

# A Burning Issue

The global footprint of coal-fired  
energy in the Netherlands

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**In this paper Both ENDS and our partners from South Africa, Colombia and Indonesia examine the social and environmental impacts of coal mining. These countries are the major sources of the coal used in the Dutch energy sector. Coal mining causes amongst others large scale deforestation, acid mine drainage which pollutes fresh water sources and (forced) displacement of communities. The findings of this report have already been picked up by the media and the Dutch parliament. Together with our partners, Both ENDS is now engaged in a dialogue with Dutch energy companies, the mining industry, labour unions and other NGOs, in an attempt to improve the conditions of people working in, and living around, coal mines.**

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## EXECUTIVE SUMMARY

Dutch energy companies mainly import their coal from three countries: Colombia, Indonesia and South Africa. Case studies by Both ENDS' partner organisations in these three countries reveal many negative social and environmental impacts related to coal mining. These impacts include: air pollution, the degradation of water resources, a loss of productive agricultural land, forced evictions as well as health and safety risks for mineworkers and communities surrounding mines. Remedying these impacts imposes costs to the environment and local population, which are currently not paid for by mining companies. As more coal-fired power plants are built in the Netherlands (and around the world) these costs will rise and the people and the environment in other parts of the globe will suffer as a result.

Dutch energy companies and transnational mining companies have Corporate Social Responsibility (CSR) policies in place but, as the findings of this briefing paper show, these have not yet led to substantial improvements in practice. Energy companies need to strengthen their commitment to supply chain responsibility in order to avoid the negative impacts related to the coal they buy. At the same time, experience in many sectors has shown that although business-led voluntary policies are valuable, government regulation is essential in tackling abuse and free-riders. The recommendations formulated at the end of this paper, therefore address both the Dutch energy sector and the Dutch government.

The recommendations to Dutch energy companies focus on them taking serious steps in implementing their supply chain responsibility. The concrete steps that we recommend are:

- Setting up specific criteria and procedures to guide the selection and monitoring of suppliers with regards to the environmental and social effects of coal mining.
- Investing in fact-finding, dialogue with affected communities and the formulation and implementation of measures to help remediate, compensate for and prevent social and environmental damage.
- Involve a wide range of stakeholders, including civil society and community organisations and miners' unions in the identification of such problems and in monitoring the impacts of mining operations.
- Increase transparency and publicly report (in their CSR reports) on the environmental and social impacts of coal mining as well as their efforts to contain these and to contribute to more sustainable mining.

We also call upon the Dutch government to regulate the Dutch market for coal and to ensure that it complies with stringent environmental and social standards by:

- Setting a legal obligation for companies which import coal into the Netherlands to undertake and publish stringent Environmental Impact Assessments at regular intervals to assess the social, environmental and climatic impacts of their suppliers' activities.
- Setting a legal obligation for companies to be transparent on their sourcing of coal, as well as the financial transactions related to the coal supply chain.
- Exploring the possibility of setting environmental and social criteria for imported coal as a basis for certification and introducing legislation to ban unsustainably mined coals from the Dutch (and European) markets.
- Supporting coal exporting country governments in enforcing environmental and social standards and legislation in relation to coal mining. ■

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# 1

## INTRODUCTION

Within the context of the current global energy policy debate, the Netherlands is not alone in considering coal to be indispensable in achieving a secure energy supply. This view is partly based on the relative abundance of coal, in comparison to gas and oil. Although most governments only indirectly control energy policy, they do aim to have a diverse portfolio of energy sources, for reasons of energy security, if not cost. This explains why in 2007 the Dutch government announced its approval of plans to build 5 new coal-fired power plants in the Netherlands. This means that coal will play a larger role in the country's future energy mix for generations to come.

There are, however, a number of reasons to be critical about this decision to invest in new coal plants. Coal is the most carbon-intensive of all fossil fuels<sup>1</sup> and is one of the major sources of greenhouse gas emissions. Coal accounted for 42% of the world's energy related CO<sub>2</sub> emissions in 2006 and this is projected to increase to 45% by 2030<sup>2</sup>. As such coal makes a significant contribution to climate change. This is in itself a good reason for climate policy to focus on reducing dependence on coal. Although the greenhouse gas (GHG) emissions from coal occur along the whole supply chain, efforts to reduce emissions mainly focus on the end of the chain. In general the social and environmental impacts of coal mining in coal producing and exporting countries are not reflected in the price of coal. The Netherlands has no (economically viable) sources of coal and is mainly reliant on supplies imported from developing countries, particularly Colombia, Indonesia and South Africa.

There have been highly publicised protests against the expansion of coal-fired power stations, in the Netherlands and other European countries. These protests have mostly focused on the consequences

that such expansion will have on greenhouse gas emissions and the incompatibility of this with CO<sub>2</sub> reduction targets. But, the local impacts of mining in the countries from which coal is sourced from have received far less attention. Both ENDS recognises that the choice for coal-fired power in the Netherlands will create problems in terms of the country's emissions targets. This briefing paper, however, focuses attention on the repercussions of coal mining on the environment and the people in the countries of origin.

This briefing paper draws upon three country case studies, and unveils the social and environmental impacts of the mining of coal that is imported to the Netherlands to fuel Dutch electricity plants. The conclusions and recommendations in section 5 are based on the data and observations from these studies. The briefing paper suggests a number of policy responses through which the social, environmental and climatic effects of coal mining can be addressed. These include Dutch energy companies adopting a more proactive approach to environmentally and socially responsible supply chain management. ■

# 2

## THE ENVIRONMENTAL AND SOCIAL IMPACTS OF COAL MINING

Colombia, Indonesia and South Africa are the main providers of coal for the Dutch energy industry and are respectively the 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> largest coal exporting countries in the world.<sup>3</sup> Case studies of the most important coal producing and exporting regions within these three countries reveal the negative impacts of coal mining on the environment and on the people working in, and living around, mining areas.<sup>4</sup> In all three cases a similar picture emerges: coal mining is dominated by multinationals and the best-quality coal is destined for export, leaving behind the low-quality coal and a trail of environmental and health hazards. The major findings of these studies are summarised in this chapter. ■

<sup>1</sup>Coal produces 21% more CO<sub>2</sub> than oil, per unit of energy consumption, and 76% more than natural gas. Mayors for climate protection, *A Primer on Carbon Dioxide Emissions*, p.4, <http://www.docstoc.com/docs/14922541/A-Primer-on-Carbon-Dioxide-Emissions>, consulted on 15 March 2010

<sup>2</sup><http://www.eia.doe.gov/oiaf/ieo/emissions.html>

<sup>3</sup><http://www.worldcoal.org/coal/market-amp-transportation/>

<sup>4</sup>These case studies were conducted by Both ENDS' partner organisations Jatam, ILSA and EMG in Indonesia, Colombia and South Africa respectively. These studies (or reports based on the studies) are available on Both ENDS' website at: <http://www.bothends.org/index.php?page=2&projectId=33>

## 2.1

### CASE STUDY AREAS

The areas studied are the Witbank area in South Africa, South and East Kalimantan in Indonesia and Guajira and El Cesar in the north and northeast of Colombia. Before going into the ways in which coal mining affects these regions, a description will be given of the role and importance of mining to the national economies. ■

tons of coal produced in 2003, just over 91% was exported, mainly to Europe and the US. In recent years, the Netherlands has been the second biggest importer, behind the US, importing a total of 43 million tons between 2005 and 2008. The majority (30.6 million tons) came from the Cerrejón mine in La Guajira and another 5.1 million tons were mined in El Cesar. In 2008, 22% of Colombian coal exports were shipped to the Netherlands, both for local use and for further transport to other European countries.

Open-cast mining is the main method of coal mining in Colombia. The Cerrejón Zona Norte mine on the Guajira peninsula is the largest open-cast coal mine in the world. It is managed by Carbones del Cerrejón SA, a consortium of BHP Billiton, Anglo American and Glencore International. The mining district of La Jagua, in El Cesar, is owned by the Drummond Company. The effects of coal mining in both of these areas include the destruction of the landscape, deforestation, loss of

### 2.1.1

#### COLOMBIA

Colombia started developing its coal mines as early as 1837. Over the years, coal mining has developed into a privatised industry that is now the country's second largest export sector (after oil). Of the 50 million

bio-diversity, intensive use of water and air pollution. The Wayúu, the area's original indigenous people, have suffered from evictions and a loss of access to their traditional lands. Coal mining also affects other aspects of the Colombian economy. The study exposes the effects of privatisation, the inefficient collection and inappropriate use of royalties and the effects that export-related coal transport has had on tourism. Moreover, in a country that has been plagued by armed conflict for decades, there are numerous reports of links between armed groups and mining companies, the former of which are suspected of being connected to the killings of trade union leaders in mining areas. ■



**Source** USGS World Coal Quality Inventory: Colombia, p.145, [pubs.usgs.gov/of/2006/1241/Chapter%205-Colombia.pdf](https://pubs.usgs.gov/of/2006/1241/Chapter%205-Colombia.pdf)

## 2.1.2

### INDONESIA

East and South Kalimantan are two Indonesian provinces which together contain 50% of the country's known coal reserves. The coal industry in Indonesia is mostly based on open-cast mining and is responsible for much deforestation. Coal mining started in Indonesia in 1849, when the country was under Dutch colonial rule.

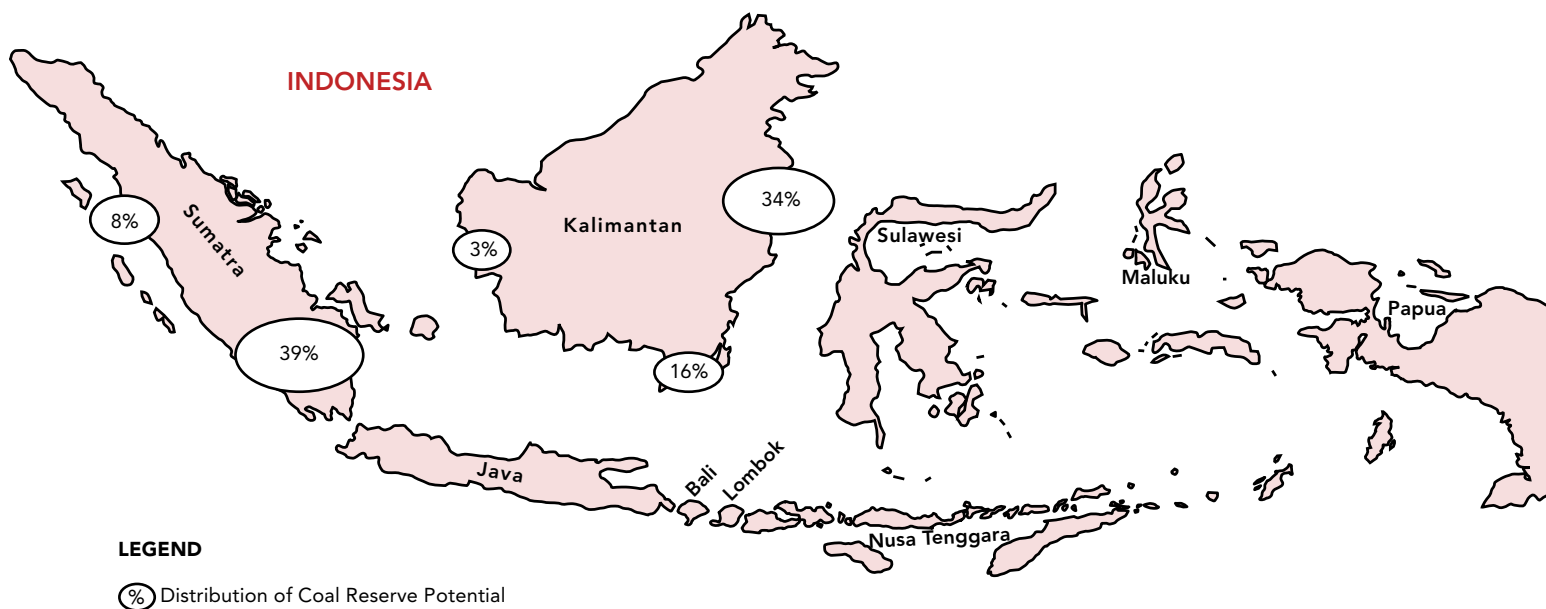
The sector experienced a slowdown under the post-independence Sukarno government, but from the mid 1960s, under the "New Order" regime, the coal mining industry was rehabilitated. Exploitation increased rapidly after the 1973 energy crisis. As in Colombia, the sector is dominated by transnational companies. The Indonesian government has a strategy of releasing different types of licenses for foreign, state-owned and local government companies and provides favourable treatment to foreign companies.



Transnational companies own most of the major coal mines in Indonesia. PT. Bumi Resources, for instance, controls two major coal companies: PT. Kaltim Prima Coal which operates in East Kalimantan and PT. Arutmin Indonesia which works in South Kalimantan. It dominates domestic production, producing 30.3% of the output in 2007. Other major players are PT. Adaro Indonesia (20.2%), Kideco Agung (10.6%), Berau Coal (6.6%), Indominco Mandiri (5.8%) and PT. Bukit Asam (4.8%). Of the total of 217 million tons of coal produced in 2007, 80% was produced by companies that operate transnationally. State-owned companies control 17% of the production, while the remaining 3% are owned and managed by local government.

About 63% of Indonesia’s coal exports in 2009 went to four Asian countries: China, India, South Korea and Taiwan.<sup>5</sup> The EU is the second largest importing region but it is not a major destination. About 11% of the coal produced in South and East Kalimantan is exported to the EU (18 million tonnes), with the main importers being Italy (3%), the Netherlands (2.1%), Spain (1.9%) and the UK (1.3%). Besides the direct trade link, Dutch companies also have relations with the Indonesian coal market through the ownership of shares in some of the country’s largest coal mining companies. For example, the Dutch company Rognar Holding holds a 39% share in BT Berau Coal. ■

<sup>5</sup><http://www.coalspot.com/news-detail.php?id=848>



The biggest reserves are located in 3 provinces, in South Sumatra (39%), East Kalimantan (34%), and South Kalimantan (16%).

**Source** Indonesian coal industry outlook, presented at the Indonesian - Japan coal policy dialogue, March 26th and 27th 2009, [http://www.jcoal.or.jp/publication/seminar/pdf\\_for\\_hp\\_indonesia\\_s/indonesiaccoal\\_industry\\_outlook\\_english.pdf](http://www.jcoal.or.jp/publication/seminar/pdf_for_hp_indonesia_s/indonesiaccoal_industry_outlook_english.pdf)

# 2.1.3

## SOUTH AFRICA

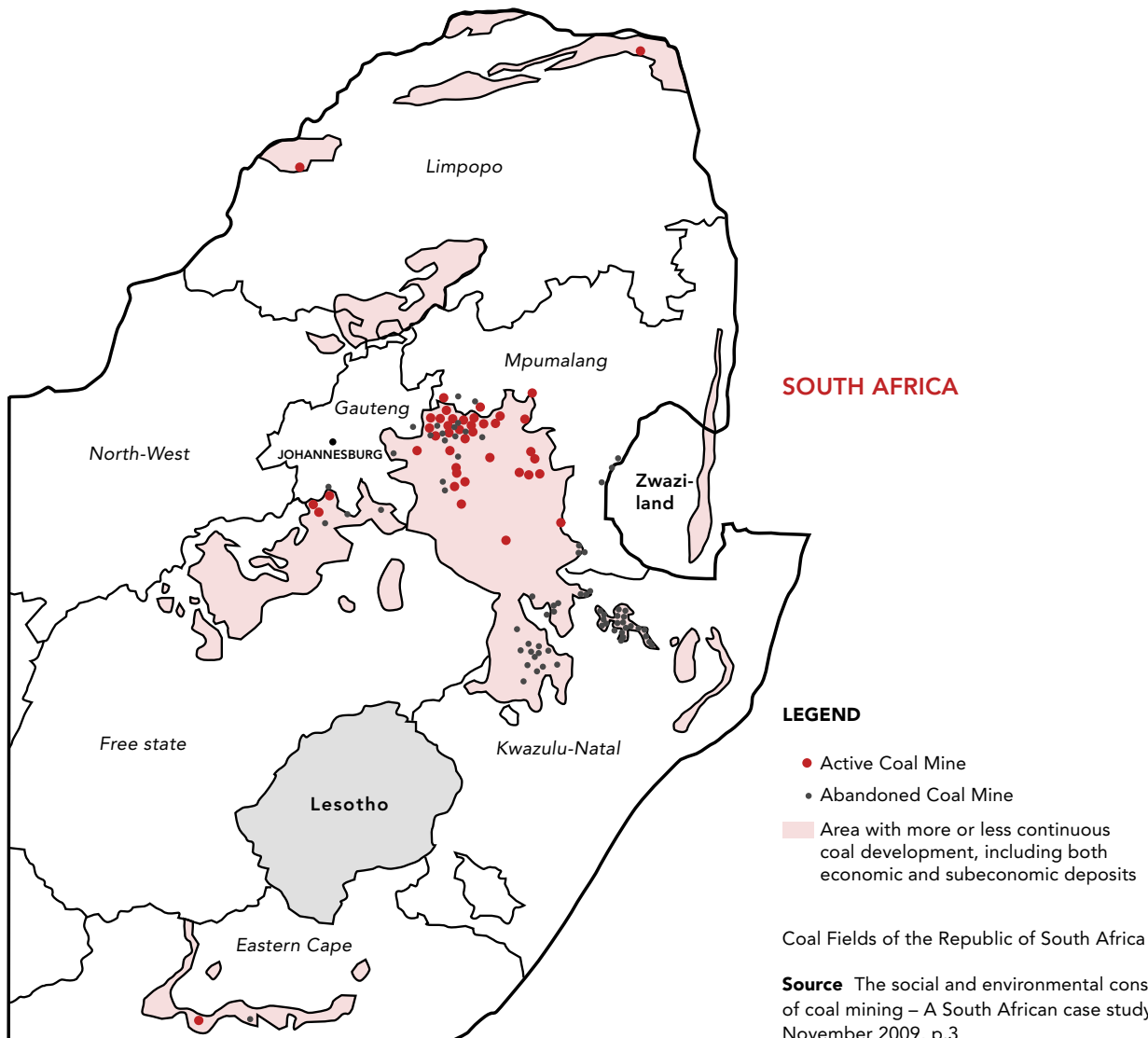
In South Africa, coal mining has historically played an important role in providing energy to the gold mining industry. Many collieries were (and still are) owned by gold mining companies. For these mine owners the main objective was often to keep the costs of their own energy inputs low rather than to profit from coal mining itself. South African coal prices remained very low until the mid 1970s, when export opportunities opened up, following the construction of a deep terminal in Richards Bay and long

term contracts were established with Japanese buyers. The low coal price entrenched harsh working conditions and low wages for South African workers, a tendency to mine only the most accessible coal (instead of the whole seam) and a disregard for any environmental impacts.

South Africa's coal reserves are spread across 18 coal fields. The Vaal coalfields were the first to be intensively exploited and this area came to host a number of coal-fired power stations as well as a steel, and other heavy, industry. The largest coalfields are found in a continuous stretch that runs from Mpumalanga to Kwazulu-Natal. The seams here are between 15 and 100 metres deep,

and around seven metres thick, but very variable in quality. More recently, coalfields in the north (Waterberg and Soutpansberg) have been opened up.

South Africa currently has 64 collieries, ranging from among the largest in the world to small-scale enterprises. About 51% of South African coal mining is done underground and about 49% is produced by open-cast methods. The coal-mining industry is highly concentrated with five companies accounting for 85% of saleable coal production. These companies are Ingwe Collieries Limited, a BHP Billiton subsidiary, Anglo Coal, Sasol, Eyesizwe and Kumba Resources. Xtrata is an important exporter.



South Africa, with its long history of mining, is particularly affected by having a high number of abandoned mines (6,000 in total, although not all coal mines). The abandoned Transvaal and Delagoa Bay Colliery outside Witbank has been identified as representing one of the greatest environmental risks of these abandoned mines. This is a large colliery which has partially collapsed leaving large sinkholes in an area adjacent to an informal settlement. The coal remaining underground is burning uncontrollably, adding air pollution to the physical hazard posed by the mine. The workings are flooded and have started to decant, producing highly saline acid drainage with a dangerously high level of heavy metals. This water drains into the Brugsput and has led to the death

of fish and crocodiles in the Loskop Dam Nature Reserve downstream. The costs of cleaning up mining sites are significant<sup>6</sup> and tend to fall on South African tax payers. At the current rate of rehabilitation, it will take 800 years to rehabilitate all these abandoned mines. The government has not granted any mine closure certificates in the past 8 years and very few mining companies have finalised their closure plans or made them publicly available. This is a reason for concern as future damages may exceed the profits that these companies are currently making on coal mining. This implies a transfer of wealth away from the local communities in mining areas and future generations to subsidised energy companies and electricity consumers. ■

<sup>6</sup>These have been estimated at US\$ 14 billion in 2008 by the Department of Minerals and Energy

## 2.2

### ENVIRONMENTAL IMPACTS

Coal mining is by nature environmentally intrusive and destructive. Open cast mining removes large volumes of soil and rock to get to the workable coal seams and destroys regional aquifers. Both open-cast and deep shaft mining produces large mountains of solid waste, in the later case often contaminated by heavy metals. These, and other environmental impacts, will be discussed in this sub-section. ■

## 2.2.1

### WATER QUALITY

One of the major environmental problems encountered in all three study areas is the threat that coal mining poses to water quality. This is a pressing issue, as global freshwater resources are rapidly being depleted, and natural ecosystems and human welfare are very sensitive to water availability and quality.

#### Acid mine drainage

The largest water quality problem related to underground coal mining is acid mine drainage (AMD): the outflow of acidic water from (usually abandoned) coal mines. It is very difficult, if not impossible, to avoid AMD. Once broken, the rock becomes exposed to oxygen, which reacts with the pyrite in the coal and surrounding rocks. When water flows over this, it carries AMD with it. In the Ermelo area in South Africa, there are cases

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of rehabilitated open-cast and underground mines decanting acid water 5 to 20 years after their closure. AMD is also generated by tailings, including those that have been rehabilitated. During the field research many discard dumps, stockpiles and mines were observed that are situated close to water courses without any protective barriers.<sup>7</sup>

In South Africa, where about half of coal mining is done underground, and which is home to many abandoned mines, AMD is one of the largest risk factors from coal mining. As the South African study explains, "AMD consists of three interrelated problems. First, the pyrite in the rock gives rise to water with a high pH. Second, this acid water mobilises heavy metals from the environment, in the mine or from the sediments in the river course.<sup>8</sup> Thirdly, treating the water with calcium to raise the pH makes the water more saline, a problem that requires expensive and energy intensive reverse osmosis or similar processes to resolve."<sup>9</sup>

### Floods

In Indonesia, where coal reserves are located closer to the surface and open-cast mining is more common, pollution by waste and mud from upstream coal exploitations causes major problems for downstream communities. Many communities that are downstream of deforested areas with open cast mines experience heavy flooding every rainy season. Prior to the mining operations these floods would be a one in ten year event. The areas hardest hit by floods are Kintap in Tanah Laut District and Satui in Tanah Bumbu District, which between them, have at least 27 coal mines in the upstream area.

### Water pollution

The Cerrejón mine in Colombia has had disastrous impacts on the natural environment. Rivers, which were once a source of drinking water, are now used to clean coal. In the world's largest open-cast mine, the construction of internal roads to remove coal from the mine has led to damage to natural water outlets into local rivers such as the Caño Chacón, an increase in the sediment load and the toxicity of the water supply.<sup>10</sup> The resulting pollution has made whole stretches of land unfit for agriculture and other uses.<sup>11</sup> ■

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## 2.2.2

### AIR POLLUTION

The South African study describes how the spontaneous combustion of coal discard heaps (in abandoned, as well as some working, mines) releases toxic compounds including carbon monoxide, methane, benzenes, toluenes, xylenes and others. These gaseous minerals have the potential to affect the health of mine workers and communities living near the coalfields.

In November 2008, the Department of Environmental Affairs and Tourism (DEAT) declared the Mpumalanga Highveld a "pollution hotspot", and a priority area for air quality improvement. It cites the 2004 NEDLAC "Dirty Fuels" study<sup>12</sup> which, based on an extrapolation, predicts an increase of more than 8,700 cases of air pollution related hospital admissions in the region due to poor outdoor air quality and the burning of coal and wood indoors. The report predicts a significant increase in health costs if no action is taken.

The Mpumalanga provincial government is well aware of these health effects. Local government officials recognise "a definite trend towards increased lower-respiratory tract infections in children younger than five years of age in Mpumalanga in the winter months".<sup>13</sup> Witbank residents are also keenly aware of air quality issues. While staying at a local bed and breakfast researchers on a field visit were shown the silvery particles that form part of the "dust" that daily gathers on the furniture. ■

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## 2.2.3

### LOCAL TRANSPORT

Local transport of coal from the mines to the ports by truck or railway can add to the problems of air pollution. Over the last two decades the journey from the centre of Colombia to the Caribbean Coast, which crosses the coal producing area of El Cesar, has become increasingly hazardous. Even though the road is a national highway of great importance, it has become dominated by large coal trucks taking coal to the ports on the coast. Tourists and locals who wish to travel from the interior to the beaches, and from the coastal cities to Bogotá, have to face the permanent hazard of huge trucks, often in long convoys. Roadside settlements face constant danger and pollution.

This chronicle describes the situation: *“Driving along the road going from La Jagua de Ibirico, in El Cesar to Santa Marta, is a complete nightmare. Along this route, more than 1,300 18-wheelers circulate daily, carrying the coal exploited in an open-pit mine in this department towards the ports located in the regional capital of Magdalena. Some of the road stretches, which once could be travelled in 30 minutes, now take 2 hours to travel – depending on the driver’s luck. There are times when it is impossible to go faster than 30 Km/hr because the trucks practically own the road. Passing one of these huge trucks requires a complicated manoeuvre, but when there are four or more trucks in convoy it is even harder. In some stretches, the visibility is almost zero due to the dust that they raise. Some towns, such as Bosconia, at times turn into ghostly towns because they are covered by the dust left by this monumental convoy.”*

Source: Carlos Fernando Gaitán: The Coal Crossroad. Dinero Magazine, Bogotá, Cundinamarca, September 2007

During field research in Ermelo in South Africa, a town very close to two different mines, the researchers experienced trucks loaded with coal incessantly thundering past motorists and pedestrians. This heavy traffic has led to the secondary roads in the area being full of potholes and dangerous. It will cost the South African Transport Department an estimated 500 million Rand (circa US\$ 64.5 million<sup>14</sup>) to fix these potholes; an expense for the taxpayers, not the mining companies. ■

threat to a unique and pristine wetland system (see case study under 2.4.2).

Similarly, in Colombia, the removal of soil to reach the coal layers has led to a total destruction of the natural landscape and the habitats of local fauna. For every ton of coal extracted it is estimated that 7 to 10 tons of soil need to be removed. A decrease in forest cover affects the capacity of the environment to absorb water and thereby increases flood risk. Loss of vegetative cover contributes to erosion and the risk of landslides.

In East and South Kalimantan, the increase in mining explorations is not only leading to a decrease in forest cover, but also means a loss of productive land for communities. A great number of plantations and paddy fields that used to be productive have been turned into gaping mining holes.<sup>15</sup> In Kalimantan, it is not uncommon to see mining areas that overlap with previously productive agricultural fields. For example, in the village of Kertabuana in Tenggara Seberang sub-district no less than 70% of the paddy fields have been designated as part of a coal concession. ■

## 2.2.4

### LAND CONVERSION

The main problems related to land conversion caused by coal mining are the loss of biodiversity and productive land. The use of open cast and strip mining techniques to exploit shallow coal reserves leads to severe environmental damage in some areas. This includes the loss of wetlands and grasslands, as well as the species that live in them. A proposed open-cast mine in the catchment of the Mpumalanga Lakes District in South Africa currently presents a very severe

<sup>7</sup>EMG (2009), The social and environmental consequences of coal mining - A South African case study, p.10

<sup>8</sup>In Witbank, South Africa, for example, heavy metals from steel manufacture, vanadium and chrome are all present in polluted river courses.

<sup>9</sup>EMG (2009), The social and environmental consequences of coal mining – A South African case study, p.10

<sup>10</sup>ILSA (2009), Colombia: case study on coal for export, p.13

<sup>11</sup>Profundo (2008), De wereld achter kolenstroom, p.19

<sup>12</sup>NEDLAC is the South African National Economic Development and Labour Council, [www.nedlac.org.za](http://www.nedlac.org.za)

<sup>13</sup>Mpumalanga Department of Agriculture & Land Administration. 2003. Provincial State of the Environment (SoE) Report Study. Air Quality. [http://www.mpu.agric.za/SOER/Mpumalanga%20Publikit%20Web%20Version%20SoER%20\(2003\)/issues/air\\_quality/index.htm](http://www.mpu.agric.za/SOER/Mpumalanga%20Publikit%20Web%20Version%20SoER%20(2003)/issues/air_quality/index.htm)

<sup>14</sup>Converted at the exchange rate of 15 February 2010

<sup>15</sup>Jatam (2010), Coal, Digging Indonesia’s grave, p.12

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## 2.3

### SOCIAL IMPACTS

The coal mining areas in Colombia and Indonesia are among the poorest regions in these countries. The wealth extracted from the mines stands in stark contrast with the living conditions of the people living around them, as is evident from the high poverty rates and low ratings for human development indicators. Mining is a type of business that usually benefits a small elite and multinationals and often contributes to increased inequality.

Although coal mining dominates the economy of for example South Kalimantan, this sector, together with other mining activities, employs only 2 per cent of the working population. In addition, analysis shows that the higher the household income, the higher the multiplier from coal mining (i.e. coal mining generates more income for higher income households).<sup>16</sup>

The coal mining regions in Colombia have an index of Unsatisfied Basic Needs (NBI in Spanish) of 65.1% in La Guajira, 60.53% in the Barrancas Mining District, 44.7% in the department of El Cesar, and 55.65% in the La Jagua Mining District. These ratings show that both the departments and the towns of the mining districts are among the poorest in Colombia.

Low wages and a lack of proper attention to mine safety and mineworkers' health – in short poor labour conditions – are two ways in which the price of coal is kept low. Other social impacts that affect communities, rather than those working directly in the mines, include evictions and health issues. Some mining companies have established

corporate social responsibility programmes, such as Cerrejón in Colombia which has established health and education programmes.

However, these programmes are very rarely enough to fully compensate for these negative impacts. In some cases, particularly in Colombia, there are also reports of human rights abuses and the killing of trade union leaders in mining areas.<sup>17</sup>

In South Africa, the situation is slightly different. As in Colombia and Indonesia, coal mining takes place in rural areas, far away from the richer cities. However, energy sanctions between 1979 and 1993 led the apartheid government to recognise the need to develop infrastructure around the coal mining areas and they built good roads, housing, electricity, water supplies, etc. However the benefits of this infrastructural investment were generally distributed on the grounds of skin colour. The result was that the poor (and predominantly black) working-class residents in the coal mining areas remained without many basic services, whereas the (predominantly white) middle-class lived quite well. Despite almost 20 years of democracy, this picture has not changed much, except that middle classes are no longer exclusively white. This picture is common to many parts of the country, not only mining areas. ■

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## 2.3.1

### DISPLACEMENT

The start of mining operations often means that local populations are displaced, either voluntarily or forcibly, often with little or no compensation. For indigenous peoples such as the Wayúu in Colombia and the Dayak Basap in Kalimantan, this also has major cultural impacts, including the loss of access to sacred places and to hunting or foraging sites. In places where there is scant respect for human rights this can lead to abuses as local communities are often effectively denied the right to protest. There have been numerous reports of local community members in Indonesia and Colombia being arrested for protesting against mining companies claiming their ancestral land.

PT Kaltim Prima Coal owns the largest coal mine in Southeast Asia, located in Kutai Timur, Kalimantan. Ever since the company started its mining operations, human rights violations have been occurring, mostly related to forced land acquisition by the company without, or with only limited, compensation. In 1986, 73 families were evicted from their land in Sengata sub-district without any form of compensation. This area is now used as a residential area for the mine company's employees. Over the next four years, an area where 20 Sengata families had their fishponds was forcibly converted into coal storage facilities for the company. Again, there was no compensation. In 2007, the company sent 150 police and military police officers to confiscate 27 hectares of farm land in the village of Singa Gembara. In the village of Bengalon, PT Kaltim Prima Coal forcefully dispossessed 287 families of 20,482 hectares of land between 1986 and 2008. The compensation per

family was valued at a mere 11,000 Rupiah (US\$ 1.18)<sup>18</sup> per hectare.

Relocation is also a common practice in the mining areas in Colombia. In the region of the Cerrejón mine, the situation is dramatic: an estimated 59,250 people have been evicted since mining operations began in the late 1970s. Forced evictions have become increasingly common in recent years: Since 2002 an average of 7,200 people have been evicted every year. The following example is an illustration of how poor people are affected by these practices.

### El Tabaco

The community of El Tabaco in La Guajira was displaced between 2001 and 2002 because of the expansion of the mine at El Cerrejon Norte in the northern province of La Guajira. An administrative order by the Ministry of Mines and Energy in 1999 authorising the expropriation of a settlement called "El Tabaco" set the stage for a series of violations by the company seeking to accelerate its appropriation of properties: electric power cuts, the suspension of telecommunications, the destruction of the village's school, clinic and communications centre, the burning of the cemetery and of some houses, closing some of the roads, etc. All this forced the Afro-Colombian inhabitants of this area to leave their homes and abandon their territory. In 2002, the Supreme Court of Colombia ruled in favour of the villagers, urging the Mayor of Hatonuevo to relocate them in conditions of dignity and to rebuild the infrastructure and the social fabric of the town.

In response to worldwide criticism, in 2007 the owners of Cerrejon commissioned an Independent Panel of Investigation to look into Cerrejon's social programmes and its general impacts on local communities. The Panel found that many of the criticisms were justified and made a number of recommendations,

particularly concerning the need for just settlement for the people of El Tabaco. The Panel also recommended that in future open, transparent negotiations take place with communities negatively affected by the proximity of the mine with the aim of ensuring collective relocation with community consent. Negotiations with the El Tabaco Relocation Committee led to an agreement in December 2008 which, according to the Committee's lawyer, contained most of what had been struggled for, including the purchase of a piece of land where families from the former settlement moved to, in order to continue their life together as farmers. However, the agreement has not solved all the outstanding issues. There has been strong criticism of the levels of financial compensation in the El Tabaco agreement and the fact that responsibility for providing infrastructure to the new community (roads, drainage, electricity) is left to the local authorities. Although the land bought by the company is sufficient for housing, it is insufficient for farming on the scale formerly practiced.<sup>19</sup> ■

<sup>16</sup>Fatah, L. (2008), The impacts of coal mining on the economy and environment of South Kalimantan Province, Indonesia, p.10

<sup>17</sup>See for example <http://www.justiceforcolombia.org/news/article/834/Drummond-Accused-of-Killing-Trade-Unionists,-Former-Colombian-President-Urbe-Called-to-Testify>

<sup>18</sup>Converted at the exchange rate of 15 February 2010

<sup>19</sup>BHP Billiton Watch (2010), Threatening lives, the environment and people's future, BHP Shadow Report, pp.14-15



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## 2.3.2

### EMPLOYMENT

Mining companies often point to the positive impacts of mining, such as job creation and the generation of spin-off businesses. However, the South African study contradicts this optimistic spin by pointing out that only 41% of the income from economic activities in the Witbank-Middelburg-Ermelo area, mainly a coal mining region, remains in the area. New mines do bring job opportunities to mining regions, but they also attract labour migrants. Moreover, unemployment in the mining sector has been on the rise as a result of increased mechanisation. In South Africa this has become more pronounced since open cast mining became more widespread.

Even when jobs are created, the working conditions often leave a lot to be desired. Sub-contracting is a common form of labour agreement in the coal mining sector and this transfers most of the risks to the worker. ICEM, the International Federation of Chemical, Energy, Mine and General Workers' Unions, has found that, worldwide, coal mining uses more sub-contracted labour than other sub-sectors within the mining and energy sector. In Columbia, the mining companies Cerrejón and Drummond are increasingly sub-contracting people instead of taking on employees on a fixed contract – the number of sub-contracted workers increased by 60% between 2006 and 2009. This leaves individual mineworkers more vulnerable and weakens the power of trade unions. ■

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## 2.3.3

### HEALTH

Living in a coal-mining community can affect people's health, as established in a study by Michael Hendryx, a researcher at West Virginia University in the United States.<sup>20</sup> He found that people living in West Virginia's coal-producing counties have a 70% higher risk of developing kidney disease, a 64% higher risk of developing chronic obstructive pulmonary disease and are 30% more likely to have high blood pressure. These results were controlled for differences in income and lifestyle.<sup>21</sup>

After a large protest against the impacts of mining in La Jagua de Ibirico in El Cesar in 2007, the Colombian Ministry of Environment started to take some measures. These included an evaluation of the air quality in the area, which identified one area of high and one of medium pollution. These risk zones were established on the basis of quite questionable thresholds: a maximum permissible level of pollution of 100 g/m<sup>3</sup> total suspended particles - a level that is five times higher than in the European Union and twice as high as the US standards. Resolution nr. 2176 (dated the 11<sup>th</sup> of December 2007) established a programme to reduce contamination for areas close to pollution sources. According to data provided by the Municipality of La Jagua, mortality levels related to air pollution remained high in 2008, even after the governments' measures.

The prevalence of occupational diseases in coal mining is illustrated by Colombian figures. At one mine (owned by Drummond) an association of 300 sick workers has been established. The members suffer from different health problems, including

silicosis, hernias, lung diseases, hearing loss, allergies and cancers. At the Cerrejón mine, no less than 793 employees are reported to suffer from occupational diseases. Another aspect of mining, mentioned in the Indonesian report, is the concentration of migrant male miners, creating a market for prostitution and leading to a spread of HIV/AIDS.

Recent research in South Africa shows that medical costs connected to mineworkers' diseases are being shifted from the mines onto the state. This constitutes a subsidy to the mines and enhances their profitability.<sup>22</sup> Miners and ex-miners are seldom informed of their rights to health benefits and most of these costs are borne by them or by the state. Two health and safety officers at the National Union of Mineworkers in South Africa claim that many mineworkers do not receive compensation for occupational diseases contracted while working in the mines. They claim that medical personnel and human resource staff often record HIV/AIDS and tuberculosis as the primary illness to mask underlying occupational lung diseases, thereby saving the industry the costs of proper medical compensation. They estimate that up to 60% of compensation cases (across all, not just coal, mines) are not properly attributed to occupational lung disease. They also argue that mining companies avoid their liabilities by not keeping proper files. The Department of Minerals and Energy has also expressed concern about the lack of proper information. When mines or mine-owning companies are closed their medical files are often destroyed and with that, the ability of employees to claim compensation in the future. ■



## 2.4

### ECONOMIC IMPACTS

The three studies all describe an export-oriented coal sector which is concentrated in the hands of transnational companies. While all three countries use coal for domestic electricity generation to different degrees<sup>23</sup>, the high quality coal is typically exported, leaving the poor-quality, high-ash coal to be burned by domestic coal-fired power stations, adding to emission levels and the carbon footprints of these countries. ■

shows serious deficiencies in the collection and management of royalties and that the royalties paid are often not used for local development. Poor management of royalties, which companies are obliged to pay to municipal and departmental governments for local socio-economic development, leads to the local economy and the population losing out. The total value of royalties paid to municipalities, departments and national and regional government bodies as a percentage of coal exports decreased from 10.1% in 2006 to 6.7% in 2008. Although export volumes almost doubled in that period, the royalties declined.

Moreover, at the national level, there is yet another way in which the population loses out. In Colombia, mining companies are allowed tax exemptions, and some companies are very skilled at exploiting these: the most telling example is Drummond, which paid out only 2.3% of its operating profits on taxes in 2008.

Generally (local and national) governments seem to take more care of the interests of mining companies than of the local communities in the areas surrounding mines. ■

## 2.4.1

### INEQUALITY AND POVERTY

The case of Kalimantan illustrates this contrast between local poverty and the profits made by companies exporting coal. The percentage of rent from mining that benefits the area is very small. On top of that in South Kalimantan only 2% of the local workforce is involved in mining activities. Despite hosting three giant mines, which use substantial amounts of energy for the exploitation of coal, the districts of Kutai Barat, Kutai Timur and Berau in East Kalimantan experience an energy crisis, and have the lowest rate of access to energy in Indonesia. Yet, the combined production of the three mining companies operating there reached 55 million tonnes in 2007 – more than 25% of Indonesia's total coal production.

Mining regions could benefit from coal exports by levying royalties. The Colombian experience, however,

<sup>20</sup>Hendryx, M. (2008), Relations Between Health Indicators and Residential Proximity to Coal Mining in West Virginia

<sup>21</sup><http://wvpubcastnews.wordpress.com/2008/03/25/1300/>

<sup>22</sup>Roberts, J. (2009), The Hidden Epidemic Amongst Former Miners. Silicosis, tuberculosis and the occupational diseases in mines and works Act in the Eastern Cape, South Africa, Health Systems Trust

<sup>23</sup>In South Kalimantan, for instance, less than 2% of the coal mined is for local use, whereas South Africa exports only around 28% of its total coal production.

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## 2.4.2

### TOURISM

In Colombia, the transport of coal from mining areas to ports for export has direct detrimental effects on other economic sectors, most notably tourism. Since 1990 new ports for coal export have been established on the Caribbean coast, in environmentally sensitive areas such as Bahía Portete, where the Cerrejón port was built, resulting in restrictions on the use of nearby beaches. The coal ports of Santa Marta and Ciénaga (used by Drummond) have polluted the air and seawater in what was once a prime tourist area, with a fragile marine ecosystem. Besides the immediate environmental effects, the establishment of coal ports has also led to hotels closing down and subsequent unemployment. According to a 2007 study by the Colombian Contraloría General de la República – the highest state body for fiscal control – “there is no doubt that coal transportation in the area of Santa Marta, carried out in the way that it is being carried out now, produces serious impacts on human health and on the fragile ecosystems such as the marine one”. The Colombian government has taken some steps to improve the situation by requiring the ports to enclose the conveyors that carry the coal to the ships.

In the following example (see opposite box), taken from the South African study, further illustrates the risks that coal mining poses for tourism. ■

Aretha Strydom lives on a dairy farm, with a bed and breakfast business which overlooks the spectacularly beautiful Lake Chrissie in the Mpumalanga Lakes District. She is part of a growing eco-tourist industry in the area and is deeply concerned about acid mine drainage and other pollution from coal mines encroaching on this near pristine area. She has reason to be concerned. The Mpumalanga Lakes District consists of 38 lakes in a geologically unique landscape: an ancient surface, 10 to 20 million years old. The perennial lakes (a rarity in South Africa with its relatively low rainfall) lie in a depression between the headwaters of four major South African rivers, and on a continental watershed: the Vaal, which flows to the Atlantic Ocean, and the Komati, Usuthu and Umphuluzi rivers, which flow to the Indian Ocean. Because the lakes lie in a depression, any surface water pollution within this unique catchment will accumulate in the lakes. The lakes, which are known for their extensive frog and bird life, associated wetlands and large variety of flowers, could become lifeless and toxic.

Source: The social and environmental consequences of coal mining – A South African case study, EMG, 2009, p.15

# 3

## CONSTRUCTING A FAIR PRICE FOR COAL AND COAL-FIRED POWER

Coal generates electricity at a low price, partly because the costs of the problems described in the previous section are not incorporated in its price. In economic terms, these costs, which are not reflected in the market price of energy, are known as “externalities”. The market-driven approach to correcting externalities is to “internalise” third party costs and benefits, for example, by requiring a polluter to pay for the cost of repairing any damage caused. This very rarely happens in the coal mining industry (at least in Southern countries), because of a number of different factors. Power plays a central role in this, giving different actors different levels of influence when making or resisting such claims. Equally, it is often difficult to determine the economic cost of externalities and the exact responsibilities of different stakeholders, who often try to influence any attempts at regulation to their own benefit.

The South African study highlights the difficulty of incorporating the externalities of coal production within coal prices. The externalities and risks of coal mining are enormous and the pollution can be so intense or persistent that there is not always an available remedy. At a time when other sources of energy are becoming increasingly available, one needs to ask why energy companies, public institutions and governments still invest so heavily in this industry. Continued investment in coal-fired energy is incompatible with their commitments to ensure sustainable development and reduce greenhouse gas emissions. The continued desire to invest in coal powered facilities largely reflects institutional inertia and vested interests in a system where the negative externalities have always been ‘under the radar’. One important step in creating a level playing field in the (Dutch) energy market between the “old, proven” technologies, mostly based on fossil fuels, and “new, sustainable” technologies, would be to incorporate the externalities of coal mining into the market price for coal-fired power.

Another important aspect of creating a level playing field would involve reassessing the exemptions for the emissions caused by the worldwide transportation (shipping) of coal from international climate policy frameworks and subsidies granted to coal-fired power stations. Although such issues do not fall within the remit of this briefing paper, they further distort coal prices and should be noted. In the remainder of this section we consider the additional or external costs associated with three distinct phases in the supply chain for coal: mining (section 3.2), international transport and electricity generation (considered together in section 3.3). Section 3.1 will look at general issues that influence the way that coal is currently priced as a raw material. ■

<sup>24</sup>Stevens, C. (1993), Environmental Law, Vol.23, The OECD Guiding Principles Revisited, p.1

### 3.1

#### DILEMMAS IN COSTING THE EXTERNAL IMPACTS OF COAL MINING

In environmental law, the polluter pays principle requires that a party responsible for producing pollution should be responsible for paying for the damage done.<sup>24</sup> This principle is well enshrined in most OECD and EU countries (even if not always strictly adhered to). It is not, however, applied to the mining of coal outside of these countries’ boundaries – even when the coal is intended for electricity generation within these countries. The main causes of this are explored below. ■

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## 3.1.1

### THE DIFFICULTY OF QUANTIFYING IMPACTS

The problems of quantifying and costing external impacts are well recognised by environmental economists. The South African research team undertook an extensive literature review which indicates that there are relatively few reports or publications that quantify, analyse and describe the externalities of coal mining in South Africa. The team note that there is a stronger tradition in costing environmental externalities – which can be addressed through technical interventions – than social externalities. Some complex social issues, such as community displacement, loss of cultural heritage, human rights violations or human health impacts resulting from air pollution or working in mines are very difficult to cost and redress in a credible manner.<sup>25</sup> ■

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## 3.1.2

### LACK OF TRANSPARENCY

The research teams in Colombia, Indonesia and South Africa specifically focused on the question of the analysis and quantification of the externalities of coal mining, but encountered many problems in finding this information. The South African researchers approached a number of coal mine managers, coal companies and the Chamber of Mines who were not able, or chose not, to respond – showing that it is still extremely difficult to access data on mining activities. The industry remains very guarded and defensive about its impacts. While some mining companies are very forthcoming in showcasing their social, health and environmental projects, they remain reluctant to openly discuss their mining standards, policies and practices ■

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## 3.1.3

### CORRUPTION AND VESTED INTERESTS

Problems around corruption, links with armed groups (in the case of Colombia), and the intimidation of labour unionists and local communities were mentioned in all three case studies. Coal interests play a dominant role in the South African economy and as such impose a logic on the political economy, which leads local and provincial governments, which are highly reliant on coal interests, to be unwilling to regulate the sector in a meaningful or effective way. Mining companies enjoy a degree of political protection or privilege and this often renders national legislation and regulation impotent, as illustrated below. ■

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## 3.1.4

### LACK OF ENFORCEMENT OF NATIONAL LEGISLATION

Even though there are regulatory frameworks in place – at least in relation to the environmental management of mines - in the countries studied, there remain difficulties in enforcing these.

The South African National Water Act<sup>26</sup> regulates the use of water, both for mining and to protect the resource. Mines producing, allowing or causing pollution, including acid mine drainage can be held liable for the costs of cleaning up and legal enforcement. In practice however, it has not been easy to enforce this legislation. This is partly due to capacity constraints at the Department of Water Affairs and Forestry and the Department of Minerals and Energy, the latter of which only has 79 inspectors for the whole country to deal with prospecting and mining applications as well as infringements.<sup>27</sup>

In Colombia, every coal mining project is obliged by law to develop a programme for environmental restoration upon abandonment of a mine. Over the last 25 years in which the mine owned by Cerrejón, in the district of Barrancas, was operational 2,600 of the total 10,000 hectares mined have been re-planted with vegetation, 1,000 hectares of which were forests. This means that only 10% of the area, originally covered with dry tropical forest, has been reforested. According to the mining company it has spent 150 million US dollars on diverse environmental programmes – a very low sum by international standards. It is the equivalent of the value of just one month's coal sales from the Cerrejón mine.<sup>28</sup>

All this indicates a serious lack of monitoring of the local impacts of coal mining. Where monitoring does take place, only limited compensation is made for any harm identified and more by (local) governments than the mining companies themselves. ■

## 3.2

### ATTEMPTS TO QUANTIFY THE EXTERNALITIES OF COAL MINING

At present, the market price of coal does not include the impacts that the coal industry has upon the local environment and communities, despite these being very real costs. Although a comprehensive analysis and quantification of the externalities covering the entire chain from coal mining to coal-fired electricity has yet to be made, it is possible to identify the different elements that should be contained within such an analysis. A number of studies give detailed descriptions and quantifications of certain aspects of coal mining. These include the studies carried out in Colombia, Indonesia and South Africa, and some other studies into the effects of coal mining in China and in different regions in the United States. Taken together, they provide a rough guide of the considerable increase that would be required in the market price of coal in order to reflect the actual costs incurred in coal mining. ■

## 3.2.1

### HISTORICAL DAMAGE IN SOUTH AFRICA

As far back as 1903, the then (colonial) Union of South Africa enacted laws that placed the responsibility for the direct impacts of mining throughout the life cycle of the mine on the mine owner. However, when mining operations ceased and a "closure certificate" was obtained, this responsibility ceased. This led to many mines being left abandoned and essentially ownerless, yet still continuing to produce adverse environmental and social impacts. The apartheid government later attempted to deal with this situation through the 1975 Fanie Botha Accord, an agreement between the Minister of Water Affairs and the Chamber of Mines. Under this Accord, they agreed that the state would take 100% responsibility for all mines closed before 1976. Responsibility for mines closed between 1976 and 1986 would be shared equally. After 1986 owners would remain responsible for their mines, even after their closure. As a result, the South African Department of Water Affairs has spent more than 120 million Rand (15.4 million US dollars)<sup>29</sup> over the last ten years to deal with historical pollution<sup>30</sup> – and this is estimated to be only a fraction of what is actually needed. It would be interesting to compare this amount with what the mining companies have spent on rehabilitation in the same period, but it has not been possible to access this information. ■

<sup>25</sup>Greenpeace (2008), The true cost of coal, How people and the planet are paying the price for the world's dirtiest fuel, p.80

<sup>26</sup>NWA - Act 36 of 1998, [www.dwaf.gov.za/Documents/Legislature/nw\\_act/NWA.pdf](http://www.dwaf.gov.za/Documents/Legislature/nw_act/NWA.pdf)

<sup>27</sup>Blignault, J.N. (2002), The Externality Cost of Coal Combustion in South Africa, Paper delivered at Forum for Environment and Economics Conference, Cape Town

<sup>28</sup>At 2008 price levels

<sup>29</sup><http://www.oanda.com/currency/converter>, consulted on 25 February 2010

<sup>30</sup>This money was spent on the rehabilitation of damage that originated in the years before 1986

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## 3.2.2

### VALUING THE EXTERNAL COSTS OF THE COAL INDUSTRY IN KENTUCKY, US

The Mountain Association for Community Economic Development in Kentucky has released a study entitled "The Impact of Coal on the Kentucky State Budget".<sup>31</sup> This report compared the tax revenues generated by the coal industry in Kentucky with state expenditure associated with supporting the industry. The report estimates that, in 2006, Kentucky provided a net subsidy of nearly 115 million US dollars to the coal industry. The study looks at both the mining and burning of coal. It provides interesting insights into some of the "hidden" costs of coal and argues that the coal industry is a net recipient of public funds, rather than a contributor to them.

The study quantifies the revenues and expenditures of the coal industry in Kentucky as follows: "Coal is responsible for an estimated 528 million US dollars in state revenues and 643 million US dollars in state expenditures. The 528 million US dollars in revenues includes 224 million US dollars from the coal severance tax and revenues from corporate income, individual incomes, sales, property (including unmined minerals) and transportation taxes as well as permit fees. The 643 million US dollars in estimated expenditures includes 239 million US dollars to address the industry's impacts on the coal haul road system as well as expenditures to regulate the environmental and health and safety impacts of coal, support coal worker training, conduct research and development for the coal industry, promote education about coal in the public schools and support the residents directly and indirectly employed by coal. Total costs also

include 85 million US dollars in tax expenditures designed to subsidise the mining and burning of coal." ■

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## 3.2.3

### QUANTIFYING THE EXTERNAL COSTS OF COAL MINING IN CHINA

Analysis by Chinese economists in a 2008 study commissioned by Greenpeace, the World Wildlife Fund (WWF) and the Energy Foundation, concludes that, in 2007, every tonne of coal used in China led to environmental damages of 150 Renminbi.<sup>32</sup> These external costs were attributable to air and water pollution, ecosystem degradation, damage to buildings and infrastructure and human deaths and injuries.<sup>33</sup> The authors estimated that the total external costs of all the coal used in China in 2007 amounted to 1.7 trillion Renminbi<sup>34</sup>, equivalent to 7.1 per cent of China's GDP in that year. Internalising these costs would imply the need for an increase of 23.1 per cent in the price of coal.

A 2008 WWF publication "Coming Clean", references a comprehensive study by the China Sustainable Energy Programme (CSEP) of the Energy Foundation, indicates that if the value of social and ecological resources were taken into account, the true cost of coal in China in 2005 would have been at least 56 percent higher than its market price at the time.<sup>35</sup> To put a price tag on coal in China, the CSEP conservatively evaluated the external costs of impacts to human health and the environment caused by coal mining and combustion; calculated the various increases in costs needed to improve the performance of the coal industry, including adequate insurance for mine workers, funds for sustainable

development and environmental treatment, and rationalisation of the resource tax system; assigned a monetary value to the climate change impacts of coal extraction; and added in the existing costs of the production, transportation and retailing of coal. These estimates were based on existing (published and unpublished) research articles and the study only took into account some of the true external costs, due to the limited availability of data. The researchers indicated that these findings were preliminary rather than comprehensive, and were likely to be an underestimate of the true cost of the environmental and social damage caused by coal use. ■

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## 3.2.4

### THE GENERAL PICTURE

Although the exact numbers and percentages vary, these studies all indicate that the revenues from coal mining for the mining regions rarely ever cover all the costs incurred. Such external costs often wind up being "paid" by those communities subject to coal-generated pollution, for instance in the form of degraded natural resources and health problems. ■

## 3.3

### OTHER FACTORS THAT DISTORT THE PRICE OF COAL-FIRED POWER

Although they do not form the focus of this briefing paper, the costs of shipping coal over long distances and the subsidies given to the coal industry, both influence the investment decisions made by Dutch energy companies and are worth briefly mentioning. ■

### 3.3.1

#### THE COSTS OF CO<sub>2</sub>-EMITTING TRANSPORT

About 90% of coal that is traded internationally is shipped overseas, often over long distances. For example, coal shipped to the Netherlands travels 17,300 km by sea from Indonesia, 13,000 km from South-Africa and 8,500 km from Colombia.<sup>36</sup> Marine transport is now recognised as a major source of CO<sub>2</sub> emissions. According to estimates from the International Maritime Organisation, CO<sub>2</sub> emissions from world shipping account for 2.7% of the total world's anthropogenic CO<sub>2</sub> emissions.<sup>37</sup> These emissions are not included in international climate policy frameworks and are therefore not included in estimates of CO<sub>2</sub> emissions from the Dutch energy sector. ■

## 3.3.2

### SUBSIDIES IN COAL-IMPORTING COUNTRIES

In the European Union, coal-fired power plants have received and continue to receive state aid in the form of EU structural funds and European Investment Bank loans.<sup>38</sup> EU subsidies for the development of new coal-based technologies, and pilot plants to test them, run into millions of Euros per year. Within Europe, coal-fired power stations also receive direct and indirect financial advantages through governmental support. European subsidies for coal amounted to a total of 13 billion euros between 1952 and 2002. Furthermore, a yearly 300 to 500 million euros of free CO<sub>2</sub> emission rights have been granted to coal-fired power production for the 2005 to 2012 period. Although these emission rights were given to the energy companies for free, they have been added to the price of energy charged to consumers and therefore represent a windfall profit to the companies. In addition there are exemptions on carbon tax for coal-fired power stations in the Netherlands, which were put in place in 2001, and which provide an annual subsidy to each coal-fired power plant of about 40 million euros.<sup>39</sup>

EU funds to stimulate carbon capture and storage (CCS) represent further large subsidies to the European coal industry. In June 2009, the European Commission announced that up to €7 billion could be made available from the EU's emissions trading scheme (EU ETS)<sup>40</sup> to fund CCS technology. In January 2008, the European Commission published an updated version of its environmental state aid rules, allowing EU countries to subsidise CCS as part of eligible environmental projects.<sup>41</sup> These subsidies reduce the pressure on the

<sup>31</sup><http://www.maced.org/COAL/exe-summary.htm>

<sup>32</sup>The equivalent of 111 US dollar using the Renminbi – US dollar exchange rate of 1 July 2007. <http://www.oanda.com/currency/converter/>

<sup>33</sup><http://www.greenpeace.org/eastasia/news/coal-crisis>

<sup>34</sup>The equivalent of 223 billion US dollar using the Renminbi – US dollar exchange rate of 1 July 2007. See <http://www.oanda.com/currency/converter/>

<sup>35</sup>World Wildlife Fund (2008), *Coming Clean, The Truth and Future of Coal in Asia Pacific*, p.21

<sup>36</sup>Profundo (2008), *De wereld achter kolenstroom*, p.7

<sup>37</sup>[http://www.imo.org/Environment/mainframe.asp?topic\\_id=1737](http://www.imo.org/Environment/mainframe.asp?topic_id=1737)

<sup>38</sup><http://www.inforse.org/europe/subsidies.htm>

<sup>39</sup>Greenpeace (2008), *De economie van kolencentrales*, p.8

<sup>40</sup><http://www.euractiv.com/en/climate-change/eu-mulls-7-subsidy-carbon-capture/article-183621>

<sup>41</sup><http://www.euractiv.com/en/climate-change/carbon-capture-storage/article-157806>



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energy sector to innovate and put renewable energy resources with a more favourable environmental profile at a competitive disadvantage. Development of next-generation technologies is a basic survival skill for any robust industry; coal should not be an exception.<sup>42</sup>

On a more positive note, from 2018 Europe's coal industry will no longer be allowed to receive state subsidies.<sup>43</sup> Europe's unprofitable coal mines will have to be shut down before state subsidies are halted.<sup>44</sup> This is however likely to mean that an increase in imports from countries like Colombia and South Africa can be expected, making it all the more urgent to make improvements in coal mining practices in these countries. ■

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## 3.4

### IMPLICATIONS FOR ENERGY COMPANIES AND POLICYMAKERS

This section demonstrates that there are considerable discrepancies between the current market price for coal and the true price that would result from the internalisation of all the costs incurred in the supply chain. While coal now seems a logical choice as a secure and low-price energy source, if the current market distortions were to be eliminated it would probably become economically unviable. The following sections will look specifically at ways in which the Dutch energy sector and government, as well as the European Union, can play a role in avoiding or mitigating the negative impacts caused by coal mining and in reaching a fairer distribution of the benefits and costs incurred along the value chain. ■

# 4

## CHAIN RESPONSIBILITY AND THE DUTCH ENERGY SECTOR

In this section, we discuss the role of coal in the Dutch energy mix and the position of the Netherlands in the global coal market. We then look at measures taken by Dutch energy companies to avoid the negative impacts of coal mining in the countries of origin and the role the Dutch government is playing, and should play, to regulate the energy sector. This section also describes the international context in which Dutch energy companies and the government operate, particularly the rules and regulations set by the European Union and the World Trade Organisation. ■

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### 4.1

#### COAL IN THE DUTCH ENERGY MIX

According to coal industry sources, the significance of coal in the global energy mix is determined by several different factors:<sup>45</sup>

- There are very large known coal reserves which will be available for the foreseeable future without raising substantial geopolitical or security issues.
- Coal is readily available from a wide range of sources in a well-supplied global market.
- Coal can be easily stored at power stations and stocks can be drawn on in emergencies.
- Coal-based power is not dependent on the weather and can be used as a backup for wind and hydropower.
- Coal does not need high pressure pipelines or dedicated supply routes.
- Coal supply routes do not need expensive protection expenses.

The Netherlands currently has six coal-fired electricity plants, with a total production capacity of 3,865 megawatts. They contribute about 40% of total Dutch electricity production.<sup>46</sup> This is in line with the share of coal in total worldwide electricity generation (see Table 1).



	2002	2030 (PROJECTED)
<b>Coal</b>	39	38
<b>Gas</b>	19	30
<b>Nuclear</b>	17	9
<b>Hydro</b>	16	13
<b>Oil</b>	7	4
<b>Other*</b>	2	6
*Other includes solar, wind, combustible renewables, geothermal and waste		

**Table 1** Total World Electricity Generation (% by fuel)

**Source** The Coal Resource, A comprehensive overview of coal, World Coal Institute, 2005, p.16

The current construction of four more coal-fired plants, will give an extra production capacity of 4,700 megawatts. Given an average lifetime of about 40 years per plant and possible upgrades of existing coal-fired plants, Dutch coal fired plants are expected to continue providing energy for quite a few years to come. As a consequence, Dutch reliance on coal as a proportion of the country's total electricity generation will rise, and will exceed the global average. The table below indicates the current and planned future capacity of coal-based electricity production of the main Dutch energy companies. ■

INVESTMENT	COMPANY	LOCATION + (PLANNED) DATE	CAPACITY (MW)
<b>Current</b>	E.ON	Maasvlakte (1988)	1,040
	RWE/Essent	Amercentrale (1980)	645
	RWE/Essent	Amercentrale (1993)	640
	Vattenfall/Nuon	Hemwegcentrale (1994)	630
	GDF Suez/ Electrabel	Gelderlandcentrale (1981)	585
	EPZ	Borssele (1987)	400
	Vattenfall/Nuon	Buggenum (1986)	235
<b>Planned</b>	RWE/Essent	Eemshaven (2012)	1,600
	Vattenfall/Nuon	Eemshaven (2011)	1,200
	E.ON	Maasvlakte (2012)	1,100
	GDF Suez/ Electrabel	Maasvlakte (2012)	800
	RWE/Essent	Geertruidenberg (2013) <sup>47</sup>	800-1,100

**Table 2** Coal-based generation capacity, by company

**Source** Energieia (2007), Kolencentrales, nieuwe centrals hebben ruim 1.000 MW meer vermogen dan oude, <http://www.energieia.nl/dossier.php?DossierID=22&ID=34773%3E>

<sup>42</sup><http://earthtrack.net/content/ten-most-distortionary-energy-subsidies>

<sup>43</sup><http://www.eubusiness.com/news-eu/energy-coal.7kt/>

<sup>44</sup><http://www.euractiv.com/en/energy/commission-proposes-phasing-out-coal-subsidies-news-496532>

<sup>45</sup><http://www.worldcoal.org/coal/market-amp-transportation/coal-price/>

<sup>46</sup>Profundo (2008), De wereld achter kolenstroom, p.6

<sup>47</sup>The construction of the co-called Amercentrale has been cancelled by Essent in 2008. See: <http://www.trouw.nl/nieuws/economie/article1841313.ece>

# 4.1.1

## INNOVATION AND ENERGY TRANSITION INITIATIVES

Some Dutch electricity companies, notably Eneco, Greenchoice and Windunie, have made a clear strategic choice to focus on sustainable energy production and to exclude coal-fired power. Although these companies are mostly small players, occupying a niche market, they do prove that it is economically feasible to only supply clean energy to the Dutch market. Given the European Union's target of increasing the share of renewable energy to at least 20% by 2020, the market for renewable energy is expected to grow substantially in the coming years. Eneco has a statement on its website explaining that the combination of large-scale wind farms, gas plants, gas storage and industrial CHP (combined heat and power) makes coal-fired power plants outmoded.<sup>48</sup> On a more ambitious note, a recent study in the Scientific American shows that by 2030 the entire world's energy system could be run on sun, wind and other "real renewable" sources of energy in a cost-effective way.<sup>49</sup> In addition, a publication by the European Climate Foundation, Roadmap 2050, shows that an economy-wide reduction of greenhouse gas emissions of at least 80% is possible in Europe by 2050, although this will require fundamental changes to the energy system. This level of reduction is only possible with a nearly zero-carbon power supply.<sup>50</sup> Eneco, as one of the more sustainable energy producers, calls for Dutch energy policies to focus more on sustainable and flexible options and less on large scale coal-fired power plants.<sup>51</sup>

Other energy companies have not shown the same level of commitment to environmentally friendly solutions. Most major energy companies operating in the Netherlands have plans to build new coal-fired plants. They claim that these investments are needed in order to replace existing, and more polluting, coal-fired plants. They are looking to reduce greenhouse gas emissions in the coal sector through carbon capture and storage, despite the many current problems in identifying suitable locations for storage, this not being a proven technology and being an energy-intensive process.<sup>52</sup> ■

all imported, making the country a significant player, relative to its economic weight.

The world coal market can be seen as consisting of two markets: a Pacific one and an Atlantic one. Only 7% of coal imports crossed this boundary in 2008.<sup>54</sup> The Atlantic region includes the eastern seaboard of North, Central and South America, Europe, including the countries bordering the Mediterranean, and the northern and western coasts of Africa. The Pacific market mainly consists of Australia and Asian countries.

The major suppliers of coal to the EU are Russia, Indonesia, South Africa, Colombia and the US. The US Energy Information Administration expects several suppliers from the Pacific market, such as Indonesia and Vietnam, to increasingly focus on their domestic markets.<sup>55</sup> Most growth in the international coal trade to the EU is expected to come from South America and Africa.

The Netherlands uses about 8.5 Mt of coal for electricity generation with a further 3.4 Mt used by the Dutch steel industry. The country also plays an important role as a distributor of coal to other European countries. Table 4 gives a clear indication of the importance of the ports of Rotterdam and Amsterdam in the European coal trade.

# 4.2

## DUTCH COAL IMPORTS

Coal is a global industry. Overall, international trade in coal reached 917 megatons (Mt) in 2007, accounting for about 17% of total coal consumed. As table 3 below indicates, the largest importers are located in East Asia where Japan, South Korea and Taiwan are the main importers of coal. The EU is the next largest importing region. Although the Netherlands does not figure in the table of the world's largest importers (below) it did consume 11.9 Mt of coal in 2009<sup>53</sup>,

<b>Japan</b>	178
<b>South Korea</b>	96
<b>Taiwan</b>	65
<b>Germany</b>	48
<b>UK</b>	48
<b>India</b>	54
<b>USA</b>	34
<b>Spain</b>	33

**Table 3** Major Coal Importers, 2008 (in Mt)

**Source** Verein der Kohlenimporteure: Annual Report 2009, <http://www.euracoal.be/pages/medien.php?idpage=550>

PORTS	2006	2007	2008
Hamburg	4.9	5.7	5.2
Bremen	1.9	2.0	1.8
Willemshaven	1.3	1.3	2.2
Amsterdam	19.6	22.2	22.2
Rotterdam	27.6	28.2	28.6
Zeeland Seaports	3.3	3.5	4.4
Antwerp	9.3	8.6	9.9
Ghent	2.7	3.4	4.2
Dunkirk	10.2	9.6	9.7
Le Havre	1.8	2.4	2.7

**Table 4** Coal Handling in Northwest European Ports (2007, in Mt)

**Source** Verein der Kohlenimporteure: Annual Report 2009, p.26  
<http://www.euracoal.be/pages/medien.php?idpage=550>

## 4.3

### DUTCH ENERGY COMPANIES AND SUPPLY CHAIN RESPONSIBILITY

The currently planned four additional coal-fired power stations in the Netherlands will imply a doubling of annual imports into the Netherlands. Figures indicating the country of origin of coal used within the Netherlands for electricity generation<sup>56</sup> show that in 2009 53% of all coal imports into the Netherlands came from Colombia, 21% from South Africa and 7% from Indonesia.<sup>57</sup> The Netherlands' relative importance as an export destination for the countries studied in this paper varies considerably. It is estimated that, in 2008, the Netherlands received 13% of South Africa's total annual coal exports, 8.9% of Colombia's and 0.8% of Indonesia's. However, for some specific mines studied in this paper, these percentages can be considerably higher. ■

There appears to be a growing corporate and public recognition of the social, environmental and climate impacts of burning coal for electricity production and the importance and relevance of chain responsibility. This is being driven by increased social and environmental awareness among consumers, the growing influence of the media in a globalised world and the desire of transnational companies to avoid scandals that tarnish their brand. In this section we examine the Dutch electricity sector and ask whether the existing policies (both industry-led and external regulations) are sufficiently far-reaching. ■

<sup>48</sup>[http://corporateuk.eneco.nl/News\\_and\\_Media/standpoints/Pages/Coalplants.aspx](http://corporateuk.eneco.nl/News_and_Media/standpoints/Pages/Coalplants.aspx)

<sup>49</sup>Jacobson, M.Z. (2009), A path to sustainable energy lending by 2030, *Scientific American*, November 2009, pp.58-65

<sup>50</sup><http://www.roadmap2050.eu>

<sup>51</sup>[http://corporateuk.eneco.nl/News\\_and\\_Media/standpoints/Pages/Coalplants.aspx](http://corporateuk.eneco.nl/News_and_Media/standpoints/Pages/Coalplants.aspx)

<sup>52</sup>The Intergovernmental Panel on Climate Change (IPCC) estimates that CCS will lead to 15 to 40% more energy use per kilowatt/hour. See: Belastingbetaler draait op voor CO<sub>2</sub> uitstoot kolencentrales, <http://www.snm.nl/>

<sup>53</sup>Centraal Bureau voor de Statistiek, Steenkoolbalans, aanbod en verbruik, update on 14 December 2010, <http://statline.cbs.nl/StatWeb/publication/?VW=T&DM=SLNL&PA=37621>

<sup>54</sup>Verein der Kohlenimporteure (2009), Annual Report 2009, p.12, <http://www.euracoal.be/pages/medien.php?idpage=550>

<sup>55</sup><http://www.ifandp.com/article/00424.html>

<sup>56</sup>The only other industry importing coal on a large scale is the Dutch steel industry. There is only one steel producing company in the Netherlands, now in the hands of Tata Steel, which sources its coal mainly from Australia, Canada, Russia and the US

<sup>57</sup>KEMA (2010), Databank spoor-elementen deelrapport 9, steenkool en assen, Update 2010

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## 4.3.1

### SUPPLY CHAIN RESPONSIBILITY: A DEFINITION

The issue of supply chain responsibility is linked to the broader agenda of corporate social responsibility (CSR). The Dutch CSR platform (the MVO Platform) sees supply chain responsibility as playing an essential role within CSR: "CSR is a process whereby a company assumes responsibility, across its entire supply chain, for the social, ecological and economic consequences of the company's activities, reports on these consequences and constructively engages with stakeholders."<sup>58</sup> Although many multinationals have integrated supply chain responsibility within their policies, these initiatives remain voluntary and independent monitoring mechanisms are largely absent.

In a 2008 position paper on supply chain responsibility, the MVO Platform describes a three-stage approach for giving substance to the concept of supply chain accountability. The three stages it identified are:<sup>59</sup>

1. Supply chain transparency and traceability is needed in order to flesh out supply chain responsibility. This requires companies to be more open about the origin of their products and about how they deal with social and environmental problems occurring in their supply chains (their supply chain management).
2. The promotion of voluntary supply chain responsibility makes chains more sustainable. Governments and civil society organisations can pressurise companies to adopt accountability standards for their supply chains.
3. The legal anchoring of minimum requirements for supply chain accountability, in order to be able to tackle abuses and free riders (supply chain liability). ■

## 4.3.2

### SUPPLY CHAIN RESPONSIBILITY: WHAT CAN DUTCH ENERGY COMPANIES DO?

The supply chain for coal is relatively straightforward: for the majority of their supplies Dutch energy companies have a direct link with coal mining companies and thus, in theory, have the ability to obtain insights into the extraction process. Other parts of their coal purchases are made on the international coal market, where information regarding the origin of the coal is only obtained at the moment when contracts are signed, giving the buyer less influence over mine policies. The first scenario provides importers of coal into the Netherlands with a clear line of vision with regard to the environmental and social impacts of coal mining in the countries of origin. Although there is general recognition that energy companies have a clear responsibility for overseeing the entire supply chain, energy companies operating in the Netherlands only provide limited information (on their websites or in their CSR reports) about what they actually do in terms of chain responsibility. The following subsections give an overview of the way the major energy companies operating in the Netherlands interpret and implement their chain responsibility and the information they provide about the origin of their coal supplies and the circumstances under which they are mined.

All Dutch energy companies have some form of supplier policies in place which are generally based on the criteria within their own internal CSR policies, on their Supplier Codes of Conduct, or derived from international norms such as the United Nations Global Compact.<sup>60</sup> Many Dutch energy companies also conduct audits at mines they purchase coal from,

in order to identify whether these mines do comply with these supplier policies.<sup>61</sup> While the specific details and approaches of these audits might differ from one company to the other, all the companies make use of third (or multiple) parties to conduct the audits.

The activities of Dutch energy companies in defining supplier policies and performing audits on their suppliers should be applauded. It is also laudable that the International Council on Mining and Metals (ICMM) has established a Sustainable Development Framework. However, the ten principles enshrined within this Framework (and those within the UN Global Compact) have been subject to some criticism. For example, the UN Global Compact is a voluntary initiative under which companies are encouraged to embrace, support and enact, within their sphere of influence, a set of core values related to human rights, labour standards, the environment and anti-corruption. Although drawn up with good intentions, it is evident that the Global Compact is not a 'magic wand' for all forms of corporate misbehaviour. BP, for example, has signed up to the Global Compact, but the events surrounding the recent oil spill in the Gulf of Mexico strongly suggest that the company's environmental protection procedures are far from adequate. Drummond has also signed up to the Global Compact, yet the mining company has been associated with human rights abuses, most notably in Colombia. One of the weaknesses of the Global Compact is that its ten basic principles are formulated in very general terms. They are very broad principles whereby companies commit to respecting human rights and supporting a precautionary approach to environmental challenges. They do not specify any indicators and no attention is given to specific problems related to certain sectors. Another important weakness lies in the lack of

monitoring of companies which have signed up to the Global Compact. The only requirement is that they submit a yearly progress report, which is not subject to any form of independent verification.

Similar criticism applies to the ICMM principles, which are the result of an industry-led initiative. Although specific actions are suggested for each principle, these still leave ample room for interpretation. One example of a recommended action is “to minimise involuntary resettlement, and compensate fairly for adverse effects on the community where they cannot be avoided”. The terms “minimise” and “fairly” can be interpreted in many different ways and no guidance is given on these issues. ICMM has developed a number of position statements that give greater clarity about what is expected of member companies in relation to specific issues. ICMM’s position statement on Mining and Indigenous Issues makes it clear that it does not adhere to the principle of Free, Prior and Informed Consent, even in cases it is proposed that indigenous peoples be involuntarily resettled. This is despite this principle having been adopted by the UN General Assembly in September 2007, as part of the Declaration on the Rights of Indigenous Peoples.

To avoid such shortcomings it is important that minimal requirements for social and environmental performance are spelled out in more detail. Relevant standards already exist and these can provide a solid basis for these minimal requirements, but they need further elaboration so as to provide more detailed guidance as to how they should be implemented. These include the OECD Guidelines, international labour standards developed by the International Labour Organisation (ILO), the International Finance Corporation (IFC) Performance Standards, the principle of Free, Prior,

and Informed Consent, ISO 26000, the Ruggie Framework<sup>62</sup> on business and human rights and the Voluntary Principles on Security and Human Rights (VPSHR).<sup>63</sup> Notwithstanding the criticisms, the Global Compact and the ICMM principles represent valuable first steps in enshrining core principles, which need spelling out in more detail in order to provide practical guidelines.

The case studies in section two of this report show that mining companies still lack a real level of engagement with the local communities whose lives and environment are heavily influenced by coal mines. Addressing the social conflicts arising from mining activities, such as labour rights, human rights violations, a lack of (human) security in the local communities, negative environmental impacts and health problems, requires a different approach. To achieve real and sustained changes on the ground, it is important that a balanced group of external stakeholders – including representatives of the local population – is involved in monitoring mines and mining companies. ■

<sup>58</sup>[mvopatform.nl/what-is-csr/](http://mvopatform.nl/what-is-csr/)

<sup>59</sup><http://mvopatform.nl/themes/supply-chain-responsibility>

<sup>60</sup>SOMO (2010), Sustainability in the Dutch power sector, p.101

<sup>61</sup>SOMO (2010), Sustainability in the Dutch power sector, p.102

<sup>62</sup>See section 4.4 below for a short explanation of Ruggie’s Framework

<sup>63</sup>The VPSHR are a set of non-binding principles developed in 2000 to address the issue of balancing safety needs while respecting human rights and fundamental freedoms. Signatory participants to the VPSHR include a number of governments (including the Netherlands), extractive companies and NGOs

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## 4.3.3

### SUPPLY CHAIN TRANSPARENCY

Transparency is a crucial factor in holding electricity companies, and mining companies that supply them with coal, to account. There are two different aspects of transparency in relation to the coal sector: transparency of the physical supply chains of coal and transparency of financial transactions.

At the moment, Dutch energy companies have different levels of transparency on the origin of the coal they import. A number of companies wish to maintain confidentiality about the origin of their coal as they see this as competition-sensitive information. Yet there are other companies that do provide information about their coal sources.<sup>64</sup> The concept of chain responsibility would have much more substance if all Dutch energy companies were obliged to meet the same levels of transparency about their sources of coal, the effects of coal mining in these localities and the steps they are taking to address these. This information should be a standard component in the yearly CSR reports made by energy companies.<sup>65</sup> In a political debate initiated in response to a recent documentary produced by the Dutch TV programme *Netwerk*,<sup>66</sup> a majority of Dutch political parties have publicly stated that they are in favour of imposing sustainability criteria on imported coal and requirements for coal importers to be more transparent about their coal sources.<sup>67</sup>

In relation to financial transparency, there are two important international initiatives: Publish What You Pay<sup>68</sup> and The Extractive Industries Transparency Initiative.<sup>69</sup>

Publish What You Pay (PWYP) calls on multi-national, private and state-owned extraction companies to disclose in their annual financial accounts all types of payments (e.g. royalties, taxes and bonuses) made to governments in every country in which they operate, as well as the level of government to which these payments are made. PWYP acknowledges that, while mining, gas and oil companies cannot (and should not) control how governments spend these taxes, royalties and fees, they do have a responsibility to disclose the payments they make so that citizens can hold their governments accountable on how they manage these resources. Through disclosing the payments the companies have an opportunity to show their contribution towards society, and increase the likelihood that the revenues they pay to governments will be used in the public interest – creating a stable business environment – rather than being wasted or diverted by corruption, which exacerbates social divisions and can lead to weak and unstable states, conflict and mistrust.

The Extractive Industries Transparency Initiative (EITI) differs from PWYP in that it does not only target companies. It is a multi-stakeholder initiative consisting of governments, companies, civil society groups, investors and international organisations. The EITI aims to strengthen governance by improving transparency and accountability in the extractive sector. It is a voluntary initiative that is implemented in countries whose governments sign-up to it. The EITI provides an internationally recognised framework for companies to publish what they pay and for governments to disclose what they receive. The Dutch government is not a member of EITI, but is a supporting country and contributes to the EITI multi-donor trust fund. ■

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## 4.4

### THE ROLE OF THE DUTCH GOVERNMENT

The Dutch government regulates individual energy companies and the sector as a whole. At present this regulatory framework does not extend to the supply chain issues surrounding coal, but leaves this responsibility to the companies themselves.<sup>70</sup> The former Dutch Minister for Foreign Trade, Frank Heemskerk clarified the Dutch position on CSR by referring to John Ruggie's framework on business and human rights.<sup>71</sup> This distinguishes three important elements: the duty of states to protect, the duty of companies to respect and the need for victims of abuses to have access to remedies. This said, the Dutch government's position on CSR and chain responsibility appears to be based on a minimalist interpretation of the Dutch state's duty to protect. It also contains a rather optimistic view of the initiative that can be expected from the business sector itself, based on the conviction that self-interest in investing in sustainability will lead to a sufficiently robust approach to CSR (see below).

Thus, it is clear that the Dutch energy sector has not (yet) translated CSR and supply chain responsibility into a set of policies capable of addressing the environmental and social impacts of coal mining in the countries of origin. What then might the government do to hasten this process?

#### **The regulation of supply chain responsibility**

In December 2008, the Dutch government issued a paper on supply chain responsibility, as part of its vision on Corporate Social Responsibility.<sup>72</sup> It states that supply chain management is primarily the responsibility of



companies, with the government merely playing a facilitating role. The Dutch CSR Platform, with experience in numerous supply chains, argues that voluntary supply chain responsibility based on self-regulation can make an important contribution in promoting socially responsible corporate behaviour. But the Platform argues it should not stop there. The government can play an important role in ensuring supply chain transparency and setting legal minimum reporting requirements for companies.<sup>73</sup> This is in line with the need for stronger public policy on reporting, expressed in a 2010 joint report by Global Reporting Initiative, United Nations Environmental Programme (UNEP) and others. Referring to new steps towards reporting requirements from the US Securities and Exchange Commission, the report advocates that government regulators play a more active role in sustainability reporting.<sup>74</sup>

The Dutch Ministry of Economic Affairs has already taken some valuable initiatives to encourage corporate transparency, including establishing the transparency benchmark which evaluates the 170 largest Dutch enterprises on a number of factors, including chain responsibility. The government is also currently investigating the possibility of holding Dutch parent companies legally responsible in the Netherlands for violations of internationally recognised human rights, labour and environmental standards by their foreign subsidiaries. The Dutch government also supports Round Tables, which bring together industry, investors and civil society to discuss sustainability criteria for specific natural resources that have large environmental impacts, including soy, palm oil and cocoa.

These Round tables have not yet got off the ground in chains, such as the energy market, where consumers have had less direct concern with the

sustainability of the supplies. This lack of direct consumer concern and involvement increases the need for government to take a more proactive role in providing guidance. Given the importance of the Netherlands as an importer of coal – both for end use and for further trade throughout Europe – a government initiative on criteria, which would guide the import of coal, would be desirable. ■

## 4.5

### THE INTERNATIONAL CONTEXT

Two highly influential international bodies influence the policy arena in which Dutch energy companies and the government operate. Although this paper is primarily concerned with the links between energy companies operating in the Netherlands and their coal suppliers, the regulatory context in which the Dutch energy sector and government operate is more complex. Any recommendations for change and improvement need to take this international context into account and critically identify the possibilities and limitations that it presents. ■

## 4.5.1

### THE EUROPEAN UNION

The European Union (EU) is likely to play an increasing role in regulating the energy market. This is due to the energy market itself becoming more regionalised and the extension of the EU's authority across different domains. It is worth noting that the energy companies operating in the

<sup>64</sup>SOMO(2010), Sustainability in the Dutch power sector, p.100

<sup>65</sup>CSR reporting is compulsory by law for a number of Dutch companies. Article 2:391 lid 1 BW prescribes that companies report on non-financial issues in case this information is indispensable for a good understanding for the development, results or position of the company. This law only applies to large companies counting over 250 employees (this applies to more 3000 companies in the Netherlands). Brief over Maatschappelijk Verantwoorde Ondernemen van de Staatssecretaris van Economische Zaken aan de Tweede Kamer [Letter on CSR by the Dutch Minister for Foreign Trade to Parliament], 2 February 2010, 26485, nr.86

<sup>66</sup><http://www.netwerk.tv/uitzending/2010-06-29/%E2%80%98energiebedrijven-medeplchtig-aan-moord%E2%80%99>

<sup>67</sup>[http://publitiiek.nl/debat/vragenuur\\_besmette\\_steenkool\\_29-06-2010](http://publitiiek.nl/debat/vragenuur_besmette_steenkool_29-06-2010)

<sup>68</sup><http://www.publishwhatyoupay.org/en/about/advocacy/companies>

<sup>69</sup><http://www.publishwhatyoupay.org/en/about/advocacy/extractive-industries-transparency-initiative>

<sup>70</sup>Brief over Maatschappelijk Verantwoord Ondernemen van de Staatssecretaris van Economische Zaken aan de Tweede Kamer [Letter on CSR by the Dutch Minister for Foreign Trade to Parliament], 22 December 2008, vergaderjaar 2008-2009, 26485, nr.62

<sup>71</sup>John Ruggie was nominated the Special Representative of the United Nations Secretary-General on business and human rights in 2005

<sup>72</sup>[http://www.tweedekamer.nl/images/264850062\\_118-182020.pdf](http://www.tweedekamer.nl/images/264850062_118-182020.pdf)

<sup>73</sup><http://mvoplatform.nl/themas/ketenverantwoordelijkheid>

<sup>74</sup><http://www.globalreporting.org/NR/rdonlyres/D0302A8A-D38D-4D1E-876E-C5F111E499CA/4198/Carrots2010final.pdf>, p.5

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Netherlands are increasingly European companies, active in a number of EU member states. Increased economic integration is leading to an increased regionalisation of energy markets. The European Commission's "Europe 2020 strategy for smart, sustainable and inclusive growth" was published on the 3rd of March 2010 and presented to EU Leaders at the Spring Summit on 25 and 26 March 2010. In this paper the EC states that it will work "to present an initiative to upgrade Europe's networks, including Trans-European Energy Networks, towards a European supergrid, "smart grids" and interconnections in particular of renewable energy sources to the grid."<sup>75</sup> The Dutch Ministry of Economic Affairs recognises that the Dutch energy market needs to be regulated in the context of the broader picture of the Western European market. Although this should not be an excuse for inaction, it does show that the European market and its regulations will increasingly need to be taken into account.

Given the importance of the EU, the Netherlands, as a reasonably important coal-importing country and a European trading centre for coal, should advocate for European policies that involve legal obligations for energy companies to report on the origin of the coal they import and to respect sustainability criteria for the coal they import. This would contribute to the creation of a *level playing field* for European energy producers and consumers. ■

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## 4.5.2

### WTO AND NON-TRADE CONCERNS

In the context of international trade, more specifically in the World Trade Organisation (WTO), environmental and social concerns are treated as "non-trade" concerns, placing them outside the strict mandate of the negotiating groups and requiring separate attention by a separate committee. Even though the negotiation processes taking place in the WTO are geared towards increasing worldwide trade (with related effects on the global environment and society)<sup>76</sup> social and environmental aspects have not yet entered into the mainstream negotiation process. At this moment, there is no legal basis for deciding the primacy of WTO rules or other multilateral agreements, such as the Convention on Biological Diversity or the United Nations Framework Convention on Climate Change. The reaction of the Dutch Minister of Housing, Spatial Planning and the Environment to parliamentary questions in the summer of 2010, which urged her to establish legally binding sustainability criteria for coal imported in the Netherlands, suggested an assumption that social and environmental criteria are not acceptable to the WTO.<sup>77</sup> However, at the EU-level, there is evidence from the timber sector that specifically defined products (in this case illegally-harvested timber and timber products), can be banned from the EU market. This opens up opportunities for applying similar criteria to coal imports.

At present the Netherlands and the EU have some of the highest environmental and social standards in the world, but do not apply these to the whole supply chain of goods

imported to the EU. The focus of these standards includes combating climate change, preserving biodiversity, reducing health problems from pollution and using natural resources more responsibly.<sup>78</sup> These are exactly the main problems described in the case studies on coal mining. However given the distance of the mining areas from the EU, they are not being addressed.

The EU is an important regional trading block with a substantial capacity to be an innovative knowledge economy. As such it should look beyond the short term trade interests of its business sector and play a leadership role in setting a path to a more sustainable and equitable global economy. ■



# 5

## CONCLUSIONS AND RECOMMENDATIONS

Much of the total environmental and social footprint of coal-fired electricity occurs in the countries where coal is mined. The negative social and environmental impacts of coal mining in countries such as Colombia, Indonesia and South Africa, include: air pollution, the degradation of water resources, a loss of agricultural land, displacement and health and safety risks for miners. Yet these costs (externalities) are not taken into account when calculating the market price for coal, nor are they sufficiently addressed by legal, regulatory or industry-led mechanisms.

There are considerable costs involved in ensuring that past damage is remedied and that future damage is avoided, but at present too little is being done to ensure that this happens. Since there are no (or inadequate) mechanisms for addressing these issues they either lead to poorer health among the workforce and local community and environmental degradation or mean that the costs of remedying these problems are met by local communities themselves. As more coal-fired power plants are built, these external costs will rise and the people and the environment in other parts of the globe will suffer as a result. It is worth emphasising that in 2003, the Extractive Industries Review, commissioned by the World Bank Group, identified a similar set of problems and formulated strong conclusions and recommendations of how to respond to these problems.<sup>79</sup>

This section summarises the main findings of this briefing paper and provides recommendations for the Dutch energy sector and the Dutch government (both domestically and in its role within the European Union). Each party has substantial, although different responsibilities, in addressing the ecological and social footprint caused by their investments in, or support for, coal-fired energy. ■

### 5.1

#### MAIN CONCLUSIONS

##### The main impacts of coal mining

The case studies of Colombia, Indonesia and South Africa reveal many detrimental effects of coal mining in these countries, which are among the world's major coal producers. The environmental and social impacts directly affect local populations, their living conditions, their natural environments (on which their livelihoods often depend) and their health.

The main environmental impacts include the contamination of water sources, air pollution, the loss of biodiversity and deforestation. Acid mine drainage from working and abandoned mines poses a huge risk to water quality. This is particularly true in South Africa, with its history of deep-cast mining and where the largest part of the responsibility to clean past contamination of mines falls on the government.

At the same time, poverty and social problems experienced by residents in mining areas stand in stark contrast

<sup>75</sup>European Commission (2010), Europe 2020, strategy for smart, sustainable and inclusive growth, p.14

<sup>76</sup>Examples are the generation of wastes and the influence on working conditions, including a race to the bottom with regard to salaries and labour rights which is already apparent in e.g. the electronics and garment industries, where multinationals easily move production from one country to another

<sup>77</sup>[http://www.tweedekamer.nl/kamerstukken/verslagen/kamer\\_in\\_het\\_kort/foute\\_steenkolen.jsp#0](http://www.tweedekamer.nl/kamerstukken/verslagen/kamer_in_het_kort/foute_steenkolen.jsp#0)

<sup>78</sup>[http://europa.eu/pol/env/index\\_en.htm](http://europa.eu/pol/env/index_en.htm)

<sup>79</sup>The Extractive Industries Review, chaired by Indonesia's former Minister of the Environment, Emil Salim, presented its report in 2003. It recommends an immediate moratorium on World Bank Group support for coal mines and contains a whole set of recommendations to avoid the social and environmental impacts of mining discussed in this briefing paper. The Dutch government, represented by the former Minister for Development Cooperation, Agnes van Ardenne, endorsed the report and emphasised the importance of implementing the report's recommendations. For more information, visit: <http://go.worldbank.org/T1VB5JCV61>

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to the wealth generated by mine owners and shareholders of (largely transnational) mining companies. Human rights violations surrounding the displacement of populations and health hazards, the mismanagement of royalties, limited employment opportunities, a high proportion of contract work and disrespect for labour rights all contribute to this situation. In many instances local income from tourism or agriculture can be endangered when mines or ports are established in ecological, historic or fertile zones.

The costs of environmental risks are often passed on to local public authorities, while the costs of social risks are largely borne by local communities.

#### **Local legislation and failing implementation**

At present insufficient attention is paid to these costs. The impacts of mining and the risks it poses to the environment and to people are long-lasting and continue to be a threat even after mines have closed. Although local legislation may seek to address these problems, it is often toothless, with a lack of implementation and enforcement, due to inadequate resources (including regulatory personnel) and interference from politicians who may have direct or indirect interests in coal mining.

#### **Lack of community involvement**

Currently, there is a lack of transparency and participation of local civil society organisations in permit decisions, in monitoring the impacts of mining operations, in identifying infringements and deciding how these should be compensated for. Public interest bodies, such as citizen's associations, are generally not consulted and there are few public participation processes or transparent monitoring processes. Public engagement in such processes would allow the management of existing

mines, and the development of new ones, to better take into account the environmental and social impacts discussed in this paper.

#### **Supply chain responsibility**

It is encouraging to note that the Dutch energy companies involved in importing coal do recognise their responsibility for the negative effects that occur in the supply chain for coal. However this recognition has not yet been substantially translated into concrete action. Most of these companies are reluctant to increase their transparency or to implement policies and safeguards to limit negative social and environmental impacts. Individual companies see making such responses on an individual basis as a threat to their competitive position in the energy market. For this reason it is important to adopt a sectoral approach that includes all the major coal importing companies.

But experience shows that even a sector-wide approach needs binding rules to ensure that they are sufficiently far-reaching to address a broad range of problems, such as those described in this paper. One important conclusion that can be drawn from the many studies on CSR is that voluntary mechanisms alone are insufficient.<sup>80</sup> Government regulations and directives are essential for enforcing the implementation of chain responsibility. ■

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## 5.2

### MAIN RECOMMENDATIONS

The recommendations below separately address the Dutch energy sector and the Dutch government, each of which has a responsibility to address these problems pro-actively and to give such issues a high priority.

#### **For energy companies (operating in the Netherlands):**

Take serious steps in implementing and making concrete their supply chain responsibility, by:

- Setting up specific criteria and procedures to guide the selection and monitoring of suppliers with regards to the environmental and social effects of coal mining.
- Investing in fact-finding, dialogue with affected communities, and the formulation and implementation of measures to help remediate, compensate for and prevent social and environmental damage.
- Involve a wide range of stakeholders, including civil society and community organisations and miners' unions in the identification of such problems and in monitoring the impacts of mining operations.
- Increase transparency and publicly report (in their CSR reports) on the environmental and social impacts of coal mining, as well as their efforts to contain these and to contribute to more sustainable mining.

### For the Dutch government:

The policies being pursued by the Dutch government mean that, in the future, more coal will be imported to fuel Dutch electricity plants. This is a direct consequence of the Dutch government's decision to issue licenses for the construction of 5 new coal-fired power plants.

In view of this we recommend that the Dutch government regulate the Dutch market for coal and ensure that it complies with stringent environmental and social standards by:

- Setting a legal obligation for companies which import coal into the Netherlands to undertake and publish stringent Environmental Impact Assessments at regular intervals to assess the social, environmental and climatic impacts of their suppliers' activities.
- Setting a legal obligation for companies to be transparent about their sourcing of coal, as well as the financial transactions related to the coal supply chain, preferably following the PWYP or EITI frameworks.
- Exploring the possibility of setting environmental and social criteria for imported coal as a basis for certification and implementing legislation to ban unsustainably mined coals from the Dutch (and European) markets.
- Supporting coal exporting country governments in enforcing environmental and social standards and legislation in relation to coal mining. ■

<sup>80</sup>What's wrong with CSR?  
[www.corporatewatch.org.uk/  
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**Both ENDS** strives for a socially just and sustainable world. To this end we support organisations in developing countries that are active in the areas of poverty alleviation and environmental management. These local organisations have in depth knowledge of what the problems are and often come up with inspiring, sustainable solutions. We support them by providing information and mediation in funding, lobbying and networking.



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