



Rethinking Energy – Sustainable wood-energy industry in the district of Oberberg

Growing energy, growing the economy



## Award-Winning Project

Sustainable wood-energy industry in the district of Oberberg

Oberberg is proud of its idyllic forests. At the same time, the region has recognised that wood is a valuable bioenergy resource – and has created a value chain around the sustainable use of wood. To this end, the residents of Oberberg have been hard at work, organising many information events to get forest owners and local people onside. With more than 45 biomass installations, a regional delivery network for sustainable wood and CO<sub>2</sub> savings amounting to several thousand tonnes, the district has become a role model for many neighbouring regions.

**25,000** t of CO<sub>2</sub>  
could be saved on top.

Several **1,000** t of CO<sub>2</sub>  
have already been saved.

Over **100** events  
were organised by BioEnergieDialog  
from 2012 to 2015.

**45** biomass plants  
are now in operation in  
the district of Oberberg.

**11** MW  
is the total capacity of  
all of the plants.



## A dialogue on the sustainable use of wood

A rethink is needed in many places in order to successfully shape the transformation of the energy system. This is also demonstrated by the “BioEnergieDialog” (bioenergy dialogue) in the district of Oberberg. In the densely forested region, the ideal conditions for the efficient use of wood initially met with a lot of scepticism.

“How can wood be used as an energy resource in a sustainable and economic manner?” This was the key question posed by the BioEnergieDialog in the Oberberg district, funded by the German federal government. At the beginning, there were many doubts – among the population, too. “The forests in our area belong to private owners with extremely small plots of land,” says Susanne Roll, former project manager of the BioEnergieDialog in the regions of Oberberg, Rhein-Erft and Westerwald-Sieg. “We first had to convince the many forest owners to make their wood available.” It took a while, but the project participants managed to get the public and many forest owners to change their minds and gain their support for the project. This now not only benefits the environment, but also the local economy.



Photo: Volker Dick

“We are a long way off exhausting the potential for using the Oberberg forests. According to the statistics, there are 200,000 cubic metres of growing stock offering net revenues of up to nine million euros. The yield could be twice as much.”

Kay Boenig,  
Bergisches Land regional forestry office and  
first chairman of ZebiO e.V.

## The results are compelling

In the year 2000, there was only one single biomass plant in Oberberg. Today there are 45 – with a total capacity of 11 megawatts. There is also currently a trend towards wood-pellet furnaces, as well as investments in photovoltaic and CHP installations. A significant reason for this is the BioEnergieDialog, as previously mentioned. From 2012 to 2015, more than 100 information events and consultations were held, reaching 13,500 participants. As time has gone on, renewable energies, and the use of wood in particular, have become much more widely accepted in the region.

With CO<sub>2</sub> savings amounting to several thousand tonnes, the impressive results have also played a role. In the village of Lieberhausen alone, approximately 1,200 tonnes are saved each year. “And this potential is still far from being exhausted,” says Regina Schulte, coordinator of the project office and ZebiO e.V. “With new measures, we could save another 100 million kilowatt-hours of fossil energy and thus approximately 25,000 tonnes of CO<sub>2</sub>.”

## Thinking differently, behaving differently

In Oberberg, a regional value chain has been created around the wood-energy industry. Companies formed a working group focusing on logistics, which developed the delivery structures for woodchip suppliers and processes for quality management. Since then, the biomass facilities that have been set up at various locations guarantee sustainable security of supply for these natural fuels – and ensure uninterrupted plant operation by providing the required quality of woodchip.

Because the Oberbergers managed to bring all of the regional stakeholders together – from farmers and foresters, through processing plants, right through to end users – Oberberg’s campaign is now strengthening the regional economy. Sustainability and efficiency are always top priority. This has improved the condition of private and public forests overall and increased the value and total growth year-on-year. The introduction of new technologies is accompanied by scientific research conducted by the German Biomass Research Centre (BDFZ) and Cologne University of Applied Sciences.





## Many roads lead to the same destination

The many positive examples in the Oberberg district serve to illustrate what a sustainable wood-energy industry looks like in practice. For instance, the use of wood from storm damage has been significantly improved. Local biomass facilities like the one in Lieberhausen act as logistics centres for wood fuel to ensure efficient material flows and deliver high-quality woodchips around the region. At the “Steinmüllergelände”, a former brownfield site in Gummersbach that was developed as an inner-city neighbourhood, heating and cooling

are provided by woodchips. A wide variety of buildings, including a shopping centre, a sports arena and a cultural venue, benefit from this via a local heating network. The woodchips are also used at the Waldbröl school complex, which was awarded the German Energy Agency efficiency prize for its renovation concept. Here, the local heating grid, running on woodchips, provides four schools, the gymnasium and the canteen with reliable, on-demand heating.

## Sustainability pays off

The sustained commitment of the ZebiO e.V. project office and all of the local participants has succeeded in making Oberberg a pioneering region for the sustainable wood-energy industry. Here, the transformation of the energy system is no longer simply an idea supported by isolated stakeholders, but rather an attitude that is held and driven forward by the population at large. By getting involved in all stages of the value chain, regional producers, logistics and processing companies as well as users all benefit.

This strengthens the regional economy in this rural area. The condition of public and private forests has improved and their value has also been increased. The interdependency model of supporting one another and good networking has also encouraged neighbouring regions such as Rhein-Erft and Westerwald-Sieg to imitate this approach. The stakeholders give each other help and advice, thus promoting competition between the best bioenergy projects – in the region, throughout North Rhine-Westphalia and beyond.

“Our machine produces three kinds of wood-chip. We deliver these to various heating plants in the region. In Lieberhausen we supply ninety-six houses with local heating from wood.”

Bernd Rosenbauer,  
chairman of the management board of the  
Energiegenossenschaft Lieberhausen (EGL) energy cooperative



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On behalf of the state government, KlimaExpo.NRW presents North Rhine-Westphalia's technological, economic and scientific potential for climate protection and adaptation to the impacts of climate change. The initiative is both a showcase and a laboratory of ideas for the state of NRW. Every year, KlimaExpo.NRW presents awards to three projects in four thematic fields, which illustrate climate protection as an engine for progress particularly well.



#### Rethinking Energy

New ideas are constantly emerging from business, research, municipalities and civil society on how we can fundamentally change our energy systems to be climate-friendly – and how the transformation of the energy system can succeed.



#### Saving Resources

NRW aims to lower resource consumption and reduce emissions – through new materials, innovative technologies, greater productivity and the promotion of sustainable consumption patterns.



#### Enhancing Communities

Metropolitan regions shaped by industry, urban districts and rural areas make NRW the ideal showplace for climate-friendly redevelopment of urban infrastructure, reorganising the relationships between cities and rural areas and implementing measures for adapting to climate change.



#### Shaping Mobility

Passenger and freight transport should be efficient and climate-friendly. NRW is addressing this challenge with the development of alternative drives and fuels, and by testing and establishing sustainable mobility concepts.