Stara Zagora will be the most affected Bulgarian district by the green transition process. The largest lignite mining company — the state-owned “Mini Maritsa-East” EAD is located in Stara Zagora. Lignite mining, coal-fired power production and the associated services are the most important economic sectors in the structure of the district’s gross value-added (GVA). Other key regional economic activities include a broad range of manufacturing and construction services, wholesale, retail trade, mechanical engineering, food processing and electronics manufacturing. Although the district has the lowest unemployment rate in Bulgaria (1.4%), an estimated 35,000 jobs could be lost as a result of the coal phaseout.

The consultation process of Stara Zagora’s Territorial Just Transition Plan (TJTP) has not been focused on mapping decarbonisation policies and targets. Instead, national policy-makers have placed excessive focus on socio-economic instead of environmental concerns, which has meant that sustainability is not the primary criterion for selecting the priorities of the strategic document. The current draft Plan should promote measures and initiatives at the intersection between EU decarbonisation policies, green economic transformation, the unlocking of the regional innovation potential, and the promotion of regional competitiveness. Among the most important policy proposals should be the support for SMEs and start-ups in high value-added sectors, which would enable the district’s economic diversification. There is lack of awareness and understanding by many stakeholders in Stara Zagora about the energy transition and its implications for regional economic development, primarily due to the limited public information on the topic and the widespread disinformation narratives.

KEY POINTS

- Stara Zagora is the largest coal district in Bulgaria and its economy is highly dependent on fossil fuels. The bulk of the local industries are energy intensive and have been slow to take up low-carbon technological solutions.
- The district holds the potential to more than offset the lost revenue and jobs in the coal sector with new opportunities in industrial manufacturing, which shows the biggest growth potential over the past decade.
- So far, the Territorial Just Transition Plan consultation process has lacked a consistent stakeholder engagement strategy for true policy co-creation. The result is a lack of enough readily deployable specific initiatives proposed to receive support from the Just Transition Fund.
- The government should increase the decarbonisation ambition of the regional strategic documents, by, among others, supporting concrete investments in low-carbon technology adoption, clean energy infrastructure, greenhouse gas emissions reduction, energy efficiency, and renewable energy, as well as support for a circular regional economy.
- Detailed measures with concrete milestones should be added to the TJTP that would seek to boost the innovation potential of the regional economy, the growth of SMEs, the building of new infrastructure, and the provision of financial and regulatory incentives for local entrepreneurs.
- The just transition process in Stara Zagora should prioritise vulnerable groups by ensuring that the energy poor, the workers directly employed in carbon-intensive industries, gender and ethnic minorities have equal access to employment opportunities in transition sectors providing well-paid jobs and long-term career pathways.

about the impact of the transition. Stara Zagora has immense economic growth potential, but unlocking it would require the scaling up of current decarbonisation targets, supporting the economic transformation process, and boosting regional innovation.

## Main Decarbonisation Challenges

Of the three Bulgarian districts, part of the Just Transition Mechanism, Stara Zagora’s economy will be impacted the strongest by the coal phaseout. Yet, the district has a developed manufacturing base for industrial equipment and metal works, a growing Information and Communication Technologies (ICT) sector and vibrant agricultural and food processing industries. The export-oriented businesses in these economic areas could replace the lost revenue and employment from the closed mines and power plants on the back of growing gross value added in the past two decades, improving efficiency, product quality and foreign direct investments.

The district’s labour market and that of Sliven, Haskovo and Yambol has low labour force participation rate, especially among women and minority groups, and an ageing workforce, primarily employed in carbon-intensive industries. Consequently, the green transition will directly or indirectly affect 23.80% of jobs in Stara Zagora, 8.30% in Haskovo, 7.30% in Sliven and 6.60% in Yambol.

In total, 11,100 employees from Stara Zagora and the three adjacent districts work in coal mines or coal power plants and commute every day to the facilities. In Sliven, about 3000 workers are also employed by high GHG-emitting companies including in the garment industry, the iron and steel manufacturing plants and the local district heating company which, in combination with the commuting workers to the coal facilities in the Stara Zagora district, make up 10% of the district’s total employment. In Haskovo, there are only a few employment opportunities in higher value-added sectors, while manufacturing remains a key employer. The district suffers from a sizeable skills mismatch, which is most noticeable for low-skilled jobs where the number of jobseekers is twelve times as high as the number of vacancies. In Yambol, the skills mismatch for low-skilled jobs means that the registered jobseekers exceed the number of vacancies ninefold. 8% of Yambol’s workforce is employed in the mining sector or other carbon-intensive industries such as surface metal treatment and the production of ceramics.

The average annual salary in the district is close to the national average (partially due to the high wages in the coal industry). There is a good balance between small, medium and large enterprises. Outside the coal industry, other important employers include a briquette factory, military equipment producers, food processing companies, electronics, spa tourism, retail, metal processing and technical rubber. Thus, the manufacturing base of the district will play an important role in the district’s economy as a magnet for workers that could lose their jobs due to the coal phaseout. Stara Zagora is expected to be the district most affected by the green transition, as it accounts for more than 80% of the total estimated “directly affected” jobs in coal-based mining and energy production facilities, estimated at around 40,000 people directly or indirectly. Such indirectly affected jobs are tied to the supply of specialised mining equipment, tools, spare parts, and mining-supporting activities. According to the draft TJTP, at least 12 thousand jobs will have to be transferred to other economic sectors due to the reduction in demand for coal and mining activities in the first year of the Plan’s implementation. A further 15 thousand jobs are expected to be affected by 2038 when Bulgaria is to complete the coal phaseout.

The mismatch between available and required skills raises the need for the requalification of these workers to enable job placement in alternative sectors. For this purpose, specialised training programs can improve the overall quality of the education system, so that it is more closely aligned with the needs of the labour market. There is some existing demand for machine operators, installers and assembly line workers who could thus more easily transition out from their current coal jobs. However, the projected labour market demand will not be sufficient to accom-
moderate all workers that will potentially lose their job in the coming decade. In the last decade, the highest employment growth in the last decade has occurred in retail trade, hotels, restaurants and construction, but since SMEs are dominating these sectors, they generate low to medium average employment per enterprise and their high growth potential is strongly dependent on the aggregate consumption of the regional economy which, in return, depends on the income generated by stronger and more competitive industrial sectors.

### Table 1. Expected job losses from the coal phaseout and estimated government compensations for reskilling and job creation in all coal regions of Bulgaria.

<table>
<thead>
<tr>
<th>Industrial sector</th>
<th>Number of expected jobs losses</th>
<th>Financing needs (Thousands EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;55 years</td>
<td>55 years or older</td>
</tr>
<tr>
<td>Power plant</td>
<td>1 943</td>
<td>412</td>
</tr>
<tr>
<td>Mining</td>
<td>9 705</td>
<td>2 058</td>
</tr>
<tr>
<td>Total direct jobs</td>
<td>11 648</td>
<td>2 470</td>
</tr>
<tr>
<td>Indirect jobs</td>
<td>29 120</td>
<td>140 560</td>
</tr>
</tbody>
</table>

*Source: Accelerated lignite exit in Bulgaria, Romania and Greece, Sofia: Center for the Study for Democracy, 2020.*

Transforming Sectors in the Stara Zagora District

Coal-mining activities, energy production from coal (including electricity, heat and steam), the delivery of mining equipment and other related activities will be the most quickly declining sectors. The result will likely be the restructuring of the energy sector so that businesses switch to manufacturing and supplying low-carbon energy equipment including photovoltaic panels,

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

*Source: CSD.*
electrical cables, the production of various technical elements (invertors, aluminium frames, etc.), battery storage, supporting services for the RES facilities, and recycling related products.\(^7\) Stara Zagora is also actively engaged in developing a hydrogen hub through the Blion project, promoting regional ecosystems that link up hydrogen production and transportation to its various end uses, such as transportation or industrial feedstock.

Stara Zagora has the highest growth in GDP and GDP per capita in Southeast Bulgaria (NUTS II). The gross value added in the industrial sector in Stara Zagora is also the highest in the district, and has almost doubled in value during the past decade.\(^8\) The fastest growing sectors in Stara Zagora are financial and insurance services (46.3% annual increase), education (26.8% annual increase) and manufacturing (23.7% annual increase). Stara Zagora has historically been home for companies producing machinery and equipment for the food industry, including hydraulic parts for agricultural equipment, or large-scale food processing machine manufacturing, and smaller companies that are specialised in food-related machinery manufacturing.

Stara Zagora’s economy also contains large companies in the chemical industry, especially in the production of fertilizers, manufacturing of plastics and rubber products, as well as the extraction of essential oils for the cosmetics industry.\(^9\) This sector has continuously invested in the training of employees, and consists of export-driven firms, with markets across the EU. The training and reskilling programs through the JTF could also focus on new job opportunities in retail trade, processing of secondary materials, the automotive industry and its supply chain.\(^10\) The heavy industry could also provide employment opportunities for former coal workers, especially in the fields of mechanical engineering and metallurgy. Due to the high energy intensity of these industries, it is crucial to enable the electrification and witch to low-carbon technologies in order to meet GHG reduction targets.\(^11\)

Stara Zagora holds a high employment potential for low-carbon industries. Yet, it is estimated that the energy efficiency-related jobs that can be potentially created can replace only half of the current coal related in the district.\(^12\) In addition, the low-carbon employment potential will fall to 11% of the existing coal related ones jobs in 2030 before climbing back to 17% in 2050. Stronger support measures may be needed to mobilise the untapped opportunities for job growth linked to the decarbonisation process or to develop alternative sectors such as the manufacturing of machinery and industrial equipment. The economic restructuring will benefit from the engineering heritage of the district, whereas many of the engineers working in coal power plants could be reskilled relatively easy to fit the labour demand in low-carbon sectors such as the construction and maintenance of renewable energy power plants and the manufacturing of RES-based equipment.\(^13\)

The district’s existing R&D infrastructure is well developed, given Bulgaria’s national level performance. The regional Trakia University has several institutes that focus on low-carbon subjects, and has established an innovation hub in Stara Zagora in cooperation with European partners in early 2023.\(^14\) In the past two years, new interdisciplinary programmes have been established, including a focus on information technology, bioenergy, and health care. The University is also in the process of developing successful partnerships with other universities in Europe, that can contribute to the creation of joint programmes and projects, particularly through the university’s associated Institute for Sustainable Transition and Development.


Moreover, considering its current economic development plan, Stara Zagora could develop a regional secondary market for raw materials and turn Bulgaria into a regional hub for recycling of materials and products that are crucial for the European manufacturing supply chains. This will require a comprehensive assessment of the availability of critical raw materials, as well as the potential for secondary and new raw materials that could satisfy the increasing demand in the mobility, renewable energy, and building sectors. For this purpose, the Territorial Just Transition Plan for Stara Zagora needs to be supplemented by a sub-program on recycling raw materials in service of the industrial decarbonisation to be included as one of the priority measures in the Operational Programme Innovation and Competitiveness (OPCIE).

### Improving Stakeholder Engagement

In Stara Zagora, the TJTP consultation process that began in August 2022 was executed in a piecemeal manner that lacked consistent coordination and representation. Four major groups of actors from Stara Zagora were

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15 Yarkova, Y., Yarkov, D., & Tsacheva, S. (2021). The just transition of the European Green Deal and the development of the regions with intensive coal mining (example of Marishki Basin–Bulgaria). In SHS Web of Conferences (Vol. 120, p. 01002), EDP Sciences.

16 For more information, visit: Operational Programme “Innovation and Competitiveness” 2014-2020 (OPIC) website.
directly engaged in the development of the TJTP: the local level mayors, the trade unions, the management of the state-owned Maritsa East 2 and the Chamber of Commerce and Industry Stara Zagora\(^{17}\). The consultation process was facilitated by the Regional Economic Development Agency Stara Zagora (SZEDA), which has supported the establishment and implementation of mechanisms for managing the successful integration of low-carbon technologies, economic diversification and socio-economic development of the district.

The incumbent coal interests have dominated the discussions by focusing on the uptake of carbon capture and storage projects as an alternative approach to maintaining the operation of the lignite plants. The civil society organisations have aimed to shift the focus of the debate towards a closer integration of industrial-scale businesses and SMEs in the co-creation of alternative development initiatives.

Neither the central government, nor the regional authorities supported the consultation process with a comprehensive communications and outreach campaign. SZEDA was among the few organisations to initiate and coordinate a smooth dissemination and engagement process. SZEDA also organised several working group meetings to facilitate a more comprehensive dialogue with the most relevant stakeholders. Meanwhile, the consultation approach was described as “distant” and “cautious” by the stakeholders interviewed for the assessment of the TJTP development process. The stakeholder discussions were not geared towards the resolution of controversial issues or the proposing of new partnership frameworks as the consultant had limited knowledge of the regional priorities and had not conducted comprehensive outreach to the local communities.

The attempts by NGOs to engage youth groups in Stara Zagora have been met with strong resistance and scepticism with the argument that engaging young people in the discussion of transition priorities is “influencing” or “brainwashing” them. In addition, the stakeholder discussion on the socio-economic aspects of the just transition did not go beyond the topic of retaining the existing jobs or evaluating the impact of the transition process on the well-being of the directly affected mining and power plant workers.

The discussions failed to also broaden the spectrum of policy measures to support the workers’ family members and energy poor consumers, who will also be indirectly affected by the transition process.

### Box 1. Feedback on the draft TJTP and the future development of the district

In February 2023, CSD conducted an online survey seeking feedback from various stakeholders and citizens in the three districts. The purpose of the survey was to assess their perspectives on the draft Territorial Just Transition Plans and gather effective project ideas to enhance the level of ambition in these plans.

For Stara Zagora, participants highlighted several areas where they felt support was lacking. Firstly, they pointed out the inadequacy of the financial assistance in bearing the social costs associated with the changing labour market. Additionally, participants emphasized the need for greater promotion and support for the use of renewable energy sources at the household level. They also stressed the importance of developing vocational education opportunities to enable the reskilling of workers.

Nearly half of the respondents were of the opinion that reskilling efforts were being addressed only in theory, without concrete proposals on how workers and small and medium-sized enterprises (SMEs) would be supported to secure job placements for laid-off workers from the Maritsa East Complex.

Furthermore, respondents noted that the proposed measures lacked coherence with existing funding programs and national instruments. This lack of coherence posed challenges in ensuring a socially acceptable just transition. The survey participants believed that an effective just transition strategy should not only facilitate the acceleration of green investments but also provide targeted support to workers and SMEs, while generating new employment opportunities in high-value-added sectors.

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\(^{17}\) DG Reform of the European Commission financed a dedicated study of the socio-economic challenges before the coal regions in Bulgaria and identified specific areas of growth via statistical assessment and a stakeholder consultation process. PwC was the consultant chosen to prepare the assessment.
How to Unlock the Potential for Just Transition in Stara Zagora

To ensure that the TJTP provides the necessary support for achieving a truly just energy transition, it is particularly important to allocate the JTF funds on activities that boost the district’s innovation potential and the efficiency of regional businesses with the overall aim of supporting the decarbonisation of the economy whilst involving all key stakeholders in the process. This will ensure the successful implementation of the programming priorities. Based on CSD’s comparative methodology for assessing TJTPs in CEE\textsuperscript{18} and the follow-up stakeholder survey, the following recommendations can be seen as a non-exhaustive list of suggestions to improve the final version of the Stara Zagora TJTP.

Stakeholder Engagement Process

The strongest barrier to an objective stakeholder engagement process has been the public’s broader scepticism of the viability of the energy transition process and to the success of the green economic diversification. To strengthen the public engagement process, the TJTP should:

Figure 3. Main just transition priorities of key stakeholders in Stara Zagora

Source: CSD, based on the stakeholder survey.

• Improve the scale and depth of stakeholder engagement: The organisation of information campaigns, public discussions and events on the topic of just transition, reskilling opportunities, and what the JTF could mean for the future economic development of Bulgaria will improve the overall transparency of the process by promoting the means for a constructive dialogue. A more transparent and inclusive policy co-creation process involves all spheres of social life in the district, including environmental, cultural, social, educational, and youth organisations, collectives, informal groups, etc. Through wider and deeper stakeholder engagement, the scepticism of the local community to the viability of the energy transition process and to the success of the green economic diversification can be significantly reduced.

• Set up a District Just Transition Committee (DEC): The establishment of a functioning consultative body to make the stakeholder engagement process more effective in the implementation of the TJTPs. This will ensure better management and execution of the planned priorities, initiatives and projects. Currently, there is a limited and inconsistent use of different communication tools, a predominantly one-way and top-down communication process, as well as limited engagement of vulnerable groups, whose needs are not well reflected.

Decarbonisation Ambition

The outlined strategy on the diversification and adaptation of regional businesses to the economic transition in the TJTP has a strong focus on business sectors such as mechatronics, the chemical industry, agriculture, industrial ICT solutions, production of electrical components and renewable energy. Although the strategy identifies broadly the sectors with the highest potential, the proposed measures need to include concrete milestones, timelines or activities that would ensure the fundamental economic transformation. To increase the TJTP’s decarbonisation ambition, the Stara Zagora TJTP should introduce the following elements:

• Innovation ecosystems: Include concrete measures for the proactive development of innovation ecosystems in the district. The institutionalisation of existing technology transfer practices should be supported to unlock the full potential of innovative businesses in the district.

• Performance indicators: Include transparent and comprehensive indicators for the effectiveness of SME support, including sustainability criteria and indicators for success. In addition to GHG emission reduction targets, the TJTP should also include environmental indicators linked to air, water and soil pollution from the energy sector, including estimated air quality improvements from the suggested low-carbon projects. There is a need to increase the requirements for RES deployment, hydrogen and biogas/biomethane investments and their respective contribution to GHG emissions reductions, which could be an important component for the future climate-neutral economic development of Stara Zagora.

• New investments: Include mechanisms for attracting new investments. Targeted outreach activities such as roadshows and trade fairs can help attract major investors in the manufacturing, renewable energy deployment, sustainable farming and ICT sectors. Special support for the innovation infrastructure and European networks providing business services in the field of research and innovation will encourage the inflow of more constructive capital from leading European and global companies. For example, among the new investments could be the opening of an electric vehicle production line, the development of charging stations, manufacturing plants for photovoltaic equipment, battery production lines, biofuels production and green hydrogen facilities.

• Recultivation of mining sites: Include a concrete proposal and step-by-step plan for the recultivation of mining sites. There must be a specific mapping of the recultivation areas to estimate the necessary costs and milestones for the next 10-15 years, identifying the available funds and financing gaps for the process. Specific measures that contribute to the improved maintenance of ecosystems should also be included with details on the restoration of landscapes, improving water retention, carbon sequestration, microclimate regulation, and others.

• Energy infrastructure: Propose a strategy for strengthening the power transmission and distribution infrastructure with a focus on the development of smart grids, smart meters and electric mobile charging stations. The concrete estimates for technology deployment investments and low-carbon infrastructure, in line with national energy and climate strategies will provide clarity for investors, the
Electricity System Operator (ESO) and the District System Operators (DSOs).

- **RES and energy efficiency**: Include small-scale renewable energy and energy efficiency deployment programs for energy poor households, particularly those directly and indirectly affected by the coal phaseout.

### Green Transformation Potential

#### Economic Diversification, SME and Innovation Support

To revive the local economy of Stara Zagora after the coal phaseout, significant investments should be mobilised 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.

- **Institutionalised support for investment funding**: The just transition process in Stara Zagora should involve the creation of an institutionalized support structure for the worst affected economic sectors. This requires the rechannelling of funding streams towards the most vulnerable areas including the mining, manufacturing, electricity, construction and transportation sectors. Financial compensation schemes for coal-dependent workers could incentivise them to engage in alternative economic activities, developing the entrepreneurial potential of the district.

- **Industrial zone development**: There should be a clear plan, in which industrial parks (existing or new ones) will be supported. The plan should include dedicated support for the industrial clusterisation of companies with similar production processes. The industrial parks should be transformed in decarbonisation hubs where different companies could share the costs for the deployment of common RES-based facilities and other low-carbon infrastructure that will optimise operational costs and decarbonise production processes.

- **Knowledge transfer**: The TJTP should include appropriate measures for incentivising knowledge transfer between the universities and research institutes and local businesses as to enhance innovation synergies and smart specialisation trends.

- **Support for SMEs**: SMEs in the district will play a vital part in the just transition process as they are the backbone of the regional economy. The bulk of the TJTP funding streams should be directed namely at supporting the growth of SMEs with specific targets and criteria, including strict sustainability criteria as to ensure the investments will incentivise the uptake of low-carbon innovation, the reduction of the carbon footprint and the improvement of energy efficiency. Priority should be given to SMEs in sectors with high added value, big export and foreign direct investment potential.

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

The Stara Zagora TJTP does not sufficiently address the socio-economic aspects of the transition process and the impact of the ongoing green transition on disproportionately affected groups such as workers dependent on the coal industry, women, people with disabilities, ethnic minorities and the youth. Although reskilling and new job placement criteria are partially in place, they lack a clear direction and vision. The proposed measures are also not in sync with the long-term regional development objectives and socio-economic characteristics of the district.

- **Job and skills assessments**: By assessing the regional potential for job redistribution, the impact on investments, and tax revenues, and identifying vulnerable groups, policymakers can gain a comprehensive understanding of the transition process. Furthermore, the analysis of disappearing jobs and the demand for new skills will provide insights into the changing labour market dynamics. The subsequent skills mapping exercise will play a crucial role in guiding the efforts to prepare the regional labour force for the integration of coal workers into high-value-added sectors, ultimately fostering economic growth and sustainability.

- **Reskilling and job placement program**: the TJTP should include a dedicated program that will finance a comprehensive set of reskilling courses that are targeted to different groups of workers from the carbon-intensive industries. The reskilling schemes should come hand in hand with job placement initiatives that will finance the integration of laid-off workers in alternative businesses by covering the companies’ additional labour costs for a limited amount of time.
• **Professional development and education:** There is a need for further support to create favourable training conditions for young people, particularly in fields related to low-carbon technologies. This will prepare the future workforce for the growing industries and prevent the increase in regional emigration trends.

• **Definition of vulnerable groups:** A clear definition of “affected” and “vulnerable groups” is urgently needed as the measures defined in the TJTP do not currently address the risks related to equality of opportunity facing the family members of workers directly employed in the coal and carbon-intensive industries; as well as the vulnerable energy consumers who might be disproportionately hurt by the potential increase in power prices as a result of the coal phaseout, as well as the most vulnerable communities in the districts, which are indirectly dependent on the carbon-intensive activities.

In order to effectively address the needs, concerns, and challenges of the district, the Stara Zagora TJTP must take a more comprehensive approach to addressing the three pillars of an effective just transition strategy. Specifically, it is essential for the government to prioritize an inclusive and evidence-based dialogue about the necessary regional economic transformation, as well as implementing an awareness campaign to counteract the prevalence of climate and just transition disinformation narratives in the public space. At the same time, it is imperative to develop a targeted strategy for improving the district’s alternative employment options and upskilling, particularly for those currently working in carbon-intensive industries. Instead of offering one-time compensation payments, incentives and programs should be created to encourage individuals to invest in and grow their careers in high value-added economic sectors.

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