environmental impact assessment commissioned by Eskom warned that agricultural irrigation would be severely affected by the water transport system.

In 2008 the South African government declared the region around Kusile (Highveld) a high priority area for air quality management, thereby officially recognising the high levels of pollution affecting the population. Recent studies have highlighted the link between air pollution in the region and the increased incidence of ‘black lung’ (pneumoconiosis) and other respiratory tract disorders. Airborne coal particles affect the breathing and the nervous and cardiovascular systems of large numbers of local people. Although Kusile is to be equipped with a modern flue gas desulphurisation system that reduces sulphur dioxide emissions by 90 percent, the power plant’s remaining emissions and the coal dust produced by the planned New Largo mine will further increase the already high levels of pollution.

Mpumalanga is the ‘granary’ of South Africa: the province contains around 46 percent of the country’s arable land. Twelve percent of the fertile land is currently being converted into mining land; a further 13 percent is being prospected. The expansion of mining therefore

poses a major risk to the right to food. Scientists fear that this will lead to shortages of staple foods and that the price of maize, for example, will increase by an average of 14 percent; they are also concerned about the possibility of increased dependence on food imports. According to Eskom, construction of the Kusile power plant has involved relocating between 27 and 43 families. Farmers have also been moved to make way for the New Largo mine that will supply Kusile.

Although the first of the six power plant boilers at Kusile will probably not come online until 2017 and final impact assessments cannot yet be carried out, developments in the region so far indicate that construction and operation of the power plant and the supplier coal mines will exacerbate existing ecological and social problems and further jeopardise the human rights to health, water, food and housing.

### **The Medupi coal-fired power plant in Lephalale**

The Medupi power plant is located some 15 kilometres from the town of Lephalale in the northern province of Limpopo. The first boiler came online in March 2015; another five will be added by 2019. Unlike the province of Mpumalanga, Limpopo does not have a centuries-long



Farming and horticulture are badly affected by the shortage of water in the semi-arid region around Lephalale.

history of coal mining but is in the early stages of large-scale exploitation of its coalfields.

As long ago as 2007 the environmental impact assessment commissioned by Eskom found that the sulphur dioxide emissions of the Matimba power plant were frequently causing the maximum levels then permitted in South Africa to be exceeded. According to the assessment, Medupi is therefore unable to comply with the specified limits. Despite this, the South African government, the World Bank and other lenders gave the go-ahead for the Medupi project. The management of the World Bank justified this by stating that because of the wind conditions the most populous towns of Marapong (population in 2007 17,000) and Onverwacht/Lephalale (population at that time 3,000) would not be affected by the emissions from Medupi.

However, a comprehensive independent investigation by the Inspection Panel of the World Bank in 2011 sharply contradicted this assessment. The health risk is heightened by the fact that the vulnerability of the local population to respiratory tract disorders is significantly increased by the above-average HIV/AIDS rate and by poverty and the lack of health care. The local health care infrastructure is overloaded and is un-

der additional pressure as a result of the vast influx of people looking for work. Although all six power plant boilers will be in operation by 2019, the flue gas desulphurisation systems are not due to be installed until between 2021 and 2025, which means that the population's right to health will be severely jeopardised by the SO<sub>2</sub> immissions.

No less serious are the risks to the rights to water, food and health posed by the high levels of water consumption at Medupi. For decades the semi-arid region has regularly suffered from severe droughts in which the Mokolo River virtually dries up. The present drought – the worst for decades – marks a dramatic new climax to this situation, which will become more acute as a result of climate change.

The water supply to Medupi is to be secured in future via the Mokolo-Crocodile (West) Water Augmentation Project (MCWAP). In 2011 the Inspection Panel of the World Bank estimated that this project would initially withdraw up to six million cubic metres of water annually from people living along the Mokolo River. After installation of the water-intensive flue gas desulphurisation systems, this water loss could double to as much as twelve million cubic metres per year. This poses a particularly acute risk to agricultural irrigation in the region. In the opinion of the Inspection Panel, it will have a 'particularly harmful' impact on subsistence farmers, who lack alternative means of earning a living.

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## Medupi: „Peaceful Rain“

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As a result, not only the right to water but also the rights to food and an appropriate standard of living are at risk.

The Medupi power plant may have devastating impacts not only on the availability of water but also on its quality. In a second phase of the MCWAP – the phase that will enable installation of the flue gas desulphurisation systems – almost 170 million cubic metres of water will be taken annually from the Crocodile River, which will have to be replenished with wastewater from Gauteng. It is feared that this will lead to pollution of the Crocodile River and the Limpopo River into which it flows, as well as to pollution of groundwater.

It is highly disconcerting that the possible impacts of this are only now being evaluated in an environ-



mental impact assessment of the flue gas desulphurisation systems. Equally unsatisfactory is the fact that the management of the World Bank and other donors have failed to consider known impacts such as polluted mine drainage that are already causing great damage in other regions. The impacts of the supplier coal mines and the water transport systems have been largely ignored.

The inadequate nature of the way in which the affected population was informed beforehand of the full scope of the project and consulted on the matter is also revealed by the handling of the burial sites located in the area of the Medupi power plant. An investigation on behalf of the South African Department of Environmental Affairs in 2015 found that construction of the power plant had destroyed seven burial sites of the local population. This abuse of cultural rights remains a serious spiritual problem for the later generation to this day.

### **Involvement of German stakeholders in the power plants**

Research in the course of this study has shown that at least 19 German companies have been or are involved in the construction and operation of the Kusile and/or Medupi power plants. A key role in both projects is played by Hitachi Power Europe, which is based in Duis-

burg. In collaboration with Hitachi Power Africa and several German subcontractors, Hitachi Power Europe has supplied and installed all twelve boilers for the power plants. HPE now operates under the name Mitsubishi Hitachi Power Systems Europe GmbH (MHPSE), while the Japanese parent company is now Mitsubishi Hitachi Power Systems Ltd.

Provision of the boilers was made possible by an export financing loan to Eskom of EUR 1.485 billion by a bank consortium that included KfW IPEX Bank, a state-owned German bank. In addition, the delivery was secured by an export credit guarantee (Hermes guarantee) granted to Hitachi Power Europe by the German government. Ultimately, therefore, the German taxpayer is acting as guarantor for the political and business risks of the project.

Siemens is also involved in construction of the Kusile power plant, having accepted a major order worth EUR 100 million to supply and install cabling, lighting systems, transformers and other electronic equipment there. Bilfinger Berger is involved in the construction of both power plants with an order worth EUR 85 million for the supply of items including high-pressure piping systems. In addition, Steag Energy Services and Rheinmetall Defense Electronics are both involved as suppliers and/or service providers. ◀

## **Handling of human rights problems in connection with foreign investment**

### **➤ The German government**

Principle 4 of the UN Guiding Principles on Business and Human Rights specifies that states have a particular responsibility for protecting human rights in connection with business activities abroad to which they actively provide support. In the case of Hitachi Power Europe, this active support is provided through the export credit guarantee. Even though this was granted in 2008 – before adoption of the UN Guiding Principles – Germany was even then bound under international law to respect, protect and guarantee human rights. The present study casts considerable doubt on whether Germany has abided by this commitment with sufficient care.

German government documents and reports show that Hitachi Power Europe was granted the export credit guarantee for the power plants mainly on the basis of the impact assessments that the World Bank Inspection Panel had already criticised as abridged and faulty in

2011. It is clear that the German government, like the World Bank, has significantly underestimated the environmental and human rights risks of the power plants or, at the very least, has not taken them seriously enough. Both the German government and the World Bank have largely ignored the impacts of associated facilities such as the mines, the flue gas desulphurisation systems and the water transport systems, although the relevant standards required assessment of their impacts even then. And although Eskom's environmental impact assessment had already mentioned graves on the Medupi site, the German government clearly failed to take account of this before giving its approval.

In response to questions in the Bundestag in 2015 about the agreed preventive measures, the German government merely mentioned the installation of a flue gas desulphurisation system that had already occurred at Kusile and was planned for Medupi, a dry cooling

system and a monitoring programme. The government did not reply to the question about the effectiveness of the measures taken. It did not mention that the flue gas desulphurisation systems at Medupi are not due to be installed until 2021-2025 – six years after start-up of the respective boilers. It did not address the significant health risks associated with delayed installation. Neither does it address the risks to water supply and water quality associated with the wet scrubbing process chosen for the flue gas desulphurisation system for cost reasons. It is becoming clear that the failings of that time are now making it extremely difficult, if not impossible, to prevent serious and irreversible impacts on the rights to water, food and health of people living near the power plants. The German government will have to address the question of what effective means it now has available for exerting any significant influence on the completion and operation of the power plants in order to protect the environment and human rights.

### **KfW IPEX Bank**

KfW IPEX Bank is a wholly owned subsidiary of the state-owned KfW bank group and hence a state-owned company. According to Principle 4 of the UN Guiding Principles on Business and Human Rights, if state-owned companies abuse human rights, this ‘may entail a violation of the State’s own international law obligations’. As in the case of its promotion of foreign trade, the German government therefore has an obligation here to ensure that KfW IPEX Bank respects human rights.

As with the German government’s promotion of foreign trade, the granting of export credits by IPEX Bank raises significant doubts as to whether the bank itself and the German government have exercised the necessary human rights due diligence in connection with the construction of the Medupi and Kusile power plants. The charge can be levelled against the bank that it did not treat the supplier mines and the water transport systems needed for operation of the flue gas desulphurisation systems as facilities linked to the power plants themselves and hence did not systematically assess their impacts before approving the loans. However, preventive measures are required by the 2006 edition of the Performance Standards of the World Bank’s International Finance Corporation (IFC), which IPEX Bank recognised at that time (see PS 1, paragraph 5).

It remains highly questionable whether IPEX Bank went beyond the documents provided by Eskom and the World Bank and conducted any appreciable research of its own. Even in its current sustainability guideline (version

of 1 July 2015), IPEX Bank declares that if financing operations are carried out in a consortium with other Equator Principles financial institutions, their environmental and social due diligence documents will be regarded as sufficient.

Unlike IPEX Bank, the World Bank and the African Development Bank have independent grievance and review mechanisms, under which extensive investigatory reports for Medupi were produced and published retrospectively. IPEX Bank is still refusing to set up an independent mechanism of this sort.

In its response to MISEREOR’s questionnaire IPEX Bank did not comment on the specific risks to the environment and human rights but simply described its assessment procedure. It was equally uninformative with regard to the specific measures agreed with Eskom to prevent adverse environmental, social and human rights impacts. It provides no concrete details of its own assessment of the implementation and effectiveness of the measures taken but merely mentions ‘regular monitoring and reporting obligations’ and asserts that deviations are investigated and remediation required of the borrower.

Under Principle 21 of the UN Guiding Principles companies are required to account for how they address the human rights impacts of their activities and business relationships and to report formally on the action taken. To date, though, IPEX Bank has not published any report on the human rights risks and impacts of the two power plants. The continuing refusal to be transparent about concrete human rights risks and the remedial action taken must, however, be classed as a clear infringement of the UN Guiding Principles. Principle 21 is breached in that the information provided is insufficient and does not enable the appropriateness of the action taken to be assessed.

### **German companies**

Under the UN Guiding Principles on Business and Human Rights, companies are responsible for respecting human rights in their activities and business relationships worldwide. In accordance with the human rights due diligence obligations described there, they must identify and assess human rights risks, take effective steps to address them, monitor the effectiveness of these steps and report transparently on risks and measures.

Only five out of 19 companies replied to MISEREOR’s questionnaire on compliance with human rights due diligence obligations in relation to Medupi and Kusile. Hitachi Power Europe, for whose business risks the German government has provided a guarantee, did not reply to questions or comment on the text excerpts submitted

to it. Bilfinger Berger stated explicitly in its reply that its CEO did not wish to respond to our questions. Only KSI, STEAG and Siemens answered the questions. Rheinmetall and Clyde Bergemann Power Group did not complete the questionnaire but they did comment on the draft texts sent to them and describe their business relationships in connection with the power plants.

The only company that replied more explicitly to the question about the human rights risks of the power plants was Siemens: 'We are aware of the impacts of coal-fired power plants and coal mines on human rights (including rights to food, water and health and labour rights).' At the same time, the company states that the South African government is being proactive in addressing the water problems. Siemens does not acknowledge that it has any responsi-

bility for the possible human rights impacts of the Kusile power plant: 'As a component supplier we regard the responsibility for respect for human rights as lying chiefly with the operator Eskom.'

The low response rate to the questionnaire and the comments that were received are disappointing. They support the conclusion that the companies involved have limited awareness of their responsibility in connection with the adverse human rights impacts of their activities and business relationships abroad. In the case of the Kusile and Medupi power plants, the assumption of industry associations that German companies comply with their human rights due diligence obligations voluntarily and without the need for statutory enforcement does not reflect the reality. ◀

## Corporate responsibility for human rights in connection with coal imports from South Africa

► The volume of German coal imports from South Africa fluctuates widely. According to the German Federal Statistical Office, 3.5 million tonnes of coal were imported from South Africa in 2015, representing 6.5 percent of all Germany's coal imports. However, in 2010 and 2014 the proportions were significantly higher at 8.11 and 9.44 percent respectively. In 2014 the main purchasers of South African coal were the Länder of Baden-Württemberg, Hamburg, North-Rhine/Westphalia, Hesse and Lower Saxony. This coal is used not only for energy generation but also in steel production.

All the German energy companies contacted by MISEREOR gave details of the quantities and/or proportions of their coal imports that they obtained from South Africa in 2014. For EnBW the figure was 37.6 percent (2.13 million tonnes), for RWE 22.1 percent, for Vattenfall it was six percent for its power plants in Germany, the Netherlands and Denmark, and for STEAG it was two percent. E.ON imported around two million tonnes of coal from South Africa in 2014.

None of the companies provided details of the mines from which their coal is obtained. They make very different statements about the possibility of determining the coal's origin. EnBW obtains its coal from trading companies, which makes it impossible to identify the particular mines from which it comes, while STEAG states that it knows the mines and maintains direct contact with its suppliers. RWE responded in similar terms to EnBW. The possibility of determining the origin of the coal and

hence of complying with human rights due diligence obligations in respect of coal imports therefore depends largely on the energy supplier's business model. The energy companies could indeed ask the coal dealers for information on the origin of the coal, but they are clearly not inclined to do so.

In contrast to the companies involved in the Kusile and Medupi power plants, all the energy suppliers replied to MISEREOR's questions about their human rights responsibilities. All five companies express a commitment to respect for human rights, for example via their own voluntary codes of conduct and/or their membership of the Global Compact. Only EnBW refers explicitly in its reply to the UN Guiding Principles on Business and Human Rights. However, the Guiding Principles form part of the code of conduct of the Bettercoal initiative, to which RWE, E.ON and Vattenfall belong.

Almost all the companies say that they monitor compliance with standards locally, but the depth of these checks cannot be ascertained. None of the companies provide information on which mines were assessed, let alone details of the findings and the conclusions that were drawn. The replies indicate that discussions with civil society organisations locally and groups affected by coal mining rarely take place. The only site assessment by external auditors conducted by the Bettercoal Initiative in South Africa to date is an assessment of the relatively small mining company Canyon Coal Pty. Here again the findings have not been made public. ◀



# Recommendations

In MISEREOR's view the following recommendations to German stakeholders emerge from the study:

## A. To the German government

- **The German government should commission a comprehensive and independent human rights impact assessment of the Kusile and Medupi power plants.** It should in particular consider the risks and impacts of the associated facilities – especially the supplier coal mines, the water transport systems and the flue gas desulphurisation systems – and consult with civil society experts, scientists and potentially affected groups in South Africa. Using this as a basis, and liaising with civil society organisations in South Africa and Germany and with potentially affected groups, it should examine whether the previously agreed prevention, mitigation and compensation measures are sufficient to prevent adverse impacts on the environment and human rights. Other measures should then be put in place as necessary.
- **A new law must require all major companies based in Germany and companies in sensitive sectors to meet minimum standards of human rights due diligence in their foreign activities and business relationships.** This should include a requirement to perform a biennial human rights risk assessment of their overseas activities that identifies sensitive areas and projects, with more detailed follow-up assessments in cases that give cause for concern. Failure to comply should incur a fine. In addition, in the event of a claim victims should be able to seek compensation through the German civil courts. Sensitive areas include mining, major energy projects, the textile sector and agriculture.
- **The German government should require applicants for support for foreign trade activities to perform human rights risk assessments of the submitted projects.** For major projects and other projects in sensitive areas, more detailed human rights impact assessments should be required. To evaluate these risk and impact assessments, the mandated organisations Euler Hermes and Price Waterhouse Cooper (PwC) should be required to obtain independent reports, which should involve extensive consultation with potentially affected groups and civil society experts.
- **The German government must make compliance with human rights due diligence obligations a basic requirement for consideration of applications for support for foreign trade activities.** Companies that fail to meet the statutory minimum standards or in respect of which the German National Contact Point (NCP) for OECD complaints has identified breaches of the OECD Guidelines for Multinational Enterprises should be barred from receiving support for their foreign trade activities for five years.
- **The mandated organisations should be required to publish the environmental and social plans.** Only when these plans are published can affected groups assess whether they are appropriate and whether they are being implemented. Moreover, affected groups and civil society organisations should have access to a special grievance mechanism in line with the UN Guiding Principles on Business and Human Rights via which they can trigger comprehensive investigations by the mandated organisations.
- **The German government should publish advance information on all projects at least 30 days before the guarantee decision.** Hitherto this has only occurred in connection with Category A projects that are particularly environmentally sensitive. The government should ensure that after approval more detailed information – including project name and location, the agreed environmental and social plans and monitoring reports – is publicly available. In the case of major projects over EUR 200 million, it should inform the Bundestag in advance.
- **The German government should exclude certain sectors that present major environmental and human rights problems, such as the coal sector, from the promotion of foreign trade.** Given their demonstrable incompatibility with the targets agreed in the Paris climate change agreement, projects involving coal mining, coal-fired power plants and other fossil fuels should no longer be eligible for support. This exclusion should also cover modernisation of coal-fired power plants that extends their service life.

## B. To KfW IPEX Bank

- **IPEX Bank should require or perform human rights impact assessments of all major projects and other projects in sectors in which human rights are a sensitive issue.** The 2015 version of the current sustainability guidelines requires this only in areas and contexts in which the human rights situation is already critical (see Point 4.2.5.). A human rights impact assessment of the impacts to date and the future risks should be performed retrospectively for the Medupi and Kusile power plants to provide a basis for resolving the problems.
- **It should require the impact assessments to include systematic consideration of all associated facilities and activities that are essential for realisation of the project.** In the case of the Medupi and Kusile power plants this includes the supplier coal mines, the water transport projects, the flue gas desulphurisation systems and the extraction of sand for the construction.
- **It must subject all impact assessments to independent scrutiny.** This must involve comprehensive consultation with potentially affected groups, scientific experts and civil society. The impact assessments and the evaluation of these assessments by independent experts should be made publicly available before credit is approved. IPEX Bank's current sustainability guidelines do make provision for an 'independent review', but do not include any requirements for transparency and consultation in connection with this process.
- **Future funding should only be approved if appropriate prevention, compensation and mitigation measures have already been agreed contractually and in legally binding form.** Non-compliance should lead to sensitive sanctions that include possible termination of the credit agreement. The present sustainability guidelines already stipulate that environmental and social plans should be agreed, but it remains completely unclear what steps IPEX Bank will take in the event of serious breach of the agreements.
- **Project information, borrowers' impact assessments, independent reports, the agreed environmental and social plans and monitoring reports should be published promptly.** They should be made available on the website of IPEX Bank in German and English or other main languages. This is essential to enable IPEX Bank to ensure that groups affected by the project and the civil society organisations supporting them can assess the suitability and credibility of the measures taken and lodge claims with the project operator. In its credit agreements, IPEX Bank should make the right to publication of this data a standard requirement of project executing agencies. At present IPEX Bank normally publishes no project information of any sort, citing bank confidentiality.
- **IPEX Bank should set up an independent grievance and review mechanism.** This should be based on the existing mechanisms of the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and the World Bank. In the event of substantiated grievances, this would enable groups affected by the project or civil society organisations acting on their behalf to trigger a comprehensive investigation by an independent panel, with the management being required to comment publicly on the findings and put appropriate measures in place. The grievance mechanisms must meet the requirements of the UN Guiding Principles on Business and Human Rights (Principle 31). It must be possible for complaints to be submitted anonymously. The KfW subsidiary DEG already has an independent grievance mechanism of this sort. Furthermore, the example of the EIB shows that independent grievance mechanisms are possible even for banks whose primary purpose is not development support.
- **KfW IPEX Bank, too, should exclude certain sectors that present major environmental and human rights problems from the receipt of credit.** Given their demonstrable incompatibility with the targets agreed in the Paris climate change agreement, projects involving coal mining, coal-fired power plants and other fossil fuels should no longer be considered. This exclusion should also cover modernisation of coal-fired power plants that extends their service life.

## C. To the companies involved in Medupi and Kusile

- **The companies should acknowledge their co-responsibility for the human rights risks and impacts of the power plants.** Either alone or in collaboration with other stakeholders they should perform a human rights impact assessment of the power plants. This human rights responsibility cannot be delegated entirely to the South African government and the operator Eskom.
- **Companies that are active locally in South Africa should set up grievance mechanisms there that meet the criteria of the UN Guiding Principles on Business and Human Rights (Principle 31).** They should review all grievances received and if necessary agree and implement remediation measures with the affected parties and monitor the effectiveness of these measures.
- **On the basis of this impact assessment, the companies should develop and implement measures to prevent these consequences.** They must discuss appropriate measures with local civil society organisations, Eskom, the lenders and the South African government. They should regularly have the effectiveness of the measures taken reviewed by independent experts with the involvement of groups affected by the project and civil society stakeholders who may be supporting them.
- **The companies should report transparently on the human rights risks and impacts of the power plants, the measures taken and the effectiveness of these measures.**
- **If necessary, companies should withdraw from the projects.** Termination of the business relationship with Eskom would be warranted if, despite all endeavours and collaboration with other stakeholders, their measures to prevent serious environmental and human rights impacts do not have the desired effect. To make this an easier possibility in legal terms in future projects, all contracts should include robust human rights clauses.

## D. To the coal-importing German energy companies

- **Coal importers should regularly identify and assess the precise origin of the imported coal and the human rights risks and impacts.** They may perform these impact assessments individually or in collaboration with other stakeholders.
- **On the basis of their impact assessments, the companies should enter into dialogue with potentially affected groups and civil society experts.** The aim is to identify and implement appropriate measures to prevent negative impacts and regularly monitor the effectiveness of these measures. Steps must be taken to ensure that the potentially affected groups are able to represent their interests independently and on the basis of sufficient information (linguistic, cultural and education-related features must be taken into account).
- **Coal importers must report regularly and in transparent and accessible form on the origin of their coal, the human rights risks and impacts, the remediation measures taken and the effectiveness of these measures.** In accordance with Principle 21 of the UN Guiding Principles, the reporting must enable the appropriateness of the measures taken by the company to be assessed.
- **If necessary, the importers should terminate business relationships with mining companies.** They should do this if the agreed measures are repeatedly not implemented or do not have the required effect. To make this an easier possibility in legal terms in future projects, all contracts should include robust human rights clauses.
- **To limit climate change, energy companies should as quickly as possible – and by 2040 at the latest – abandon the generation of energy from coal and other fossil fuels.** In accordance with this they should reduce and cease the importing of coal. The energy companies should instead work with partner countries to support the expansion of renewables through investment – which likewise must comply with human rights due diligence obligations.

## WHEN ONLY THE COAL COUNTS

South Africa is the world's seventh-largest producer of coal. In the province of Mpumalanga, where coal has been mined for well over 100 years, mine after mine covers the landscape. Twelve coal-fired power plants generate electricity. Now the province of Limpopo is also planning a sharp increase in mining that will see coal production rise from 16 million tonnes per year to more than 100 million by 2025. The experience of excessive mining in Mpumalanga shows what lies in store for the people of Limpopo:

### DISUSED AND UNSAFE MINES

IN SOUTH AFRICA THERE ARE MORE THAN **5,900** ABANDONED MINES, **1,700** ARE CLASSED AS 'HIGHLY DANGEROUS'

*They pose a major risk to local people: shafts collapse and underground fires are common.*



### POLLUTED WATER

ACIDS AND HEAVY METALS FROM MINING END UP IN DRINKING WATER AND POLLUTE LAKES AND RIVERS. CHILDREN SWIM IN THESE WATERS, WHERE PLANTS AND ANIMALS DIE.



### WATER SHORTAGES

WATER IS ALREADY SCARCE IN THE ARID LIMPOPO REGION – THE **POWER PLANTS** USE A LOT OF WATER AND WILL INCREASE THE SHORTAGE.



### SORDID LIVING CONDITIONS

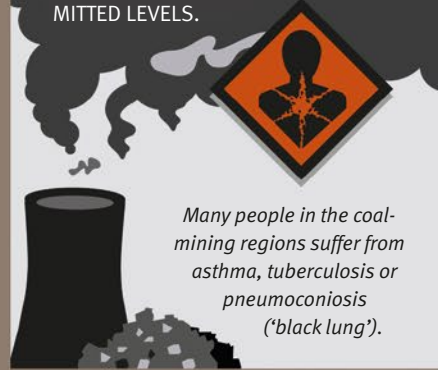
MORE AND MORE PEOPLE SETTLE NEAR MINES AND POWER PLANTS, HOPING FOR JOBS. THEY LIVE IN PRECARIOUS CONDITIONS:

*in tin shacks, with no electricity or water supply*



### POLLUTED AIR

IN SOME CASES LEVELS OF TOXICANTS IN THE AIR ARE ALREADY THREE OR FOUR TIMES ABOVE PERMITTED LEVELS.

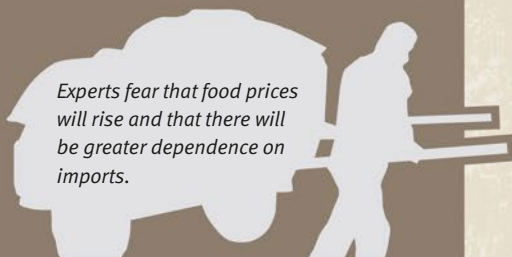


*Many people in the coal-mining regions suffer from asthma, tuberculosis or pneumoconiosis ('black lung').*

### RESETTLEMENT AND EXPENSIVE FOOD

THE EXPANSION OF COAL MINING FORCES MANY FARMERS AND LAND WORKERS OFF THE LAND.

*Experts fear that food prices will rise and that there will be greater dependence on imports.*



### SOCIAL PROBLEMS

THE INFLUX OF PEOPLE CAUSES AN INCREASE IN SOCIAL PROBLEMS. THE SOCIAL SITUATION DRIVES MANY WOMEN INTO **PROSTITUTION**. THE HEALTH CARE SYSTEM, WHICH IS ALREADY POOR, IS UNABLE TO COPE.



Prostitution





## Introduction

► The UN Guiding Principles on Business and Human Rights (UN Guiding Principles) were adopted in 2011. They provide governments and companies with the first ever-global standard for observance of human rights in the course of business activities. The United Nations Human Rights Council, the European Commission and civil society organisations – including MISEREOR – have for years been urging the German government to implement the UN Guiding Principles in full (Misereor 2014). In response, the German government is currently drawing up a National Action Plan (NAP) for implementing the Principles. The plan – produced after consultation with non-governmental organisations (NGOs), trade unions and business associations – is due to be published in mid-2016.

Against this backdrop, the present study examines the activities of the German government and German companies in South Africa's coal sector. In recent years there have been regular reports of ecological and social problems in connection with coal mining in South Africa. These problems have significant implications for human rights (Bench Marks 2014; Munnik et al. 2009). The Marikana massacre of August 2012, in which 34

striking mineworkers were shot by the South African police (Müller 2014), drew international attention to the situation of workers in the South African mining sector. Recent studies by South Africa's Human Rights Commission have identified human rights risks in the coal mining industry (SAHRC/DIHR 2015).

In this connection, the activities of the German government and German companies need to be scrutinised. In 2008 and 2009 the German government provided export credit guarantees enabling German boilers to be supplied for the construction of two power plants: Kusile in Mpumalanga and Medupi in Limpopo. At the same time the German state-owned development bank KfW gave the South African state energy supplier Eskom a loan to finance the purchase of these boilers. As the present study shows, at least 19 German companies are involved in the construction of the power plants as suppliers and/or service providers. In addition, German energy companies buy coal from South Africa and burn it in German power plants. All these stakeholders – service providers, suppliers and importers – share the responsibility to respect human rights in South Africa. ◀





## The aim of the study

➤ The study considers whether and in what form human rights are endangered by the construction and operation of the new power plants in the Mpumalanga and Limpopo regions. It also provides an overview of the involvement of German stakeholders in South Africa and analyses their approach to human rights issues and the responsibilities of German coal importers in the supply chain. The key questions are:

1. What actual business relationships – direct or indirect – can currently be identified between German banks (financing), German companies (imports, holdings, services) and the German government (promotion of foreign trade for German companies) on the one hand and operators of coal-fired power plants and coal mines in South Africa on the other?

2. What infringements of human rights are already observable or are anticipated for the future in connection with power plants and mines with which German stakeholders have a business relationship? The focus here is on the Kusile and Medupi power plants that are under construction and the associated mines, with an emphasis on economic, cultural, social and environmental human rights (e.g. to an adequate standard of living, water, food and health).

3. To what extent are German companies, German banks and the German government fulfilling their human rights responsibilities and their obligations under the UN Guiding Principles?

4. What requirements and recommendations arise from the research in relation to the companies, the banks and the German government from the human rights perspective? ◀

## The UN Guiding Principles as a normative framework

➤ The normative framework for the present study is provided by the UN Guiding Principles on Business and Human Rights, which were adopted in 2011. The UN Guiding Principles are not binding under international law. However, because they are based on the binding human rights conventions and have the clear approval of the international community, they can be regarded as setting minimum standards for governments and companies. Under the principles, states have a duty to protect against human rights abuses by business enterprises. At the same time, businesses themselves have a responsibility to uphold human rights in their activities and business relationships throughout their value chain. The UN Guiding Principles are based on three pillars (see also United Nations 2011):

The **first pillar** sets out the state's duty to protect human rights. State policy must involve creating a regulatory framework for the private sector to ensure that human rights are upheld. This should include appropriate legislation, administrative regulations and adjudication. This duty of protection applies primarily to people living within the state's own territory. However, it extends to the business enterprises' home countries in respect of their foreign activities.<sup>1</sup> Principle 4 of the UN Guiding Principles emphasises that when promoting business activities abroad, states should

require the companies involved to conduct appropriate human rights due diligence.

The **second pillar** involves the corporate responsibility to respect human rights. Corporate responsibility does not cease at national borders: both at home and abroad, companies have a responsibility to uphold human rights in their activities and business relationships throughout their entire value chain and to conduct appropriate human rights due diligence. At the highest level, therefore, business enterprises should adopt a comprehensive statement outlining their human rights policy, identify the human rights risks of their activities and business relationships and where necessary conduct human rights impact assessments. They should then take appropriate steps to prevent risks, monitor the effectiveness of these measures and give transparent public account of their actions in this regard. They should also set up operational-level grievance mechanisms and provide for remediation of adverse impacts.

<sup>1</sup> While the UN Guiding Principles take a relatively conservative view of the extraterritorial scope of state duties of protection, these duties have now been recognised and systematised by several other UN special rapporteurs and UN committees of experts (see Misereor 2014 and De Schutter 2016).

The third pillar affirms the right of all people to remedy through the courts and other remedial mechanisms, whether state-based or independent. States must provide access to courts or non-judicial mechanisms for people whose human rights have been infringed and ensure that business-related human rights abuses are investigated, punished, redressed and remediated.

In the context of the current preparation of the German National Action Plan (NAP) on implementing the UN Guiding Principles on Business and Human Rights, this study of South Africa's coal sector sets out to identify the responsibilities of German companies and the German government and contribute to the formulation of appropriate proposals for structural reform. ◀

## Focus on South Africa: the coal-fired power plants at Kusile and Medupi

► This study focuses on the construction and operation of the Kusile and Medupi power plants. The South African government lacks the technical and financial resources to implement projects of this size on its own. One third of the funding is being provided by

the public utility company Eskom with support from the South African government. Loans are also being obtained from the World Bank and international donors – including Germany's KfW IPEX Bank. The German government is also supporting the construction project through its promotion of foreign trade. In addition, this study shows that 19 German companies are involved in the construction of the power plants as suppliers or service providers (see Section 2). In siting the two power plants in Mpumalanga and Limpopo, the South African government has elected to build them in two of the country's rural provinces. Both regions are characterised by high unemployment, widespread poverty and inadequate infrastructure. The South African government promises that construction of the two power plants will contribute to the development of the two regions. It also states that old and less efficient coal-fired power plants will be turned off once Kusile and Medupi come online. The necessity for economic development is thus repeatedly cited by the South African government to justify the construction of the two power plants (see Section 1). Voices on the civil society side, including grassroots organisations, environmental groups and scientists, have frequently been critical of the government's policy. Initial studies show that there are already widespread impacts on the social and ecological situation locally and that these impacts have human rights implications (CER 2016, Bench Marks 2014, IRM 2011, IP 2011). The construction of the two power plants has triggered repeated protest in South Africa and has drawn criticism from various civil society organisations in both South Africa and Germany. This study will explore these aspects in more detail. Coal imports to Germany will also be considered, since these, too, impose responsibilities on German importers (Section 3). ◀



The coal-fired Kusile power plant in eMalahleni (previously Witbank) in the Mpumalanga region

## Methodology

### ➤ The study draws on a variety of sources relevant to the different topics of interest:

Details of the specific business relationships of 19 German companies were obtained by analysing the companies' websites and publications such as newsletters and annual reports. The study makes no claim to be complete and one cannot rule out the possibility that other companies are involved in the construction of Kusile and Medupi alongside the 19 that have been identified. Information on coal imports from South Africa was obtained from the data of the German Federal Statistical Office, the German Coal Importers Association and the coal importers themselves. The role of German banks, especially KfW IPEX Bank, was identified from existing publications. This information was supplemented by the German government's responses to various enquiries in the German Bundestag.

In addition, the study analyses responses to a survey of companies and KfW IPEX Bank that asked about concrete business relationships and about human rights standards and adherence to them in the context of the power plants. The questionnaire was sent to all the companies known to be involved in the construction of the coal-fired power plants at Kusile and Medupi. Five out of 19 companies responded to the question-

naire directly; some provided further information after being asked to do so. Questionnaires were also sent to the coal importers. Here the return rate was higher: all five companies that were approached responded to the enquiry from MISEREOR.

To assess the situation locally, the lead author of the study travelled to Mpumalanga and Limpopo with three representatives of MISEREOR (two of whom have written sections of the study), an employee of ActionAid South Africa and a representative of MACUA (Mining Affected Communities United in Action). This meant that it was possible to conduct interviews in the affected communities, with policymakers and with experts. More than 20 interviews and conversations were conducted. Direct reference is made in the study to 15 of these. An important component of the consideration of human rights risks is analysis of the interviews with NGOs and affected communities that have expressed criticism of the construction of the coal-fired power plants in the Kusile and Medupi regions. Documents and analyses produced by the South African government, non-governmental organisations, scientific institutes and other experts were also examined. ◀

## Structure

### ➤ The study is divided into the following sections:

The key findings of the study are first summarised and the resulting conclusions and MISEREOR's recommendations to the German government, KfW IPEX Bank and the German companies are set out.

**Section 1** describes the context of human rights problems in the South African coal mining industry. It then examines in more detail the risks and already evident impacts of the construction of the two power plants – and in the case of Medupi also those of operation – and describes the key challenges.

**Section 2** explores the role and responsibilities of German stakeholders in the construction of the Kusile and Medupi power plants. This section describes the role and position of the German government in connection

with the promotion of foreign trade and the role of KfW IPEX Bank, which has helped finance the construction of the two power plants. It also lists the 19 German companies, identifying their specific activities in relation to the construction of Kusile and Medupi and their approach to the associated human rights risks.

**Section 3** explores another aspect of corporate responsibility – the human rights responsibilities of German energy companies in connection with imports of coal from South Africa. It outlines the trade routes via which South African coal reaches Germany and names the six German states (Länder) that use mainly South African coal. The responses of the five major energy suppliers to questions about their corporate responsibility are also presented. ◀



# 1. Human rights problems and risks in South Africa's coal mining industry

► In building the two new power plants at Kusile and Medupi, the South African government is continuing to expand the use of coal for energy. Many critics fear that the construction of the two power plants will have further adverse impacts on the environment and the situation of local people. The South African government hopes that the projects will accelerate the country's development, especially in the coal mining regions. While this may sometimes be achieved, the price of development is high. Civil society organisations regularly report

on the social and environmental consequences of mining and their impact on human rights. In connection with the identification of possible human rights abuses, a brief introduction to the South African context is needed. This section therefore provides an introduction to South Africa's energy policy and describes the legal framework within which mining takes place there (1.1.). The two power plants are then placed in context and possible human rights risks in the regions around Kusile (1.2.) and Medupi (1.3.) are identified. ◀

## 1.1. South African energy policy

► According to the World Coal Association, South Africa is the world's seventh-largest producer of coal. It also exports coal and these exports make it the sixth largest of the world's coal exporters (World Coal Association 2015). South Africa's electricity supply is based largely on coal: 90 percent of the country's electricity comes from coal-fired power plants, five percent from nuclear energy and the remaining five percent from other sources, including hydropower (DoE 2015). The energy expert Dave Collins predicts that coal – a fossil fuel – will continue to play the predominant role in South Africa for the next 20 to 30 years (interview with Dave Collins, Johannesburg, 17 November 2015).

The construction of the two new power plants at Kusile and Medupi needs to be seen in the context of the further expansion of energy from coal. The South African government uses various arguments to justify the construction of the power plants. Firstly, it maintains that it represents an important step towards the comprehensive electrification of the country and the economic development of both South Africa and the southern African region as a whole. Secondly, it states that the two new power plants will help to mitigate climate change, because they will enable older power plants to be turned off and hence make electricity generation more efficient. The third argument is that the construction of power plants in the region improves South Africa's future energy security, since the country has large deposits of coal and would therefore remain independent of imports for a long time. Fourthly, the government

claims that the use of coal for energy is the most secure and cost-effective option, because the high investment costs of renewables mean that they are not yet economically viable (Rafey/Sovacool 2011: 144-146). ◀

### Climate killer coal – a change of course in South African energy policy is urgently needed

► In the Paris Climate Agreement of December 2015 it was agreed that the global average temperature increase would be kept at well below 2°C and if possible below 1.5°C. Although decarbonisation is not explicitly mentioned in the Paris Agreement, a de facto requirement of this agreement on targets is that 90 percent of existing fossil fuel reserves must remain in the ground – otherwise the world will be heading for warming of 3°C. This is because 57 percent of global greenhouse gas emissions still come from the use of fossil fuels (Brot für die Welt / Misereor 2014). The targets of the Paris Agreement will be achieved in part through national climate change mitigation plans submitted by 186 countries. These plans are set out in the form of Intended

Nationally Determined Contributions (INDCs), which will be reviewed every five years from 2013 and then adjusted upwards.

South Africa has submitted an ambitious INDC, although as an emerging country it sees itself confronted by a double challenge. On the one hand, the government wants to achieve the poverty and inequality reduction targets set out in the National Development Plan 2030: it regards expansion of the energy, (coal) mining and industrial sectors as central to this plan. On the other hand, in 2015 South Africa was ranked at number 13 on the list of the world's largest emitters of CO<sub>2</sub>; among African countries it took first place, and in terms of per-capita emissions it was ninth in the worldwide ranking (2015). It is thus a significant contributor to climate change. However, energy use in South Africa is very unevenly distributed. The industrial and mining sectors are responsible for the majority of CO<sub>2</sub> emissions – mining and aluminium smelting alone use 44 percent of the country's electricity – while large sections of the population suffer from energy poverty. And while the industry benefits from special price agreements, electricity costs for people living near Medupi and Kusile have risen by about a third since construction of the power plants began (urgewald 2015: 27). In addition, 30 of the most energy-intensive companies are assured of a reliable electricity supply while private consumers, small businesses and service providers suffer from power cuts and are forced to resort to expensive diesel generators (Welt-Sichten 12-2015 /1-2016).

To tackle climate change, South Africa is focusing on steps to reduce greenhouse gas production and on adaptation measures, because the effects of climate change are already clearly noticeable in the form of rising temperatures, altered rainfall patterns, droughts and rising sea levels. It is the poorest sections of the population that are most affected by these trends. Greenhouse gas emissions are to peak by 2030; from 2035 onwards CO<sub>2</sub> emissions are to be gradually reduced (Klimaretter.de 2015).

Although the South African government has introduced some measures to reduce greenhouse gas emissions – such as improving energy efficiency and bringing in a carbon tax – it will continue to rely for the next 20 to 30 years on the expansion and maxi-

mum use of existing coal reserves. It justifies this on the grounds of needing to accelerate the country's development. In addition, to reduce CO<sub>2</sub> emissions it is turning to nuclear energy and other technologies such as carbon capture and storage (CCS) that are rated by experts as very risky. It has not as yet invested enough in the expansion of renewables, for which the country has major potential – particularly in terms of solar and wind energy. Exploitation of this potential would require prompt and radical structural change in South Africa's energy system.

However, this is precisely the route that needs to be taken if the climate targets agreed in Paris are to be achieved. By going down this path the South African government would also contribute to poverty reduction – through the supply of distributed energy to poor population groups and the creation of new jobs. This is highlighted by the 'One Million Climate Jobs' campaign, a civil society alliance to which various trade unions also belong. A broad alliance of well-informed and organised local and national civil society groups and political, scientific and private-sector representatives is needed to develop and implement a convincing alternative to the use of energy from coal and achieve South Africa's ambition for implementing the climate targets agreed in Paris.

The share of renewables in the energy mix is due to be increased to 20 percent (from its current level of five percent) by 2030 – this was specified in the Integrated Resource Plan 2010-2030 (IRP) (Welt-Sichten 12-2015 /1-2016). Although this share is in itself far too low to achieve a sufficient reduction in CO<sub>2</sub> emissions, even this target seems currently unachievable in view of the sluggish implementation of the plan. The energy partnership to promote the expansion of renewables that was agreed between the German and South African governments in 2013 is an appropriate step towards transformation of the energy system, provided that it is systematically implemented and backed up by coherent policy (BmWi 2013). However, it is clear from promotion of the construction of the coal-fired power plants at Medupi and Kusile in South Africa and the fact that coal projects have still not been excluded from the German government's promotion of foreign trade and the granting of loans by KfW IPEX Bank that this coherence has not yet been achieved in German climate and foreign policy. ◀

### 1.1.1. The coal sector in South Africa

► The Department of Energy (DoE) has overall responsibility for the energy mix in South Africa. Principal responsibility for regulation of the coal mining industry lies with the Department of Mineral Resources (DMR), which handles applications for mining licences. Other ministries are also involved in the licence awarding process. Among them are the Department of Environmental Affairs (DEA), which is responsible for monitoring compliance with air quality standards, and the Department of Water and Sanitation (DWS), which awards water licences (interview with Vumile Senene, DEA, Pretoria, 16 November 2011).

The mining companies in South Africa play an important role alongside Eskom: around 80 percent of the coal industry is in the hands of large companies, including Anglo American Coal South Africa, Glencore, SASOL Mining, Exxaro Resources and South 32, which is part of the Australian company BHP Billiton. The remaining 20 percent is owned by smaller mining companies (Coal August 2015). The mining sector, like other branches of the South African economy, continues to be dominated by multinational companies and companies owned by whites. Since the end of apartheid in 1994 the government has been attempting to redress this through legislation aimed at increasing the involvement of black<sup>2</sup> South Africans in business. The most important tool is the Black Economic Empowerment (BEE) legislation, which sets quotas for the involvement of black South Africans in various fields. The proportion of South African companies in the coal mining sector has increased as a result. There is as yet no sign of a switch to renewables, although experts repeatedly state that South Africa has significant potential for the expansion of solar energy. South Africa adopted a fairly progressive position at the international climate negotiations and for a long time it has been prepared to make concessions on emissions reductions (Nhamo 2011). Despite this, the country continues to rely on the expansion of superficially cheap energy from coal (groundWork 2015). ◀

### 1.1.2. The legal situation in the South African coal sector

► Mining in South Africa is regulated by the Mineral and Petroleum Resources Development Act (MPRDA). This is supplemented by the Mining Charter, which is intended to ensure that all South Africans – and especially those who were discriminated against under

## The South African energy Company Eskom

► In addition to the responsible government bodies, the South African energy supplier Eskom is responsible for South African power plants. Eskom is a partly state-owned company that describes its task as follows: ‘We operate as a vertically integrated company across a value chain that supplies electricity to both South Africa and the SADC region. Traditionally, as the main supplier of generation, transmission and distribution capacity, we supply to industrial, mining, commercial, agricultural and residential customers in South Africa. We also supply to redistributors (municipalities and metros), who in turn redistribute electricity to businesses and households within their areas.’ According to Eskom, it generates 95 percent of the electricity used in South Africa and 45 percent of the electricity used on the African continent. It is also the operator of the Kusile and Medupi power plants. Eskom currently operates eleven coal-fired power plants, covering the country’s base load (Eskom 2016a). Construction of the new Kusile and Medupi power plants will enable older and more inefficient power plants to be taken offline. The government sees this as a key element of its climate change mitigation plans. ◀

apartheid – benefit from mining projects, and also that mining projects contribute to the country’s development (Bench Marks 2014: 14).

Furthermore, in the mining and energy sector – as in all other areas – the South African state is obliged to respect, protect and fulfil human rights. This ob-

<sup>2</sup> In everyday language in South Africa a distinction is often made between ‘black’ and ‘white’ South Africans on the basis of the system that prevailed under apartheid. In various places this study adopts a similar distinction between the two categories of ‘blacks’ and ‘whites’. However, in practice the apartheid regime used a more complex approach consisting of four categories – Blacks, Coloureds, Indians and Whites –, with members of each group having different rights. This led to a complex system of social inequality in South Africa, the effects of which are still being felt today and which cannot be understood without reference to the historical background.



Figure 1: Electricity generation in South Africa



igation under international law arises in the first instance from the fact that South Africa has ratified various international conventions and pacts such as the International Covenant on Civil and Political Rights, the UN Convention on the Elimination of All Forms of Discrimination against Women and the UN Convention on the Rights of the Child. South Africa has signed the UN's International Covenant on Economic, Social and Cultural Rights but not yet ratified it. However, some social rights, such as the rights to health and education, are enshrined in the Human Rights Charter, which South Africa has ratified. South Africa has included many human rights in its constitution, thereby lending them additional weight. In the light of the situation under apartheid, the granting of these rights in the South African constitution with the aim of overcoming the social inequalities resulting from the apartheid era was particularly important. Elements that are significant in the context of mining projects

are the rights to water, food and health care (Section 27) and the right to adequate housing (Section 26). Moreover, the South African constitution is cited internationally as an example of good practice for its position on environmental rights: the right to an environment that is not harmful to health or well-being is enshrined in Section 24 of the Constitution. The South African Human Rights Commission (SAHRC) oversees observance of constitutional rights. It was established in 1994 as an independent institution whose task is to entrench constitutional democracy. In the Human Rights and Business Country Guide published in 2015, SAHRC and the Danish Institute for Human Rights – drawing on other studies – identified areas that require particular attention to ensure observance of human rights. These areas involve the right to a clean environment (such as the right to water and freedom from air and water pollution), trade union and labour rights (such as the right to join a union, the right to strike and the right to union negotiations), the right of access to information, and the protection of women, ethnic minorities and people with HIV/AIDS in the labour market (SAHRC/DIHR 2015).

A key criticism of mining law voiced by many NGOs is that the existing statutory framework for the assessment of risk in the context of power plant construction does not cover the full scope of construction, operation and the expansion of suppliers' mining activities (interview with Meshack Mbangula, MACUA, Johannesburg, 15 November 2015). In recent years the major mining companies in South Africa have tried to improve the situation in and around the mines, but studies such as that by the Bench Marks Foundation point out that despite these endeavours there are still major failings (see e.g. Bench Marks 2014). Although the majority of large mining companies have introduced formal standards and processes for their human rights due diligence, systematic social, environmental and human rights problems remain. In a mining region such as Mpumalanga the large number of projects and the cumulative effects that result render many of these problems virtually unavoidable. As part of the development initiative known as Operation Phakisa, the South African government plans to speed up the approval of mining projects. Phakisa is a Sesotho word meaning 'Hurry up!' The South African government states that 'This initiative was designed to fast track the implementation of solutions on critical development issues. This is a unique initiative to address issues highlighted in the National Development Plan (NDP) 2030 such as poverty and unemployment'

'The air that we breathe is polluted, the water is polluted. We haven't got jobs. It's no longer worth living here. Medupi and Kusile must signal the end of these coal projects, the politicians must invest in renewable energy.'



Lucky Lelahla

Environmental Justice Networking Forum



## Civil society opposition to coal mining in South Africa

➤ Recent years have seen the rise of civil society opposition to mining in South Africa. Organisations involved in this development include the key South African environmental organisations Earthlife Africa and groundWork, grassroots organisations such as Mining Affected Communities United in Action (MACUA), the Highveld Environmental Justice Network (HEJN) and the Waterberg Environmental Justice Alliance (WEJA), the South African Green Revolutionary Council (SAGRC), the Mining and Environmental Justice Community Network of South Africa (MEJCN-SA) and international organisations with South African sections, such as Action Aid, Greenpeace, Oxfam and the WWF. Some of these organisations are also members of the One Million Climate Jobs Campaign (OMCJC) launched by the Alternative Information Development Centre (AIDC) in 2010. The organisations involved in this campaign are calling for a halt to the expansion of energy from coal. They point out that a switch to renewables could create many new jobs (OMCJC 2016).

Many of these civil society organisations in South Africa are critical of the growth in construction of coal-fired power plants. In their view a better and more sustainable option is an expansion of renewables and a radical transformation of South Africa's energy system. Their demands thus go beyond the require-



Civil society stakeholders and the population protest against the coal industry in Johannesburg (November 2015)

ments of South Africa – an emerging country – under the international climate negotiations, since the organisations regard the South African government as having a responsibility to reduce CO<sub>2</sub> emissions (Müller 2016). Not all communities in South Africa are opposed to mining per se, but people in the mining-affected communities are demanding that power plant expansion should genuinely benefit local development and have no adverse impacts on the environment and human right. However, the organisations that belong to MACUA are fundamentally critical of mining activities: they say that ‘Our communities are being marginalised by the mines. Mine owners often don’t consult with communities. People are forcibly removed from their homes or they are exposed to pollution from mines and power stations and at the same time often do not have access to electricity. The question is: Is mining still appropriate to our country? The answer is NO.’ (Interview with Meshack Mbangula, MACUA, Johannesburg 15 November 2015). ◀

(DPME 2016). Through the MACUA network (Mining Affected Communities United in Action), a number of communities affected by mining in South Africa are voicing strong criticism of the government's venture and are calling for Operation Bhekisisa ('Look carefully!') (Rutledge 2016).

Another important issue in the debate about the expansion of mining is that of access to land. In South Africa there are numerous unresolved legal claims to land by people whose families were expelled under colonialism and apartheid, as well as claims by entire communities and ethnic groups. More than 20,000 applications for redistribution of land made as long ago as 1998 have yet to be decided (Walker & Cousins 2015: 4). As a result, land in South Africa is still distributed unfairly and unlawfully. Mining plays a key part in this: compensation to the land owner needs to be paid only in certain circumstances (see MPRDA clause 54). Although compensation to land owners affected by mining is not usually required by law, some companies do make payments in order to reduce resistance to mining and thus accelerate the application process (interview with Marthán Théart, CER, Cape Town, 23 November 2015). Yet resettlement often has serious

consequences for the people involved, especially in view of the shortage of land and hence of alternative ways of securing a livelihood.

The energy company Eskom is obliged to consider the possible impacts of new power plants at an early stage: environmental impact assessments (EIAs, often also referred to as environmental impact reports or EIRs) must identify the risks – both social and ecological – associated with power plant construction. In the course of drawing up an EIA, Eskom consults with local people. EIAs were performed for the construction of Kusile and Medupi; the German government and KfW IPEX Bank rely on these EIAs when granting export credit guarantees or the loans themselves. At the same time – and as will be demonstrated by the analysis in this study – a number of fundamental criticisms of the EIAs for the particular projects considered here have been put forward not only by environmental organisations in South Africa but in the case of Medupi also by the World Bank's Inspection Panel (IP 2011). In the context of the Kusile power plant, too, there are a number of problems in the region that will be exacerbated by the building of the new power plant. ◀

## 1.2. The construction and operation of Kusile: adverse impacts on the province of Mpumalanga

▶ The decision to build the Kusile power plant in Mpumalanga means that the power plant is being constructed in a region in which coal mining is already a major influence. The majority of South Africa's coal is mined in the coalfields around Witbank, Highveld and Ermelo (CER 2016: n.p.). There are 22 coal mines in the area, as well as a number of coal-fired power plants and also steelworks that need coal for production (SACN n.d.). Organisations such as the South African Green Revolutionary Council (SAGRC) and the Highveld Environmental Justice Network (HEJN) fear that construction of the power plant will further exacerbate the adverse impacts of coal mining and the generation of electricity from coal that are already noticeable in the region. This section describes the existing impacts of coal mining on the region and the additional human rights issues that arise from the construction and operation of the Kusile power plant. First, Section 1.2.1. describes the situation in Mpumalanga and the impact of the construction of Kusile on the region.

Section 1.2.2. explores the existing adverse impacts of mining on the area. Many of the consequences of constructing the power plant pose a risk to the human rights to a clean environment, water, food, housing and health. Further impacts are likely to emerge when the power plant goes online and mining needs to be extended to other coal mines. ◀

### 1.2.1. The Kusile power plant in the eMalahleni region

▶ Coal for Kusile will come from the planned New Largo Mine, in which Anglo American and the Inyosi BEE consortium have stakes of 73 percent and 27 percent respectively and which produces between 10 and 16 million tonnes of coal per year (Coal August 2015). Other mines that – according to experts – could also supply Kusile with coal are nearby. They include the Vlakfontein Mine and smaller mines such as the Malachite Mine, the Mbuyelo Mine (Ntshovelo) and the

Wescoal mine (study by Victor Munnik, Johannesburg, 18 October 2015).

The town on which the construction of the Kusile power plant has a particular impact is Witbank, which in 2005 was renamed eMalahleni, meaning 'place of coal'. The history of mining in the town goes back to 1896. Matthews Hlabane of the South African Green Revolutionary Council explains: 'Population growth started in 1896 with thousands of migrant mine workers kept in mine hotels, mining villages and some township-based hostels that were housing mine workers. It was mainly after 1994 that companies began to lay off thousands of coal mine workers, demolished the mine hostels and mine villages and as a result, there was an increase in the number of informal settlements. This was partly because the migrant mine workers had not enough paid to them, but had to settle in any open space. Most municipalities had not prepared to accommodate the hundreds of former mine workers who came from hostels' (interview with Matthews Hlabane, SAGRC, eMalahleni, 13 November 2015). The expansion of mining between 1990 and 2006 had a major impact on the town, with far-reaching consequences for the region: between 2001 and 2011, population growth in the area averaged 3.6 percent per year, caused partly by the influx of workers and people seeking work from other parts of South Africa and other African countries. The result of this population growth in eMalahleni was a proliferation of informal settlements. The infrastructure is inadequate for the population (SACN n.d.: 11-13). eMalahleni with its 395,466 inhabitants has a relatively young population



### Matthews Hlabane

Leader of the South African Green Revolutionary Council (SAGRC), eMalahleni  
Matthews Hlabane grew up in eMalahleni.

'People came to Witbank believing that they would get jobs and that their lives would change. What they didn't know is that this change is not permanent and that it destroys the environment and their lives. Kusile will diminish the quality of our air, destroy our ecosystem and bring an uncontrolled influx of workers into our region.'

## Profile: Kusile Power Plant

<b>Location:</b>	The Nkangala district of Mpumalanga
<b>Technical data:</b>	Six power plant blocks each with a capacity of 800 MW, making 4,800 MW in total. A flue gas desulphurisation system is due to reduce the power plant's emissions by 90 percent.
<b>Start-up:</b>	The first unit is due to come online in 2017.
<b>Special features:</b>	Upon completion it will be the fourth-largest coal-fired power plant in the world.
<b>Cost:</b>	In January 2015 Eskom estimated the cost at ZAR 82 billion (around EUR 19 billion). However, the South African newspaper Mail & Guardian announced in February 2015 that the costs could increase to ZAR 172 billion (around EUR 40 billion) (Mail & Guardian 2015).
<b>German companies involved:</b>	at least 9 (some companies cannot be directly linked to one of the two power plants)

Sources: Eskom 2016c, Mail & Guardian 2015, authors' research into companies (see Section 2)



Figure 2: **The five water management zones of the Olifants River in the Mpumalanga region**

structure: a quarter of the population is under the age of 14. Despite the many power plants in the region, the electricity supply is extremely poor. According to the South African government, 26.6 percent of people in the region have no access to electricity (Statistics South Africa 2015, as at November 2015). Another challenge is the prevalence of HIV: the municipality of eMalahleni states that the HIV rate has risen from 36 percent to 40 percent in recent years (eMalahleni Local Municipality 2016). ◀

### 1.2.2. The human rights risks and impacts of coal mining

▶ To identify human rights issues for the region around Kusile, existing studies of the impacts of coal mining in Mpumalanga Province were consulted (CER 2016, groundWork 2014, Greenpeace 2012, KOSA 2012, Bench Marks Foundation 2014, WWF 2011). The studies provide a fairly general view of the impacts of coal mining in Mpumalanga Province and do not focus directly on construction of the Kusile power plant. On the basis of these studies and interviews with experts it is possible to identify a number of problems for the region that will be further exacerbated by the construc-

tion and operation of Kusile. They include impacts on water quality, food production, population growth and the region’s employment structure. Each of these issues will now be examined in more detail and the extent to which they pose a risk to human rights will be considered.

#### Impacts on water supply and quality – rights to water and health

As various studies show, mining in the region has significant impacts on water quality. The most important river in the Witbank region is the Olifants, which has a catchment area of 54,570 square kilometres. This is divided into nine smaller catchment areas, which include 30 major dams such as the Witbank Dam, the Middelburg Dam and the Loskop Dam (CSIR 2016).

Even in the early 1970s, high concentrations of sulphates and TDS (total dissolved solids) were being found in the Witbank, Loskop and Middelburg dams, as the Centre for Environmental Rights (CER) in South Africa reported in a recently published study. The study shows that the Department of Water Affairs in South Africa documented the negative impacts of mining on water quality in 2011 and confirmed that mining activities are responsible for the

poor water quality of the Olifants (CER 2016: n.p.). The impacts of mining include the effects of acid mine drainage in the region. The water quality of the rivers in Mpumalanga Province – of which the Olifants is the main one – is now so poor that the water can no longer be used to cool the region's power plants (WWF 2011: 4, Greenpeace 2012: 8). Water for the power plant will therefore be taken from the River Vaal. This involves transporting the water to the region via the Vaal River Eastern Subsystem Augmentation Project (VRESAG). The project, which is managed by the Department of Water Affairs, pumps 160 million cubic metres of water per year into the region from the Vaal (Greenpeace 2012: 8). However, the Vaal is used to supply water to the populous Gauteng region, where it is urgently needed to compensate for the damage inflicted on the area by acid mine drainage (Greenpeace 2012: 9, for information on acid mine drainage see the info box).

Even the environmental impact assessment (EIA) for the Kusile power plant takes a critical view of this: 'The water could have been beneficially utilised in the Vaal River catchment for agricultural purposes or in industry' (Eskom EIA Kusile 2007). South African

### Info:

➤ As a result of an agreement with the government, Eskom's use of the water takes precedence over the needs of the population – it is therefore highly likely that a drought in the region would hit the population hardest (Greenpeace 2012: 9). In recent years, the quality of the region's water has been the subject of alarming reports: in 2012 the town of Carolina was in the news because its drinking water was unusable for several months. After a storm in January 2012, acid mine drainage entered the Boesmanspruit Dam, which supplies Carolina and the nearby township of Silobela. For seven months, the water was undrinkable and fish stocks died. Although the municipal authorities attempted to bring in drinking water, they were unable to provide sufficient supplies. A claim against the Department of Water Affairs brought by Lawyers for Human Rights and the Legal Resources Centre, who called for the creation of an adequate water supply, was successful (CER 2016: n.p.). ◀

environmental organisations are not alone in fearing that the region's water supply will deteriorate, thereby posing risks to the rights of the local population to water and food. According to Greenpeace, even the staff of Eskom are concerned: 'At a water conference in Marseille earlier this year senior Eskom and Sasol managers warned that one big drought in the Vaal River catchment area over the next eight years could jeopardise the region's agricultural and industrial output' (Greenpeace 2012: 9). It is expected that the expansion of mining in the region will result in further impacts when the power plant is fully operational and coal from the New Largo Mine is needed. Expansion of the coal mines was not covered by Eskom's environmental impact assessment of the coal-fired power plant at Kusile; separate EIAs were produced for the mines (Eskom EIA Kusile 2007). This makes it more difficult to calculate the cumulative effects of the water requirements of the power plant and the mines.

Coal mining has a severely detrimental impact on water in terms of both quantity and quality and the expansion of mining will exacerbate these problems. Acid mine drainage refers to the discharge of acids enriched with heavy metals in regions in which large-scale mining takes place; this discharge can enter the water supply. Many lakes and rivers in the vicinity of Witbank (eMalahleni) are already heavily polluted. White deposits are evidence of the high concentration of acids. A study by McCarthy and Pretorius in 2009 concludes that pollution by acid mine drainage will have major and long-lasting impacts: the reservoirs around Witbank and Middelburg are at risk of becoming increasingly polluted, resulting in high water treatment costs in the long term (McCarthy & Pretorius 2009).

The rivers and lakes are important to the region's inhabitants: fewer than 55 percent of people in eMalahleni have piped water in their homes, although 80 percent have access to water near their dwellings (South African Statistics 2015). Water pollution by acid mine drainage is particularly detrimental to these people's rights to health and water. A visit to eMalahleni highlighted this: while on a tour, Matthews Hlabane of SAGRC sent away children who were swimming in a polluted pool. There are many ponds in the region into which the acid mine drainage is channelled so that the water can evaporate, creating deposits of heavy metals and reducing the volume of the waste water. These ponds are a popular place for children to play. Despite the pollution by acid mine drainage



Fewer than 55 percent of people in eMalahleni have piped water in their homes.

‘The consequences of the Kusile power plant are not yet visible. But we know that they will become so. Water supplies and water sources will shrink, animals will die.’



**Elvis K.**  
Centre Village Ackerville

– evidenced by the white and gold-coloured deposits around the lakes – children often play in these lakes on account of the heat and the lack of other things to do in their spare time. As yet the province has done little to protect the population: the lakes are not fenced off and there are no signs warning that swimming in them could be hazardous to health. Hlabane explained that it is difficult to talk about the impacts of the region’s polluted water on health because many doctors fear that if they did so they would be discriminated against and risk being labelled as opponents of economic development. At the same time there are more and more reports of health problems, especially among children: rashes, skin burns and even brain damage are among the possible consequences of acid mine drainage (interview with Matthews Hlabane, SAGRC, eMalahleni, 13 November 2015).

**Impacts on food production:  
The right to food**

Disruption of the availability and quality of water and of access to it entails significant risks to agriculture.

Polluted mine water, lakes and rivers contaminate the soil. Yet farmers in many places depend on the use of naturally available water for irrigation, especially in dry periods. Reductions in water quantity and quality as a result of mining represent a significant risk in this regard. The coal mining debate has as yet paid little attention to these risks. However, another aspect with far-reaching implications for agriculture and the human right to food was investigated in an extensive study conducted by the Bureau for Food and Agricultural Policy (BFAP) in 2012. This concerned the impacts on regional maize production resulting from the takeover of farmland for mining. Mpumalanga is regarded as the granary of South Africa: 46.4 percent of the country's high-potential arable land is in this province. Twelve percent of this fertile land is being transformed into mining land, with a further 13.6 percent currently being prospected for mining use (BFAP 2012: 5).

### Info:

➤ Mining has already brought significant upheaval to the lives of local people. This is partly due to the resettlement that takes place when farmland is transformed into mining land. The expansion of mining has forced many landowners to relinquish their land. But activist Thomas Mnguni points out that it is not only the owners who are affected by these land sales. In many cases there are also families who not only live on the estates but also grow and sometimes sell their own food there. After resettlement these people are often left without land that they can use to grow fruit and vegetables, either for their own use or for sale so that they can live on the proceeds. Even if companies or the state offer people new places to live, resettlement can still have serious consequences: 'When the people move away from the farms, they lose their livelihood and the opportunity to work there. The food was cheap for them. Now if you take them to an open area, it means they have to rely on the supermarkets to get their vegetables. It's becoming an exercise to them because when they're moved from that farm they lose their income as well' (interview with Thomas Mnguni, HEJN, Berlin, 18 October 2014). ◀

The Bureau for Food and Agricultural Policy fears that the expansion of mining may lead to a shortage of maize and an increase in maize prices: 'The potential loss of maize production from current mining activities and activities in the near future, amounts to 284,844 tons per annum. A further 162,736 tons of maize could be lost from the prospecting areas that in future could also be transformed. Over the long-run the reduction of 447,581 tons of maize per year, removed from the market, would result in an average annual price increase of ZAR 300/ton, over and above a long-term projected average maize price of ZAR 2,090/ton. In other words, average maize prices are projected to increase by approximately 14%, which in turn would cause maize meal prices to rise by approximately 5%' (ibid.). Koos Pretorius, himself a farmer and director of the organisation Federation for a Sustainable Environment, warns against further large-scale conversion of farmland, saying that there is a risk that South Africa will in the coming years become dependent on expensive maize imports. He calls for a sensitive approach that takes account of the importance of farmland and water supplies (study by Victor Munnik, Johannesburg, 18 October 2015). This is important, because further applications for the expansion of mining are in the pipeline: 'More than half of Mpumalanga's land surface area (54.2%) is under prospecting applications, while a further quarter (24.5%) is under mining right applications. Together, because of overlapping applications, these account for 61.3% of the total land surface area of the province, with Nkangala District Municipality under the most pressure for land-use change' (CER 2016: n.p.).

Another issue is that expansion of the Kusile power plant involved planning to resettle a number of inhabitants: in the EIA Eskom refers to between 27 and 43 families (Eskom EIA Kusile 2007: 126). The scope of the resettlement and its effects on families have not been systematically investigated. However, there is a major risk of the conversion of farmland into mining land and the accompanying resettlement adversely affecting the right to food. Farm workers and tenant farmers, in particular, are likely to lose their livelihood and their access to adequate food for their families as a result.

### Impacts on air quality and the right to health

MA number of studies have shown that the high level of air pollution in the region is already having a considerable impact on the population. As the Centre



Because people living near the mines often have no electricity, they scavenge for pieces of coal to use for cooking and heating.

for Environmental Rights points out, pneumoconiosis (black lung) is one of the most serious diseases associated with coal mining: ‘When people are repeatedly exposed to dust that contains crystalline silica, they can develop this disease which hardens the lungs, and oxygen can no longer easily reach the bloodstream.’ Coal particles also affect breathing, the nervous system and the cardiovascular system and can cause heart disease, cancer, strokes and chronic respiratory disorders (CER 2016: n.p.). The South African government has acknowledged this in principle: on 23 November 2007 the region around Kusile was designated the Highveld Priority Area. An area can be declared a hotspot if ambient air quality standards are being exceeded or if there is a risk that they will be exceeded. If a region is declared a hotspot, the government and other relevant bodies are required to take steps to ensure that air quality stand-

ards are met and maintained (CER 2016: n.p.). Open-cast mining has a particularly serious impact on air quality. There are frequent reports that air quality in the region is poor and air quality standards are being exceeded: ‘In 2013, out of the five PM10 monitoring stations in the Highveld Priority Area (namely Ermelo, Hendrina, Middelburg, Secunda and Witbank), PM10 exceeded ambient air quality standards, and it was predicted that all stations would exceed these standards by 2015’ (CER 2016: n.p.).

A study by McDaid for the environmental organisation groundWork (2014) also shows that people in the region are exposed to higher-than-average levels of pollution from the coal-fired power plants. The apparent advantages of living close to the opencast mines are in some cases illusory, as visits to informal settlements show. Paradoxically, settlements such as MNS are not connected to the electricity grid



despite being close to the power plants. People from the settlement collect coal for domestic cooking and heating from the opencast mines and this enables them to survive.

This results in high levels of environmental pollution and risks to health, as McDaid's study points out (groundWork 2014). It has caused the South African environment ministry to consider alternative means of achieving emissions reductions, such as requiring Eskom to finance measures for reducing household emissions (see also Section 2.3.). While such measures are in principle to be welcomed, they must not replace other measures to limit emissions from power plants. McDaid's study is important in this context: the author shows that the principal source of emissions in Mpumalanga is not private households but the power plants.

These emissions have serious effects on the population and pose a significant health risk – especially to children. The author provides figures on the causes of childhood deaths and compares the cities of Cape Town, Tschwane and the Mpumalanga High Priority Area (HPA). According to her calculations, far more deaths are attributable to power generation than to domestic burning of wood and coal.

The author therefore calls for coal-fired power plants in the region to be turned off to reduce emissions from electricity generation (groundWork 2014). In this context, constructing Kusile poses a significant risk to the health of the population. If health impacts with fatal consequences are already observable as a result of power generation in the region, adding in the operation of Kusile will further exacerbate these impacts. Eskom is fitting the power plant

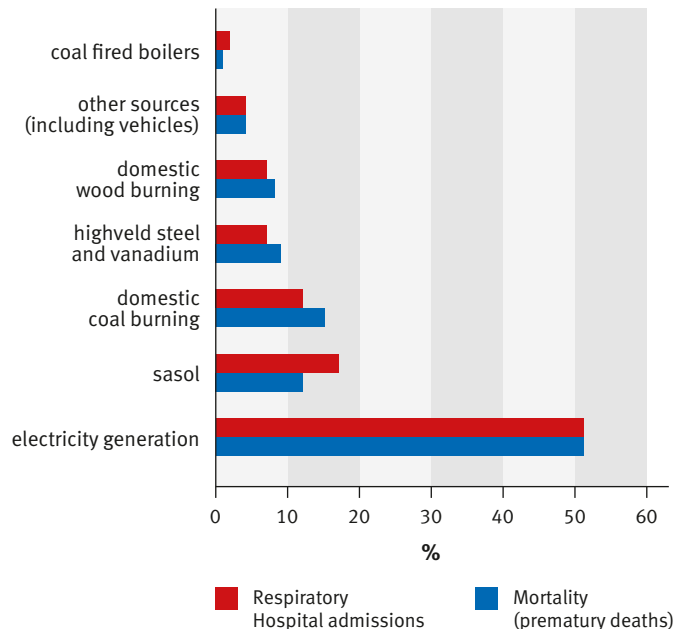
‘Many people suffer from tuberculosis, headaches, asthma or sinusitis.

We breathe this dirty air.’“

**Lucas M.**

Young person from eMalahleni

Figure 3: **Source contributions as a percentage of overall health effects – due to fuel burning emissions in Mpumalanga** (Scorgie 2012)



Source: groundWork 2014: 11

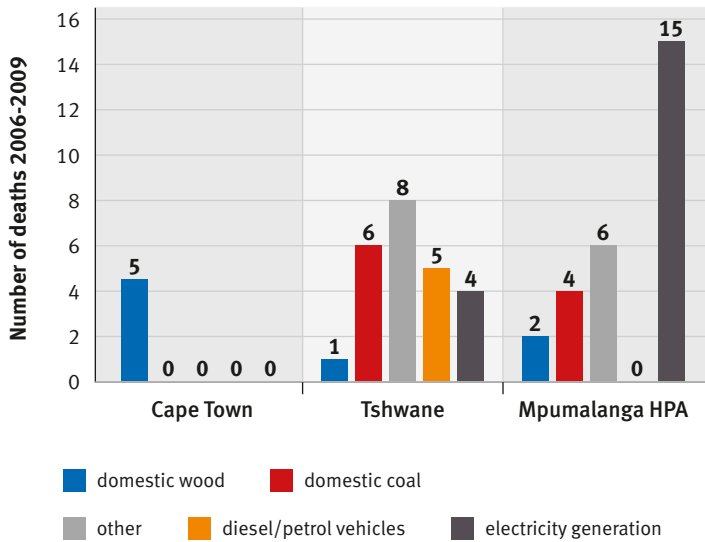
with a flue gas desulphurisation system, but even with this in place pollution levels in the region, which already exceed approved standards, will rise even higher. Another factor that must be taken into account is the New Largo mine, which is to be opened specifically to supply Kusile, and possibly other mines in the area that pose the risk of additional air pollution and further jeopardise the local population's right to health.

### Population growth and social rights in relation to provision of essential services

As already mentioned at the beginning of this section, mining in the region in the last 20 years has had a major impact on infrastructure. Population pressure has increased, making living conditions more difficult for the people of the region. The expansion of mining has forced many people off the land on which they have lived for a long time. Many have moved close to the mines in the hope of finding work. As a result, numerous informal settlements – such as MNS – have sprung up around the coal mines.

Around half of South Africa's coal is extracted from opencast mines (Eberhard 2011: 2). This has a major impact on nearby settlements. Sarah Mokoena, an old-

Figure 4: **Comparative childhood mortality due to ambient air quality for Cape Town, Tshwane and Mpumalanga HPA**



Source: groundWork 2014: 14

er woman who lives close to an opencast mine with her daughter and her four grandchildren, describes what her life is like. The family is exposed to emissions daily as a result of coal dust.

For the poor and those without means, it is particularly difficult to escape these circumstances. The activists at SAGRC have negotiated the building of a new house for Sarah Deliwe Nkosi with the municipal administration of eMalahleni but the process of finding and allocating a plot of land in the region on which the new house could be built is a protracted one. Such stories are not isolated cases, declares Pinky Langa, a member of SAGRC who provides support to a number of settlements. Children growing up near opencast mines are particularly exposed to risk (interview with Pinky Langa, SAGRC, eMalahleni, 13 November 2015).

Although the MNS settlement has no direct connection to the construction of Kusile and the use of the mines, it illustrates the difficult conditions under which many people in Mpumalanga live. Further population growth in the region could result in the creation of more informal settlements.



Sarah Mokoena (64) struggles to make ends meet. She lives with her daughters and grandson in a caravan in the informal settlement of MNS in eMalahleni. The coal dust gets everywhere and clings to the family’s clothes.

## Abandoned and unrehabilitated coal mines

➤ An additional problem in the Mpumalanga region arises from old and unrehabilitated mines. South Africa has 5,906 abandoned coal mines, of which 1,730 are classed as 'highly dangerous' (CER 2016: n.p.). Around 600 of these old mines are in the Mpumalanga region. Problems arise for the South African government from the fact that, because the mines are abandoned, the owners are often impossible to identify. According to an official at the Department for Mineral Resources, this also makes rehabilitation of the mines more difficult, as the necessary steps must first be identified (interview with staff of the DMR, Johannesburg, 18 November 2015). The unrehabilitated mines pose a major risk to the population. Acids and heavy metals regularly leach into the groundwater. Another problem is that the ground is unstable and unsafe after rock and hard soil have been removed. Because of the hollow cavities underground there is a risk that the ground will collapse and dangerous craters will open up (interview with Matthews Hlabane, SAGRC, eMalahleni, 13 November 2015). Despite this, informal settlements are often built near or immediately adjacent to unrehabilitated coal mines. One such settlement is Coronation near Witbank (eMalahleni), where people are at risk from collapsing shafts. In some mines, spontaneous fires break out underground. Pinky Langa tells of the case of David



The deep shafts of abandoned mines are neither filled in nor made safe. The shafts can collapse at any time and are a danger to local people. Footpaths pass very close to the shafts.

Ndlovu: in 2014 he fell into a crumbling shaft while out running and suffered severe burns to his legs from the fire that was burning there. One problem is that the dangerous shafts are not adequately secured, so that passers-by are unaware of the risk (interview with Pinky Langa, SAGRC, eMalahleni, 13 November 2015). This is confirmed by local photographs. ◀

'The abandoned coal mines are very dangerous for people. Many of the old shafts have not been made safe and so they are a major danger for local people.'



**Pinky Langa**

Mitarbeiterin SAGRC, eMalahleni

### Impacts on the employment structure and labour rights

Mining has an important influence on the employment structure in the region: according to the 2011 census, 24 percent of the workforce in the area around eMalahleni works in mining and just under 17 percent in manufacturing (SACN n.d.: 22). About a third of the population is unemployed, with youth unemployment even higher at 36 percent (Statistics South Africa 2015). Local people expect construction and operation of the power plants to create more jobs in the region. However, trade unions and local organisations in the Kusile region complain that construction of the power plant has so far had little positive effect on social and economic development. They say that it is difficult for people looking for work to find jobs – either in connection with the construction of the power plant or working in the mines. Preference is often given to workers from other parts of South Africa or from neighbouring countries, because local workers lack the necessary skills.

Another difficulty, they report, is the form of the contracts: many contracts are part-time ones that offer the workers very poor conditions, thereby driving them into a precarious situation. But because of the high levels of unemployment in the region, many people are forced to accept these contracts. Some companies use various practices to make it more difficult for the workers to organise themselves into trade unions: ‘They create that environment of instability, making it not easy for the workers to organise’. Women in particular experience widespread discrimination in the labour market and are often overlooked in the allocation of jobs (interview with Johannes Nzimanda, NUMSA, eMalahleni, 13 November 2015). ◀

### 1.2.3. Summary of human rights risks and outlook

▶ As has been shown, mining in Mpumalanga has already had a serious effect on the region. Basic rights



Because of a lack of things to do, children use the mines as a playground and thus are regularly exposed to the coal dust.

such as the rights to water, health, housing and food are being abused. The construction and operation of Kusile is creating further problems in a region in which mining already has a prominent impact. These problems include increased water consumption, conversion of farmland, resettlement for the expansion of coal mining, and air pollution. They will be exacerbated by the construction and operation of Kusile and the opening of the New Largo mine. Given the many problems in Mpumalanga, it is not surprising that opposition in the region is growing steadily. The expansion of power plant construction is triggering more and more protests against mining in the region. groundWork is an experienced environmental organisation in the region. Two networks have been formed – the South African Green Revolutionary Council (SAGRC) and the Highveld Environmental Justice Network (HEJN) – that are highlighting the adverse environmental and social impacts in the region. There are also many communities that are drawing attention to the situation locally. They include Ogies, which has repeatedly organised protests against the construction of Kusile, partly because the community is greatly affected by the influx of workers. ◀



Coal mining dominates the scene in the region around eMalahleni and has serious impacts on the local population.

### 1.3. A second Mpumalanga? The construction and operation of Medupi in Limpopo Province

➤ The Medupi coal-fired power plant is located in the Limpopo region, which is set to become the next major coal region in South Africa after Mpumalanga. The first power plant block at Medupi was connected to the national grid in March 2015 (Eskom 2016b). The other five blocks are due to come online gradually by 2019, provided that no further delays occur. In contrast to Mpumalanga, the damage caused in Limpopo Province by the extraction of coal and by the power plants is not yet so clearly visible. The only other power plant close to the town of Lephalale is Matimba. According to a summary published by the Department of Mineral Resources in January 2016, six coal mines in the province of Limpopo are currently being worked (DMR 2016). The effects of power plant construction on the region can therefore be isolated more clearly than is the case with Kusile, where the environment is already adversely affected by numerous other factors, especially existing power plants and mines. The impacts on the Medupi region have

been far more systematically studied than the impacts of Kusile. There are detailed investigations that can be consulted, such as a report of the World Bank Inspection Panel in 2011 and the Independent Review Mechanism Report of the African Development Bank, also from 2011 (IP 2011, IRM ADB 2011). Both the World Bank and the African Development Bank are involved in financing Medupi (see also Section 2.1.). The findings of these investigations have been supplemented by interviews with affected people in the region and discussions with representatives of environmental organisations. ◀

#### 1.3.1. Background: Construction of the Medupi power plant in Lephalale

➤ The Medupi power plant is close to the town of Lephalale. The most recent census, conducted in 2011, shows that the town has 115,767 inhabitants, 26.2 percent of whom are under the age of 14. According

## Profile: Medupi power plant

- Location:** Approx. 15 km west of Lephalale in Limpopo Province
- Technical data:** Six power plant blocks each with a capacity of 800 MW, making 4,800 MW in total. Flue gas desulphurisation systems are intended to reduce the power plant's emissions by 90 percent; installation of these is due to be completed six years after the last boiler goes online.
- Start-up:** The first of the six units was due to come into operation in 2011 (Mail & Guardian 2015) but did not in fact do so until 2 March 2015. It is unclear when the other units will come online. The operator Eskom states that the last unit will be operational by 2019.
- Special features:** Medupi is due to be the fourth-largest coal-fired power plant in the southern hemisphere and the largest dry-cooled power plant in the world.
- Cost:** The cost was originally estimated at ZAR 69 billion. However, the South African newspaper Mail & Guardian announced in February 2015 that the costs could increase to ZAR 154 billion (Mail & Guardian 2015).
- German companies involved:** at least 8 (some companies cannot be linked with certainty to one of the two power plants)

Sources: Eskom 2014, Eskom 2016c, Mail & Guardian 2015, authors' research into companies (see Section 2)

to the South African government, the unemployment rate in the town is 22.2 percent; youth unemployment is 26.9 percent. 85 percent of the population is connected to the electricity grid (Statistics South Africa 2015). The municipal administration in Lephalale states that Medupi will be the fourth-largest

coal-fired power plant in the global South and the largest power plant in the world to have a dry-cooling system (Lephalale Municipality 2015a). The region has until now had one other power plant: this is Matimba, consisting of six units with a combined capacity of 4,000 MW.



The Medupi coal-fired power plant in Lephalale in the Limpopo region.

According to Eskom, Medupi will be supplied with coal from the Grootegeluk mine: the mine is said to have sufficient coal to supply Matimba for another 35 years, and this could be extended to 50 years. However, the extent to which this will be affected by Medupi is not clear (Eskom 2015). According to the municipal authorities, there are four coal mines in the Lephalale region that are already in use or due to be brought into use in the coming years. They include the Grootegeluk mine owned by Exxaro, which the municipal authorities say currently employs 2,000 people. Approval for a second Exxaro mine, the Thabametsi mine, was granted in 2014. The first coal from Thabametsi is due to be produced in the first half of 2017 and will be used for a new 600 MW power plant, no further details of which are given on the website. The third mine, the Boikarabelo mine, is due to open in the first half of 2016. This mine is owned by Resource Generation, which has already completed a construction camp for workers that can accommodate more than 1,320 people. The fourth mine described by the municipality on its website is the Waterberg mine: a joint venture with Firestone Energy is planning a thermal coal project that will extract four million tons of coal a year (Lephalale Municipality 2016). In addition, the Groothoek Coal Mining Company (PTY) Ltd has applied for a licence for another coal mine in the immediate vicinity of Matimba and Medupi (Groothoek Coal Mining Company 2015).

In its Vision for 2025 the municipality of Lephalale outlines its scenario for economic development, including coal production:

**The Local Economic Development (LED) Strategy of Lephalale Municipality's Vision for 2025 is to:**

- increase power stations from one to five
- increase coal production from 16 million tons to more than 100 million tons per annum.
- petrochemical industry established for 160 000 bpd.
- diversified local economy
- population to double from 120 000 to 240 000

Source: Lephalale Municipality 2015b

‘Many young women end up in prostitution. Because of the poor prospects in the region, this often seems to be the only way in which they can earn a living.’



**Francinah Nkosi**

Environmental activist from Lephalale

It is likely that the five mines will not be the only ones, since the Waterberg area is due to be developed as a new coal region (Eberhard 2011: 2). This expansion was detailed in the South African government's Infrastructure Development Plan of June 2014, which includes 'unlocking the northern mineral belt with Waterberg as catalyst' as a strategic objective (RSA Government Gazette No. 37712, 2014: 33). This is also clear from the maps on the website of Lephalale Municipality (2016).

Companies such as Anglo American confirm that the Limpopo region is strategically important for the future of coal mining in South Africa (interview with Anglo American employees, Johannesburg, 18 November 2015). ◀

**1.3.2. Human rights risks and impacts of the Medupi coal-fired power plant**

▶ The South African government justifies the construction of Medupi in Lephalale on the grounds of its importance for the region's economic development.



Jeremy Lesiba (44) used to work for Medupi and is now unemployed. His former employer still owes him money.

Discussions with affected people in the locality show that at the outset many people in Lephalale had high hopes of the project: in particular, young people in townships and informal settlements such as MaMojela Park and Steenbokpan hoped to find work at the Medupi power plant and thus escape the high level of unemployment – especially among the young – locally.

At the same time it is clear that there is great disappointment and that this is now widespread. Even job-seekers who had attended a special course at the local training centre rarely found work. The situation for women in the region is said to be very difficult: they are rarely considered for jobs at or connected with the power plant.

There were concerns about the project and protest against it as long ago as 2007 (interview with Makoma Lekalakala, Earthlife Africa, Johannesburg, 16 November 2015). Other social and environmental consequences were discussed during the critical debate. The controversy resulted in a report by the World Bank Inspection Panel, which was published in 2011. The Inspection Panel is mandated to conduct an independent investigation into whether management has paid sufficient attention to internal stand-

ards when approving the financing of a project. This report of the Inspection Panel was triggered by two individuals from the Lephalale region who in 2010 expressed serious concerns about the construction project. The complaint to the World Bank was made by the two South African environmental organisations groundWork and Earthlife because the two individuals did not want to be named (interview with Makoma Lekalakala, Earthlife Africa, 16 November 2015).

On the basis of this complaint the World Bank investigated the impacts of Medupi. The African Development Bank has also examined the impacts of the project. The two major studies highlight a number of environmental and social risks that could also have serious implications for the human rights of the local population in ways that are set out in more detail below.

### **Destruction of grave sites – cultural rights**

Since the start of construction at Medupi in 2007, the abuse of cultural rights has attracted much attention in South Africa. The Medupi power plant has been built in an area in which there are grave sites belonging to the local population. For many people in the region the abuse of cultural rights and the disturbance of the burial sites is an important issue and it is one that was raised repeatedly during a visit to the region in November 2015. The Environmental Impact Assessment produced for Eskom in 2007 mentioned a burial site that would be disturbed by construction of the power plant (Eskom EIA Medupi 2006: 380). In subsequent years evidence accumulated suggesting that there might be other burial sites in the area. The issue was investigated by, in particular, the African Development Bank. Its report identified two formal burial sites and stated that other informal burials have probably taken place on the Medupi site because a number of forced resettlements had taken place in the Lephalale region (IRM ADB 2011: 34). In its report, the African Development Bank therefore recommended that there should be comprehensive consultation with the local population, since the graves in question could not otherwise be identified (IRM ADB 2011: 34). A second study, a heritage impact assessment commissioned by the Department of Environmental Affairs, was conducted by the independent firm Mbofho Consultants in October 2015. The DEA confirmed the findings in October: ‘The investigation identified seven burial sites which have been disturbed or are the subject of a grievance lodged by relatives that



need to be resolved, as well as seven graves and burial sites listed in terms of the National Heritage Act which are not subject to a grievance, but that require management in consultation with stakeholders. Five existing sites, including sacred pools and old settlements worth preserving, were also identified during the process' (DEA 2015).

The government stated that it planned to implement the report's recommendations by April 2016. These recommendations include protecting and conserving sacred sites and graves on the Medupi site and granting the local community access to the area (*ibid.*). It seems unlikely that the families whose graves are on the Medupi site will receive compensation, but this was not something that the communities had called for (interview with Makoma Lekalakala, Earthlife Africa, Johannesburg, 16 November 2015). The destruction of the burial sites is regarded by the people of the region as a particularly serious abuse of their cultural rights – rights that with the introduction of democracy in 1994 many had believed to be assured. A 'sacred garden' where relatives can remember the dead is to be built on the Medupi site (interview with Jeremy Soedisa, Lephale, 11 November 2015).

### Impacts on air quality – the right to health

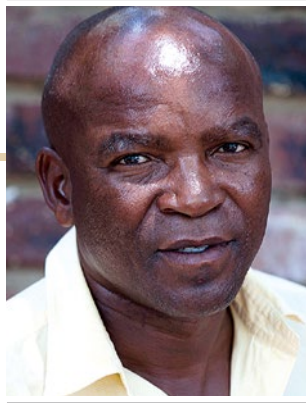
On 15 June 2012 the Medupi region was declared a priority area for air quality management, because environment minister Edna Molena feared that the expansion of coal mining would have a detrimental impact on air quality in the region (Government RSA Gazette 35435, 2012). This decision also reflects the fact that the air in the region is already subject to significant pollution from the Grootegeluk mine and the Matimba power plant.

The first boiler at Medupi was commissioned in March 2015. It is unclear when the remaining five boilers will be put into operation, but Eskom states that the last boiler will come online in 2019. It is to be feared that the air quality – which is already poor – will be further compromised by additional emissions. Even the environmental impact report on Medupi produced by Eskom in 2006 found that the maximum levels of sulphur dioxide emissions permissible at the time were already being exceeded by the Matimba power plant. The six 800 MW boilers planned for Medupi would triple or quadruple the frequency with which these maximum levels were exceeded. The report concluded that



The Matimba power plant in Lephale is already causing the township of Marapong to be exposed to high sulphur dioxide emissions

‘You can positively smell the coal.  
There are days when it is difficult  
to breathe.  
There are people who report stomach  
ache as a result of drinking the water.  
I keep getting problems too.’



**Francis Manamela**

Community spokesman from Marapong

‘all proposed power configurations are indicated to be in non-compliance with SA standards’ for sulphur dioxide (Eskom 2006: 281). It was thus clear from the outset that with the additional power plant at Medupi Eskom would be unable to keep sulphur dioxide emissions in the region within the permitted limits.

Despite this, the management of the World Bank concluded at the time that the health impacts of Medupi would be small. Two factors played a major part in this decision:

Firstly, the management argued that the most populous settlements of Onverwacht/Lephalale and Marapong are ‘normally upwind of the power plant’ and hence less affected by the emissions (IP 2011: 85). However, the World Bank Inspection Panel came to a different conclusion in its report of 2011. It stated that the health of the population in the ‘maximum impact zone’ downwind must be protected; while this area may be less populous, it nevertheless has a population density of five people per square kilometre. In addition, the Inspection Panel refuted the suggestion that the more populous settlements of Marapong (population at that time 17,000) and Onverwacht/Lephalale (population at that time 3,000) were not

affected: ‘The Panel’s expert has further noted that because the wind does not continuously blow from the northeast, people in all directions will be affected by the plant emissions – even if not in the “maximum impact zone”’ (IP 2011: 88). Even the air quality assessment produced for Eskom had classed the health risks of Medupi as ‘high’ for the inhabitants of Marapong and ‘moderate to high’ for Onverwacht unless and until the flue gas desulphurisation system was installed. This assessment took no account of the emissions of the Grootegeluk mine; it considered only the emissions from Matimba and Medupi. In the light of this, in 2011 the Inspection Panel rated the health risk for both Marapong and Onverwacht/Lephalale as high (IP 2011: 89).

Secondly, the management of the World Bank argued that a flue gas desulphurisation system was to be retrofitted at Medupi. This technology, they said, enables the power plant’s emissions to be cut by 90 percent: ‘According to the Air Quality Assessment prepared as part of the EIA for Medupi, the health risk associated with the operation of six units at Medupi without SO<sub>2</sub> abatement is defined as ‘high’ for residents of Marapong and ‘moderate to high’ for the residents of Onverwacht. With at least 90% control efficiency in SO<sub>2</sub> abatement, risks would be reduced to ‘moderate’ (IP 2011: 88, italics in the original).

Installation of the flue gas desulphurisation system at Medupi was required retrospectively – in contrast to Kusile, where the technology was planned for from the start. In the credit agreement with Eskom the World Bank specified that the system did not need to be installed until between 2018 and 2021, or at a later date to be agreed with the World Bank. It thereby accepted that – under the timetable applicable at the time – the six boilers would be in operation for at least three years without a flue gas desulphurisation system (IP 2011: 89). In view of this delay in installing the system, the Inspection Panel very clearly contradicted the opinion of the management of the World Bank: ‘For this reason – and contrary to the finding of the Management that health risks are low – the Panel believes that the risks to health would be high in the “maximum impact zone” and in the towns of Marapong and Lephalale’ (IP 2011: 89). The timetable has now been extended even further: the flue gas desulphurisation systems, which need to be installed separately in each boiler, are to be fitted six years after the boiler in question is put into operation. Under the present timetable this means that the six boilers must be retrofitted between 2021 and 2025 (IRM ADB 2015: 7).

The latest South African emissions standards, which entered into force in April 2015, specify two compliance time frames. Companies have until 2020 to comply with the existing standards. From 2020 they must meet the standards that come into force in that year. Power plants for which approval is sought in or after 2015 must meet the higher standards that apply from 2020 from the outset (interview with Vumile Senene, DEA, Tshwane, 16 November 2015). However, in October 2013 Eskom applied for an exemption from the statutory standards for various power plants, including for sulphur dioxide emissions at Medupi: 'Eskom submitted a request to DEA for the postponement of the application to the current environmental emission limits for SO<sub>2</sub> of 3500 mg/Nm<sup>3</sup> (expiring in 2015) which would bring in new requirements (SO<sub>2</sub>: 500 mg/Nm<sup>3</sup>) in effect from 2020-2025. This application was granted by DEA on February 13, 2015. This application for postponement of the time frame for meeting the SO<sub>2</sub> emission standards was in order to accommodate the FGD retrofit time schedule 6 years after commissioning of each unit, and which the Medupi Power Plant would need to meet only by 2020 as Medupi is classified by DEA as an 'existing plant', the DEA has granted a five year postponement from 2020 to 2025 for the 500mg/Nm<sup>3</sup> standard' (IRM ADB 2015: 7-8). Thus instead of complying with the statutory emission limits for Medupi by 2020, Eskom does not need to do so until 2020 – and does not need to have the flue gas desulphurisation systems installed until then. The significant health risks for the nearby population identified by the Inspection Panel in 2011 could increase further as a result of the new timetable.

Eskom's justification of the delay is interesting. It refers to the difficulties in installing the system, which it says arise mainly from the lack of water and the high costs: 'Eskom argued that it would be unable to meet the MES [Minimum Emission Standards] for either existing or new plants because it would be unable to install FGD [Flue Gas Desulphurisation] technology in all of the units at Medupi. Eskom argued that it was constrained by insufficient water in the Lephalale region, and because of a lack of finances. Eskom further argued that the five year exemption period was insufficient and that it would only be able to install FGD by April 2027 when the second phase of the Mokolo Dam Crocodile River Water Augmentation Project (MCWAP) was complete. MCWAP is scheduled for 2019' (Earthlife Africa 2014a).

The FGD technology used in the planned flue gas

desulphurisation system is very water-intensive. The water requirements of the scheme can only be met after completion of the second phase of the Mokolo-Crocodile (West) Water Augmentation Project (MCWAP), which itself entails significant environmental and health risks (see next subsection). Eskom is only now performing an environmental impact assessment of the desulphurisation system (Zitholele Consulting 2015). As yet, therefore, installation of the system is not covered by an EIA, so it remains questionable whether the current timetable, which is already problematic, is actually viable. In recent months Eskom has repeatedly confirmed that it intends to have installed the FGD system in all boilers by 2025 (see also IRM ADB 2015: 7-8), but it is unclear what would happen if the EIA reveals concerns.

The Department of Environmental Affairs is currently considering a range of options for offsetting the high emissions in the region. Eskom could offset the power plant's emissions by contributing to the reduction of other emissions in the region and financing relevant measures. These measures could include installing solar units on house roofs to reduce the domestic burning of coal and wood, which would reduce smoke pollution in the home (interview with Vumile Senene, DEA, Tshwane, 16 November 2015). These steps could prevent more widespread harm. However, since both the environmental impact assessments produced for Eskom and the World Bank Inspection Panel concluded that without the desulphurisation system the SO<sub>2</sub> emissions pose a major risk to health, these offsetting measures cannot replace the installation of the FGD technology. The analysis of air quality in Mpumalanga (see Section 1.2. and the study by groundWork 2014) shows that the emissions from the power plants in Mpumalanga have a more detrimental impact on the health of local people than the use of charcoal for cooking. Until the desulphurisation systems are installed, the power plant emissions are discharged into the air virtually unfiltered. According to the Environmental and Social Management Plan for Medupi published in November 2015, permitted emission levels have not yet been exceeded: 'However, for PM and NO<sub>x</sub>, the Medupi Power station will already meet the new plant standards even though Medupi is classed by DEA as an 'existing plant' as the environmental authorization was issued 3 years prior to the Minimum Emission Standards (MES) being promulgated. For SO<sub>2</sub>, Eskom is confident that the new April 2015 standard for existing plants (3500 mg/Nm<sup>3</sup>) can be achievable by the plant as of April 2015

based on the average Sulphur content of the coal' (IRM ADB 2015: 7-8). However, this is not surprising, since only one boiler is in operation. The emissions will gradually increase sixfold by 2019 and they will continue at this level for two years without any desulphurisation system at all.

According to the Inspection Panel, the health risk for people in the region is made even more acute by the above-averagely high HIV/AIDS rate in Lephalale, which brings with it a greater vulnerability to respiratory tract disorders (IP 2011: 90). The poverty of the population and the lack of access to health care services increase the likelihood of detrimental impacts on health (IP 2011: 90-91), even though there are plans to expand hospital provision in the region and introduce a health programme (IRM ADB 2015: 5). The local population's right to health is therefore seriously endangered if the boilers come online without a flue gas desulphurisation system. In the light of all these factors, the World Bank Inspection Panel stated in 2012 that there were 'significant shortcomings in Management's due diligence assessment of air quality issues and of the development of responsive and timely mitigation measures to address the risk of serious harm' (IP 2011: xiii and 97). It also concludes 'that these shortcomings in meeting relevant policy requirements have reduced the ability of the Project to assess and respond to the significant potential negative air quality impacts of Medupi in an integrated and effective manner' (IP 2011: 97).

### Water consumption – human rights to water and food

The Lephalale region is semi-arid and the shortage of water is a constant problem. According to information provided by the South African government, only 31.4 percent of people in the region have access to piped water in their homes (Statistics South Africa 2015). People in informal settlements such as MaMojela Park, Steenbokpan or Marapong have particularly poor facilities: they fetch water from boreholes or water tanks or depend on deliveries of water. People living along the Mokolo River also draw water directly from the river, partly for irrigation of crops. In describing the Steenbokpan settlement, resident and activist Jeremy Lesiba points out that with the influx of external labour, even more people will need to use borehole water. There is not enough water to supply the people in the region (interview with Jeremy Lesiba, Steenbokpan, 11 November 2015).

Hitherto most of the region's water has come from the Mokolo Dam Reservoir, an area of 8,387 square kilometres. At present 87 percent of this water is used for agriculture, with the remainder going to piped water supplies, mining and power plants (Earthlife 2014b: 5). If far larger amounts of this water are to be used for Medupi and for Grootegeluk and other mines, this raises the question of how a reliable water supply is to be provided for agricultural irrigation – especially as this is a semi-arid region in which even longer and more frequent periods of drought are to be expected as a result of climate change. The World Bank Inspection Panel describes this problematic situation in these terms: 'The Panel notes that the flow in the Mokolo River, like that of the Crocodile and other tributaries to the Limpopo, varies substantially from year to year and between seasons. Data show that in twelve of the last thirty years, there was no inflow from the Mokolo River into the Mokolo reservoir. The area is also subject to seasonal droughts. Climate change is expected to increase the variability of rainfall and river flow' (IP 2011: 71-72).

The Inspection Panel regards facilities and activities such as the water transfer project for the Mokolo and Crocodile rivers and the expansion of the Grootegeluk mine as having a direct connection with the Medupi power plant and its social and environmental impacts, because they are essential to the construction and operation of the power plant (IP 2011: 70). A key point of criticism in the inspection report is the fact that neither Eskom nor the management of the World Bank has classed the impacts of these activities on water supply and quality as 'associated impacts' and taken appropriate account of them in their impact assessments.

The MCWAP project, which is due to cost around ZAR 15 billion and will largely serve to supply water to Medupi, is chiefly the responsibility of the Department of Water Affairs (DWA). It is to be implemented in two phases. Phase I involves the construction of a 4.5-megawatt pumping station at the Mokolo Dam and a new 81-kilometre pipeline along an existing pipeline. Beside Medupi, the water that is pumped from the Mokolo Dam will also supply the Grootegeluk mine, the Matimba power plant and the municipality of Lephalale, including Steenbokpan. Phase II will involve the addition of a system for transferring water from Thabazimbi to Lephalale via a new 158-kilometre pipeline that will transport water from the Crocodile River to Steenbokpan-Lephalale (Aurecongroup 2015). Phase II of the MCWAP will also enable the



Many inhabitants of the informal settlements have no piped water in their homes. They share public water taps, which are often dry.

flue gas desulphurisation system to be used – this is essential in order to limit the adverse impacts of Medupi on air quality.

The South African government forecasts that 82 percent of the water from the MCWAP will be used for power generation and mining: according to a forecast for 2038 prepared by the Department of Water Affairs, 47 percent of the water will be used by Eskom for power generation, 28 percent will be used for coal mining for power generation in South Africa and 7 percent will be used for coal for export. Only 12 percent is allocated to municipal water supplies; the remaining six percent will be used for other industrial activities (DWA 2013: 3).

Yet environmental experts calculate that the water from the Crocodile River will be insufficient to meet future water needs in Lephalale, since 45 percent of the water from the Crocodile River catchment area supplies northern Johannesburg, Midrand and Tshwane. There is significant overlap with the Vaal river system, water from which would also have to be used if demand in Lephalale were to increase sharply (Earthlife 2014b: 6).

Both phases of the MCWAP pose significant risks to the population's rights to water, food and health. In the first phase of the MCWAP, it is estimated that Eskom will need 14.5 million cubic metres of water per year for the operation of Matimba and Medupi. The Inspection Panel forecasts that even in the initial years before the water-intensive flue gas desulphurisation system is installed, the project will withhold up to six million cubic metres of water annually from people living along the Mokolo River and that after installation of the desulphurisation system the annual water loss for other users will double to 12 million cubic metres. 'These are significant amounts, especially in dry years, and may increase the frequency and duration of the periods in which there are no or only small releases from the Mokolo dam, and thus significant water shortages for downstream users along the lower Mokolo River' (IP 2011: 72).

The EIA on Phase I of the MCWAP also found that during the transition phase before implementation of Phase II there could be water shortages and the dam might be overloaded. The EIA proposed compensating for this by buying irrigation rights from farmers. How-



The water shortage in Limpopo is endangering horticulture and agricultural irrigation.

ever, the World Bank Inspection Panel states that this is only a solution if the farmers are also provided with alternative means of earning an income. 'In this case, such alternatives are not readily available; reducing irrigation flows will be especially harmful to subsistence farmers who rely on irrigation water for domestic use and consumption' (IP 2011: 73). The importance of this is heightened by the fact that the South African government has signed a Guarantee Agreement in which it undertakes to provide all the water needed for the operation of Medupi. The farmers and other users are thus at a disadvantage: their rights to water, food, health and an adequate standard of living are severely jeopardised by Medupi.

Implementation of Phase II of the MCWAP, which has not yet started, would partially reduce the water supply shortfall that has arisen, but at the same time it would cause other additional problems. A reduction in the volume of water in the Limpopo River, which is already a possibility under Phase I, would be even more likely as a result of Phase II and could have impacts beyond the border with Botswana. And it is not only the availability but also the quality of the water in the Limpopo River and of groundwater that concern the Inspection Panel: 'Changes may occur in water quality

in the Limpopo River or in groundwater, as a result of increased pollution from the Project and its associated facilities/activities, including expansion of coal mining operations, which could affect downstream users and freshwater ecosystems in neighbouring countries' (IP 2011: 75). Phase II is due to transfer 169.3 million cubic metres of water per year direct from the Crocodile River to the Steenbokpan-Lephale corridor via a new pipeline. However, this target is based on the assumption that municipal effluent from Gauteng (in the basin of the Vaal River) would be pumped into the Crocodile River.

The risks of this operation have not yet been examined. An environmental impact assessment of Phase II of the MCWAP is only now being performed and the findings are still being awaited. This is one of the reasons why the Inspection Panel reports major delays and uncertainty about when Phase II can be implemented. Implementation was originally planned for 2015 but the date now appears to be open. If Phase II is not realised or is only realised at a much later date, two other problems will arise. Firstly, the desulphurisation system – which is essential to protect the right to health and is also a specific requirement of Eskom's lenders – cannot be installed without the

additional water from Phase II of the MCWAP (see previous subsection). Secondly, there would be a significant worsening of the water scarcity in the region.

A similar criticism applies to the expansion of Exxaro's Grootegeluk mine that is a necessary concomitant of start-up of the Medupi power plant. The Inspection Panel's report points out that the additional water requirements arising from expansion of the Grootegeluk mine are not included in Eskom's EIA. Two problems are to be anticipated in this respect. Firstly, expansion of the mine increases the need for water. 'Environmental impact studies rate the impacts on water resources in the Mokolo catchment as 'very high', and the cumulative impacts as 'very high' without mitigation measures', the Inspection Panel stated. Secondly, in the long term there could be an increase in acid mine drainage (AMD), which would have additional impacts on water supply in a region in which water is already scarce (IP 2011: xiii-xiii). And this deals at this stage only with the mine that is officially due to supply Medupi. If, as planned, other mines are opened up in the region and other power plants are built, this will increase the demand for water and the risk of AMD yet further: 'It is likely that new coal mining in the Waterberg Coalfield (Limpopo Province) will lead to similar problems as in the Highveld Coalfield in Mpumalanga' (IP 2011: 77). A study by the Water Research Commission of the impacts of mining in the region on the water situation likewise concludes that 'the establishment of new mines will have a deleterious effect on the quality and quantity of the groundwater in the Waterberg coalfield' (WRC 2011).

Overall it is evident that the impacts on water supply and water quality, which should have been considered before the project was approved, are significantly more far-reaching than is assumed in Eskom's EIR. The impacts on the rights to water and food of people dependent on the Mokolo and Crocodile rivers have been largely ignored and insufficiently investigated. It is clear from the fact that an EIA for the MCWAP is only now being performed that the wide-ranging implications for water supplies and the right to water of this key aspect of the power plant were not seriously considered when construction of the power plant was approved.

### Impacts on infrastructure and the right to housing and health

The living conditions of people in Lephalale are also deteriorating because the infrastructure is becoming increasingly inadequate, while the population is

growing. The influx of external labour has increased the pressure on the local infrastructure. MaMojela Park and Marapong are two settlements that are particularly affected by this influx. The population of both settlements has increased sharply in recent years. Violence has risen as a result of the many social problems in the region. The inhabitants also complain that the region has only one hospital, which – particularly since the arrival of large numbers of migrant workers – is unable to provide the necessary level of care. Since construction started there has been an increase in prostitution. Local people say that this is partly because it is mainly men who are employed in the power plants and mines. Most of these men live in company-owned settlements where they are allegedly not allowed to have their families with them. Because of poverty and the difficulty in getting jobs of their own, many desperate young women see prostitution as their only option, explains activist Francinah Nkosi (interview with Francinah Nkosi, Lephalale, 10 November 2015).

The influx of potential workers and the impacts on the region and its infrastructure were considered in the EIA of Medupi, which called for investment in infrastructure (Eskom EIA Medupi 2006: Section 15). Yet it was clear from a visit to the region that there are enormous problems in the informal settlements. In a similar vein, the Inspection Panel concludes: 'During its field visits, the Panel saw indications of serious stress upon local infrastructure services, including water and sewage systems, and heard many related concerns including those about security and spread of diseases – HIV and AIDS in particular' (IP 2011: xv). The World Bank Inspection Panel is critical of the fact that insufficient steps have been taken to deal with the infrastructure challenges: 'Furthermore, the cumulative impacts of both Medupi and the expansion of the Grootegeluk Mine on public infrastructure services were not addressed' (IP 2011: xv).

The municipal administration in Lephalale expects that the region's population will double to 240,000 by 2025. This would pose additional major challenges for the town. Another issue in this connection is that of land rights in the region. As the African Development Bank explains, there are unresolved claims to land in and around Lephalale. They do not relate specifically to the Medupi site (IRM ADB 2011: 79), but the problem could become more critical if the population increases as expected and further land is sacrificed to the expansion of mining in the region. ◀

## Access to electricity

➤ Although the people in the settlement of Steenbokpan live very close to the Matimba and Medupi power plants, they have no access to electricity. Local resident Jeremy Lesiba describes the living conditions there. In his shack he has neither water nor electricity. This makes caring for himself and his daughter very difficult: everyday tasks such as cooking, washing and cleaning become major challenges. It had been hoped that construction of the power plant would improve local people's access to an electricity supply, but whether this will actually happen remains uncertain. The World Bank Inspection Panel's statement on this issue is cautious:

'The panel notes that this project is unlikely to diminish electricity access to the poor, and may enhance access by adding more electricity to the national grid' (IP 2011: xvi). Much of the electricity produced at Medupi will be supplied to places in the east of the country and so will do little to benefit local people. When talking to people in the region it becomes clear that there is huge disappointment that Eskom is making little effort to improve people's living conditions through the provision of electricity. Some of these people live underneath the power lines but still have no electricity supply themselves. ◀



Long power lines run above the shacks of informal settlements. One of the largest power plants is nearby and yet local people have no electricity supply.



### 1.3.3. Summary and outlook

➤ The major concern of many people in the region is that Lephalale will become a second Mpumalanga. There are already signs that this is happening: it is clear from interviews with energy experts and companies that there will be significant further expansion of coal mining in the Limpopo. Medupi is the first step in the development of the Limpopo into a new coal region. The analysis shows that cultural human rights have already been abused during construction of the Medupi power plant, since burial sites and sites important to the cultural and religious identity and practices of the population have been destroyed without appropriate consultation and compensation. The human rights to water, health, food and adequate housing and infrastructure are also severely jeopardised by the construction and operation of the plant, as the World Bank Inspection Panel report shows. A key problem is the installation of the flue gas desulphurisation systems. These systems are essential in order to comply with emission standards and safeguard people's health but they cannot be operated without large quantities of water, which will impact adversely on the water situation.

Given this situation, the insecurity felt by the people of Lephalale is not surprising. While the municipal authorities publish a great deal of information about the local situation on the town's website, it is clear from discussions with local people that many feel insufficiently informed about the impacts of the power plant project. It is therefore important that civil society structures in the region are strengthened. The local radio station Lephalale



Visiting the radio station Lephalale FM

Left to right: Susanne Breuer, Lucky Letlhaka, Martin Gottsacker, Francina Nkosi, Armin Paasch, Andreas Mocheke

FM regularly reports on the environmental impacts of the power plant and thus raises local people's awareness of the adverse impacts. Local people can also telephone the radio station and ask questions about these impacts. Organisations such as Earthlife Africa, MACUA and ActionAid are active in the region. So far, however, all this has done nothing to change the government's plans for large-scale expansion of mining in the region. ◀

'We must raise our voices and demand our rights. They told us that we would get jobs and our lives would change. That has never happened.'



**Andres Mocheke**

Andres Mocheke from Marapong in Limpopo Province  
The Medupi power plant is nearby.



## 2. The role and responsibility of German stakeholders in the Kusile and Medupi power plants

➤ The construction of the two power plants in South Africa has been supported by the German government. In 2008, Germany's federal Interministerial Committee (IMC) for Export Credit Guarantees approved two Hermes guarantees to cover Hitachi Power Europe against commercial and political risks in connection with the supply of boilers to Eskom. In September 2008 Eskom signed a twelve-year credit agreement with KfW IPEX Bank to secure the financing of the order from Hitachi Power Europe. Eighteen other German

companies in addition to Hitachi are involved in the construction or commissioning of the two South African power plants. Some of them have been subcontracted by Hitachi. The following section summarises the securing of loans by means of Hermes guarantees, the financing by KfW IPEX Bank and the involvement of German companies. On the basis of responses to questionnaires from MISEREOR it also assesses the stakeholders' approach to their human rights obligations and responsibilities. ◀

### 2.1. Hermes guarantees from the German government

➤ In 2008 the German government awarded Hitachi Power Europe, which is based in Duisburg, two Category 5 export credit guarantees (i.e. guarantees for amounts over EUR 200 million). These were partly used to cover the orders for six boilers for Kusile and six for Medupi to be supplied by Hitachi Power Europe. The decision on granting export credit guarantees is taken by the German government's Interministerial Committee (IMC) for Export Credit Guarantees. The Federal Ministry for Economic Affairs and Energy, the Ministry of Finance, the Federal Foreign Office and the Ministry for Economic Cooperation and Development are represented on the IMC. In addition, 'experts from the private sector and the banking industry and institutions important for the export sector advise the German government on its decisions in the IMC' (BmWi 2016). Export credit guarantees secure the risks incurred by companies and banks in connection with overseas transactions. If the customer cannot pay – for example for political or economic reasons – the German government will under certain conditions step in and cover the loss. These export credit guarantees are also known as Hermes guarantees, because the Euler Hermes Aktiengesellschaft, together with PricewaterhouseCoopers, is the organisation mandated by the German government to scrutinise and award the cover. According to the Federal Ministry of Economics, Hermes guarantees can only be provided if the risk in-

involved is justifiable: 'Eligibility for support may arise either from general export interests or from the securing of jobs, from structural considerations or from foreign policy goals. Justifiability of risk means that there is a reasonable prospect of the export transaction for which cover is sought being transacted without incurring a loss' (BmWi 2016).

Principle 4 of the UN Guiding Principles on Business and Human Rights specifies that states have a particular responsibility for protecting human rights in connection with business activities abroad to which they actively provide support. In the case of Hitachi Power Europe, this active support is provided through the export credit guarantees. Even though these were granted in 2008 – before adoption of the UN Guiding Principles – Germany was even then bound under international law to respect, protect and guarantee human rights. The present study casts considerable doubt on whether Germany has abided by this commitment with sufficient care.

The German government acknowledges in principle the relevance of environmental issues and human rights in awarding support for foreign trade. It states on its website: 'Environmental and human rights issues are a high priority in connection with Hermes guarantees. The environmental and social impacts of projects are scrutinised as an important aspect of eligibility for support. The German government considers

it important not to support projects that have serious adverse environmental, social or development consequences. The possible environmental and social impacts of applications are therefore considered' (BmWi 2016). The assessment of environmental and social impacts is based on the 'Recommendation on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence' (in short: the Common Approaches), which were agreed by the OECD in 2012 (*ibid*).

When asked which version of the Common Approaches has been applied in considering the applications for Hermes guarantees for Kusile and Medupi, the German government has provided contradictory information. In response to written enquiries in the Bundestag from Bundestag member Uwe Kekeritz, the BmWi stated that the projects had been scrutinised on the basis of the Common Approaches of 2005 (and the relevant standards and guidelines of the World Bank Group) (BmWi 2015). By contrast, the response of March 2016 to a parliamentary question from Alliance 90/The Green Party states that the Common Approaches of 2007 were 'the applicable recommendations of the OECD' for scrutiny of both projects (BmWi 2016: 9).

In any case one wonders in what depth the German government examined these applications and what care it exercised in assessing and approving them. The environmental impact assessment conducted on behalf of Eskom for Medupi (then known as 'Matimba B') was published by the German government and the mandated organisations on 31 October 2007, while the corresponding EIA for Kusile (then known as 'Bravo') was published on 19 December 2007 (*agaportal* 2007). These provided the key basis for the then pending decisions about the two projects. Another source on which evaluation of the question of the required care can be based is an assessment report of 2007 for Medupi that was submitted to the Interministerial Committee (IMC) (IMA 2007: 1). Publication of this report was 2015 secured through the courts by the organisations Amnesty International Deutschland, GegenStrömung and urgewald, who invoked Germany's Freedom of Information Act and Environmental Information Act. It is clear from this assessment report that as a basis for its decision on granting Hitachi Power Europe the export credit guarantee for Medupi the IMC drew on the environmental impact assessment produced for Eskom, Eskom's environmental management plan and other information provided by Hitachi Power Europe. There is no mention of other information

from independent bodies or of reports produced by the IMC itself. In response to a specific enquiry in the above-mentioned parliamentary question about the independent sources that were consulted, the BmWi replied that an independent report and publicly available documents from civil society organisations had been taken into account in the assessment of both projects (BmWi 2016: 7).

The question about the risks identified by the German government in connection with the two power plant projects was answered in March 2016 with one sentence: 'The principal environmental, social and human rights risks identified by the appraisal were air emissions, environmental air quality, water requirements and the necessary resettlement' (BmWi 2016: *op. cit.*). With regard to the health risks of the air pollution from Medupi, the reply continues: 'Despite the increased sulphur dioxide emissions if the power plant is operated without flue gas desulphurisation, the Interministerial Committee (IMC) for Export Credit Guarantees reached a positive decision, because the predicted sulphur dioxide immissions (environmental air quality) were within permissible limits even without installation of a desulphurisation system.' In reply to a question about the risks to drinking water supplies and agricultural irrigation identified in the World Bank Inspection Panel's report in connection with the water-intensive flue gas desulphurisation system for Medupi, the BmWi merely stated that this report had not been available at that time.

By contrast, the assessment report submitted to the IMC in 2007 reveals that the German government was thoroughly aware of the health risks of the Medupi power plant. Without SO<sub>2</sub> mitigation technology, the report says, the power plant was 'likely to increase the health risk potential to "moderate to high"' (IMA 2007: 2). The Committee knew about the water intensity of the flue gas desulphurisation system with its planned wet scrubbing process that will require 4.76 million cubic metres of water per year. 'The wet scrubbing process is nevertheless more cost-effective than dry sorption,' says the report. It is not possible to tell whether the assessment report considered the cheaper wet scrubbing process to be acceptable or whether it thought that the environmentally more favourable dry sorption option should be used. The relevant conclusion has been redacted in the document with a comment that it involves an 'evaluation'. It is now clear, however, that the German government allowed the application although the decision was taken (either before or after approval was granted) to use the

water-intensive process. It is strange that according to the assessment report for the IMC there was no knowledge of the existence of cultural goods. Even the environmental impact assessment produced for Eskom mentioned one of the seven burial sites – that were later destroyed – in the area earmarked for Medupi.

In the light of the then at least partially identified risks one must ask whether the German government agreed adequate prevention and compensation measures before granting the export credit guarantees to Hitachi Power Europe. In March 2016, in reply to a specific enquiry about such measures for the two power plants, the BmWi mentioned the requirement for a monitoring programme with annual reporting of emission and immission levels after commissioning, and monitoring reports on the resettlement activities (BmWi 2016: 7). In November 2015 the BmWi also mentioned the installation of a flue gas desulphurisation system that had already occurred at Kusile and was planned for Medupi, and a dry cooling system for the power plants. It says tersely that the impacts on both air quality and water supply in the region had been taken into account in specifying the measures (BmWi 2015).

The government did not reply to the question about the effectiveness of the measures taken. It did not mention that the flue gas desulphurisation systems at Medupi are not due to be installed until 2021-2025 – six years after startup of the individual boilers, although at the time of the reply the government was already aware of this. It did not address the significant health risks associated with delayed installation. Neither does it address the risks to water supply and water quality associated with the wet scrubbing process chosen for the flue gas desulphurisation system for cost reasons. When asked about its current assessment of the consequences of the high water consumption of the flue gas desulphurisation system predicted in the IP report, the BmWi merely replied in March 2016 that the IP report was not available at the time of the IMC's decision; it makes no comment on the problem itself (BmWi 2016: 9).

Overall the information so far available suggests that the German government, like the World Bank, has significantly underestimated the environmental and human rights risks of the power plants and/or has not taken them seriously enough. In the judgements it made at the time it clearly relied mainly on impact assessments produced for Eskom and the World Bank that the World Bank Inspection Panel – with regard

to the Medupi power plant – had already criticised as highly abridged and faulty in 2011. Both the German government and the World Bank have largely ignored the impacts of associated operations such as the mines, the flue gas desulphurisation systems and the water transport systems. In March 2016 the BmWi justified this to the Bundestag quite explicitly: 'The OECD's Recommendation of the Council on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence 2007 applicable at the time of the assessment did not specify assessment of these associated facilities' (BmWi 2016: 9).

However, a glance at the Common Approaches of 2007 casts serious doubt on this view. Footnote 1 of the document states: 'In the screening and review process Members should, where appropriate, consider operational links with associated operations, taking into account the timing or location of the construction of such identified operations' (OECD 2007: 4). Interestingly this comment does not appear in the 2005 version of the Common Approaches that the BmWi was still quoting as the basis of the assessments in November 2015 (OECD 2005). In addition, the Common Approaches of 2007 require projects to be benchmarked against all eight International Finance Corporation Performance Standards both during the assessment and when reporting on projects. The Performance Standards of 2006 explicitly required related facilities to be considered, even if these facilities were not being funded as part of the project (see IFC 2006, PS 1, para. 5).

The fact that the environmental and social impacts of the flue gas desulphurisation system are only now being evaluated in a separate environmental impact assessment demonstrates that the German government – contrary to its statement to the Bundestag in November 2015 – cannot have taken sufficient account of the impacts on the region's water supply. This failing is particularly serious because the Interministerial Committee (IMA) was already informed about the fundamental problem of the high water consumption of the selected technology in a semi-arid region before it granted approval and it clearly accepted the associated risks as a price worth paying for the lower-cost solution.

In the light of the transparency called for in the UN Guiding Principles, fundamental objection must be raised to the fact that the German government has at no point displayed any willingness, even towards the Bundestag, to assess evidence of problems

from more recent studies such as that of the IP. There are two reasons why the fact that the IP report was not available at the time the Hermes guarantees were approved can no longer serve as justification. Firstly, the report criticises the very assessment procedures that the IMC used as a basis for approving the guarantees. Secondly, the German government must not continue to ignore more recent information but should actively address the question of how the risks and problems that have come to light can now be remedied or at least mitigated. Three questions currently arise in this connection: **Firstly:** What does the German government see as the consequences of the fact that construction is already significantly delayed? If Eskom's plans are implemented as announced, the flue gas desulphurisation systems will not come online until 2021-2025. Because the present plans involve using the less expensive wet process, steps must be taken to ensure that sufficient water is available for the systems. The EIA for the flue gas desulphurisation system is not yet available. **Secondly:** Eskom is only now conducting an environmental impact assessment (EIA) for the plant that takes account of the consequences of the additional water consumption and

the impacts on the water resources of the surrounding area and of other regions. One must therefore ask on what basis the assessment described by the German government can have considered the full extent of the impacts on air quality and water resources. **Thirdly,** the question arises of what would happen if the EIA of the flue gas desulphurisation system revealed serious concerns about the system that would put installation of it in doubt.

Overall the World Bank Inspection Panel's criticism of Eskom's environmental impact assessment and of the World Bank's assessment process must also be applied to the German government's assessment and its decision to award the Hermes guarantee to Hitachi Power Europe. It is also becoming clear that the failings of that time are now making it extremely difficult, if not impossible, to prevent serious and irreversible impacts on the rights to water, food and health of people living near the power plants. The German government will have to address the question of what effective means it now has available for exerting any significant influence on the completion and operation of the power plants in order to protect the environment and human rights. ◀

## 2.2. Awarding of loans by KfW IPEX Bank

▶ KfW IPEX Bank provides little information about the financing of Kusile and Medupi. In response to a parliamentary enquiry of 17 November 2011 raised by Alliance 90/The Green Party, KfW cited business confidentiality (Bundestag document no. 17/7757). In its reply to MISEREOR's questionnaire, the bank is somewhat more specific: 'In accordance with its remit, KfW IPEX Bank GmbH (hereinafter IPEX) supports German export companies at home and abroad. As part of this work, IPEX – with other German and European banks – is supporting the export financing of German boilers supplied to ESKOM and was involved in 2008 and 2009 in the overall loan for the exports. The overall loan amounted to EUR 1.485 billion' (response from KfW of 6 November 2015).

More detailed information is provided by Profundo Research, a consultancy company that specialises in analysing international financial markets (2010). It states that in December 2009 Eskom secured a loan of EUR 705 million from a banking consortium. The loan was used to finance the construction by Hi-

tachi Power Europe of the six boilers for Kusile. The members of the consortium included KfW IPEX Bank and Deutsche Bank, plus other banks from England, South Africa and Japan (Profundo Research 2010). IPEX Bank has not disputed the size of the loan quoted by Profundo. Since IPEX has told MISEREOR that the overall amount of the loan made by the consortium to Eskom was EUR 1.485 billion, it is likely that the consortium's loan for Medupi totalled EUR 780 million. However, IPEX Bank has not provided details of its share in the loans.

KfW IPEX Bank is a wholly owned subsidiary of the German state-owned KfW Bankengruppe and is thus a state-owned company. If state-owned enterprises violate human rights, under Principle 4 of the UN Guiding Principles on Business and Human Rights this 'may entail a violation of the State's own international law obligations'. In this situation, therefore, as in its promotion of foreign trade, the German government is obliged to ensure that KfW IPEX Bank respects human rights. While it is true that IPEX Bank granted Eskom

the export loans for Kusile and Medupi before the UN Guiding Principles were adopted, Germany was even then bound by its international law obligations. And KfW Bankengruppe itself had at this time already declared its commitment to respect for human rights: ‘KfW Bankengruppe respects and protects human rights in its sphere of influence and will not be involved in abuses of human rights.’ This declaration made in 2008 also applies to IPEX Bank.

KfW IPEX Bank has told MISEREOR that during the loan approval process it followed the guidelines that applied to the company in 2008/09, including KfW’s Environmental Guidelines of 2000, the above-mentioned declaration of KfW Bankengruppe on respect for human rights, the IFC Performance Standards of 2006 and the version of the OECD Common Approaches applicable at the time (i.e. the 2005 version). The ILO’s core labour standards and the EHS Guidelines of the World Bank Group were also taken into account. The Equator Principles were not adopted by KfW: ‘The Equator Principles II (which applied in 2008 and 2009) cover only actual project financing, not the export financing that this project involves’ (KfW response of 6 November 2015).

Before entering into the loan agreement, KfW assessed the risks as follows: ‘For both power plants, detailed environmental impact assessments (EIAs) were drawn up for Eskom by consultants, and public hearings in which stakeholders were involved were held by the approval agencies. Scoping was carried out to define the boundaries of the EIAs; the results were described in a scoping report (Medupi 2005, Kusile 2006). (...) We also had access to independent environmental and due diligence reports that assess the projects’ compliance with IFC performance standards’ (Kusile 07/2009 and Medupi 05/2008).

However, Eskom’s environmental impact assessments and the reviews by the World Bank before the loans were approved have for years been the subject of strong criticism from NGOs and other organisations. The reports of the World Bank Inspection Panel and the independent review mechanism of the African Development Bank note significant failings in respect of Medupi: ‘For the Medupi Power Plant investment, the scope of the EIA described in the Plan of Study (POS) for EIA and the Terms of Reference for specialist studies is largely generic and fails to give clear direction. (...) This EIA does not address all the impacts and risks within the Project’s area of influence, because the authorization of a number of associated activities (e.g. transmission lines) is pursued through separate EIAs

and/or undertaken for different competent authorities’ (Inspection Panel Report 2011: 139-140).

As with the German government’s promotion of foreign trade, the granting of export credits by IPEX Bank raises significant doubts as to whether the bank itself and the German government have exercised the necessary human rights due diligence in connection with the construction of the Medupi and Kusile power plants. As with the World Bank, the charge can be levelled against KfW IPEX Bank that it did not treat the supplier mines and the water transport systems needed for operation of the flue gas desulphurisation systems as facilities linked to the power plants themselves and hence did not systematically assess their impacts before approving the loans. However, preventive measures are required by the 2006 edition of the Performance Standards of the World Bank’s International Finance Corporation (IFC), which IPEX Bank recognised even then (see PS 1, paragraph 5). IPEX Bank states that in reaching its decision it took account of the consequences that were known of at the time (response from KfW of 26 February 2016). Nevertheless, one must ask whether it should have been satisfied with the then available information, given that the relevant environmental impact assessments were not conducted until later and in some cases have still not been completed. The result was that the preventive measures in the environmental and social plan were inadequate and that the problems that are now emerging are difficult to resolve.

The most important basis of IPEX Bank’s assessment was once again the environmental impact assessment commissioned by Eskom that was described by the World Bank’s Inspection Panel as abridged and faulty, despite the fact that it was checked by other experts. It remains very doubtful whether IPEX Bank went beyond the documents provided by Eskom and the World Bank and conducted any research of its own. Even in its current sustainability guideline (version of 1 July 2015), IPEX Bank declares that if financing operations are carried out in a consortium with other Equator Principles financial institutions, their environmental and social due diligence documents will usually be regarded as sufficient (Section 4.2.5.). Unlike IPEX Bank, however, the World Bank and the African Development Bank have independent grievance and review mechanisms under which comprehensive assessment reports for Medupi were retrospectively compiled and published.

In the event of high environmental and social risks, the existence of which KfW IPEX Bank implies by rat-



Financing power plant projects exposes the local population to many risks. One of the effects of building and operating the Kusile and Medupi power plants is that water supplies in the regions concerned are threatened.

## Financing of the coal industry by the German government and KfW

➤ Both the German government and KfW have been repeatedly criticised in recent years for awarding export credit guarantees or loans for projects in the coal industry. In the light of this and of the significant risks that the Kusile and Medupi projects pose to the local population one must ask how this financing can be justified. Various stakeholders have criticised KfW in recent years for its financing of coal projects (urgewald 2013, Petz 2015).

Between 2006 and 2014, the KfW banking group allocated 0.4 percent of its new commitments – nevertheless totalling EUR 2.9 billion – to coal-fired power plants (KfW 2016). In fact in 2015 KfW tightened its policies on the types of activity supported by the development bank and the Deutsche Investitions- und Entwicklungsgesellschaft (DEG) to exclude the provision of development financing for new plants. However, power plant modernisation projects could still be funded in some circumstances (KfW 2016).<sup>3</sup> In contrast to the development bank and the DEG, KfW IPEX Bank provides international project and export financing. Despite the more rigorous criteria adopted by KfW in 2015, new coal-fired power plants can still be financed. They must, however, meet a number of requirements, including criteria on efficiency, CO<sub>2</sub> capture and the contribution made by the new power plant to the climate change mitigation strategy of the importing country. In addition, power plants must meet environmental and social standards

in excess of national requirements: ‘Financing in countries which are not EU or OECD members must also be subjected to an environmental and social impact assessment which – in addition to the relevant national rules – must at least be based on internationally recognised standards (e.g. of the World Bank Group or the EU)’ (KfW 2016).

As the German government states in its answer to a parliamentary enquiry of 31 March 2015 from Alliance 90/The Green Party, there are further applications to the government’s Interministerial Committee for Export Credit Guarantees: ‘There are currently several enquiries and applications for cover for exports to other countries in connection with projects relating to coal power, coal mines and coal infrastructure. The following countries are involved: Australia, Indonesia, Kazakhstan, Korea (South), Croatia, Philippines, Poland, South Africa, Turkey, Vietnam and the Dominican Republic’ (Bundestag document no 18/4526). It is therefore not impossible that further projects – including ones in the coal sector – will be approved by the German government and KfW IPEX Bank. ◀

<sup>3</sup> There are three options for financing international projects through KfW: financing through KfW Entwicklungsbank, financing through the Deutsche Investitions- und Entwicklungsgesellschaft (KfW DEG) and financing through KfW IPEX Bank. KfW Entwicklungsbank finances state projects in the context of development cooperation; the DEG is responsible for financing private companies in developing and newly industrialising countries (KfW 2016).

ing Kusile and Medupi as category A projects even in 2008, it is essential that environmental and social plans for mitigating risk and/or compensating those affected are agreed, together with binding timetables, before approval is granted. In response to enquiries from MISEREOR about such environmental and social plans, KfW IPEX Bank states that it had agreed the submission of plans for the management of construction and operation and the monitoring of implementation by independent consultants with Eskom as part of the credit agreement. It does not mention whether these plans include prevention and compensation measures in relation to social, environmental and human rights issues. It merely refers to the existence of a Construction Environmental Management Plan and an Operational Environmental Management Plan that ‘comply with South African legal requirements’ for construction and operation.

However, KfW IPEX Bank does not specify what preventive measures have been agreed. It merely refers to ‘regular monitoring and reporting obligations of Eskom to the credit agency’ without commenting on the extent to which Eskom has fulfilled these obligations or mentioning what problems have been reported. It only says: ‘These reflect compliance with measures to protect the environment and human rights’. Any failures in relation to the duty to ‘protect people and the environment’ must be documented and remedial action taken, ‘e.g. corrective measures to deal with noise, increased environmental pollution or resettlement situations’. There is no mention of the specific problems or failings that are reported or of the remedial action taken. IPEX Bank merely states that non-compliance will be investigated and that ‘remedial action by the borrower will be required’ (responses from KfW of 26 February 2016).

Under Principle 21 of the UN Guiding Principles companies are required to account for how they address the human rights impacts of their activities and business relationships and to report formally on the action taken. To date, though, IPEX Bank has not published any report on the human rights risks and impacts of the two power plants. Its replies to specific enquiries remain abstract. In these replies IPEX Bank cites bank confidentiality and the need for discretion with regard to its clients’ affairs. The continuing refusal to be transparent about concrete human rights risks and the remedial action taken must, however, be classed as a clear infringement of the UN Guiding Principles, which were adopted five years ago. Principle 21 is breached in that the information provided is insufficient and does not enable the appropriateness of the action taken to be assessed.

KfW IPEX Bank is equally vague in its comments on grievances and grievance mechanisms. It refers to Eskom’s grievance mechanism but mentions only one specific grievance ‘relating to the relocation of chicken houses belonging to the local population’. In response to enquiries it refers to its own complaints mechanism which, it says, is very rarely used. It does not mention that the bank has received letters of complaint from groundWork and urgewald, although upon enquiry it admits that it is in receipt of them. Other state-controlled banks such as the World Bank and the African Development Bank have their own grievance mechanisms that include the possibility of comprehensive investigations by independent experts. In the case of Medupi these mechanisms have been used. However, IPEX Bank is still rejecting the idea of a mechanism for itself similar to the one set up last year for the KfW subsidiary DEG. ◀

## 2.3. German companies involved

➤ Nineteen German companies that are involved in the construction and operation of Kusile and Medupi have been identified; the possibility that the actual number is higher cannot be ruled out. All the companies were sent questionnaires on their human rights responsibilities. The response was disappointing. Only five companies replied to MISEREOR’s enquiries. Only one of these answered the questions about its own human rights responsibilities. ◀

### 2.3.1. Involvement of German companies in the construction of Kusile and Medupi

➤ The activities of all 19 companies are described below. The focus is on the major companies. The most important of these is Hitachi Power Europe, but the spotlight is also turned on Siemens, Bilfinger Berger, Rheinmetall and STEAG.



**Hitachi Power Europe (1) and contract partners (2-4)**

Hitachi Power Europe (HPE), which was then a German subsidiary of the Japanese corporation Hitachi Power Systems, is based in Duisburg; it executed the order jointly with its South African section Hitachi Power Africa. HPE now operates under the name Mitsubishi Hitachi Power Systems Europe GmbH (MHPSE), while the Japanese parent company has become Mitsubishi Hitachi Power Systems Ltd.

The contract with HPE covered the delivery and installation of six coal-fired power plant units, each with a capacity of 790 MW, at Medupi and six at Kusile (HPE 2013: 4). For HPE the order is an example of the development of new markets, as it describes in a brochure: 'At the end of 2007/beginning of 2008, ESKOM, the South African state energy supplier, ordered 12 coal-fired, 800 MW utility steam generators. Together with South African subsidiary Hitachi Power Africa (Pty) Ltd. (HPA), Hitachi Power Europe is installing the key components at the two ESKOM power plant sites of Medupi and Kusile. This major order involves approx. EUR 4 billion and the scope of supply comprises design engineering, acquisition, erection and commissioning. The utility steam generators will be going on stream between 2012 and 2014.' According to Hitachi, '60% of the order volume will remain in the country as local value added'. More than 1,400 apprentices will be trained as tradespeople, and there will be jobs for 60 engineers, 36 operators and 24 maintenance workers. In addition, HPE states that it has invested in upgrading and expanding the South African manufacturing industry for boiler pressure parts and other components (HPE 2010: 23). HPE has subcontracted parts of the order for Kusile and Medupi to various German companies. One of these is AIC GmbH (2), an engineering and construction planning company based in Chemnitz that is helping to plan the steel structure of the boiler houses at Medupi. The company has not provided any information on the size of the order. INP International (3), based in Römerberg, states that it is providing 'our client Mitsubishi Hitachi Power Africa' with engineering services in connection with the construction of Kusile. These services include site management in connection with boiler construction for individual power plant blocks, discipline-specific construction supervision for various aspects of the construction process and steel fabrication surveying by a working group (INP 2016). INP puts the size of the Kusile power plant project at ZAR 142 billion; the size of its own order is not stated. The Clyde Bergemann Power Group (4) in Germany has received orders from

Hitachi Power Europe. The company's website refers to an order worth USD 64 million (equivalent at that time to just under EUR 47 million) (Clyde Bergemann Power Group 2010). In response to an enquiry from MISEREOR Clyde Bergemann GmbH was more specific about the figures: 'Clyde Bergemann GmbH in Germany has also received orders from Hitachi Power Europe; the order, worth USD 20 million, involves the supply of boiler cleaning equipment for the power plants at Medupi and Kusile. In addition, the South Africa-based subsidiary Clyde Bergemann Africa Ltd. received other orders direct from Eskom Holdings Ltd. in 2009 and 2010' (response from Clyde Bergemann Power Group of 17 February 2016).

Hitachi has set up a local subsidiary in Africa, Hitachi Power Africa (HPA), which is also involved in execution of the order (HPA 2016). HPA has been accused of corruption by organisations in the USA. The U.S. Securities and Exchange Commission (SEC) alleged that Hitachi had secured the orders for Kusile and Medupi by inappropriate means. In 2007 the investment company Chancellor House, which is a funding vehicle for the ANC, acquired a 25-percent stake in Hitachi Power Africa. This was not in itself improper, but the SEC accused Hitachi of having diverted USD 5 million of the order value of the power plants and of having paid a 'success fee' of USD 1 million. In early 2014 Hitachi Ltd. re-purchased the shares in Hitachi Power Africa that Chancellor House had acquired, after the ANC had been criticised for its involvement and for the awarding of the contracts for Kusile and Medupi.<sup>4</sup> In 2015 Hitachi paid the SEC USD 15 million to settle the charges (FAZ 2015).

**Siemens (5)**

Siemens states that the company has been active in the South African energy sector since the end of the 19th century. It also says that it did not tender for the main contract for Kusile and Medupi but is nevertheless involved in the construction of Kusile: 'In 2006 we took the decision not to bid for the two power plants in Kusile and Medupi. In the follow-up to the main contracts, we became the supplier for individual components such as transformers and cabling.' Siemens states that the order is worth EUR 100 million: 'Siemens was awarded the Kusile electrical and auxiliary construction project.

<sup>4</sup> Bloomberg 2014: Hitachi Buys Stake in S. Africa Unit After Criticism. Online: <http://www.bloomberg.com/news/articles/2014-02-27/hitachi-buys-anc-stake-in-s-africa-unit-amid-conflict-criticism>, last viewed on 7 January 2016.

The scope of work includes the installation of all lighting, earthing, cable and racking equipment as well as all terminals required to commission the plant and its units. In addition, the project includes the storage and installation of equipment such as low-voltage (LV) and medium-voltage (MV) switchgear, auxiliary power transformers and direct current (DC) system UPS, worth a total of approximately EUR 100 million’ (Siemens 2011). In response to enquiries Siemens explained that it has 16 people working at the Kusile site. In addition, the company says that it has subcontracted work to local installation companies at different stages of the project. The subcontractors have at times employed between 1,000 and 1,200 workers on the site, in keeping with the South African requirement for ‘local job creation and education’.

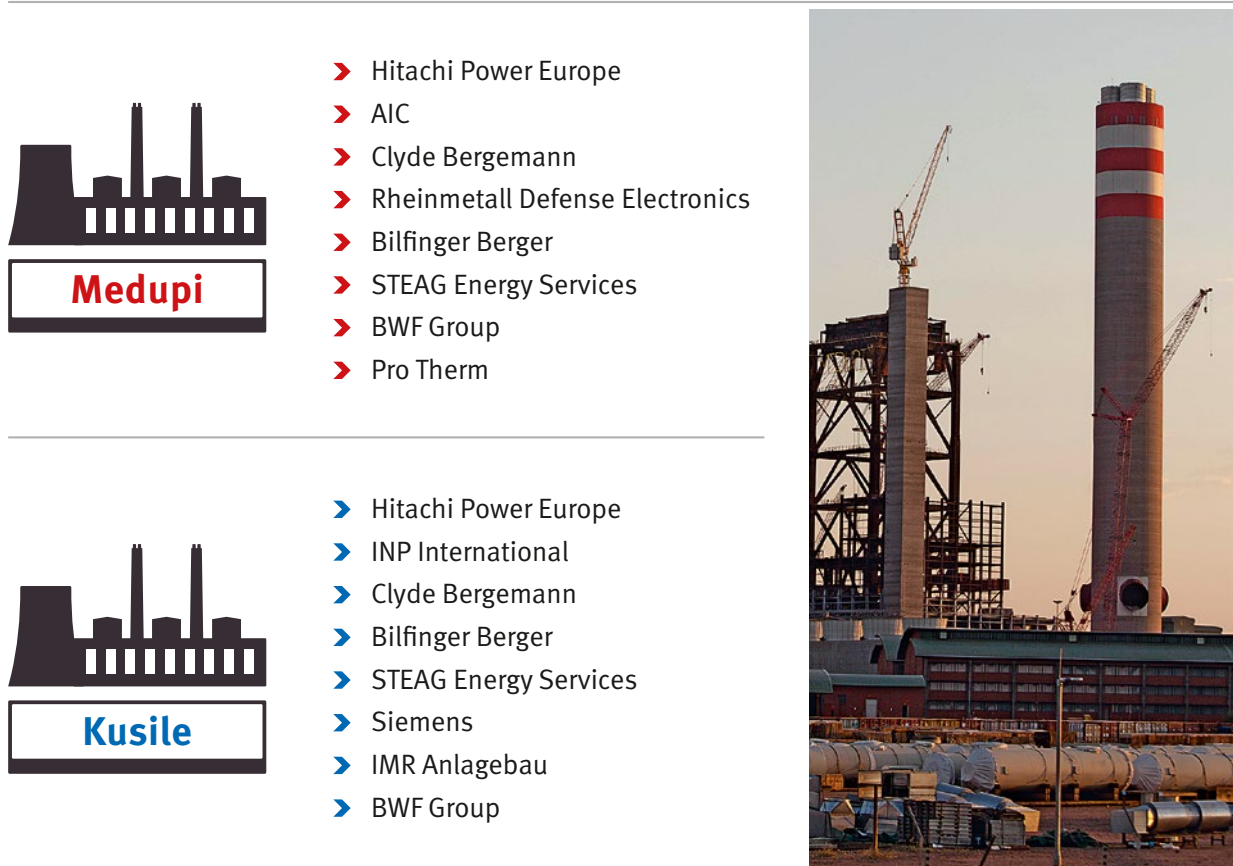
In addition, Siemens explicitly mentions its work in the renewables sector in South Africa: a major project is the Jeffreys Bay Wind Farm, for which the company has supplied 60 wind turbines. Another 160 turbines are

due to be provided for three other projects (response by Siemens of 15 January 2016).

**Rheinmetall (6)**

Rheinmetall Defense Electronics, the Bremen-based subsidiary of the German arms manufacturer Rheinmetall (headquartered in Düsseldorf) has supplied parts to the Medupi power plant: ‘Our Bremen-based subsidiary Rheinmetall Defence Electronics GmbH (RDE) – more specifically, the Simulation and Training Division, whose activities include civil simulation, e.g. for power plants – has for more than 25 years been supplying various coal-fired power plants belonging to the state-owned South African company Eskom with engineering and training simulators that are used at a variety of locations involving different power plant types. This includes the Medupi power plant, for which RDE has manufactured the simulator in collaboration with Alstom’ (response from Rheinmetall of 26 February 2016).

Figure 5: **German companies and their involvement in building the Kusile and Medupi power plants** (not all the companies mentioned in the study can be linked directly to one of the two power plants)



**Bilfinger Berger (7)**

Bilfinger Berger Power, which is based in Mannheim, has been awarded contracts for Kusile and Medupi totalling EUR 85 million (Bilfinger Berger 2009: 22, IHK Magazin 2010). In a press release from 2010 the company explained that it has invested EUR 15 million in a modern prefabrication workshop that will produce high-pressure piping systems for power plants. Production is being carried out by BHR Piping Systems, a subsidiary of Bilfinger Berger. Bilfinger Berger also has a team of German specialists working on the South African project and has invited South African staff to Germany. The project will create 40 new training places in South Africa. Bilfinger describes its own interest as follows: ‘The investment is therefore strategically prudent, but not only on account of the present large-scale order. Because of the rising demand for energy and more stringent efficiency criteria, power plant construction is increasing worldwide, despite any crises. This is particularly the case in South Africa. On the one hand, virtually no new power plants have been built there for over 15 years, while on the other hand the economy – including the energy-hungry mining sector – is growing. This is resulting in local blackouts and an economically crippling shortage of power. The South African government is now addressing this with a comprehensive investment programme.’ (Bilfinger Berger 2010).

**STEAG (8)**

The group operates in South Africa through STEAG Energy Services (SES), which has been active in South Africa since 2006 and set up a head office in that country in 2008 (STEAG 2014: 8). SES is assisting Eskom with the construction of Kusile and Medupi: ‘STEAG Energy Services is working in South Africa on construction of the Medupi power plant for the national energy supplier Eskom. The project has been subcontracted to SES by the engineering and consultancy company Parsons Brinckerhoff Africa. STEAG advises Eskom Engineering on all aspects of the power plant process, with a particular focus on interdisciplinary engineering. STEAG is also responsible for quality monitoring, both for the components in manufacturers’ workshops worldwide and during assembly on site, and it performs various project management functions, for example in engineering management and in strategic and organisational consultancy. On behalf of Hitachi Power Europe STEAG Energy Services is also supplying comprehensive software systems for operational monitoring and optimisation of power generation’ (STEAG 2011: 13).

**Other companies**

A number of other companies involved in the power plants have also been identified. They include IMR Anlagenbau (9), based in Hamburg, which has sent senior German fitters and welding engineers to South Africa. They are assisting with assembly in Kusile through knowledge transfer and by training local workers, riggers, boiler makers, pipe fitters and welders (IMR 2014). IMR Anlagenbau has a base in Witbank (IMR 2016).

The BWF Group (10) based in Offingen, Baden-Württemberg, is supplying 225,000 filter hoses for the two power plants in an order worth EUR 8 million (Augsburger Allgemeine 2010).

Pro Therm (11) in Castrop-Rauxel is supplying 168 heating circuits for Kusile and the same number for Medupi and is responsible for electrical hopper heating, planning, delivery and installation, documentation and commissioning (Pro Therm 2016).

The company KSI Worldwide Services (12) states that it ‘carries out inspections for international and German companies of manufacturers and suppliers involved in the Medupi and Kusile projects. Our client for both projects was the company Bureau Veritas UK, which is the appointed inspection company for Eskom SA’ (response from KSI of 11 February 2016). KSI said that it was not active in South Africa but that it had been involved as an independent experts and quality inspector. Its task was to approve machinery and components (pressure containers, heat exchangers, etc.) manufactured in Germany and Europe. These inspections took place in Germany (response from KSI of 25 November 2015). On its website KSI Worldwide Services names a number of other companies involved in the construction of Kusile and Medupi. KSI confirms this: ‘On behalf of BV UK and Eskom, KSI has performed technical inspections and quality control with the following manufacturers and suppliers’ (response from KSI of 11 February 2016):

- Babcock Fertigungszentrum GmbH (13), Oberhausen: Babcock is a subsidiary of Hitachi
- Stahl-Armaturen PERSTA GmbH (14), Warstein-Belecke
- Welland & Tuxhorn AG (15), Bielefeld
- Donges SteelTec GmbH (16), Darmstadt
- Emmerthaler Apparatebau GmbH (17), Emmerthal
- P-D Industriegesellschaft mbH Stahlbau Calbe (18), Calbe
- HMT Hebing-Maschinen Technik GmbH (19), Bocholt. ◀

### 2.3.2. The companies' handling of human rights risks

► Under the UN Guiding Principles on Business and Human Rights, enterprises are responsible for respecting human rights in their activities and business relationships worldwide. In accordance with the human rights due diligence obligations described there, they must identify and assess the human rights risks and impacts of their activities, take appropriate steps to prevent these risks, monitor the effectiveness of the measures and give transparent public account of their actions in this regard. These due diligence obligations apply not only to their own activities in the narrow sense but also to their business relationships. They apply not only to human rights abuses directly attributable to them but also to activities to which they contribute via their products or services or in which they are involved.

All the above companies were sent questionnaires. On the basis of the UN Guiding Principles, the questionnaire asked about the extent to which the companies had complied with their human rights due diligence obligations in their activities and business relationships in connection with the Kusile and Medupi power plants. It contained questions about the companies' human rights standards in general, their specific activities and business relationships in connection with the power plants, the conducting of human rights risk or impact assessments in connection with the power plants, consultation with local non-governmental organisations, grievance mechanisms and transparency.

Of the 19 companies to whom the questionnaire was sent, only five replied, and even these responses were disappointing. Two companies replied without completing the questionnaire. Pro Therm said that the company was unable to respond to the questionnaire because it was moving. The CEO of Bilfinger Berger informed us that he did not want to fill in the questionnaire. This meant that only KSI, STEAG and Siemens actually answered the questionnaire, and in doing so Siemens addressed the issue of human rights responsibility only very briefly. Rheinmetall did not comment on this issue until the request was followed up (see below).

In his reply, the chairman of the board of STEAG referred both to the company's imports of coal (see Section 3) and the specific activities of STEAG Energy Services in connection with Kusile and Medupi, saying that the company is planning services for Eskom in connection with its power plant projects in Medupi and Kusile and adding that 'our services make a significant contribution to reducing the environmental impacts

of the two power plants and ensuring safe operation'. STEAG has 'no influence on the operational management of the power plants' (response from STEAG of 20 October 2015). STEAG commented on human rights issues only in connection with imports.

By contrast, Siemens explicitly addresses the issue of human rights responsibility in connection with the power plants: 'With regard to your enquiry about respect for human rights at Siemens, I should like to assure you that respect for human rights has always been a key principle at Siemens and will remain so in future. This is reflected in our commitment to respect for human rights in our Business Conduct Guidelines, which are binding for all employees. Siemens also expects comprehensive respect for human rights from its suppliers and business partners. The issue of compliance is also particularly important to us. Our compliance guidelines cover the grievance procedures for staff and external partners that you specifically ask about' (response from Siemens of 15 January 2016). The company refers to the primary responsibility of states: 'The UN Guiding Principles on Business and Human Rights that you refer to confirm the primary responsibility of states to protect human rights and to require companies to respect human rights. At the same time, companies must respect public policy and we at Siemens are committed to observing these principles. In addition, we have been a member of the UN Global Compact since 2003' (ibid.).

Siemens acknowledged the difficulties of coal mining but states that the South African government is taking action: 'We are aware of the impacts of coal-fired power plants and coal mines on human rights (including rights to food, water and health and labour rights). The issues of water and labour are also a fundamental part of the National Development Plan. In the current dry period, in particular, we can see that the South African government is addressing the water issue proactively and working on solutions. In our view the contribution that the company can make lies mainly in the creation of jobs – including jobs in the region of Kusile and Medupi'. At the same time, Siemens refers in its response to the fact that when the contract was being awarded in 2006 the company decided not to tender. The reasons for this are not clear from Siemens' response, but the emphasis on business activities in the renewables sector and the explicit reference to the human rights risks in the field of coal power suggest that these concerns may well have played a part in the decision.

However, the company did not conclude from this that it should have no involvement at all in the con-

struction of the Kusile power plant. Siemens regards Eskom as responsible for the protection of human rights in connection with the construction of the two power plants at Kusile and Medupi. 'As a component supplier we regard the responsibility for respect for human rights as lying chiefly with the operator Eskom' (*ibid.*).

There are two strands to the responses from Siemens. On the one hand, the company explicitly recognises that coal-fired power plants and coal mines may well impact on the human rights to food, water and health and on labour rights. On the other, it denies having responsibility for such possible human rights impacts, since it merely supplies components.

There are two points to be noted here. Firstly, Siemens itself puts the value of the order at EUR 100 million. To complete the work it was necessary to involve subcontractors, who were at times employing between 1,000 and 1,200 people. In response to enquiries Siemens stressed that the value of contracts with other suppliers was around EUR 10 billion. The number of workers employed by the subcontractors and the size of the contract indicate that this is a key technical contribution to these power plant projects.

Secondly, the view that component suppliers have no human rights responsibility for the project conflicts with the fundamental ideas contained in the UN Guiding Principles on Business and Human Rights, to which Siemens explicitly refers in its response. The human rights due diligence required of companies clearly extends not only to their own activities but also to their business relationships with other companies. If Siemens accepts a major order from Eskom in connection with the power plants, there can be no doubt that it has a responsibility to identify and assess the human rights risks of the overall project itself. If Siemens acknowledges the existence of such risks, it must assure itself that the planned countermeasures are sufficient to prevent these risks. However, the reply from Siemens indicates that it does not acknowledge any such responsibility and therefore does not regard itself as being required to take action.

Rheinmetall resembles Siemens in its limited understanding of corporate human rights responsibility. It told MISEREOR: 'We are not aware of human rights abuses in connection with the supply of training simulators and it is very hard to imagine that such abuses could occur.' It adds: 'On the contrary: through the Broad-Based Black Economic Empowerment initiative (BBBEE) the simulators will be widely used to prepare untrained or inadequately trained staff to operate highly complex power plant technology – in other

words, to provide them with vocational training. Some sites have purchased the simulator specifically for this purpose because training on the original systems in the power plant is impossible or too risky. The power plants have quotas for the deployment of educationally disadvantaged workers; these quotas can often not be met without appropriate training equipment and methods. Rheinmetall is making an important contribution in this respect' (response from Rheinmetall of 26 February 2016).

For Siemens, as for Rheinmetall, there is indeed no evidence that their specific activities result in human rights abuses. However, both companies – like the other German companies listed in this study – are contributing to the realisation of major projects that entail significant risks to the human rights to health, food and water and to cultural rights. Human rights due diligence obligations as described in the UN Guiding Principles on Business and Human Rights relate not only to companies' activities but also to their business relationships. Before companies decide to participate in a high-risk project, they have a responsibility to evaluate the possible consequences for human rights and to put appropriate measures in place if necessary. The scope of these measures depends on the size of the company and its leverage on the business partner, in this case Eskom. If a company identifies significant human rights risks but has little opportunity to exert influence in ways that could avert them, its human rights responsibility may ultimately require it not to get involved in the project in question. In any event it is inappropriate for companies of the size of Siemens and Rheinmetall to completely deny any responsibility for the human rights aspects of such a project, to fail to perform any sort of impact assessment and to avoid putting any preventive measures in place.

The low return rate and the responses of the few companies that did reply are very disappointing. They support the conclusion that the companies involved – even the very large ones – still have very limited awareness of their responsibility for the human rights impacts of their activities and business relationships abroad. In particular it is clear that none of the companies are prepared to report transparently on the human rights risks and impacts of the power plant projects in question and the measures taken. In the case of the Kusile and Medupi power plants, the assumption of business associations that German companies meet their human rights due diligence obligations voluntarily and without the need for statutory regulation does not correspond to reality. ◀

## 2.4. Summary of the main findings

➤ Through the export credit guarantees and their involvement in loans, both the German government and KfW IPEX Bank have made significant contributions to the realisation of the Kusile and Medupi power plants with the involvement of German companies. According to the available information, neither IPEX Bank nor the German government has appropriately assessed the possible risks of the power plants and the associated operations – mines, water transport systems and flue gas desulphurisation systems – in making their decisions. There is considerable evidence that in reaching their verdict they placed too much reliance on the views of the power plant operator Eskom and the World Bank. It remains unclear what specific prevention and mitigation measures they have required from Eskom and Hitachi Power Europe and how they now rate the effectiveness of these measures. The information provided by the German government and IPEX Bank completely fails to meet the standards of the UN Guiding Principles with regard to transparent reporting, which ought to permit assessment of the risks themselves and the measures taken.

In addition, there are many indications that – as with the World Bank – the failings in impact assessment before the projects were approved have con-

tributed to the inadequacy of the agreed mitigation measures. The German government and IPEX Bank should now, alone or with other stakeholders, undertake their own human rights impact assessments of the power plants and the associated operations and consult with affected groups and with civil society organisations on the steps that should be taken to avert the risks. They must ask themselves what effective means they now have available for exerting effective influence on the projects in order to protect the environment and human rights.

In addition to Hitachi Power Europe, 18 other companies were identified that have been involved in the construction of the Kusile and Medupi power plants in South Africa. The low response rate to enquiries from MISEREOR and the answers themselves support the conclusion that the companies do not yet adequately acknowledge – let alone fulfil – their responsibility for their activities and business relationships abroad. This highlights the need for the German government to take steps under the National Action Plan for Business and Human Rights to clarify the concrete human rights due diligence requirements on German companies and to make these requirements mandatory. ◀

## ➤ 3. German coal imports from South Africa

➤ In addition to the involvement of German companies in the South African power plants, this study also considers the human rights responsibility of German companies abroad in connection with their imports of coal from South Africa. Section 3.1. describes imports of coal from South Africa to Germany and explores the

importance of supply chains. Section 3.2. outlines the principal uses of coal in Germany and describes the imports of the various energy companies. Section 3.3. evaluates companies' responses to the questionnaire from MISEREOR. ◀

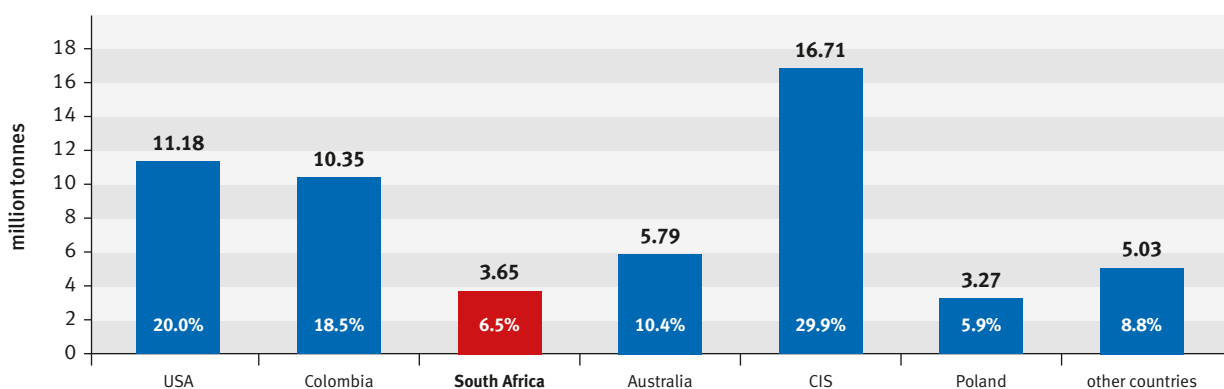
### 3.1. Determining the origin of South African coal

➤ Coal for export from South Africa comes mainly from the same coal mines as coal for domestic use. In South Africa coal is divided into two types. Most of the higher quality coal is exported, while the lower-quality coal is used in the country's own power plants. The quality of the coal is determined by the ash content. Higher-quality coal has an ash content of 15 percent, while lower-quality coal has an ash content of up to 65 percent (Eberhard 2011: 2). Most of the coal is sent abroad via the coal port in Richards Bay; a smaller quantity is exported via the coal port of Matola in Mozambique. Small amounts also pass through smaller ports in Durban (VDKI 2015:

89). According to a study by urgewald, the coal that ultimately arrives in Germany is transported via Richards Bay. Most of the coal for German power plants is imported via the ports of Amsterdam, Rotterdam and Antwerp (ARA ports) and is transported from there to Hamburg, Wilhelmshaven, Nordenham, Rostock and Kiel (urgewald 2013: 10). According to Eberhard, the majority of the coal for export and for the South African market comes from eight large coal mines, of which seven are in the Witbank-Ermelo-Highveld region (i.e. Mpumalanga Province) and one in Waterberg, the region around Limpopo (Eberhard 2011: xx). ◀

### 3.2. Coal imports and coal use in Germany

Figure 6: Countries of origin of German imports of coal and coal briquettes in 2015

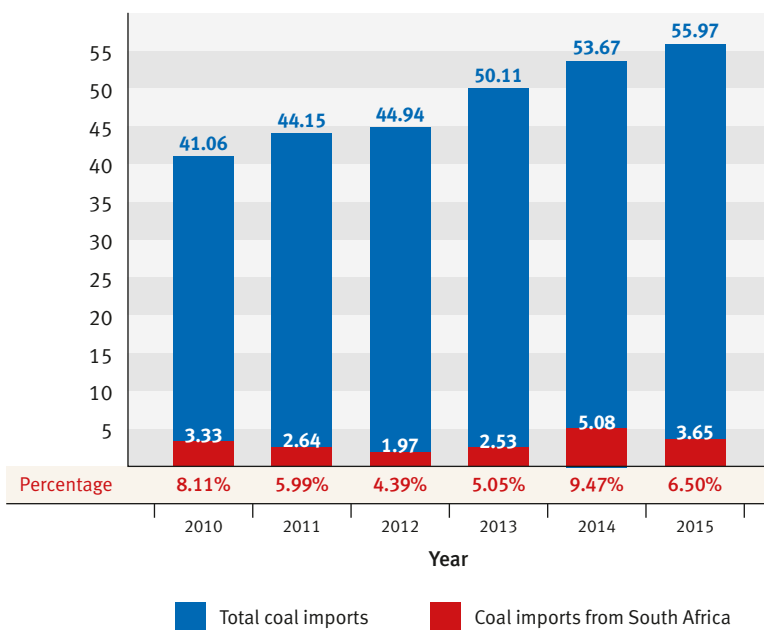


Total imports: 55,979,151.5 t

Based on information from the German Federal Statistical Office

► The volume of German coal imports from South Africa fluctuates widely, as Figure 6 (right) and Figure 7 on the next page show. According to the German Federal Statistical Office, 3.5 million tonnes of coal were imported from South Africa in 2015, representing 6.5 percent of all Germany’s coal imports. However, in 2010 and 2014 the proportions were significantly higher at 8.11 and 9.44 percent respectively.

Figure 7: German imports of coal 2010-2015 (in million tonnes)



Based on information from the German Federal Statistical Office

The Federal Statistical Office’s data enables the coal to be classified according to the state (Land or Bundesland) for which it was destined.

This information is based on customs declarations, since traders must pay customs duty on coal imported into Germany. The trader must declare not only the quantity and origin of the coal but also the identification number of the state (Land) in which the goods are likely to remain, or more specifically in which they are ‘likely to be used, consumed or processed’. This Land is termed the Land of destination (interview with Karl-Heinz Palmes, German Federal Statistical Office, 17 August 2015).

The table below lists the seven German states (Länder) that import the most coal from South Africa.<sup>5</sup> Other German states either import no South African coal at all or import so little that it can be ignored for the purposes of this study:

Some of the imported coal is used in the German steel industry. The Federation of the German Steel Industry (Wirtschaftsvereinigung Stahl) documents the countries from which the coal is sourced and has published the figures for South Africa for the period 2008-2015 (see Figure 9).

<sup>5</sup> On the basis of the German states (Länder) it would be possible to conduct further research that would identify the usage of the power plants that are currently in operation. The Bundesnetzagentur, the Federal Network Agency, has a list of currently operational power plants. From this it would be possible to assign the active power plants to the relevant states. Further enquiries were not possible in the context of this study. However, the power plant list can be viewed on the website of the Bundesnetzagentur for the purpose of further research: [http://www.bundesnetzagentur.de/cln\\_1431/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen\\_Institutionen/Versorgungssicherheit/Erzeugungskapazitaeten/Kraftwerksliste/kraftwerksliste-node.html](http://www.bundesnetzagentur.de/cln_1431/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/Versorgungssicherheit/Erzeugungskapazitaeten/Kraftwerksliste/kraftwerksliste-node.html), last viewed on 30 January 2016.

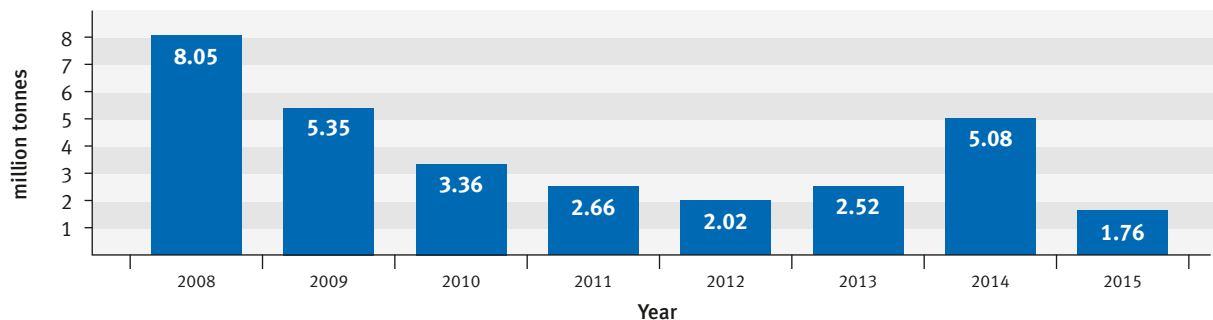
Figure 8: Imported coal (coal and coal briquettes), in tonnes

	Baden-Württemberg	Bavaria	Saarland	Hesse	Lower Saxony	NRW	Hamburg
2008	3,142,635	512,428	146,155	899,116	1,156,468	1,780,279	362,226
2009	1,780,285	429,556	81,414	1,025,793	908,852	822,153	258,717
2010	626,270	607,160	638	566,395	590,355	420,150	549,486
2011	807,829	530,230	203	272,461	456,379	591,659	
2012	996,702	362,467	927	91,737	1	567,718	
2013	964,474	41,314	9,485	263,728		1,165,655	
2014	2,423,190	55,227	16,894	186,640	186,340	1,890,370	238,045

Based on foreign trade statistics of the German Federal Statistical Office, Table no. 51000-036.



Figure 9: **The quantity of coal imported from South Africa that is used in the German steel industry**  
(in million tonnes)



Based on the statistics of Wirtschaftsvereinigung Stahl, enquiry of 18 August 2015.

The coal importers have also informed MISEREOR of the quantities and/or proportions of coal that they obtain from South Africa. Thus EnBW stated: 'In 2014 2.13 million tonnes (2013: 0.8 million tonnes) of South African coal were supplied to EnBW power plants. This was 37.6 percent of the total quantity supplied.' EnBW declared that it has no direct business relationships with South African coal producers but instead has contracts with trading companies. These contracts define the quality of the coal but not its origin. At the same time, EnBW states without giving further details that the coal comes from Mpumalanga: from the information given it is not possible to link the coal to particular mines. In 2015 the proportion of South African coal used by EnBW fell to 11.3 percent (0.54 million tonnes). This downward trend is continuing in 2016. The proportion of South African coal is currently below five percent (response from EnBW of 12 February 2016, EnBW questionnaire of 8 November 2015).

The four other companies that were questioned were also prepared to provide details of their imports of South African coal. In 2014, two percent of the coal used by STEAG was imported from South Africa. STEAG knows

which mines it comes from, because the company is in direct contact with its suppliers (STEAG questionnaire of 20 November 2015). E.ON refers in its reply to its online report: in 2014 two million tonnes of coal were imported from South Africa (E.ON questionnaire of 25 September 2015). Vattenfall states that in 2014 six percent of the coal for its power plants in Germany, the Netherlands and Denmark was imported from South Africa (Vattenfall questionnaire of 28 September 2015). In response to enquiries, Vattenfall confirmed that in 2015 five percent of its coal came from South Africa. RWE provided a summary of its imports for the years 2010 to 2014. These figures are also published in its CR report. They show that in 2014 around 22.1 percent of its coal came from South Africa; in 2013 the figure was 11.8 percent. In the preceding years 2010-2012 the proportion were even smaller (2012: 4.5 percent; 2011: 3.9 percent; 2010: 1.8 percent) (RWE questionnaire of 29 September 2015). However, none of the companies provide specific information about the mines or mining companies from which their South African coal comes or the suppliers through which it is obtained. Competition law and contractual conditions were cited as reasons for not making this information available. ◀

### 3.3. Handling of human rights risks by German coal importers

► In contrast to the situation with regard to involvement in the Kusile and Medupi power plants, all the energy companies responded to MISEREOR's enquiries about their human rights responsibilities. This shows that the coal importers are far more aware of their responsibility

in the supply chain than are the companies that operate abroad. One reason for this is no doubt the criticism of coal imports from Colombia and South Africa that has been repeatedly voiced by a number of German NGOs in recent years (see among others *urgewald* 2013). All

five companies state that they respect human rights, for example via voluntary codes of conduct and/or their membership of the Global Compact. Only EnBW explicitly states in its response that it also complies with the UN Guiding Principles on Business and Human Rights. However, the Principles are a component of the code of conduct of the Bettercoal initiative, whose members include RWE, E.ON and Vattenfall.

EnBW has the most comprehensive standards. It states that the company bases its policy on the ten principles of the United Nations Global Compact and on the OECD Guidelines for Multinational Enterprises, the international charters on human rights (the Universal Declaration of Human Rights, the International Pact on Civil and Political Rights, the International Pact on Economic, Social and Cultural Rights), the Core Labour Standards of the International Labour Organization (ILO), the UN Guiding Principles on Business and Human Rights, the UN Declaration on the Rights of Indigenous Peoples, ILO Convention 169 – the Convention Concerning Indigenous and Tribal Peoples in Independent Countries – and the IFC Performance Standards. EnBW also says that it has been able to exert direct influence on the situation in South Africa: ‘EnBW staff have travelled to South Africa, where they have obtained information about the conditions of the individual producers and held talks with representatives of the government and interest groups.’ They add: ‘From this we have formed the impression that there is open discussion of the advantages and disadvantages of coal production in South African civil society.’ For this reason, and also because the use of South African coal in Europe is declining, EnBW sees no further need for action: ‘In 2015 only 13.8 percent of exports went to Europe. By far the largest importer of South African Coal in 2015 was India, which took 46.6 percent of the total volume (source: <http://www.platts.com/latest-news/coal/london/south-african-2015-thermal-coal-exports-up-13-26354615>). ENBW’s measures in connection with responsible coal procurement focus on the main supplier countries.’ At the same time it provides an assurance: ‘However, should an opportunity arise in future to develop a direct business relationship with a South African coal producer, EnBW will obtain accurate information about this producer’s conditions before entering a contract and will ensure that the producer is contractually committed to comply with EnBW’s code of conduct on the responsible procurement of coal’ (reply from EnBW of 8 November 2015).

RWE has a code of conduct which it says covers the following commercial matters: ‘The RWE code of conduct covers all business matters within the company and all areas in which RWE staff are perceived as representing RWE.’ The code of conduct has the following implications for dealings with suppliers: ‘In its relationships with suppliers, RWE ensures compliance with the provisions of the code of conduct. This means that RWE does not maintain business relationships with suppliers who are publicly known to infringe the principles that underlie the Global Compact. In addition, in its business relationships RWE strives to ensure further enforcement of the Global Compact.’ RWE is a member of the UN Global Compact and it states that it bases its policies on the OECD Guidelines for Multinational Enterprises: ‘The requirements of our code of conduct interpret the requirements of the OECD Guidelines as they relate to RWE.’ In connection with foreign investment, the company says that it also complies with the IFC Performance Standards on Environmental and Social Sustainability ‘as a basis for our due diligence process’. However, the Bench Marks Principles play no part in RWE’s assessments. RWE has its own ‘counterparty risk assessment’, a multi-stage process that involves checking international databases and information systems for evidence of misconduct by trading partners. According to RWE, this audit of business partners is repeated annually. In its assessment of South Africa RWE states that it drew on ‘recognised studies’ and that it also had contact with local civil society organisations in South Africa, arranged by two German non-governmental organisations. RWE also has a contact point for complaints. With regard to the openness of this complaint procedure, RWE replies: ‘Access via the Internet is open to all’ responses from RWE of 29 September 2015.

STEAG complies with the OECD Guidelines for Multinational Enterprises, the Core Labour Standards of the ILO and the principles of the UN Global Compact. In its code of conduct the company affirms that it also expects its business partners to abide by these standards. STEAG states that it relies on direct contact with suppliers:

‘Around 90 percent of the mines from which STEAG procures coal are known to us as a result of personal visits by our staff. These direct contacts enable us to monitor our supply chains flexibly and accurately. This principle of direct access is complemented by additional local monitoring by our Chief Compliance Officer’ (STEAG questionnaire of 20 October 2015). STEAG states that it has developed a screening system that encompasses all mines and their potential sup-

pliers (producers and traders). If this screening yields evidence that the prescribed standards are not being adhered to, the company initiates an investigation. However, there have not as yet been any concerns in relation to South Africa: ‘Our screening of South African mines has not yet yielded cause for any more detailed local investigation by our Chief Compliance Officer’ (reply from STEAG of 20 October 2015).

Vattenfall has its own code of conduct, which refers to the OECD Guidelines for Multinational Enterprises, parts of the IFC Performance Standards on Environmental and Social Sustainability and the Bench Marks Principles for Global Corporate Responsibility; it thus covers the areas of human rights, the environment, labour conditions and anti-corruption. The company is currently undertaking screening of its suppliers. Screening of South African mines is said to have begun in 2015 and ‘will lead to further improvements depending on the results’ (replies from Vattenfall of 29 September 2015). In February 2016 Vattenfall provided further information on its screening processes: ‘In 2015 we completed the first round of our screening of all existing and potential future suppliers. From this we have decided not to terminate relationships with any of the suppliers, but we have identified areas for improvement for various suppliers. We then sought contact with the suppliers, either directly or via Bettercoal. In 2016 we shall repeat the screening of our suppliers and monitor whether there is evidence of improvements’ (supplementary comments from Vattenfall of 11 February 2016).

However, the screening involves collecting publicly accessible data and is not based on visits to the mines. Vattenfall says, ‘We collect information from independent assessors and publicly available details of adherence to social, environmental and human rights standards by coal suppliers. This helps us assess whether our suppliers comply with our Code of Conduct. (...) Our Responsible Sourcing Board, which is comprised of representatives of various departments, analyses critical findings. If the findings indicate abuse of human or social rights, we urge our suppliers to improve their standards.’ So far, however, Vattenfall has only once decided to stop procuring coal from a supplier (replies from Vattenfall of 28 September 2015).

Vattenfall, E.ON and RWE point out that they are members of the Bettercoal Initiative, which has a policy on ethical, social and environmental issues (Bettercoal 2016a). In their replies both Vattenfall and RWE mention public Bettercoal self-assessments that are conducted in South Africa. In addition, local audits in

South Africa began in 2015 and are intended to lead to improvement programmes.<sup>6</sup> Among these audits was a site assessment of the South African mining company Canyon Coal Pty; this was performed in December 2015 but the findings are not publicly available, as Vattenfall explains: ‘The findings of the assessments are the property of the mining companies. Because of a confidentiality agreement we are not permitted to distribute the findings externally’ (reply from Vattenfall of 19 February 2016). South Africa, with Russia and Colombia, is therefore among the countries in which site assessments are conducted (ibid.). From the information on the Bettercoal website it is not possible to tell at exactly which mine the site assessment was performed. The website merely mentions South Africa as a country in which the site assessment is carried out (Bettercoal 2016b). However, Canyon Coal states on its website that it has mines in Mpumalanga and Gauteng (Canyon Coal 2016).

Vattenfall believes that progress will be made as a result of its involvement in the Bettercoal initiative, but it concedes that the processes are very protracted: ‘Via Bettercoal we aim to conduct self-assessments and site assessments. Site assessments are performed by external auditors. Vattenfall has access to the findings and uses them in its decision-making process. (...) Progress within Bettercoal is currently still slow, but we are seeing improvements and an increasing number of site assessments. At the same time we are also seeking direct contact with suppliers in order to discuss opportunities for improvement with them. We believe that overall we can achieve more by working with other companies and we therefore remain a member of the Bettercoal initiative’ (reply from Vattenfall of 19 February 2016). Eskom is also being encouraged to take part in the initiative: ‘By working with Bettercoal, Eskom could get its suppliers to perform self-assessments and subsequent on-site assessments in order to encourage improvements at the mines from which Eskom procures its coal. Bettercoal will continue its efforts to persuade Eskom to join the initiative’ (reply by Vattenfall of 28 September 2015). However, RWE concedes that: ‘Eskom is currently facing major challenges in other business areas.’

In recent years the Bettercoal initiative has been the subject of repeated criticism from non-governmental organisations such as FIAN, Urgewald and Powershift. They accuse the scheme of being an ‘industry club’,

<sup>6</sup> Details of the self-assessments can be found at: <http://bettercoal.org/code/publicconsultation>

pointing out that the board of directors consists entirely of members of industry associations. The organisations are also critical of the fact that the initiative relies on voluntary commitments (urgewald 2013: 24). Vattenfall comments on Bettercoal’s future plans for civil society involvement as follows: ‘The Stakeholder Advisory Group established in 2011 no longer exists in that form. In 2015 there were two stakeholder bodies, one with representatives of civil society and one with representatives of the mining companies. In 2016 Bettercoal will set up a Technical & Advisory Committee (TAC). This will consist of individual representatives of the founding member companies of Bettercoal and the coal suppliers and also ‘non-industry’ members (civil society, experts,

etc.). The Bettercoal Technical & Advisory Committee is a permanent committee of the Bettercoal Board. It supports and advances the mission of Bettercoal by reviewing, developing, and ensuring the quality of Bettercoal’s standards, assurance processes and impact assessment and reporting. Bettercoal is working on an update to its website on this subject that will appear shortly’ (reply from Vattenfall of 19 February 2016). Five civil society organisations are now represented on a Civil Society Panel, namely Flora & Fauna International, Cordaid, Assheton Carter, the Danish Institute for Human Rights and in Alexandra Guaqueta an individual from the UN Guiding Principles on Business and Human Rights from Colombia (Bettercoal 2016). ◀

### 3.4. Summary of the key findings

► In contrast to the companies that are or have been involved in the construction of the power plants (Section 2.2), all the energy suppliers replied to MISEREOR’s enquiries and commented on their standards relating to coal imports. All of them have human rights policies and impose these criteria on their suppliers. Almost all the companies state that they have assessed the situation on-site, although these assessments vary in depth: Vattenfall is satisfied with the assessment of publicly available information. The members of the Bettercoal initiative have performed self-assessments that have been criticised from various sides for failing to provide a comprehensive analysis of the situation. RWE states that it has been involved in discussions with NGOs in South Africa and refers to studies that have undertaken critical investigation of the impacts of coal mining in the region.

However, it is not clear from the responses whether the companies have drawn any practical conclusions from these assessments. EnBW refers to talks with suppliers but states that it does not know from which mines the coal comes. It is therefore unlikely that the company has analysed the local situation in detail.

Given the number of studies that have commented critically on the impacts of coal mining in South Africa (Bench Marks Foundation 2014, SAHRC/DIHR 2015) and the findings of this study in relation to the Mpumalanga region from which EnBW procures its coal, the German energy suppliers’ positive assessment of the situation in South Africa is astonishing. Although

all the companies state that they have analysed the situation locally and identified various problems, they see little cause for action. In addition, the majority of energy importers appear to communicate mainly with the operators of South African mines. RWE was in contact with non-governmental organisations and says that it is aware of the critical reports. However, it remains unclear whether the company has drawn any further conclusions from the information.

Overall the companies’ responses do not reveal the specific companies or mines in which the German energy companies have identified human rights problems. It is also impossible to tell what practical conclusions the energy companies have drawn from their insights. None of the energy companies surveyed complies with Principle 21 of the UN Guiding Principles on Business and Human Rights, which requires the information provided to be sufficient to evaluate the adequacy of an enterprise’s response to a particular human rights impact.

Several studies by civil society organisations in recent years have documented the severe environmental damage that is occurring and the associated human rights problems. Given the systematic and structural nature of the problem, the lack of transparency about the origin of the coal, the associated human rights risks and the measures that have or have not been taken remains unsatisfactory. In particular it highlights the need for binding regulation and external monitoring. ◀

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