

## ALTERNATIVE REGIONAL JUST TRANSITION PROFILE OF KYUSTENDIL

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The district of Kyustendil is facing the biggest socio-economic challenges in Southwest Bulgaria, which can further deteriorate with the implementation of the green transition process. The coal-fired Bobov Dol TPP, located within the district, is the country's fifth-highest generator of greenhouse gas (GHG) emissions. More than half of the district's Gross Value Added (GVA) is generated by the services sector, which includes a number of carbon-intensive activities. Despite its excessive coal dependence the district boasts a number of industrial low-carbon entities that can offset the revenues and jobs lost in the coal sector. The low-carbon industries can provide alternative job opportunities for the laid-off workers, including in the management of the clean energy and energy efficiency supply chains – in the manufacturing of solar panels, electrical equipment and technical elements for solar panels, hydrogen and geothermal energy exploration and development equipment.

The consultation process for the draft Territorial Just Transition Plan (TJTP) of Kyustendil lacks sufficient depth of the stakeholder engagement process, which is reflected in its limited decarbonisation ambition, no specific GHG emission reduction measures or targeted support for the uptake of low-carbon investments in renewable energy and energy efficiency. The district can also decarbonise existing energy-intensive businesses by utilizing its large, existing potential for the development of renewable energy-based plants, more specifically geothermal and solar PV facilities.

### Main Decarbonisation Challenges

Kyustendil is among the three most vulnerable districts to the transition process in Bulgaria because of its limit-

#### KEY POINTS

- Kyustendil will be considerably impacted by the green transition as it faces the challenges of slow new jobs creation and uptake of alternative business sectors.
- Kyustendil's leading economic sectors rely on servicing the coal mining and power generation industry. Yet, the district has a competitive agricultural sector, which could be one of the engines of growth if combined with sustainable business practices and renewable energy.
- Of all three coal mining districts in Bulgaria, Kyustendil holds the highest decarbonisation employment potential that could account for at least 90% of coal-related jobs in 2030, reaching 100% by 2050.
- The draft Territorial Just Transition Plan consultation process was fairly comprehensive, ensuring broader involvement of civil society and vulnerable groups. However, the draft Plan remains vague as no specific projects or initiatives have been developed.
- The TJTP's decarbonisation ambition should be increased by integrating stringent air pollution measures to minimise the negative health impacts, accelerating the RES uptake, and adopting sustainable management of agricultural systems.
- Concrete milestones should be added to foster the (green) innovation potential of the district and the growth of SMEs, social entrepreneurship, as well as the transfer of knowledge and best practices between academic and business organisations in neighbouring districts.

ed economic development, heavy reliance on coal and coal-based industries, low-skilled labour force, and low job market participation rate. Like in the Pernik district, roughly 30% of Kyustendil's gross value added (GVA) comes from the industrial sector, which is dominated by the coal sector.<sup>1</sup> Approximately 20% of the GVA, alone, comes from the mining and energy business segments. The rest of the district's industrial GVA is concentrated in the manufacturing of food and beverages, apparel and footwear. As per 2021 statistics, the investment activity in Kyustendil was among the weakest in the country. The number of non-financial enterprises is 52 per thousand people (compared to 60 per thousand people on average for the country).<sup>2</sup>

Kyustendil has one of the highest unemployment rates in Bulgaria at 8.1% in 2019, and the lowest economic activity rate in Southwest Bulgaria at 69.4%.<sup>3</sup> Of those unemployed, roughly half have no specific job qualifications (48%), about a quarter are specialists, and 27% are professional workers.<sup>4</sup> The largest share of the unemployed are people above the age of 50 – a trend that might become even more prevalent as a result of the economic transition process. In addition, the average annual salary in the district is significantly lower than in the rest of Bulgaria. The district's weak economic position is especially visible in the level of foreign direct investment. Non-financial FDI stocks in Kyustendil in 2021 were just EUR 40.2 million, only 0.14% of the national level.<sup>5</sup>

While depopulation is a structural problem nationally, Kyustendil's low living standards have accelerated the trend, which now outpaces that of the rest of the country. For example, between 2010 and 2019, Kyustendil registered an 18% drop in the size of its population.<sup>6</sup> With an already small number of inhabitants (108 703, only 1.7% of Bulgaria's total population)<sup>7</sup> and low population density, Kyustendil is particularly vulnerable to enhanced depopulation and migration due to the clos-

ing of the mining and power/heat generation units in the district.

## Transforming Sectors in the Kyustendil District

One of the main long-term transition challenges facing Kyustendil is job creation and loss of existing and the loss of the existing sources of GVA as a result of the transformation of the economy. In 2019, the mining and energy sector accounted for approximately one-fifth of the district's GVA and employed 17.8% of the entire working-age population of Kyustendil.<sup>8</sup> The services sector, which makes up the largest share of the district's GVA, is also dominated by carbon-intensive sectors, such as transport, which plays an outsized role in Kyustendil due to the district's geographic location at several critical transport intersection points on the strategic corridors to Greece and North Macedonia. A vital part of the services industry of Kyustendil is also the cultural, historical and balneological tourism, which are underdeveloped in comparison to other similar districts in Bulgaria but have the potential to attract many more visitors.

The fastest growing sectors in Kyustendil in the last decade have been education (126.4% average annual increase), information and communication technologies (79.1%) and agriculture, forestry and fishing (48.8%). These sectors can offer an increasing number of job opportunities for workers from energy intensive industries, and contribute to the economic transformation of the district. The agricultural sector has historically played a key role in Kyustendil's economic development and could aid the integration of low-carbon solutions and employ many of the workers directly and indirectly affected by the coal phaseout.

Kyustendil hosts productive businesses in the metals mining extraction subsectors, linked to the zinc and lead concentrate production facilities that could be the engines for alternative economic growth<sup>9</sup>. The district is also home to several construction companies that specialise in industrial, commercial, residential, and temporary building construction, as well as in manufacturing construction materials, such as concrete, metal structures, and asphalt. With the new EU renovation

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

<sup>2</sup> Institute for Market Economics (IME), [Kyustendil Regional Profile](#), May 22, 2023 (the latest available data is for 2021).

<sup>3</sup> Strategy.bg, [Териториални планове за справедлив преход](#) [Territorial Just Transition Plans].

<sup>4</sup> Ibid.

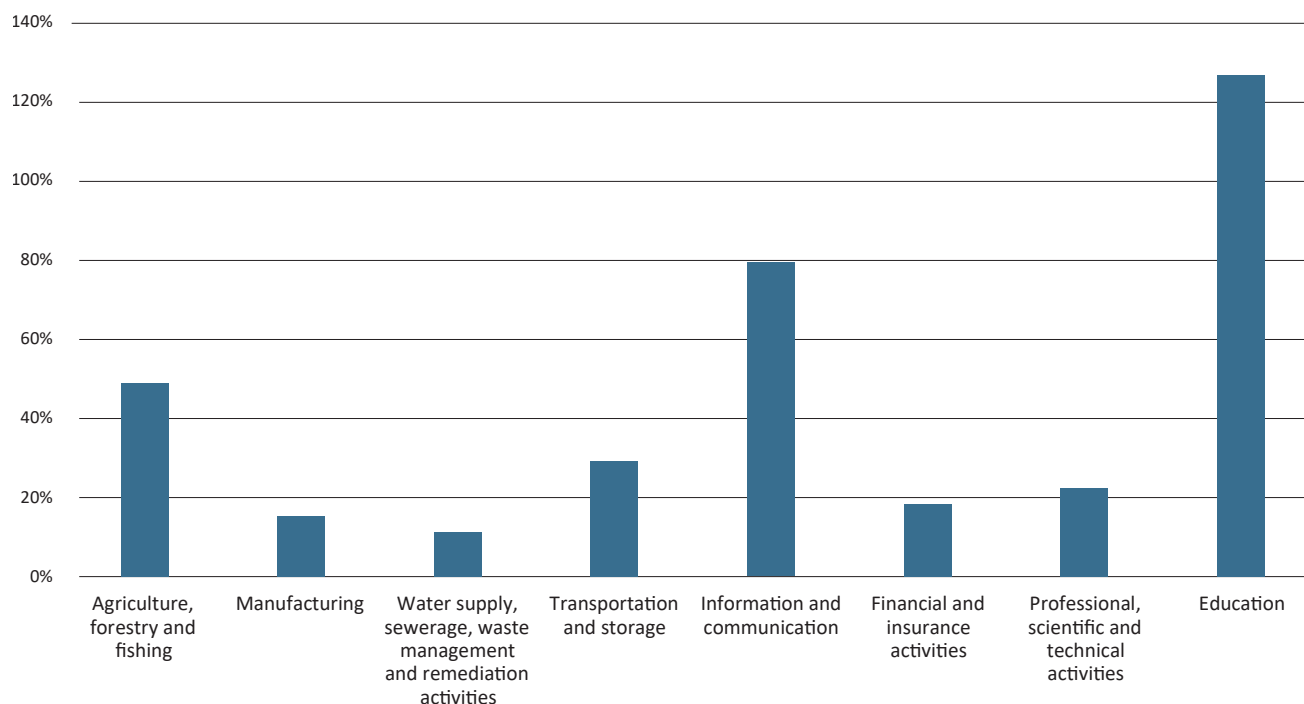
<sup>5</sup> National Statistical Institute (NSI), [Foreign direct investments in non-financial enterprises as of 31.12 by statistical regions and districts](#), May 22, 2023 (the latest available data is for 2021).

<sup>6</sup> Strategy.bg, [Териториални планове за справедлив преход](#) [Territorial Just Transition Plans].

<sup>7</sup> National Statistical Institute (NSI), [Population by districts, municipalities, place of residence and sex](#), May 22, 2023 (the latest available data is for 2022).

<sup>8</sup> Ibid.

<sup>9</sup> Vladimirov, M., Galev, T. and Primova, R., [Accelerated lignite exit in Bulgaria, Romania and Greece](#), Sofia: Center for the Study for Democracy, 2020.

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

Source: CSD.

wave initiative and the review of the construction product regulation, there will be a strong emphasis on energy savings in buildings to ensure zero carbon new building stock. This could make the district more attractive for investors working on low-carbon construction materials that are willing to relocate production in Kyustendil. In general, the drive for energy efficiency improvements could create many new high-paid jobs such as architects, electricians, plumbers, carpenters, roofers, etc. In addition, the district is home to pharmaceutical plants where a big chunk of the foreign investment is concentrated.

Kyustendil is also home to a dynamic and large agricultural sector. The agricultural land area comprises 48% of the district's territory, providing opportunities for developing organic farming and local supply chains. The Kyustendil Institute for Agriculture is well-positioned to provide advice, control and assistance to local agricultural producers and monitor the sustainable use of agricultural resources in the district.<sup>10</sup>

Kyustendil's draft TJTP strongly emphasises the development of the district's renewable energy-based power generation capacity on the back of new PV, wind, geothermal and green hydrogen facilities. The municipali-

ty of Sapareva Banya is home to the geothermal spring with the highest temperature on the Balkan peninsula. This spring, as well as others in the district, could be utilised for the development of geothermal-based local district heating, which could contribute to better air quality, currently compromised by the excessive use of firewood and coal for residential heating.

While Kyustendil has developed strong economic ties with neighbouring districts and the rest of the country, it is yet to open its own higher education institution. It boasts distance learning programs from the Varna Free and the Trakia Universities, as well as two private, professional colleges. Several schools in the district, among which the Bobov Dol High School, have tested school curriculum programs that prepare students to work in the fields of renewable energy plant deployment and the manufacturing of related equipment. However, the widespread skepticism towards the overall green transition process could threaten the success and viability of these alternative vocational programs.

Of all three coal mining districts in Bulgaria, Kyustendil holds the highest decarbonisation employment potential. This could account for at least 90% of coal-related jobs in 2030, reaching 100% by 2050<sup>11</sup>. The expected

<sup>10</sup> Kyustendil Municipality. *Integrated Development Plan for the Period 2021 – 2027*, 2020.

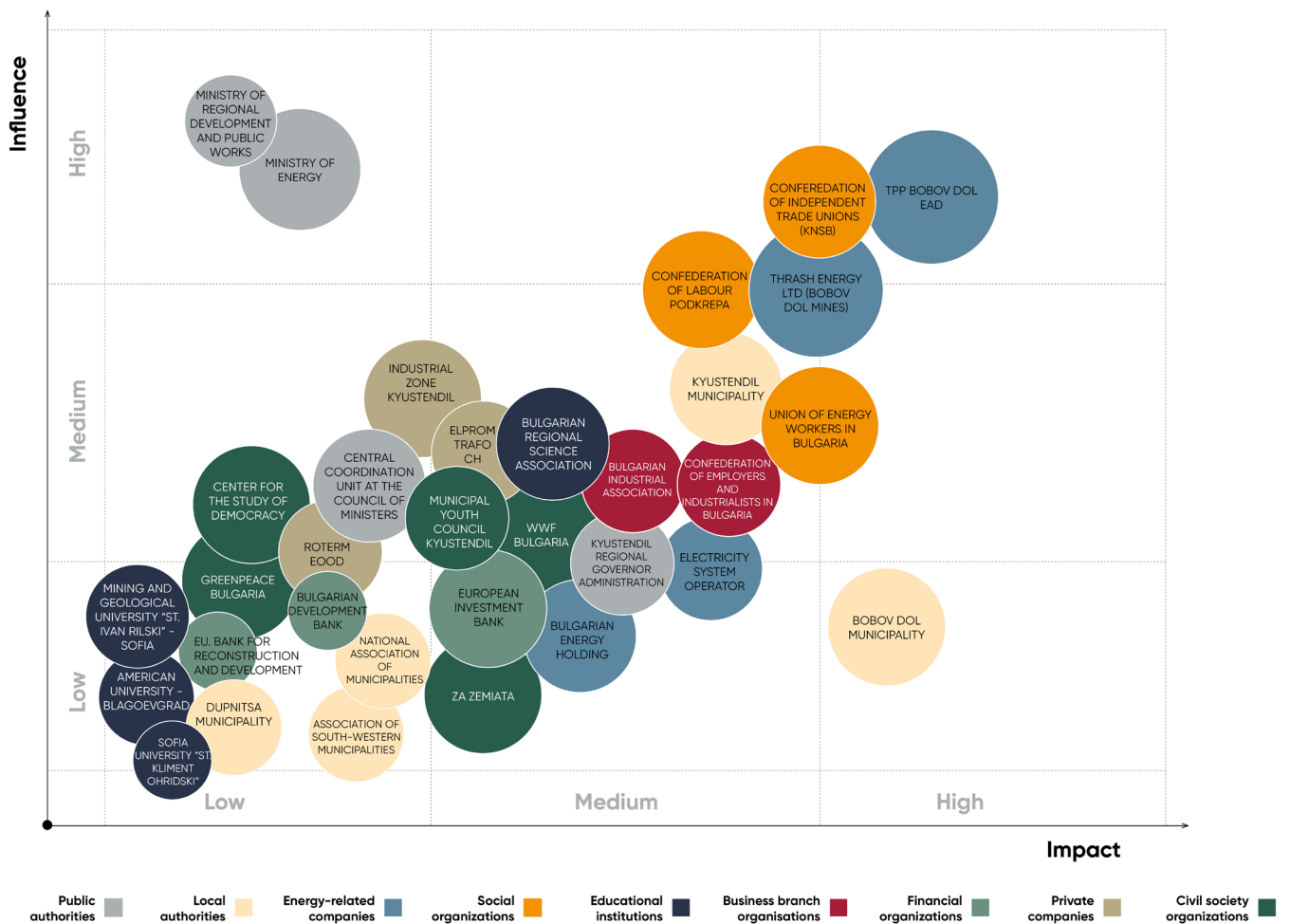
<sup>11</sup> Vladimirov, M., Galev, T. and Primova, R., *Accelerated lignite exit in Bulgaria, Romania and Greece*, Sofia: Center for the Study for Democracy, 2020.

new jobs potential by 2030 is 1511 full-time employment (FTE) workers in the wind energy sector, 210 FTE staff in the solar PV sector and 1578 FTE employees in the bioenergy sector (with respective estimated investments of EUR 502 million in the wind sector, EUR 43.6 million in the solar PV sector and EUR 66 million in biofuels). However, to achieve this transformation, Kyustendil will have to address the urgent need for up and reskilling of workers in carbon-intensive sectors. While much of Bulgaria faces a skills gap, Kyustendil, with its low economic activity, high unemployment rates, and expected changes in the structure of its labour force, is especially vulnerable. In Kyustendil, upskilling and retraining programs will mitigate the impact of the transition process but will not prevent job losses in the first place. Kyustendil must focus on developing training courses for the least-skilled workers and most vulnerable groups to social exclusion as a result of the economic transition.

## Stakeholder Engagement Process & Strategy

Although a special coordination body on the delivery of the Kyustendil TJTP was created, the overall stakeholder consultation and engagement process has been vague and has lacked transparency. The function of the coordination unit was also not clearly defined. The TJTP recognises the need to support the capacity building of stakeholders with limited resources to enhance their engagement. Yet, the strategic document needs to set out an action plan for how this will be accomplished that goes beyond the organization of a handful of workshops with youth groups. Similarly, to the TJTPs of Stara Zagora and Pernik, the strategic document for Kyustendil has not included SMEs in the consultations as its overall focus has been on large-scale enterprises in the district.

Figure 2. Assessing the impact of the coal phaseout on different stakeholders and their influence on the JT process



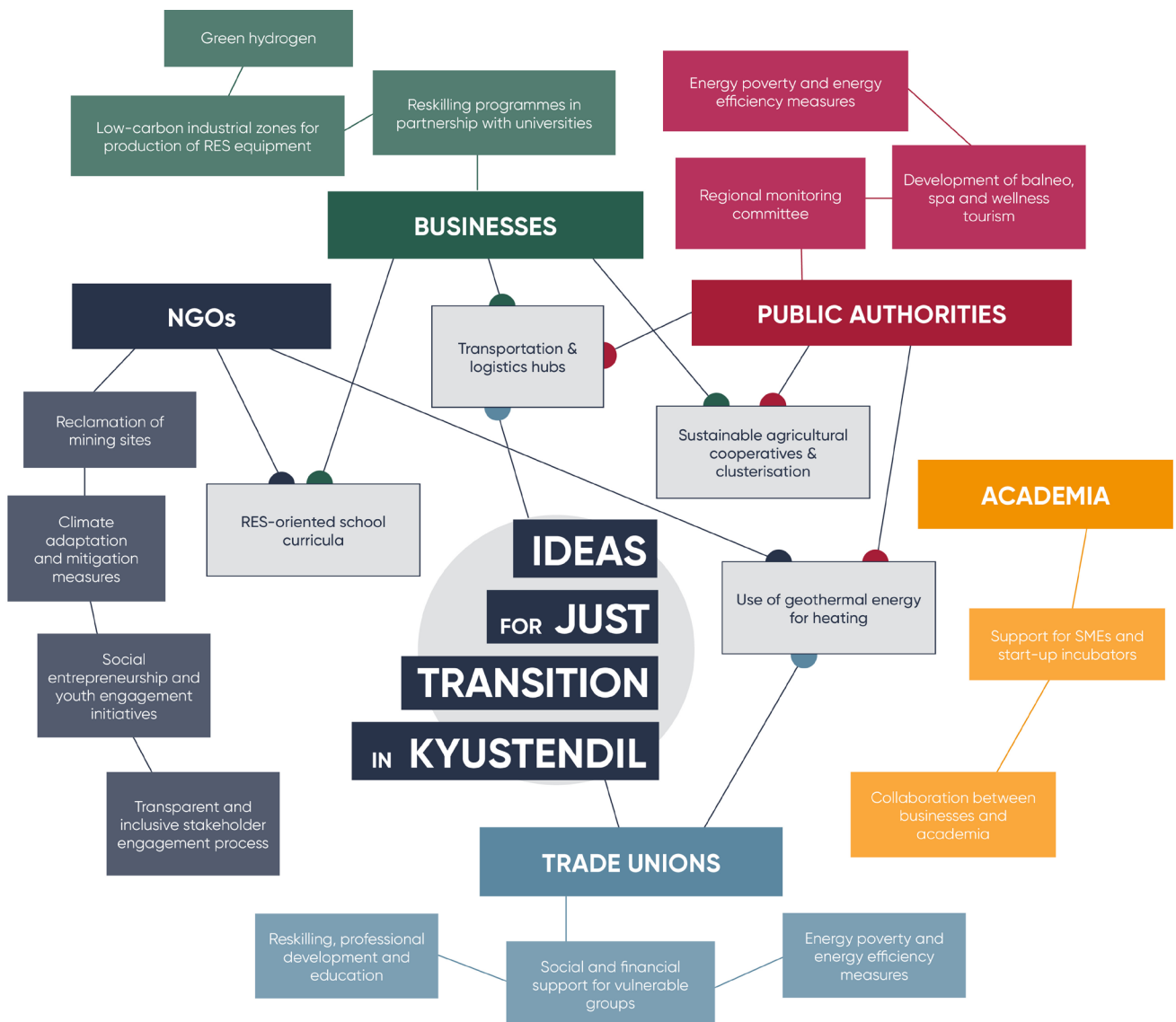
Source: CSD.

In parallel to the official stakeholder engagement process, civil society organisations, including CSD and WWF Bulgaria, led a series of seminars and roundtables in 2022/2023 with all relevant stakeholders in the district. The discussions were centered around the three pillars of the TJTP but with an additional focus on engaging young people, local NGOs and educational institutions. The idea has been to develop an active dialogue between local authorities and the social groups most vulnerable to the transition process and those that are more likely to be the drivers of the economic transformation.

In addition, the owners of the coal mines and power generation units at Bobov Dol and Pernik created the “Brown to Green” platform and were among the most

active participants in the stakeholder engagement process. The Platform’s main project ideas include the development of a 100-MW solar PV park on the unused terrain of the coal-fired thermal power plant after the recultivation of the mining sites. In addition, the business-led initiative aims to develop a hydrogen storage and natural gas blending facility at the TPP’s site. In the first version of the National Recovery and Resilience Plan (NRRP), the government included a separate gas transmission network expansion project to link TPP Bobov Dol with the main network. However, both gas-linked projects are not compatible with the EU funding rules excluding fossil fuel investments under the recovery and resilience and JT mechanisms, which would make the initiatives very difficult to accomplish if they are to rely on public funding.

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



Source: CSD, based on the stakeholder survey.

To improve the stakeholder engagement process based on active policy co-creation, CSD initiated 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 economic transformation via the collection of effective project ideas and concrete proposals for improving the draft Plans.

In Kyustendil, the survey participants highlighted the need for targeted support for SMEs, including micro-enterprises and start-ups, supporting the district economic development and diversification, and providing sufficient employment options for coal workers. Project proposals from stakeholders, which are eligible for funding, include incentives for household-based renewable energy investments, direct support for SMEs with preferential loans and other financial instruments for job placement programs and technological uptake, as well as the development of industrial parks, awareness raising campaigns for the benefits of the economic transition process, and sustainable bio farming. Other proposed ideas include the recultivation of former mining sites and the uptake of recycling and waste management businesses.

## How to Unlock the Potential for Just Transition in Kyustendil

Businesses in alternative manufacturing and metals extraction subsectors in Kyustendil could employ a number of well-trained engineers currently working in the coal sector, provided good reskilling programmes are developed. The TJTP should support innovation and the optimisation of business processes in regional entities with the overall aim of decarbonising the economy whilst involving all key stakeholders in the process. Based on CSD's comparative methodology for assessing TJTPs in Central and Eastern Europe<sup>12</sup> 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 Kyustendil.

### Stakeholder Engagement Process

The most substantial barrier to an objective stakeholder engagement process has been the broader scepticism of the viability of the energy transition process and the success of a potential green economic diversification strategy. To strengthen the public engagement process, the TJTP should better integrate:

- **Improvement of the scale and depth of the stakeholder communication through:** 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 relevant procedures that involve all relevant stakeholders in the implementation of the planned projects.
- **Focus on youth:** Youth-led initiatives that contribute to awareness-raising, social entrepreneurship and education for preparing the next generation for the challenges of achieving a just transition and climate neutrality.

### Decarbonisation Ambition

The outlined strategy on diversification and adaptation of regional businesses to the economic transition in the TJTP has a strong focus on large-scale projects that face significant governance risks. Although the TJTP broadly identifies the sectors with the highest potential, the proposed measures need to include concrete milestones, timelines or activities that would ensure a fundamental transformation of the economy. To increase the TJTP's ambition, it should focus on including:

- **Performance indicators:** the TJTP should include transparent and comprehensive indicators that will assess the effectiveness of SME support, including sustainability criteria and indicators for success. Emphasis should be put on performance indicators and sectoral goals for the deployment of RES-based capacities, power storage systems and the reduction of GHG emissions.

<sup>12</sup> Trifonova, M., Primova, R., Rangelova, K., Vladimirov, M. *Territorial Just Transition Plans*. Sofia: Center for the Study of Democracy, 2021.

- **Mechanisms for accelerating investments:** seizing the investment opportunities of the transition towards a sustainable economy requires a comprehensive strategy with a robust regulatory framework and proactive public and private investors. Considering the low investment rate in the district, the TJTP should include a concrete plan for attracting new investments in low-carbon technologies, high-value-added sectors and renewable energy.
- **Recultivation of mining sites:** include a concrete proposal and step-by-step plan on 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 the process.
- **Support to SMEs:** include specific support mechanisms for community-led and SME projects with specific 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 process that incorporate robotics, AI and sophisticated production monitoring systems.
- **Low-carbon energy infrastructure:** geothermal energy has been identified as a potential source to replace in part the fossil-fuel-based thermal capacity at the TPP Bobov Dol. Yet, the technical potential for geothermal energy for the whole of Southwestern Bulgaria is estimated at only 100 MW, which might not be economically feasible for large-scale deployment<sup>13</sup>. The draft of the Plan does not set out a concrete vision of how to unlock this potential and how to support the development of the industry. Green hydrogen and biomethane are also indicated as priority support schemes, but they lack sufficient justification and details as to how they will be deployed and whether they will be integrated with existing projects is missing.
- **RES uptake:** programs for small-scale renewable energy deployment by households, directly and indirectly affected by the coal phaseout.
- **Energy efficiency and energy poverty:** concrete energy efficiency measures for a larger number of households, including those indirectly affected by the coal phaseout.
- **Air pollution mitigation:** stringent air pollution measures as part of the ambition to reduce GHG emissions. These should include measures related to minimising citizens' health impacts due to the prolonged exposure to air pollution.
- **Focus on sustainable agriculture:** better management of agricultural systems, including incentives for small to medium-sized producers to reduce their carbon intensity and transition into sustainable farming practices.

## Green Transformation Potential

### Economic Diversification, SME and Innovation Support

- **Industrial zone development:** there should be a clear plan for the development of industrial parks (existing or new ones) based on a detailed cost/benefit assessment and with the aim of improving industrial clusterisation between companies and transforming the parks in decarbonisation hubs. The sites of the TPP Bobov Dol could become the host of such a project as it would provide the necessary energy and transport infrastructure, as well as access to cheap renewable energy electricity to incentivise the relocation of industrial plants.
- **Support for SMEs:** include specific support mechanisms for community-led and SME projects with specific 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 process that incorporate robotics, AI and sophisticated production monitoring systems. The TJTP for Kyustendil should include specific support mechanisms for social entrepreneurship initiatives for low-carbon technologies.
- **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.

<sup>13</sup> World Bank. [Reimbursable Advisory Services Agreement – Just Transition Towards Carbon Neutrality in Bulgaria: Economic, Social, and Environmental Impacts of the Transition in Carbon-intensive Districts](#). Washington, D.C.: World Bank Group.

### Mitigating the impacts of the just transition on vulnerable groups

Although reskilling and new job placement criteria are partially in place, they need a clear direction and vision specifically tailored to the socio-economic characteristics of the district.

- **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 photovoltaic panels, electrical equipment and technical elements for photovoltaic systems, cables, inverters, aluminium frames, electrolyzers for green hydrogen, auxiliary equipment, 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.

- **Definition of vulnerable groups:** a clear definition of “affected” and “vulnerable groups” should be included in the TJTP. The Plan currently does not address measures to ensure equality of opportunity to family members of workers directly employed in the coal and carbon-intensive industries.

Kyustendil stands out as a district in dire need of economic transformation. The TJTP requires further elucidation to effectively address the needs, concerns, and challenges faced by the local community. Although Kyustendil does not rely as heavily on coal workers as Stara Zagora, it is vital to prepare the existing workforce and implement a well-defined strategy to rejuvenate and diversify the district's economy. This approach is crucial to ensure sustainable growth and development. Regrettably, the current Plan falls short in its support for SMEs operating in low-carbon business sectors. Moreover, it neglects the development of an innovation ecosystem, which is essential for the enabling of just transition in the district. It is imperative to create an environment conducive to the district's advancement. There is a pressing need for more transparent and comprehensive indicators to evaluate the effectiveness of the support provided for entrepreneurship and start-up ecosystems. By implementing such measures, we can accurately assess the impact of these initiatives and make informed decisions regarding their future implementation.

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