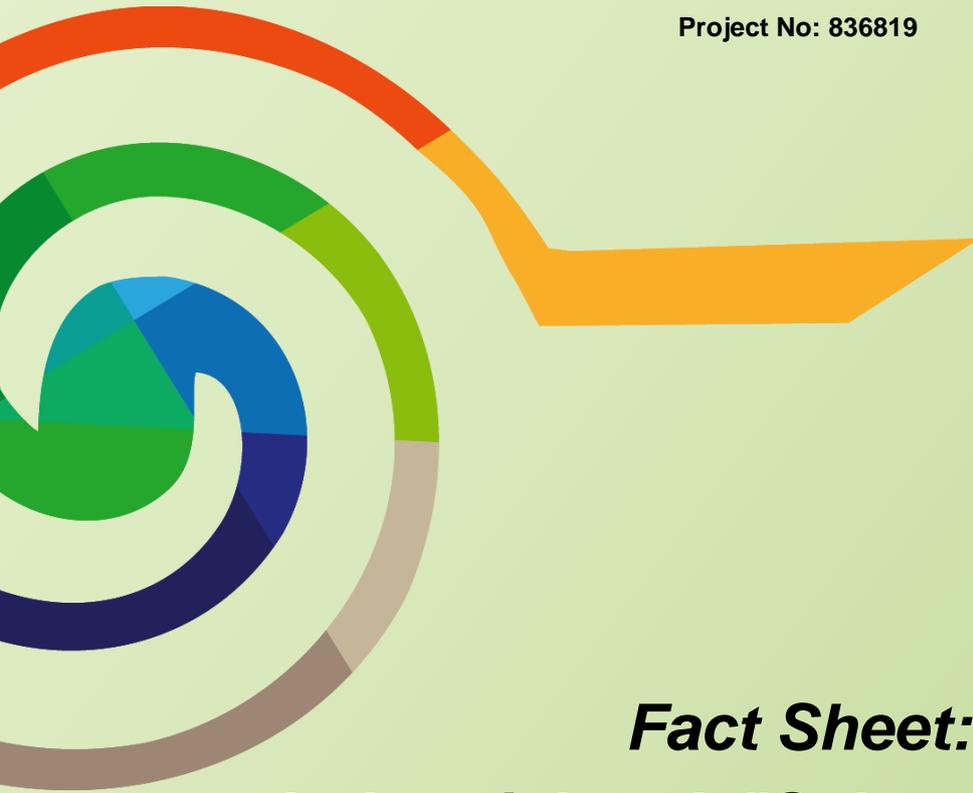


Project No: 836819



Fact Sheet:
Industrial park "Schwarze Pumpe"
Conversion of a lignite processing
industrial site

September 2019



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Description

The industrial park "Schwarze Pumpe" (ISP) is located in the centre of the Lusatian Lignite District on the border between the federal states Brandenburg and Saxony. It has 720 hectares, which most of them belonging to the city of Spremberg (Brandenburg) and the community Spreetal (Saxony). In place of the former large-scale lignite processing and refining facilities (briquette, coal gas production, coal refining etc.) nowadays about 125 diverse enterprises with approx. 4,500 employees have settled (2018). That makes the location to one of the economic centres in the region and driving forces for the ongoing transition process, across the federal state borders.

A few words on the history of the industry complex: Founded in the early 1950s at "Schwarze Pumpe" lignite of the nearby mines was converted in electricity but even more refined to briquettes, pulverised lignite, high-temperature lignite cokes for steel industry and town gas. The former gas combine "Schwarze Pumpe" and the linked production units developed to one of the pillars for the energy and chemical sector in the former GDR.

In the 1990s the restructuring of the industrial complex started. Stepwise ISP was transformed from a monostructured and centrally organised location of the energy production and coal processing ("planned economy") to a modern and divers industrial complex, by using synergies between the companies established (e.g. energy production and consumption, waste heat, primary products, semi-finished goods). The spectrum of industrial and commercial ranges from power generation (large-scale lignite power plant "Schwarze Pumpe" (1,600 MW, operated by Lausitz Energie Bergbau AG / LEAG, Germany's fourth-largest electricity producer) over papermaking, process automation technologies, chemical and building materials industry to electrical and environmental engineering.

Since 2013 the industrial park is managed by an overarching administration unit of the municipalities Spremberg and Spreetal with public status, the so-called "Zweckverband Industriepark Schwarze Pumpe" (ZV ISP), originally dealing with water resource and management tasks. ZV ISP is a service provider to secure the infrastructure and industrial development, so that all production processes are coordinated and can run without any negative impact on other companies. The main responsibilities of ZV ISP are now concerning the operation, location development, transportation connections, marketing of real estate, and organisation of operation and logistics free of conflicts. Thereby, ZV ISP is strengthening the competitiveness of the industrial complex and the companies on-site. An important field of action lies on supporting the further expansion of already established production and value chains. In fact, such measures are a basis for establishing new commercial and industrial undertakings with innovative ideas contributing to a sustainable economic growth in the region. For all practical daily questions of the industrial park management ZV ISP makes use of "ASG Spremberg GmbH". The private service provider and concessionaire is also responsible for the local business development on behalf of the ZV ISP.

Achievements

The industrial park "Schwarze Pumpe" bundles a broad spectrum of industrial and sector- and site-specific technological key competences, practical know-how and innovative potentials feeding into the coal transition process. All industrial settlements take profit - not only from the provided infrastructure and support by ZV ISP but also the existing field of competence, manifold networks and business cooperation. Several well-known national important companies and even worldwide acting large enterprises are on-site, thereby, using company-wide and cross-sectoral business synergies, concerning the sector clusters - only a brief selection: (1) energy and biofuel production, coal chemistry, lignite refining: LEAG, Blue Planet Bio-Energy Deutschland GmbH, Deutsche Biomethanolfabrik Schwarze Pumpe GmbH, (2) energy management: Envia Mitteldeutsche Energie AG, Envirotherm GmbH, ISS Energy Services GmbH, (3) environmental technology: RO-EL Umwelttechnik und Dienstleistungs GmbH, Veolia Umweltservice Ost GmbH & Co. KG, (4) power plant technologies and electrical engineering: Siemens AG, EMIS Electrics GmbH, Actemium BEA GmbH, (5) reclamation

mining, (6) paper industries: Hamburger Rieger GmbH, Dunapack Spremberg GmbH & Co. KG, (7) building materials industry: Knauf Deutsche Gipswerke KG, etc. and various industrial service providers.

Challenges

The industrial park "Schwarze Pumpe" offers a considerable industrial and innovation potential, but also perspectives for the further development of regional value chains. The ISP is an experimental field on the basis of a large industrial scale. However, actually the industrial structure and production processes are mainly depending on the lignite industry established in "Schwarze Pumpe". In particular, the large-scale power plant "Schwarze Pumpe" is feeding many enterprises and the production flow. For example, besides energy the steam utilisation and flue-gas desulphurisation (FDG gypsum) play an important role, notably for the established paper industry. In addition, there are also the various suppliers and service providers. That is quite typical for a lignite power plant related industrial park. So the basic challenge for the next decades in "Schwarze Pumpe" is to develop new heat, energy and production cascades independent of lignite burning and processing. That calls for a reliable and transparent decarbonisation strategy.

Especially, when looking at stimulating the endogenous potential for restructuring and establishing a forward-looking industry, it is important to strengthen the already existing research and innovation cooperation with the regional universities, notably the Technical University of Cottbus (BTUCS, e.g., Chair for Power Plant Technology, the Zittau/Görlitz University of Applied Science and the Technical University of Applied Science Wildau, but also the Technical Universities in Berlin (TU Berlin), Dresden (TUD) and Freiberg (BA). In addition, there are some independent, quite profiled research institutions in the mining and energy sector working in the region that should be considered, like the Research Institute for Post-Mining Landscapes (FIB) in Finsterwalde or the Centre for Energy Technology Brandenburg GmbH (CEBra)/Cottbus. For ZV ISP it is important to have a special focus on the promotion of young creative start-up companies, coming from the well-educated graduates of the universities, so that their competence stays in the region. In addition, there are the joint vocational training centres in "Schwarze Pumpe" for securing the next generation of qualified employees.

Moreover, the strategy concepts of the federal states dealing with decided coal phase-out in 2038 refer to new research capacities in the region, e.g. Fraunhofer Institute for Energy Infrastructure and Geothermy, which should be established in close contact with industry, why not in the ISP? However, that calls for a joint strategy concept for the region and a coordination between both federal states and the entire state.

Quite important is to **stimulate investments** of large-scale players in the region, like LEAG or the Siemens AG. In addition, there are new actors expressing their interest in innovative energy investments, which are structure building for the future: For example, the Enertag AG in Dauerthal, a European wide active holding dealing with renewable energies (core business wind energy) is planning a **regenerating storage power plant** in "Schwarze Pumpe" for 2022. Thereby, gaseous **hydrogen should be generated by regenerative energies** via electrolysis. In another, good sounding initiative the LEAG together with the EGEM in Budweis, both belonging to the EPH holding, have announced in December 2018 to build a **large-scale "Bigbattery Lausitz"** as a contribution **to stabilise the electricity grid** in the light of feeding-in more renewable energies. The quick electricity storage is unique in Europe and designed for a capacity of 50 MWh and having a direct 10 kV grid connection. The calculated investment is 25 million EUR, thereof 4 million EUR funding from the federal state Brandenburg.

Enabling conditions

Overall there are several success factors, that have to be considered, when looking at the positive development of the industrial park "Schwarze Pumpe" (ISP) in the recent past:

- (1) At first there are the outstanding competences in different economic sectors and the combination of infrastructure, pilot plants and cooperation between private companies and research organisations. That relates to power plant engineering, chemical processing but also water remediation and waste recycling. Joint projects and services along the production and value chains are setting up and promoting self-organised networks and close business relationships. The existing value chains offer a good basis for docking new investments, especially into the energy sector.
- (2) The location management of the industrial park is under one umbrella a single steering instrument. The new "Zweckverband Industriepark Schwarze Pumpe" (ZV ISP) with its service partner "ASG Spremberg GmbH" provide contact for establishing new companies, somehow a service centre for all aspects dealing with the investment. Thereby the management should take a focus on international marketing, independent of the lignite depending structures.
- (3) ISP has infrastructural advantages, due to the long industrial history of the location and compared to other more rural subregions/economic clusters in the economic region Lusatia. Of course, the industry complex has a direct railway connection, and also access to the trans-regional natural gas grid. There is a relatively good transport connection with direct linking to two federal roads, three motor highways nearby (A10, A13, A 15) with a fast access to the metropolis regions Berlin (150 km) and Dresden (80 km). The international airports Berlin-Schönefeld, Berlin-Tegel, Dresden and Leipzig/Halle are within a 150 km radius.
- (4) The technical infrastructure of "Schwarze Pumpe" is state-of-the-art (media supply, water supply and cleaning, waste disposal, etc.). For that, the federal states Brandenburg and Saxony and the federal government have invested together with capital of the communities Spremberg and Spreetal about 130 million EUR - only between 2002 and 2014.
- (5) Finally, ISP has a location advantage, as it is located in the heart of central Europe close to the neighbouring countries Poland and the Czech Republic within the Euro region "Spree-Neiße-Bober". That's why "Schwarze Pumpe" with its diverse business portfolio can be an economic bridge, stimulating the historically grown relationships to east Europe. In this light, development perspectives for "Schwarze Pumpe" are lying in economic cooperation across national borders.

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