

Private Sector Recommendations for the Green Economy in BiH

Background

Climate change and environmental degradation pose significant global challenges. In 2020, the European Union (EU) adopted the ambitious European Green Deal strategy, aiming to achieve climate neutrality by 2050 while promoting economic growth. This growth model is based on a dual transition—green and digital—that is fair and inclusive for all European citizens. The green transition aims to promote the adoption of green technologies and sustainable industrial production, reducing emissions, protecting the environment, and safeguarding public health. Meanwhile, the digital transition seeks to enhance innovation and economic productivity, contributing to green goals through smart solutions in the circular economy.

The Green Agenda for the Western Balkans serves as the instrument for implementing the European Green Deal in the region. By signing the Sofia Declaration on the Green Agenda for the Western Balkans in 2020, Bosnia and Herzegovina committed to a series of concrete actions and measures aimed at low-carbon development and economic growth in line with sustainable development principles.

Until recently, the green transformation of industrial production focused exclusively on large industrial plants due to their significant environmental footprint. However, a recent analysis by the International Trade Centre (ITC) revealed that small and medium-sized enterprises (SMEs) collectively contribute to 50%¹ of greenhouse gas emissions. According to the European Commission's report, this share is as high as 63%² in the EU. Given their numbers, SMEs have an overall environmental footprint comparable to that of industrial

giants, underscoring the importance of transforming and adopting green business models in these companies as well³. Green business models refer to sustainable and environmentally friendly ways of conducting business, which include resource efficiency, cleaner production, and a circular economy.

The Organization for Economic Cooperation and Development (OECD) predicts that the world economy will quadruple by 2060, creating additional pressure on material and energy resources as well as the environment⁴. Developing economies, such as Bosnia and Herzegovina (BiH), which lack clearly defined policies supporting decarbonization and circularity, will likely experience the greatest consequences. An analysis of the state of energy efficiency in BiH from 2010 to 2021 indicates that the adoption of energy efficiency measures significantly lags behind that of EU countries. One reason for this is the insufficient awareness among decision-makers in SMEs about the opportunities provided by energy efficiency measures and projects. Although companies acknowledge the importance of energy efficiency for business, there are few concrete projects that bring systemic improvements⁵.

The energy crisis and the COVID-19 pandemic have exposed the vulnerabilities of Bosnia and Herzegovina (BiH) SMEs in the metal and wood sectors to external factors that threaten production and negatively impact business volume. As a result, the need to transition towards greener, more inclusive, and more innovative industrial production has become a priority to maintain a competitive market position. Export-oriented companies in these sectors were among the first to integrate green business models to stay competitive and meet the requirements of EU customers. In doing so, they became leaders and drivers of green trends in BiH, demonstrating

the economic, environmental, and social benefits of this approach⁶. According to interviews with companies participating in the *COVID-19 Investment Response project: Green Recovery support for the metal and wood industry in Bosnia and Herzegovina*⁷, the most implemented measures focused on energy efficiency and renewable energy sources. These measures included improving production process efficiency, adopting more efficient lighting, using less energy-demanding equipment, and investing in solar panels. This shift was driven by the imminent introduction of Carbon Border Adjustment Mechanisms (CBAM), which will affect the export performance of energy-intensive industrial sectors. Companies faced financial constraints and a shortage of professional expertise in implementing such projects independently, primarily due to a lack of highly educated staff with the necessary knowledge and experience for the green transition. Additionally, the understanding of legally prescribed procedures varied, especially regarding the procurement of photovoltaic power plants. The latest SME Policy Index for BiH report also identified a lack of financial incentives and other non-financial tools for the green transition of SMEs⁸. There is an increasing number of companies interested in digitizing their production processes, as evidenced by a growing focus on investing in internal training to enhance employees' digital skills⁹. However, the high cost of implementing digital solutions and the difficulty in finding quality service providers pose significant challenges to the successful implementation of these initiatives.

Technical and financial support to BiH SMEs is primarily provided by international donors and financial institutions such as GIZ, the EU, UNDP, EBRD, KfW, FIM, and EIB through programs aimed at developing green business models. Concurrently, relevant entity development strategies have acknowledged the importance of green development for SMEs and plan to allocate annual funds to support this sector. However, these strategies lack clarity on the approach to providing long-term support necessary for transition processes to yield substantial change. Examples of good practice, such as the support from the Government of Tuzla Canton and the relevant Ministry of Economy of Tuzla Canton, demonstrate how local initiatives can foster the development and competitiveness of SMEs through systemic support and incentive measures. One such incentive instrument is financial assistance, including subsidies to micro, small, and medium-sized enterprises for procuring equipment, tools, and materials, as well as for digital transformation. Additionally, support is

extended to crafts chambers and craftsmen's associations, further encouraging local economic development.

Another important aspect is the incomplete legal framework and the lack of a clear vision from decision-makers, which makes investing in greener production processes and eco-innovation risky. According to OECD findings from 2022, entities in Bosnia and Herzegovina support the green transition of SMEs through energy efficiency measures and environmental innovation, but other targeted environmental policies are missing¹⁰. EU regulations also affect BiH companies, customers, and suppliers in all areas of production. The wood and metal sectors, in particular, are heavily influenced by aspects of the emissions trading system, transparency of CO₂ emissions, DDS requirements, and the requirements of sustainable or green chemistry and waste management. Export-oriented BiH companies face pressure to adapt to new EU regulations and domestic legislation, which differ significantly in complexity. They must also anticipate future market demands and necessary technological innovations to stay competitive. Government institutions should improve existing policies to create pressure on companies to reduce their environmental impact while also providing incentives through support measures. Efforts are needed to further align with EU Directives related to renewable energy sources, energy efficiency, waste management, use of chemicals, consumption of natural resources, and sustainable forest management¹¹. This alignment will ensure transparency and sustainability throughout the value chain.

It is also noticeable that due to the demands of the EU and the global market, BiH SMEs are increasingly striving to improve their business by introducing green standards and labels that support the process of green transition. BiH adopts a voluntary approach to certification, permitting companies and organizations to certify themselves at their own discretion. BiH companies are most interested in certification according to international standards FSC, PEFC, ISO 14001, ISO 50001, CE marking and Green Dot, and in the wood and metal sector the most common are FSC and ISO 14001. Recently, there has been an increase in interest in ISO 50001 due to the energy crisis and the aspiration of companies to reduce energy consumption in their production processes. Several certification companies operate in Bosnia and Herzegovina, of which a significant number are large international certification companies that have their representative offices in BiH. The continuous promotion of green standards and their benefits plays a crucial role in increasing companies'

interest in certification. The biggest challenge for companies lies in securing financial resources to undertake the entire certification process and hiring staff to implement the required standards. Additionally, the absence of regulations and technical standards aligned with those of the EU necessitates efforts to adopt such measures, serving as an essential incentive for more widespread green certification.

Our position

■ SMEs need systemic support to enhance and facilitate the partially achieved transition to green business models

Unlike EU countries, where green policy is developed by competent institutions and strongly supported through specially designed programs, Bosnia and Herzegovina (BiH) lacks sufficient systemic support. This is primarily due to inadequately defined policies and support programs that would encourage and accelerate the green transition, as well as the inefficiency and capacity constraints of institutions to meet the growing demands of green economic development.

Leading BiH exporters are striving to align their business practices with the demands of European customers, which often favour the adoption of green business models. The wood and metal processing sectors in BiH, being largely export-oriented, are particularly challenged by the demands of the green transition. In BiH, there are good examples of companies that manage resources rationally, select sustainable materials, valorise waste streams, and reduce their carbon footprint by consuming energy efficiently and switching to renewable energy sources. Although the primary motive is to meet customer demands, the introduction of green business models has proven to reduce costs and increase resilience to market and regulatory changes. Through business relationships with EU customers, BiH companies gain access to knowledge and experience in applying green technologies. However, the challenges of the green transition they face are largely managed through their own capacities.

Domestic policymakers play a key role in determining the direction that will bring economic prosperity to the state and market competitiveness for enterprises. SMEs face legal, administrative, and technical barriers when planning and implementing investments in projects for electricity production from renewable sources. Legal barriers include an inadequate legal framework for these projects, particularly in spatial planning and land use.

Administrative barriers consist of a lengthy process for obtaining necessary permits and numerous steps in the process of building renewable energy power plants. Technical barriers involve a mismatch between the capacity of distribution and transmission networks and the potential of renewable energy sources, often leading to the abandonment of such investments.

Incentive mechanisms for the production of electricity from renewable sources differ between entities in BiH. Currently, the Federation of BiH (FBiH) has feed-in tariffs, while the Republika Srpska (RS) has both feed-in tariffs and feed-in premiums. However, as there are no current quotas for renewable electricity production, these mechanisms are not applicable in any part of BiH. Following the adoption of new laws on renewable energy sources and electricity in both entities, it is expected that bylaws will be introduced to establish new incentive mechanisms for renewable electricity producers. Additionally, the lack of established prices for CO₂ emissions trading in BiH hampers efforts to increase energy efficiency and innovation in this area.

BiH companies still possess certain comparative advantages over companies in the EU, such as low energy prices, which diminishes their motivation to actively seek production solutions aligned with sustainability principles. Achieving circularity in waste flow management is further challenged by the lack of adequate infrastructure for recycling and reuse of waste, insufficient incentives, and sometimes the lack of willingness to establish sustainable waste management systems.

Harmonizing domestic legislation with EU regulations would facilitate the integration of BiH businesses into the EU market. New regulations should provide clear guidance to businesses on navigating the green transition properly, enabling them to make informed decisions about necessary investments in green business models.

Entity and Brčko District (BD) BiH Economic Development Strategies exist, but they lack clarity on the approach to long-term support needed for transition processes to result in meaningful changes. There has not been enough emphasis on developing the value chain, supporting innovation, and connecting industrial sectors in joint innovations and transition processes. Cross-sector coordination and clustering will be crucial for a successful green transition. This highlights the need for thoughtful policies and support programs to encourage knowledge dissemination, strengthen internal capacity, and promote the adoption of green business practices among SMEs.

The innovation capacities of the economic sector should be developed through support for skills development and technological improvements based on *the quadruple helix* model, which involves the synergistic action of universities, industry, governments, and the public. Such partnerships are key to making progress in a sustainable and inclusive manner.

In this process, policymakers will also need to strengthen their knowledge and capabilities to adequately plan, support SMEs, and enable the desired change. Their capacities must be enhanced to understand the challenges of the green transition, identify necessary actions to overcome these challenges, integrate these aspects into existing development strategies, and establish inclusive, innovative, sustainable, and resilient practices. While individuals in government institutions are motivated to improve their own capacities, it will be essential to bolster their motivation for systemic change.

■ **Sustainable transformations towards green business models require continued access to sources of funding through clearly designed long-term green economy support programmes for SMEs**

Financial support for the green transition of SMEs in BiH mainly comes from donors through various programs, which is a temporary solution limited by the duration of these programs. It is necessary to provide long-term sources of funding that can result in sustainable changes. Short-term project financing does not create an environment for the strategic and continuous development of the green economy but instead follows the current interests of donors.

More demanding projects require significant financial resources, which SMEs usually cannot self-finance. Support for such projects is sought from government institutions, environmental and energy efficiency funds, and development and commercial banks. Currently, these entities do not have clearly defined support programs. While certain public calls include items related to the development of green business models—such as digitalization, procurement of energy-efficient equipment, and production of energy from renewable sources—the areas of support, criteria, and methods for monitoring the success of approved projects are not sufficiently specified. The resources normally available are insufficient to implement more demanding projects. Creating affordable financing mechanisms, such as subsidies, loans with favorable conditions, or grants, would be crucial for SMEs to start the transformation towards green business models. Additionally, education on available financial

instruments and support in developing business plans involving green initiatives can generate interest among companies in adopting a sustainable approach.

■ **Higher education and occupational classification should be aligned with the needs of employers, especially the private sector (industry, agriculture, service sector, etc.) so that society can respond more effectively to the needs of the green transition**

One of the key challenges for industries is the lack of quality staff with the knowledge and experience needed for the green transition. Current higher education in BiH is not fully aligned with industry needs and market requirements. Newly graduated personnel often lack critical and innovative thinking, digital skills, and the ability to analyze the multidisciplinary aspects of the transition.

Higher education in BiH requires urgent reform and adaptation to market demands, aiming to produce personnel ready to work in the evolving market. This involves modifying curriculum content, learning outcomes, and teaching methods so that acquired competencies match the current and future needs of the economy and society. The reform should focus not only on the content of study programs but also on modernizing teaching methods to ensure desired learning outcomes and competencies.

Higher education institutions and the businesses must collaborate to understand industry needs, solve practical problems through teaching, and create conditions for joint development and innovative research. Current research capacities are modest, with limited equipment, laboratories, and software. Competent departments for higher education and science should support the development of research capacities for the green transition. Programs for the development of science and competent ministries should monitor and support, through focused scientific research programs, the initiatives of other departments related to the green transition (e.g., Strategy for Climate Change Prevention and Low-Emission Development, Green Agenda for the Western Balkans, Roadmap for Circular Economy, National Climate and Action Plan, Smart Specialization Strategy S3, and others).

The green transition requires a comprehensive understanding of economic aspects, technical solutions, legal frameworks, and social implications, necessitating a multidisciplinary and intersectoral approach. There are few examples of joint studies conducted by members of

one or more universities, which ensures multidisciplinary. Joint study programs and thematic summer schools for students from different faculties are successful models for achieving this multidisciplinary.

Harmonizing the classification of occupations with market needs and new educational programs is of utmost importance. Without such harmonization, it becomes challenging to indicate on diplomas the specific area in which the degree was obtained, making it difficult for graduates to demonstrate their qualifications clearly.

■ **Digitalization and technological innovation are an indispensable element in greening business models and the entire sector**

The digital transformation holds significant potential to boost the productivity and competitiveness of SMEs. The adoption of digital tools enables businesses to save time, reach customers more easily, drive innovation, and adopt more flexible practices. SMEs in BiH hold 68% of jobs and contribute about 62% of the total value in the country, making the digitalization of this sector a key factor for further development and maintaining the current growth rate¹². The COVID-19 pandemic accelerated the adoption of digital technologies, prompting SMEs to increasingly adopt digital tools. For example, in 2020, 10% of SMEs in BiH started or increased their efforts to sell goods online, aligning with the EU average of 11%¹³. Despite this positive trend, SMEs in BiH still lag behind their EU counterparts in adopting more advanced digital transformation technologies.

To increase competitiveness, SMEs in BiH show the most interest in improving business processes using ERP (Enterprise Resource Planning) software. Many of these companies also plan to introduce energy management procedures, which require digitized monitoring systems. The digitalization of production process monitoring, using sensor networks, enables the integration of business and technical information systems. Sensors and corresponding software for digitized energy management systems (EMS) are now available in BiH. For the successful implementation of digital solutions, it is necessary to develop a market for local providers capable of offering adequate digitalization services to SMEs. Currently, available foreign providers offer their services at significantly higher prices than companies in BiH can afford.

Additionally, the installation of photovoltaic power plants and other technologies for exploiting renewable energy

sources further highlights the need for digitalizing SME energy systems. This approach will become increasingly important in the future with the formation of energy communities, which will include multiple SMEs acting as both consumers and energy producers. These communities will become crucial components of smart electricity distribution networks. Therefore, the digitalization of SMEs is essential for their path to decarbonization.

■ **Green certification according to international standards is a key instrument for achieving greater competitiveness of SMEs by raising business quality, increasing efficiency and productivity and achieving compliance with environmental legislation**

The main motives for BiH companies to certify environmental management systems according to international standards include meeting the requirements of foreign customers and markets, as well as addressing concerns related to the energy crisis and anticipated levies from the introduction of carbon taxes. By aligning their operations with green standards, companies can achieve stability in the supply chain, improve production efficiency through more rational consumption of resources and energy, and reduce their environmental footprint and associated costs. This not only provides a competitive market advantage but also facilitates compliance with environmental legislation that largely aligns with green standards. Implementing green standards brings continuous and lasting improvements to companies.

Since green certification is a voluntary instrument, it is crucial to generate interest among SMEs for a successful green transition. Both management and employees must understand the certification requirements and the benefits of establishing an environmental management system. Actively promoting the experiences of successful companies and providing employee training are effective ways to generate interest.

Unlike large industries that have significant resources to implement green standards, SMEs often face financial constraints that lead them to abandon the certification process. Funding support can help more companies initiate the certification process. Therefore, a strategic commitment from all levels of government is essential. Recognizing SMEs that achieve a higher degree of added value in production and selecting such companies for financial support should be a priority.

Experiences and recommended actions

After more than two years of intensive work with BiH companies from the metal and wood sector, government institutions and support organizations, pilot projects in these two sectors, workshops, panel discussions and capacity building activities, Foreign Trade Chamber of BiH and Trade Chambers of RS, FBiH and BD BiH propose the following key recommendations for action:

■ We recommend urgent alignment of regulations with the EU framework that will facilitate the green transition for SMEs

It is recommended to harmonize domestic legislation with EU regulations to significantly increase the readiness of BiH SMEs for the challenges of the green transition, enabling them to make informed investment decisions and facilitating their integration into the EU market. Additionally, simplifying administrative procedures is essential to encourage more companies to undertake green investments, particularly in green energy. It is necessary to integrate environmental regulations with economic and energy regulations, clearly defining and adjusting greening obligations for specific business sectors and activities.

Instructions for compliance with environmental regulations, which form the basis for introducing green business models, should be easily accessible, clear, straightforward to implement, and not require excessive time for monitoring and reporting. Simplification may also involve reducing bureaucracy and administrative costs associated with demonstrating compliance with environmental regulations. Regulations could include incentive mechanisms related to green certification, such as granting privileges in the permit issuance process or exempting companies that have voluntarily certified under a green standard (e.g., EMAS) from routine inspections.

Amendments to the Patent Law and accession to the European Patent Convention would strengthen the legal framework in the field of industrial property, thereby improving the framework for innovation activities and higher value-added business¹⁴. The adoption of regulations should be coordinated across both entities and the Brčko District of BiH to avoid procedural and requirement discrepancies that create an unequal environment for competitiveness and growth of BiH SMEs.

Furthermore, it is recommended to strengthen mechanisms for monitoring and introduce evaluation tools based on performance indicators to ensure the effective implementation of policies and support programs, as suggested by the OECD.

■ We recommend updating existing SME and entrepreneurship development strategies with a clearly defined approach to long-term support to companies in the transition to green business

BiH is still in the early stages of preparing for the challenges of the green transition in the field of entrepreneurial and industrial policy. The SME and entrepreneurship development strategies in the Federation of BiH, Republika Srpska, and the Brčko District of BiH highlight the need for improvements in production, industry revitalization, and digitalization. However, the key factors for implementing these measures are the industry's knowledge and ability to adopt new technologies and the capacity for continuous investment in new technologies, knowledge, and processes. Therefore, it is recommended to update existing strategies to clearly define a strategic approach for the long-term support necessary for transition processes to result in meaningful changes. These strategies should include deadlines and specific monitoring objectives in accordance with EU directives and CO₂ pricing efforts. Strategies should be developed based on the needs of all participants in the green transition process. The focus should be on the development of the value chain, support for innovation, and connecting different industrial sectors through joint innovation efforts. Cross-sectoral cooperation is crucial for a successful transition, involving R&D companies, institutions, and consumers to develop a value chain and foster the development of new, better-positioned products and services. Particular attention should be given to plans for increasing employment in industries, which will only be successful if strategies address the future of jobs and the possibility of lifelong learning. Furthermore, strategies should clearly define cluster development as a system that brings together all participants to support the development of new, green products. They should also provide for intensive activities to continuously raise awareness of the green transition and circular models among industrialists and entrepreneurs.

■ We recommend a thorough analysis of the current state and needs of the industry for a green transition, along with the development of comprehensive system solutions and support programs at all government levels, in alignment with their respective competencies, ensuring full participation from governments and all relevant ministries.

The Chamber system in BiH believes that only a proactive government can create an enabling environment for a green transition. Government institutions, acting as mediators in the adoption and implementation of EU policies in BiH, should promote the green agenda and work towards meeting its requirements. Through coordinated strategic approaches between entities, all levels of government should jointly assess the impact of EU policies on SMEs, find appropriate compromises, and collaborate to create support programs.

To develop comprehensive system solutions and adequate support programs, it is recommended to first conduct a thorough analysis of the current state and industry needs for the green transition. Based on the findings of this study, it will be easier to determine the direction of action to address all the real needs of the economic sector.

Decision-makers should focus their support on opening innovation funds, promoting green networks and scientific centres, creating energy efficiency networks and renewable energy sources, and establishing scientific centres for green innovation and applied knowledge hubs. Support for these initiatives can be facilitated through the exchange of experiences in applying EU policies and learning from other countries' experiences (e.g., Germany). One replicable example is the energy efficiency network established through the *COVID-19 Investment Response*, which aims to identify the best and most profitable energy efficiency measures for small and medium-sized enterprises led by women¹⁶.

Additionally, intensive work on educating business owners by providing advice and guidelines on green practices is essential. This education will help businesses understand how to be environmentally sustainable, measure their impact, monitor progress, maintain competitiveness, and identify the most cost-effective solutions for the green transition. Essential measures to support the development of green business include proactive dissemination of information, creation of guidance tools, and direct capacity building.

In this context, it is recommended to support companies with study visits to customers and similar companies in the EU to learn about their innovations and greening

strategies. Currently, all chambers of commerce in BiH are continuously working on education and raising awareness among SMEs about the importance of the green transition. Thanks to the support of GIZ, a web portal (<https://zelenaekonomija.komorabih.ba>) under the domain of Foreign Trade Chamber of BiH was established to spread information and provide continuous education on the circular economy. The recently completed training program for energy managers within the EUREM – *European Energy Manager* project, implemented in cooperation with the Foreign Trade Chamber of BiH, is another example of how this largest network of businesspeople in BiH can support the green transition¹⁷. Additionally, chambers provide services for linking industries in the context of exchanging waste material flows guided by the principles of the circular economy.

■ We recommend introducing attractive and affordable long-term financial support programmes for the implementation of green business models in SMEs

An institutional approach to creating a model of financial support for SMEs to implement green business models is recommended. This includes the establishment of specific funds by domestic institutions dedicated to the development of green jobs. These funds could cover the costs of research and development, procurement of equipment, or finance the costs of implementing projects and obtaining certification according to international green standards. To implement these support programs effectively, it is necessary to precisely define the relevant areas of support, criteria for selecting beneficiaries, and indicators for monitoring the success of project implementation that align with the definition of green business models. Furthermore, establishing partnerships with banks to provide favourable credit lines—featuring low-interest rates, extended repayment periods, or even a moratorium on repayments—can facilitate investment in green initiatives. We recommend that government institutions act as intermediaries between SMEs and external donors interested in financing green projects. This could involve organizing events such as roundtables, panel discussions, conferences, or platforms for connecting SMEs with donors. This comprehensive approach will enable SMEs to realize green initiatives, increase market competitiveness, and contribute to the sustainable development of the economy.

■ We recommend aligning higher education and occupational classification the needs of industry and market

The reform of higher education to integrate knowledge about green initiatives should be sectoral, covering all professions involved in industrial work (engineers, chemists, economists, lawyers, etc.) to create a comprehensive level of knowledge required for the green transition of SMEs. Updating curricula is necessary to educate staff with the professional competencies needed for the adequate and quality implementation of green transitions in companies. Leading higher education institutions in Europe regularly update their curricula to reflect new knowledge and the application of new tools and materials¹⁸. Interdisciplinary knowledge is essential, particularly in the context of green jobs (e.g., climate change, energy efficiency, circular resource management, green infrastructure). This can be achieved through joint study programs and thematic summer schools for students from different faculties. The Foreign Trade Chamber of BiH also recommends the mandatory introduction of dual education by establishing high-quality cooperation between the education system and the world of work, including collaboration between higher education institutions and industry to understand needs and solve practical problems. Encouraging the practical application of scientific research and practical work involving innovative solutions that can be applied outside higher education institutions is crucial for preparing personnel for the labour market. Additionally, more active encouragement of studies in STEAM fields (science, technology, engineering, art, and mathematics) is recommended, as these fields form the basis for developing innovations, products, and services that align better with labour market demands. Continuous training of academic staff is also imperative. Establishing adequate training programs for academic staff in accordance with changing market needs is recommended. Harmonizing curricula with market needs should be monitored and adjusted to facilitate the employment of graduates educated under the proposed system.

■ **We recommend establishing effective support measures for the digital transformation of SMEs**

To create a stimulating ecosystem for digitalization and digital innovation at the SME level, we recommend the adoption of relevant development policies and support mechanisms for digitalization and innovation. Additionally, it is necessary to establish mechanisms to monitor the effectiveness of these policies and support mechanisms. This will ensure timely action in case adjustments are needed to better support, digitize, and introduce digital innovations to SMEs.

Direct support for SMEs should include both technical and financial assistance. Technical support encompasses advisory services, organizing training and education on specific digitalization and innovation topics, raising awareness of the importance and benefits of digitalization, and directly connecting SMEs with services that facilitate their digital transformation. It is crucial for companies to view digitalization and innovation not as expenses but as investments that enhance their overall business. A good example is the establishment of the RS Center for Digital Transformation of the Economy, initiated by the Ministry of Economy and Entrepreneurship of the RS, the Ministry of Scientific and Technological Development, Higher Education and Information Society of the RS, the Chamber of Commerce of the RS, and the Innovation Centre Banja Luka¹⁹. The Centre's role is to help all business entities understand and apply digital transformation in their operations, thereby increasing their competitiveness in domestic and international markets. It provides all necessary knowledge, technical information, education, consulting, and support for implementing digital projects in one place. This initiative also implies support from government institutions and international organizations, primarily the European Union. We support the establishment of a similar centre in the Federation of BiH.

On the financial side, domestic institutions should ensure that SMEs can use an innovation voucher scheme to access services offered by R&D organizations and digital innovation hubs. Additionally, there should be sufficient funding for grants and interest subsidies to support the implementation of digital solution projects, which can lead to long-term improvements in enterprises.

■ **We recommend greater promotion of green standards among SMEs in BiH for faster achievement of environmentally sustainable development**

SMEs in BiH should align their business activities with international green standards as soon as possible to achieve sustainable development for both their companies and society as a whole. Real changes in processes, and the entire management system, should be implemented before certification, as certification is merely an independent body's confirmation that the system complies with the reference standards. Increasing awareness among company management and all employees plays a key role in this transformation. Promotion and training are vital in raising interest and understanding the benefits of implementing green

standards. To facilitate this, we recommend using the Green Certification Guide prepared by GIZ within the *COVID-19 Investment Response: Green Recovery support for the metal and wood industry in Bosnia and Herzegovina*. Promoting the experiences of successful enterprises is an effective way to demonstrate the benefits of green standards. For the certification process to maintain complete credibility, Foreign Trade Chamber of BiH recommends regulating the market of certification bodies, ensuring their accreditation, and harmonizing the accreditation process across BiH through appropriate laws and regulations.

Certification costs are a significant obstacle to the broader implementation of green standards. Co-financing could help more companies start the certification process. Ministries, funds, development agencies, commercial banks, and international financial institutions can make significant contributions in this area. To support the development of green business practices, it is proposed to establish special funds or subsidies that would encourage SMEs to certify their processes. This would also incentivize more certification bodies to seek accreditation, thereby increasing market competition, improving service quality, and enhancing the credibility of certificates.

■ **We recommend continuous work on strengthening capacities and knowledge of all participants in the green transition process in order to adequately respond to current and future challenges**

To ensure the sustainability of resource efficiency and the greening process in SMEs, it is crucial to direct education and capacity building towards company managers. These measures would include a combination of long-term on-the-job training and manager training programs. Furthermore, green business networking and getting acquainted with environmental solutions should ease the way to acquiring knowledge about new green technologies and sustainable solutions. In this regard, we believe that it would be useful to support companies in visiting customers and similar EU companies to get acquainted with their innovations and greening strategies.

On the other hand, workers currently employed in SMEs also need the knowledge required to facilitate the transition to green business models. It is recommended to focus support on three key criteria. First, the retraining of workers whose occupations have become obsolete due to the green transition. Second, the training of workers for new green professions that appear due to the green transition. Third, the acquisition of new types of skills that are needed to integrate green practices into existing jobs.

Policymakers should focus on finding solutions to overcome the shortage of green business skills and promote training opportunities and access to education. Cooperation with supporting organizations and higher education institutions is crucial in this effort. Through such cooperation, policymakers can strengthen their capacity to implement reforms that drive meaningful change. Support organizations are encouraged to establish partnerships with similar entities in the EU to facilitate knowledge sharing. Additionally, they should connect with organizations in the Balkan region that possess relevant expertise and hire international experts to help develop and design new services. Establishing cluster networks or smart specialization networks and promoting interorganizational scientific hubs of applied knowledge are essential services for the green transition. It is vital to support capacity building, knowledge creation, and the connection of organizations within the country and the Balkans, including service providers and international experts. This approach aims to expand the range of services available in the market to meet the needs of green transition enterprises.

Innovation

The project offered an innovative approach in two key segments: it strengthened pilot companies in applying innovative methods to green their own production and helped the implementation partner, the Foreign Trade Chamber of BiH, to build a new portfolio in the field of green transition at the right time. It is recommended that the lessons learned from this project be used to continue working with SMEs on technological and environmental innovations in production.

¹ BMZ 2012: Investing in land and the phenomenon of land grabbing.

¹ ITC (2021), SME Competitiveness Outlook 2021: Empowering the Green Recovery, International Trade Centre, Geneva, <https://www.intracen.org/publications/smeco2021/ITCSMECO2021>

² European Commission (2022), Eurobarometer: SMEs, Resource Efficiency and Green Markets, European Commission, Brussels, <https://europa.eu/eurobarometer/surveys/detail/2287>

³ Some of the goals of introducing green business models in manufacturing enterprises include reducing scrap, waste, emissions of harmful substances and energy consumption, recycling of waste materials from production, digitalization, automation and robotization of business processes, and production of energy from renewable sources for own needs.

⁴ OECD (2018). Global Material Resources Outlook to 2060

⁵ Kusljagic, M. (2021), Guide to harmonization of policies and instruments that promote and support the green transformation of small and medium-sized enterprises in Bosnia and Herzegovina, Eda, <https://edabl.org/wp-content/uploads/2022/01/Vodi%C4%8D-za-harmonizaciju-politika-i-instrumenata-koji-promovi%C5%A1u-i-podr%C5%BEavaju-zelenu-transformaciju-MSP-u-BiH.pdf>

⁶ Mesopartner (2023), Systematic perspective on private and public sector greening trends in EU markets and relevant transition requirements for small and medium-sized metal processing and wood processing enterprises in

Bosnia and Herzegovina - Basic study for the analysis of requirements, including policy levels, meso and business levels

⁷ ibid.

⁸ OECD (2022), SME Policy Index: Western Balkans and Turkey

⁹ RCC (2023), Balkan Barometer 2023 – Business Opinion, Figure 109, <https://www.rcc.int/balkanbarometer/publications>

¹⁰ OECD (2022), SME Policy Index: Western Balkans and Turkey

¹¹ EU Wood Regulation – EUTR, In-depth Analysis of Supply Chains Act, Renewable Energy Directive II of 2018, REACH (1907/2006/EC) Chemicals Directive, CLP (1272/2008) Directive on classification, labelling and packaging of substances and mixtures, Industrial Emissions Directive (IED), Ecodesign Directive (2009/125/EC), etc.

¹² B2BiT (n.d.), Innovation and Digitalization in SMEs, <https://b2bit.ba/giz-inovacija-i-digitalizacija-u-msp/>

¹³ Eurostat (2022), COVID-19 Impact on ICT Usage, https://ec.europa.eu/eurostat/databrowser/view/ISOC_E_CVD_custom_2603416/default/table?lang=en

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¹⁸ E.g. Chalmers University of Technology in Sweden, TU Delft in the Netherlands, DTU - Technical University of Denmark, ETH Zurich, KTH Royal Institute of Technology in Sweden, KU Leuven in Belgium, Mondragon Unibertsitatea in Spain, Oxford – Department of Lifelong Learning, Technische Universität Berlin, Técnico Lisboa – Portugal, University of Porto, Wageningen University & Research – Germany

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