

Just Transition Platform Case study: Revierwende



Member State:

Germany

Regions:

Lusatian coalfield, Central German coalfield, Rhenish coalfield, Saarland coalfield

Sector:

Coal

Duration:

Since 2021

Type of activities:

Providing knowledge transfer, networking, public outreach, consulting, qualifying, and training

Background

Central to the Revierwende project are the four regions defined in the programme which will experience a total phase-out of coal mining and power generation within the next 16 years (until 2038 latest), as required by the German coal-phase out legislation.

In order to compensate for the loss of the industry, the government plans to support the structural change with EUR 40 billion (see Box 1 for more information).

Table 1: Overview regions and offices Revierwende

Мар	Region / responsibility	Location and contact
REVERBUING SETTING SETING SETTING SETING SETI	Lusatian coalfield	Office in Cottbus and Görlitz: lausitz@revierwende.de
	Rhenish coalfield/Ruhr Area	Office in Bedburg: <u>bedburg@revierwende.de</u>
	Central German coalfield	Office in Pegau: pegau@revierwende.de Office in Halle: pegau@revierwende.de
	Saarland coalfield	Office in Saarbrücken: https://revierwende.de/reviere/saarlaendisches-revier/
	Central coordinating team	Office in Berlin: info@revierwende.de

Source: Revierwende (2022), https://revierwende.de/die-revierwende/

Regional and Urban Policy The territory covered with the Revierwende project, the four coal fields, is to a large extent included in **four different Territorial Just Transition Plans** (TJTPs).¹ Corresponding to the structure of the Cohesion Policy funds in Germany, the different coalfields are in general covered with TJTPs at state level. Except for the Saarland (which is not an active coalfield anymore), all other coalfields are included in the Operational Programmes of their region. The Rhenish coalfield is part of the ERDF/JTF-programme

North Rhine- Westphalia, the Central German coalfield is included in the ERDF/JTF/ESF+-programme of Saxony-Anhalt and also in the one in Saxony. The programme of Saxony also covers the Lusatian coalfield which is also part of the Brandenburg ERDF/JTF-programme. In addition, all active coal fields have developed their own development plans that comprehensively guide the transition specifically for the respective coalfields.

Box 1: Germany's coal phase out goals and policies

Hard coal and lignite mining has a long-standing tradition in Germany. Since the beginning of the 20th century especially lignite mining became increasingly important. In the post-war era coal mining was strongly supported in West but even more strongly in East Germany. Since the 1990s coal mining is decreasing in scale across all German coal fields and many regions faced severe economic changes.

The phase out discussion in Germany took concrete shape in 2018 when the German government established a commission on 'Growth, Structural Change and Employment' (also called Coal Commission) that should discuss the ending of coal-fired power generation in Germany, including a broad variety of stakeholders (communes, social partners, academia, environmental organisations). The outcome was the recommendation to phase out coal in Germany until 2038 which was included as a set date in the following legislation ('Coal Phase Out Act'). The financial side is covered with the 'Structural Enhancement Act', that provide a funding volume of around EUR 40 billion.

Current developments: The new government decided to accelerate the phase out and ideally close the last coal mine until 2030. In North Rhine- Westphalia the federal government came to an agreement with its regional counterpart and the supplier RWE to terminate the coal-fired power plants in the Rhenish coal field until 2030. Due to the energy crisis of 2022 two coal-fired power plants will be further operated until 2024 which were planned to go off the grid in 2022. This should ensure energy security.

Central framework conditions

Lusatian Coalfield

The Lusatian coalfield was the main centre of coal mining of the GDR and was therefore crucial for power supply. With the end of the GDR several coal mines were closed, and significant numbers of workers were laid off. As a consequence of the economic downturn, many people have left the region in the following years. Due to the reunification with Western Germany and the adaption of the new government and administration system, the structural change has taken place swiftly. The employment in lignite mining decreased dramatically from nearly 80 000 employees in the 1980s to around 7 000 at the beginning of the 2000s. However, Lusatia is still an industrial region today. Coal plays a central role for the economy and other carbon-intensive industries are also present, such as power generation, steel-, chemical industry, and machine, plant and vehicle construction. Today, around 7 700 people are employed in lignite mining.²

In the development strategy for Lusatia ('Lusatia 2050 Development Strategy')³ the priorities for the future development are outlined in order to ensure that Lusatia becomes a sustainable and liveable region. The guide will serve as a basis for concepts and projects and was developed in a bottom-up, participatory approach. In the strategy seven future fields are defined, namely:

- 1. Infrastructure and Public Services;
- 2. Innovation, Research and Science;
- 3. Economic Development and Growth;
- 4. Development of Skilled Workers;
- 5. Marketing, Culture, Art and Tourism;
- 6. European Model Region;
- 7. Participation.

TJTP Rhenish coalfield in ERDF/JTF North Rhine-Westphalia; TJTP Saxony (for Lusatian coalfield, central German coalfield and city of Chemnitz) in ERDF/JTF Saxony; TJTP Saxony-Anhalt (for central German coalfield) in ERDF/JTF/ESF+ Saxony-Anhalt, and TJTP Lusatia Brandenburg in ERDF/JTF Brandenburg.

² https://de.statista.com/statistik/daten/studie/161205/umfrage/braunkohlenbergbau-beschaeftigte-in-der-lausitz-seit-1960/#:~:text=Die%20 Statistik%20bildet%20die%20Anzahl%20der%20Besch%C3%A4ftigten%20im,allgemeinen%20Versorgung%29%20im%20Braunkohlenbergbau%20in%20 der%20Lausitz%20besch%C3%A4ftigt.

https://wirtschaftsregion-lausitz.de/wp-content/uploads/2021/03/1.2_Entwicklungsstrategie-Lausitz-2050_Kurzfassung_englisch-1.pdf

There are several ongoing initiatives that aim at establishing new innovative industries in Lusatia. A key player will remain energy industries: for example, it is planned to establish a hydrogen cluster, a gigawatt factory and a renewable energy park.

Rhenish Coalfield

The Rhenish coalfield is the largest lignite region in Europe and has three opencast lignite mining areas. With a large share of employment in open cast mines and power stations, the region faces large transition processes. The main employer of the region was and still is the energy company RWE. Directly affected by the coal phase out are 8 000 employees. If you include the suppliers, the number rises to 15 000 employees. In total, 50 000 people are employed in energy intensive industries that will face the transition.⁴ In the region, the energy industry, the producing sector and industry are strongly linked. Many people are employed in those sectors and it is important to ensure that the region remains an innovative and powerful industry region. To ensure that, it is essential to build up an energy system based on renewable energy and to transform industrial production climate neutral and competitive.

Similar to the Lusatian coalfield, a comprehensive development strategy has been developed, the economy and structural programme for the Rhenish future area ('Zukuftsrevier').⁵ The programme is based on the legal basis of the Structural Enhancement Act which should ensure that measures developed for the regions must have clear effects on employment, value creation or economic infrastructure. The programme defines four future areas: energy and industry, resources and agrobusiness, innovation and education, space and infrastructure. The future areas are based on the existing strengths of the region but should also ensure that new value creation happens and that the economy will be diversified. Those areas and their corresponding measures can be further summariszed in five lines of development:

- 1. Innovative region
- 2. Liveable region
- 3. Powerful region
- 4. Climate neutral region
- 5. Interconnected region

Central German Coalfield

The Central German coalfield is facing similar transition processes although it is, compared to the Rhenish and Lusatian

coalfield, significantly smaller in terms of lignite stocks. Directly employed in the lignite industry are approximately 3 500 people (data from 2018).⁶ For the transformation it should be noted that lignite mining is not a central driving factor for the economy in the Central German coalfield area (anymore). Given its diverse industries it is believed that the region is more 'future-proof' than other coalfields in Germany. Another factor supporting this finding is that the knowledge intensive industry of the region works mostly independent from the lignite sector showing that this important sector would not be affected by the transition.⁷

Given that the Ccentral German coalfield is located in two different states (strictly speaking, even in three, since parts of it are also in Thuringia), Saxony and Saxony-Anhalt, there are two different plans: the action programme of Saxony⁸ and the structural development programme of Saxony-Anhalt.⁹ However, there is also a joint plan for the coalfield, the so-called 'Revierkompass' (coalfield compass).¹⁰ The compass defines four strategic future fields that are connected with the different leading sectors in the region:

- 1. Hydrogen/green gases
- 2. Bioeconomy
- 3. Cybersecurity
- 4. Living industrial culture

The leading sectors that are identified in the strategy are diverse and range from service industries to the production sector.¹¹

Saarland Coalfield

Unlike the other coalfields, the Saarland coalfield was a hard coal mining region. The hard coal mining had more than 260 years tradition in the state. In 2012, the industrial hard coal mining has ended with the closure of the last mine. The workers (around 1 200) found new employment in the remaining coal mines in North Rhine-Westphalia which closed only in 2018. One central challenge for the government was to decide what to do with the abandoned sites. Today, the issue of the mine water remains open.

The Saarland experience is of value for the Revierwende project as the experience with the coal end in 2012 can be used to inform the other coal fields in the project where the coal phase out is still to come. Besides the coal industry, another carbonintensive industry has a long-standing tradition in the Saarland which is the steel industry. Given that this industry still has a certain importance in the state, the sustainable transformation of the steel sector is also a necessity for the Saarland.

^{4 &}lt;u>https://www.rheinisches-revier.de/was/strukturwandel/daten-und-fakten/</u>

^{5 &}lt;u>https://www.rheinisches-revier.de/wp-content/uploads/2022/04/wsp_1.1.pdf</u>

⁶ https://www.innovationsregion-mitteldeutschland.com/wp-content/uploads/2021/11/Praesentation Pfadabhaengigkeiten-Braunkohle.pdf

⁷ https://www.innovationsregion-mitteldeutschland.com/wp-content/uploads/2021/11/Praesentation Pfadabhaengigkeiten-Braunkohle.pdf

^{8 &}lt;a href="https://www.strukturentwicklung.sachsen.de/handlungsprogramm-4831.html">https://www.strukturentwicklung.sachsen.de/handlungsprogramm-4831.html

^{9 &}lt;u>https://strukturwandel.sachsen-anhalt.de/perspektiven/strukturentwicklungsprogramm/page</u>

¹⁰ https://www.innovationsregion-mitteldeutschland.com/wp-content/uploads/2022/06/Strategiepapier_IRMD_Revierkompass.pdf

The leading sectors are: energy supply; logistics;, glass industry; chemicals industry; automotive industries; food and agriculture; circular economy; health and social services; IT - & and information services; tourism.

Description of the project

General project details

The Revierwende project is the central contribution of the German trade union movement to **ensuring worker participation and representation of their interests** in the process of phasing out coal mining and coal-based energy production. It was created with the support of the Federal Ministry of Economics and began work in October 2021. It is funded with the Structural Enhancement Act. The idea to have a cross-location and cross-coalfield project to accompany the structural change was a recommendation from the Coal Commission. The project's main goals are:

- to strengthen employee participation in the structural development of the coalfields;
- to provide an inclusive approach with outreach beyond trade unions and work councils and the core energy sector;
- to provide knowledge transfer of good practices across the coal regions and beyond.

The project is **cross-sectoral and inter-regional**. The four main coal regions in Germany are involved in the project: Lusatian coalfield; Central German coalfield; the Rhenish coalfield; and the Saarland coalfield (although here, (hard) coal mining has already ended in 2012). The project supports the regions directly in implementing initiatives and programmes that aim at ensuring a future-oriented transition.

Type of activities

There are two main working areas of the project: 1) providing knowledge transfer, networking, and public outreach and 2) consulting, qualifying, and training. In the first area, the project is organising events and publications on Just Transition, innovation topics and sharing of good practices. Furthermore, local networks will be established as well as innovation workshops together with workers directly affected by the transition. Those activities and others are meant to establish knowledge transfer across regions and states. In the second area, the project aims at improving the skills of workers, especially of young workers at local level and trade unionists and work councils. Training and consulting are based on structural development, regional politics, and technical know-how. All activities are designed with maintaining a strong focus on the DGB Decent Work Index and ensuring that work is covered by collective bargaining agreements and co-determination.

Goals and approach

The project aims at supporting the coal regions in Germany during their transition. The main character of the project is coined by a **massive coordination and capacity increase in the regions** which should answer the questions on how to ensure good working conditions, how to sensibly use funding from the point of view of workers and how to implement decisions processes in the regions.

In all regions offices were founded (two in the Lusatian coalfield, two in the Central German coalfield and one each in the Rhenish coalfield and the Saarland) that should ensure the 'on the ground'-knowledge and actively contribute and shape the transition. The project follows three main goals:

- strengthening employee participation in the structural development of the coalfields;
- provide an inclusive approach with outreach beyond trade unions and work councils and the core energy sector;
- enable knowledge transfer of good practices across the coal regions and beyond.

The project began in October 2021 and is still in the process of establishing first results. It has already succeeded in expanding trade union outreach to other governmental, business, and societal organisations tasked with regional restructuring in the coal phase out just transition process. It has also established inter-regional learning processes to allow for transfer of experiences. The first activities showed that there is a large demand for coordination and exchange possibilities between and within the regions. In addition, they were able to bring the perspective of the employees on the agenda.

The project aims at creating the following expected outcomes. First, it is meant to ensure protection for employees that are being phased out of coal-based employment. Secondly, the contribution to collective bargaining agreement coverage and co-determination in new economic developments is aspired. Third, the project strives for providing the ability to learn in real-time between the participating regions.

Tools for supporting economic diversification and reskilling/ upskilling

The project contributes on different levels to economic diversification and re-/upskilling in the regions. Concerning diversification, the regions of the project are well equipped to diversify their economies. A central part is different ongoing projects in the region aiming at bringing new technologies, new industries, more sustainable sectors to the region which are being supported by Revierwende. For example, for the Rhenish coal field there are several diversification possibilities that aim at making the former coalfield a sustainable energy region with sustainable industry. Although the project does not provide funding on its own, it can contribute to well targeted financing and investment, as one of its key strengths is to highlight the needs and potentials of the regions and their workforce. By doing so it further helps to capitalise on unique regional strengths for innovation. Several ongoing innovative initiatives were highlighted by Revierwende's representatives that aim at bringing the right sectors to the region. Such an example is the gigawatt factory that is to be established in Lusatia and should become the biggest cluster of renewable energy in Germany. The factory should build up to seven gigawatts of wind and photovoltaic energy until 2030.

At the core of the project however lies the focus on the workers perspective given that the project is an initiative of the trade unions. The **support of vulnerable workers during the period of industrial transition** is consequently a key concern. **Green skills and jobs are being promoted** by events that should inform on the topics and allow for exchanges.

Partners and contacts

The project is located in four coal regions where it is represented with one or two offices respectively. In Berlin, there is a central coordination office. The offices are mainly meant to be contact points for trade unions, work councils and employees. This approach should ensure that a local contact point is given and the conditions on the ground can be perceived.

Key success factors and lessons learnt

As outlined above, the project is still at its outset. However, it is already becoming clear that **creating space and capacity for networking across multiple regions** and actor levels will be a key positive takeaway. For regions, the project offers another level with which the regions can cooperate that reaches into the political dimension. This also increases **transparency**, as previously information was not always published at regional level. The inclusion of several regions and consequently different actors is another advantage of the multi-regional project.

Coordinating the networking activities is a winning resource the project can offer to a wide range of interested actors as this can typically take up significant work capacity with the day-to-day business of said actors which is often difficult to maintain over time. A supporting factor for providing networking opportunities but also for the project as such is that the organisation behind the project, the German federation of trade unions, is widely regarded as a mainly neutral organisation, not driven by political forces. Due to its size the DGB is seen as independent as well. This gives the project the credibility and the possibility to speak with political representatives and give a voice to the coal regions. By doing so, the potential of the regions can be further highlighted and brought to the attention to decision-makers.

A special feature of the project is the **pro-active nature**. The project contributes to a large extent to adapting to new situations that stem from the changes coming with phasing out coal. More importantly is that due to its pro-active nature the project supports in addressing the issues which will still manifest themselves in the future. Political support is a necessity to address this in an efficient way. This is given for the Revierwende project as the set-up was influenced by a political recommendation and the project receives funding from the Structural Enhancement Act, allowing its operation to be conducted smoothly without constantly looking for additional funding.

Scalability and transferability

In simultaneous, multi-regional just transition processes, the ability to share experiences and learn in real time by adding a unified structure could be a key element in transferability. The ability of such a project structure to act as a 'force multiplier' is also central to success of transferring the basics of this project.

However, decisive for a potential transferability is the national and regional funding structures. In Germany, there is a strong regional funding landscape which simplifies regional funding. In addition, structures to allow for inter- and intra-regional dialogue are essential. There needs to be the awareness of a variety of actors that are visible to the public (e.g. trade unions, chamber of commerce, employment agency) in the region that it is possible to create something new and of value for the region. In general, transferability depends more on national and regional structures than on the sector being in transition. However, as the coal sector, for Germany at least, is the biggest CO2-emmittent it is sensible to set up a project in this field. The funding available for the coal phase out in Germany is significant from which the project benefited.

The project is currently working at a comparatively large scale, with national and multi-regional scope. It would be also possible to establish such a project at a higher level (e.g. EU) however, then vertical integration must be ensured. A top-down approach as such is not feasible but would need an additional bottom-up support. At EU level, it would be of great benefit if trade unions, workers and citizens' representatives had a greater say. So far, the project is not engaged in more formal European exchange formats but there are European workshops where regions can present how they are approaching the coal phase out (see for example the different offers by IndustriALL). A stronger institutionalised exchange between European coal regions would be desirable as this gives an interesting perspective and maybe some new impulses. Exchange is a value in itself.

Key challenges

The background for the project is an important aspect. The coal regions in Germany already experienced structural change (more concrete, the large part of the transformation already happened in the 1990s, where the direct coal employment decreased dramatically from around 130 000 employees to approximately 20 000)¹² and the political discussions have left some traces in the regions and its population. Especially in the Eastern Germany coal fields the previous structural change due to the reunification left strong negative perceptions which is enhanced by the impression that the work in the coal fields and the perspective of the employees are not considered enough.

Consequently, concepts need to be developed aiming at reconciling opposing sides. Although the different coal regions of the projects are facing similar challenges, there are also some challenges that are more pressing in some regions than in others. For example, for Lusatia one concrete question is how to retain young people in the region to avoid that parts of the region become desolated. For the Rhenish area the topic of qualifying skilled workers is more urgent.

It remains to be seen if the current energy crisis will affect the structural change in Germany and consequently the Revierwende project. So far, the projects related to structural change remain ongoing and further projects are planned.

Strengths and weaknesses

The central strength of the project is the **cooperation across coal-regions** and the pro-active working, meaning that the project addresses the challenges that will come with the coal phase out before the impacts could manifest themselves in the regions. Therefore, it is an essential feature that all main coal

regions of Germany are part of the project and in addition, that the coal fields that belong to two different federal states (i.e. Lusatian coalfield to Saxony and Brandenburg and the Central German coalfield to Saxony and Saxony-Anhalt) are represented with offices in each state. This is due to the fact that legislations might vary across states and should ensure that each condition is reflected. The cross-regional work and all associated exchanges lead to the case that the different coal fields are aware of what is exactly happening in the other regions which could in turn then enrich the work in the 'home'-region.

However, the differences in the regions can sometimes prove challenging. As different states in Germany are part, different legislation might influence the project. Even national decisions might take different expressions in the 'Bundesländer'. An example is the phase out deadline of 2038 (nationally binding) which was advanced in North Rhine- Westphalia to 2030 – a change that leads to very different needs and conditions than in the other coal regions.

Outlook

Now that the networking phase is finished, it is planned that the advisory network will be further expanded. The advisory phase is meant to stronger support the enterprise level as well as the regional employment levels. Part of the support will be conducted at regional level, another part at federal/national level. This is also meant to answer the question on how to rate the future use of funding from the employees' point of view (since previous funds were not necessarily allocated meaningfully from the employees' point of view).

Apart from that, the work will continue to ensure that the transition is communicated well, transfers are well designed, and employees are brought into jobs. One concrete hope is that the project can contribute that actors have a certain knowledge that they would not have had without the project on what can be done to mitigate the impacts of coal phase out. This includes discussions on how good labour needs to look in the future and critical reflections on their own work. If all works out, the project can serve as a blueprint on how to actively shape just transition from a labour unions perspective and across regions.

Sources

ARL (2022): <u>Braunkohleplanung</u>, <u>Strukturwandel und Kohleausstieg in Deutschland</u>. <u>Online available:</u> <u>https://www.arl-net.de/system/files/media-shop/pdf/pospapier_135.pdf</u>.

Baum, Carla (2021): Flöze, Gruben, Schächte – Geschichte der Braunkohle in Deutschland. Online available: https://www.boell.de/de/2018/12/27/floeze-gruben-schaechte-geschichte-der-braunkohle-deutschland.

Bundesinstitut für Bau-, Stadt- und Raumforschung (2022): Der Kohleausstieg in der Lausitz. Online available: https://www.bbsr.bund.de/BBSR/DE/forschung/fachbeitraege/raumentwicklung/strukturwandel-braunkohlereviere/spannungsfeld-kohleausstieg-lausitz/01-start.html.

Bundesregierung (2022): Von der Kohle hin zur Zukunft. Online available: https://www.bundesregierung.de/breg-de/themen/klimaschutz/kohleausstieg-1664496.

Bundesregierung (2023): Energiewende in der Lausitz bringt Chancen für die Region. Online available: https://www.bundesregierung.de/breg-de/themen/klimaschutz/energiewende-in-der-lausitz-2167422.

Deutscher Gewerkschaftsbund (2021): DGB startet Revierwende-Projekt. Online available: https://www.dgb.de/presse/++co++c4ff3bd6-581f-11ec-aa45-001a4a160123.

Geißler, Ralf (2022): Energiekrise bremst Strukturwandel bisher nicht aus. Online available: https://www.mdr.de/nachrichten/deutschland/wirtschaft/energiekrise-strukturwandel-kohleausstieg-100.html.

Gürtler, Konrad, Victoria Luh, Johannes Staemmler (2020): Strukturwandel als Gelegenheit für die Lausitz. Warum dem Anfang noch der Zauber fehlt. In APuZ. Online available: https://www.bpb.de/shop/zeitschriften/apuz/304334/strukturwandel-als-gelegenheit-fuer-die-lausitz/.

Innovationsregion Mitteldeutschland (2021): Perspektiven 2035 für Wertschöpfung

Innovationsregion Mitteldeutschland (2022): Revierkompass. Online available: https://www.innovationsregion-mitteldeutschland.com/wp-content/uploads/2022/06/Strategiepapier IRMD Revierkompass.pdf.

Interview with representative of Revierwende, 21 April 2023.

Interview with representative of Revierwende, 2 August 2022.

Interview with representative of Revierwende, 5 May 2023.

Landesportal Sachsen-Anhalt (2023): Strukturentwicklungsprogramm. Online available: https://strukturwandel.sachsen-anhalt.de/perspektiven/strukturentwicklungsprogramm/page.

L'essentiel online (2012): Im Saarland ist Schicht im Schacht. Online available: https://www.lessentiel.lu/de/story/im-saarland-ist-schicht-im-schacht-977034948567.

Ministerium für Wirtschaft, Innovation, Digitales und Energie (2023): Bergbau im Saarland. Online available: https://www.saarland.de/mwide/DE/themen-aufgaben/weitere aufgaben/bergbehoerde/bergbau im saarland.html.

Ministerium für Wirtschaft, Innovation, Digitales und Energie (2023): Erfahrungswerte und nächste Schritte. Online available: https://www.saarland.de/mwide/DE/themen-aufgaben/weitere_aufgaben/bergbehoerde/grubenwasserhaltung/erfahrungswerte_naechste_schritte.html.

Ministerium für Wirtschaft, Innovation, Digitales und Energie (2023): Stahlindustrie. Online available: <a href="https://www.saarland.de/mwide/DE/portale/saarlandindustrieland/stahlindustrie/stahlindus

Revierwende (2022): Revierwende - Sozial und ökologisch. Online available: https://revierwende.de/die-revierwende/.

Revierwende (2023): Lausitzer Revier. Online available: https://revierwende.de/reviere/lausitzer-revier/.

Revierwende (2023): Mitteldeutsches Revier. Online available: https://revierwende.de/reviere/mitteldeutsches-revier/.

Revierwende (2023): Rheinisches Revier. Online available: https://revierwende.de/reviere/rheinisches-revier/.

Revierwende (2023): Saarländisches Revier. Online available: https://revierwende.de/reviere/saarlaendisches-revier/.

Sächsisches Staatsministerium für Regionalentwicklung: Handlungsprogramm. Online available: https://www.strukturentwicklung.sachsen.de/handlungsprogramm-4831.html.

Statista (2023): Anzahl der Beschäftigten im Braunkohlenbergbau in der Lausitz in den Jahren von 1958 bis 2022. Online available: <a href="https://de.statista.com/statistik/daten/studie/161205/umfrage/braunkohlenbergbau-beschaeftigte-in-der-lausitz-seit-1960/#:~:text=Die%20Statistik%20bildet%20die%20Anzahl%20der%20Besch%C3%A4ftigten%20im,allgemeinen%20Versorgung%29%20im%20Braunkohlenbergbau%20in%20der%20Lausitz%20besch%C3%A4ftigt.

Survey input of representative of Revierwende, Summer 2022.

und Innovation im Mitteldeutschen Revier. "Pfadabhängigkeiten der Braunkohlewirtschaft". Online available: https://www.innovationsregion-mitteldeutschland.com/wp-content/uploads/2021/11/Praesentation Pfadabhaengigkeiten-Braunkohle.pdf.

Wirtschaftsregion Lausitz (2022): Lusatia 2050 Development Strategy. A brief presentation of the guide to the region's future. Online available: https://wirtschaftsregion-lausitz.de/wp-content/uploads/2021/03/1.2 Entwicklungsstrategie-Lausitz-2050 Kurzfassung englisch-1.pdf.

Wirtschaftsregion Lausitz: Lusatia 2050 Development Strategy. A brief presentation of the guide to the region's future. Online available: https://wirtschaftsregion-lausitz.de/wp-content/uploads/2021/03/1.2 Entwicklungsstrategie-Lausitz-2050 Kurzfassung englisch-1.pdf.

Zukunftsagentur Rheinisches Revier (2021): Wirtschafts- und Strukturprogramm für das Rhenische Zukunftsrevier (WSP 1.1). Online available: https://www.rheinisches-revier.de/wp-content/uploads/2022/04/wsp 1.1.pdf.

Zukunftsagentur Rheinisches Revier: Daten und Fakten. Online available: https://www.rheinisches-revier.de/was/strukturwandel/daten-und-fakten/.

Zukunftsagentur Rheinisches Revier: Der Strukturwandel. Online available: https://www.rheinisches-revier.de/was/strukturwandel/ausgangslage/.

Manuscript completed in July 2023 Luxembourg: Publications Office of the European Union, 2024 © European Union, 2024





The Commission's reuse policy is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39, ELI: http://data.europa.eu/eli/dec/2011/833/oj).

Unless otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (https://creativecommons.org/licenses/by/4.0/). This means that reuse is allowed, provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightsholders.

Print ISBN 978-92-68-17586-6 doi:10.2776/24029 KN-09-24-429-EN-C PDF ISBN 978-92-68-17587-3 doi:10.2776/107563 KN-09-24-429-EN-N