



BRIEF

REGIONAL ENERGY TRANSITION

SILESIA



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Table of Contents

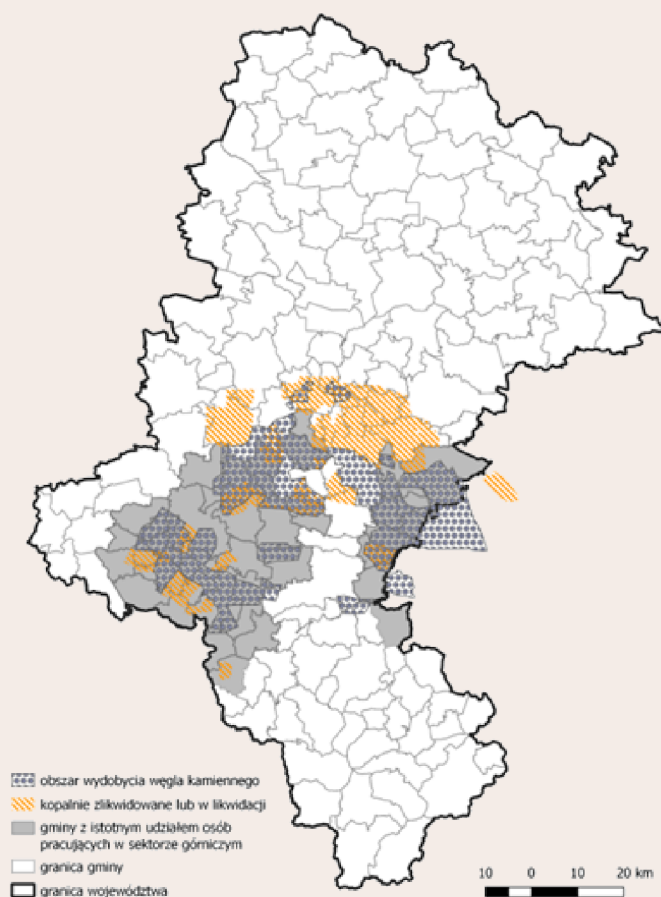
02 The Silesian
Voivodeship region

06 Policy affecting the
transition of Silesian
Voivodeship region

08 Assessment of the
Territorial Just
Transition Plan



Region overview



On the left

Map of the Silesia region showing the location of coal activities

Below

The Silesia region located in the map of Poland



Area of the region	12 333 km ²	3,9% of the country
Population (2021)	4,4 mln	11,7% of the country
GDP (2021)	66,7 mln. euros	12% of the national GDP
Age distribution (2021)	17,4% under working age	58,9% in working age

The Silesian Voivodeship

Description of the region

Data from recent years shows a **decrease in the population** in the Silesian Voivodeship. In 2010, 4,634,900 inhabitants lived in the voivodeship, while in 2019 there were 117,300 fewer of them. In addition, an interesting observation is that the number of urban residents in the voivodeship is systematically decreasing, while the number of rural residents is increasing. Compared to 2018, in 2019 the number of urban inhabitants decreased by about 0.52%, while the number of rural residents increased by 0.21%.

In the voivodeship, the birth rate in 2021 was 7.9‰ and decreased by 0.7‰ compared to 2020. In addition, most counties in the Silesian Voivodeship (as many as 31 out of 36) were classified as depopulating ones.

Comparing 2010 with 2019, data shows that **the middle age of the inhabitant increased by 3 years**. In 2021, this age was already 3.7 years higher than in 2010. This means that the population of the Silesian Voivodeship is getting older. In 2010, the number of people aged 65 and over per 100 people aged 0-14 was 102 people, in 2019 132 people, and in 2021 already 136 people. Moreover, in 2019 there were 68 people per 100 of working age, which is as many as 15 people more than in 2010. In 2021, it was already 71 people.

GDP in the Śląskie voivodeship in 2021 amounted to PLN 313,593 million (12% of national GDP). Compared to 2019, it increased by PLN 36,564 (12.1% of national GDP). For comparison, in 2010 the GDP of the Silesian Voivodeship amounted to PLN 184,038 million, which accounted for as much as 13% of the national GDP.

There are 17 counties and 167 communes in the voivodeship. Of these, 49 are urban municipalities and 96 are rural municipalities. The remaining 22 are urban-rural communes. The document entitled "Development potentials and challenges of the Silesian Voivodeship in the context of just transformation. Diversification of the area of mining subregions" from 2022 also distinguishes **7 subregions covered by the transformation process** in the Silesian Voivodeship and these are subregions: Bytom, Gliwice, Katowice, Sosnowiecki, Tychy, Bielski, Rybnicki. The decision-making structure in the region is divided into provincial, district and municipal levels.



What is a voivodeship?

A voivodeship is the area administered by a voivode (governor) in several countries of central and eastern Europe. Voivodeships have existed since medieval times and the area of extent of voivodeship resembles that of a duchy in western medieval states.

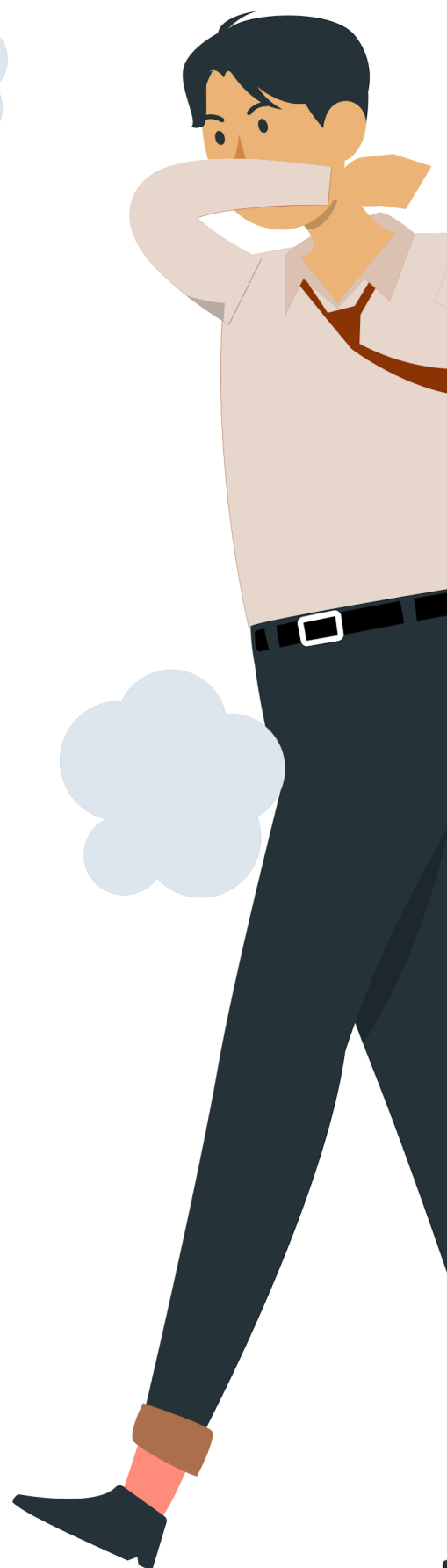
Coal mining

The history of coal mining in the Silesian Voivodeship dates back to the eighteenth century. The mining sector has always been very important in this region, so the area has long been heavily exploited for mining. Besides strictly mining activities, many mining-related industries are associated with mining activities, e.g. transport or energy. **The Silesian Voivodeship is the most coal-dependent region in the European Union.**

In 2019, mining generated about 7% of the added value generated in the Silesian Voivodeship. This means that right after construction, wholesale trade and retail trade (excluding vehicle trade) it was one of the most important sectors in creating the region's GDP.

Further planned development of the region described in the "Territorial Plan for Just Transformation of the Silesian Voivodeship 2030" takes into account the development of an innovative and low-emission economy along with its diversification and reduction of energy and resource consumption. The development plan aims to increase the region's potential through the use of high technologies. In addition, the plan takes into account increasing the tourist attractiveness of the region and creating potential for future entrepreneurs. The plan also takes into account the environmental aspect, thanks to which the region will become not only more attractive, but also safer for residents. The environmental aspect of the plan shall take into account the development of renewable energy sources; reducing the effects of industrial activities on the environment and improving biodiversity indicators; reducing the negative impact of transport on the environment.

Society is an extremely important aspect included in the region's transformation plan. The plan takes into account the broadly understood support of residents on the labor market through an education system that raises the qualifications of residents, support in the development of new competences among employees and a system of activating residents.

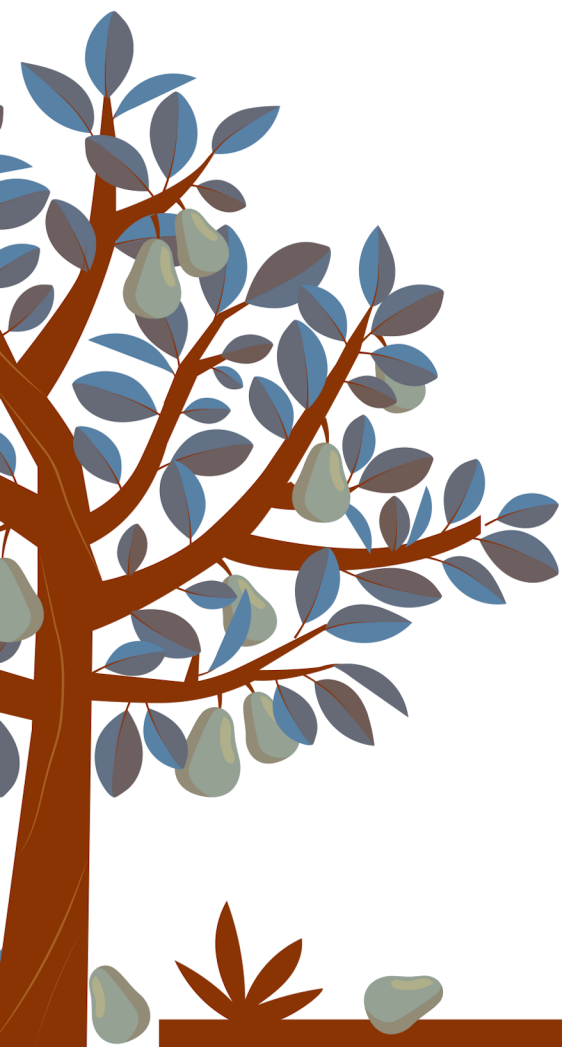


The plan includes a timetable according to which **hard coal mines will be closed by 2050**. In order to limit the negative impact on those employed in the mining sector, mines will be closed regularly.

! Less coal, less electricity

In 2021, hard coal extraction amounted to about 30 million tons per year, while the shutdown of some mines by 2030 is expected to reduce this amount to 23 million tons per year. In addition, the elimination or significant reduction of hard coal electricity production by 2030 will decrease from 14,403.5 GWh (2021) to 3,079 GWh.

The significant importance of the mining sector in the region has a negative impact on the environment due to the strong deformation and devastation of the areas caused by the need to expand mining activities and extract coal from greater depths. Such actions can also contribute to the heaping of earth, which in turn can be dangerous for residents. In addition, the Silesian Voivodeship is characterized by the highest consumption of hard coal as a source of heating households, which contributes to the deterioration of air quality. Moreover, a lot of industrial waste is generated and collected in this region, which in 2018 accounted for about 1/4 of this waste in the country. This also has a negative impact on the quality of air, water and soils. This waste comes from rinsing and purification of minerals, and the biggest problem is mining waste.



Social aspects and employment

The **unemployment rate in the Silesian voivodeship is regularly decreasing**. In 2014 it was 9.6%, in 2017 it was 5.2%, and in 2021 it was already at the level of 4.3%. In 2021, the Silesian Voivodeship ranked 2nd as lowest unemployment rate in the country. Unemployment affects women more often, and for years the share of unemployed women in Silesia has been higher than at national level.

Unemployment in the region (2021)	4,3%
Direct employees in the coal sectors (2019)	74.500 (est.)
• of which with higher education	14.900 (est.)
Indirect employees in the coal sector (est.), (2019)	56.700 (est.)

In 2019, **only 10% of employees in the mining sector were women** and they worked only on the surface of mining plants. **The majority of employees are men aged 30 to 39** (2019), who are underground workers. The next most popular age group is men aged 40-49. Younger workers are rarer. **Workers have mainly secondary education** (about 48%), but there is a large disproportion between subregions. In some subregions, e.g. Rybnik, a fairly large number of employees have vocational education, while in the Sosnowiec sub-region a larger number of employees have higher education. Higher or higher professional education can most often be found in engineering and technical staff and in administration. People with only primary education are the least numerous group among employees of the mining sector.

Employment in hard coal mining has been falling for years. From almost 400,000 people employed in this sector in Poland in 1990, this number fell sharply for about 10 years and then slowly decreases further. In 2019, only 83,000 people worked in hard coal mining throughout Poland, of which as many as 74,500 in the Silesian Voivodeship.

Workers in the mining sector aged 40-49 most often believe that their professional qualifications give the opportunity to work in another sector (about 70%). This is described in the report "SILESIA VOIVODESHIP AT THE TURNING POINT OF TRANSFORMATION".

People under the age of 20, on the other hand, rather believe that their qualifications will not allow them to get a job in another sector. When it comes to **people aged 20-29 and 30-39, more than half believe that their qualifications create the opportunity to find another job**. People over 50 have the most diverse opinions, but as many as 30% of them do not believe that they can get another job with their qualifications.

Policies for the regional transition

Policy overview

The most important and basic document dealing with the energy transformation in Poland is the **Energy Policy Polish until 2040**, which guides energy transformation and presents a harmonogram of the departure from coal in Poland. The Energy Policy Polish until 2040, together with the National Energy and Climate Plan for 2021-2030, presents key climate and energy goals.

In addition to national documents, there are also many documents at regional level, such as the Development Strategy of the Silesian Voivodeship "Śląskie 2030" – Zielone Śląskie; draft Regional Revitalization Policy of the Silesian Voivodeship; Low-Emission Economy Policy for the Silesian Voivodeship; Regional Energy Policy until 2030; Social Policy Strategy of the Silesian voivodeship for 2020-2030, or Regional Innovation Strategy of the Silesian voivodeship.

The resulting Territorial Plan for Just Transformation of the Silesian Voivodeship 2030 is consistent with both national and regional documents. This plan considers the region's economic development, reducing the region's negative impact on the environment, and supporting residents in the energy transition. All documents created are consistent and aim at achieving the European Union's goal of climate neutrality by 2050.

In the case of the Silesian Voivodeship, **the stakeholders most affected by the energy transformation are entrepreneurs and employees of the mining and mining-related sectors, and residents of the Silesian Voivodeship**; local (municipal) and regional (district) authorities, Regional Energy Councils, Regional Teams, and the Council for Innovation are also stakeholders.

4 goals of the Energy Policy Polish



Reduce CO2 emissions by 30%



Increase the share of renewables in final consumption to 23%



Increase energy efficiency by 23%



Cut the share of coal in electricity generation to a maximum of 56%

Stakeholders who will be most affected by the energy transition are afraid that the planned changes may contribute to their inability to find a job. However, consultations and discussions are ongoing between stakeholders to identify the best ways to retrain people with education and/or experience in the mining sector and give them the opportunity to work in suitable positions.

Greatest challenges of energy transformation in the Silesian Voivodeship

1 The region has the highest degree of dependence on coal in the country.

2 The mining sector and other related businesses employ many workers.

3 The move away from coal will affect mainly nearby areas, which may have a negative impact on local economies and communities.

4 The largest share of degraded areas is located in the Silesian Voivodeship. Moreover, these areas show a low rate of reclamation and development.

5 Depopulation and ageing may contribute to the reduction of the number of people working in the Silesian Voivodeship.

Assessment of the Territorial Just Transition Plan (TJTP)

The region's TJTP is assessed via the WWF's "Toolkit for assessing effective Just Transition Plans". This online toolkit is structured around 10 principles that set out how a just transition plan can be effective at delivering the just transition, i.e. to what extent the plan addresses the social, economic, and environmental impacts of the transition towards a climate-neutral economy.

Overall assessment of the TJTP for the Silesian voivodeship



The overall assessment of the Territorial Plan for the Just Transformation of the Silesian voivodeship 2030 showed that there are still noticeable deficiencies in the Plan when it comes to indicators reviewed under the WWF tool. Of the 10 principles mentioned, half of them were fully covered by the developed Plan, 4 of them were partially in line with the adopted principles of just transition, while one of them is completely inconsistent with the adopted principles.

The principles that are in line with the principles of just transition are: leading to sustainable economic diversification at local, regional and national level; not to harm the Union's environmental and climate objectives and values; compliance with the "polluter pays" principle; adopting a local approach to the design and implementation of the strategy and developing the Plan based on a high-quality, independent and objective analysis of the challenges and opportunities for transformation.

The plan was rated worst on the principle that "it should not lead to the long-term use of fossil fuels or promote false solutions for the transition to climate neutrality. As an indication, coal should be phased out by 2030.". This is the point on which the region should focus the most, but the negative assessment is mainly due to the lack of information on individual aspects related to the phasing out of fossil fuels. In general, the plan is to withdraw from their use, but not at such a fast pace.

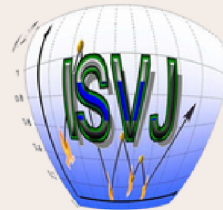
The Plan fails to emphasise the importance of paying attention to energy efficiency and information on the quality of new jobs created. In addition, it contains only rudimentary information on increasing gender equality and increasing support for certain groups exposed to the negative effects of the transition.

The Plan contains detailed information and projects aimed at moving away from coal, including those related to RES, and increasing the share of zero-emission transport. It also takes into account: the need to develop education, create new jobs through i.e. supporting entrepreneurship and the development of new industries, and improving the quality of the environment in the Silesian Voivodeship. In addition, it indicates specific flanking measures and indicators to monitor the implementation of the Plan, but some aspects raised in the WWF tool are simply not specified.

Assessment may vary from person to person due to differences in understanding of certain aspects of the 10 principles. For some questions, there were doubts as to which answer was the most appropriate in relation to the Plan being evaluated.



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