

Karlovy Vary

GENERAL INFORMATION

Country: Czechia

Region Name: Karlovy Vary (Karlovarsky)

Region NUTS2 code^{*}: CZ04 - Severozápad

Region NUTS3 code: CZ041 - Karlovy Vary Region

Affected coal communities: Sokolov District

Main urban centres in the region (by population):

Karlovy Vary (population: 48,501)

Cheb (population: 31,988)

Sokolov (population: 23,241)

Ostrov (population: 16,731)

Chodov (population: 13,394)

As (population: 13,210)

Marianske Lazne (population: 12,800)



*NUTS: Nomenclature of Territorial Units for Statistics

NOTICE ON COVID-19

The data contained within this regional profile was primarily gathered prior to the COVID-19 pandemic. It is recognised that the pandemic has had an adverse impact on energy demand. Although the consequences and implications are significant, they remain emergent and dynamic. An update to this document should be considered, once these consequences and implications are clearer and more quantifiable.

Overview

Karlovy Vary region, which together with Ústí nad Labem Region (or Ústecký Region) make up the Severozápad (Northwest) statistical area at NUTS 2 level, is situated in the western part of the Czech Republic. It is the smallest Czech region in terms of population size (295,285 inhabitants) and among the smallest in terms of land area (3,314 km²). The region is divided into 3 districts (Cheb, Karlovy Vary and Sokolov), of which the district of Sokolov is the most affected by coal mining and related industries.

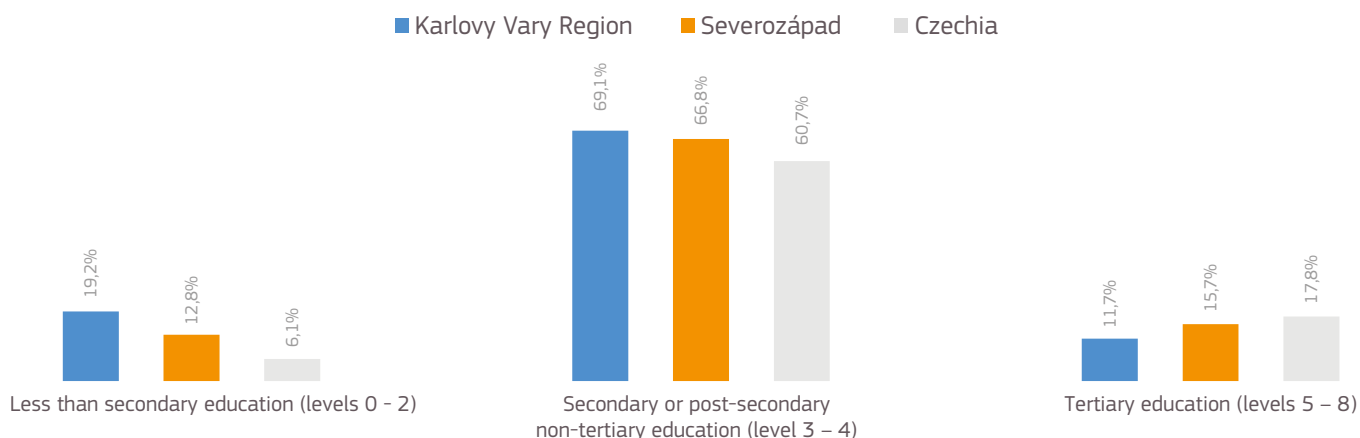


MAP OF KARLOVY VARY REGION

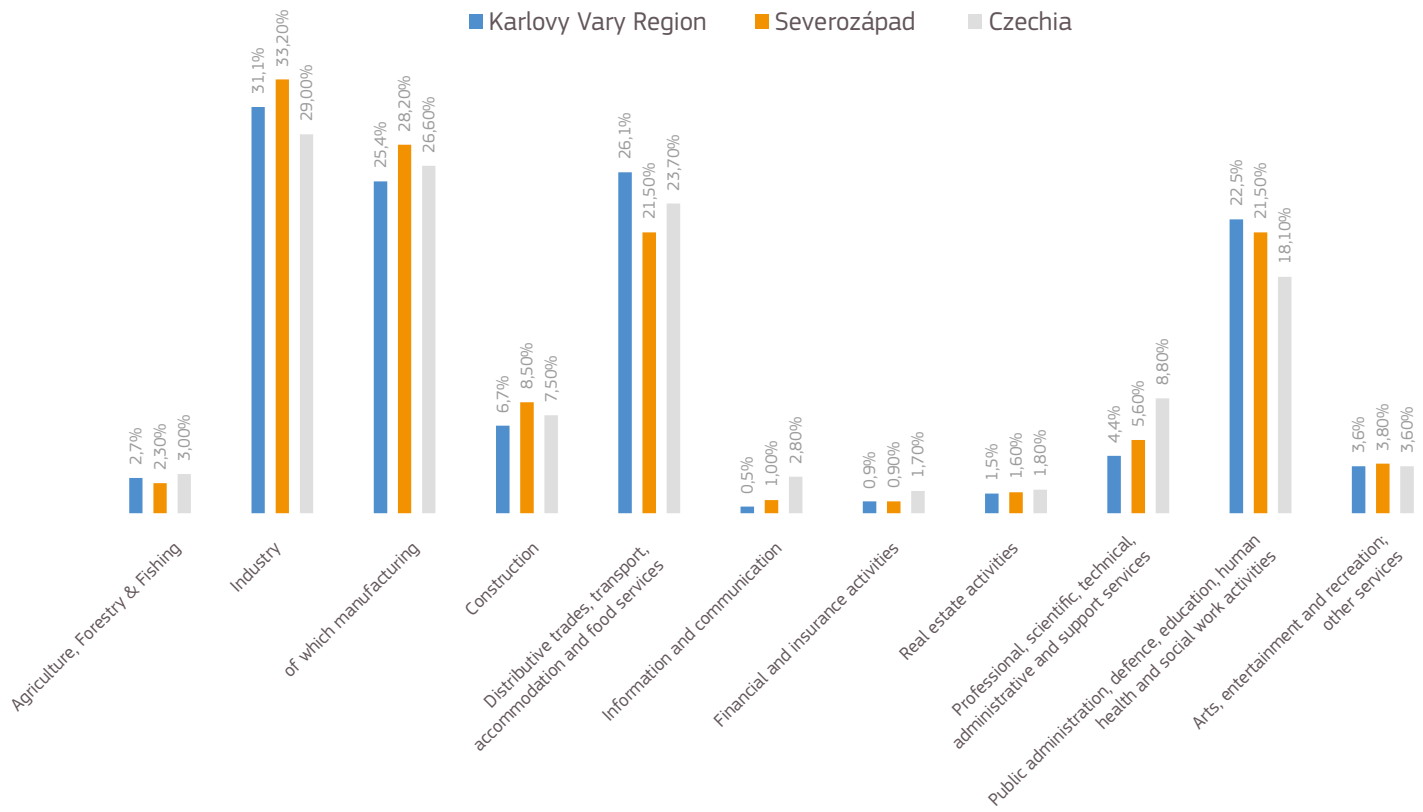
Regional socio-economic profile

	Sokolov District	Karlovy Vary Region (NUTS 3)	Severozápad (NUTS 2)	Czechia (NUTS 0)	Date / Source
Population [persons]	88,553	295,285	1,115,865	10,626,430	2018 mid-year CZSO
Population density [persons/km ²]	117	89	129	135	
Employment [No. persons employed]	No data	151,800	No data	5,293,800	2018 CZSO
Employment rate [% share of population aged 15 and above]	No data	60.4%	57.1%	59.2%	
Unemployment rate [% share of labour force aged 15-74]	3.9%	2.9%	3.4%	2.2%	
GDP per person [€1 = CZK 25.647]	No data	€12,600	€13,600	€19,500	

Educational attainment

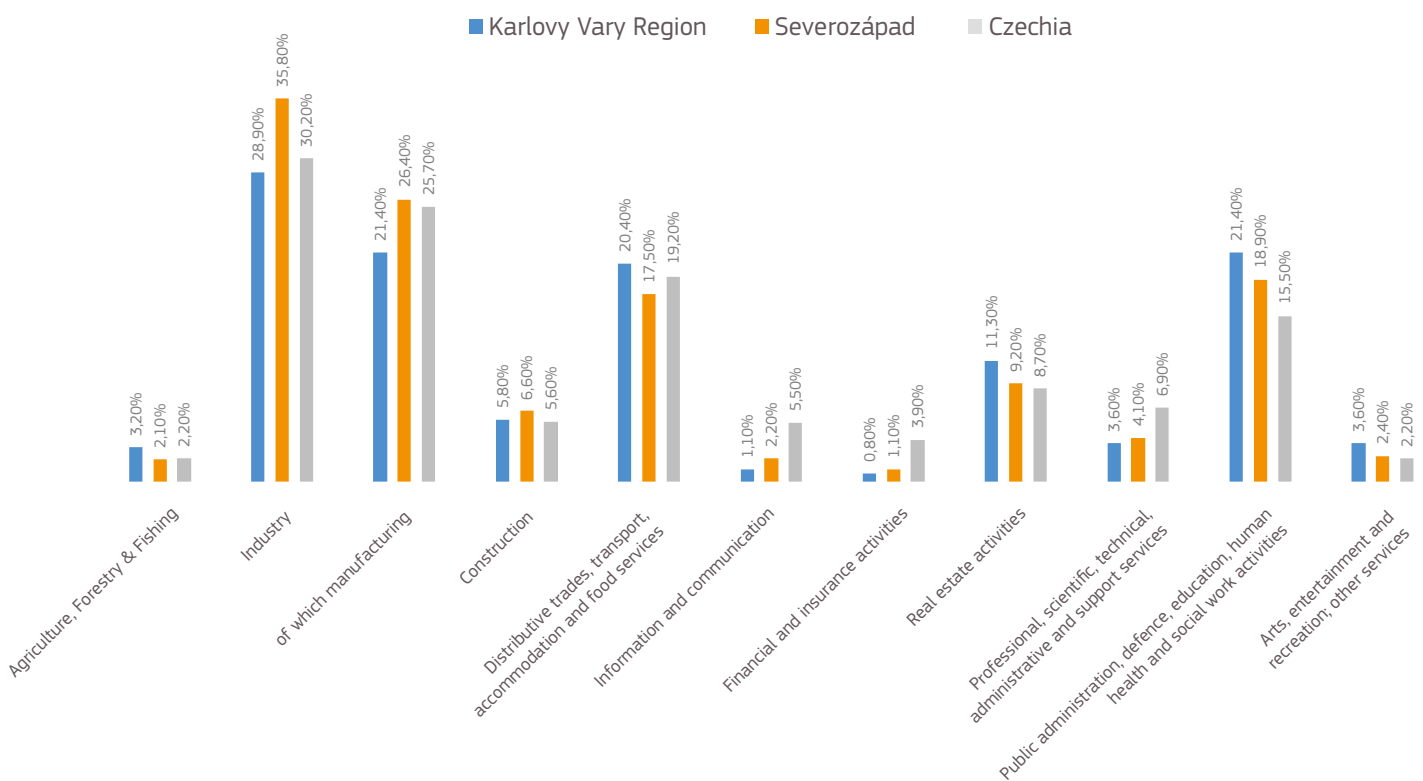


Employment by sector



Data / Source: 2018, CZSO

GVA per sector



Data / Source: 2018, CZSO

General description of the demographic and economic profile of the region, including notable trends and projections

Karlovy Vary is located in the westernmost region of Czechia, located in the historical region of Bohemia, and is a popular destination for its spa resorts. The region is the smallest in the country and home to 295,285 people, divided into three districts, namely Cheb, Karlovy Vary and Sokolov. Next to its spa resorts, the region holds a significant amount of Czechia's brown coal reserves— two of which are located in North Bohemia and near the town of Sokolov.

Karlovy Vary has a regional GDP per person corresponding to 65% of the Czech average in 2018, as compared to 75% for the other main coal area of Moravskoslezsko Region (Moravian Silesian Region). In 2018, the region had the lowest average gross monthly wage of CZK 27,974 (ca. €1,000 in 2018), compared to a national average of CZK 31,868 (ca. €1,240 in 2018), with an overall low unemployment rate of 2.9% in 2018, somewhat higher than the 2.2% at national level. The unemployment rate in Karlovy Vary has fallen from 9% in 2013, following the general positive national trend. The three districts of Karlovy Vary have unemployment rates of 5% in the Sokolov District, 4.1% in Karlovy Vary and 3.7% in Cheb. However, these overall shares of unemployment have increased by April 2020 compared to the same period in 2018 and 2019, due to the consequences of the COVID-19 pandemic. A significant increase in unemployment is expected in summer 2020, when notice periods will expire.

The regional economy is heterogeneous, with a mix of economic sectors of low technology levels and low productivity. Traditionally, there has been a focus on mining and energy production, together with non-metallic mineral products (glass, porcelain, ceramics and building materials) and the textiles industry. Although still representing 16% of the regional economy in terms of employment, these industries have lost importance over the past 20 years mainly due to their high demands on energy, raw materials and human resources. Other important activities of the region are in engineering and the chemicals industry. Overall, no specific dominant sector(s) has been formed in the region and it does not display identifiable evidence of economic and research potential corresponding to deeper production specialisation. The absence of identifiable specialisation is considered to be a disadvantage for the region.

Educational attainment levels in Karlovy Vary are among the lowest in the country, with 19.2% of the population having achieved only basic education levels and only 11.9% with tertiary education levels or above in 2018. The region is characterised by a lack of qualified employees in the technical sectors, which may be partly attributed

to a lack of opportunities for higher education within the region. No technical universities have been established despite the important role of industry. The region accounts for only 0.3% of research and development personnel in Czechia and only 0.2% of national R&D expenditures. With a lack of education opportunities and modern economic diversification, considerable emigration of the younger population and the educated workforce, seeking better job opportunities in other regions or abroad (e.g. Germany), has taken place.

Overview and general characteristics of coal-related industry and locations

Located in western Bohemia, in the western part of the coalfield below the Krušné hory mountains (Ore Mountains Range), the brown coal basin around the town on Sokolov covers 30.5 km² and is the second largest site with lignite reserves in the Czech Republic. Presently, lignite extraction is the key energy source of the region and is extracted by the privately-owned Sokolovská uhelná (SUAS), which operates two surface mines in the eastern part of the Sokolov Basin; the Jiří mine and the much smaller locality of Medard. Mining has ceased in the western part of the Basin. Between 2017 and 2019 around 7 million tons of lignite were extracted per year, roughly 17.5% of the total lignite extraction in Czechia. In 2019, 5.9 million tons of lignite were extracted, expected to further decrease to 5.2 million tonnes in 2020 and 3.8 million tonnes by 2021.

Sokolovská uhelná (SUAS) operates two coal-fired plants, Vřesová and Tisová. The Vřesová plant consists of a combined-cycle power plant (CCPP) and a thermal plant. Pressure gasification of coal is used to produce "energy-gas" as fuel for the CCPP, with the undersized fraction of coal used in the thermal plant. SUAS intends to shut down "energy-gas" production for the CCPP in mid-2020. These two power plants generate ca. 97% of electricity and 85% of the thermal energy in the region. Thermal energy is used for central heating supply for 48 thousand households, corresponding to approximately 120 thousand persons and over a third of the population of the Karlovy Vary Region. The heat is distributed by steam piping and hot water piping to households, companies and public buildings (e.g. regional hospitals). Many of the residential agglomerations of the region are connected to the central heat supply system. Households in municipalities with no connection use individual heating sources, such as wood or coal. Renewable energy sources play a minor role in the provision of electricity.

Regional coal industry profile				
Coal mining				Date
Type of coal	Lignite			2019
Type of coal extraction	Surface mining			
Number of coal mines	2			
Production of coal [Mt annual]	ca. 5.9 million tons of lignite			
Main coal mining enterprises				
Company Name	Mine name	Ownership (e.g. public or private)	Number of employees	Date
Sokolovská uhelná	Jiří	Private	2,700	2019
	Medard			
Regional coal power plant profile				
Number of coal power plants	2			2019
Installed capacity [MW]	688.8 MW			
Share of coal in regional power generation mix [%]	97% of electricity generation and 85% of communal heating			
Main coal power plant operators				
Company Name	Plant name	Ownership (e.g. public or private)	Number of employees	Date
Sokolovská uhelná	Vřesová	Private	2,700	2019
	Tisová			
Regional employment in coal mining and coal power plants				
Employment	Number	Share of total regional employment [%]		Date
Coal mining (direct employment)	2,700	1.3%		2019
Coal power plants (direct employment)		0.3% - 0.4%		
SUAS subsidiaries and direct suppliers to SUAS	600 - 800	2% - 4%		
Other coal-related activities	5,000 – 8,000 regional jobs presently related to the mining and related industry			
Employment by age group				
[% of total employment]		<= 30 years	>60 years	Date
Coal mining (direct employment)		5%	9%	2019
Coal power plants (direct employment)				

Socio-economic characteristics of coal-related industry

Sokolovská uhelná (SUAS), which is the largest private employer in the Karlovy Vary Region, with around 2,700 employees in 2019 and down from 3,200 in 2015. Due to the planned reduction of electricity production from the “energy-gas” power plant and the reduction of operations of the coal-fired power plant in Vřesová, SUAS expects over 1,200 jobs to be lost by the end of 2021. Furthermore, SUAS has stakes in 20 subsidiary companies with nearly 700 employees, many closely related to SUAS mining and generation activities, and a further 200 to 400 jobs relate to the supply of goods and services to SUAS by local contractors. It is estimated that approximately 5,000 to 8,000 jobs in related industries could be at risk from the reduction in mining and power generation activities. As noted, further uncertainty about the potential scale and speed of contraction within the industry has been generated by the Covid-19 pandemic.

Characteristics, trends and challenges of coal-related locations and communities

The Sokolov district, with 38 municipalities and more than 88,000 inhabitants, is the most heavily coal dependent area within the Karlovy Vary Region. The Region’s lignite mining and power stations are located in the Sokolov district, alongside most of the related industrial activities, including the main suppliers of SUAS. 85% of employees of SUAS are resident in the Sokolov district. Consequently, the Sokolov district and its economy are highly dependent upon lignite mining and related activities and services, with little economic diversification in other sectors. The foreseen reduction of mining activities and electricity generation, with the eventual cessation of mining activities by 2030, will have a negative impact on direct employment and value creation including those in related services provided by subcontracting SMEs in the region.

The Sokolov district has the greatest socio-economic problems in Karlovy Vary. It has a relatively high level of unemployment (3.8% compared to 2.9% at the end of 2019) and a high concentration of low-skilled and socially disadvantaged inhabitants – it is estimated that almost a fifth of the population is living at risk of social exclusion. The decline in mining and related economic activities has not yet been replaced by new sectors and employment opportunities.

Coal transition strategies, plans and projects

Current status and timeline of coal transition

A national level timeline for cessation of coal mining has not been identified. However, at regional level, and despite lignite reserves estimated to sustain mining and power generation for the next 15-20 years, Sokolovská uhelná (SUAS) is considering a phase out of mining activities by 2030. This is due to the high costs related to royalty payments, emissions allowances and environmental requirements defined at national and EU levels.

Current strategies and plans for economic diversification / development and decarbonisation

At national level:

- The State energy policy of the Czech Republic was approved by the Government in 2004 and updated in 2015. It contains the vision and strategic priorities of the Czech energy industry and the scenario of expected basic trends in the development of energy. One of the main long-term goals of the energy policy is decarbonisation.
- The National Energy and Climate Plan of Czechia covering the period 2021–2030, submitted in November 2019, is based on State Energy Policy and the Climate protection strategy. It aims to contribute to EU targets through a 34% reduction in GHG emission (compared to 2005) by 2050; and a 22% renewable energy contribution to the EU target of 32% by 2030. As for energy efficiency, the Czech commitment respects the requirement to meet the minimum annual energy savings of 0.8% of annual final energy consumption as set by the EU. The NECP aims to increase the diversification of the energy mix and support a self-sufficient electricity supply through the development of energy infrastructure to avoid an increase in import dependency. Czechia aims to maintain the import/export capacity of the transmission system, for 2030 in proportion to the maximum load of at least 30/35%, which corresponds to the 15 % target in terms of installed performance. Though no targeted policies are currently in place, Czechia is developing a methodology to identify vulnerable customers and Karlovy Vary is among the regions participating in the first pilot programme of financial assistance to households and municipalities within the National Programme Environment. As for Research, Development and Innovation (RDI), the estimated allocation to the energy sector is CZK 4 billion from the state budget between 2018-2025.

- The national RIS 3 Strategy identifies the prospective economic areas to be supported by the European Structural and Investment Funds (ESIF) and RDI support programmes. Key areas of intervention are in education, research, development and innovation; a shift to a low-carbon economy; and an emphasis on job creation and poverty reduction. Priority areas of energy research focus on technologies for electricity and heat production in nuclear power plants; fossil fuel-based energy production in terms of enabling greater flexibility of operation, including the regulatory range of resources, technologies to meet the decreasing limits for emissions and increase their efficiency, and use of their by-products; use of renewable energy sources; heat production and distribution and electricity networks; energy storage; energy savings; energy for transport; horizontal issues (i.e. ICT, new materials); etc. The document¹ was prepared in connection with the National Innovation Strategy, among others, and has been updated in 2020. To complement the innovation system at regional level, “Regional annexes to the National RIS3 Strategy” have been prepared, with the following five knowledge domains identified: mechanical engineering, electrical engineering and mechatronics; automotive industry and autonomous transport; traditional industries – ceramics, porcelain and glass; energy and new opportunities of the region; spa, balneology and tourism.
- The National Action plan for smart networks, clean mobility and renewable energy for the period of 2015–2018 addressed the deployment of alternative fuels infrastructure to adopt an appropriate national policy framework for the development of the market (electromobility, CNG, LNG and Hydrogen – fuel cells). The NAP also aimed at the development of network infrastructure to ensure reliable and safe operation with respect to the required development of distributed generation (especially RES). The NAP on renewable energy was approved by the government 2016, specifying measures and tools concerning RES. For the period after 2021, the NAP RES will be superseded by the National Plan.
- National Innovation Strategy of Czech Republic 2019–2030 was approved in February 2019, committing to increasing public spending in this area to CZK 65 billion to CZK 70 billion over the next ten years. Digitalisation of the economy and of public administration services, AI and Industry 4.0 will be supported as part of 9 strategic pillars.
- The RE:START Strategy is a national programme to support the 3 structurally affected coal mining regions (Karlovy Vary, Usteckí, and Moravia-Silesia). RE:START promotes activities/actions for the restructuring of the regions and their preparation

for post-coal life. The 4th Action plan is particularly relevant for Karlovy Vary²: to support the modernization of teaching, renewal and development of material and technical issues in schools and their facilities; for research in structurally disadvantaged regions; development of spa infrastructure; for digitization and robotization, especially of small and medium-sized companies, through outsourced research, development and consulting services; demolition of buildings in socially excluded localities; support in the preparation of utilisation studies in specific brownfields; support civic amenities and serviceability of municipalities in structurally affected regions; renewal of the Slavkov Railway; development of digitalization of state administration and self-government, and of services for citizens of the regions.

At regional level:

- The Energy concept of Karlovy Vary region (2017–2042) is based on the national energy policy. The main objective of the energy concept is to determine a basic vision and strategic plans for Karlovy Vary Region in the energy sector, including its impact on the environment, economic and social development, and security of energy supply.
- The Regional Development Programme 2014–2020 of Karlovy Vary region defines a general vision, sets measures and specific activities to strengthening the region’s competitiveness. The Program has 6 priority areas: competitiveness (includes human resources development, entrepreneurship and development of the regional innovation potential); spa and tourism; social and health care; environment; transport; and public administration and security management system. The current programme will be extended until 2021, the new program (to be prepared in 2021) will cover the period 2021–2027.
- The regional Innovation Strategy (RIS3 Strategy) of Karlovy Vary Region sets out the regional strategy for research, development and innovations and defines areas of smart specialization. The RIS3 Strategy of Karlovy Vary Region defines 9 strategic domains: engineering and customized metal production; electrical engineering; automotive industry; power industry and use of renewable energy systems, processing of secondary raw materials – advanced recycling technologies; production of drinks (traditional mineral springs); traditional industries (glass, ceramics, porcelain, other non-metal mineral products); production of rubber and plastic products; Spa business and tourism; and Chemistry.

¹ The document was modified by Government Resolution No 24 of 11 January 2019 ‘on the National Research and Innovation Strategy for the Smart Specialisation of the Czech Republic 2014–2020 – Update 2018’

² One measure in Action Plan 4 is focused on Moravian Silesian Region and is therefore not included in this document.

Principal KPIs of strategies and plans

The Czech energy industry is historically based on coal but the share of coal has been decreasing. The State Energy Policy envisages the share of coal at 10-15 % of energy supply by 2040. The attractiveness of coal is also affected by the price of emission allowances paid by coal-fired power plants or industrial enterprises for the release of carbon dioxide into the atmosphere.

Notable actors involved in transition strategies and plans

At national level:

- The Czech Coal Commission was established in July 2019 with a 19-member advisory board comprising representatives from the mining industry, employers' unions, regional authorities and environmental experts and academics. The Commission is working towards a timetable for the phase-out of coal, defining technical parameters, social and economic impacts of coal mining mitigation and the related change in the energy mix. By the end of 2020, the Coal Commission plans to present recommendations to the Government on how to adapt the Czech Republic to the decline in the use of energy from fossil fuels.

At regional level:

- Sokolovská uhelná coal mining company, the key regional employer and heat provider in the Karlovy Vary Region, one of the biggest independent producers of electricity in the Czech Republic and an important stakeholder of the transition process in Karlovy Vary. It is also the owner of significant real estate / land in the region.
- Karlovarska agentura, established by the Karlovy Vary Region, the Agency is responsible for the development and implementation of the RIS3 and Smart Accelerator Programme.
- Municipality of Sokolov, the main city of the Sokolov District.
- Microregion Sokolov – East, an NGO of 11 cooperating municipalities that are the most affected by the transition process.
- Integrated Technical and Secondary School Sokolov, school for vocational training in the region focusing on technical and economic education.
- Regional Chamber of Commerce of Karlovy Vary Region (RCCI), supporting regional economic development.
- Institute for Employment and Development of the Karlovy Vary Region, NGO established by the RCCI, supporting employment and HR development.

- BeePartners a.s., consultancy (SME) supporting the development of strategies (e.g. RE:START) and designing projects including fund raising.
- Technical University of Ostrava, Centre of Energy and Environmental Technologies.
- Usti Region, neighbouring coal region in transition, cooperating with Karlovy vary and Moravian-Silesian Regions under RE:START.
- Public employment services (Labour office) gathers and provides labour market data and intelligence, and designs and provides retraining programs for reskilling and upskilling. It aims for a proactive cooperation with companies before mass dismissals in order to prepare the workers for the transition. Training is offered to companies hiring new workers. Cooperation with employers and/or training providers in creating new training programs relevant for the jobs. Proactive assistance to jobseekers and companies in job search, job mediation and matching.
- CzechInvest - the Investment and Business Development Agency CzechInvest is a state organization subordinate to the Ministry of Industry and Trade of the Czech Republic. The agency promotes for the Czech Republic both domestic and foreign investments in the areas of manufacturing, business support services and technology centres. It also supports small, medium-sized and innovative start-up companies, the country's business infrastructure, and innovation. With a regional office in Karlovy Vary, the agency supports the region's development..

Transition challenges

Nature and scale of transition challenges

Energy transition: the Karlovy Vary Region and Sokolovská uhelná (SUAS) are seeking a pathway to transition from lignite to other sources of energy through socially and environmentally balanced solutions. As lignite is the key source of energy and heating in the region, the phase-out of coal could lead to important outages in the heating provision. A large part of the Karlovy Vary Region is connected to the central supply system provided by two coal-powered plants. Maintaining a central heat source will entail significant investments in the renewal and greening of existing heat sources. The same is true for a decentralisation of the energy supply infrastructure at the (micro) regional level. Karlovy Vary Region has an energy concept, though no related impact study in terms of the socio-economic impact of the energy transition; no in-depth analysis has been conducted to date. The issue of central

heating is identified as a key challenge that the region is facing. Furthermore, little regional and local experience with and a lack of knowledge and expertise in the field of renewable energy sources acts as a barrier to energy transition and economic transformation.

Economic transformation challenges: The region is historically dependent on mining and energy production (representing 10% of regional GDP and 5,000 to 8,000 regional jobs related to the mining and associated industries). The closure of coal mines, driven by the energy transition, will have significant impact on employment, yet very limited new employment opportunities are currently being developed to replace the existing mine-related employment. Previously slow economic transformation processes have led to the emigration of the educated workforce and increased unemployment (particularly in Sokolov district and peripheral areas). Those of higher educational attainment often seek better job opportunities elsewhere, especially in neighbouring German regions. The Karlovy Vary region is lacking a qualified workforce, especially in the technical sectors; currently, 19% of inhabitants have only attained basic education and 11.7% have university education. This may be partly due to the lack of technical universities in the region, despite the concentration of industry. The services sector has typically lower average income. As employees of the mining sector are used to above-average wages, there is reluctance to retrain or requalify towards the services sector.

Environmental challenge: Whilst overall the Karlovy Vary region is not significantly affected by air pollution, the district of Sokolov has to cope with high levels of air pollution and noise, notwithstanding measures to reduce the impact of mining and power generation activities. Being an important wellness area, the region has developed strict environmental requirements and pays increased attention to environmental protection.

Since 2019, the mining heritage landscape of Krušnohoří (Ore Mountains Range) is registered as a UNESCO World Heritage site, underlining the region's sensitivity towards cultural and environmental protection of the area. Karlovy Vary Region aims to strengthen environmental policy in two specific areas: first, the adaptation to climate change and mitigation of impacts (e.g. through an effective energy transition and sustainable land-use projects, including revitalization and resocialisation of the land) and, secondly, through sustainable waste treatment with a special focus on energy use.

Skills weaknesses

The region does not possess an adequate knowledge base and sufficient experts in the field of modern and renewable energy sources, nor energy policy in general, both within the EU and globally.

Infrastructure weaknesses

The region is lacking in educational infrastructure, especially in regard to tertiary education (e.g. technical universities).

Whilst the region benefits from a direct highway connection to Germany, it is not currently linked to Prague by a highway (although one is under construction).

Weakness in other industries and economic activities

Alongside mining and energy production, traditional industries such as non-metallic mineral products (glass, porcelain, ceramics and building materials) and the textiles industry have lost importance over the past 20 years, mainly due to their high and un-economic demands on energy, raw materials and human resources.

Transition opportunities

Nature and scale of transition opportunities

For the reconversion of coal-related sites and infrastructure, gas can act as a substitute for the central residential heating infrastructure. Renewable energy sources, in particular solar and wind, combined with investments in renewable energy storage systems, are being considered and will support the shift towards more a decentralised, renewable energy based system. As for geothermal power, the potential in Karlovy Vary Region is large, but some protected areas in the region prohibit further drilling.

Current partnerships, initiatives and investments supporting economic diversification / development and decarbonisation

- In May 2019, a Karlovy Vary Regional Coal Platform began to operate in Karlovy Vary Region, the aim of which is to prepare the region for the future phase-out of coal and consequent economic transition. Four expert groups have been set up to deal with issues such as the decarbonisation of the region (energy and heating), cessation of mining and future use of mines, education and job creation, science, research and innovation, and socio-economic projects. They will propose the vision, concept, projects and measures of transition governance and planning.
- Representatives of Karlovy Vary Region are members of the Coal Commission described above.
- Program RE:START: Program of the Czech government

to help structurally affected coal regions i.e. Karlovy Vary, Usti and Moravian-Silesian Regions. Local experts and stakeholders and the public are involved in the creation of the strategy framework and action plans.

- SMART accelerator: a project implemented by Karlovy Vary Region and Karlovy Vary Business Development Agency within the Operational Program Research, Development and Education since 2016. The aim of the project is to contribute to the development of an innovative environment in Karlovy Vary region, which is one of the least developed regions in this regard. The project's activities focus on identification of new opportunities for innovation in companies and the public sector, strengthening and developing cooperation between the public, academic and private sector in order to increase the economic growth and competitiveness of Karlovy Vary Region. An integral part of the project is to raise awareness in local companies and amongst entrepreneurs about the role and importance of innovation, research and development for the growth and competitiveness of companies, motivation of local entrepreneurs to implement both technical and non-technical innovations. In the area of human resources, it is aimed at improving the availability and qualification of the workforce for companies that show innovative activities, by increasing the cooperation of schools with local companies, municipalities and other organizations etc.

Notable activities and related labour force skills and knowledge

The region has notable and renowned concentrations of spa resorts and glass and ceramics production and related skills and knowledge regarding balneology, glass and ceramics.

Notable infrastructure e.g. transport, investment sites, ICT, utilities

The Sokolov district has numerous brown and green field sites which could serve as investment sites for new industrial developments (as was demonstrated by the BMW test facility investment). Existing infrastructure from thermal power plants will, once decommissioned and decontaminated, offer further land assets with notable existing infrastructure e.g. roads, rail, electricity.

The region benefits from a direct highway connection to Germany, which goes from Karlovy Vary through Sokolov to the German border (as previously noted, it does not currently link to Prague). There is also an airport near the spa town and regional capital of Karlovy Vary.

Current or expected transition challenges facing the region	High (priority) importance	Moderate importance	Minimal importance	Not important
Air quality		X		
Environmental degradation of land	X			
Demographic change (e.g. population ageing, outward migration)	X			
Narrow / concentrated industrial structure	X			
Modernisation of industry / re-industrialisation		X		
Employment creation (Identified as the most important)	X			
Reskilling	X			
Transport infrastructure and mobility		X		
Social cohesion	X			
Limited partnerships and consensus	X			
Other challenges				
Central heating provision (Identified as very urgent)	X			

Transition opportunities where the region is already active or where there is interest to develop activities	High (priority) interest	Moderate interest	Minimal interest	Not interest
Reconversion of coal-related sites / locations for renewable / alternate energy				
• Biomass			X	
• Energy storage		X		
• Gas	X			
• Geothermal			X	
• Hydro power and pumped hydro-storage			X	
• Hydrogen			X	
• Solar		X		
• Wind		X		
Other energy				
Reconversion of coal-related sites for new economic and social activities		X		
Repurposing of coal-related industrial infrastructure		X		
Heritage, culture and tourism		X		
Low carbon mobility and transport		X		
Diversification of coal-related supply chain and service activities	X			
Other opportunities				

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Platform for coal regions in transition

The Platform for coal regions in transition is an initiative by the European Commission.

➔ ec.europa.eu/coal-regions-in-transition

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