

# LIGNITE COUNTRY



## *Lusatia region devastated by lignite mining*

Germany leads the world in burning the fuel that does the greatest harm to the world's climate. Each year the country mines 180 million tonnes of lignite for burning in power plants. This brochure aims to highlight the consequences of lignite mining, taking as an example the region of Lusatia where the Swedish company VATTENFALL has been operating mines and power plants since 2001.

# SCARS ON THE LANDSCAPE

Over the past century, 136 villages with over 30,000 residents in the Lusatia\* region have been partially or completely relocated to make way for open-cast lignite mines. Large areas in the region have already been excavated and stripped of all habitation. Following the reunification of Germany in 1990, VATTENFALL took over five open-cast mines and has continued to operate them for many years. German taxpayers have to foot the bill for restoring all other open-cast sites (see map on page 10). VATTENFALL is now planning to open a further five open-cast mines so that the company can continue to generate electricity from lignite at the same level until at least 2050. This would entail the relocation of a further 3,400 people over the next few years.



\* Lusatia is a region that extends from southeast Germany into Poland. The German states of Brandenburg and Saxony are home to minority populations of Sorbs, the smallest slavic nation, who have managed to preserve their culture and language right to this day. The name Lusatia is derived from Sorbian and means "swamp" or "wetland". The Sorbian homelands have been given protected status in the respective constitutions of Brandenburg and Saxony, but no court has yet prevented the destruction of centuries-old villages to make way for lignite mining.





### *Belching towers*

What you see here is condensing water vapour. Around 90 million cubic metres of water is evaporated from the three power plants operated in Lusatia by VATTENFALL. What you cannot see is the carbon dioxide that is also emitted from the power plant cooling towers. Every tonne of lignite that is burned produces one tonne of CO<sub>2</sub>. That is more than one kilogram per kilowatt hour of electricity, in other words more than any other type of fuel and almost three times as much as is generated by a natural gas fired power plant. Equally invisible are the fine dust, sulphur and even mercury emitted from the cooling towers. Emissions are kept within the specified limits (as far as we can verify) but the total quantities of emissions are considerable and are spread across large areas in the atmosphere (see page 10). Drivers who park in the car parks are greeted by sign warning them that “Emissions from cooling tower can damage paintwork”.





# PEOPLE LIVE ABOVE THE COAL

## *A threatened culture*

Atterwasch church is first mentioned in historical documents in 1294, making it one of the oldest in the Lower Lusatia region. The church has survived unscathed through every war and disaster over the centuries. If the Jänschwalde North open-cast mine goes ahead as planned by VATTENFALL the church will be demolished. The most likely method will be to blow it up. The equally threatened village of Kerkwitz is home to its counterpart, one of the youngest churches in Lusatia and the first to be built in 1952 in the German Democratic Republic, a state not known for its love of churches. Church parishioners have now set up a banner outside the church bearing the words: "The future, not lignite".



The villages in Lusatia have a vibrant cultural heritage. Active associations preserve regional traditions and organise festivals, such as the village of Kerkwitz's 555th anniversary celebrations in 2012. The photo shows young people from the village demonstrating how to raise a Pentecostal pole. The villages of Rohne, Mühlrose and Mulchwitz, whose existence is threatened by the Nochten II open-cast mine, are part of one of the core areas in the Sorbian district.



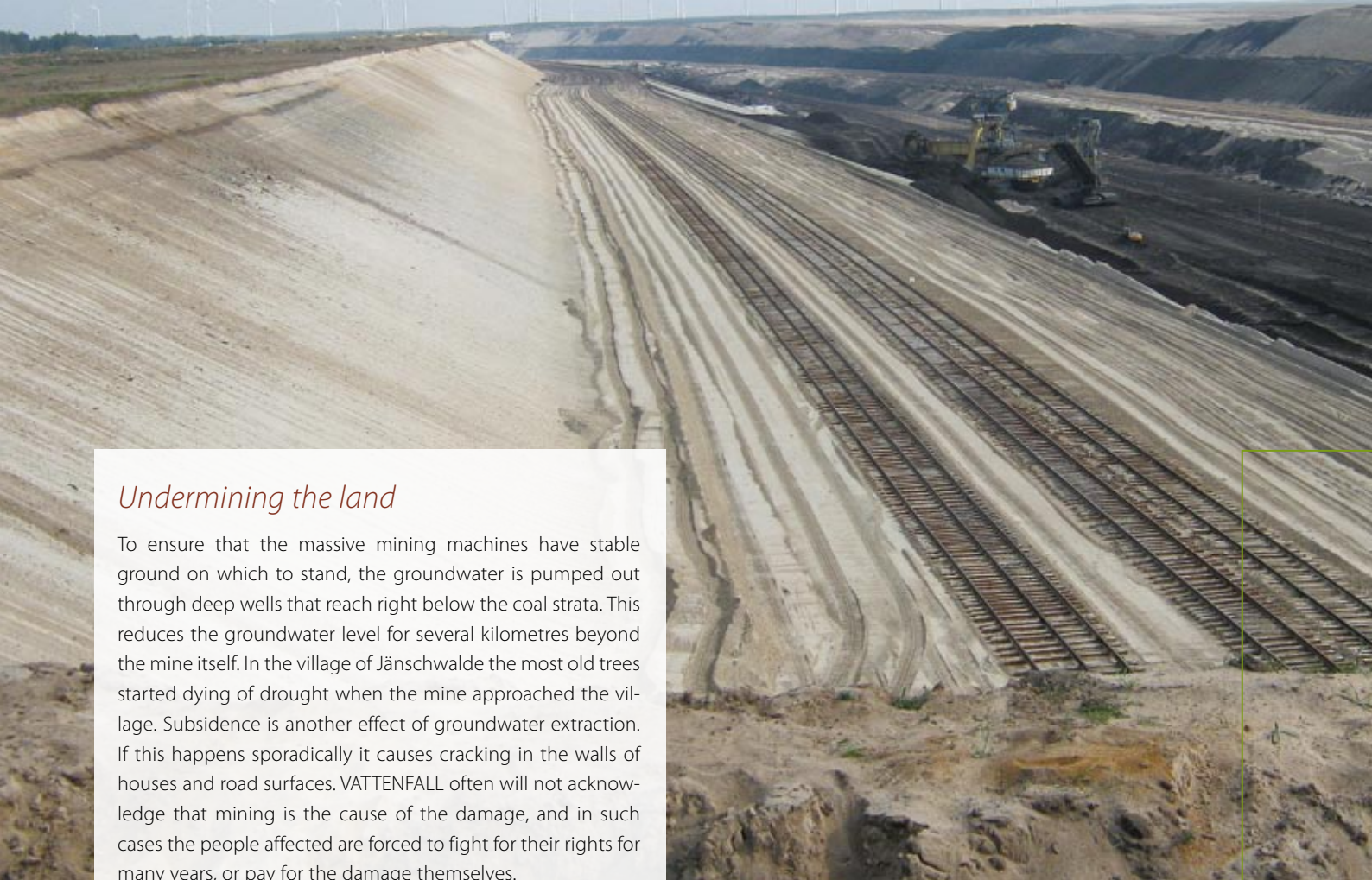
### *Grandfather and grandchild united against open-cast mine*

Johannes Kapelle regards the village of Proschim as his ancestral home. The 77-year-old watched his three children grow up here and is proud of his five grandchildren. But now he shall leave his house and his land. If he refuses, his property could be confiscated. The reason is that German politicians want to give the coal in the ground under his home to the Swedish company VATTENFALL. His granddaughter, Darena Kapelle, does not want to lose her home village either. In summer 2013, together with environmental organisations all over Germany, they helped to gather a total of 120,000 signatures to save the village of Proschim. But neither VATTENFALL nor the state government are prepared to compromise. They want to burn the coal underneath the home soil of Proschim.



### *Home under threat*

Sylvia Kruse has made Kerkwitz her home. Back in the days of the GDR there were plans to bring in the excavators and flatten the village. But following German reunification, Manfred Stolpe, Premier of the state of Brandenburg, promised that the neighbouring village of Horno would be the last to be sacrificed to open-cast mining. The mine would stop before it reached Kerkwitz. The people believed the promises of the politicians and started to build new houses again. The population grew as people from the neighbouring town of Guben moved to the village, including Sylvia Kruse and her family. But then, in September 2007, VATTENFALL and the state government announced their intentions to sacrifice Kerkwitz and the neighbouring villages of Grabko and Atterwasch to establish a new open-cast mine.



## *Undermining the land*

To ensure that the massive mining machines have stable ground on which to stand, the groundwater is pumped out through deep wells that reach right below the coal strata. This reduces the groundwater level for several kilometres beyond the mine itself. In the village of Jänschwalde the most old trees started dying of drought when the mine approached the village. Subsidence is another effect of groundwater extraction. If this happens sporadically it causes cracking in the walls of houses and road surfaces. VATTENFALL often will not acknowledge that mining is the cause of the damage, and in such cases the people affected are forced to fight for their rights for many years, or pay for the damage themselves.





## A LANDSCAPE IN MOTION

### *Open-cast mining landscape north of Hoyerswerda*

In October 2010 a full square kilometre of land that had been excavated during the GDR era suddenly began moving as a single mass. This large section of land slid down into a nearby open-cast lake. The surge wave it generated swept away an entire flock of sheep on the other side of the lake. Five trucks were partially submerged in the liquefied sand and it has not yet been possible to recover them. One of the drivers had to be rescued from the roof of his truck. This was the most serious of a large number of landslides in Lusatia in recent years. As a precautionary measure, several hundred square kilometres of land were fenced off by the authorities after this event. Today, only a small part of this area has been reopened to the public. The danger is most acute when the ground water level rises again on the restored land, several decades after mining has ended. VATTENFALL asserts that the company's new open-cast mines will be safe. But it will be another fifty years before this can be verified. Who will pay for the damage if VATTENFALL's promises prove to be misguided?



### *Brown rivers*

Aside from the risk of ground movement the long-term damage caused by open-cast mining also includes chemical changes to the groundwater. Sulphur minerals that are exposed to oxygen during mining release sulphates and iron. Iron sludge is deposited on the beds of rivers as a life-threatening coating that also clogs the gills of fish and insects. The red-brown sludge can destroy almost all life in a waterway. It threatens valuable nature conservation areas, and hence tourism in Lusatia. The invisible salination of the water due to sulphates can be tracked all the way to Berlin and beyond. It is estimated that the open-cast mining that took place before 1989 alone will have a lasting impact on the waterways for at least a hundred years to come.



# PROTEST MARCH AGAINST COAL PLANS

Each year in January, residents of Atterwasch, Kerkwitz Grabko and other nearby villages gather to demonstrate against VATTENFALL's plans for open-cast mining at Jänschwalde North. In recent years the number of demonstrators has grown steadily.







### *Investing into the future*

The villagers who are threatened by coal mining are already achieving the goals that German politicians have set for the future: a sustainable energy supply. The village of Proschim showed Lusatia the way in 1997 by installing four wind turbines. Today, the business alliance that is based here operates its own biogas and solar energy installations.

The situation is similar in Atterwasch, which since 2010 has been producing more electricity than it consumes – from sustainable sources. Initiated by the local solar cooperative and the environmental organisation Grüne Liga, people from all over Germany are investing in the future of the village of Kerkwitz. In October 2010 the alliance commissioned a solar panel installation on the roof of the village fire station.

### *Cheeky gift*

When Swedish Crown Princess Victoria married Daniel Westerling in 2010 she was given an apple tree as a wedding gift by environmentalists. Pastor Mathias Berndt (right) and René Schuster from GRÜNE LIGA (left) planted the tree in the rectory garden in Atterwasch. Will Sweden's state-owned company VATTENFALL chop down the tree owned by the princess?



The politicians' justification for open-cast lignite mining is that sustainable energy cannot yet safeguard the energy supply, but at the same time they are sacrificing the generation of sustainable energy in favour of open-cast mining.



# FACTS ABOUT COAL

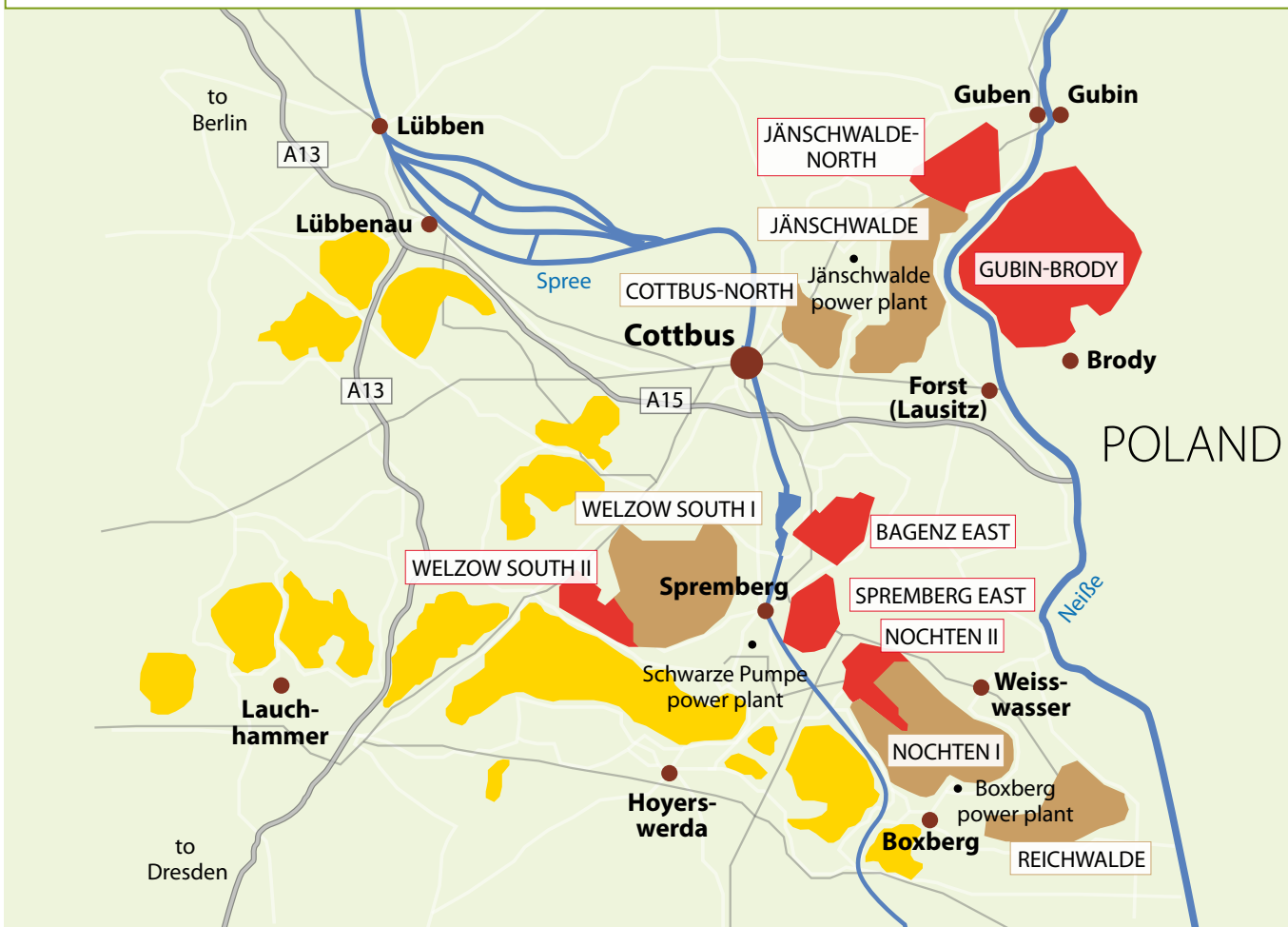
## Power plants in Lusatia:

- **JÄNSCHWALDE**  
3,000 megawatts, 23 to 26 million tonnes of CO<sub>2</sub>  
505 kilograms of mercury per year
- **BOXBERG**  
2,570 megawatts, 19 to 21 million tonnes of CO<sub>2</sub>  
235 kilograms of mercury per year
- **SCHWARZE PUMPE**  
1,600 megawatts, 10 to 12 million tonnes of CO<sub>2</sub>  
228 kilograms of mercury per year

Lignite open-cast mines in Lusatia:

- closed down
- operating
- planned

CO<sub>2</sub> emissions depend on the degree of utilisation of power plants and therefore vary somewhat. Figures for mercury for 2012 taken from Zeschmar-Lahl (2014) "Quecksilberemissionen aus Kohlekraftwerken in Deutschland – Stand der Technik der emissionsminderung" (*Mercury emissions from coal-fired power plants in Germany – state of the technology for reducing emissions*).



## Open-cast mines in operation:

Lignite mining in Lusatia: around 60 million tonnes annually from open-cast mines

- **COTTBUS-NORTH** (mining to end in 2015)
- **JÄNSCHWALDE**
- **NOCHTEN I**
- **REICHWALDE**
- **WELZOW SOUTH I**

These open-cast mining areas operated by VATTENFALL together cover more than 200 square kilometres. They have permits to extract more than a billion tonnes of lignite.

## Planned open-cast mines:

- **WELZOW SOUTH II:**  
around 205 million tonnes of coal, 19 square kilometres, 810 relocations (Proschim, Welzow, Lindenfeld)
- **NOCHTEN II:**  
300 million tonnes of coal, 12 square kilometres, 1,700 relocations (Rohne, Mulchwitz, Mühlrose, parts of Schleife),
- **JÄNSCHWALDE NORTH:**  
around 250 million tonnes of coal, 31 square kilometres, 900 relocations (Grabko, Kerkwitz, Atterwasch),
- **BAGENZ EAST:** (planning not yet started)  
around 230 million tonnes of coal, 21 square kilometres
- **SPREMBERG EAST:** (planning not yet started)  
around 180 million tonnes of coal, 17 square kilometres
- **GUBIN-BRODY (POLAND):** around 750 million tonnes of coal, 78 square kilometres, relocation of 17 villages (Koperno, Kol. Grabice, Nowa Wioska, Grabice, Jazów, Luboszyce, Kozów, Witaszkowo, Sieńsk, Wierzchno, Koło, Jasienica, Grodziszczce, Datyń, Kumiałtowie, Węgliny und Wielotów)

## Massive marketing

The mining company is investing heavily in publicity measures to build support for lignite mining in Lusatia. These include 160 large posters like those shown alongside, as well as large advertisements placed in all the region's daily newspapers, such as those in spring 2014 in which VATTENFALL attempted to portray new open-cast mines as the only perspective for the Lusatia region. These campaigns frequently appear in the run-up to elections and decisions that could have an impact on the lignite industry. By doing so the company manipulates the political process in the German states of Brandenburg and Saxony in favour of the continued use of lignite for energy generation. The critics of open-cast mining have never had any opportunity to put forward their arguments on this scale.



**Published by:**

GRÜNE LIGA  
the lignite secretariat  
Umweltgruppe Cottbus  
Straße der Jugend 94  
D-03046 Cottbus

**GRÜNE** Netzwerk  
**LIGA** Ökologischer  
Bewegungen

**Donations:**

Umweltgruppe Cottbus  
GLS Bank  
BIC: GENODEM1GLS  
IBAN: DE17 4306 0967 1145 3769 00  
Reference: "Lausitzer Kohle"

[www.kein-tagebau.de](http://www.kein-tagebau.de)  
[umweltgruppe@kein-tagebau.de](mailto:umweltgruppe@kein-tagebau.de)

**August 2014**