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Assessing the need for a modification of the state aid rules for the phasing-out of coal



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Executive summary

Historically, coal has played a vital role for Europe as one of the main fuels in the economy¹. Up to the early 1990s, coal provided almost 41% of European energy consumption and 39% of power generation. This dropped to 16% and 24% respectively in 2015. Today there are 128 coal mines in 12 Member States and 41 regions (NUTS2) and 207 coal-fired power plants, distributed across 21 Member States and 103 regions. For five Member States - Bulgaria, the Czech Republic, Germany, Greece and Slovakia - coal still provides 20% of energy needs, while for Poland this exceeds 50%.

Coal activities provide jobs for about 237 000 people with around 185 000 employed in coal mining and about 52 000 in coal-fired power plants. The number of indirect jobs is estimated at around 215 000. The vast majority of coal-fired plants in Europe are on average 35 years old, with an efficiency of some 35%, well below the current state of the art². The first wave of power plant retirements will take place in 2020-2025, mostly in the UK, Germany, Poland, the Czech Republic and Spain. Coal mines are already closing, with 27 mines finishing operations between 2014 and 2017 in Germany, Poland, the Czech Republic, Hungary, Romania, Slovakia, Slovenia and the UK. Many others are expected to close in the coming years in these Member States as well as in Italy and Spain. The most common causes of decline or closure are economic, particularly a loss of economic competitiveness related to the global coal market³.

One of the most tangible effects of mining activities closing is the loss of jobs, with some 160 000 expected to disappear in the next decade. This is more than two thirds of the current workforce, with some 27 000 going by the end of 2020, another 49 000 by 2025 and 83 000 jobs by 2030. The regions with the most jobs at risk are in Poland, the Czech Republic, Romania, Bulgaria, Germany and Greece. This poses a significant challenge for local and regional authorities (LRAs) in adopting measures to offer new job opportunities to unemployed coal workers. In most cases, new jobs require a significant - and costly - process to modernise, diversify and transform a coal-dependent economy that is no longer competitive. Moreover, impacts of mining on the environment, land values, health and automated work have consequences for natural, physical and human

¹ European Commission (2018a).

² European Commission (2018a).

³ For instance, global factors contributing to EU coal's decline include the rapidly increasing competitiveness of renewable technologies, rationalisation of excess heavy industrial capacity in China, power production overcapacity in China and India (where new coal power plants significantly contributed to global coal demand), and the switch in some developing countries from industry-based economies to service-based ones, implying less growth in global coal demand. See IDDRI (2018a) and Strambo C, Aung M. T., and Atteridge A. (2019).

capital in coal regions. This can lead to a vicious cycle where economic attractiveness for alternative industries declines significantly. Almost everywhere mining has caused considerable environmental degradation which poses additional costs on a phasing-out strategy.

Moreover, at the December 2015 conference in Paris, EU Member States committed to limit global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit the increase in average temperature to 1.5°C. In its Communication in the run-up to the UN climate summit in Katowice, the European Commission states that the EU must achieve carbon neutrality by 2050. So, European coal regions have to abandon value chains based on coal or reset them to not only cope with the most common causes of decline in the coal sector - and related negative spillovers - but also to achieve the climate policy goals set out above.

The closure of coal activities therefore poses several economic, social, environmental and political challenges for EU coal regions. But the phasing-out process could also lead to opportunities for regional economic development. It could be a new engine of growth as well as a net generator of decent, green jobs that contribute significantly to economic development and social inclusion⁴. Phasing-out coal can enhance the ability to manage natural resources sustainably, increase energy efficiency and reduce waste while addressing inequalities and enhancing resilience. The promotion of green jobs in traditional and emerging sectors can foster a competitive, low-carbon, environmentally sustainable economy, sustainable consumption and production as well as contribute to the fight against climate change.

Such a transformation, however, is a huge challenge for European coal regions. It requires a holistic approach, including improved infrastructure, innovation, research and science, business support, development of skilled workers as well as support for marketing, culture and tourism. These measures require multi-level governance structures, the involvement of various actors and synergies across several policy fields. This approach is very demanding in time and cost and necessitates significant resources, multiple funds and financing instruments to successfully meet the challenge of structurally transforming coal economies. To support the phasing-out process, a targeted and properly calibrated use of public funding and incentives should generate and encourage long-term investments and, therefore, new job opportunities.

A crucial role for sustaining and enhancing the phasing-out process can be State aid, especially when it is designed to stimulate innovation and green

⁴ ILO (2015).

technologies, improve human capital, as well as promote growth, employment and EU competitiveness, or reduce environmental degradation⁵. Key questions are whether coal regions need further flexibility to grant State aid to attract investment fostering the transition and how much existing State aid rules limit this flexibility. This report, by analysing experiences in six coal regions through interviews with stakeholders, investigates whether current State aid rules leave enough room for manoeuvre for regions and cities. The report also collects proposals from the interviewees to improve the flexibility of current EU State aid framework.

The main findings of the report are:

- **All six regions are affected by significant social, economic and environmental problems** which can be addressed only through a long-term and multi-stakeholder approach where the role of local authorities and communities is vital and should be reinforced.
- **They are all aware that a phasing-out process** requires significant time and cost and therefore **significant resources and incentives**.
- **They recognise the variety of current EU instruments** for regions to support the transition, especially through the ESIF, and **they are positive about the Transition Platform and the Just Transition Fund**.
- They consider State aid to be crucial in supporting the phasing-out process but current **EU State aid legislation limits LRA policy initiatives**.

For all the case studies there is strong evidence that much more State aid flexibility is needed. Concerning the proposals to make the current EU State aid framework more flexible, the report provides the following conclusions:

- Regardless of new elements of flexibility, **the current regulatory framework offers Member States and LRAs tools** to outline policy initiatives for phasing-out coal, including wide-ranging State aid modalities.
- The **Council Decision 2010/787/EU is considered insufficient** and its provisions require a broad reinterpretation of coal sector support

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions EU on State Aid Modernisation (SAM), COM/2012/0209 final.

measures, including measures to convert and reclaim related areas within wider regional and sub-regional development and retraining programmes.

- **Commission Regulation (EU) No 651/2014 (GBER) should be improved.** This can be through a **temporary or geographically limited suspension of the prohibition of application of the rules on regional aid to the coal sector** (combined with investment initiatives in non-coal sectors); and/or by **defining tailored aid intensities and maximum amounts for phasing out coal specific provisions to be integrated with the GBER.** These should be determined on the basis of specific provisions and to be preceded or accompanied by a precise definition of EU geographical areas and/or sectors involved in these measures.

- **Another element of flexibility** could be the introduction of an exception to the application of Art. 2 (20) of the Regulation 651/2014 and **increasing aid intensities also for large investments.**

- Flexibility may also be improved through a **temporary/specific framework for State aid when phasing out coal**, following the initiative in the first months of 2009 when the Commission defined a Temporary Community framework for State aid to support access to finance during the financial and economic crisis.

To summarise:

- The application of current rules gives room for State aid in coal regions.
- Stakeholders in the six coal regions suggested proposals for introducing appropriate modifications to increase flexibility in State aid rules. A common opinion is the need for different aid categories and/or different aid intensity or maximum amounts. These could involve specific changes to the existing framework or possibly an ad hoc temporary framework for coal and phasing-out regions, with reinforced measures in specific areas.

The report is structured as follows:

- **Chapter 1** reviews how current State aid rules can be positively applied in regions phasing out coal. It then investigates potential elements of flexibility that could improve the current regulatory framework to facilitate a smooth transition and elaborates hypotheses on introducing flexibility to benefit phasing-out regions.

- **Chapter 2** investigates six experiences of LRAs with phasing out. These are: Castilla y Leon, Spain; Western Macedonia, Greece; North Rhine-Westphalia,

Germany; Severozápad, Czech Republic; Śląskie, Poland; and South-West Oltenia, Romania. The chapter focuses on challenges and needs that the phasing-out process should address and that may require more flexible State aid rules. It also details proposals for such flexibility. The information in this chapter comes from 17 interviews with stakeholders across the six regions as well as at EU level.

- **Chapter 3** summarises the report findings and proposals from six case studies for more flexible State aid rules, by linking and assessing them with the preliminary hypothesis identified in the first chapter.
- **Annex I** provides a description, also based on desk research, of strategies implemented or under discussion in the six regions of the case studies.
- **Annex II** lists the references used in the report.

1. Existing State aid rules and the phasing-out of coal

This chapter identifies how current State aid rules can be positively applied in regions phasing out coal. It then investigates potential elements of flexibility that could improve the current regulatory framework to facilitate a smooth transition. The chapter closes with hypotheses on potential flexibility to benefit phasing-out regions (section 1.3). These hypotheses guide the analysis in the following two chapters.

1.1 Why State aid is needed in phasing-out regions

While coal remains a central fuel in the European energy mix, the transition to cleaner forms of energy and innovative technologies is imperative to meet the EU commitment to at least 40% lower CO₂ emissions by 2030. Although the shift to a low-carbon economy presents many opportunities, it also involves significant economic and social changes impacting many coal region economies. The transition process takes a long time and requires enhanced infrastructure, R&D, as well as support for developing businesses, skills, marketing, culture and tourism. At the same time, such a strategy should minimise job losses.

Building up new industries in transition regions is a lengthy process that requires considerable financial resources⁶. LRAs in coal regions need support, particularly since they will initially lose revenue as coal production and coal-powered electricity generation is phased-out. A large portion of economic reconversion and development investment must come from public funds or new private sources. This process involves the entire value chain and necessitates a balance of public funding and incentives to generate long-term innovative, environmentally sound, climate-friendly investments as well as to promote economic growth and new job opportunities. This, in turn, may require flexibility in State aid rules to attract investment in these regions.

Recently, the European Committee of the Regions (CoR) has declared that coal-producing regions should receive EU funds to support their move away from fossil fuels, where such support is not at the expense of other regions⁷. The CoR recommendations⁸ argue that support from the Just Transition Fund should be

⁶ Committee of the Regions (2019).

⁷ <https://www.eupoliticalreport.eu/coal-producing-regions-to-get-eu-support/>

⁸ Committee of the Regions (2019).

channelled through Cohesion Fund programmes. The CoR also emphasises the need for the EU to allow national, regional and local governments extra leeway to support businesses affected by the move away from coal. The European Commission proposed the creation of a Just Transition Fund for coal regions at the beginning of 2020⁹.

Moreover, EU rules on State aid, which are due to expire in 2020, should be revised to ‘ensure that coal regions have sufficient flexibility to enable them to phase out coal in a socially and economically viable way’ (see Box 1.1 for detail). The CoR also recommended cooperation between coal regions as they seek to adjust their economies, as well as between them and national and EU levels of government, to avoid duplication and to share experiences. Additional recommendations identify extra vocational training and technical universities as well as an innovation-friendly environment and digitalisation as critical tools to diversify the economies of such regions. The CoR opinion also emphasises the development potential of these regions, arguing that structural transformation should use the current industrial and energy fabric as a basis for development. It should also take into account the innovation and investment cycles of existing industrial players and build on industrial clusters, operational skills, and research capacity.

Box 1.1: The CoR position on State aid rules for coal regions

The CoR explained in its opinion that:

- The current State aid framework expires in 2020, unless the rules are extended by two years (to the end of 2022). The CoR calls on the Commission, when drawing up the new guidelines, to take account of problems linked to structural change in coal regions and to ensure that these regions have sufficient flexibility to enable them to phase out coal in a socially and economically viable way.
- The projects involving cross-border cooperation can be State aid compliant, particularly when they are of common European interest. The relevant EU institutions should give more guidance to regions planning and implementing such projects.
- Coal regions should be identified as assisted areas in accordance with Article 107(3)(a) and (c) of the Treaty on the Functioning of the European Union (TFEU), and rules for these special regions should be adapted to enable measures addressing structural change. This should offset an absence of added value from politically overarching objectives. In addition, consideration should be given to whether such support measures could be based on Article 107(3)(b) TFEU, given the high-profile and exemplary importance of climate-resilient transformation in coal regions for EU energy and climate policy.

Source: reproduced from European Committee of the Regions (2019), p.7

⁹ https://ec.europa.eu/info/law/better-regulation/initiatives/com-2020-22_en

1.2 Analysis of current State aid rules

This section analyses State aid measures foreseen in:

- Council Decision of 10 December 2010;
- Commission Regulation (EU) No 651/2014;
- Commission Regulation (EU) No 1407/2013;
- Other provisions.

1.2.1 The Council Decision 2010/787/EU

The 2010 Decision is currently the only measure specifically applicable within the EU covering coal industry activities¹⁰. The provisions are framed in the context of EU policies promoting renewable energy sources and a low carbon economy. They exclusively regulate State aid compatible with the Treaty limited to the closure of non-competitive mines. The aid measure outlines the regulatory framework, detailed in Box 1.2, in which Member States can define an aid measure to cover losses from managing non-competitive mines. The Decision is without prejudice to compliance with provisions regarding notification of the aid pursuant to Art. 108 (3) of the Treaty.

Box 1.2: The Council Decision 2010/787/EU of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines

The Council Decision on State aid, facilitating the closure of uncompetitive coal mines (OJ 2010 L 336/24), is valid from 1 January 2011 to 31 December 2027 and replaces the previous provisions in Council Regulation No 1407/2002¹¹. The aid covered only costs connected with coal for electricity production, combined production of heat and electricity, production of coke, and fuelling blast furnaces in the steel industry, where such use takes place in the EU. This decision provided for two types of aid. The first is for closure (Art. 3) and mines that incurred losses could benefit from such aid provided they present a liquidation plan with a maximum deadline of 31 December 2018¹².

¹⁰ Art. 1 (a) states ‘coal means high-grade, medium-grade and low-grade category A and B coal within the meaning of the international codification system for coal laid down by the United Nations Economic Commission for Europe’.

¹¹ Council Regulation (EC) No 1407/2002 of 23 July 2002 on State aid to the coal industry.

¹² All entities authorised to receive such aid must have been in operation on 31 December 2009, while Member State aid for closure must continuously reduce. The reduction must be at least 25% by end 2013, 40% by end 2015, 60% by end 2016, and 75% by the end of 2017 compared to 2011. Furthermore, closure aid to the coal industry in each Member State after 2010 may not exceed the 2010 aid granted and approved by the Commission in accordance with Regulation 1407/2002 Articles 4 and 5. The aid may not exceed the difference between foreseeable production costs and foreseeable revenue for a given year. The aid was subject to annual adjustment based on actual costs and revenues – at the latest by the end of the coal production year following the year for which the aid was granted. Aid per ton of coal equivalent may not cause prices for EU coal at utilisation point to be lower than the price of similar coal from third countries.

The second type of aid covers exceptional costs, such as from closing coal production units, not related to current production (Art. 4). Such aid may be used to cover costs or provisions by enterprises that are closing or have closed coal production units, including enterprises benefiting from closure aid. Such aid may also be used to cover costs incurred by several enterprises. An exhaustive list of cost categories that can be covered by State aid was included in the annex to the Council's decision.

The Decision has a very limited scope and does not consider wider EU objectives for climate change and emission reductions. So, these provisions seem to be partially surpassed by general conditions potentially requiring a broad reinterpretation of coal sector support measures. In addition to encouraging mine closures these could also include measures to convert and reclaim related areas within wider regional and sub-regional development and retraining programmes.

1.2.2 Commission Regulation (EU) No 651/2014 (GBER)

The process of modernising the regulatory framework for State aid from 2012 to 2014 has led to a more complex and structured definition of State aid measures compatible with and exempt from notification obligations. The current General Block Exemption Regulation (GBER) Regulation 651/2014 most recently amended with Regulation 1084/2017 foresees broader categories of aid. These include commercial exploitation of infrastructure (introducing some higher rules of law after the Judgement of 24/03/2011 of the European Court of Justice on Leipzig-Halle airport, case T455-/08). It therefore includes many tools to support SME financing, as well as for energy and environmental issues. The GBER structure and the tools at the disposal of Member States allow the identification of applicable provisions also with reference to support for a transition towards a coal-free Europe.

A first consideration regards regional aid, regulated by **Art. 13 and 14 of the GBER**. These articles currently exclude regional aid to support the coal sector. This total exclusion could, if properly revised, make coal regions eligible for regional aid.

Other GBER provisions could be applied for phasing out coal. These are:

- First, **Art. 21 Aid for access to finance for SMEs** and **Art. 22 Aid for start-ups** (Section 3) constitute the legal framework for risk investments to support SMEs. More specifically:

- Art. 21 foresees provisions addressed to SMEs and regulates aid in the form of loans, guarantees, equity and quasi-equity. The maximum aid, up to EUR 15 million, makes this provision particularly relevant. Application of an aid measure based on Art. 21 should also comply with the provisions on Financial Instruments (Title IV) of Regulation 1303/2013¹³. This obviously does not prevent national or regional measures supporting interventions, for example, to diversify company activities in a specific geographical area.

- Art. 22 is important for newly established (existing less than five years) small enterprises. It differs from the previous one also for combinations with any grant aid and for a far lower maximum than the previous provision.

Overall, the two provisions could form the legal basis for an intervention, possibly managed through a financial intermediary, **supporting SMEs in a specific area affected by transition** (including phasing-out). The aid measure could be structural and linked to the local need for risk capital. Such aid would ensure more effectiveness of public resources at least for the leverage and revolving effects.

- Second, Section 4 of the GBER regulates aid for R&D and innovation. The provisions can be essential to a coal phasing-out plan. Specifically, **Art. 25** regulates aid supporting basic and industrial research and experimental development. **Art. 26** (Investment aid for research infrastructures) and **Art. 27** (Aid for innovation clusters) can **encourage innovation and change** through support for collaboration between companies and research organisations.

- Third, Section 7 regulates aid for **environmental protection**. Here State aid for energy and environmental protection has been considerably extended by the GBER compared to Regulation 800/2008¹⁴. These provisions may be particularly important for policies to phase out coal. This particularly concerns aid under **Art. 38** (Investment aid for energy efficiency measures), **Art. 39** (Investment aid for energy efficiency projects in buildings), **Art. 40** (Investment aid for high efficiency cogeneration), **Art. 41** (Investment aid for the promotion

¹³ Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006.

¹⁴ Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General block exemption Regulation).

of energy from renewable sources), **Art. 42** (Operating aid for the promotion of electricity from renewable sources) and **Art. 43** (Operating aid for the promotion of energy from renewable sources in small scale installations). This is a whole package of measures supporting lower energy consumption and facilitating the transition to greater exploitation of renewable resources (possibly in combination with aid regulated in Section 3 - RDI). These could be the most relevant measures in a plan to exit coal. Finally, for environmental issues caused by coal mines, grants could be used under **Art. 45** (Investment aid for remediation of contaminated sites), which envisage an aid intensity of up to 100% of eligible costs.

1.2.3 Commission Regulation (EU) No 1407/2013 (de minimis)

Another rule that could be applied for phasing-out is regulation 1407/2013, ‘de minimis’ for small amounts of aid to enterprises of any size. The regulations include thresholds and controls for non-grant aid, **expanding the forms of support for companies**. Application of the de minimis regulation could, for example, involve interventions supporting self-employment for people potentially affected by phasing-out coal.

1.2.4 Other provisions

The above provisions are all immediately applicable (subject to information, communication and control obligations) and Member States are exempt from notification requirements under Art. 108 (1) of the Treaty. Further types of aid, which substantially exceed the provisions of Regulation 651/2014 and are therefore **subject to notification**, may be applied if the Directorate-General for Competition assesses them as compatible. This may be, for example, specific aid for R&D through risk capital or State aid for rescuing and restructuring non-financial undertakings in difficulty.

1.3 Hypotheses for introducing flexibility

There are four areas where more flexibility for State aid rules could be introduced.

1. **Temporary or geographically limited suspension of the prohibition** (Art. 13 (a) of the GBER) **of application of the rules on regional aid** (GBER Art. 14) **to the coal sector**. Such a solution could be very important for EU coal regions if its use is limited to closure and/or conversion programmes, combined with investment initiatives in non-coal sectors.
2. **Defining aid intensities and maximum amounts for phasing out coal**. Such a solution, to be determined on the basis of specific provisions to be integrated with GBER aid, should be preceded or accompanied by a precise definition of EU geographical areas and/or sectors involved in these specific measures.
3. **Introducing an exception to the application of Art. 2 (20) of Regulation 651/2014 and increasing aid intensities**. Considering the potential need for significant financial investments, application of rules concerning regional aid supporting enterprises could include a revision of provisions related calculating aid for investments greater than EUR 50 million. This could be accompanied by increased aid for investment attributable to phasing-out coal.
4. **Defining additional aid, even when small and compatible with the Treaty**. During the first months of 2009, the Commission defined a Temporary Community framework for State aid measures to support access to finance during the financial and economic crisis¹⁵. Through this framework, additional aid measures were temporarily introduced, consistent with the Treaty, to deal with the 2008 crisis. **A similar approach could be the subject of a Commission initiative to accompany coal phasing-out policies**. Among the measures was also an increase in the aid threshold to EUR 500 000. Such measures, temporarily and geographically circumscribed if appropriate, could constitute an ad hoc legal basis for granting aid with the specific purpose of phasing-out coal.

¹⁵ Communications 2009/C 16/01 and 2009/C 83/01 (Temporary Community framework for State aid measures to support access to finance in the current financial and economic crisis).

2. Case studies: Assessment of potential flexibility for State aid rules

This chapter investigates six experiences of LRAs in dealing with a phasing-out strategy and their needs in terms of State aid flexibility.

The focus is on challenges and needs that the phasing-out process should address and that may require more flexibility in State aid rules. Proposals for such flexibility are then discussed in each case study. The content in this chapter is based on interviews with representatives of national, regional and local authorities and other stakeholders. A detailed description, based on desk research, of strategies implemented or under discussion in the six regions is in Annex I. A summary of the proposals for more flexible rules is in the next chapter, grouping them by the areas of flexibility identified in Chapter 1.

2.1 Overview of the case studies

The six regions were selected for a geographical balance across the EU as well as the potential risk of job losses caused by the transition. As underlined in the previous chapter, jobs losses are the most tangible effect of decommissioning coal activities, with potential social and economic negative spillovers on local economies. The case studies include the following regions, which have the highest risk of job losses¹⁶:

- Spain: Castilla y Leon
- Greece: Dytiki Makedonia (Western Macedonia)
- Germany: North Rhine-Westphalia
- Czech Republic: Severozápad
- Poland: Slaskie (Silesia)
- Romania: South-West Oltenia

These six cases provide a broad picture of the different approaches LRAs have for the transition and what stage of the process they are at. Despite differing

¹⁶ According to the European Commission (2018a), the regions with the highest number of jobs at risk are in Poland, the Czech Republic, Romania, Bulgaria, Germany and Greece. The potential evolution of coal employment in the EU at regional level reveals that nearly 160 000 of these jobs are expected to be lost in the next decade. This is more than two thirds of the current coal workforce with 27 000 jobs expected to be lost by 2020, another 49 000 by 2025 and 83 000 by 2030. Several regions will be particularly hard hit by the transition. Slaskie in Poland (PL22) may lose up to 40 000 jobs (approximately 50% of the jobs in the region). Three regions, in the Czech Republic (Severozápad, CZ04), Romania (Sud-Vest Oltenia, RO41) and Bulgaria (Yugoiztochen, BG34) may lose more than 10 000 jobs each.

progress with their phasing-out strategies, there are two common factors across the six experiences:

- First, all the interviewees are aware of the significant challenges that a phasing-out process is called to deal with. In line with common findings from the literature¹⁷, all the coal regions in this analysis are affected by significant social, economic and environmental problems which can be addressed only through a long-term and multi-stakeholder approach, where the role of local authorities and communities is vital and should be reinforced. A key issue recognised by interviewees is that a successful phasing-out policy needs a clear focus on actions to diversify and modernise local economies, stimulate and attract private investors, improve infrastructure, enhance human capital and exploit the opportunities offered by renewable resources¹⁸.
- Second, all the interviewees are aware that such an approach is very demanding in terms of time and cost and therefore requires significant resources including multiple funds and financing instruments to successfully meet the challenge of structurally transforming coal economies. They recognise the variety of existing EU instruments for regions (often not fully exploited), especially through ESIF that can support the transition and they are positive about the Transition Platform and the Just Transition Fund. They consider that State aid is crucial in sustaining and enhancing the phasing-out process, but the current EU State aid framework limits the policy initiative of LRAs. This offers strong evidence that much more flexibility is needed.

¹⁷ The closure of coal activities poses several challenges for the regions. The impacts can be broadly grouped into three dimensions: societal, where social change is needed for occupational restructuring where the coal industry is often strongly embedded in the local identity; economic, where a regional economy has to modernise and transform from a coal industry that is no longer competitive with other sectors; and environmental, where the ecosystem has been damaged by coal-related activities and needs to be rebuilt. See Haney M. and Shkaratan M. (2003), ILO (2015), CEEweb (2017), IDDRI (2018a and 2018b), European Commission (2018a and 2018b), Strambo C, Aung M. T., and Atteridge A. (2019), Galgóczi B. (2019).

¹⁸ According to the literature, although the transition process has several dimensions and its context and practical implications differ from region to region, there are three common factors in successful phasing-out strategies. First, a phasing-out strategy implies not merely a change of policies or just an innovation policy, but a holistic approach that can drive transformation of the underlying economic, social and political systems. Second, a wide range of stakeholders needs to be involved for a successful restructuring process. Local governments and communities are key partners and their involvement guarantees complex revitalisation and tailor-made policies. A lack of dialogue with employees, trade unions, and other stakeholders results in social conflicts, unemployment and depopulation. Third, a coherent and sustainable long-term policy is needed to successfully restructure a coal sector and related activities. See Wirth, Černič and Fischer (2012) CEEweb (2017), European Commission (2018b) and Galgóczi B. (2019), Dudău R. et al. (2019), and Committee of the Regions (2019).

2.2 Case studies

2.2.1 Castilla y Leon, Spain

Coal mining in Spain has declined since the 1980s. Different national strategies have been in place since 1990 for restructuring and modernising coal mining companies and areas (see Annex I for detail). These measures aim for economic reactivation and alternative development of the mining regions to achieve their structural transformation, economic recovery and social welfare. **These initiatives recognise the key role of private investments to an alternative economic development path for mining areas.**

Castilla y Leon already has a phasing-out strategy, complementary to the national framework, to assist local authorities¹⁹. The region has good road and rail networks and government aid intends to promote industrial transformation from coal and to halt a loss of population. The region **is also trying to attract foreign investments from big companies**²⁰.

However, interviewees say that **large foreign investments can only be an add-on to existing national and regional strategies**, as they are outside the control of local and regional authorities in mining districts and often take many years to be implemented. Economic and social recovery can only be expected in the long-term²¹. Notwithstanding the support measures, mining districts in Castilla y Leon still suffer from strong job and population losses, with no major structural change in sight²². Remote areas have less favourable conditions compared to the

¹⁹ The strategy is implemented through the ‘Economic Revitalization Plan for the Mining Municipalities of Castilla y León 2016-2020’, presented in 2016. There is also a specific lighthouse project, CIUDEN, to further stimulate innovation and development in the mining districts and to promote economic development through activities related to renewable energies and energy efficiency (see Annex I). Large investment projects, like CIUDEN, can be, in the medium term, another opportunity to create employment and generate economic development

²⁰ For instance, Bierzo (León), a former mining district, is currently in competition with other Spanish and European regions to host the fourth largest Chinese battery factory in Europe. The Asian giant has been analysing locations in Europe since 2018. The investment would be between 800 and 1,000 million euros in several stages, to co-lead the conversion of the motor industry. León stands out for its location, close to several automobile plants such as the PSA plant in Vigo, Renault plants in Valladolid and Palencia, the Volkswagen plant in Navarra and the Mercedes plant in Vitoria.

²¹ Several opportunities for development have been already defined by the LRAs: investments planned by the Government in mining areas for a Just Transition drive reconversion; growing entrepreneurial support agencies and internet platforms on industrial and agricultural land are re-activating economic activities; CIUDEN could implement research projects and push innovative energy production and distribution; quality and sustainable tourism and a growing agricultural sector, agri-food and bioeconomy industry (based on quality products and new denominations of origin) could create new jobs; investments in motorways (e.g. A-76 motorway) and the Atlantic Corridor (rail connections) improve connections with Orense, Vigo (port), Burgos and Bilbao (port), Valladolid and Madrid.

²² The mining districts in Castilla y Leon suffer from outmigration and an ageing population, leading to depopulation of rural areas and villages. Moreover, sparsely populated and difficult (mountainous) geography is poorly connected to larger centres and ports. There is also a lack of industrial activity and employment apart

rest of the region. **For these districts, it is more difficult to attract investments which usually go to much better connected areas of Castilla y Leon with more development opportunities.** This is why the coal districts need specific aid, *‘differentiated and specific treatment’* to attract investment and business development and to balance their very disadvantaged situation.

An additional issue is the **serious difficulty for Castilla y Leon to bring companies to municipalities** where coal was mined or where there were thermal power stations, **without specific aid.** Leon is in the north of the region where most of the municipalities affected by the structural change of coal mining are located. According to the map on regional incentives/aid for Spain as agreed with the European Commission, Leon is part of the list of non-determined 'c' zones²³, fulfilling conditions set out in criterion 1 of point 168 of the Regional Aid Guidelines (RAG)²⁴. In 2018 and 2019, there were 19 requests for regional aid under this scheme in Castilla y Leon, according to annual reports from the Spanish Ministry of Finance²⁵. Only 5 were from large enterprises. Among the ten finally approved, there was only one large enterprise investment²⁶. However, the data do not offer information on why some of the requests were rejected. Interviewees state that **larger maximum aid intensities would increase the demand from enterprises to invest in Castilla y Leon and possibly also in Leon province.**

The issue of flexible State aid is therefore very important for Castilla y Leon and it is necessary to make more flexible use of such aid, allowing exceptions of existing restrictions for State aid in the 83 coal mining municipalities. Interviewees consider that State aid restrictions should be lessened to a) **combine public funding and private investments into a common regional aid fund**, (this is planned within the new ‘transition agreements’ for three of the coal regions in Spain, in late 2020 or 2021, with feasibility studies going on), and b) **to be able to grant aid to large companies within the projects to revitalise the economy.** As stated previously large companies want to invest in the coal regions and this should be included in revitalisation strategies and attract more of these investments. To date, this is only possible for SMEs or

from the coal, energy and steel. Finally, the rigid regulatory framework not only affects development of alternative activities, but also the possibilities of maintaining mining in competitive conditions.

²³ For Leon the maximum aid for enterprises under the Spanish map on regional incentives are: 30% for small and micro enterprises, 20% for medium and 10% for large.

²⁴ As accepted by DG Competition, European Commission AYUDA ESTATAL N° SA. 38472 (2014/N) – ESPAÑA MAPA DE AYUDAS REGIONALES 2014-2020. Updated in 2017. See also: <https://www.dgfc.sepg.hacienda.gob.es/sitios/dgfc/es-es/ipr/ir/ia/paginas/incentivosregionalesca.aspx>

²⁵ Annual Reports 2018 and 2019 (the latter available to October 2019). <https://www.dgfc.sepg.hacienda.gob.es/sitios/dgfc/es-ES/ipr/ir/ia/Paginas/MemoriasAnuales.aspx>

²⁶ Castilla y Leon – Requests for Regional Aids: 19 (5 large enterprises), for about EUR 129 million of investment and 220 expected jobs. Castilla y Leon – Approved Regional Aids: 10 (1 large enterprises), for 44.535.713 EUR of investment and 142 expected jobs.

under very harsh restrictions, e.g. only for R&D projects. Large companies should have a much higher potential to create jobs than SMEs.

The region is asking for **more flexible aid schemes**, in particular under Just Transition Contracts **to facilitate easier and quicker investments to generate and modernise economy activity and create new jobs**. There is high interest in current support schemes, also from large companies, using grants to leverage private investments.

Possible ways to solve this second issue are:

- **Considering the coal districts** (e.g. Leon province) **as a specific territory according to Article 107(3)(a) or (c) TFEU** (territories with significant development problems) and **increase the thresholds for maximum regional aid for SMEs**;
- **Increasing the de-minimis threshold** for investments in coal regions;
- Allow for **tax incentives/social security allowances for companies** (SMEs and large companies) **that invest/operate in mining districts**;
- **Creating a special status for coal regions in the GBER** allowing for adequate requirements compared to other regions.

2.2.2 Western Macedonia, Greece

Western Macedonia phasing out strategy is currently under development regarding regional transition targets, road mapping and process. The goals to be achieved through the post-lignite strategy under discussion²⁷ indicate that **a radical restructuring of the regional economy is very important**. Many actions are needed to achieve sustainable economic, environmental and social growth in the coming years. The region is expected to be particularly hard hit by the transition, also because the impact of coal extraction and burning on natural resources and the environment is monumental. Although new employment opportunities should come from all sectors of the economy, the energy sector is seen as a driver for regional development.

To tackle the high structural unemployment that has persisted from the pre-recession period, the region has to **support entrepreneurship by promoting the development of high productivity industries and activities** with innovation and competitiveness that generate income and employment

²⁷ Strengthening business activities and enriching the region's productive baseline with innovative and competitive activities; capacity building and human resource skills development in areas directly linked to the region's potentially productive environment; protecting, promoting and enhancing the natural and human environment and developing favorable living conditions.

multipliers capable of broadening the local economy as a whole²⁸. Proposed solutions include helping workers to retrain and supporting their search for new employment, promoting local economy diversification, modernising energy and power generation systems, developing the renewable energy sector, and rehabilitating mining land, for instance by converting former mines for renewable energy use or creating industrial heritage sites. These changes require **significant investments** over 15 years. Therefore, multiple funds and financing instruments are needed to meet the challenge of structurally transforming entire economies. These funds and financial instruments should be underpinned by a high-quality Just Transition plan and participatory governance.

The EU provides a variety of funding that can favour these changes and alleviate socio-economic consequences for coal regions but the current EU State aid rules concern only costs in connection with coal for producing electricity, combined production of heat and electricity, production of coke and fuelling blast furnaces in the steel industry, within the Union. The potential share of State aid in total funding for the transition should be seen as a multi-parameter choice depending on each region's characteristics. Issues like the economic ability of companies to proceed with the transition, number of employees and impact of the transition on local society, previous success in managing funding schemes and attracting investments should be taken into account. For the region to move from a one-dimensional economic model to a viable and competitive market with a wide range of companies and activities, **State aid should be extended for the initial transition steps, as a supporting tool rather than slowing the transition process.**

From the interviews, State aid is seen as crucial within the phasing out strategy, mainly because **it encourages private investment and accelerates diversification of the regional economy beyond coal.** Attracting new industrial activities could reduce reskilling demands and new infrastructure needs, facilitating the transition process. Establishing an appropriate framework to encourage such investments, could include State aid focusing on environmentally friendly and energy efficient technologies.

The Council Decision 2010/787/EU is considered insufficient to support coal region transitions, mostly because targets are limited to coal mine enterprises. Although it helps to overcome problems such as closing such enterprises, re-training the workforce, welfare and health issues, there is no provision for alternative economic activities, investments or other measures to reduce income and job losses. That may conflict with the regional transition and generate

²⁸ This is perceived as a challenging aim, as the weak business transition culture after decades of regional one-dimensional growth based on the lignite industry poses a significant obstacle for the phasing out strategy.

opposition from businesses. **Enlarging Council Decision 2010/787/EU or a new decision to support a wider range of direct and indirect lignite industry activities could improve the effectiveness of closing lignite mines.** Reclaiming land and reskilling workers should be seen as a part of a transition roadmap linked with the new economic activities securing viable growth in the region.

As coal activities will reduce dramatically and new sectors have to be created or developed in Western Macedonia, **State aid rules must cover a wider range of enterprises and sectors that could build on the region's comparative advantages and be in line with the region's RIS3 strategy.** To improve Council Decision 2010/787/EU the following suggestions are proposed:

- attract investments and /or diversify economy: this topic is not covered and the Decision should be enriched to include investments under the region's RIS3 strategy.
- ensure ex-coal industry employees are retrained (including training for setting up new businesses or/and finding new jobs to become less dependent on protective or compensatory payments): this issue is partly covered by the Decision '*...d) the cost covered by the undertakings for the re-adaptation of workers in order to help them find new jobs outside the coal industry, especially training costs...*' and has to be enforced.
- transform industrial sites/brownfields to be reused for culture/tourism or new businesses: this issue also is partly covered by the Decision '*...m) costs of surface recultivation...*' and has to be extended to activities beyond soil improvement for cultivation, e.g. spatial planning for cultural and tourism activities.
- foster synergies between closing plants and other sectors: this issue is not covered by the Decision and should be added to 'attract investments and/or diversify economy'.

Land repurposing should also be supported via State aid since in many cases coal companies do not have funds and are therefore forced to rehabilitate land in the cheapest possible way. Specific uses of the land however cannot be generally chosen for all EU coal mining regions a priori as they depend on the characteristics of each region. The uses should be chosen and decided based on a tailor-made Just Transition plan for the region.

According to the Regional State Aid Map, grants for investments in Western Macedonia Region are: 25% for large enterprises, 35% for middle size

enterprises and 45% for small and very small enterprises. At the same time the majority of other neighbouring Greek regions have higher aid intensity for private investments, therefore are more ‘attractive’ for business investments. The new State Aid Regulation for Western Macedonia Region as well as for other ‘phasing out’ regions **should be modified** as follows:

- **include activities beyond coal** to be included in the region’s **RIS3 strategy**;
- **increase aid to develop critical advantages for businesses in the region.**

Additionally, **the GBER could help create a better business and investment environment in Western Macedonia.** A crucial task for region is continued operation of current lignite-based district heating systems under new heat production schemes supporting local communities and welfare. Based on decarbonisation goals, **novel technologies involving blue energy and energy storage could be part of GBER, focusing on those areas.** Moreover, existing power infrastructure and knowhow, energy storage applications could also be part of GBER.

More specifically GBER could be applied, on a case-by case basis, for SME investments; Start-ups in competitive sectors; research and development projects; business clusters and innovation clusters; energy efficiency projects in buildings; high efficiency cogeneration; promoting energy and electricity from RES; energy efficiency district heating and cooling; waste recycling and re-utilisation; environmental studies.

Transition is a very demanding procedure in terms of time and cost and there is a great need for funding leverage. The announcement of Just Transition Fund by the European Commission in combination with InvestEU funds and European Investment Bank involvement will motivate more funds from the public and private sectors (private-equity funds, loans, new financial tools and other local funds). Furthermore, a recycling regional basket of funds would be a stable financing mechanism to support the transition in the long term. Taking into account the significant funding and investment required for the transition as well as the effort and resources involved, **a holistic approach linking with Just Transition Funds and Green Deal policies and measures should be developed.** Yet to be decided is which portion of the transition process will be directed to each supporting scheme.

2.2.3 North Rhine Westphalia, Germany

The Rhine Coal Mining District is facing several structural changes related to phasing-out coal mining²⁹. The key aim of the region is to create new job opportunities, **mainly by incentivising new investments**. To achieve this, the most important instrument is the Joint Federal/Länder Task for the Improvement of Regional Economic Structures (GRW, see Annex I for detail). GRW funds support investments by trade and industry, investments in local commerce-related infrastructure, measures to encourage networking and cooperation between local players, and measures to improve SME competitiveness. The instruments, rules and maximum funding rates are set out in the ‘coordination framework’ agreed between the Federal level and the Länder. The funding rules transpose European rules on national regional aid into national law.

However, a general issue is that regional policies such as GRW are reactive rather than preventive policies. Only regions under past performance thresholds³⁰, with an acknowledged need for structural changes are eligible for public aid. Future developments and whether a region is going to face structural change in the near future, are not important. For the GRW support scheme, a forecast of employment numbers is the only indicator that reflects future developments and could anticipate the mid-term impact of the decision to phase-out coal mining.³¹

The key problem, therefore, is that the Rhine Coal Mining District is **not eligible for State aid** provided through the GRW, except for its most western areas. Depending on their size, enterprises in Mönchengladbach can receive up to 30% State aid, in Aachen city region and Heinsberg county up to 20%³².

²⁹ These include: loss of jobs and purchasing power; decline of business investments and contracts for suppliers, upstream and downstream enterprises; dependency of energy-intense industries on soft coal and risk that these industries relocate if they do not diversify their activities and reduce their energy dependency; low innovation and R&D activities (e.g. R&D staff, patents, high-tech industries) in some parts of the district; high regional concentration of soft coal mining, processing and burning (compared to hard coal); brain drain of university graduates who leave the region and, hence, shortage of skilled specialists. See RWI – Leibniz-Institut für Wirtschaftsforschung (2018a), RWI – Leibniz-Institut für Wirtschaftsforschung (2018b), Umweltbundesamt (ed.) (2019), Zukunftsagentur Rheinisches Revier (2019).

³⁰ The structural weakness for each region is assessed on the basis of a national procedure. A complex system of mixed regional indicators (based on the respective labour market, income levels, and quality of infrastructure) is used to rank regions by overall performance. The list is used to determine the support each region is to receive. The outcomes of the procedure are reviewed at regular intervals.

³¹ Umweltbundesamt (ed.) (2019), p. 38, 204-205.

³² Funding rates for enterprises under GRW: C territory, plus add-ons for counties bordering Poland, e.g. Märkisch-Oderland: small and micro enterprises 50%; medium-sized enterprises 30%; large enterprises 20%. C territory, e.g. parts of the Ruhr area and most counties in east Germany: small and micro enterprises 30%; medium-sized enterprises 20%; large enterprises 10%. D territory, e.g. Aachen city region, Heinsberg county or Krefeld: small and micro enterprises 20%; medium-sized enterprises 10%. For a full map see:

Companies interested in opening new facilities outside these territories cannot be granted public support from GRW at all. Other regions eligible for GRW support therefore have a competitive advantage in this regard, especially in Eastern Germany on the border with Poland. Nevertheless, it is not possible to judge whether the decision of an enterprise in favour or against a certain location was based on State aid. This information is confidential and usually not shared by the enterprise. Hence, the following examples only illustrate recent cases of enterprises for which a location in the Rhine Coal Mining District was discussed but eventually decided to relocate in regions that can offer higher funding rates under the GRW scheme.

- Tesla factory in Brandenburg: Euskirchen county, the southernmost county of the Rhine Coal Mining District, was a potential location for the new European Tesla factory. The factory will however be built in Märkisch-Oderland county, in eastern Brandenburg which shares a border with Poland. Under the GRW scheme, Märkisch-Oderland can offer higher funding rates (20 %) than Euskirchen which receives no support from GRW. State aid from Brandenburg supposedly played a role for the Tesla decision.³³
- Battery cell production in Thuringia: NRW minister of economic affairs was negotiating with a Chinese producer of battery cells, CATL, about a new facility in Euskirchen (Rhine Coal Mining District) or Datteln (in the northern Ruhr area). CATL however decided to relocate to Erfurt in Thuringia, one reason supposedly being higher public support.³⁴ Under the GRW scheme, Datteln and Erfurt can offer 10-30 % State aid whereas Euskirchen receives no support from GRW. As another reason, the minister mentioned short-term land availability.
- Coal dust processor in Dortmund: a company processing coal dust was interested in opening a facility in Rhein-Erft county, in the middle of the Rhine Coal Mining District. Eventually, the company decided to relocate to Dortmund in the middle of the Ruhr area. Under the GRW scheme, the municipality of Dortmund can offer 10-30 % State aid to enterprises whereas Rhine-Erft county receives no support from GRW.

https://www.bmwi.de/Redaktion/DE/Downloads/foerdergebiete-karte-ab-08-2017.pdf?__blob=publicationFile&v=9

³³ Kölner Stadt-Anzeiger: Entscheidung für Berlin/Brandenburg. Tesla sagt dem Rheinland ab. Newspaper article, 13.11.2019.

³⁴ EnerGate messenger: Batteriewerke, NRW wirbt mit Euskirchen und Datteln. Newspaper article, 31.10.2018. Available at: <https://www.energate-messenger.de/news/187250/batteriewerke-nrw-wirbt-mit-euskirchen-und-datteln>

Another issue concerns the **de-minimis rule**. Even small enterprises that receive State aid, can easily face the challenge of exceeding the de-minimis maximum of EUR 200 000 over three fiscal years. An important exception from this threshold applies to enterprises providing services of general economic interest. Here, a maximum of up to EUR 500 000 over three years can be applied because State aid to enterprises providing such services ‘should be deemed not to affect trade between Member States and/or not to distort or threaten to distort competition’ (Regulation (EU) No 360/2012). The European Commission currently checks whether the maximum of EUR 200 000 is still suitable today and whether the maximum threshold needs to be increased in the future.

Another aspect refers to the **involvement of large enterprises in publicly funded projects**. RWE Power, the energy company operating open pit mines as well as the respective coal-fired power plants in the district, is a very active partner in the region. They have a research department that is interested in initiating, developing and implementing activities and projects to accompany and shape transition processes. As RWE is a large company, they can often not participate in joint projects or take the lead due to State aid restrictions.

The decreasing global coal price as well as tighter legislation and EU State aid rules were the main driving forces to stop hard coal mining in Germany. As the legal framework for granting public aid was heavily restricted in 1992, phasing out from hard coal for 2018 was agreed in 2007³⁵. Hence, more flexible State aid rules might give regions affected by job losses and industrial decline as a consequence of the phasing-out coal mining, more leeway to cope with key challenges and better exploit future opportunities.

Although it is difficult to assess the impact of State aid rules in the region, especially on the capacity to boost new private investments, more flexible State aid rules should allow regions being most affected by phasing-out to shape the transition process more pro-actively and with greater flexibility. Different access points and lessons learned can therefore be identified to address issues related to State aid rules:

- Assess how regional policies can consider **anticipated future developments** (as a consequence of political decisions) so they become more preventive and less reactive;
- **Allow large companies to take part in (ERDF-funded) cooperation projects as equal partners and/or reduce restrictions for them;**

³⁵ Umweltbundesamt (ed.) (2019), p. 168.

- **Increase the de-minimis threshold** and/or allow for more flexibility, e.g. if support is granted to the same enterprise but for different measures and objectives, this might justify exceptions from the general limit;
- **Introduce a special status for phasing-out regions** so they are entitled to the same level of funding as other regions, e.g. under the GRW scheme;
- **Include coal regions in the GBER**, which has been used successfully in the context of R&D support, for example;
- **Facilitate the use of State aid**, e.g. by lean reporting and auditing systems and procedures, i.e. avoid several authorities at different administrative levels carrying out the same or similar procedures.

2.2.4 Severozápad, Czech Republic

Phasing-out coal remains a controversial topic³⁶ in the Czech Republic and the transition is difficult. Czech energy security is highly dependent on the coal sector, posing considerable obstacles for the transition. Coal mining regions are economic dependent on the industry and coal-fired power creates several political, social and environmental challenges.

A significant characteristic of Severozápad is the **low level of education³⁷ and underused potential for improving the region's competitiveness³⁸**. There has also been long-term stagnation in finding solutions to structural problems, **especially related to environmental degradation**. In addition, the transition to nuclear power is considered a more suitable solution than renewable resources which are perceived as marginally viable³⁹.

Despite the high dependence of the region on coal, there is the recognition of the need for transition. The challenges of Czech coal regions are considered by the RE:Start strategy), started in 2015 to support structurally disadvantaged coal

³⁶ The Czech Republic approach to phasing-out is contradictory. Subsidies have been historically provided to coal mining companies from the State to enhance the modernisation of coal technologies and the coal mining industry. Tax exemptions were also provided for certain uses of coal. However, since the 1990s State aid has supported regions and municipalities affected by phasing-out coal, providing benefits for ex-mining workers and support for environmental damages remediation as well as for a more effective development and use of renewable energy sources. There is also the example of State aid related to phasing-out with the closure of Paskov mine due to unproductivity in 2017. The financial support went directly to the mining workers to cover the loss of their jobs. See Patel, van der Burg & Worrall (2017).

³⁷ There is also relatively high unemployment, especially long-term. The large number of socially marginalised groups in the region further increases the social challenges.

³⁸ Vondrová (2019).

³⁹ Ministry of Development and Trade (2015).

regions (i.e. Moravian-Silesian Region and Karlovy Vary and Usti in Severozápad). A combination of national and EU funds facilitated the long-term financial sustainability of the governance structures and actions of the strategy. Accompanied by State level investments, **ESIF funds provide a significant contribution to the transition strategy of the region.** Seeking synergies between the financial sources for the development and transition of the region (including State aid and its more flexible use) could activate other actors. It could motivate investors to economic development in the region.

Moreover, because of economic diversification and innovation which are transition goals, the strategy will provide opportunities for regional development. Consequently, **the interest of private investors to invest in the regions is expected to increase.** For example, at the end of 2017 representatives of the BMW Group, the Czech government and Karlovy Vary region announced the construction of a new testing ground. This will create several hundred jobs in the coming years. Total investment will be some hundreds of millions of Euros and is expected to create highly-skilled and specialised jobs as well as bring high added value for the mining region and the whole country⁴⁰.

In Severozápad, **more flexibility in providing State aid is needed**, including **block exemptions** for phasing-out coal. This could include a block exemption for science, research and innovation (e.g. there are no functional research and development facilities in Karlovy Vary) or housing (to attract strategic investors). Flexibility for State aid **is also needed to support projects of large companies.** Such flexibility could allow the Severozápad region to better meet the socio-economic situation and the challenges of improving the environment and the image of the region. State aid could help in the further development and improvement of the transition strategy as complementary to other funding sources.

For these reasons the Czech Republic proposed **a new GBER article** 'Investment Aid for Transforming Structurally Disadvantaged Regions / Coal Regions' in the context of transformation and transition, as well as decarbonisation challenges⁴¹. The proposed article should include: *'In the context of the decarbonisation challenges faced by the transforming structurally disadvantaged regions / coal regions today and in the near future, the intensity of State aid for public and private entities, regardless of their size, implementing investment projects within these regions with clearly defined, by*

⁴⁰ See: <https://www.press.bmwgroup.com/global/article/detail/T0277183EN/bmw-group-announces-construction-of-new-proving-ground-in-the-czech-republic?language=en>)

⁴¹ Comments of the Czech Republic on the draft amendment of Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (2019).

regional and/or national authorities approved and in practice implemented restructuring / transformation strategy, will be increased by 15 percentage points.'

Moreover, additional modifications **could include under regional investment aid (i.e. modification of Article 13 of the GBER) energy generation, distribution and infrastructure using non-coal energy sources to foster low-emission and emission-free energy solutions in coal regions.** Enabling regional investment aid in these areas seems extremely important in the context of energy transformation and the fight against climate change.

2.2.5 Slaskie, Poland

The dependence of Slaskie on coal mining and energy production from coal is a growing economic, environmental and social challenge that needs to be urgently addressed. The key issue is that coal is also the main source of energy security and independence for the whole country. There is a lack of inexpensive alternatives to coal which would not require a difficult transition, including many renewable sources.

Several challenges need to be addressed. First, the strong focus on mining and coal as an energy resource has contributed to **large scale environmental degradation and pollution**⁴². However, in recent years, there has been increased attention from private investors in clean energy technologies rather than traditional industries⁴³. This trend could be a substantial **opportunity for the region to attract investments.** These should help Śląskie transition from a coal region to a clean energy region, especially given its specialisation in energy production. Grasping this opportunity requires measures to make the region more attractive and improved framework conditions. These include reduced administrative burden, better life quality, environmental quality and transport but also capitalising on the region's assets such as close-to-border localisation, cultural heritage, urban character, etc. Measures which support the rehabilitation of coal sites and reduce the negative effects of pollution **potentially make the region more attractive and could encourage private investment.**

Second, there is **the necessity to support economic diversification which would contribute to attractiveness of the regional labour market.** Śląskie has been through different phases of restructuring the mining industry where it

⁴² The region faces several problems such as high environmental pollution; many degraded areas as a result of mining; high car use and poor quality transport infrastructure and integration; negative image of the region as industrial with significant environmental problems; poor quality public spaces low level of energy production from renewable resources.

⁴³ Bukowski (2018) and Galagoczi (2019).

has established other industries such as automotive and pharmaceuticals⁴⁴. However, further measures supporting the development of different sectors and industries are required to offer more employment alternatives for mining professionals⁴⁵.

The transformation policy is therefore a very important issue in the region and the process is perceived to have significant challenges. **ESIF funds can have a very important role in supporting State aid investments in the transition.** These can provide attractive alternative employment opportunities turning brownfields and coal sites into cultural sites, or helping foster renewable and sustainable energy sources. However, in Poland there are large discrepancies in energy and coal industry policies across different governance levels and also between EU and national policies. An effective use of State aid to help regions transition requires the involvement of stakeholders and a dialogue so all parties move in a common direction. **It is important that all investments, including State aid, are co-decided by local actors** to ensure that they are appropriately selected.

From the interviews, it emerges that **State aid is considered very important for mitigating social and environmental consequences of closing mines**⁴⁶. At national level, current State aid rules are seen as generally flexible (except for the restriction on new investment which was not welcomed by coal stakeholders). Currently, the key bottleneck is that the coal industry does not see transition as inevitable. There is a necessity to shift the perception and motivation of coal stakeholders to make full use of potential State aid⁴⁷.

At regional level, instead, **current State aid rules are seen as insufficient to mitigate structural changes in coal regions.** The cost of transformation is perceived as a considerable burden for the region. It is important to act proactively rather than to wait for the effects of negative changes. **Current State aid rules do not ensure effective transition and they should be urgently updated** to effectively help the region foster economic diversification as well as ensure optimal conditions for technological development, especially

⁴⁴ Urząd Marszałkowski Województwa Śląskiego (2013) and Bukowski (2018).

⁴⁵ The region still suffers many problems related to depopulation and ageing; concentrated negative social phenomena in urban areas; low professional activation and low employment; decreasing share of region's economy in national GDP and low rate of GDP/capita increase; low R&D expenditure.

⁴⁶ See also Białas (2011).

⁴⁷ The national ministry, which is responsible for developing the framework for State aid allocation, consulted with regions on their needs and expectations on State aid for transformation in December 2019. The process is ongoing and it is difficult to evaluate results, documents are continuously exchanged with regions which actively develop tools addressing coal transformation. However, while there is a dialogue between national and regional stakeholders on State aid allocation, the regional authority also expressed the conviction that regions should have more power to manage financial resources, as they have important knowledge of the situation and needs.

in industry and high energy sectors. Moreover, to enable critical mass for investment, **preferential rules for State aid not only within the Just Transition Fund, but also within the Cohesion Fund, ESIF and other EU funds are needed.** This would enable funding complementarities for economic, energy and social transformation. Śląskie Voivodeship believes that State aid should be considered as only one instrument, complementary to the new Just Transition Fund and ESIF.

A key issue with State aid rules is **the intensity of support which is certainly too low to attract investments.** In the current programming period, as support decreased there was much less interest in applying for it. This is related to two major obstacles: the investment conditions are difficult to satisfy and the amount of support is not enough. Potential entrepreneurs are not interested in applying for aid given the low amounts involved and they use other funding sources (at regional or national levels). The suggestion is **to increase State aid intensity to encourage private investment facilitating transformation.**

Other specific suggestions emerge from the interviews, especially introducing changes to existing instruments. **A mechanism for support to coal regions should be integrated with the GBER.** The GBER rules are also perceived as very complicated for potential applicants, so they should be revised.

It would be also important to provide separate guidelines by the EC based on the 'new Commission guidelines based on Art.107(3)(b) or (c) TFEU'. **Considering that economic and energy transformation is a long-term process, the idea of a separate programme for such regions should be thoroughly inspected.**

Furthermore, the CoR's suggestion of a 'bonus' that increases support to coal regions seems appropriate, but this could be applied to also other types of aid in GBER. The Śląskie voivodeship calls for the following note with regards to coal transition regions to be added to GBER: **'The aid intensity can be increased by 25% in case of investments undertaken in areas threatened by structural changes in regions affected by and threatened by structural changes'**.

In addition to the CoR investment areas covered by support preferences, it is also important **to create favourable conditions for the public and private sectors to obtain State aid. This should provide local and regional governments with instruments to accelerate and promote entrepreneurship and innovativeness** in areas threatened by employment loss.

Supporting entrepreneurship and incubators should have a positive impact by involving local and regional societies in accepting the negative changes of transformation. A separate catalogue of qualified and simplified costs could be considered for this type of support. An incentive could be for operational costs of investments during project implementation as well as in the sustainability phase, such as financing salaries of mining employees leaving their positions to be eligible for support. The lack of preferential conditions for obtaining aid for such projects results in limited interest of entrepreneurs who then invest in less costly solutions which contradict low carbon economy objectives.

In addition, increased public aid is necessary to increasing co-financing in projects already granted support such as for SMEs, research infrastructure and energy efficiency. **Even an additional 25% may sometimes not be enough to encourage investments** by the public or private sector. This ‘bonus’ for coal transition regions should also be considered with other investments foreseen under Art. 107 TFEU (3a and 3c). Additional aid could be based on the surface area of degradation due to mining, number of mining enterprises or the use of hard coal/lignite.

Finally, the interviews emphasised that **if used to stimulate new investments and economic opportunities while complementing other funds, State aid can already motivate actors in the coal industry to steer away from the coal**. This would still contribute to phasing out in an inclusive way by minimising negative consequences. While the aid is used to close unproductive plants, current **State aid rules do not entirely prevent new investments via other funding routes** (as discussed in Chapter 1). There are significant opportunities to support the transition using State aid combined with ESIF to provide better conditions for the transition as well as opening attractive alternatives for the coal industry.

2.2.6 South-West Oltenia, Romania

A specific consolidated strategy for the gradual elimination of coal in South-West Oltenia Region, has not been developed yet (see Annex I for detail). This is also because Romania has a highly centralised system where regional authorities (at NUTS2 level) have little power, mainly limited to coordinating regional development projects and administering ESIF⁴⁸. State aid in Romania can only come from the national government and the mayor of a town trying to

⁴⁸ An additional obstacle is a lack of political commitment due to constant political change. The Romanian government supports coal and tries to extend coal lifespans for as long as possible, especially for lignite and hard coal industries which are largely state-owned. Supporting fossil fuels is an important electoral base especially in those regions. Energy efficiency and renewable energy stakeholders have less influence. See Popp R., de Pous P., and Reitzenstein A. (2018).

attract a big investor with State aid would find it very difficult. However, at local level, each county, city and village dependent on coal has developed a Sustainable Development Strategy⁴⁹.

A key challenge for the region is the environmental impact of coal activities where topsoil is no longer suitable for agriculture, or is even destroyed. An alternative use could be for solar panels. Stakeholders show a full awareness that Romania and especially South-West Oltenia, which is between the Danube River and the Carpathian Mountains, has huge renewable resources such as wind and solar energy. This offers the opportunity of becoming an important producer and market for clean energy technologies⁵⁰. **This strategy may be supported by investing in infrastructure such as transmission lines and transformers**⁵¹. However, these decisions should be taken at national level, since the energy system is centralised in Romania and LRA policy actions in this sense would be very limited.

The overall opinion is that **several actions are required to implement a phasing-out strategy**⁵². The definition of a transition strategy should therefore not be limited only to closing mines, but should also focus on the social perspective. Just Transition should be implemented as a redevelopment model based on locally designed public policies to enable a fair income and a decent life for all workers and communities affected by pollution reduction measures. In addition, **an integrated approach including infrastructure, reskilling and education** is also needed. It must also be locally designed because even if expertise from the centre is welcome, local potential and needs are better known by those who live there, so the approach should be bottom-up. **Such an approach requires significant investments**. Since no strategy has been implemented so far, there are no national funds for phasing out coal. As a result, **EU funds play an important role in Romania and will continue to be important** for implementation of a Just Transition Strategy⁵³.

⁴⁹ The Strategy for sustainable development of Gorj County, for 2011-2020, includes objectives for a greener county; the Sustainable Development Strategy of Rovinari City 2009 - 2019 looks to reduce pollution, diversify economic activities, rehabilitate land affected by the coal mining, and cultivate waste dumps; the Strategy of Durable Local Development of Turceni City 2011-2020 aims at ecological reconstruction of land affected by mining to bring it into productive use, foster economic activities based on the recovering slag from coal combustion, enhancing re-qualification of the labour force.

⁵⁰ European Commission (2018a).

⁵¹ Moreover, imbalances generated by coal are leading to people migrating to look for new jobs, which is strictly correlated to the need to retrain former mine workers according to the redevelopment needs of the region based on broad consultation that includes LRAs, trade unions (including non-coal), local businesses as well as civil society.

⁵² For example to reduce CO₂ emissions, diversify economic activities for mono-industrial areas dependent on coal, recultivate land affected by mining, acquire new skills for mining workers (re-qualify the labour force); support the conversion of closed mining sites into new economic, social and cultural centres, develop new technologies, and develop eco-tourism activities (accommodation, leisure, sports).

⁵³ Popp R., de Pous P., and Reitzenstein A. (2018).

So far, **no State aid has been granted in Oltenia to facilitate coal phasing-out.** However, in recent years, the state owned hard-coal mining company with several production units benefited from State aid. In particular, State aid has been associated by interviewed stakeholders to expropriation of private land, allowing coal companies to hold a larger area for mining. It is therefore believed that phasing out coal should not focus on coal companies but on communities, public administrations, and the **private sector**. If financial resources are used to develop coal regions they should **support private sector and SME schemes.**

According to the interviewees, Council Decision 2010/787/EU does not seem to pose major problems since stopping finance for enterprises that are no longer profitable and could fail is perceived as fair, especially if funding can then be used to support the local economy. However, interviewees agreed that under Directive 2004/35/EC, there would not be any State aid for mine closures if the Polluter Pays Principle is respected, which implies polluting companies must cover all the environmental costs.

More targeted State aid is needed to mitigate social and environmental impacts of the transition, supporting economic development and job creation in predominantly mono-industrial areas. Regional State aid could also be granted for the same purposes when it has a net positive impact.

More flexibility in State aid rules are therefore necessary:

- to **attract investments** and/or diversify the economy;
- to **ensure that ex-coal industry employees benefit from learning/vocational education and find new work** (including training for opening their own businesses) and become less dependent on protective or compensation payments;
- to **transform industrial sites/brownfields** to be used for culture/tourism;
- to **foster synergies between closing mines and other sectors.**

3. Conclusions: proposals for flexibility

This report has investigated EU coal region needs for more flexible State aid rules to foster their coal phasing-out processes and overcome the related challenges. The report first reviewed existing State aid rules, identifying preliminary hypotheses on how the current framework could be applied in phasing out coal and, above all, how it should be improved by introducing tailored flexibility measures and modifications. Then by analysing experiences from six EU regions it has verified, mainly through interviews with stakeholders, whether additional or more specific flexibility is required.

One general consideration, as discussed in Chapter 1, is that regardless of any new elements of flexibility, the current regulatory framework offers Member States tools to outline policy initiatives for phasing out coal. These include wide-ranging State aid options exempt from notification obligations pursuant to Art. 108 par. 1 TFEU. Nevertheless, the common message from the six case studies is that State aid is crucial for sustaining and enhancing the phasing-out process but the current EU State aid framework is perceived as limiting the policy initiative of LRAs.

There is strong evidence that much more flexibility is required but any potential revision should be through an integrated programmatic approach. This would intervene on several policy sides including research and development, investment support and environmental requalification, to define conditions for effective change in stakeholder behaviour during the phasing-out process. Several measures are needed to diversify and modernise local economies, better support small and large enterprises, stimulate and attract private investors, improve infrastructure, enhance human capital and, at the same time, develop urban and rural areas which are affected by coal mining activities. Such an approach could benefit from specific provisions within cohesion policy, where the use of ESIF is viable especially for urban and local development policies. ESIF funds provide a significant contribution to financial support in transition strategies of the regions.

The key proposals from the six regions take into consideration the variety of interventions needed to foster the transition process. Linking the proposals with findings outlined in the first chapter (section 1.3) offers three categories.

First, **Council Decision 2010/787/EU** is considered insufficient. The general opinion from the regions is that it helps to overcome some problems, such as closing the relevant enterprises, re-training the work-force, welfare and health issues. However, it does not foresee any provision for developing the economy,

attracting new investment or supporting other measures offering alternatives to deal with challenges posed by a post-coal economy (mainly the loss of jobs and environmental degradation) or wider EU objectives for climate change and emission reductions. So, these provisions require a broad reinterpretation of coal sector support measures. In addition, encouraging mine closures could benefit from measures to convert and reclaim land within wider regional and sub-regional development and retraining programmes. In relation to the Council Decision, Western Macedonia in particular made the following proposals:

- Attract investment and /or economic diversification: this topic is not covered and the Decision has to be enriched to support costs related to investment under the region's RIS3 strategy.
- Ensure that ex-coal industry employees can be retrained (including training for setting up new businesses or/and finding new jobs to become less dependent on protective or compensation payments). This issue is only partly covered by the Decision '*...d) the cost covered by the undertakings for the re-adaptation of workers in order to help them find new jobs outside the coal industry, especially training costs...*' and should be enforced.
- Transform industrial sites/brownfields to be reusable for culture/tourism or new businesses. This issue also is partly covered by the Decision '*...m) costs of surface recultivation...*' and should be extended to activities beyond soil improvement for agriculture, e.g. spatial planning for cultural and tourism activities.
- Foster synergies between closing mines and other sectors: this issue is currently not covered by the Decision and should be added in parallel with the first topic 'attract investments and/or diversify economy'.

Second, there are several indications from all six regions to improve **Commission Regulation (EU) No 651/2014 (GBER)**. As evidenced in Chapter 1, there are two main streams for additional support to coal regions in this sense:

- A temporary or geographically limited suspension of the prohibition (Art. 13 (a) of the GBER) of application of the rules on regional aid (GBER Art. 14) for the coal sector could be very beneficial if focused on closure and/or conversion programmes, combined with investment in non-coal sectors. This proposal is in line with suggestions provided, for example, by North Rhine Westphalia and Castilla y Leon:

- ‘introducing a special status for phasing-out regions’;
 - ‘including coal regions in the GBER, which has been used successfully in the context of R&D support’;
 - ‘considering the coal districts as a specific territory according to Article 107(3)(a) or (c) TFEU (territories with significant development problems)’.
- Defining tailored aid and maximum amounts for phasing-out coal by introducing specific provisions to be integrated with GBER (including modifications to aid intensities for regional aid, Art. 13 and 14). This should be based on specific provisions and preceded or accompanied by precise definition of EU geographical areas and/or sectors involved in these measures. The regions suggested:
 - ‘Increasing the thresholds for maximum aid intensities for regional aid for small and medium and large enterprises’ (Castilla y Leon); similarly, Western Macedonia suggests ‘increase intensity aid rates to develop critical advantages for businesses in the region’;
 - ‘Including relevant novel technologies involving blue energy and energy storage applications in the GBER; taking into account existing power sector infrastructure and knowhow, energy storage applications could be foreseen as part of GBER’ (Western Macedonia); similarly Severozápad suggests modifying Article 13 of the GBER to ‘include in the scope of regional investment aid energy generation, distribution and infrastructure using non-coal energy sources’; the Czech region also calls for ‘some block exemptions considering the strategy for phasing-out coal, for example, for science, research and innovation (since there are no functional research and development facilities in the coal area of Karlovy Vary) or for housing (to attract strategic investors)’.
 - ‘Integrating a brand new GBER article ‘Investment Aid for Transforming Structurally Disadvantaged Regions / Coal Regions: In the context of the decarbonisation challenges faced by the transforming structurally disadvantaged regions / coal regions today and in the near future, the intensity of State aid for public and private entities, regardless of their size, implementing investment projects within these regions with clearly defined, by regional and/or national authorities approved and in practice implemented restructuring / transformation strategy, will be increased by 15 percentage points’ (Severozápad).

- Including in GBER, as indicated by Slaskie, the following note with regards to coal transition regions: ‘The aid intensity can be increased by 25% in case of investments undertaken in areas threatened by structural changes in regions affected by and threatened by structural changes’. The region however states also that ‘Even an additional 25% may sometimes not be enough to encourage investments by the public or private sector. This ‘bonus’ for coal transition regions should also be considered with other investments foreseen under Art. 107 TFEU (3a and 3c). Additional aid could be based on the surface area of degradation due to mining, number of mining enterprises or the use of hard coal/lignite’.

- In a broader way, South-West Oltenia highlights ‘the need for regional State aid to be granted to better address also social and environmental impacts of the transition, to support economic development and job creation’. Moreover, the region considers that flexibility is needed to allow the transformation of industrial sites/brownfields to be reused for cultural/tourism purposes or businesses.

Another element of flexibility in this sense could be to introduce an exception to the application of Art. 2 (20) of Regulation 651/2014 and increase aid intensities also for large investments. Considering the potential need for significant financial investments required to support a phasing-out strategy, rules concerning regional aid supporting enterprises could include a revision of aid calculations for investments over EUR 50 million. This could be accompanied by increased aid for investments attributable to phasing-out coal.

The need to allow more flexibility in State aid to attract larger investments is particularly evident in Castilla y Leon (‘increase the thresholds for maximum aid intensities for regional aid also for large enterprises’) and Severozápad (‘more flexibility in GBER of the conditions for State aid is needed also to support projects of large companies’). On this point some considerations to attract investments by large companies are needed. Initiatives for such an objective, which must include a wider range of support instruments, could be significant. More specifically:

- any temporary or geographically limited changes to aid intensities for regional aid would be desirable;

- without prejudice to the Commission's orientation on risk capital aid, such aid could be considered if connected with phasing-out coal. This could be combined with specific modifications to Art. 21 GBER to cover financial instruments in Regional Programmes supported by ESIF;
- the aid referred to in the previous points, without prejudice to other provisions, could also be combined with environmental, research and development (already applicable through GBER), and professional training aid.

Finally, it should be noted that modifications in aid intensities (as in the second point above), could be particularly important to attract large companies in the areas concerned.

A third type of potential flexibility can be inserted in a **temporary/specific framework for State aid measures for phasing-out coal**. This could follow the 2009 initiative when the Commission defined a Temporary Community framework for State aid measures to support access to finance during the financial and economic crisis. Among the measures in the initiative was an increase in the '*compatible limited amount of aid*'⁵⁴ threshold to EUR 500 000. A similar approach, temporarily and geographically circumscribed if appropriate, could be a basis for granting aid to accompany coal phasing-out policies. Three regions have recognised the need for such revision:

- Increasing the de-minimis threshold to encourage private investments to facilitate transformation in coal regions (Castilla y Leon and Slaskie);
- Similarly, North Rhine Westphalia suggested to 'increase the de-minimis threshold up to EUR 500 000 and/or allow for more flexibility, e.g. if support is granted to the same enterprise but for different measures and objectives, this might justify exceptions from the general limit'.

Transversal to these suggestions is a requirement from two regions to simplify State aid rules. For Slaskie 'the GBER rules are perceived as very complicated and difficult to understand by potential applicants, so they should be revised'; also North Rhine Westphalia calls for a general simplification to 'facilitate the use of State aid, e.g. by lean reporting and auditing systems and procedures, to avoid several authorities at different administrative levels carrying out the same or similar procedures'.

⁵⁴ See point 4.2 in Communication from the commission — Temporary Community framework for State aid measures to support access to finance in the current financial and economic crisis (2009/C 83/01).

Finally, some regions have suggested **additional measures to attract investments**:

- Castilla y Leon proposes to ‘allow for tax incentives/social security allowances for companies (SMEs and large companies) that invest/operate in the mining districts’;
- North Rhine Westphalia proposes to ‘allow large companies to take part in (ERDF-funded) cooperation projects as equal partners and/or reduce the restrictions for them’;
- For Slaskie ‘it is necessary to apply preferential rules for State aid not only within the framework of the Just Transition Fund, but also within the framework of Cohesion Fund, ESIF as well as other EU funds’. Moreover, since economic and energy transformation is a long-term process, the region suggests ‘to thoroughly inspect the separate guidelines by the EC based on the new Commission guidelines based on Art.107(3)(b) or (c) TFEU’.

To conclude:

1. Applying current rules (the GBER could be applied in its current specifications until December 2022 according to a hypothesis of the Commission⁵⁵ which has not yet been formalised) gives room for State aid in coal regions.
2. Stakeholders in coal regions propose introducing sharable modifications, that means introducing flexibility in State aid rules for coal regions via specific new provisions. Different aid categories and/or different aid intensities or maximum amounts are needed, for instance. These provisions could be specific changes to the existing framework or, possibly, an ad hoc temporary framework for coal and phasing-out regions, with reinforced measures in specific areas.

⁵⁵ See document at the following link: https://ec.europa.eu/competition/consultations/2019_gber_deminimis/index_en.html

Annex I - Coal sector and transition strategy overview in six regions

Spain, Castilla y Leon

Coal sector

Some decades ago, coal mining was an important economic activity in some Spanish regions, namely Asturias, Castilla y Leon and Aragon. At the beginning of the 1990s, there were 145 active mines in eight Spanish regions. By the end of 2017, however, only 8 companies with 12 mines were still active. Mine closures led to a large reduction in the number of workers, from 51 400 in 1985, to around 30 000 in 1994 and some 2 000 in October 2018. Of these almost 80% (1 615) worked in Asturias and the rest in Castilla y León (320) and Aragón (89)⁵⁶. These numbers reflect the structural changes in former coal mining territories in Spain.

Castilla y León is the largest region in Spain, with more than 18% of the total area and is the third largest region in the EU. Coal mining was important in the northern provinces of León and Palencia from the last decades of the 19th century. Mining coal, other minerals and natural stones in this region dates back to Roman times.

The territory affected by the coal transition is rural and mountainous with 81 municipalities, mostly villages with less than 600 inhabitants. Only five have more than 5 000 people. The area has a strongly decreasing and ageing population, very low population density, high rates of out-migration, geographical isolation and poor connectivity to transport and the internet⁵⁷.

The economy was traditionally dominated by agriculture, forestry and mining value chains. Mining had a significant interrelationship with other sectors of the economy, some of which were also important in mining municipalities. These included thermal power plants and minor steel production directly linked to coal mining. Other sectors, directly and indirectly involved in the coal value chain, were wood and cork, metal production, tools and machinery, chemicals, electricity and gas, transportation, machine rental and construction. Mineral and

⁵⁶ La Vanguardia. Press article 7/1/2019. Approx. 60% of the jobs in 2018 were in a public company called HUNOSA in Asturias, whereas only 40% were from private companies.

⁵⁷ Junta de Castilla y León (2016): Economic Revitalization Plan for the Mining Municipalities of Castilla y León 2016-2020.

stone mining is still important in the region but does not have the economic weight of coal mining. Recent studies⁵⁸ estimate that the effects of coal mining in Castilla y León on other sectors is significantly above the average, with many economic activities and jobs linked to coal. Estimates highlight an important multiplier effect of the coal industry on employment. For example, in 2006, the regional economy benefitted from 187 jobs in other sectors for every 100 jobs in mining. The loss of direct and indirect employment in the region with declining coal production is serious and ongoing. Studies also highlight the lack of alternative industrial potential in the region, with potential growth limited to services, commerce, agri-food and rural tourism areas.

The transition strategy

Coal mining in Spain has declined since the 1980s and since 1990 different national strategies have addresses restructuring and modernisation of coal mining companies and areas. The document ‘Action Framework for coal mining and mining districts 2013-2018’ (2013), agreed by the Spanish Ministry of Industry, the association of coal mines and the main Trade Unions set the framework for support under Council Decision 2010/787/EU.

The national Institute for the Restructuring of Coal Mining and Alternative Development of Mining Regional Districts (IRMC) manages the support, working closely with local and regional stakeholders. Measures supported in all Spanish coal districts include compensation for early retirement of 804 people, EUR 40 million to private coal mines for exceptional costs of closing production units and mitigating environmental impact during 2013-2017, subsidies for job-creating private business projects in coal districts (with 327 jobs created in 188 small business projects as well as 908 jobs created and maintained in 88 large projects) and subsidies for alternative development of mining areas.

In October 2018, 522 workers were still working in private coal mines, when a new ‘Framework Agreement for a Just Transition of Coal Mining and the Sustainable Development of Mining Regions 2019-2027’ was agreed between the mine owners, trade unions and the Central Government. This Agreement lays down the basis for measures to support a just transition of coal mining and mining areas from 31 December 2018. It takes into account the situation for the sector and the termination of aid to cover losses from mining, in accordance with European regulations for 2019-2027. The final objective of these measures is economic reactivation and alternative development in mining regions for their

⁵⁸ For example: Consejo Económico y Social de Castilla y León (2012): Informe sobre la minería del carbón en Castilla y León desde el punto de vista de su sostenibilidad y de su carácter como reserva estratégica.

structural transformation, economic recovery and social welfare. Similar to the 2013-2018 framework, a support package covers exceptional costs of closing production units, compensation for early-retirement or layoffs, decommissioning installations, restoring natural areas affected by mining, job-creating private business projects and public projects for the alternative development of coal districts.

The support package will be complemented by a specific Just Transition Plan for the affected areas. This plan will be based on agreements between the Central Government and Regional Governments, local authorities and stakeholders. The plan will address the mining region economies through different support frameworks. These are; 1) Plan for restoring mining enterprises 2019-2023, to mitigate the short term impact of job losses and to restore natural space affected by mining, 2) Development Plan for Renewable Energies and Energy Efficiency 2019-2023 to foster alternative energy production and 3) Just Transition Contracts 2021-2027 for the affected districts. These contracts will provide assisted and streamlined access to financial support from the General State Administration, ERDF and ESF as well as possible tax incentives for public support for industrial investments, R&D projects, risk capital and guarantee schemes, etc.

The Just Transition Plan is part of the Spanish ‘Just Transition Strategy’ and will be further specified in the ‘National Plan for Integrated Energy and Climate (NPIEC) 2021-2030’ which is currently under elaboration. The NPIEC shall be the strategic document guiding the transition from a fossil-based economy towards lower CO2 forms of energy, transport and production. The NPIEC might enable additional measures in the Spanish coal regions after its approval in 2021.

In Castilla y León, a regional strategy to assist mining local authorities through the ‘Economic Revitalization Plan for the Mining Municipalities of Castilla y León 2016-2020’ was presented in 2016. This plan complements the national measures. After a socioeconomic analysis and definition of specific weaknesses in the 81 mining municipalities, the plan highlights a wide range of measures to 1) Defend and reinforce (profitable) coal mining, (2) Promote new mining activities (other than coal), 3) Strengthen sectors other than mining, 4) Promote entrepreneurship, (5) Train and qualify human capital, (6) Provide an employment plan and other accompanying measures and (7) Improve the environment. Additional regional measures shall support implementation of the Plan⁵⁹. The Plan brings together complementary measures for infrastructure

⁵⁹ A seal of origin ‘Tierras Mineras’ can be used with products and services of artisans and businesses in the region; prioritising aid schemes, projects in mining municipalities, giving them an additional score (linked to location) under general valuation criteria; channelling financing to companies and entrepreneurs that develop

(roads, telecommunications, industrial estates, sports areas, etc.), incentives and funding for agri-food and biomass, renewable energy, tourism and IT business activity and start-ups in line with the regional RIS3 strategy, research on alternative uses of coal and techniques that can be extrapolated to non-mining activities, etc., training to facilitate the employability of young people and the unemployed, as well as energy efficiency and environmental restoration of areas affected by mining. A stakeholder promoting innovation and alternative work is the Santa Barbara Foundation⁶⁰. With support from the Plan this will become a true reference for renewable energies as well as testing and teaching new technologies such as geothermal energy.

Since 2017, employment and training under this Plan has been extended by a specific plan to increase employability and employment in mining districts. The ‘Plan for the Mining Territories’ was approved by the European Parliament and the Council of the EU within the European Globalisation Adjustment Fund⁶¹. The Plan offers measures integrated into personalised services to re-integrate the newly unemployed from León and Palencia coal mining companies into employment. The lines of action are 1) facilitation and counselling services for new autonomous jobs; 2) help to develop cooperative enterprises in the rural areas 3) training for the unemployed and labour market analysis support for job-seeking.

There is also a project to stimulate innovation and development in the mining districts, CIUDAD DE LA ENERGÍA (CIUDEN)⁶². This was established in 2006, under the Spanish Government to implement R&D&I energy and environment programmes in the Bierzo district in León. The project looks to boost international cooperation through strategic research partnerships with industry, SMEs, universities and research institutions. Support to CIUDEN was reactivated in 2018 by the Ministry of Ecological Transition (Ministerio para la Transición Ecológica). In this new stage, CIUDEN promotes economic development through activities related to renewable energy and energy efficiency, with a focus on research and innovation. CIUDEN has attracted many national R&D projects, as well as H2020 projects for carbon dioxide capture and storage. It is a kind of local innovation agency for the mining districts, but its impact is limited.

business projects in mining areas, highlighting the role of the Business Accelerator in the region, creating two new financial instruments: SODICAL risk capital and SODICAL seed capital for mining districts; bringing entrepreneurship support services closer to potential users, by setting up new ‘Mining District Offices’ of the Regional Development Agency.

⁶⁰ <http://www.fsbarbara.com/>

⁶¹ European Globalisation Adjustment Fund. Funding decision EGF/2017/001 ES/Castilla y León mining.

⁶² <http://www.ciuden.es/index.php/en/>

Western Macedonia, Greece

Coal sector

Western Macedonia is the main Greek coal region, with about to 280 000 inhabitants in 2014 and a regional GDP that was 2.4% of national GDP in 2013⁶³. It has 8 of the 9 coal mines in Greece and 4 lignite fire plants. There are 4 919 people working directly in lignite mining, while 1 600 are directly employed in coal power plants. Lignite is Greece's most important indigenous energy resource, although the country also has oil and gas reserves⁶⁴. Coal makes up 47% of GDP at regional level and 13% nationally. The local economy is highly dependent on lignite activities.

At national level, 2 438 people indirectly work in coal-related business, with 1 843 intra-regional jobs and 4 166 inter-regional. In Western Macedonia this is 1 640 and 3 603 respectively⁶⁵. Western Macedonia had almost 32% unemployment in 2016, far higher than national average and the highest for EU regions⁶⁶.

Secure lignite supply, low extraction costs and stable prices are important to keeping a strong position for lignite in the Greek energy mix, even if CO2 emission costs are taken into account. Low-cost domestic lignite is still competitive compared to imported energy sources such as natural gas⁶⁷. However, by end of 2020 a second more severe reduction in the lignite sector is expected, following the first from 2010-2015, mainly due to environmental limitations. This means the Gross Added Value of lignite production in this region will fall by more than 25%⁶⁸.

The transition strategy

In the last decade several studies and initiatives have covered the requirements and perspectives of regional transition in Western Macedonia, such as:

- A study by the Technical Chamber of Greece branch in Kozani estimating the impact on regional income and employment from reducing coal activities in 2012.

⁶³ WWF (2016).

⁶⁴ Eurocoal (2017).

⁶⁵ European Commission (2018a).

⁶⁶ European Commission (2018a).

⁶⁷ Eurocoal (2017).

⁶⁸ Coal Regions in Transition Platform, Regional Strategy towards the transition process of Western Macedonia, Coal Regions in Transition Platform Working Group Meetings and High-Level Dialogue on Financing and Investments, Brussels, Belgium – 26 February 2018.

- Implementation by the Regional Western Macedonia Development Agency (ANKO) of an Operational Development Plan for the post lignite era in 2015.
- Study visits to other European coal regions, conferences and workshops, discussions with DG Energy and European Parliament members regarding a just transition of the regional economy.
- A draft road map for Western Macedonia transition to low lignite dependency and to a low carbon dependency era in 2017.
- Western Macedonia was included in the four pilot regions under the European initiative ‘Platform for Coal Regions in Transition’ in 2017.
- In 2018, workshops were held with NGOs, associations, universities, research centres, as well as energy and environmental stakeholders focusing on ‘Goals and Challenges of National Energy Planning’. The purpose was to present measures and policies that contribute to energy, environmental and socially related objectives⁶⁹.
- A Working Team for Coal Platform in Western Macedonia in 2018.
- Submission and final approval by the European Commission of Technical Support (SRSP) provided by the World Bank in 2018. The World Bank is expected to finalise its proposals for Just Transition by the middle of 2020.
- A government and coordinating committee for Just Transition in 2019. The committee should prepare a Master Plan for Just Transition by the middle of 2020.

Regional stakeholders, beyond the Ministry of Energy and Environment and the Public Power Corporation of Greece (PPC SA) which owns and operates the lignite mines, are involved in designing the transition process. These are the Regional Authority of Western Macedonia, the Regional Union of Municipalities of Western Macedonia, the Network of Energy Production Municipalities, the Regional Development Agency of Western Macedonia – ANKO, the University of Western Macedonia and the Centre of Research and Technology Hellas (CERTH).

⁶⁹ Draft National Energy and Climate Plan 2021-2030.

The regional strategy for the transition is based on three axes:

- Strengthening business activities and enriching the region's productive baseline with innovative and competitive activities.
- Capacity building and human resource skills development in areas directly linked to the region's potentially productive environment.
- Protecting promoting and enhancing the natural and human environment and developing favorable living conditions

However, local administrations have few resources, so the transition needs to be supported by the national government⁷⁰. Transition of the regional economy to a new productive profile is costly requiring different financial resources. Funds could come from the Just Transition Fund recently announced by the EC, new National and Regional Operational Programmes, funded by EU Structural Funds for 2021-2027, the National Just Transition Fund, a National Fund for developing industrial areas as well as a special fee for lignite exploration and exploitation rights. Other sources include equity funds, loans, new financial tools and funding programmes for public and private partnerships.

North Rhine Westphalia, Germany

Coal sector

Coal mining of both hard ('Steinkohle') and soft coal ('Braunkohle') has a long tradition and has been an important economic activity in many parts of North Rhine Westphalia for centuries.

Mining hard coal in North Rhine Westphalia (NRW) came to an end in December 2018 with closure of the last two mines in Ibbenbüren and Bottrop (Prosper-Haniel). However, people are still employed to dismantle machines and prepare backfilling of the mines, for example. Mining of soft coal on the other hand, continues in NRW, with the Rhine Coal Mining District ('Rheinisches Revier') being one of the last German soft coal mining regions (Rhine District, Middle German District, Lausitz District)⁷¹.

⁷⁰ Popp R. (2019).

⁷¹ DEBRIV Bundesverband Braunkohle (www.braunkohle.de).

About 9,000 workers were directly employed in the Rhine Coal Mining District in 2016, so 1% of employees in the region work in soft coal mining.⁷² Another 5 400 jobs in suppliers, service providers, artisans and others result from investments, wages and intermediate consumption⁷³. RWE Power AG, the energy company operating the open pit mines and respective coal-fired power plants in the district, spends about EUR 700 million on wages and awards contracts of about EUR 500 million to some 1 800 enterprises.⁷⁴

In addition to energy companies, i.e. in the energy production value chain, energy-intensive industries are final consumers of the energy. These have an important economic role in the region and include metal, aluminium, chemical, paper, manufacturing and food businesses.

The transition strategy

The national framework for the transition in Germany is currently being negotiated, including two new laws. So far only drafts are publicly available: The *Phasing-out legal act* ('Kohleausstiegsgesetz')⁷⁵ and the *Enhancing structures in coal regions legal act* ('Strukturstärkungsgesetz Kohleregionen')⁷⁶. These should be adopted in spring 2020 and will, once they enter into force, set the framework for the transition. They are based on recommendations and proposals of the German *Commission on Growth, Structural Change and Employment* ('Kommission Wachstum, Strukturwandel und Beschäftigung'), also known as the *German Coal Commission* ('Kohlekommission'), for a Just Transition from coal to renewables (see below).⁷⁷

⁷² RWI – Leibniz-Institut für Wirtschaftsforschung (2018).

⁷³ Ibid., p. 40

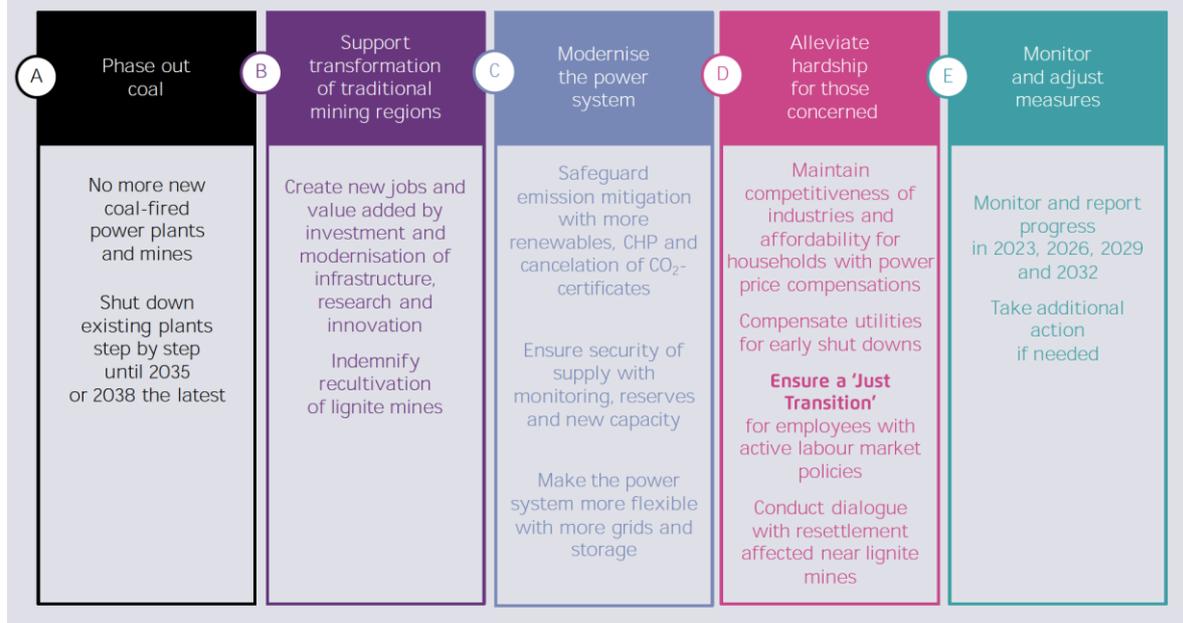
⁷⁴ Zukunftsagentur Rheinisches Revier (2019), p. 13.

⁷⁵ Referentenentwurf des Bundesministeriums für Wirtschaft und Energie (2019a).

⁷⁶ Referentenentwurf des Bundesministeriums für Wirtschaft und Energie (2019b).

⁷⁷ Bundesministerium für Wirtschaft und Energie (2019); for a summary and analysis in English, see Agora Energiewende and Aurora Energy Research (2019).

Figure A.1: Overview of the German Coal Commission's recommendations



Source: Agora Energiewende and Aurora Energy Research (2019).

The main objective of the *Phasing-out legal act* is to stop coal mining and electricity production from soft and hard coal by 2038 with intermediate steps in 2022 and 2030. The act will include prohibitions on burning coal or selling electricity from coal-fired facilities and building new facilities. Detailed provisions for the exit from soft coal have not yet been published because the Federal Government is still in negotiations with the operators about the timeline and compensation.

The main objective of the *Enhancing structures in coal regions legal act* is to shape the transition in coal regions as an integrated element of the overall transformation towards a climate-neutral economy and society by 2050. The law will define supporting and accompanying economic, social and structural measures and provide financial support of about EUR 14 billion, of which up to EUR 5.2 billion are for the Rhine Coal Mining District. Support can cover business-related and transport infrastructure (road, rail), facilities for children, health care and culture, urban and regional development, tourism infrastructure, R&D infrastructure, climate and environmental protection, water management and landscape conservation. All investments should create and safeguard jobs and training positions, diversify the economic structure, improve the area's attractiveness and achieve sustainability objectives.

In North Rhine Westphalia, no specific state strategy or programme exists for hard or soft coal regions. Instead, existing funding programmes like the ERDF and ESF, the federal-state initiative *Joint Task of the Improvement of the Regional Economic Structure* ('Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur'; GRW), and the *Regional Business Promotion*

Programme ('Regionales Wirtschaftsförderungsprogramm') fund measures and projects to strengthen and diversify the regional economy.⁷⁸

More specifically, since 1969, the GRW has helped Germany foster balanced regional development. GRW funding is dedicated to structurally weak regions. The idea is to strengthen regional investments, which will then generate long term attractive local jobs. This means structurally weak regions are encouraged to play an active part in their development, rather than remain passive. The GRW offers regions multiple funding instruments and strategies for their specific needs. GRW funds support investments by trade and industry, local commerce-related infrastructure, measures to encourage networking and cooperation between local players, and measures to improve SME competitiveness. Specifically, the GRW initiative aims:

- to provide incentives for companies to invest in structurally weak regions. This helps the structural change needed for growth, employment and local income.
- To build strong commerce-related infrastructure so weaker regions can attract companies and become more competitive.
- For greater networking and cooperation between local players (e.g. through development strategies or within regional management bodies and innovation clusters) to improve the local business environment.

The basic guidelines for the GRW map of Assisted Areas, instruments, rules and maximum funding rates are all set out in the 'coordination framework' which is agreed between the Federation and the Länder. The funding rules transpose European rules on national regional aid into national law. Structural weaknesses for each region are assessed under a national procedure. Complex regional indicators (based on the size of the labour market, incomes, and infrastructure quality) is used to rank regions. This determines the support each region receives. The list is reviewed at regular intervals.

An important regional institution is the *Future Agency for the Rhine Coal Mining District* ('Zukunftsagentur Rheinisches Revier', previously the *Innovation Region Rhine Coal Mining District*, 'Innovationsregion Rheinisches Revier', IRR). This was established in 2014 by seven cities and counties, three chambers of crafts, three chambers of industry and commerce, an industrial labour union, and a regional association. The agency will play an important role in implementing the national legal acts at regional level. The overall

⁷⁸ Umweltbundesamt (ed.) (2019).

management structure has three pillars. The Economic Ministry of North Rhine Westphalia is going to be the Management Authority that manages national funding (up to EUR 5.2 billion, see above). The District Administration ('Bezirksregierung') is going to be the granting authority while the Future Agency is in charge of implementation. The Future Agency led development of the first draft of the *Economic and Structural Programme 1.0* ('Wirtschafts- und Strukturprogramm 1.0')⁷⁹ in autumn 2019. The programme defines five future-oriented fields ('Zukunftsfelder'), each of which broken down into several fields of action ('Handlungsfelder'):

- Energy and industry;
- Resources and agri-business;
- Innovation and education;
- Space and infrastructure;
- Industries, SMEs and crafts.

This first draft will be further developed and sharpened during 2020 so by the end of the year a full version 1.1 will be available.

Severozápad, Czech Republic

Coal sector

The Czech Republic has a relatively long tradition of coal mining and processing dating back to the mid-19th century. Although coal consumption has steadily declined since a peak in the 1980s, it still plays an important role. Most electricity in the Czech Republic in 2018 was produced by coal fired power plants (43%)⁸⁰. This was followed by nuclear power (around 33%) and renewable energy (11%). According to the Ministry of Industry and Trade (2019), 43.7 million tonnes of coal was produced in 2018 (of which 4.5 million was hard coal and 39.2 million brown coal). The Czech Republic thus ranks on around 15th in the ranking of coal producers worldwide.

Hard coal mines are in the eastern part of the country (Moravskoslezský Region). As a result of falling prices for hard coal, mining in this area has become economically unprofitable and has steadily declined in recent years from 13 million tonnes in 2005 to 7 million tonnes in 2015⁸¹.

⁷⁹ Zukunftsagentur Rheinisches Revier (2019).

⁸⁰ According to the Energy Regulatory Office (2019).

⁸¹ Ministry of Industry and Trade (2019), *Roční zpráva MPO za rok 2018*.

Brown coal is found in the north-western part of the country in Ústecký and Karlovarský Regions (together known as Severozápad). Brown coal accounts for about 63% of coal reserves in the Czech Republic. In the absolute terms, brown coal mining is still strong but has declined significantly in relative terms. This is largely due to increased imports of cheap coal from abroad and territorial limits for some quarries⁸².

Coal production has declined over the last 15 years leading to fewer mining jobs. Around 22 000 jobs are directly related to coal mining and coal fired power plants. Some 30 000 jobs are indirectly related to coal mining in intra-regional supply chains and inter-regional trade⁸³. Mitigating the effect on jobs is going to be a big challenge in regional restructuring and energy plans.

Despite this, net electricity exports from the Czech Republic increased by 7% from 13 Twh in 2017 to 13.9 Twh in 2018 as shown in the recent Czech Republic electricity system report, issued by the Energy Regulatory Office (2019). The Czech Republic thus maintains its position in the world's top ten electricity exporters. This electricity is still mainly produced by coal fired power plants that supports independence from other electricity supplies.

Coal production in the region contributes to air pollution and high emissions of toxic mercury and greenhouse gases. Moreover, obsolete coal fired power plants waste energy. Pollution from coal fired power plants is causing huge and expensive damage to the environment⁸⁴.

The transition strategy

Given the region's high dependence on coal, a transition strategy is needed. Phasing-out coal mining and a transition to other energy sources are in accordance with Ministry of Industry and Trade's National Energy concept, with a focus on sustainable and renewable resources and eliminating environment threats. Nuclear energy is considered as an alternative to coal⁸⁵.

To define a national strategy for phasing out coal, a national 'Coal Commission' was established in the summer of 2019. This includes the Ministries of Industry and Trade, the Environment and Regional Development, other state institutions, regional representatives, trade unions and non-profit organizations. The Coal Commission has not yet presented a clear strategy focused on phasing out coal. Regional coal platforms were established in Ústecký and Karlovarský (Severozápad region) and Moravskoslezský Region. Their working groups are

⁸² Ministry of Industry and Trade (2019), *Roční zpráva MPO za rok 2018*.

⁸³ European Commission (2018a).

⁸⁴ Czech Statistical Office (2018).

⁸⁵ Ministry of Industry and Trade (2015), *Státní energetická koncepce České Republiky*.

dealing with the coal phase-out, including problems linked with energy and heating, managing unproductive mines, educating ex-miners and education in the regions in general, focusing on science, research and innovation.

Moreover, a strategy was developed in 2015, RE:Start, presented by the Ministry for Regional Development to support structurally disadvantaged coal regions (i.e. Moravian-Silesian Region and Karlovy Vary and Usti in Severozápad). RE:Start was approved at the beginning of 2017 and was followed by the Action Plan in July of the same year. Many stakeholders are involved RE:Start.

Its action plan allocates CZK 42 billion (EUR 1.5 billion) over three years starting in 2017 to develop activities in the regions concerned. Of this, CZK 8.4 billion comes from ESIF, CZK 2.4 billion from privatizations, CZK 18.1 billion from the state government, and CZK 13 billion from ministry budgets. The strategy aims at economic restructuring, accelerating economic growth, strengthening the identity and self-confidence of people and improving the image of these regions. Although there is no clear plan for the transition, the strategy tries to cope with general regional development problems. The strategy has seven pillars; Entrepreneurship and Innovation, Direct Investment, Research and Development, Human Resources, Social Stabilization, Environment, Infrastructure and Public Administration. The strategy's goal relates to change in the regions and deals with specific problems such as the decline of direct/indirect jobs in the coal sector⁸⁶.

The active support of central government and cooperation between national and regional governments was highlighted as important for the successful transformation of coal regions. Some members of the Coal Commission are also representatives in the RE:Start Strategy. Nowadays there is strong cooperation at all levels involved in the Strategy. More concentrated efforts will also make it easier to bring new funds to the regions which can greatly contribute to supporting the transition.

Slaskie, Poland

Coal sector

Śląskie Voivodeship is one of the most important hard coal regions in Poland with a strong historical specialisation in mining. Currently, most functioning hard coal mines are located in this region with Śląskie being home to the three

⁸⁶ Koppitz (2018).

largest hard coal companies in Poland. Most of the functioning and planned (to be built or expanded) electrical as well as heat and power generating plants are also in this region and most use hard coal.

In 2013 there was a surplus energy of about 21% in the region, which was exported to other regions in Poland. Śląskie is the biggest supplier of electricity in Poland⁸⁷. This largely reflects the energy situation in the country where 96% of energy is produced from coal of which 40% is from lignite and 60% from hard coal. The new national energy strategy sets an objective of reducing electricity from coal to 56-60% in 2030⁸⁸. Given the abundance of coal and large-scale energy production, national production can cover most energy demand from this resource. This means significant energy security and independence without relying on imports from other countries. Energy independence a political priority of the country which makes national policy reluctant to commit entirely to transition from coal to more sustainable energy sources⁸⁹.

Abundant natural resources in Śląskie has contributed to industrial development as well as significant urbanisation. At the same time, it is one of the most polluted regions in Poland as well as having degraded lands and brownfields. The region contributed 83% of national methane production and some 20% of CO2 emissions⁹⁰.

The coal industry contributed in economic growth in the region. Nowadays, however, the need for transition to more sustainable sources of energy is a considerable challenge for the region. According to a Joint Research Centre report, job losses in Poland and particularly in Śląskie, from phasing out coal would be very significant. Poland employs about half of the coal workforce in Europe and six of 20 regions with 200 000 coal-related jobs are in Poland. Some 215 000 indirect jobs will also be affected So far, the restructuring has resulted in the number mining jobs decreasing from 165 000 in 2000 to 114 000 in 2011 (Urząd Marszałkowski Województwa Śląskiego, 2013).

Coal in Poland is a politically prominent issue and coal mining is strongly unionized industry. The unions oppose closing they coal industry as they do not perceive any opportunities from transition⁹¹. Significant State aid has been directed to protective measures such as compensatory payments and professional privileges for mining workers affected by plant closures and

⁸⁷ Urząd Marszałkowski Województwa Śląskiego (2013).

⁸⁸ Ministry of Energy, 2019, *Polityka energetyczna Polski do 2040. Projekt*. Warsaw.

⁸⁹ Ministry of Energy, 2019, *Polityka energetyczna Polski do 2040. Projekt*. Warsaw.

⁹⁰ Urząd Marszałkowski Województwa Śląskiego (2013).

⁹¹ Popp (2019).

transition⁹². This approach may have contributed not only to professional inactivity, a lack of interest in education and other jobs, but also accentuates a lack of motivation to seek change⁹³.

There is a long history of State aid to coal regions which dates back to the change in the Polish political system in the 1990s. Early investments and reforms in the coal industry were unsatisfactory as they did not make the industry less costly and more efficient. Since then, initiatives have focused on closures and mitigating the social and environmental consequences.

State aid of EUR 1.71 billion was granted to Polish coal regions in November 2016 for closing mines by 2018 (C(2016)7510 final). In 2018, this decision was updated to cover the years to 2023 in order to continue work which started before the end of 2018 (C(2019) 5395 final). This follows the newest State aid rules where no new investments in coal can be made. According to one interview partner, the EC stands by this approach consistently as it has rejected a proposal for using State aid to green coal activities as this would be an investment in a coal industry. The current State aid given to Śląskie mostly covers costs such as salaries and insurance of employees who lost their job as a result of closing mines as well as costs connected to securing closed sites including mitigating environmental costs. The region's coal industry already benefits from State aid which was recently extended to 2023. Poland has opposed the 2010 change to State aid rules which introduced a ban on new coal investments. This opposition faded when a lack of funds for such investments was acknowledged.

The transition strategy

Coal is an industrial specialisation of Śląskie and currently there is no regional strategy for a phasing-out process. While transition seems inevitable, phasing out coal is controversial in Poland, especially at the national level.

The Regional Development Strategy, the Regional Operational Programme as well as the Regional Innovation Strategy (RIS) explicitly and implicitly recognize and address Śląskie's dependence on coal. There is a strong focus on innovation, economic diversification and development of business as well as addressing environmental and social issues which are equally affected by the challenge from the coal industry. Regional authorities see an opportunity for sustaining coal in making it more productive and environmentally friendly

⁹² Szpor (2017).

⁹³ Szpor (2017), Baran (2018) and Bukowski (2018).

through innovative solutions⁹⁴. However, experts point out that while some measures have indeed been undertaken, significant progress requires favourable natural conditions and extensive financial resources which seem unviable given high production costs.

In these strategic documents there is little focus on dealing with closing mining sites and direct consequences on energy supply, the economy and society. Although the documents more generally support diversification of the economy and energy sources as well as improving the quality of life⁹⁵. While these certainly are necessary for a transition, there is no complete commitment to transition.

To coordinate measures foreseen in these documents, an Action Plan for Transformation of the region, version 1.2 was developed and accepted by the Voivodeship`s Management Board (2392/VI/2019) in October 2019. The document will be the basis for further strategic and programme-related transformation actions with regards to both diversifying the economy and technological changes.

The Action Plan focuses on three objectives:

- High quality of life in the region
- Competitive economy based on modern environmental technologies
- Developing creative industries and leisure time

The national strategy for coal addresses only closing unproductive mines and is committed to supporting the coal industry as much as possible. There is no strategic objective to completely phase out coal. . Hard coal will remain the most important source of electricity up to 2040, although its role will decrease and the document suggests that modernisation will result in less environmental impact. The coal sector strategy explicitly states that part of the Clean Energy

⁹⁴ Urząd Marszałkowski Województwa Śląskiego (2013) and Ministry of Energy (2018) Programme for the coal industry in Poland.

⁹⁵ An operational objective in the RDP is ‘competitive economy based on flexibility, specialisation as well as network of enterprises’, which is one of seven actions supporting the restructuring and economic adaptation of traditional sectors through modernisation, improved efficiency as well as modern technologies. This refers to restructuring rather than phasing out coal mining, which is foreseen only for unproductive plants. This focus is evident in the RIS which outlines innovation and technological development for mining industries. The ROP largely overlaps with the RDP. The priorities do not explicitly and directly address the coal sector (whether phasing out or restructuring) but focus on improving general conditions for the economy (focusing on innovation, business and economic diversification), the environment and society. Nevertheless, each ROP objective foresees a more flexible procedure for projects within the framework of Coal Regions in Transition. The projects are selected outside of the regular calls by the Monitoring Committee. Projects under Coal Regions in Transition include awareness-raising, informing and educating platform, digitalising geographical information and stocktaking brownfields and mining sites.

Package is a threat to Polish energy policy⁹⁶. The strategy recognizes the ‘state responsibility to realize energy security policy as well as the possibility for the state to make consistent, effective coal policy; favourable state policy’⁹⁷. The lack of clear commitment of national but also regional and local authorities to phasing out coal is a complication for State aid. It concerns a more fundamental problem in the lack of alignment in EU and Member State energy policies.

South-West Oltenia, Romania

Coal sector

South-West Oltenia is Romania’s main lignite region with approximately 1 million inhabitants. Regional GDP was EUR 12.5 billion in 2016, 7.30 % of national GDP⁹⁸.

In Romania there are 7 coal mines and 13 coal power plants, while in South West Oltenia there is only 1 coal mine, but nearly all the coal power plants. In addition, about 15 000 people work in lignite and coal mining nationally, while some 2 500 are directly employed in coal power plants. Nationally, nearly 6 200 people indirectly work in coal-related sectors at intra-regional level and 10 100 at inter-regional level. Instead, in South-West Oltenia, 5 100 and 8 200 people indirectly work at intra-regional and inter-regional levels respectively⁹⁹.

Romania has significant energy resources apart from coal, including natural gas and oil. Over 80% of primary energy is provided by indigenous energy resources, while coal and lignite contribute 17.8%, slightly above the EU average¹⁰⁰.

The transition strategy

Two policy documents designed by the Ministry of Energy have been adopted in Romania. The ‘National Energy Strategy 2016-2030 with an outlook to 2050’ and the ‘National Energy Climate Plan’ (NECP) look for a small decrease in coal dependency by 2030. However, there is no national nor regional coal phasing-out strategy in progress¹⁰¹. According to the ‘Romanian Energy

⁹⁶ Ministry of Energy (2018), Programme for the coal industry in Poland.

⁹⁷ Own translation.

⁹⁸ Popp , de Pous, and Reitzenstein (2018).

⁹⁹ European Commission (2018a).

¹⁰⁰ Eurocoal (2017).

¹⁰¹ Romania has a centralised government, without any regional administrations. It is not possible to have regional strategy because there is a sharp distinction for regions identified by NUTS2 and those identified by national criteria. The latter divides the national territory into 40 counties that could be compared to NUTS3 level. So the two categories do not perfectly overlap, except for South-West Oltenia, which has five counties, with Gorj County the most affected by mines and power plants.

Strategy 2016-2020, with an Outlook to 2030', phasing out lignite does not seem to be under discussion at regional or national levels. Moreover, coal has been highly subsidised by the government, creating a heavy burden for public finances¹⁰².

This stance is also pursued by the Energy Strategy 2016-2030, with an outlook to 2050 and Romania is going to take into account conventional fuels in the energy mix in the coming decades¹⁰³. The Strategy also stated that any new lignite-fired capacity must have supra-critical parameters, high efficiency and low specific GHG emissions. Moreover, a slight increase in hydropower is foreseen by 2030. Despite this, Romania has already surpassed the threshold of renewable resources required by the EU, which was 24% in 2020 and the target of 26.3% of gross final energy consumption was achieved in 2015. However, any replacement of ageing coal-fired capacities will not take place before 2025.

In spite of this lack of programming for phasing out coal, local debate has already begun involving universities and civil society organisations, especially in Jiu Valley. Here the stakeholders have been involved since the beginning, while in Gorj County debate has just started. However, the debate should widen to involve trade unions, enterprises, the government and local actors.

Nonetheless, each county and city has developed its own Sustainable Development Strategy. Regional Development Agencies (RDAs) elaborate their own Regional Development Plan 2021-2027 to set priorities and the funding needed from EU and national levels. As an example, Gorj County implemented Strategy 2011-2020 focusing on a greener perspective, while Rovinari City implemented Strategy 2009–2019 to reduce pollution, convert industrial production through diversified economic activities and use of post-mining land.

In 2016 and 2017, there was an attempt to start a debate in Gorj County with unions, mayors, prefects, political parties and universities. However, few civil society organisations were involved. These meetings led to a request to implement a Just Transition strategy, which was later submitted to the Government. Unfortunately, there has not been any follow-up because of a lack of economic incentives and political motivation. It is worth noting that some local authorities and stakeholders hold opposing positions about the Just Transition.

Just Transition has recently been defined and is not limited to mine closures or job creation. The approach should also focus on the social perspective. The Just

¹⁰² Popp , de Pous, and Reitzenstein (2018).

¹⁰³ Ministry of Energy, Energy Strategy 2016 – 2030 executive summary.

Transition is defined as a redevelopment model based on locally designed public policies to reach fair income and well-being for workers and communities affected by pollution reduction measures. Just Transition has four phases; swift transition, clear moves towards net-zero emissions, no fossil fuel investment and new green and sustainable jobs. The redevelopment model is an integrated approach including infrastructure, reskilling and education. The local bottom-up approach is crucial to better assess the needs and potential opportunities. In addition, fair income and well-being are closely related to retraining, which in turn should lead to jobs with comparable wages and skills. The model also foresees an end to investments in fossil fuels, while low carbon projects should be prioritised.

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