

# A green renewal in Brandenburg

| by Stefan Nicola

Brandenburg, once East Germany's coal mining centre, is transforming itself into a renewable energy hub. Wind, biomass and solar energy companies and an "energy forest" are behind the state's economic comeback. A success story – although there is also a surprising amount of public opposition to some of the green schemes.

Matthias Platzeck, the governor of Brandenburg, sits in a large conference room at the Vestas plant in Lauchhammer and smiles. Outside, some 44-metre-long rotor blades, ready to be assembled into giant wind-power units, rest on trucks that are soon heading out to customers all over Europe. Vestas, the world's largest producer of wind power units, opened the rotor blade plant here in Brandenburg in 2002. It was Vestas' first plant outside Denmark and has since evolved into one of its most productive, cranking out some 1,500 blades a year. 'Here in this region, you can almost touch Brandenburg's successful structural transition,' Platzeck says.

Lauchhammer, a small town located roughly 1.5 hours south of Berlin, is a great place to start if you want to understand this transition. During the Cold War, when this region was still part of East Germany, the city (as the entire Spreewald-Lausitz region) was a centre for coal mining. East Germany relied heavily on lignite as an energy source, and while strip mines marred areas of eastern Brandenburg, they also provided jobs – lots of them. Lauchhammer, then a city of 27,000, offered over 12,000 jobs linked to the coal industry – in mines, power plants, coal processing plants and supplier firms. 'We used to be THE coal city. We were steeped in coal,' says Elisabeth Mühlpforte, Lauchhammer's mayor.

But Lausitz coal was gradually phased out after Germany's reunification, with the last mine closing in the late 1990s. In the process, the city not only lost nearly all of its coal jobs, but also some 10,000 inhabitants. In the 1990s, work was scarce in Brandenburg, and the state government decided to push a still minuscule sector – the renewable energy industry. 'After reunification, when we started to think about alternatives for nuclear energy and fossil-based energy sources, many experts were laughing at us,' Platzeck says.

## Ambitious goals |

Today, nobody is laughing anymore. Some 40 percent of the electricity consumed in Brandenburg comes from renewable sources, and numerous top-notch wind, solar, biomass and biofuel companies have settled here. The state is home to state-of-the-art solar plants from industry giants Conergy and U.S.-based First Solar, with several other PV companies and research organisations located in the Berlin-Brandenburg region. Because it still owns coal reserves for roughly a century, the state also plans to push clean coal – namely the carbon capture and storage (CCS) technology. Brandenburg hosts the world's first CCS test plant, run by Vattenfall, at Schwarze Pumpe. Platzeck vowed that no new coal-fired power plants could be built in Brandenburg until they include CCS.



Windmills rising above the Brandenburger forests. Photo: Stefan Nicola

The government has more ambitious goals for the future. To combat climate change and become increasingly energy-independent, it decided in May 2008 that by 2020, Brandenburg wants to satisfy 90 percent of its electricity needs from renewable sources, reduce its CO<sub>2</sub> emissions by 40 percent compared to 1990 levels, reduce its energy consumption by 13 percent and improve energy efficiency.

These efforts are paying off. The state in November was awarded the 'Leitstern 2008', a renewable energy award handed out by an industry association, because it led Germany's 16 states in using and supporting green energy. Brandenburg's leading role in green energy also helped the region to an economic comeback. The renewable energy sector has created more than 5,000 jobs in Brandenburg, a state with 2.5 million citizens. Vestas, for example, promised 180 positions. Today, it employs over 550 people at its Lauchhammer plant.

The Danish firm decided to go to Lauchhammer to conquer the growing Central European market in 2002, when wind power was already a major part of Brandenburg's energy mix. Some 500 wind power plants stand tall in the region around Lauchhammer. The entire state has nearly 2,500 units with a combined capacity of some 3,500 MW – you can spot the steel giants on almost every horizon.

Vestas said it wants to further modernise its Lauchhammer plant (it recently introduced a new €5 million varnishing unit), to keep up its impressive yearly growth rate of 15 percent. 'The Lauchhammer plant has made a great name for itself in the Vestas company,' says Hans-Jörn Rieks, president of Vestas Germany. The company soon plans to start building the next generation of wind rotor blades that are between 50 and 60 metres long.

### Energy forest |

While wind is the most visible and established green energy source in Brandenburg, smaller-scale renewable energy production is becoming increasingly lucrative. Markus Bernhard, a barrel-chested green entrepreneur from Bavaria, in July 2008 opened a €7.5 million biogas park that links a pair of gasification units with two small combined heat and power plants to transform cow manure as well as maize and other energy plants into electricity and heat.

Situated on the premises of a farm that supplies the manure and the energy plants, the biogas park per year produces 15 million kWh worth of green electricity, equivalent to the consumption of about 4,000 households. This is fed directly into the local grid. The heat produced, equivalent to roughly 1.5 million litres of fuel oil, is used by a nearby drying plant

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that could soon dehydrate wood pellets from Lauchhammer's very own renewable energy project – the so-called 'energy forest'.

On the barren lands of a decommissioned strip mine, the city of Lauchhammer wants to plant an energy forest that would be 'harvested' for further use in a combined heat and power plant. The city is currently in negotiations with the coal holding company (which is owned by the federal government) to buy some 400 hectares of land – that would make Germany's largest energy forest.

The holding company has already planted some 80 hectares with poplar and robinia trees; they are currently between 60 and 80 cm in height, and ready to be harvested – that is cut down and transformed into wood pellets – in another three years.

'We will use the green electricity and heat in our schools and other public buildings,' says Mühlforte, who places high hopes on the innovative biomass project. Within a few years after its launch, Lauchhammer wants to satisfy half its energy demand with pellets from the forest.

### Petition against wind |

There isn't only good news when it comes to renewables in Brandenburg, however. In the city of Schwarzheide, formerly a chemicals powerhouse, biofuel producer Biopetrol in 2008 experienced a rocky year.

The company employs 64 people at its Schwarzheide plant, which started operating in 2002 and today produces some 150,000 tonnes of biodiesel a year. Biopetrol wants to become one of the leading biodiesel producers in Europe (it has a second plant in Rostock), but global demand for biofuels in 2008 fell dramatically – the sector, which turns vegetable oil into fuels for the transport sector, occupies farm land and has been made responsible for rapidly growing food prices.

'Today, food prices are down but production has not changed much,' says Johannes Lackmann, head of a German biofuel industry group. 'High corn prices were caused by a speculative bubble.'

That hasn't convinced the German government, however, which plans in the long run to cap the market share of biodiesel in transport fuels at 6.25 percent, a development that highly irritates Lackmann. 'That could cause production to collapse,' he says.

Platzek, the state governor, promised that he would fight for higher shares and a sustainable economic future for the biodiesel plants in Brandenburg. 'We are highly interested in backing our biofuel industry,' he says. More backing – that's something the state needs as well.

Biogas parks have trouble getting permits, large solar power plants have been delayed because of public opposition, and a newly formed citizens' initiative is lobbying against expanding the state's wind power plant portfolio. The group argues the plants disfigure the countryside, are too loud, disturb nature reserves, and aren't climate-neutral at all – so far, over 20,000 citizens have signed its petition against wind power in Brandenburg's.

'To be honest, we did not imagine so much opposition,' to renewable energy projects, says Platzek. Yet he also admits to mistakes his government made in the early years of wind power. If he could start over, Platzek would construct a limited number of large parks instead of many smaller ones, to scar as few horizons as possible. Also, the state has decided to double to 1,000 metres the minimum distance a wind power unit can be erected from settlements.

The state will take all concerns seriously, Platzek says, adding this doesn't mean Brandenburg will bow to the anti-renewable movement.

'I know that we can't make everybody happy' when it comes to renewable energy sources, he says. 'But we nevertheless want to continue on this path. It's good for our state.' ■

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Press delegation visits Schwarzheide biofuel plant. Photo: Stefan Nicola