



Regional Industrial Diversification in **Stara Zagora**

Placing EU CRiT START Support in a Strategic Context

Contact: secretariat@coalregions.eu

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EC-ENER-JUST-TRANSITION@ec.europa.eu

European Commission

B-1049 Brussels

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Section 1: Purpose of the Document

This document has been developed to provide:

- an overarching vision, narrative and set of objectives for the region's economic diversification, in pursuit of a Just Transition, which framed the START support;
- a rationale for the selection of three sectors for START analysis and the development of related reports i.e., Clean Hydrogen, Sustainable Agriculture and Mechatronics¹.

The report is based on a review and synthesis of existing national, regional and local strategies and policy documents. A summary and synthesis of these can be found in the annex.

Section 2: The context - A Unique Regional Economy at a Unique Time

The National Recovery and Resilience Plan of Bulgaria (NRRP), approved in May 2022, assumed that the coal-based electricity generation shall cease by 2038. This transition timeline is supported by the decision of the National Assembly in January 2023 and confirmed in the submission of the Territorial Just Transition Plan (TJTP) by the Bulgarian Government in September 2023. The TJTP was approved by the European Commission in December 2023.

This timeline is critical for Stara Zagora as the region dominates national electricity production given the concentration of the Thermal Power Plants (TPPs) and related lignite mines in the area. The coal from the mines amounts to about 30% of the total electricity generation in Bulgaria while the three main power plants provide 25-35% of the electricity Bulgaria uses².

The Maritsa Iztok energy complex and the economy of the region of Stara Zagora will be heavily affected by the energy transition. By 2026 it is estimated that around 12 000 jobs in the complex will need to be relocated to other economic sectors³. By 2038 another 15 000 jobs, at least, are expected to be affected as the coal phaseout is complete⁴.

The number of jobs affected by the transition is expected to amount to around a quarter (23.8%) of the total employment in the region. If family members of the employees and the indirect employment is added, over 100 000 people or about 30% of region's total population might be in one way or another affected by the planned closure or transformation of the traditional energy production industry⁴. The economic effect will be significant as the Gross Value Added (GVA) of the sectors B (extractive industries) and D (production and distribution of electricity, gas and steam)⁴ in the region amount to around 15% of the total regional GVA.

1. The selection of these three sectors was guided by the recipient, Stara Zagora RDA (SZ REDA). The categorisation "clean hydrogen" was used at the request of SZ REDA.

2. Za zemiata (2018). Just Transition in Bulgaria – Mission Possible for Maritsa Iztok Energy Complex? Available at: <https://bankwatch.org/wp-content/uploads/2018/11/Maritsa-Iztok.pdf>

3. Ministry of Energy of Bulgaria (2023). Territorial Just Transition Plans. Available at: https://www.me.government.bg/uploads/manager/source/VOP/TP/IPEN/JTPStZagora_en_02.08.23.pdf

4. NACE Rev. 2 classification

TABLE 1. EMPLOYMENT AND ECONOMIC SIGNIFICANCE OF THE MARITSA IZTOK ENERGY COMPLEX⁴

Indicative share of population at working age employed in the affected companies	Total affected jobs as % of the overall employed in the district (direct + indirect)	Share of GVA from sectors B (extractive industries) and D (production and distribution of electricity, gas and steam) as a % of total GVA
4.52%	23.80%	14.16%

Employment relating to the TPPs and the mines is concentrated in the communities of Stara Zagora, Galabovo and Radnevo. These three municipalities have the largest commuting workforces to the Maritsa Iztok complex, where the TPPs and mining activities are located.

TABLE 2. NUMBER OF COMMUTERS EMPLOYED IN THE MARITSA IZTOK COMPLEX (BY COMMUNITY)⁴

Municipality	District	Community workforce to the mines/TPPs
Stara Zagora	Stara Zagora	4400
Radnevo	Stara Zagora	2500
Galabovo	Stara Zagora	1400
Nova Zagora	Sliven	800
Yambol	Yambol	300-400
Simeonovgrad	Haskovo	300-400
Harmanli	Haskovo	300-400
Topolovgrad	Haskovo	300-400
Dimitrovgrad	Haskovo	100-200
Haskovo	Haskovo	100-200
Elhovo	Yambol	100-200
Sliven	Sliven	100-200
Tundzha	Yambol	100-200

The city of Stara Zagora, the region's administrative capital, is a diversified urban economy, whilst the municipalities of Galabovo and Radnevo are more rural with a narrower economic base.

Other key economic activities in the region, include military equipment, mechatronics, metal processing, and agriculture and food processing; all of which are premised on the supply of their products to markets outside the region. Along with energy production, agriculture is a particularly dominant and nationally notable sector,

providing a range of employment opportunities for low and medium skilled workers and providing essential inputs for the local, export driven food processing industry (e.g., in 2018 Stara Zagora was in the top 3 Bulgarian regions for agricultural employment).

The region's unemployment rate of 2.3% (2023) is one of the lowest in Bulgaria and the average annual salary (EUR 7,114) is comparable to the national average and is the highest in Bulgaria's South-East NUTS 2 Region.

The region's top three greenhouse Gas (GHG) sectoral emitters are Energy (including transport), industrial processes and product use (IPPU) and agriculture. They are therefore subject to and vulnerable to national measures in the Integrated National Energy and Climate Plan (INECP) to cut GHG emissions.

Two macro industrial and economic drivers will have a profound influence on the regional economy as it moves towards coal phase-out in 2038 - energy transition and the associated shift to a sustainable and circular economy. These interlinked drivers represent both a historic challenge and an historic opportunity for the economic development and diversification of the region.

- **Energy transition** - Increasing power demand in Bulgaria is projected to 2050 with electrification of heating, transport, and industry, as well as production of Clean Hydrogen. A tripling of RES capacity in the country by 2026 is envisaged, supported by new energy storage systems and support for Clean Hydrogen pilot projects.
- **Sustainability and the circular economy** – decoupling economic growth from resource use is an integral element of the European Green Deal promoted by the European Commission, and actively pursued at the national, regional and local levels. Under Bulgaria's Recovery and Resilience Plan, EUR 92 million (BGN 180 million) of grant funding is to be made available to SME's and mid-caps for projects accelerating the transition to a circular economy.⁵

Thus, the challenge for the regional economy is evident. There is a need to reduce GHG emissions and decarbonise the regional economy whilst keeping the region as a national industrial centre; economically outward facing with high added value sectors whilst, at the same time, maintaining a resilient, dynamic labour market that can provide varied employment opportunities (in terms of sectors, skills, remuneration etc.) for existing workers, particularly those affected by the transition, and new entrants.

However, in parallel, opportunities for the development and diversification of the regional economy are also evident. The current characteristics of the Stara Zagora economy could be transformed if the drivers noted above - energy transition and the associated shift to a sustainable and circular economy - are linked with innovation and investment. The region's Territorial Just Transition Plan (TJTP) notes:

"Stara Zagora region has a huge potential for a transition based on an integrated transformation of assets, which would enable the preservation of the region's energy profile, employment quality and added value on a regional basis through the implementation of large-scale investments and new high value-added industries in the field of green technologies, exploiting the potential of the available infrastructure, human capital and land. Additionally, the presence of developed educational infrastructure, including the Trakia University make Stara Zagora an extremely promising region for R&D and innovation in the field of new green technologies⁶. The main objective that should be supported by the TJTP is the assets based transition of the region to carbon neutral sectors.... These assets include the large, consolidated area of land⁷, the strongest power grid in the country, the high technical skills of the workforce, the transport infrastructure, highly valuable strategic location, and others. These assets should help the region to turn into a carbon neutral industrial centre - both in terms of net zero processes and industries that serve future carbon neutrality."

In this context, the TJTP for the Stara Zagora region foresees targeted support for local businesses with a focus on ensuring that they can adapt and integrate into the value chain of new economic activities. Indicative sectors that will be prioritised for support include mechatronics, chemical industry, agriculture, industry ICT solutions, electrical components manufacturing and green energy. Additionally, support will be given to R&D activities in SMEs and large enterprises related to their product specialisation in terms of a circular and climate-neutral economy, including promoting cooperation between the academia and businesses (e.g., through innovative technological centres) and the transformation of scientific outputs into innovative products, systems, and services.

5. The funds can be used to purchase machinery, equipment or software to help limit environmental damage, to support company investments in reducing waste generation, to limit the use of plastic products and introduce alternative raw materials, including of biological origin, and to improve environmental standards. (Source: <https://seenews.com/news/bulgaria-launches-92-mln-euro-circular-economy-grant-829584>)

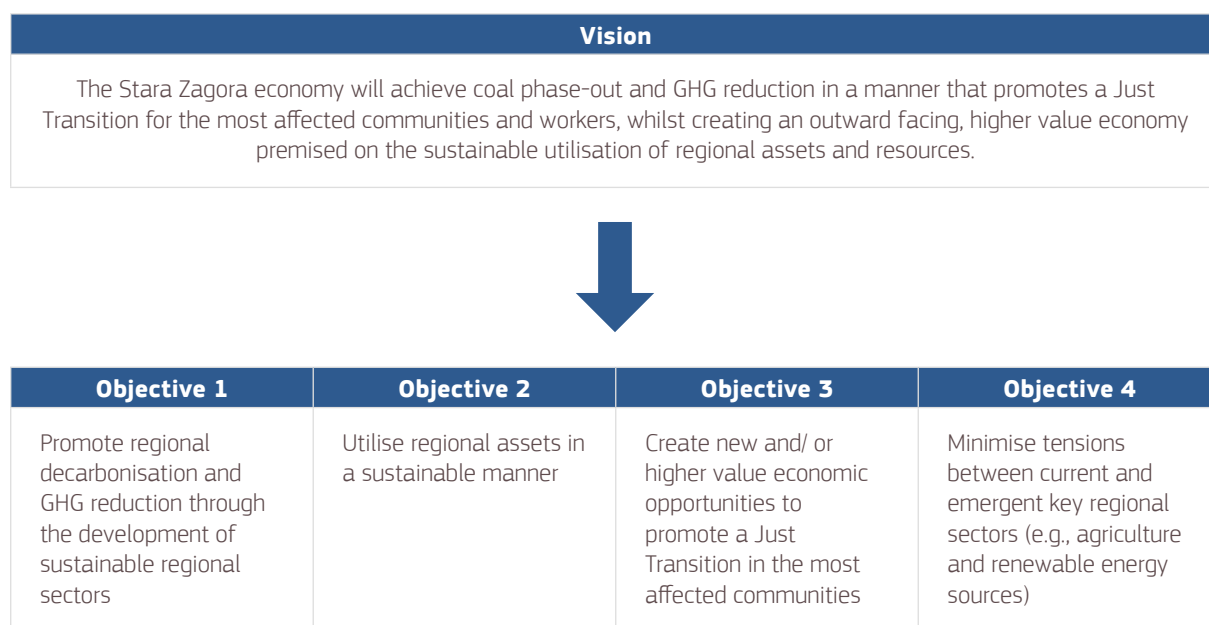
6. E.g., Trakia University has specialisms in Agriculture and Veterinary medicine.

7. E.g., the Maritsa Iztok Complex and associated brownfield sites represent an opportunity for renewable energy; the region is in the top quartile of arable land per NUTS III areas

Section 3: Vision and Objectives

Considering the profound economic and industrial change, which is unfolding for the regional economy, this report offers a Vision for the Stara Zagora economy in 2038, one informed by the review and synthesis of existing national, regional, and local strategies and policy documents (see annex). From this vision, four enabling policy objectives flow.

To attain this vision and the related four objectives, existing regional sectors will need to adapt and diversify, whilst new sectors, particularly in relation to clean energy, need to emerge. This is a long-term journey but given the availability of EU funding, including the Just Transition Fund, it is one that must start imminently.



Section 4: Rationale for Sector selection

To support this journey of sectoral change, START, in collaboration with the Stara Zagora Regional Development Agency (SZ REDA), focused its resources, on developing three sector-specific reports. This work was guided by the vision and objectives identified above and the two macro drivers of economic and industrial change; energy transition and the associated shift to a sustainable and circular economy. Three sectors were selected for review:

- Clean Hydrogen
- Sustainable Agriculture
- Mechatronics

The rationale for their selection is noted below, in terms of strategic fit; scale of economic opportunity; and relationship with other industries.

1. Clean Hydrogen

Strategic Fit

The development of Hydrogen accords with the EU Hydrogen Strategy, the Bulgarian NRRP (Pillar B – Green Bulgaria, B1 Low Carbon Economy) and Bulgaria's INECP, and the National Road Map for Hydrogen Development. It also relates to Stara Zagora's TJTP (Pillar 1.5, Support for the integrated use of Green hydrogen) and the Municipality of Stara Zagora's Integrated Development Plan. There is evident correspondence with the four objectives noted above.

Scale of economic opportunity

Assets such as energy and transport infrastructure and the technical skills of the workforce should help the region to turn into a carbon neutral industrial centre based on renewable energy sources, particularly Clean Hydrogen. Production of hydrogen can be centred on the current coal production areas, including future reclaimed land. The region has the potential to be an EU Hydrogen hub producing Clean Hydrogen for thermal application (heating, electricity, industrial processes, etc.) as well as hydrogen cells for powering vehicles or other devices. The region aims to attract one or more large manufacturing investors to the area to establish local manufacturing facilities at scale for production of electrolyser systems, fuel cells, charging stations, fuel-cell propulsion systems, software systems etc.

Relationship with other industries

The development of Clean Hydrogen has significant potential to attract further investors in the Clean Hydrogen value-chain i.e., industries that would

consume Clean Hydrogen as a resource, such as chemicals, fertilizers, transport (with an evident link to the agricultural sector). The development of Clean Hydrogen can also potentially link the Stara Zagora economy with other industrial consumers nationally and internationally.

In summary, the sector can make a major positive impact on the diversification of the three sub-regional economies most exposed to coal phase out - Galabovo, Radnevo and Stara Zagora - thereby promoting a just transition for these communities, one based on sustainable economic practices.

2. Sustainable Agriculture

Strategic Fit

Sustainable Agriculture and food production is a key element of the European Green Deal and is central to the Bulgarian NRRP (Pillar B – Green Bulgaria, B2 Sustainable Agriculture) and Bulgaria's INECP. It is also a strategic priority sector in Stara Zagora's TJTP (Pillar 3, Diversification of the local economy) and figures prominently in the Integrated Development Plans of Galabovo and Radnevo (two of the three municipalities most affected by coal phase-out).

As noted in the TJTP background document, the region's sizeable agricultural territory is "the reason to consider the agricultural sector as one of the main drivers to climate neutrality transitions and an area for interventions." Also, there is evident policy correspondence with the four objectives noted above.

Scale of economic opportunity

Stara Zagora represents one of the largest regional centres of agriculture in Bulgaria. The economic opportunity relates to creating a dynamic sector - one currently exposed and vulnerable to national GHG reduction targets - premised on smart agriculture and high value-added products that broadens and strengthens a key pillar of the regional economy and creates higher value, secure employment.

Relationship with other industries

The agricultural sector represents a raw material base for sectors such as modern food and beverage industries, bioeconomy (drugs based on herbal plants and oils, bioplastics etc.), food additives and the circular economy.

In summary, Sustainable Agriculture can make a major positive impact on the diversification of the three sub-regional economies most exposed to coal phase out - Galabovo, Radnevo and Stara Zagora - thereby promoting a just transition for these communities, one based on sustainable economic practices.

3. Mechatronics

Strategic Fit

In the national Smart Specialisation Strategy, Mechatronics is identified as one of the two priorities for Stara Zagora, the other being ICT⁸. Based on analysis of the region's strengths, foresight of major trends and regional stakeholder feedback, the TJTP recognises Mechatronics⁹ as a sector with significant potential for employment and GVA creation for the region (Pillar 3, Diversification of the local economy). The top three sub-sectors for Stara Zagora under the larger Mechatronics category are: *Manufacture of computer and communication equipment, electronic and optical products; Manufacture of fabricated metal products, except machinery and equipment; and Manufacture of machinery and equipment, general and special purpose*. Prioritizing Mechatronics can align with the National Strategy for SMEs 2021-2027¹⁰ of Bulgaria which recommends the region of Stara Zagora to specialize in manufacture of machinery and equipment. The sector also fits with the NRRP's Pillar A, Innovative Bulgaria (Smart Industry)¹¹.

Scale of economic opportunity

The economic profile of Stara Zagora shows an existing industrial base that covers many sectors and activities relating to the fields of mechanical and electrical engineering, electronics, and computing, the intersection of which forms the basis for developing a regional specialisation in the field of Mechatronics. This, in turn, could provide an impetus for innovation and modernisation of production processes, products and services of the existing manufacturing/processing industrial base of the region, alongside opportunities for new specialist enterprises delivering mechatronic related technology services and solutions.

Relationship with other industries

Mechatronics is not a sector *per se* but, rather represents a trans-versal technological trend built around the combination and integration of mechanical, electrical, and digital systems. These systems have applications across all sectors and, notably, for enhancing productivity in sectors that are seen as priorities for the development and diversification of the regional economy of Stara Zagora; for example, agriculture (e.g., agricultural drones, autonomous agricultural machinery), food

processing (e.g., automated production and quality assurance systems), renewable energy (e.g., intelligent energy systems and smart grids) etc. From a development perspective, fostering the application of Mechatronics calls for collaboration across and between industrial sectors and disciplines, to allow for the emergence of an innovative cluster(s) or hubs of mechatronic-related activities.

In summary, drawing on the existing knowledge and productive assets and competences of the Stara Zagora region, Mechatronics is promoted as key technological trend for boosting value added and high-quality employment in the region. It therefore presents a strategic axis for modernisation, specialisation, and expansion of the existing industrial base.

8. The ICT sector is covered by the EC's (DG REFORM) support for Entrepreneurship, Innovation and Digitisation in Stara Zagora

9. The TJTP and other policy documents identify numerous and diverse sub-sectors in Mechatronics, making detailed cross-sector analysis and prescription challenging.

10. National Strategy for SMEs 2021-2027. Available at: <https://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=1403>

11. Although an absence of research capability regarding Mechatronics at Trakia University is documented.

Annex 1: Review and synthesis of existing regional strategies and supporting information

The table below presents a review of existing strategic and planning documents at regional or municipal level which might have impact over the just transition process in the district of Stara Zagora.

REVIEW OF EXISTING REGIONAL STRATEGIES
<p>INTEGRATED TERRITORIAL DEVELOPMENT STRATEGY FOR SOUTH-EASTERN REGION (SER) BURGAS, STARA ZAGORA, SLIVEN, YAMBOL</p> <p>Vision:</p> <p><i>The South-Eastern region – attractive place for life and business, possessing preserved natural and cultural heritage, effectively utilizing its potential to achieve sustainable and balanced socio-economic development</i></p> <p>Strategic priorities:</p> <ol style="list-style-type: none"> 1. Support the sustainable and intelligent economy of SER 2. Improving people's educational level and quality of life in SER 3. Territorial cohesion and integrated development of urban, rural and coastal areas <p>Review:</p> <p>The strategy deals with the priorities for the Southeastern NUTS 2 planning region consisting of the districts of Burgas, Stara Zagora, Yambol and Sliven. The largest district in the region is Burgas which is a coastal region with specific characteristics. The elaboration of the strategy is laid down in the Regional Development Act. Governance is ensured by the Regional Development Council at NUTS 2 level.</p> <p>Each of the strategic priorities above is broken down into Objectives (see Annex 2). The document is detailed with regard to the Objectives and is focused and coherent.</p>
<p>STARA ZAGORA TERRITORIAL JUST TRANSITION PLAN (DRAFT)</p> <p>Vision:</p> <p>No stated.</p> <p>Pillars:</p> <ol style="list-style-type: none"> 1. Industry for sustainable energy solutions 2. Social and employment support 3. Diversification of the local economy <p>Review:</p> <p>The pillars above are further broken down into Measures (see Annex 2). The list of measures is not detailed. Many stakeholders question the overall quality of the TJTP and the process of its preparation.</p>

REVIEW OF EXISTING REGIONAL STRATEGIES

INNOVATION STRATEGY FOR SMART SPECIALIZATION OF BULGARIA

Vision:

Making Bulgaria innovative, smart, green, digital and connected country through a new common scientific research policy, innovation and technology, as well as increasing international and cross-sector collaboration and intensive use of data for accelerated specialization in products and services with high technological and scientific intensity and significant economic impacts for sustainable competitiveness, technological transformation of the economy, increase in resource efficiency and digitization.

Thematic areas (for Stara Zagora district):

1. ICT
2. Mechatronics and microelectronics

Review:

The document is specific and focused. Its purpose is to assign priorities for each region in Bulgaria in the field of innovation only based on each region's comparative advantages. For the district of Stara Zagora it prescribes two priorities (thematic areas): ICT; Mechatronics and microelectronics.

STARA ZAGORA DISTRICT DEVELOPMENT STRATEGY 2014-2020

Vision:

The district of Stara Zagora – region of sustainable development, balanced economy based on knowledge and high standard of living resulting from smart use of available resources and human resources development

Strategic objectives:

1. Closing the gap with the average EU development levels through investments in knowledge economy, HR and technical infrastructure
2. Reducing inequality between municipalities through mobilisation of local resources (social cohesion)
3. Improving the coordination and partnership when implementing planning documents, development of project implementation capacity

Review:

The Stara Zagora District Development Strategy 2014-2020 concerns the district of Stara Zagora at NUTS 3 level. The document expired in 2020 and hasn't been renewed. The strategic objectives above are further broken down into Priorities and Specific objectives (see Annex 2). The document is not focused, it contains too many Priorities and Specific objectives.

MUNICIPALITY OF STARA ZAGORA INTEGRATED DEVELOPMENT PLAN 2021-2027

Vision:

Stara Zagora - modern, prosperous municipality with an innovative and competitive economy, with balanced territorial development, quality services and an attractive place to live for its citizens, using the local potential as well as the rich natural and cultural-historical heritage.

Strategic objectives:

1. Competitive economy
2. Quality of life
3. Innovation, education and growth
4. Green and climate neutral municipality

Review:

The Strategic objectives above are further broken down into Specific objectives (see Annex 2) and measures. The document is fairly detailed. The elaboration of an integrated development plan of each municipality is laid down in the Regional Development Act.

REVIEW OF EXISTING REGIONAL STRATEGIES

MUNICIPALITY OF GALABOVO INTEGRATED DEVELOPMENT PLAN 2021-2027

Vision:

Galabovo municipality – better place to live with clean air, improved infrastructure and a modern vision, built on sustainable business and investments, full social and professional realization of human potential combined with preserved natural and cultural-historical heritage

Strategic objectives:

1. Stimulating the development of sustainable business and investment and promoting entrepreneurship
2. Improving the business environment, sustainable territorial development and connectivity
3. Protecting the cultural and historical heritage and tourism development
4. Good governance and territorial cooperation

Review:

The Galabovo Integrated Development Plan 2021-2027 is the only document which mentions “clean air” as part of its vision. The document specifies the problem with the exceedances of SO₂ and respiratory health problems in the municipality. The document is fairly detailed. The Strategic objectives above are further broken down into Priorities (see Annex 2) and measures. The elaboration of integrated development plan is a legal requirement laid down in the Regional Development Act.

MUNICIPALITY OF RADNEVO INTEGRATED DEVELOPMENT PLAN 2021-2027

Vision:

Radnevo municipality – an attractive place to live, an ecologically clean municipality with preserved natural and cultural heritage, sustainable economic development and smart growth, labor and social realization and a high standard of living

Strategic objectives:

1. Achieving balanced economic growth through support for development of competitive economy based on local potential and advantages
2. Protecting and developing the human capital and ensuring high level quality of life
3. Integrated and balanced development of the territory and environmental protection
4. Good governance

Review:

The Strategic objectives above are further broken down into Priorities (Annex 2) and measures. The document is fairly detailed. The elaboration of integrated development plan is legal requirement laid down in the Regional Development Act.

REVIEW OF EXISTING REGIONAL STRATEGIES

NATIONAL ROAD MAP FOR HYDROGEN DEVELOPMENT

Vision:

Bulgaria will promote the development and use of hydrogen technologies for making progress on the implementation of climate goals, the reduction of greenhouse gas emissions, stimulating the transition to higher and efficient use of renewable energy sources and towards a circular economy.

Strategic objectives:

1. *Using hydrogen to decarbonize the economy and as an alternative of other energy sources*
2. *Creating capacity to use the potential of hydrogen technologies*

Review:

The Strategic objectives above are further broken down into Operational objectives:

- (1) Promoting the consistent and effective introduction of technologies for the production, transportation and use of green hydrogen in industry, energy and transport;
- (2) Intensification of research and innovation;
- (3) Creation of conditions for education and training for new professions and work places and for an informed user and administrative environment related to hydrogen technologies
- (4) Stimulation of European and international cooperation

The document reviews the conditions for developing hydrogen technologies in Bulgaria and provides guidance for the future efforts in the field. The document specifies that hydrogen is laid down in the TJTPs. Stara Zagora is mentioned in terms of the Hydrogen valley initiative, the bLion project and the potential to apply hydrogen in urban transport. Trakia University is included as one of educational institutions in Bulgaria which can develop specialists in the field of hydrogen and/or to carry out related R&D.

STRATEGY FOR DEVELOPMENT OF THE BIOECONOMY IN STARA ZAGORA REGION

Strategic goals:

1. *Development of the local bioeconomy based on the key factors and advantages for the region*
2. *Creating conditions for development and strengthening of sectors on a biological basis, promoting the introduction of new technologies*
3. *Increasing the economic competitiveness of the region and building an environmentally conscious society*

Priorities:

1. *Production of food and organic products*
2. *Forestry*
3. *Effective resource management*
4. *Creating networks, clusters and shared value*
5. *Coherence between the bioeconomy and rural development*
6. *Digitalization*

Review:

The Strategy for Development of the Bioeconomy in Stara Zagora Region is a deliverable of an EU-funded project. After identifying the strategic objectives for bio-economy in the region, the document further points out the priority areas for the sector:

- Production of food and organic products
- Forestry
- Effective resource management
- Creating networks, clusters and shared value
- Coherence between the bioeconomy and rural development
- Digitalization

The document does not provide status quo analysis of the bio-economy sector in the region as well as explicit reasoning why this sector should be prioritized.

REVIEW OF EXISTING REGIONAL STRATEGIES

NATIONAL RECOVERY AND RESILIENCE PLAN (NRRP) OF THE REPUBLIC OF BULGARIA

Pillars:

1. *Innovative Bulgaria*
 - Education and skills
 - Research and Innovation
 - Smart Industry
2. *Green Bulgaria*
 - Low-carbon Economy
 - Biodiversity
 - Sustainable Agriculture
 - Digital connectivity
 - Transport Connectivity
 - Local development
3. *Fair Bulgaria*
 - Business environment
 - Social inclusion
 - Healthcare

Review:

NRRP is the binding document of Bulgaria's commitment to reducing GHG emissions from coal by 40% by 2026 and the final phase-out of the lignite mines by 2038. The GHG reductions will cover the coal-fired power plants in the Maritsa Iztok energy complex in the district of Stara Zagora. The Green Bulgaria pillar of the NRRP outlines potential sectors with potential to play major role in the transition process. Some of the them should be considered in the context of this technical assistance.

INTEGRATED PLAN IN THE FIELD OF ENERGY AND CLIMATE OF BULGARIA 2021-2030

Objectives:

1. *Stimulation of low-carbon development of the economy*
2. *Development of competitive and secure energy*
3. *Reducing dependence on fuel and energy imports*
4. *Guaranteeing energy at affordable prices for all consumers*

Review:

The Objectives above are further broken down into National priorities. The document also describes Bulgaria's commitments in energy and climate against the 5 EU Dimensions: Decarbonization, Energy efficiency, Energy security, Internal energy market, Scientific research, innovation and competitiveness. A set of measures are assigned to each of the 5 dimensions.

SYNTHESIS

Economic growth is an overarching priority found in virtually all strategic documents. In particular, achieving sustainability in economic development is a priority in the Integrated Territorial Development Strategy for the South-Eastern NUTS 2 region as well as in the development plans of some of the municipalities in the region. Some strategies link the economic growth specifically to **smart specialization**. The TJTP puts forward the *Diversification of the local economy* as one of the pillars of the transition of Stara Zagora from coal-intensive industries.

Sustainable energy solutions is a stated priority objective in the TJTP. The municipality of Stara Zagora's integrated territorial development plan includes a measure related to the *Support for sustainable energy transition, use of alternative energy sources. Improving the energy system* is also a measure laid down in the Stara Zagora District Development Strategy 2014-2020.

Hydrogen features consistently in several documents. The Integrated Plan in the Field of Energy and Climate of Bulgaria 2021-2030 acknowledges the increasingly important role of hydrogen and prioritizes investigating the potential of electrochemical energy sources such as batteries, hydrogen technologies and fuel cells as part of the *Scientific research, innovation and competitiveness* dimension of the plan. In its turn, NRRP includes a specific investment priority to *support pilot projects for production of hydrogen and biogas*. In region-specific context, the TJTP for Stara Zagora mentions that the **hydrogen-based economy is considered as a strategic priority for the transformation of the region**. Moreover, the TJTP points to: (1) *Support scheme for the establishment of hydrogen value-chain capacities* and (2) *Support scheme for the utilisation of clean hydrogen* as two of the specific measures of the region's just transition action process. Hydrogen initiatives such as the B-Lion project and the clean Hydrogen Valley in which Stara Zagora is involved with are also mentioned in the document. Trakia University is included as one of educational institutions in Bulgaria which can develop specialists in the field of hydrogen and/or to carry out related R&D.

The sector of **Mechatronics** is recognized as having strong economic potential for the region. The Strategy for Smart Specialization of Bulgaria recommends *Mechatronics and microelectronics* as the two sectors the region of Stara Zagora should focus on in its strive for smart growth. Taking into account that Mechatronics is a comprehensive category which can cover a variety of sub-sectors such as production of base components, artificial intelligence, new materials etc., it should be noted that the Strategy for Smart Specialization of Bulgaria does not point out to specific sector(s) within

the larger Mechatronics branch which Stara Zagora should focus on. The underlying analyses conducted for the elaboration of the TJTP rate **Mechatronics** as the **highest scoring potential driver** for economic growth for Stara Zagora in the context of transition from coal. The ranking is based on assessment of the strengths and characteristics of the region, review of national and European foresight analysis as well as input by stakeholders and expert opinions.

Agriculture is a sector seen as priority taking into account the region's natural resources and its traditions. Agriculture can be found as a priority in the Stara Zagora District Development Strategy 2014-2020, the Integrated Territorial Development Strategy for the South-Eastern NUTS 2 region and in the development plans of the municipalities of Galabovo and Radnevo. The region of Stara Zagora has a dedicated **Strategy for Development of the Bioeconomy**. In its priority for *Effective resource management*, the strategy discusses the reclamation of post-mining landscapes and their underutilized capacity for agriculture.

The sector of **Tourism** emerges as a priority in some strategies as the region of Stara Zagora possesses natural and cultural heritage capable to ensure good tourism development. Promoting tourism can be found in the Stara Zagora District Development Strategy 2014-2020, the Integrated Territorial Development Strategy for the South-Eastern NUTS 2 region as well as in the development plans for the all municipalities: Stara Zagora, Galabovo and Radnevo. Tourism is even mentioned as a beneficiary sector from ICT development in the Innovation Strategy for Smart Specialization.

Apart from the vertical sectors such as tourism and agriculture, the territorial development plans of Stara Zagora, Galabovo and Radnevo municipalities include **horizontal priorities** such as improving the quality of life, education, access to social services, improving the business environment and territorial cooperation.

Virtually all strategic plans (at regional, district or local level) include priorities related to ICT, innovation or digitalization. Evidently, ICT is seen as having high potential to foster the development for the region.

The Integrated Territorial Development Strategy for South-Eastern Region as well as the development plans for the municipalities of Stara Zagora, Galabovo and Radnevo also include priorities related to **environmental protection**. Galabovo and Radnevo are the municipalities most affected by pollution coming from the mining and energy producing activities in the region.

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