

ALTERNATIVE REGIONAL JUST TRANSITION PROFILE OF PERNIK

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Pernik, often referred to as the town of “Black Gold”, will be noticeably impacted by the just transition process. The economic development of the whole district has been closely related to mining, going back to the 19th century when the first state mine was established there. The heavy industry is also of vital importance, as Pernik has established itself as a major manufacturing centre for the production of steel, heavy machinery (mining and industrial equipment), brown coal, building materials and textiles, etc. Among the declining sectors in the Pernik district are coal mining, coal-fired power and heat generation, delivery of specialised mining equipment, instruments, spare parts, as well as waste recovery and treatment. Some other carbon-intensive activities include iron production, steel and ferroalloys which will be especially vulnerable to the transition process.

Toplofikacia Pernik EAD is one of the largest entities within the energy and mining subsector, responsible for the majority of GHG emissions in the district. The mining and power and heat generation sectors are responsible for 31% of the district’s GVA, and over a tenth of Pernik’s entire workforce. While Pernik has a rich history of energy-related economics, the district is also home to a variety of industries that could provide alternative opportunities for employment and revenues, such as companies specialised in steel (plates, beams and construction steel) production, metal structures, industrial fans, industrial filters and metallurgy equipment. The Municipality of Radomir also hosts companies focusing on mechanical engineering and manufacturing of crushing and grinding machines, as well as machines and equipment for metallurgy, foundries, heavy construction, and load handling. The district also hosts companies producing electrical boards and metal and mechanical commodities. Companies that are currently servicing

KEY POINTS

- The district of Pernik would be fairly less impacted by the green transition. Yet the bulk of the local industries are energy intensive and slow to take up low-carbon technological solutions and diversify away from their dependence on fossil fuels.
- Pernik can accelerate the development of already thriving companies that could provide alternative employment and economic development opportunities, such as the manufacturing of machinery, industrial equipment, and pharmaceutical and cosmetics manufacturing.
- The draft Territorial Just Transition Plan consultation process has included a proactive, bottom-up and open consultative approach that has aimed at the broader involvement of civil society groups and affected stakeholders, including SMEs and industry representatives. However, the strategic document remains vague in nature as no specific projects or initiatives have been developed so far.
- The just transition process in Pernik should involve comprehensive communication, consultation and involvement in policy co-creation activities of various stakeholders, including vulnerable groups and minorities.
- The TJTP’s decarbonization ambition should be accelerated by supporting concrete investments in the deployment of small, medium and large-scale renewable energy technologies, greenhouse gas emissions reduction, and sustainable transport.
- Detailed measures with concrete milestones are necessary to boost the district’s innovation potential, the growth of SMEs, social entrepreneurship in low-carbon technologies, as well as the transfer of knowledge, technologies and best practices between academic and business organizations in Sofia and the neighbouring districts.
- The just transition process in Pernik should prioritise skills mapping and the provision of equal opportunities for vulnerable groups such as minorities, vulnerable energy consumers and coal-dependent workers.

the lignite industry, have the opportunity to switch to manufacturing machines for the cement industry, shipbuilding, power engineering, and metallurgy. The Pernik district is also home to chemical and wood processing industries, as well as to producers of cement, waterproofing material, and a variety of other chemicals used in construction. Pernik also hosts several pharmaceutical and cosmetics manufacturing units, wood processing and furniture production firms.

The consultation process for the Territorial Just Transition Plan (TJTP) of the district has not primarily focused on mapping decarbonisation policies and targets. The current draft Plan makes only broad references to some low-carbon technologies, without developing a clear and consistent concept of how the investments and the proposed support measures will aid the achievement of the decarbonisation targets, the replacement of coal-based industries and the general low-carbon economic diversification of the district. The just transition process for Pernik should provide a broader overarching vision as to how the district is going to use existing assets, such as its skilled workforce and thriving mechanical industry, to implement specific measures for green economic transformation. The district has the potential for reversing the direction of daily labour migration to Sofia and converting its proximity to the capital to its advantage, mainly in terms of human resource mobility, a vital element for the functioning and development of the respective local economies and business operators. There is a substantial lack of awareness and understanding about the energy transition and its implications for regional economic development by many stakeholders in Pernik, primarily due to the limited public information on the topic and the lack of constructive dialogue about the possible opportunities for development.

Main Decarbonisation Challenges

Although Pernik is sparsely populated, the district has relatively high-skilled workforce and low unemployment. Pernik's economy is services-oriented and yet the majority of the gross value added (GVA) comes from the transportation and industry sectors. The mining and power and heat generation subsectors are responsible for 31% of the district's GVA, and over a tenth of Pernik's entire workforce. Agriculture also ac-

counts for roughly 10% of Pernik's GVA.¹ The district heating company, Toplofikacia Pernik EAD, is one of the largest entities within energy and mining, also responsible for the majority of GHG emissions in the area. Pernik's labour force is small in comparison to other towns in Southwest Bulgaria (NUTS 2) but it is quite active (77.5%). The employment level is high at 70.9% and the unemployment one 4.3% is around the already low national average. While Pernik's unemployed are slightly more qualified than those of the two other coal districts, Pernik shares a similar skills mismatch with the job requirements of the fast-growing industries seeking new employees².

However, Pernik's population is rapidly declining compared to nearby districts in Bulgaria, which is due to its proximity to Sofia. Pernik has one of the highest rates of everyday labour migration. Every third employed person in the district travels from one place to another for work purposes. The majority of those travel to the capital city, because of the variety of work opportunities and the proximity to Pernik.³ With a high number of workers employed by carbon-intensive industries, this internal migration trend is going to likely accelerate with the closing of some of these businesses. The investment activity in the district is relatively weak. Its proximity to the capital affects both the number of enterprises and the investments attracted. In 2020, there are 45 enterprises per thousand population in the district (compared to 60 per thousand in the country). Foreign investment is growing significantly but remains relatively low.⁴

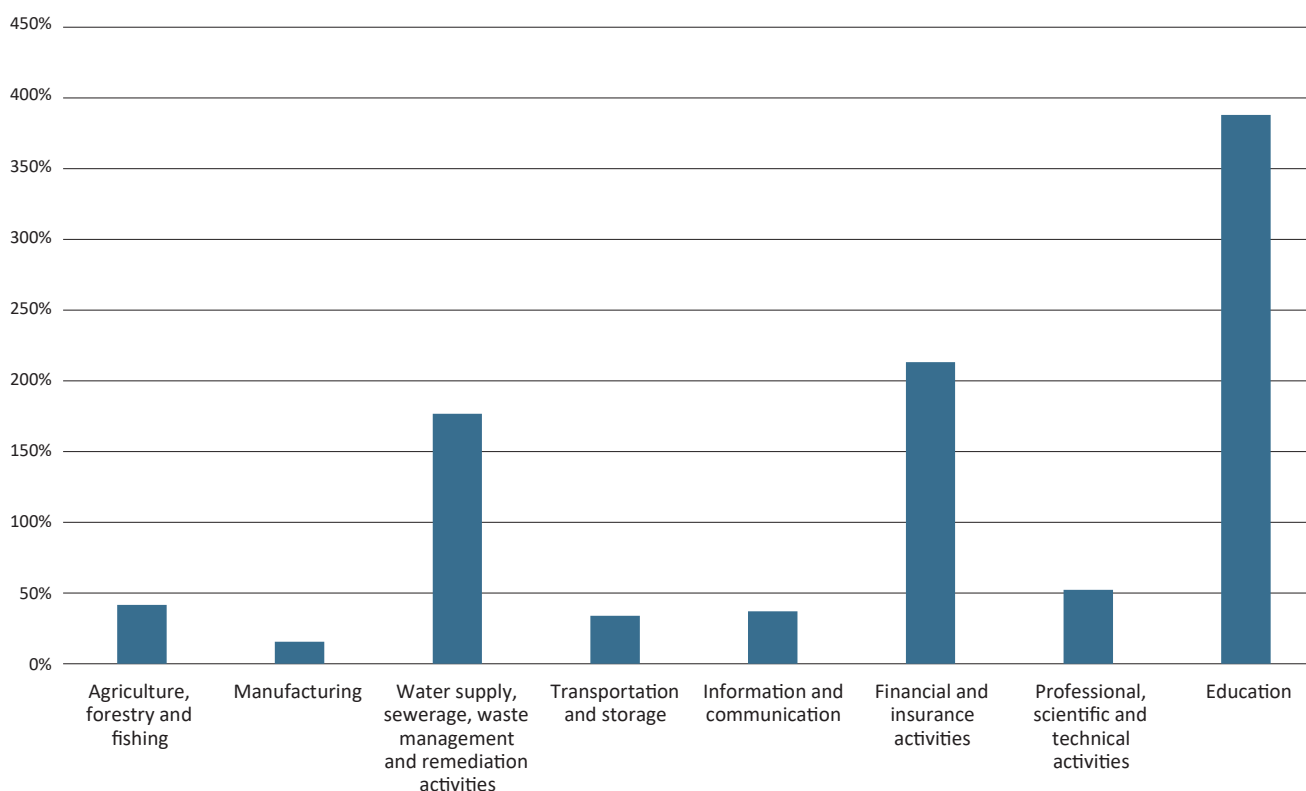
There is high potential for reverse labour migration (i.e., from Sofia to Pernik if attractive new job opportunities arise), knowledge and innovation exchange with Sofia's more dynamic economy. Otherwise, the lost revenue and rising unemployment rates on the back of the district declining and transitioning sectors could result in higher labour migration and depopulation, increased pressure on the remaining workforce, poor quality of life and overall economic decline.

¹ Strategy.bg, [Териториални планове за справедлив преход](#) [Territorial Just Transition Plans].

² Ibid.

³ Pernik Municipality, [Integrated Development Plan for the Period 2021 – 2027](#), 2020.

⁴ National Statistical Institute (NSI), [Foreign direct investments in non-financial enterprises as of 31.12 by statistical regions and districts](#), May 22, 2023 (the latest available data is for 2021).

Figure 1. Average increase of Gross Value Added (GVA) per high-growth sector for the period 2010-2018

Source: CSD based on a corporate database.

Transforming Sectors in the Pernik District

Alternative sectors that can deliver enhanced low-carbon economic growth in the Pernik district include the manufacturing of renewable energy-related equipment including photovoltaic panels, invertors, aluminum frames for photovoltaic systems, hydrogen electrolyzers and auxiliary units. In addition, over the last ten years, the fastest growing sectors in Pernik are education (385.6% average annual increase), financial and insurance activities (212%), as well as water supply and waste management (175.6%). Pernik has the potential to develop its financial services sector, attracting highly skilled workers from the capital city, reversing the labour migration trend and bringing new investments into the district.

While Pernik has a rich history of energy-related businesses, it is also home to a variety of heavy industries that could provide alternative employment and economic development opportunities. Among those are companies specialized in steel (plates, beams, and construction steel) production, metal structures, industrial fans, industrial filters, metallurgical equipment and

heavy machinery⁵. In addition, the district boasts also the operation of higher added-value firms for the production of electrical boards, as well as metal works and mechanical commodities.⁶ The companies currently servicing the lignite industry could potentially switch to manufacturing machines for other industries, such as shipbuilding, power engineering, and metallurgy. The district is home to chemical and wood processing entities, as well as to producers of cement, waterproofing materials, and a variety of other petrochemicals used in construction. Pernik also boasts dynamic pharmaceutical, cosmetics, wood processing and furniture businesses⁷.

With 60% of the workers in carbon-intensive sectors having qualifications relevant to other active businesses in the district, the reskilling initiatives can turn job losses in job gains that result from the transition to a cleaner and more sustainable regional economy.⁸ This can be

⁵ Vladimirov, M., Galev, T. and Primova, R., *Accelerated lignite exit in Bulgaria, Romania and Greece*, Sofia: Center for the Study for Democracy, 2020.

⁶ Pernik Municipality. *Integrated Development Plan for the Period 2021 – 2027*, 2020.

⁷ Ibid.

⁸ Ibid.

Box 1. A focus on more decentralized local energy solutions in Pernik

The overall approach for the just transition process in Pernik is based on attracting new investors, laying the foundations for a long-term sustainable green economic basis for the region and creating incentives for green economic diversification instead of relying on compensation schemes or reskilling programmes. Pernik is exploring small-scale local solutions such as decentralised renewable energy-based district heating networks in each neighbourhood or in a group of buildings that could form an independent energy community. The installation of heat pumps is also seen as a potential solution to overcoming the fossil fuel dependence of the town's district heating system. The municipality has also established complementarity between the just transition project proposals and the other green economic initiatives supported by EU funds. In the framework of the SPRITE project, the municipality is planning to create smart grids and local renewable energy communities. A pilot community is under design as the first step in this wider project. In addition, the municipality envisions the development and testing of tools to measure the carbon footprint of municipality buildings and design measures to decarbonise their energy consumption patterns including via a partial hydrogen switch (some of them still use gasoil for heating).

achieved through increased collaboration between transforming sectors and the European Polytechnical University – Pernik, as well as other neighboring universities that could facilitate the acceleration of the reskilling process. In addition, Pernik could successfully cooperate with neighboring municipalities to develop its R&D and innovation foundations utilising the existing best practices of the Southwestern Bulgarian region. The Pernik district has prior experience in marketing and organizational innovations, which can feed into the opportunities for collaboration with various academic institutions and public authorities. The local government has a long-term vision of transforming the district into a centre of green production and green auxiliary activities, in particular through the development of its industrial zone. One step in that direction is the establishment of the Industrial and Logistics Zone – Pernik that will aim to develop low-carbon industries, improve the connectivity of the

district with neighboring municipalities and contribute to Pernik's position as an important industrial zone in Southwest Bulgaria. The district has the opportunity to build upon its experience and traditions with steel processing and metal works for the development of circular economic activities related to the processing and recycling of different raw materials. In addition, Pernik could exploit its regional experience in the manufacturing of specialised machinery and the training of special technicians.

The overall approach for the just transition process in Pernik is based primarily on attracting new investors, laying the foundations of a long-term sustainable green economic basis and creating incentives for green economic diversification instead of relying purely on compensation schemes or reskilling programmes. Therefore, the socio-economic pillar of the plan, including the education, training and reskilling measures, are seen as secondary and complimentary. As a good example for a homegrown economic diversification approach, local heavy industry players have already begun implementing their own investment plans for expanding low-carbon production and developing new jobs in this segment. Pernik's long-term goal is to attract new investors and build on existing production facilities and infrastructure that not only fulfil the sustainability criteria, but to develop new industries including the manufacturing of equipment for renewable energy and power storage (photovoltaic panels, batteries, invertors, electrical equipment such as cables, transformers, boards, etc.).

Outside the focus on expanding the manufacturing core of the district, the stakeholders, CSD has surveyed for this analysis, have proposed the development, expansion and modernization of the transport connections between Sofia and Pernik, as the current transit routes are slow and highly congested. Another priority area could be related to the decarbonisation and modernization of the heating system of the city of Pernik, whereas the municipality is exploring small-scale local solutions such as the development of decentralised renewable energy-based district heating networks in each neighbourhood or in a group of buildings that could form an independent energy community. Decentralized local solutions including the installation of heat pumps are also seen as a potential solution to the fossil fuel dependant district heating system of the town.⁹

⁹ Toplofikatsia Pernik AD has been investing in increasing the share of natural gas in the fuel mix. The company has submitted investment intentions for 5 new gas cogenerating units since 2020 with the aim to phase out coal and reduce GHG emissions in the area.

Stakeholder Engagement Process & Strategy

Compared to the other two Bulgarian coal districts, the consultation process for the Pernik district’s TJTP has been marked by a bottom-up approach and the launch of several civil society initiatives, some of which have been facilitated and supported by the Pernik municipality. The discussions featured a strong focus on involving the youth in all questions related to the just transition and providing an effective information and awareness campaign. It is the first municipality to set up a Consultative Committee on Youth Policy and launch an International Youth Centre in Pernik. Apart from the meetings organized by the Bulgarian TJTP consultant to involve a limited number of stakeholders at the first stage of TJTP preparation, no additional meetings have been organised by the Ministry of Energy or the Ministry

of Regional Development in Pernik to ensure the engagement of local actors in the design of the draft strategic document.

Parallel to the official consultation process, civil society organisations have launched local stakeholder discussions in partnership with the municipality, where youth organisations, NGOs and think tanks have been among the most active participants. A notable example is the Youth Dialogue in Pernik, which was executed in the framework of the „GENERATION GREEN – the youth vision” project, aiming to reflect the youth vision for regional transition to a circular and low-carbon economy. Additional discussion fora and bottom-up initiatives have been organised by local civil society initiatives, although they have not been supported by national institutions, in particular the government units in charge of developing the TJTPs.

To improve the stakeholder engagement process based on active policy co-creation, CSD initiated

Figure 2. Selected stakeholders in Pernik and their influence in the just transition process



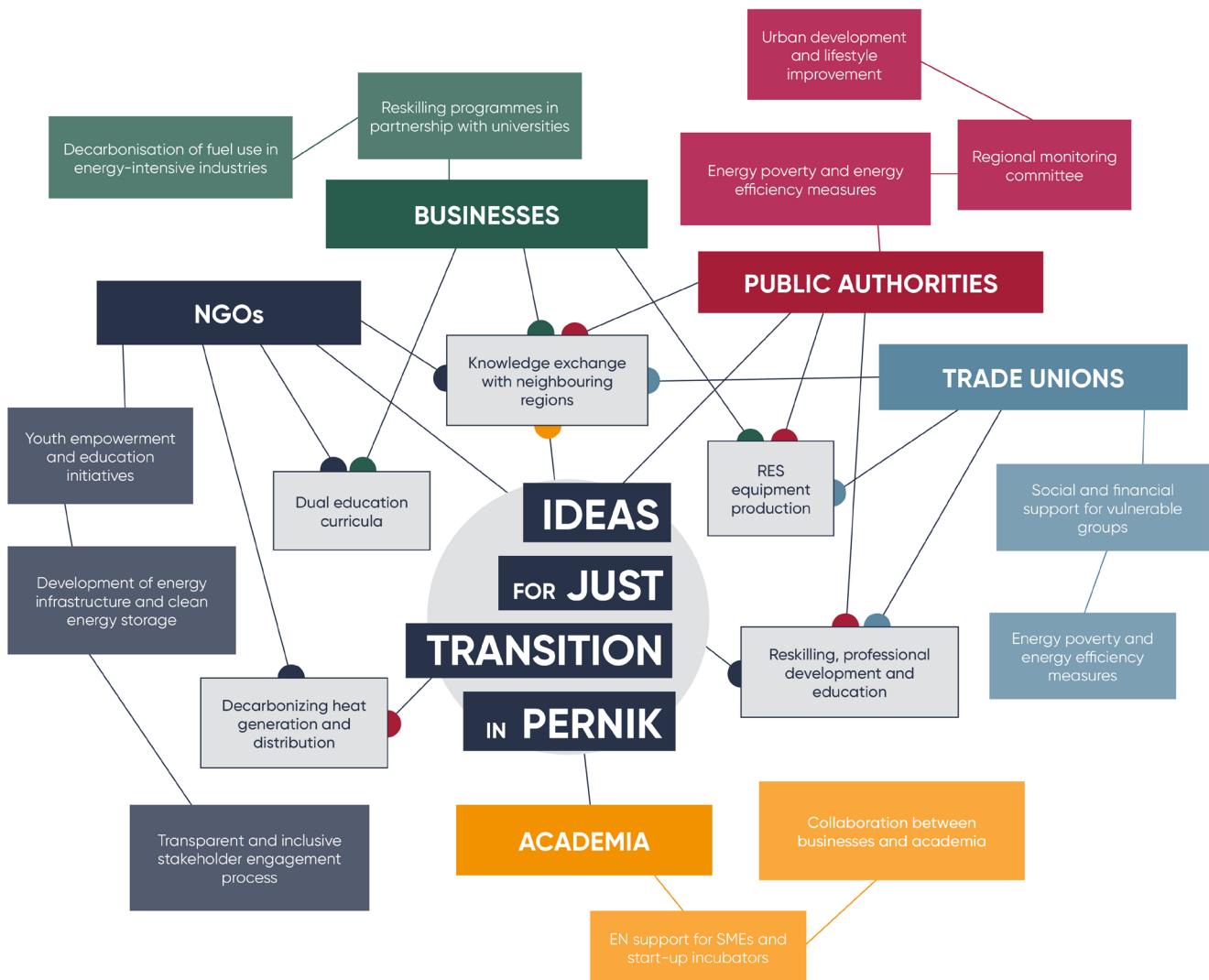
Source: CSD.

thematic meetings in each coal district, as well as a comprehensive survey targeted at various stakeholders and citizens in the three districts with the goal of enquiring about their visions for accelerating the economic transformation via the collection of effective project ideas and concrete proposals for improving the draft Plans.

In Pernik, the participants highlighted the need for more targeted support for SMEs, including micro-enterprises and start-ups, focusing primarily on digital services and the light industry. Among the most relevant proposals are the recultivation of mining sites and the modernization of the Pernik district heating company, which is in line with the country’s overall decarbonization objectives. Support for innovation, higher education, and R&D activities has also been

flagged as a priority, as Pernik is aiming to preserve jobs within the district and discourage workers from seeking jobs and career development in nearby Sofia. Sustainable mobility, circular economy, education, youth and social entrepreneurship are also among the proposals for improving the TJTP. Eligible project ideas, suggested by stakeholders included the introduction of decentralized RES-based solutions for households and support for SMEs and industrial parks that contribute to the development of high value-added sectors such as digital services and industrial production, as well as awareness raising campaigns about the positive aspects of new technologies uptake that will replace the jobs lost in the coal and carbon-intensive sectors. Other proposals included the development of business and innovation incubators and youth empowerment projects.

Figure 3. Main just transition priorities of key stakeholders in Pernik



Source: CSD, based on the stakeholder survey.

How to Unlock the Potential for Just Transition in Pernik

The main priorities for the just transition process in Pernik include the decarbonisation of energy, the heavy industry and the slow-down of the labour emigration to Sofia. To ensure that the TJTP provides the necessary tools to support the successful green transformation, it is particularly important to allocate the JTF funds on activities that boost innovation and the efficiency of the district's growing businesses, whilst involving all key stakeholders in the district. Based on CSD's comparative methodology for assessing TJTPs in CEE¹⁰ and CSD's stakeholder survey, the following recommendations can be seen as a non-exhaustive list of suggestions to improve the final version of the TJTP of Pernik.

Stakeholder Engagement Process

The overall attitude towards the viability of the economic transition process in Pernik has been positive. Yet, the lack of clarity and concrete steps to achieving this transformation have not allowed the district to develop and implement a diverse stakeholder engagement strategy based on communication, engagement and policy co-creation, defining the objectives of the green economic diversification. To ensure active public involvement in the implementation phase of the TJTP process, there is a need for:

- **Improvement of the scale and depth of stakeholder communication:** the organisation of information campaigns, public discussions and events on the topic of just transition, reskilling opportunities, decarbonisation priorities and economic diversification.
- **District Just Transition Committee (DEC):** the establishment of a regional monitoring committee and associated governance procedures that involve all relevant stakeholders in the implementation of the planned projects.
- **Focus on active engagement:** a stakeholder engagement plan involving already engaged groups to accelerate the implementation process with a focus on targeting vulnerable groups such as the youth, ethnic minorities, women and the elderly.

There needs to be a strong emphasis on youth-led initiatives that contribute to awareness-raising, social entrepreneurship and education initiatives that prepare the future workers for the most dynamic sectors of the district.

Decarbonisation Ambition

The outlined strategy on diversification and adaptation of regional businesses to the transition process in the TJTP has a strong focus on sectors such as mechatronics, production of RES related equipment and supply chains. Similar to the draft TJTPs of Kyustendil and Stara Zagora, the strategic priorities for Pernik identify broadly the sectors with the highest potential but the proposed measures do not include concrete milestones, timelines or activities that would ensure a real transformation of the economy. To increase the TJTP's ambition, it should focus on:

- **Mechanisms for attracting new investments:** include outreach activities to attract major technology companies to invest in new solutions facilitating the low-carbon transition process. Such investments could focus on existing industrial facilities and logistic zones, as well as the creation of hubs for various production processes related to renewable energy.
- **Recultivation of mining sites:** a concrete proposal and step-by-step plan for the recultivation of mining sites. There must be a specific mapping of the recultivation areas, as well as an estimate of the necessary costs and milestones for the next 10-15 years, identifying the available funds and financing gaps for facilitating the process.
- **Support for SMEs:** specific support mechanisms for community-led and SME projects with concrete targets and criteria, including on sustainability, going beyond listing the simple number of supported SMEs as indicated in the draft TJTP. The support for SMEs should be linked also to criteria for uptaking low-carbon innovations, energy efficiency and optimised production processes that incorporate robotics, AI and sophisticated production monitoring systems.
- **Low-carbon heating generation and distribution:** a step-by-step plan for decarbonising and modernising the heat generation and distribution facilities in the city of Pernik, particularly the transformation of the Pernik Toplofikacia AD, in sync

¹⁰ Trifonova, M., Primova, R., Rangelova, K., Vladimirov, M. *Territorial Just Transition Plans*. Sofia: Center for the Study of Democracy, 2021.

with existing national and regional strategies for coal phaseout. This would include the introduction of biomass-based technologies for the thermal generation, the reduction of the large losses on the distribution network and, downstream, accelerate the uptake of electrification for heating among households based on heat pumps and local RES-based power generation facilities. The household-level RES uptake should target primarily energy poor consumers and those directly and indirectly affected by the transition process.

- **Performance indicators:** the Plan should put emphasis on performance indicators and sectoral goals for the various areas, including the integration of RES-based capacities, power storage systems and the reduction of GHG emissions.
- **Improvement of ecosystems:** specific measures that contribute to the improved maintenance of ecosystems via the restoration of landscapes, improving water retention, carbon sequestration, microclimate regulation, and others.
- **Focus on regional transport:** develop sustainable regional transport system with an optimal routing scheme that would improve existing transit routes and incentivise the use of low-carbon mobility including electrical buses, the railway network and e-vehicles.

Green Transformation Potential

Economic Diversification, SME and Innovation Support

The Pernik TJTP should introduce targeted measures to boost the district's innovation potential, the growth of SMEs, the building of new infrastructure and the provision of financial and regulatory incentives for local entrepreneurs. This can be achieved by:

- **Support schemes for SMEs and entrepreneurship:** introducing compensation schemes targeted at directly and indirectly affected coal-dependent workers encouraging them to develop start-ups and/or invest in already-existing small and medium-sized enterprises (SMEs). Implementing special support mechanisms or social entrepreneurship in low-carbon technologies will incentivise a wider group of stakeholders to take part in the just transition process.

- **Performance indicators for SMEs:** there should be a minimum share of supported community-led projects or SMEs in the TJTP (e.g., a minimum threshold of 30%), with more in-depth criteria such as on sustainability and green transformation.
- **Smart specialisation:** implement support measures for innovative companies that promote smart specialisation, with concrete milestones and targets.
- **Knowledge and technology transfer:** the TJTP should include appropriate measures for incentivising technology transfer between existing universities and research institutes and local businesses, as well as the provision of financial support for new or existing innovation centres. The proximity of Pernik to Sofia can become an advantage in this respect, acting as an intermediary between businesses in the Pernik district and academic institutions in Sofia.

Mitigating the impacts of the transition on vulnerable groups

The just transition process in Pernik attempts to address key socio-economic vulnerabilities but it can expand the impact mitigation action on vulnerable groups such as workers dependent on the coal industry, women, people with disabilities, young people, the elderly and ethnic minorities. Although re-skilling and new job placement criteria are partially in place, they lack a clear direction and vision. They can be improved by:

- **Job and skills assessments:** a comprehensive assessment of the regional job creation potential, the overall demand for new skills in different industries, and the transition impact on investments/jobs/tax revenues including the type of vulnerable groups that will be most affected. New skills will be required for sectors related to clean energy and energy efficiency, including the manufacturing of photovoltaic panels, electrical equipment and technical elements for photovoltaic systems, cables, inverters, aluminium frames, electrolyzers for green hydrogen, auxiliary equipment for geothermal energy exploration and production – pipes, valves, automation, etc.
- **Education and reskilling:** a detailed plan for educating and reskilling the most vulnerable workers, including specific milestones for the implementation of the relevant programs and criteria for their success.

- **Collaboration between business, academia and NGOs:** a concrete strategy for enhancing the collaboration between Pernik and Sofia-based businesses, academic institutions and other civil society actors. This includes the mapping of business sectors and academic areas where the two districts can complement each other.
 - **Reversing the labour migration trend:** there needs to be a step-by-step plan to retain the workforce in the district, in addition to measures attracting investments and technology transfer from Sofia.
- To adequately address the just transition challenges in Pernik, the TJTP needs to better account the local community's needs, concerns and challenges. As retaining workers in the district and developing high-value-added industries is crucial to accelerate the transition process, the TJTP should focus on proposing concrete measures and indicators for overcoming these demographic challenges. Moreover, it should also aim to strengthen innovation ecosystems that will contribute to the transformation of the local economy and attract new investments. Research and development should be encouraged, strengthening collaboration with existing academic institutions and business organisations from Sofia and neighbouring districts.

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For a full benchmark checklist of the draft TJTP of Pernik against CSD's Comparative Evaluation Framework, see more information [here](#).