

THIS IS WHAT REVITALISATION RESEARCH LOOKS LIKE



ERDF. From opencast mining back to nature

When lignite excavators dig through the landscape, they leave in their aftermath completely destroyed soils. Soil is the basis for human, animal and plant life and therefore requires special protection. In Finsterwalde, research is being conducted into how these areas can be recultivated and made usable again.

Germany has decided to phase out lignite by 2038 at the latest. With the closure of the open cast mines, the question now is: "What will happen to the destroyed soils, waters and landscapes after the departure from coal?" From the south of Brandenburg to the north-east of Saxony lies an area of some 900 square kilometres, the size of the Federal State of Berlin – the Lusatian lignite mining region. For more than 150 years, excavators have been tirelessly shovelling away entire villages and unearthing the brown gold in this region. What remains are open-cast mining pits and dump soils that are hostile to animals and plants – the post-mining landscapes.

In the middle of the Lusatian mining region in Finsterwalde, the Research Institute for Post-Mining Landscapes (FIB) is researching how this nature, which has sustained long-lasting damage as a result of human intervention, can be restored and partly made usable for agriculture and forestry.

Project details

**Beneficiary:**

Forschungsinstitut für Bergbau-
folgelandschaften e.V. (FIB)
Brauhausweg 2
03238 Finsterwalde
fib-ev.de

**Priority:**

Strengthening of research, technological
development and innovation

**Investment amount:**

EUR 11,173,000, of which EUR 8,914,000 is
ERDF-funding

**Project term:**

January 2018 to June 2021





New, state-of-the-art laboratory and administration building in Finsterwalde © CONVIS

WHY IT MAKES SENSE

- ✓ **Positions South Brandenburg as a centre for science**
- ✓ **Promotes structural change in the Lusatian lignite mining region** through innovations in land use, bioeconomy and environmental and resource protection
- ✓ **Increases the visibility of the research field** through improved conditions for research cooperation with scientific institutions and commercial enterprises (national and international)
- ✓ **Improves working conditions and equipment** for scientific and technical staff for more efficient research
- ✓ **Creates accessibility** in the institute
- ✓ **Integration of two apartments** for visiting researchers

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Soil and water diversity instead of monotony

Coal mining results in a mixing of the layers of earth and rock that were formed over thousands of years. Some of the deeper layers can react when they come into contact with air and water, leading to severe acidification of soils and water bodies. Residual holes (craters filled with groundwater) and dump soils (mixed layers of earth) can thus reach pH values of less than 3 – which corresponds to the acidity of vinegar or lemon juice. The only way to avoid this is to actively add liming agents so that these environments, which are hostile to animals and plants, can be renaturalised. Researchers at the FIB are investigating these conditions and using many other technical and plant cultivation measures to stimulate the self-healing powers of the soil and enrich it again with organic matter (humus). Lavender, for instance, is being planted on experimental areas or a new forest is being created through afforestation.

New space for innovative research

For quite some time, the building, which had been used as a research institute since the 1960s, no longer met the standards of a modern research facility. Funds from the European Regional Development Fund (ERDF) were used to build a new administration and laboratory building. The U-shaped three-storey building complex offers excellent conditions for contemporary research under improved working conditions with new laboratory technology and is thus ideally adapted to the FIB's many different research fields. This investment will pay off because the FIB is currently unique in Europe with its applied recultivation research on post-mining landscapes as well as research into the consequences of climate change.



New, state-of-the-art laboratory of the Research Institute for Post-Mining Landscapes © CONVIS

DID YOU KNOW?

Even today, a large part of carbon emissions in Germany comes from fossil power generation in lignite-fired power plants. That is why the FIB is also exploring measures for the energy transition – from fossil to renewable energy. In the future, for instance, 'energy crops' could be cultivated as renewable raw materials on the post-mining landscapes and used in biogas plants to generate electricity and heat.