

**Harnessing opportunities from the circular and green economy:**  
**Compendium of guidance resources for micro, small and**  
**medium-sized enterprise development**



**CIRCULAR ECONOMY TRANSITION**  
Paper Series



**Circular STEP**  
Stakeholder Engagement Platform



**UNECE**

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## Content

<b>Abbreviations.....</b>	<b>v</b>
<b>Foreword .....</b>	<b>vi</b>
<b>Acknowledgements .....</b>	<b>vii</b>
<b>I. Introduction .....</b>	<b>1</b>
<b>II. Green and circular economies for post-COVID-19 MSME resurgence.....</b>	<b>2</b>
2.1. Characteristics of MSMEs in the UNECE region.....	2
2.2. Circular and green economies as new development pathways .....	5
2.3. The new landscape of economic development in the UNECE region.....	14
2.4. Challenges to MSME transition to green and circular economy practices.....	18
<b>III. Catalyzing innovation for MSME green and circular resurge.....</b>	<b>28</b>
3.1. Implications of green and circular economy models for MSMEs .....	28
3.2. Building a conducive environment for MSME circular, green and digital innovation .....	30
3.3. Case studies .....	35
3.4. Selected tools and reference materials.....	38
<b>IV. Bolstering MSME engagement in sustainable trade and green exports .....</b>	<b>48</b>
4.1. Main trends in sustainable trade and green exports .....	48
4.2. Challenges to MSME transition to sustainable trade .....	49
4.3. Case studies .....	52
4.4. Selected tools and reference materials.....	54
<b>V. Concluding remarks .....</b>	<b>60</b>
<b>Annex .....</b>	<b>61</b>

## Abbreviations

CO <sub>2</sub>	Carbon Dioxide
Circular STEP	Circular Stakeholder Engagement Platform
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
EBRD	the European Bank for Reconstruction and Development
ETIN	Transformative Innovation Network
EU	European Union
GDP	Gross domestic product
GHG	Greenhouse gas
GVA	Gross value added
ICC	International Chamber of Commerce
ICT	Information and communications technology
IHGE	Innovative High-Growth Enterprises
ISMIT	Integrated Services for MSMEs in International Trade
ISO	International Organization for Standardization
ITC	International Trade Center
MSMEs	Micro, small and medium-sized enterprises
OECD	Organisation for Economic Co-operation and Development
PPP	Public-private partnership
R&D	Research and development
RTAs	Regional trade agreements
SDGs	Sustainable Development Goals
UNCTAD	United Nations Conference on Trade and Development
UNDA	United Nations Development Account
UNECE	United Nations Economic Commission for Europe
WTO	World Trade Organization

## Foreword

The United Nations Economic Commission for Europe (UNECE) region is responsible for 34 per cent of global carbon dioxide (CO<sub>2</sub>) emissions from fossil fuel combustion.<sup>1</sup> This makes it a major contributor to the triple Planetary Crisis of climate change, biodiversity loss and pollution. Addressing this crisis has been ranking high on the development agenda of the UNECE region and is gaining new momentum as governments scale up efforts to respond to the energy and food crises caused by the war in Ukraine.

Governments are, among other things, investing in renewable energy, enhancing digital infrastructures, promoting innovation, and harnessing trade and regional cooperation for accelerating structural transformation towards a green and circular economy.

Underpinning these efforts is an emphasis on empowering micro, small and medium-sized enterprises (MSMEs) to drive this transformation. Accounting for over 90 per cent of registered enterprises in the UNECE region, these enterprises can shift to renewable energy sources, use modern technologies to reduce their carbon footprint and take steps to minimize their waste, all the while creating new jobs and strengthening their resilience and competitiveness. However, in many cases, MSMEs are ill-equipped to take on this role, and this is especially the case of those located in developing countries and those with economies in transition.

This Compendium, in its first revision, offers a practical resource for MSMEs, policy makers and business stakeholders in the UNECE region and beyond, with a view to supporting the development of fit-for-purpose MSMEs in the context of the 2030 Agenda for Sustainable Development. The Compendium tackles a range of concepts, including circular and green economy, which, in line with the decisions from the 69th session of the UNECE Commission<sup>2</sup>, is accorded special emphasis as a cross-cutting theme for accelerating the achievement of the Sustainable Development Goals (SDGs). It features a diverse array of best practice guidelines, recommendations, analytical reports, policy papers and tools by UNECE and other development partners as well as case studies and initiatives from the UNECE region.

This Compendium completes and adds to the series of publications under the umbrella of the Circular Stakeholder Engagement Platform (STEP), UNECE's multi-stakeholder engagement platform.<sup>3</sup> The series seeks to provide Governments with successful case studies and good practices for advancing circularity in alignment with Sustainable Development Goal (SDG) 12 (Responsible Consumption and Production).

Moving forward, consistent with the decisions of the UNECE 69<sup>th</sup> and 70<sup>th</sup> Commission sessions, UNECE will upscale its efforts to support the transition towards circular and green economies in the region. This will permeate all the workstreams of UNECE, encompassing normative and analytical work as well as technical assistance and network-building activities.

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<sup>1</sup> [UNECE Climate Action Brochure WEB 0.pdf](#).

<sup>2</sup> [https://unece.org/sites/default/files/2021-04/E\\_ECE\\_1500\\_Add.1-2103933E.pdf](https://unece.org/sites/default/files/2021-04/E_ECE_1500_Add.1-2103933E.pdf).

<sup>3</sup> <https://unece.org/trade/CircularEconomy>

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The Compendium integrates the outcomes of UNECE thematic webinars, organized in 2022 under the theme “Empowering MSMEs to harness the opportunities from transitioning to sustainable trade and a circular economy in the context of the post-COVID 19 recovery”. The webinars focused on MSME green resurgence and explored how entrepreneurship skills development, innovation and circular economy models could help MSMEs improve their resilience, competitiveness and engagement in sustainable trade.

The webinars saw the participation of government officials, entrepreneurs and experts from Central Asia, the Caucasus and Eastern Europe, the World Trade Organization (WTO), the Organization for Economic Cooperation and Development (OECD), the European Bank for Reconstruction and Development (EBRD), International Trade Centre (ITC), the International Chamber of Commerce (ICC), the German Development Agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the academia.<sup>4</sup>

The Compendium was developed within the context of the United Nations Development Account (UNDA) funded global project, “Global Initiative towards post-COVID 19 resurgence of the micro, small and medium enterprises (MSME) sector” that was implemented in 2020-2022.

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<sup>4</sup> <https://msme-resurgence.unctad.org/documents/empowering-msmes-harness-opportunities-transition-sustainable-trade-and-circular-economy>.

## I. Introduction

The COVID-19 pandemic posed unprecedented challenges for enterprises across the globe, particularly micro, small and medium-sized enterprises (MSMEs), which form the backbone of the UNECE economies. Yet, amidst these challenges are valuable opportunities to strengthen the resilience and competitiveness of these enterprises. Harnessing the principles of green and circular economies represents a viable avenue for realizing these opportunities. These principles have also been high on the agenda of the UNECE, with the two themes of “The Circular Economy and the Sustainable Use of Natural Resources” and the “Digital and Green Transformation” adopted as cross-cutting priority themes of the UNECE 69<sup>th</sup> and 70<sup>th</sup> Commission sessions (April 2021 and April 2023, respectively).

This Compendium brings together guidance resources by the UNECE, its sister organisations and partners from international organizations, specifically tailored to support MSMEs in their journey towards a green and circular transition. It provides policy reports, best practices, case studies, tools, and expert insights to help MSMEs navigate the evolving landscape of economic development and adopt sustainable production and trade practices. The Compendium also serves as a reference guide for policymakers and enterprise support institutions seeking to empower MSMEs to assume a lead role in consolidating transformative green and circular pathways.

The Compendium is organized in five chapters. The introduction is followed in Chapter 2 by an overview of the characteristics and key performance indicators of MSMEs in the UNECE region. It emphasizes the pivotal role of green and circular economies principles and practices in empowering the MSMEs and increasing their contribution to the SDGs. Chapter 2 also sheds light on prominent initiatives and reforms for supporting the green and circular transitions of MSMEs in the UNECE region, while addressing the challenges undermining these enterprises’ ability to fully realize the anticipated benefits.

Chapter 3 discusses avenues for catalysing innovation for driving MSMEs’ green and circular transitions. It provides resource materials on innovative approaches and best practices, designed to empower MSMEs to adopt greener business models, foster eco-innovation, and enhance their overall sustainability performance.

Chapter 4 delves into the realm of boosting MSMEs’ engagement in sustainable trade and green exports. It highlights key trends influencing global trade as well as their implications for MSMEs and provides resource materials to help MSMEs leverage their green and circular credentials in international markets. The compendium concludes in Chapter 5 with key takeaways for MSMEs, business stakeholders and policymakers.

## II. Green and circular economies for post-COVID-19 MSME resurgence

### 2.1. Characteristics of MSMEs in the UNECE region

MSMEs<sup>5</sup> account for over 90 per cent of total enterprises in the UNECE region, both formal and informal<sup>6</sup>. Their agility, adaptability, and innovative spirit put them centre stage in driving economic diversification, job creation, equity, social cohesion, resilience and environmental stewardship.

However, their performance record shows that they are yet to realize their full potential and addressing the lack of data would help gain a thorough understanding of their contextual needs. In most developing countries and countries with economies in transition, basic statistics, such as gross domestic product (GDP) contribution of MSMEs, are not systematically collected. In cases where data is available, it often lacks the necessary level of detail and international comparability.

Further, there is a lack of data on the performance and needs of informal MSMEs across the UNECE region. This is a missed opportunity, since these enterprises play an important role in fostering entrepreneurship, reducing poverty, promoting social inclusion and expanding the formal economy.

#### Performance disparity

There are evident disparities in the performance of MSMEs in the UNECE region, both between developed and developing countries as well as across developing countries. In the European Union (EU) countries, MSMEs accounted for the largest share of employment and income, with high regional averages of 52 per cent of total value-added and 64 per cent of total employment in 2020.<sup>7</sup>

In contrast, MSMEs in developing countries demonstrate a mixed performance. For example, they generate over 50 per cent of GDP and employment in Albania, Armenia, Bosnia and Herzegovina, Georgia, Montenegro, North Macedonia, the Republic of Moldova, Serbia, Ukraine and Uzbekistan. Whereas in Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan, they account for 20 to 30 per cent of employment and GDP.<sup>8</sup>

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<sup>5</sup> There are multiple definitions of MSMEs in the UNECE region, and delving into a comparative review of these definitions is beyond the scope of this Compendium. Western European countries and those acceding the EU follow the EU Commission recommendation [C (2003) 1422]. The remaining countries either have their own definitions or use the Organisation for Economic Co-operation and Development (OECD) definition (<https://www.oecd.org/sdd/business-stats/>).

<sup>6</sup> See estimates by the International Labour Organisation (ILO); available at: <https://ilostat.ilo.org/topics/informality/>.

<sup>7</sup> These figures are for EU-27 countries and exclude enterprises involved in the financial sector. For further details, see Eurostat at: [https://ec.europa.eu/eurostat/databrowser/view/SBS\\_SC\\_SCA\\_R2](https://ec.europa.eu/eurostat/databrowser/view/SBS_SC_SCA_R2). Unless otherwise stated, statistics on MSME performance provided in this Compendium do not include informal enterprises.

<sup>8</sup> <https://unece.org/sites/default/files/2022-05/SMEs%20Paper-forwebsite.pdf>.



## High carbon footprint

Given their lion's share of total enterprises, MSMEs, together, tend to have a high carbon footprint. In the EU, they generated 63 per cent of total greenhouse gas (GHG) emissions in 2021, measured in carbon dioxide (CO<sub>2</sub>) equivalents.<sup>9</sup> The highest emission levels were generated by enterprises engaged in livestock farming; construction; metal finishing; waste treatment; food and drink industry; and textile and leather manufacturing.<sup>10</sup> Similarly, SMEs<sup>11</sup> accounted for 50 to 70 per cent of total GHG emissions in the Organisation for Economic Co-operation and Development (OECD) countries in 2021.<sup>12</sup>

While precise estimates of GHG emissions by MSMEs in developing countries are lacking, a cursory examination of these countries' key performance indicators point to significant emission levels:

- Manufacturing activities are prevalent in many developing countries, particularly cement production, chemical manufacturing, and metal refining. These sectors often exhibit heavy reliance on fossil fuels or chemical reactions, which emit CO<sub>2</sub> and other GHGs.
- While agriculture and livestock account for a limited share of GDP and employment in all developing countries, these activities are significant sources GHG emissions and other pollutants, including:<sup>13</sup>
  - Synthetic fertilizers, which contribute to GHG emissions, are still prevalent.
  - Methane (CH<sub>4</sub>), a potent GHG produced by ruminants like cattle and sheep.
  - Agricultural soils release nitrous oxide (N<sub>2</sub>O), another potent GHG, produced when fertilizers are overused or improperly managed.
  - Water pollution, soil degradation and biodiversity loss, given the inefficient irrigation systems and the dominance of micro and small enterprises, which given their lack of resources, tend to use outdated farming methods.
- Developing countries with larger populations have higher energy and consumption demands for manufacturing, commercial and residential purposes as well as for transportation. Given the continued reliance on fossil fuels, the entry of new enterprises, and/or the expansion of existing ones to meet the increased demands will escalate GHG emissions and other pollutants.

While significant, the impact of the above factors on GHG and other emissions varies across countries. It depends on, among others, their energy mix, the composition of the MSMEs and

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<sup>9</sup> European Commission (2021) Eurobarometer survey, SMEs, resource efficiency and green markets; available at: <https://europa.eu/eurobarometer/surveys/detail/2287>. The survey was carried out by Ipsos European Public Affairs in 27 Member States of the European Union, and Albania, North Macedonia, Montenegro, Serbia, Turkey, Iceland, the Republic of Moldova, Norway and the United States.

<sup>10</sup> European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, Annual report on European SMEs 2021/2022, available at: <https://op.europa.eu/en/publication-detail/-/publication/c45665ad-fd9a-11ec-b94a-01aa75ed71a1/language-en>.

<sup>11</sup> It is not clear if these estimates include micro enterprises.

<sup>12</sup> OECD (2022) Financing SMEs for sustainability: Drivers, constraints and policies, available at: [https://www.oecd-ilibrary.org/economics/financing-smes-for-sustainability\\_a5e94d92-en](https://www.oecd-ilibrary.org/economics/financing-smes-for-sustainability_a5e94d92-en).

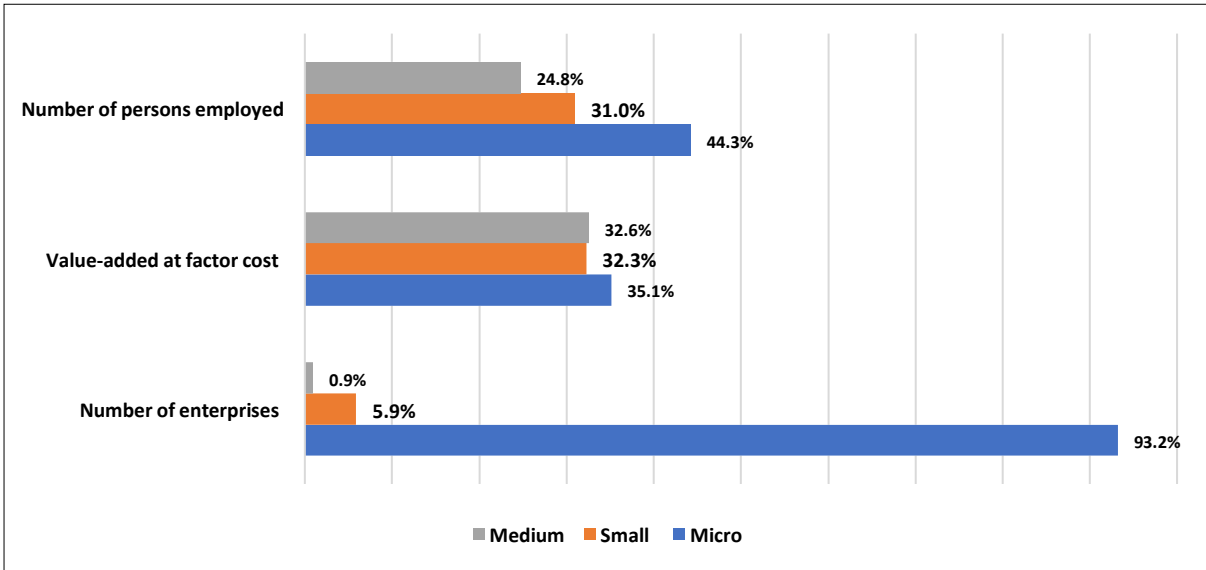
<sup>13</sup> Intergovernmental Panel on Climate Change, IPCC (2019) Special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems ([https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM\\_Approved\\_Microsite\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf)); FAO (2017) Water pollution from agriculture: a global review (<https://www.fao.org/documents/card/en/c/a9598c47-0ca1-4c77-8d9d-1c2708050ba0/>).

their production practices, the extent of environmental regulations and enforcement and waste management systems.

**The missing middle phenomenon**

Available statistics point to the prevalence of the missing middle phenomenon across the UNECE region, whereby microenterprises represent the lion’s share of total registered MSMEs, with a modest number of small enterprises and a few medium ones.<sup>14</sup> In EU countries, micro enterprises accounted for 93 per cent of total registered non-financial MSMEs in 2019. Their sheer number means that they surpassed the small and medium-sized enterprises in terms of contributions to value-added and job creation (Figure 1).

**Figure 1. The contribution of non-financial MSMEs to economic growth in the EU 27 (2019)**



Source: Eurostat

The missing middle phenomena is also prevalent in UNECE developing countries and those with economies in transition.<sup>15</sup> Given the lack of a conducive business environment, this phenomenon has been impeding structural transformation towards a green and circular economy (Section 2.4).

**Weak contribution to gender equality**

Available statistics show that the share of female-owned enterprises, measured in terms of the percentage of enterprises with a woman among the principal owners of registered

<sup>14</sup> For a discussion of this concept, see, for example, Ayyagari, M., T. Beck, and A. Demircuc-Kunt (2003) Small and medium enterprises across the globe: A new database. World Bank Policy Research Paper No. 3127. Washington, DC: World Bank

<sup>15</sup> See, UNECE studies on regulatory and procedural barriers to trade, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

enterprises<sup>16</sup> continues to trail behind that of male-owned enterprises in most UNECE countries. As shown in the Annex (Table A.1), Spain stands out as the top performer, with the share of female-owned enterprises, excluding female-owned microenterprise ownership, estimated at around 62 per cent in 2021, significantly exceeding that of the EU (40 per cent) and the world (33 per cent) averages.<sup>17</sup>

This disparity cannot be solely accounted for by income levels. For example, at around 40 per cent in 2019, the share of female-owned enterprises in the Republic of Moldova, one of the poorest countries in Europe, exceeded that of Italy (24 per cent). At issue is the lack of adequate legislation for ensuring gender equality in many countries, with the United Nations estimates showing that it would take up to 286 years to close gaps in legal protection and remove discriminatory laws globally.<sup>18</sup> Closing the current legislative gaps will go a long way in empowering female entrepreneurs. For example, in the EU, the share of female-owned enterprises in total registered startups increased from 13 per cent in 2010 to 21 per cent in 2022<sup>19</sup>, as governments introduced new laws and other measures to tackle inequality and gender-based discrimination.<sup>20</sup>

Further, more needs to be done to enable female entrepreneurs to realize their full potential. Evidence shows that female-owned enterprises tend to be smaller in scale and have lower growth than male-owned businesses, something which cannot be understood in isolation of their investment choices. For example, female-owned enterprises tend to be concentrated in sectors that are considered less profitable by investors.<sup>21</sup>

## 2.2. Circular and green economies as new development pathways

The escalating triple planetary crisis of climate change, biodiversity loss and pollution is eroding the carrying capacity of nature, with vulnerable groups hardest hit<sup>22</sup> amidst a sharp rise in the number of climate refugees. According to UN estimates, around 21.5 million people have been forcibly displaced by weather-related events (e.g., floods and storms) and extreme temperatures on an annual average since 2008,<sup>23</sup> causing brain-drain and capital flight.

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<sup>16</sup> As per the World Bank's definition, published on <https://databank.worldbank.org/metadataglossary/world-development-indicators/series/IC.FRM.FEMO.ZS>.

<sup>17</sup> World Bank, Gender Data Portal at: <https://genderdata.worldbank.org/indicators/ic-frm-femo-zs>. The Portal does not cover female ownership of micro enterprises.

<sup>18</sup> UN Women-UN DESA, Progress on the Sustainable Development Goals: The Gender Snapshot 2022, available at <https://data.unwomen.org/publications/progress-sustainable-development-goals-gender-snapshot-2022>.

<sup>19</sup> Global Entrepreneurship Monitor (2022) 2021/2022 Women's Entrepreneurship Report; available at: <https://www.gemconsortium.org/report/51084>.

<sup>20</sup> Dömötör, R., Monique S. and, Johanna W. (2022) Female startups and investing. Report of the Bundesministerium für Arbeit und Wirtschaft, available at: <https://www.bmaw.gv.at/Services/Publikationen/Startups-undinnovative-KMU.html>.

<sup>21</sup> Global Entrepreneurship Monitor (2022) Women's entrepreneurship report, 2021/2022, available at: <https://www.gemconsortium.org/report/51084>.

<sup>22</sup> UNEP (2021) Making peace with nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies, available at: <https://www.unep.org/resources/making-peace-nature>.

<sup>23</sup> See estimates by the United Nations High Commissioner for Refugees, available at: <https://www.unhcr.org/uk/news/stories/frequently-asked-questions-climate-change-and-disaster-displacement>.

These adverse megatrends have prompted governments and businesses across the UNECE region to reevaluate current production and consumption patterns, giving rise to the pursuit of green and circular economy practices as viable solutions for addressing current and future challenges (Section 2.3). This section provides a brief overview of the key concepts and elements underpinning these practices and highlights their contribution to the SDGs.

### Circular economy

The circular economy concept was first advanced in 1977 in a report to the EU Commission titled “The Potential for Substituting Manpower for Energy”,<sup>24</sup> which advocated decoupling production from environmental degradation by dispensing with the traditional linear “take-make-dispose” production model. The report sketched a vision for an economy in loops where products are rendered durable by extending both their lifecycle (i.e., the period during which a product remains functional and usable) and life span (i.e., from creation to disposal), thereby reducing waste and energy consumption while strengthening job creation and economic competitiveness.

The concept has evolved over time, with numerous experts<sup>25</sup>, organizations<sup>26</sup>, and research institutions expanding on its dimensions and practical implementation. Today, a circular economy refers to economies that are driven by “cradle-back-to-cradle”<sup>27</sup> production systems, which keep resources in use for as long as possible, minimize waste and promote regenerative practices (Box 1).

#### *Box 1. Definition of a circular economy*

A circular economy is one that “replaces production with sufficiency: reuse what you can, recycle what cannot be reused, repair what is broken, remanufacture what cannot be repaired”. In so doing, it “turn[s] goods that are at the end of their service life into resources for others, closing loops in industrial ecosystems and minimizing waste”.<sup>28</sup>

A circular economy is characterized by the following principles:<sup>29</sup>

- “The smaller the loop (activity-wise and geographically), the more profitable and resource efficient it is.

<sup>24</sup> Stahel, Walter R. and Ready, G. (1977) The Potential for Substituting Manpower for Energy, report for the Commission of the European Communities. The concept was further developed in Stahel, W. R. and Reday-Mulvey, G. (1981) Jobs for tomorrow: The potential for substituting manpower for energy, Vantage Press.

<sup>25</sup> Most notable is Walter Stahel, who won several prizes for his contributions in developing this concept.

<sup>26</sup> Most notable in recent years is the Ellen MacArthur Foundation, which has played a significant role in popularizing and further developing the concept of circular economy through guidance business models.

<sup>27</sup> Stahel, Walter R. (1982) The Product-Life Factor, Houston Area Research Center, The Woodlands, Texas. Winner of the 1982 Mitchell Prize.

<sup>28</sup> Stahel, Walter R. (2016) The circular economy, Nature 531, 435–438; available at: <https://www.nature.com/articles/531435a>.

<sup>29</sup> Stahel, Walter R. (2012) The business angle of a circular economy. Higher competitiveness, higher resource security and material efficiency; available at: [http://www.rebelalliance.eu/uploads/9/2/9/2/9292963/stahel\\_the\\_business\\_angle\\_of\\_a\\_circular\\_economy.pdf](http://www.rebelalliance.eu/uploads/9/2/9/2/9292963/stahel_the_business_angle_of_a_circular_economy.pdf).

- Loops have no beginning and no end.
- The speed of the circular flows is crucial: the efficiency of managing stock in the circular economy increases with a decreasing flow speed.
- Continued ownership is cost-efficient: re-use, repair and remanufacture without a change of ownership save double transaction costs<sup>30</sup>.

Circular economy involves an array of business models. These fall in two groups. The first focuses on reuse and extending the life span of products through, among others, repair, remanufacture, upgrades and retrofits. The second group centers on turning old goods into “as-new resources” by recycling the constituting materials.<sup>30</sup>

Both models emphasize a systems approach, which is best illustrated in the Ellen MacArthur Foundation butterfly system diagram (Diagram 1). As shown in diagram 1, the diagram sketches the continuous flow of materials across two main cycles, the technical and the biological cycle, and advocates re-orienting the design phase along three main principles. These include eliminating waste and pollution; circulating products and materials at their highest value; and regenerating nature as explained below<sup>31</sup>:

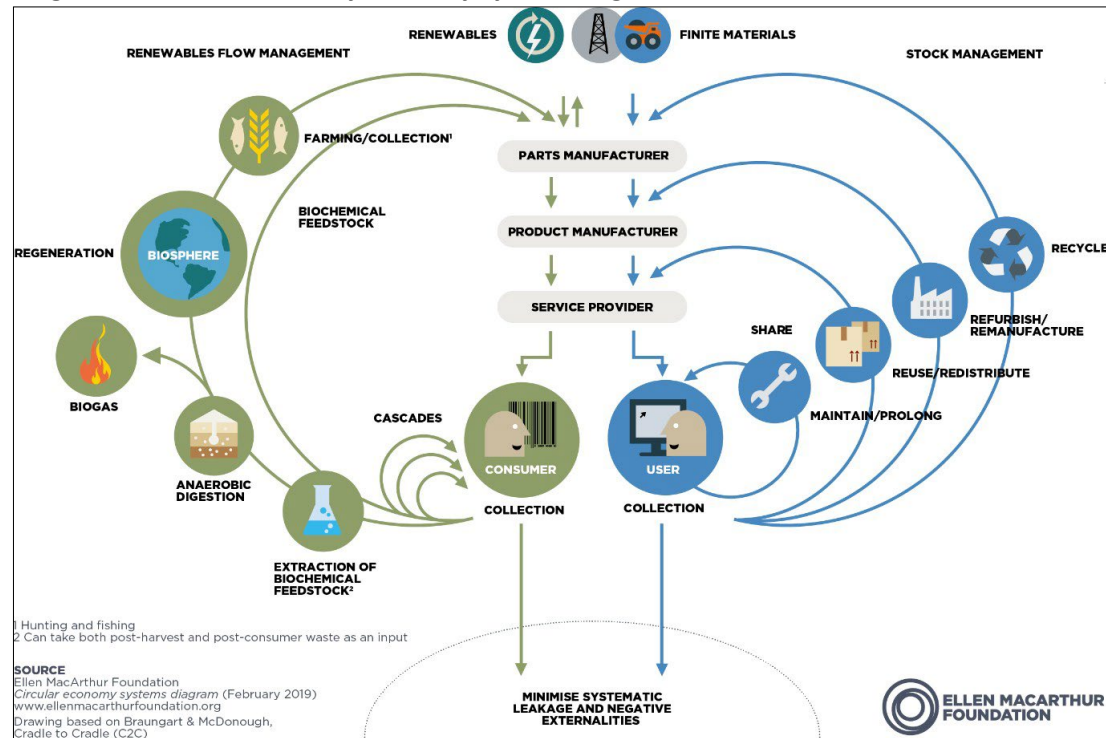
- **Eliminating waste and pollution:** This principle aims at reducing the need for disposal and minimizing the pollution associated with manufacturing new products. It involves reducing the generation of waste throughout a product's lifecycle by designing products that can withstand extended use without significant performance degradation.
- **Circulating products and materials at their highest value:** This principle aims at extending the lifespan of products, whereby they are circulated and utilized by multiple users over time. It involves promoting the circulation of products in a closed-loop system by designing products that can be easily disassembled into their individual components and using materials that can be easily recycled or repurposed.
- **Regenerating nature:** This principle aims at supporting the natural regenerative capacity of the planet and creating a symbiotic relationship between production activities and the environment. It involves the integration of nature-based solutions into industrial processes by, among others, utilizing renewable energy sources, adopting sustainable agricultural practices, and restoring ecosystems.

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<sup>30</sup> Stahel, Walter R. (2016) The circular economy, Nature 531, 435–438; available at: <https://www.nature.com/articles/531435a>. For examples of circular economy business models, see Ellen MacArthur Foundation at: <https://ellenmacarthurfoundation.org>.

<sup>31</sup> For further details, see Ellen MacArthur Foundation at: [The circular economy in detail \(ellenmacarthurfoundation.org\)](https://ellenmacarthurfoundation.org).

**Diagram 1. Circular economy butterfly system diagram**



Source: Ellen MacArthur Foundation<sup>32</sup>

## Green economy

Linked to circularity is the concept of green economy. It was first advanced in 1989 in a report to the UN, titled “A New Blueprint for a Green Economy”,<sup>33</sup> which called upon governments to:

- **Recognize the value of ecosystems** by assigning economic values to the critical “services” they provide (e.g., water purification, carbon sequestration, and pollination), with a view to preventing overexploitation of ecosystems.
- **Internalize environmental costs into economic decision-making processes**, with a view to promoting sustainable practices and discouraging activities that harm the environment.
- **Transition to a low-carbon economy** by investing in renewable energy sources, improving energy efficiency, and reducing greenhouse gas emissions and adopting innovative policies such as carbon pricing and renewable energy subsidies to facilitate the transition.
- **Promote green economic sectors**, including energy, agriculture, industry, and transportation through, among others, energy conservation, sustainable farming practices, eco-friendly industrial processes, and public transportation.

<sup>32</sup> <https://ellenmacarthurfoundation.org/circular-economy-diagram>.

<sup>33</sup> Pearce, D., Barbier E.B., and Markandy A. (1989) A New Blueprint for a Green Economy. Earthscan, London, Great Britain. The blueprint was prepared for the government of the United Kingdom as part of its response to the Brundtland Report, Our Common Future, which highlighted the urgency of addressing the harmful environmental consequences of industrialization. It provides an approach for addressing these consequences.

- **Give priority to poverty alleviation and social equity** through targeted policies aimed at reducing poverty, promoting equitable resource distribution, and providing access to basic services for all.

Green economy has since evolved as it attracted the attention of governments and businesses across the globe.<sup>34</sup> Today, it is commonly used to refer to economies that are low in carbon, resource efficient and equitable (Box 2).

#### *Box 2. Definition of a green economy*

A green economy is one where all production activities, transport and basic utility infrastructures are geared towards minimizing carbon emissions and pollution, ensuring the efficient use of energy and natural resources, and preventing the loss of biodiversity. It is also a socially inclusive economy, where development does not come at the expense of the most vulnerable population groups and where benefits are shared equitably.<sup>35</sup>

#### **Potential benefits of the green and circular transition**

Green and circular economies are indispensable for achieving sustainable development, conserving resources within planetary boundaries and ensuring the protection of the environment. The imperative for this twin transition underscored the discussions among member States during the UNECE 69<sup>th</sup> and 70<sup>th</sup> Commission sessions in 2021 and 2023,

The two concepts go hand in hand, creating a balance between economic growth, societal well-being and the preservation of natural resources. Circular economy principles aim to eliminate waste and maximize the efficient use of resources through closed-loop production systems, where materials are continuously reused, recycled, or regenerated, while those of the green economy emphasize the use of renewable energy, minimizing pollution, and protecting ecosystems.

Combined, these principles enable the consolidation of SDG-compliant production and consumption patterns, setting the foundation for transformative development paths that are: progressive (in the normative sense of social justice), systemic (addresses inter-dependence) and long-term (cannot be easily reversed in the short-term).<sup>36</sup> The value of circular and green economy principles lies in the simultaneous benefits they create across the three pillars of sustainability as follows:<sup>37</sup>

<sup>34</sup> See reports by UN Department of Economic and Social Affairs (DESA) and UNEP, available at:

<https://sdgs.un.org/topics/green-economy>; and <https://www.unep.org/explore-topics/green-economy>

<sup>35</sup> Based on United Nations Environment Programme, UNEP (2011) Towards a green economy: Pathways to sustainable development and poverty eradication—A synthesis for policy makers, available at: <http://www.unep.org/greeneconomy>.

<sup>36</sup> Griethuysen, Pascal van (2016) The 2030 Agenda for Sustainable Development: Innovations, challenges and opportunities, Background Paper, prepared for the UNRISD Flagship Report

<sup>37</sup> For details on the contributions of circular and green economy models to the SDGs, see reports and resource materials by FAO, ILO, UNDESA and UNEP, available at: <https://sdgs.un.org/topics/green-economy>, <https://www.unep.org/explore-topics/green-economy>, <https://www.unep.org/circularity>, <https://www.fao.org/sustainability/en/>, and <https://www.greengrowthknowledge.org/>.



- **Environmental Sustainability:** Green and circular economy principles address environmental challenges associated with climate change, biodiversity loss, and resource depletion. They ensure, among other things:
  - **Resource efficiency:** By minimizing waste, promoting renewable energy and optimizing energy consumption in buildings, industries, and transportation, circular and green economy production methods lower GHG emissions and pollution, conserve natural resources and reduce the pressure on ecosystems.
  - **Biodiversity conservation:** By promoting sustainable agricultural practices that minimize the use of harmful chemicals, reduce emissions, conserve soil fertility (e.g., organic farming, agroforestry, and precision agriculture), circular and green economy production methods allow for preserving and restoring natural habitats.
  - **Risk mitigation:** By reducing reliance on fossil fuels and minimizing waste, green and circular economy production methods foster resilience to the impacts of climate change and disruptions in resource availability.
  - **Conservation of water resources:** By promoting water-saving technologies, water reuse and recycling, green and circular economy production methods help ensure the availability of clean water for current and future generations.
  
- **Economic sustainability:** Green and circular economy principles integrate environmental considerations into economic decision-making. This re-orientation provides for a strong economic foundation, which is aligned with the planetary boundaries as follows:
  - **Sustainable resource management:** By reducing reliance on finite resources and transitioning to renewable or recycled materials, green and circular economy production methods mitigate resource scarcity risks and support economic stability.
  - **Cost savings and efficiency:** By promoting energy efficiency measures, waste reduction, and recycling initiatives, green and circular economy production methods lower production costs, optimize resource utilization, and improve overall operational efficiency.
  - **Agile production:** By promoting the development of sustainable technologies, manufacturing and business processes, green and circular economy production methods foster a culture of innovation for driving economic diversification and job creation.
  
- **Social sustainability:** Green and circular economy principles integrate social challenges, promote social inclusion and improving quality of life, thereby contributing to, among other things:
  - **Public Health:** By reducing pollution and exposure to harmful substances, such as air and water pollutants, green and circular economy production methods ensure cleaner and healthier living environments. This, in turn, reduces the burden of diseases associated with pollution and improves overall well-being.
  - **Job Creation:** By promoting renewable energy, sustainable production and waste management, green and circular economy production methods lead to job creation, thereby reducing unemployment.



- **Social equity and inclusion:** By prioritizing social equity and inclusion, green and circular economy production methods reduce disparities and promote equal access to resources, opportunities, and services.
- **Access to basic services:** By promoting sustainable energy systems, resource-efficient infrastructure, and waste management practices, green and circular economy production methods enhance access to essential services.
- **Poverty alleviation:** By focusing on sustainable agriculture, renewable energy, and inclusive economic growth, green and circular economy production methods contribute to creating income-generating opportunities, improving livelihoods, and ensuring access to sustainable resources.
- **Social innovation:** By promoting collaboration, knowledge sharing, and local solutions, green and circular economy production methods contribute to social innovation and the development of sustainable solutions to address social challenges.

Implementing the principles of green and circular economies is not without challenges. Most notable are the issues related to ensuring social sustainability, including, among others:

- **Potential social trade-offs:** Circular and green economy principles require the adoption of innovative production systems, which, while stimulating the creation of new job opportunities, can also pose threats to traditional jobs across many industries, with adverse consequences for income distribution.
- **Access and equity issues:** Several circular economy models, such as sharing platforms, are not always affordable to all. This can create disparities in access to essential goods and services, potentially exacerbating social inequalities.
- **Neglected social metrics:** Circular and green economy “need assessments” often prioritize environmental metrics, sometimes overlooking key social indicators such as income inequality and access to education and healthcare.

Furthermore, green and circular economy principles have distinct objectives. Hence, the need to address trade-offs, particularly in the context of green transition. For example:

- **Transitioning to renewable energy sources** can undermine circularity if the resource-use aspects of circularity are not properly addressed.
- **Eco-friendly packaging** (i.e., using biodegradable or recyclable packaging materials) does not guarantee circularity, if the materials are not effectively collected, recycled, or reused in closed loops.
- **Reducing emissions** can only contribute to circularity if coupled with efforts to maximize resource efficiency and minimize waste generation.
- **Sustainable agriculture** practices can only contribute to circularity if coupled with efforts to ensure the efficient use of resources and waste reduction in food supply chains.

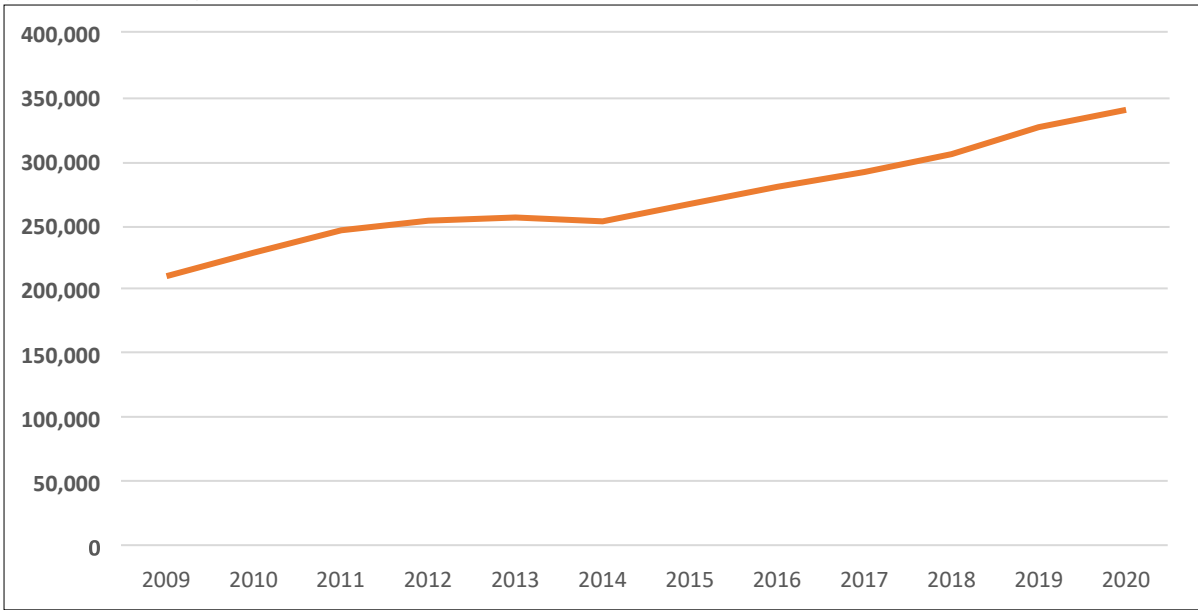
Maximizing the developmental impact of the principles of green and circular economies requires a holistic and comprehensive approach, which considers issues surrounding social equity, inclusivity, and the enhancement of livelihoods and quality of life. This will also require forging complementarity between efforts to promote green economy and circularity, with a view to address the intertwined challenges involved. Most importantly, such an approach

requires striking a balance among the economic, environmental, and social trade-offs inherent in the transition towards sustainability.

In navigating these multifaceted trade-offs, a keen understanding of the local context, coupled with a collaborative and inclusive engagement of key stakeholders, will be instrumental in fostering a transition that is both environmentally sustainable and socially just, ultimately leading to an improved livelihood for all.

These concerns are at the centre of the development agendas of UNECE member States, with the past decade witnessing a growing importance of green and circular economy models in driving growth in the region, particularly in EU countries. This is evident from a cursory examination of official EU statistics on the environmental economy, which measure the contribution of the circular and green economy to job creation and income.<sup>38</sup> As shown in figures 2 and 3, the environmental economy’s contribution to employment in the EU countries increased by around 28 per cent over the period 2009-2020 from 3.9 million to over 5 million full-time equivalent jobs, while its contribution to gross value added (GVA) increased by 61 per cent from €213 in 2009 to €341 billion in 2020.

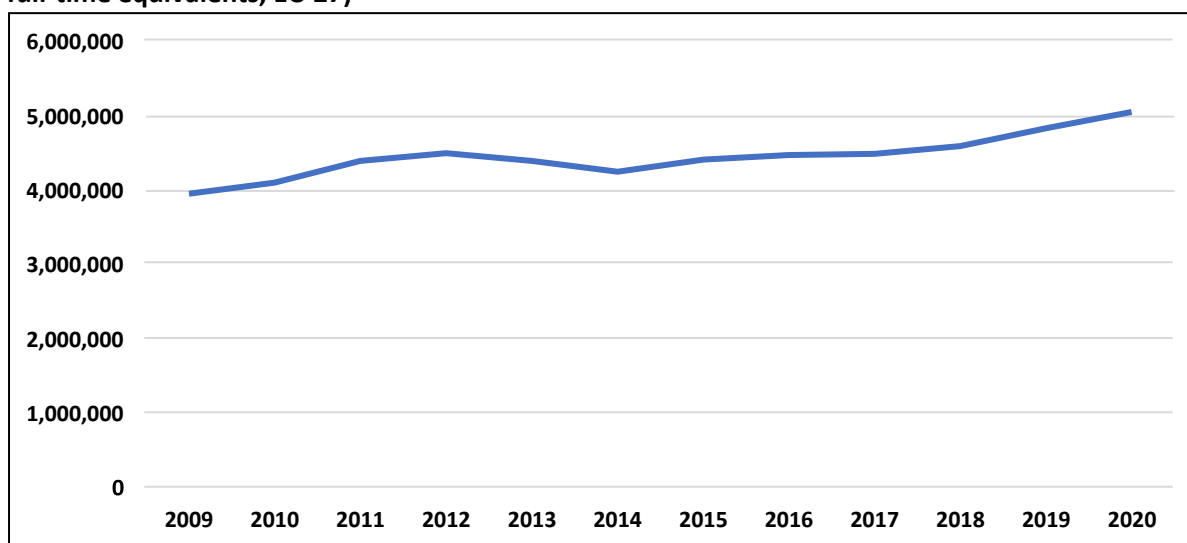
**Figure 2. The environmental economy’s contribution to gross value added in the EU, 2009-2020 (€million, EU 27)**



Source: Eurostat

<sup>38</sup> The EU defines the environmental economy as encompassing “activities and products that serve either of two purposes: ‘environmental protection’ — that is, preventing, reducing and eliminating pollution or any other degradation of the environment, or ‘resource management’ — that is, preserving natural resources and safeguarding them against depletion”. Further details are available at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Environmental\\_goods\\_and\\_services\\_sector\\_\(EGSS\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Environmental_goods_and_services_sector_(EGSS)).

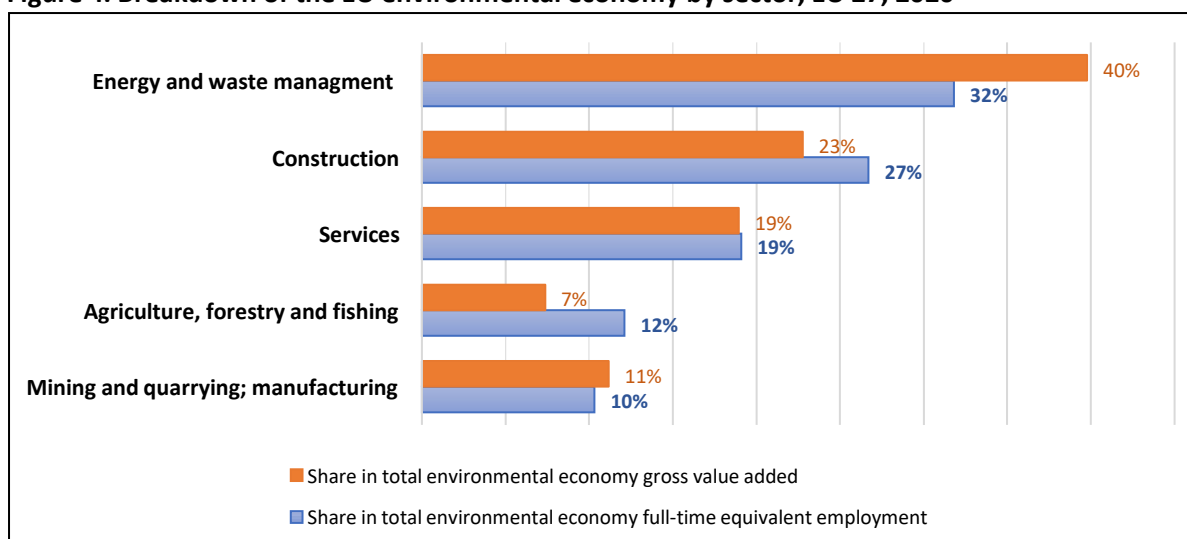
**Figure 3. The environmental economy's contribution employment in the EU, 2009-2020 (Number of full-time equivalents, EU 27)**



Source: Eurostat

Driving the EU's environmental economy are the energy and waste management sectors. As shown in figure 4, these sectors were the major contributors to the EU's GVA and employment in 2020, continuing a consistent trend. Construction ranked second, followed by services, reflecting the ongoing sustainability drive that is currently shaping the transformation of these two sectors. The industrial and agricultural sectors appear as trailing behind with a gap, suggesting the need for increasing awareness and stepping up targeted support to help enterprises adopt green and circular practices and business models.

**Figure 4. Breakdown of the EU environmental economy by sector, EU 27, 2020**



Source: Eurostat

## 2.2. The new landscape of economic development in the UNECE region

The increased importance of green and circular economy production methods in driving growth in the UNECE region reflects the concerted efforts of governments to support sustainable practices. This is also reflected in the outcomes of UNECE 69th and 70th Commission sessions, where member States underscored the green and circular economy as essential for achieving sustainable development, identifying them as cross-cutting priority themes for future action.

To ensure the effective implementation of the green and circular economy principles, governments across the UNECE region have been following a two-pronged approach, which combines regulatory reforms and targeted initiatives. Their efforts entered a new phase following the outbreak of the COVID-19 pandemic, recognizing the need to foster economic resilience. As shown in the Annex (Table A.2), these efforts involve:

- **Creating an enabling environment for green and circular transitions** through strengthened policies for promoting sustainable consumption and production practices, including renewable energy, energy efficiency, waste reduction, and resource efficiency.
- **Promoting digital transformation** as a powerful engine for supporting green and circular transitions, sustaining the momentum of the accelerated digitalization brought about by the COVID-19 pandemic.<sup>39</sup> Governments are prioritizing investments in digital infrastructure, including broadband connectivity, 5G networks, and cloud computing infrastructure. The aim is to leverage digital technologies for enabling:
  - Data-driven decision-making through advanced digital solutions for the collection, analysis, and utilization of vast amounts of data.
  - Smart and efficient infrastructure, such as smart grids and smart buildings, using the Internet of Things (IoT) and connected devices.
  - Circularity, using digital standards, and advanced technologies like blockchain to enhance transparency and traceability in global supply chains.
  - Sustainable consumption patterns, including the sharing economy, peer-to-peer exchanges, and access-based models.
  - Individuals to make environmentally conscious choices in their daily lives through social media and awareness raising educational apps and online platforms.
- **Launching new funding mechanisms**, including sustainable finance, to support green and circular projects and innovations. These aim at accelerating the adoption of sustainable technologies, promoting research and development, and creating green jobs.

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<sup>39</sup> Estimates show the pandemic as brining forward the digital transition in Western Europe by seven years. See, McKinsey (2020) How COVID-19 has pushed companies over the technology tipping point—and transformed business forever, available at: <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever>.

Recognizing the importance of MSMEs for achieving the SDGs<sup>40</sup>, governments across the UNECE region also launched targeted initiatives for enabling these enterprises to drive the circular and green transitions. As shown in table 1, these initiatives are focused on promoting:

- **Skills development** as an essential element for enhancing MSMEs' competitiveness and long-term sustainability. This includes training programmes, networking and knowledge-sharing platforms to equip MSMEs with the necessary skills in, among others, digital literacy, environmental issues, sustainable production and management, innovation, and international trade.
- **Innovation and entrepreneurship** as key drivers of MSME development through start-ups, incubators, and accelerators initiatives, with a special emphasis on high-growth potential sectors, such as technology and clean energy.
- **Access to finance** through, among others, guarantee schemes, and partnerships with financial institutions.
- **Collaboration, knowledge-sharing** through online platforms for dialogue, exchange of best practices and experiences, coupled with training and networking initiatives to foster social, economic, and environmental responsibility among MSMEs.

*Table 1. Catalysing innovation for MSME green and circular resurgence: Illustrative EU initiatives*

Initiatives	Overview
An SME Strategy for a sustainable and digital Europe <a href="https://communication-sme-strategy-march-2020_en.pdf(europa.eu)">communication-sme-strategy-march-2020_en.pdf (europa.eu)</a>	Adopted in 2020, the strategy provides a comprehensive framework to support the growth, competitiveness, and sustainability of SMEs across Europe. It puts forward actions to upscale capacity-building and support for SME transition to sustainability and digitalization; reducing regulatory burden facing SMEs and improving their market access; and improving access to finance.
European Charter for Small Enterprises <a href="https://europeanlaw.lawlegal.eu/european-charter-for-small-enterprises/">https://europeanlaw.lawlegal.eu/european-charter-for-small-enterprises/</a>	The Charter provides a framework for promoting the growth and development of small businesses in Europe. It focuses on creating a favorable business environment by reducing regulatory burdens, improving access to finance, fostering entrepreneurship and innovation, enhancing skills development, and supporting internationalization efforts. The aim is to empower small enterprises to assume a greater role in job creation, economic growth, and social cohesion.
Small Business Act (SBA) <a href="https://europeanlaw.lawlegal.eu/a-small-business-act-for-european-smes/">https://europeanlaw.lawlegal.eu/a-small-business-act-for-european-smes/</a>	The SBA provides policy framework for creating favorable conditions for supporting the growth and competitiveness of SMEs in the EU. It focuses on reducing administrative burdens, improving access to finance, promoting entrepreneurship, enhancing SMEs' access to markets, fostering innovation and sustainability, and providing tailored support services.

<sup>40</sup> For an informative discussion, see, UNDESA (2020) MSMEs and their role in achieving the SDGs, available at: [https://sustainabledevelopment.un.org/content/documents/26073MSMEs\\_and\\_SDGs.pdf](https://sustainabledevelopment.un.org/content/documents/26073MSMEs_and_SDGs.pdf).

Initiatives	Overview
<p>SME Policy Index: Eastern Partner Countries 2020</p> <p><a href="https://www.oecd.org/development/sme-policy-index-eastern-partner-countries-2020-8b45614b-en.htm">https://www.oecd.org/development/sme-policy-index-eastern-partner-countries-2020-8b45614b-en.htm</a></p>	<p>Developed the European Commission, EBRD, the European Training Foundation in collaboration with OECD, this Index is structured around the principles of SBA to serve as a unique benchmarking tool to assess countries' institutions and SME policies against EU and international best practices.</p>
<p>European MSMEs Digital Alliance</p> <p><a href="https://www.digitalsme.eu/fgsc/">https://www.digitalsme.eu/fgsc/</a></p>	<p>The Alliance brings together key stakeholders, including policymakers, industry associations, technology providers, and business support organizations to accelerate the digital transformation of MSME across Europe. It focuses on addressing barriers to digitalization, enhancing digital skills and literacy, facilitating access to digital technologies and infrastructure, and fostering cross-sectoral partnerships. It provides guidance materials and training opportunities for MSMEs, while providing them with a forum to advocate for their specific needs and priorities regarding digital transition.</p>
<p>The European Resource Efficiency Knowledge Network</p> <p><a href="https://clustercollaboration.eu/in-focus/green">https://clustercollaboration.eu/in-focus/green</a></p>	<p>Established by the European Commission, the Network brings together organizations, enterprises and experts to share knowledge and tools to help businesses, particularly SMEs, adopt circular and green economy practices. It offers a range of services, including access to training and capacity building programmes, expert advice and networking. The Network also focuses on raising awareness about the benefits of resource efficiency and circular economy practices as a way for promoting social, economic and environmental responsibility among MSMEs.</p>
<p>The European Institute of Innovation and Technology (EIT) RawMaterials Initiative</p> <p><a href="https://eitrawmaterials.eu/">https://eitrawmaterials.eu/</a></p>	<p>Supported by EIT, a body of the EU with a mandate to lead and manage the <a href="#">European Raw Materials Alliance (ERMA)</a>, EIT RawMaterials is an innovative community focused on promoting disruptive and breakthrough innovations in the raw materials sector. It brings together more than 300 partners from industry, academia, research, and investment to engage in research, education and business support programmes for supporting resource efficiency, recycling, and responsible sourcing addressing key challenges in the raw materials value chains.</p>
<p>The Circular Construction in Regenerative Cities "CICLO" Project</p> <p><a href="https://ciclo-project.eu/">https://ciclo-project.eu/</a></p>	<p>Funded by the EU Horizon 2020 programme, the CICLO Project is an initiative aimed at promoting circular economy practices in the EU's construction and demolition sector. It brings together research institutions, industry partners, and public authorities to support the development of an interactive, needs-oriented labour</p>

Initiatives	Overview
	market ecosystem. It features skills mapping as well as accredited training packages for equipping the labour force with basic circular economy jobs skills related to recycling management, reuse and remanufacturing opportunities, sovietisation (services instead of products) development.
#CEstakeholderEU Platform <a href="https://circulareconomy.europa.eu/platform/en/education">https://circulareconomy.europa.eu/platform/en/education</a>	A joint initiative by the European Commission and the European Economic and Social Committee, the Platform provides resource materials to support education and learning about the circular economy across Europe. It provides training courses and workshops, e-learning resources; case studies showcasing best practices; and research studies. It also facilitates networking and collaboration among educators, researchers, policymakers, and other stakeholders interested in circular economy education.
Access to finance	Key initiatives include: the European Investment Fund ( <a href="https://www.eif.org/what_we_do/where/index.htm">https://www.eif.org/what we do/where/index.htm</a> ); European Circular Bioeconomy Fund of the European Investment Bank ( <a href="https://www.ecbf.vc/">https://www.ecbf.vc/</a> ); and the EU funding programmes and financing support ( <a href="https://circulareconomy.europa.eu/platform/en/financing-circular-economy">https://circulareconomy.europa.eu/platform/en/financing-circular-economy</a> ).

The above efforts have effectively transformed the landscape of economic development in the UNECE region, creating of a system of incentives operating at the macro level of policy, the meso level of institutions, and the micro level of enterprises.

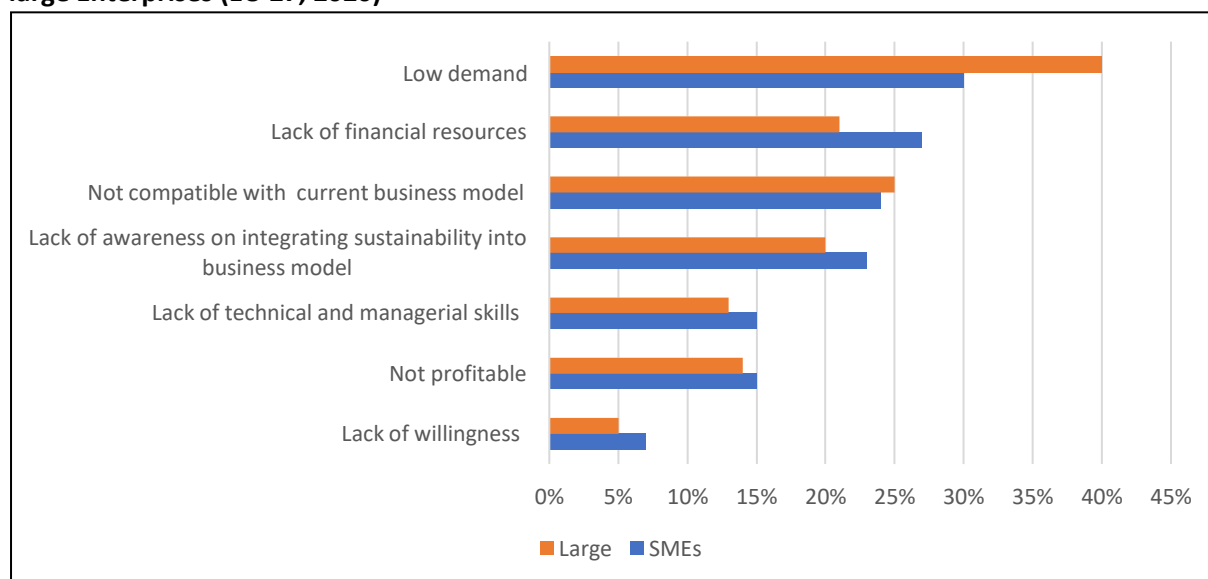
- **At the macro level**, governments are implementing policies, laws and regulations, including tax incentives, which encourage sustainable practices and incentivize the transition towards green and circular economies.
- **At the meso level**, new support mechanisms and services by State agencies and enterprise support organisations have been created to facilitate the exchange of experience, facilitate trade and promote the sharing economy.
- **At the micro level**, new initiatives have been launched to equip MSMEs with the required skills and capacities to meet regulatory requirements and capitalize on the increasing demand for circular and green products.

While significant progress has been made, as shown below, many MSMEs still face challenges in their pursuit of green and circular economy production methods, especially those belonging to developing countries.

### 2.3. Challenges to MSME transition to green and circular economy practices

MSMEs in the UNECE region are eager to reduce their carbon footprint. However, the majority lack the capacity to do so, and this is particularly the case of small enterprises. For those located in the EU, at issue the lack of financial resources and knowhow as well as insufficient market incentives, with several citing the low demand for green products (Figure 5).

**Figure 5. Barriers to adopting sustainable practices: A comparison between European SMEs and large Enterprises (EU 27, 2020)**



Source: Eurostat

Similarly, a survey by Ipsos European Public Affairs<sup>41</sup>, carried out in 2021, found the majority of SMEs in the EU as actively seeking to minimize their carbon footprint:

- Around 89 per cent of the SMEs reported taking at least one action to reduce their carbon footprint in 2019-2020.
- These measures related to minimizing waste (reported by 64 per cent of the SMEs surveyed), energy use (61 per cent) and saving materials (57 per cent).
- Around 83 per cent were planning to implement additional climate actions in 2021-2022.

However, around 72 per cent said that they did not have concrete strategies to transition to green and circular economy production methods. They noted that their efforts took the form of *ad hoc* measures, because they did not have sufficient financial resources and skills to restructure their enterprises around the green and circular economy principles. The

<sup>41</sup> European Commission (2021) Eurobarometer survey, SMEs, resource efficiency and green markets, available at: <https://europa.eu/eurobarometer/surveys/detail/2287>. The survey covered the EU 27, Albania, North Macedonia, Montenegro, Serbia, Turkey, Iceland, the Republic of Moldova, Norway, and the United States of America.



challenges reported by European SMEs reflect a continuous trend,<sup>42</sup> and echo those raised by their counterparts in developing and other developed countries in the UNECE region and beyond, as highlighted in a global survey by the SME Climate Hub conducted in 2021.<sup>43</sup>

The MSMEs' concerns cannot be understood in isolation of the COVID-19 pandemic and its lingering effects. Evidence shows that MSMEs across the UNECE region struggled to regain their pre-pandemic production levels after the lifting of COVID-19 restrictions. The majority were heavily indebted, having downscaled production and delayed business payments to absorb the increased production costs for fear of losing their market shares. In addition, many owners used personal savings to bail out their enterprises at the expense of the overall welfare of their families, and this was particularly the case of enterprises in developing countries.<sup>44</sup>

The outbreak of the war in Ukraine in February 2022 is another key factor, effectively halting the recovery of enterprises across the UNECE region, including MSMEs. This is particularly in view of Ukraine's strategic position on the international trade map as: a major supplier of grains, sunflower oil and minerals<sup>45</sup>; the transit country for Russian oil and gas destined to Europe; and a key node in the Eurasian transport system. Transport disruptions translated into soaring trade costs,<sup>46</sup> which, combined with Ukraine's falling export capacity, triggered shortages in oil and gas, particularly in Europe, as well as shortages in grain before culminating into a global food and energy crises.<sup>47</sup>

Recent projections on the impact of the war on enterprises in the EU show the percentage of those experiencing losses as increasing from 8 per cent in 2021 to 15 per cent in 2022 under the weight of the increased energy and imported raw materials costs. The share of enterprises at risk of default are also on the rise, increasing from 10 to 17 per cent over the same period.<sup>48</sup>

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<sup>42</sup> See, for example, European Commission (2018) SMEs, green markets and resource efficiency, available at: <https://data.europa.eu/doi/10.2873/490067>; and annual reports on SMEs, available at: [https://single-market-economy.ec.europa.eu/smes/sme-strategy/sme-performance-review\\_en](https://single-market-economy.ec.europa.eu/smes/sme-strategy/sme-performance-review_en).

<sup>43</sup> The survey involved a sample of 194 enterprises from across the globe, representing various sectors, though it is not clear if these estimates include micro enterprises. The results are available at: <https://smeclimatehub.org/new-survey-reveals-small-business-barriers-climate-action/>, and mirror the findings emerging from previous global assessments by other organizations. See, for example, OECD SME and entrepreneurship papers, available at: [https://www.oecd-ilibrary.org/energy/no-net-zero-without-smes\\_bab63915-en](https://www.oecd-ilibrary.org/energy/no-net-zero-without-smes_bab63915-en).

<sup>44</sup> See, for example, UNECE survey-based COVID-19 impact assessments 2020 and 2021, The Impact of COVID-19 on trade and structural transformation: Evidence from UNECE's survey of Micro, Small and Medium Enterprises, different assessments, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>; OECD (2021) One year of SME and entrepreneurship policy responses to COVID-19: Lessons learned to "build back better", available at: <https://www.oecd.org/coronavirus/policy-responses/one-year-of-sme-and-entrepreneurship-policy-responses-to-covid-19-lessons-learned-to-build-back-better-9a230220/>; and, SME United (2020) A view on the COVID impact on and support measures for SMEs, available at: <https://smeunited.eu/admin/storage/smeunited/200417-covid19-impact1.pdf>.

<sup>45</sup> Ukraine is the fifth largest global exporter of wheat and the fourth largest exporter of corn and barely. It also accounts for 46 percent of the world's sunflower oil supply, is the fifth largest exporter of iron, and the fourth largest exporter of titanium. It also produces 70 per cent of the world's neon and 40 per cent of its krypton. For Observatory of Economic Complexity at: <https://oec.world/en>.

<sup>46</sup> See data by the International Road Transport Union (IRU), available at: <https://www.iru.org/intelligence/flash-info>. Estimates by IRU shows road freight rates in Europe as assuming an increasing trend. Recent estimates are available at: <https://www.iru.org/resources/iru-library/european-road-freight-rate-development-benchmark-q4-2022>.

<sup>47</sup> International Monetary Fund, IMF (2023) World Economic Outlook Update, available at: <https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023>; World Bank (2023) World Economic Prospects, available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/38030/GEP-January-2023.pdf>.

<sup>48</sup> European Investment Bank (2022) How bad is the Ukraine war for the European recovery?, available at: <https://www.eib.org/en/publications/how-bad-is-the-ukraine-war-for-the-european-recovery>.

Enterprises, including MSMEs in developing countries and countries with economies in transition were also hard hit. For example, a survey of enterprises in the Kyrgyz Republic, Tajikistan, and Uzbekistan, conducted by the World Bank in 2022, found 65 per cent of the enterprises as facing increasing production costs. The Kyrgyz enterprises experienced the most significant increases, given their dependence on the Russian Federation for sourcing raw materials.<sup>49</sup> Evidence also shows that Moldovan enterprises among the hardest hit, with their fragile recovery challenged by record-high inflation in 2022.<sup>50</sup>

Many UNECE countries launched extensive emergency support measures to help enterprises withstand the impact of the war in Ukraine.<sup>51</sup> However, as shown below, without intensifying efforts to equip MSMEs with the necessary financial resources and skills, MSMEs in the UNECE region will remain incapable of adopting circular and green economy practices.

For MSMEs belonging to developing countries and countries with economies in transition, the emphasis should be on addressing their weak technological capabilities, which puts them at a disadvantage compared to their more advanced counterparts in developed countries when it comes to embracing circular and green economy practices. The prevalence of counterfeits is another debilitating factor, creating a disincentive to investments in production and business development, as shown in UNECE studies on regulatory and procedural barriers to trade.

### Weak technological capabilities

Green and circular economy principles have significant implications for MSMEs in terms of business strategies and production methods. They require them to embrace a holistic approach, which considers the entire lifecycle of a product or service, from design and production to use, disposal and beyond. This holistic approach implies an extended producer responsibility (EPR), whereby production is geared upscaling durability, repairability and recyclability, while reducing waste as follows:

- **Designing for repairability**, which involves manufacturing products that can be easily disassembled into their individual components, allowing for efficient repair, maintenance, or recycling. This means prioritising modular designs, where different parts of a product can be easily replaced or upgraded, thereby extending its lifespan.<sup>52</sup>
- **Designing for durability**, which involves creating products that are long-lasting and of high quality. This means prioritising production methods that withstand extended use and frequent maintenance to reduce the need for frequent replacement and minimize waste.<sup>53</sup>
- **Designing for recycling**, which involves using materials that can be easily recycled or repurposed and are non-toxic to support closed-loop system. This means prioritising

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<sup>49</sup> Itooty, M. and Melecky M. (2022) Taking the pulse of business in Central Asia following the Russian invasion of Ukraine, World Bank Blogs, July, available at: <https://blogs.worldbank.org/europeandcentralasia/taking-pulse-business-central-asia-following-russian-invasion-ukraine>.

<sup>50</sup> In 2022, [the inflation rate reached 28.7 per cent](#), which was five times higher than that in 2021 and substantially higher than in the neighbouring Romania ([13.8 per cent](#)) and Ukraine ([20.2 per cent](#)).

<sup>51</sup> See, for example, the measures launched by the European Commission, available at: <https://competition-cases.ec.europa.eu/cases/SA.106481>; <https://ec.europa.eu/commission/presscorner/home/en>.

<sup>52</sup> For a concise overview of this approach, see, for example, 42 Technology (42T) team of engineers at: [5 design considerations for achieving repairability in your product \(42t.com\)](#).

<sup>53</sup> For a concise overview of this approach, see, for example, White, P (2005) Designing durability: Emerging opportunities, Arizona State University; available at: [https://www.idsa.org/wp-content/uploads/FINAL\\_Paper-Designing%20Durability.pdf](https://www.idsa.org/wp-content/uploads/FINAL_Paper-Designing%20Durability.pdf).

materials that can be cycled back into the production process so as to reduce reliance on virgin resources.<sup>54</sup>

However, MSMEs in developing countries are ill-equipped to adopt sustainable production methods, particularly the micro and small ones. They have weak technological capabilities, understood as the skills, knowledge, and capacity to understand, utilize and adapt existing technologies for production purposes as well as upgrading existing technologies and innovating new ones.<sup>55</sup>

UNECE surveys show small enterprises as lacking the capacity to improve their production and engage in international trade.<sup>56</sup> On their part, many medium enterprises reported experiencing difficulties in adapting to international buyers' demands, which requires bridging multiple links within their supply chains, acting as suppliers to larger enterprises while sourcing from smaller ones. Their weak productive capacity has rendered them incapable of assuming the critical role of a supply chain node/intermediary, a role that sets them apart from micro enterprises.

Further, many MSMEs lack entrepreneurial skills, understood as the competencies for identifying new business opportunities, engaging in new productive ventures and for transforming these ventures into profitable businesses (Box 3). This is best reflected in their inability to develop business strategies to proactively respond to market changes and their tendency to be risk averse.<sup>57</sup>

### *Box 3. Definition entrepreneurial skills*

Entrepreneurial skills refer to the specific abilities and competencies that individuals possess or develop to take on the role of an entrepreneur, understood as an individual willing to bear the risks and uncertainties associated with starting and running a new business venture and is capable of creating, managing and growing new business ventures.

Key entrepreneurial skills include:

- *Creativity and innovation*: Entrepreneurs think creatively, generate new ideas, and identify innovative solutions to problems in the form of unique products, services, or business models that differentiate their ventures in the market.
- *Opportunity recognition*: Entrepreneurs have a keen eye for identifying business opportunities. They understand customer needs and preferences and, as such, are quick to spot gaps or untapped areas.

<sup>54</sup> For a concise overview of this approach, see, for example, Redress Academy Guide, available at: [Design for Recyclability Guide — Redress Design Award](#).

<sup>55</sup> Lall, S. (1992) Technological capabilities and industrialization, *World Development*, 20 (2), 165-186.

<sup>56</sup> Ibid.

<sup>57</sup> UNECE Webinar (2022) Enhancing the contribution of MSMEs in the facilitation of the circular economy transition & green post COVID-19 resurgence, 25 May. Presentations are available at: <https://unece.org/trade/events/webinar-2-enhancing-contribution-msmes-facilitation-circular-economy-transition-green>.

- *Risk assessment and management*: Entrepreneurs are capable of assessing risks and making informed decisions. They evaluate potential risks and rewards and take calculated risks while effectively managing uncertainties.
- *Vision and strategic thinking*: Entrepreneurs have a clear vision of their business goals and a strategic mindset to develop plans and strategies for achieving them.
- *Adaptability and flexibility*: Entrepreneurs are capable of responding to evolving customer needs, market trends, and competitive dynamics, and they accord priority to embracing new technologies.
- *Networking*: Entrepreneurs are effective in accessing resources and collaborating, given their strong networks and relationships with stakeholders such as customers, suppliers, investors, and mentors.
- *Financial management*: Entrepreneurs have a solid understanding of financial management principles, including budgeting, cash flow management, financial analysis, and funding strategies.
- *Leadership*: Entrepreneurs possess the required skills to effectively lead and inspire their teams. This includes communication, delegation, motivation, and the ability to build a cohesive and high-performing team.
- *Persistence*: Entrepreneurs stand out for their ability to persist, bounce back from failures, and maintain resilience in the face of obstacles.

Source: UNECE, based on OECD and UNCTAD<sup>58</sup>

### Low rate of standards implementation

The weak technological capabilities of MSMEs manifest themselves in their low rate of implementation of international and regional standards<sup>59</sup>, a critical requisite for improving their market access and competitiveness. International standards, e.g., those set by the International Organization for Standardization, ISO; the International Electrotechnical Commission, IEC) and regional ones (e.g., the EU harmonized standards, EN) set technical specifications for achieving high quality, while ensuring consumer safety, and environmental conservation. International and regional standards implementation yields immediate benefits for MSMEs, as follows:

- Given their extensive coverage of production processes, these standards enable enterprises to properly select and acquire modern production methods, skill sets and supply-chain expertise, thereby unleashing innovation.
- By unleashing innovation, standards also bolster the enterprises' resilience. For example, MSMEs with a successful track record in standards implementation were able to withstand falling demand and supply shortages during the initial period of COVID-19, having the required skills and machinery to repurpose production to meet emerging needs.<sup>60</sup>

<sup>58</sup> OECD, Skills for entrepreneurship, different reports, available at: <https://www.oecd.org/cfe/leed/reports-skills-entrepreneurship.htm>; UNCTAD (2012) Entrepreneurship policy framework and implementation guidance, available at: <https://unctad.org/topic/enterprise-development/entrepreneurship-policy-hub>.

<sup>59</sup> UNECE studies on regulatory and procedural barriers to trade, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

<sup>60</sup> UNECE (2020 and 2021) The impact of COVID-19 on trade and structural transformation: Evidence from UNECE's survey of Micro, Small and Medium Enterprises, different assessments, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

- When referenced in legislation (as a basis for enforcing conformity with regulatory requirements), international/regional harmonised standards become mandatory and create additional benefits for MSMEs in the form of improved market access. For example, enterprises implementing ENs benefit from the “presumption of conformity” principle, whereby their products/services are automatically presumed to meet the essential requirements of applicable EU legislation.<sup>61</sup> This enables them to gain the trust of potential buyers and simplifies the conformity assessment process.

However, the dominant view among the MSMEs surveyed as part of the UNECE studies<sup>62</sup> is that international and regional harmonized standards are of limited value, especially since they are voluntary. Many were of also of the opinion that investing in standards implementation makes no business sense, given the prevalence of counterfeits, something which stems from weak national enforcement capacities at commercial border crossing points as well as domestically during market surveillance. Further, many enterprises, particularly micro ones, reported that they are not familiar with international/regional standards.

Given the above, MSMEs are also slow to implement voluntary sustainability standards (VSS), which refer to guidelines, criteria, and certification systems covering the three pillars of sustainability. Notable examples include Fairtrade certification (used for guaranteeing fair prices and better working conditions for small-scale farmers and workers, promoting sustainable livelihoods and reducing poverty) and Environmental, Social, and Governance (ESG) standards (used for assessing performance in areas related to environmental sustainability, social responsibility, and corporate governance). Creating the required conditions for promoting VSS should, therefore, be accorded priority treatment. According to UNCTAD, VSS adoption is more likely to generate benefits when:<sup>63</sup>

- Current business contracts encourage VSS adoption.
- Producers are well organized.
- VSS requirements are simple and easily conveyed.
- VSS address sustainability objectives that are relevant to local communities.
- Support to VSS adoption is provided by businesses, development partners or governments.

While VSS and international/regional standards have distinct characteristics and serve different purposes (Box 4), they complement each other. MSMEs can choose to adopt sectoral standards to improve certain aspects of their production methods and/or overall management systems along with VSS to further improve performance against specific sustainability dimensions. Evidence shows that VSS also generate efficiency gains and boost profits. For example, a recent study shows that, on average, high ESG performers registered

<sup>61</sup> A detailed account of this principle is available at: [Conformity assessment – ensure your products comply with EU rules - Your Europe \(europa.eu\)](#).

<sup>62</sup> UNECE studies on regulatory and procedural barriers to trade and COVID-19 impact assessments, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

<sup>63</sup> UNCTAD (2020) *Fostering green exports through voluntary sustainability standards: The UNCTAD approach*; available at: [https://unctad.org/system/files/official-document/ditctab2020d1\\_en.pdf](https://unctad.org/system/files/official-document/ditctab2020d1_en.pdf). Also see, UNCTAD Handbook on VSS: UNCTAD. (2022). *Voluntary Sustainability Standards in International Trade*. UNCTAD: Geneva; and UNFSS. (2022). *Voluntary Sustainability Standards – Sustainability Agenda and Developing Countries: Opportunities and Challenges* (UNFSS 5<sup>th</sup> Flagship report). UNFSS: Geneva.

operating margins<sup>64</sup> that were 3.7 times higher compared to those with lower ratings. In addition, shareholders reaped higher annual returns on their investments, surpassing those with lower ESG ratings by 2.6 times.<sup>65</sup>

*Box 4. Understanding the difference between international/regional sectoral standards and voluntary sustainability standards*

International/regional sectoral standards and VSS serve different purposes and have distinct characteristics:

- *Development:* International/regional sectoral standards are developed by ISO while regional harmonised standards are developed by recognised regional standard setting bodies (in the case of ENs, CEN, CENELEC, or ETSI). VSS, are developed by independent multi-stakeholder organizations or initiatives, which aim to address specific sustainability issues.
- *Scope:* International/regional sectoral standards cover a wide range of areas, including quality management, environmental management, occupational health and safety, and more. They provide general guidelines and requirements that organizations can adopt. VSS are typically focused on specific sustainability issues such as fair trade, organic production, or responsible sourcing.
- *Application:* International/regional sectoral standards are voluntary, meaning organizations can choose to adopt them but are not mandatory unless specified by regulatory bodies or contractual requirements. VSS are also voluntary, but they are specific to sustainability issues and rely on market demand to promote sustainable practices within a particular sector or industry.
- *Certification:* International/regional sectoral standards can be certified through third-party audits, providing formal recognition that an organization meets the requirements of the standard. VSS involve verification and certification processes, as they often require that independent auditing organizations assess and verify that companies comply with the specific sustainability criteria outlined by the standard.
- *Recognition:* International/regional sectoral standards are widely recognized and accepted globally, providing a common framework for organizations across different countries. In contrast, because of high heterogeneity in the way the different VSS are designed and, as a consequence, in their credibility recognition of VSS varies, with some VSS having turned into key market drivers, and many others, remaining less prominent.

In response to the challenges that VSS may pose, the United Nations Forum on Sustainability Standards (UNFSS), a multi-agency cooperation mechanism supports producers, traders, consumers, standard-setters, certification-bodies, trade diplomats, non-governmental organizations and researchers. UNFSS systematically conducts analytical, empirical and

<sup>64</sup> Operating margins is a financial metric that measures an enterprise's efficiency in generating profits from its core operations. It is calculated by dividing the operating income (also known as operating profit) by the enterprise's net sales or revenue.

<sup>65</sup> Haanaes, K. (2022) Why all businesses should embrace sustainability, available at: <https://www.imd.org/research-knowledge/articles/why-all-businesses-should-embrace-sustainability/>.



capacity-building activities related to VSS, dealing with the generic and strategic challenges without endorsing or legitimizing any specific standard.

Source: UNECE

### Limited market access

MSMEs often experience significant challenges accessing international markets, which undermines their ability to achieve economies of scale and scope. These challenges arise from various factors, including:<sup>66</sup>

- **Connectivity constraints**, owing to the lack of adequate infrastructure and logistical services, particularly the case of enterprises in developing countries, which increases transport costs and undermine MSMEs' ability to extend their outreach in domestic markets and globally. For those operating in landlocked countries, these challenges are compounded by higher transportation costs and longer transit times.
- **Regulatory and compliance burdens**: Compliance with business regulatory requirements as well as quality, safety, health and environmental requirements in domestic and international markets pose significant challenges for MSMEs. Many lack the necessary knowledge, skills and financial resources to navigate and meet these requirements.
- **Limited networks and relationships**: Building networks and establishing relationships with potential customers, suppliers, and distributors is critical for expanding market access. However, MSMEs face difficulties in developing and maintaining such networks, given their limited resources, lack of industry connections, and limited visibility in international markets.

### Limited access to finance

Access to finance is a critical aspect for enterprises' growth and sustainability. However, MSMEs often face difficulties accessing formal financial services, lacking the skills to navigate the banking sector's administrative procedures and the resources to meet collateral requirements. At the same time, banks tend to perceive MSMEs as riskier borrowers due to a lack of comprehensive and reliable information about their business operations and financial performance. These conditions of information asymmetry prompt banks to charge MSMEs high interest rates or deny them credit altogether.

Access to non-bank financing is also difficult for many MSMEs, particularly in developing countries, given the weak capital markets and the limited presence of non-financial institutions, which in many cases are donor-dependent so that their services are not sustainable. Where such sources are available, MSMEs are often unable to access them, lacking the knowledge and skills to do so.

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<sup>66</sup> See UNECE studies on regulatory and procedural barriers to trade, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>; World Bank, Doing Business reports and Logistics Performance Index, available at: <https://databank.worldbank.org/source/doing-business>; and <https://lpi.worldbank.org/>.

## Counterfeits

In many countries, the prevalence of counterfeits imposes a debilitating factor for MSMEs, since these products take away from their sales. Many also reported that these products create a disincentive to investments and standards implementation.<sup>67</sup> This obstacle reflects broader capacity shortfalls in the areas of market surveillance and cross border control of commercial goods (Section 4.2).

## Lack of adequate support services for female-owned MSMEs

For female-owned MSMEs, the above challenges are complicated by a range of factors, including:

- **Gender bias and stereotypes**, which manifest in the form of biased lending practices, unequal treatment in business negotiations or cultural norms that limit their mobility or decision-making authority, especially in contexts where traditional gender roles are prevalent.<sup>68</sup>
- **Lack of adequate warehousing facilities**: Many female entrepreneurs tend to work from home to strike a work-family balance. However, this flexibility comes with a major drawback, as it means small storage areas, which cannot not accommodate additional machinery and large volumes of raw material and final products. Below are the main problems caused by the lack of adequate warehousing facilities:<sup>69</sup>
  - Additional production costs as MSMEs must order smaller quantities and, in so doing, forgo bulk and quantity discount prices.
  - Inability to meet demand as MSMEs must produce on demand on a first-in-first-out basis.
  - Compromised product quality, as the lack of modern machinery and equipment undermine the MSMEs' ability to improve product quality.
  - Disincentive to investment— in view of the above, expanding production does not make good business sense.
- **Lack of affordable care for children under 3 years old**: In some countries, public kindergartens are scarce, while private childcare is only accessible to higher-income households. This undermines the owners' ability to achieve-family balance, thereby creating a disincentive for business expansion.<sup>70</sup>
- **Limited focus of export promotion initiatives**: In some countries, export promotion programmes tend to focus on a limited range of industries, particularly agriculture and the food industry. This means that enterprises belonging to other sectors are put at a disadvantage, as they must cover the costs of participating in international trade fairs. These costs are significant as they include, in addition to the participation fee, renting space, travel and shipping products. The MSMEs also assume the challenge of finding

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<sup>67</sup> UNECE studies on regulatory and procedural barriers to trade, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

<sup>68</sup> See, for example, Center for Entrepreneurs (2015) Shattering stereotypes: women in entrepreneurship, available at: <https://centreforentrepreneurs.org/cfe-research/shattering-stereotypes/>

<sup>69</sup> UNECE (2022) The Impact of COVID-19 on the Trade and Business Development Prospects of female-owned enterprises in Armenia: Evidence from UNECE's Survey of Female-owned Micro, Small and Medium Enterprises, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

<sup>70</sup> UNECE (2022) The Impact of COVID-19 on the Trade and Business Development Prospects of female-owned enterprises in the Republic of Moldova: Evidence from UNECE's Survey of Female-owned Micro, Small and Medium Enterprises, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.



potential partners, a burden that would have been lifted had their respective sectors been included in export promotion programmes.<sup>71</sup>

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<sup>71</sup> UNECE (2022) The Impact of COVID-19 on the Trade and Business Development Prospects of female-owned enterprises in Armenia: Evidence from UNECE's Survey of Female-owned Micro, Small and Medium Enterprises, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

### III. Catalyzing innovation for MSME green and circular resurge

#### 3.1. Implications of green and circular economy models for MSMEs

As explained in the previous chapter, transitioning to a circular and green economy requires moving away from linear production and adopting a lifecycle approach, which focuses on extending the lifespan of products, minimizing waste, ensuring energy efficiency and bolstering product functionality. Embracing this approach requires innovations in, among others:

- **Renewable energy technologies** for driving the transition away from fossil fuels and towards clean and sustainable energy sources through innovations in solar, wind, hydro, and geothermal energy.
- **Energy efficiency technologies** for supporting production methods, which rely on renewable energy sources (such as solar and wind power) as well as green building materials, and waste management solutions.
- **Digital technologies** for harnessing information and communications technology (ICT), such as artificial intelligence, the Internet of Things, blockchain and data analytics, to develop smart management systems and solutions for data collection and analysis, scaling-up collaboration, optimising production and bolstering efficiency.
- **New manufacturing technologies** for durability, reparability, and recyclability. Examples include:
  - Sustainable materials and manufacturing methods for producing of bio-based and biodegradable materials.
  - Waste management and recycling systems, known as waste-to-energy conversion systems, for reducing waste and maximizing resource recovery.
  - Smart grid and energy storage solutions, including energy storage technologies, smart grid systems, and demand-response mechanisms, for better integration of renewable energy sources and enhancing energy efficiency.
  - Sustainable agriculture and food systems, including precision farming, vertical farming, agroecology, and sustainable food distribution systems to reduce environmental impacts, promote efficient resource use, and ensure food security.

The need for promoting innovation among MSMEs cannot be over-emphasized as a prerequisite for equipping them with the required technological capabilities to adopt green and circular economy practices. They will be able to leverage existing technologies, especially ICT, to improve their productivity as well as introduce new ideas, business models and production methods, which fundamentally transform current production and consumption patterns and stimulate competition (Box 5).

### Box 5. Defining innovation

An innovation is any new or improved product or process (or a combination thereof) that differs significantly from the previous versions of such products or processes and that has been made available to potential users (product) or brought into use by the innovator (an enterprise or any other type of organization). A product innovation is a new or improved good or service while business process innovations concern improvements to the different functions of a firm, such as those involving production, distribution/logistics, marketing and sales, ICT systems, management and business product as well as process development.

Another way of thinking about innovation is to frame it using the 4Ps model. Innovation can be thought about in terms of four directions of change:

- *Production innovation*: changes in the outputs (products or services) which organizations can offer.
- *Process innovation* – changes in the way in which such outputs are created and delivered.
- *Position innovation* – changes in the context in which products or services are introduced.
- *Paradigm Innovation* – changes in the underlying mental (business) models which frame what an organization does.

Within any of these dimensions, innovations can be positioned on a spectrum from incremental – doing better what is already being done – through to radical – doing something completely different. They can be stand-alone innovations, be part of a system or provide a platform for related innovations.

Source: UNECE <sup>72</sup>

MSMEs will also be able to transform their businesses into high-growth enterprises (HGEs), capable of sustaining impressive employment and turnover performance over an extended period (Box 6). Despite improvements, HGEs, which according to current statistical methodologies do not cover micro enterprises (0-9 persons), account for a modest share of total enterprises. For example, in the EU countries, they represented about 12 per cent of total registered enterprises in 2018.<sup>73</sup> Moreover, their contribution to employment is uneven, with a small number of enterprises accounting for the lion's share of total jobs created by HGEs.<sup>74</sup>

### Box 6. Defining high-growth enterprises

There are several approaches to defining HGEs. OECD defines, high-growth enterprises as enterprises with average annualized growth in employees (or in turnover) greater than 20

<sup>72</sup> UNECE (2021) Supporting innovative high-growth enterprises in the Eastern Europe and South Caucasus sub-region, available at: [https://unece.org/sites/default/files/2021-11/2111834\\_E\\_ECE\\_CECI\\_28\\_WEB\\_0.pdf](https://unece.org/sites/default/files/2021-11/2111834_E_ECE_CECI_28_WEB_0.pdf).

<sup>73</sup> See, Eurostat at: <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20201201-1>.

<sup>74</sup> Wennberg, K. and Christian S. (Eds.) (2022) Questioning the entrepreneurial state status-quo, pitfalls, and the need for credible innovation policy, Springer, available at: <https://link.springer.com/content/pdf/10.1007/978-3-030-94273-1.pdf?pdf>.

per cent a year, over a three-year period, and with ten or more employees at the beginning of the observation period.<sup>75</sup>

The OECD distinguishes these from medium-growth enterprises, defined as those with average annualized growth in employees between 10 per cent and 20 per cent a year, over a three-year period, and with ten or more employees at the beginning of the observation period.

The EU defines HGEs as those recording an average annualized growth of 10 per cent or more over a three-year period with ten or more employees at the beginning of the observation period.<sup>76</sup>

The size threshold of ten employees at the start of the observation period is meant to avoid the small size class bias that the high growth definition inevitably contains. Eurostat is updating its statistics to include micro HGEs (1 to 9 persons) in its regular annual data collection.<sup>77</sup>

### 3.2. Building a conducive environment for MSME circular, green and digital innovation

As shown above, developing the MSMEs' technological capabilities requires enabling them to embrace innovation. This requires creating a comprehensive system of incentives, which address existing regulatory and capacity gaps at the macro, meso and micro-levels, with a view to helping MSMEs transform into innovative high-growth enterprises (IHGEs).<sup>78</sup> Below are the main building blocks for consolidating such a system.

#### Fit-for-purpose regulatory frameworks

A fit-for-purpose regulatory framework is one that features specific considerations tailored to the unique characteristics of MSMEs and their needs. Key elements of such a framework include, among others:

- **Measures to simplify and streamline business-related administrative procedures**, e.g., permits, licensing, and associated regulatory requirements, to help MSMEs navigate and comply with mandatory requirements at minimal costs (time and financial wise).
- **Financial incentives** to offset the risks associated with circular and green economy innovations. This includes, for example, tax incentives, which frees resources for research and development (R&D) and investments in skills development and innovative business models and production methods.<sup>79</sup>
- **Intellectual property (IP) protection** and support to safeguard MSMEs' circular economy and green economy innovations, aimed at enabling them to maintain a competitive advantage. This includes, among others, streamlined patent processes, support for patent filing costs, and assistance in navigating IP-related legal procedures.

<sup>75</sup> OECD (2013) Entrepreneurship at a glance, available at: [https://doi.org/10.1787/entrepreneur\\_aag-2013-18-en](https://doi.org/10.1787/entrepreneur_aag-2013-18-en).

<sup>76</sup> <https://ec.europa.eu/eurostat/web/experimental-statistics/micro-high-growth-enterprises>.

<sup>77</sup> Ibid.

<sup>78</sup> For further details on the concept of IHGEs, see Ibid.

<sup>79</sup> See, for example, PricewaterhouseCoopers (PwC) Green Taxes and Incentives Tracker, available at: <https://www.pwc.com/gx/en/services/tax/green-tax-and-incentives-tracker.html>.

- **Regulatory sandboxes**, supported by programmes, to provide MSMEs engaged with plans to engage in circular and green economy practices with the flexibility to test and refine their innovative products and services in a controlled environment (i.e., within certain regulatory boundaries) before scaling up.<sup>80</sup>
- **Measures to facilitate the participation of MSMEs in public procurement processes**, such as simplified bidding procedures, reserved contracts, or subcontracting requirements.
- **Measures to address skills mismatch in the labour market**, such as laws that lower barriers to enterprise exit, thereby enabling the allocation of skills across sectors.
- **Legislative provisions for public-private consultations** with a special emphasis on engaging MSME representatives, so as to ensure proper integration of their concerns and suggestions into new/revised policies and laws.

### Business support services

The lack of business support services is a major obstacle to MSME growth and competitiveness. Support services are either in short supply, unsustainable or inaccessible, owing to complex administrative procedures and high fees. As shown in the previous section, MSMEs require concerted support to embrace green and circular economy innovations. Drawing on successful experiences, critical support services include, among others:

- **Information services** to provide MSMEs with easy access to up-to-date information on relevant regulations, changes in legislation, compliance requirements and emerging business opportunities. Such services could involve hot desks (online or physical); online platforms with resource materials in the form of clear and concise information on applicable regulations and administrative procedures as well as emerging green and circular economy practices; guidelines on the steps that MSMEs need to take to achieve regulatory compliance and transform their production methods (e.g., ICT systems, skills and production methods); and market intelligence on emerging technologies, customer preferences, and potential business opportunities in domestic and international markets.
- **Business management capacity building services** to help MSMEs acquire the expertise and skills to better manage their businesses and adopt circular and green economy practices. Such services should combine advanced training programmes with mentorship programmes and advisory services on the various aspects of strategic management, and cover entrepreneurship skills; strategic business planning; financial analysis and supply chain management. These areas should be also integrated into the education curriculum in order to create future ready entrepreneurs and labour force.
- **Product development support services** to help enterprises in selecting, planning and implementing innovative circular and green economy business models and production methods. Such services should involve advanced training programmes and advisory services on standards implementation; the creation of business incubators and

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<sup>80</sup> For an informative overview of regulatory sandboxes, see, for example Jenik, I. and Kate L. (2017) Regulatory sandboxes and financial inclusion, CGAP Working Paper, available at: <https://www.cgap.org/sites/default/files/researches/documents/Working-Paper-Regulatory-Sandboxes-Oct-2017.pdf>.

business accelerator programmes for start-ups; and green skills development (e.g., clean energy installation, eco-design and recycling).

- **Collaboration and networking services** to support partnerships among MSMEs as well as between MSMEs and large enterprises and research institutions. Such services could involve creating industry clusters and networking programmes; study tours; and online collaborative platforms.

The above support services should be delivered within the context of a multi-faceted approach involving governments, industry associations, enterprise support organisations and the private sector, based on clearly articulated MSME development strategies, which mainstream the specific needs of female entrepreneurs and MSME owners. Donor support can play a crucial role in expanding the range of support services for MSMEs. However, it is important to avoid creating donor dependency. Evidence points to the following key requisites for ensuring the sustainability of new MSME support services, including entrepreneurship development, beyond the international funding cycle:<sup>81</sup>

- **Local ownership and leadership** through involving beneficiary enterprise support organisations in the design and implementation of capacity building initiatives. This puts these organisations in the driving seat and ensures aligning the services to the needs and priorities of the local context.
- **Institutional strengthening** through a strong emphasis on enhancing the capabilities and effectiveness of enterprise support institutions themselves. This includes strengthening their organizational structures, governance, human resources, financial management, and operational systems.
- **Business model development** through a focus on helping enterprise support organisations develop sustainable business models for generating revenue beyond reliance on international funding. This can involve fee-based services, partnerships with private sector entities, and/or leveraging innovative financing mechanisms.
- **Network and partnership building** through a focus on helping enterprise support institutions build alliances with local, regional, and international counterparts to enhance their outreach, resources, and access to expertise knowledge.
- **Resource mobilization** through a focus on helping enterprise support organisations develop strategies for mobilizing resources from various sources, including government grants, private sector investments, philanthropic funding, and impact investors.
- **Knowledge management** through mechanisms for knowledge sharing and mutual learning, with a view to help enterprise support institutions build credibility, attract new clients, and position themselves as a valuable resource in the innovation ecosystem.

### Innovative financing mechanisms

Without creative solutions to improve their access to finance existing MSMEs and start-ups will not be able to adopt circular and green economies practices. Governments have a range of innovative financing mechanisms to consider, including alternative non-banking financing

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<sup>81</sup> Drawing on the insights gained from UNECE survey-based studies on regulatory and procedural barriers to trade and COVID-19 impact assessments, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

mechanisms and climate change financing options. The first set involves flexible mechanisms for enabling MSMEs to access external funding sources , while the second involves options that are exclusively focused on upscaling the environmental, social and or economic benefits of investments.

### *Non-banking mechanisms*

- **Trade credit**, which involves suppliers extending credit terms to buyers, allowing them to defer payment for goods or services and better manage their cash flow.
- **Invoice financing**, whereby businesses receive immediate funds by selling their outstanding invoices to a third-party financial institution, thereby enabling them to improve their cash flow by eliminating the need to wait for customer payments.
- **Supply chain financing**, whereby non-banking financial institutions provide capital to businesses based on their outstanding invoices or purchase orders within a supply chain.
- **Venture capital**, whereby investors provide capital to start-ups or high-growth potential businesses and provide expertise and support to help the business grow and/or realise innovative ideas in exchange for equity ownership.
- **Angel investing**, whereby individuals provide capital as well as mentorship or industry connections to start-ups with innovative ideas in exchange for equity ownership.
- **Crowdfunding**, whereby businesses or individuals raise funds from many investors, typically through online platforms. Crowdfunding can be, among others, donation-based, reward-based, equity-based, and debt-based crowdfunding to support innovations.
- **Peer-to-peer lending online platforms**, which connect borrowers directly with individual lenders, bypassing traditional financial institutions.
- **Revenue-sharing agreements**, whereby investors provide capital to businesses in exchange for a share of future revenues, thereby enabling businesses to access funds without taking on traditional debt.
- **Grants and awards** by government agencies, foundations, or philanthropic organizations. These are non-repayable funds for supporting sectors or innovations.

### *Climate finance*

Climate finance is gaining increased importance for mobilizing public and private funding resources to support the transition towards low-carbon and resilient development. As shown below, the past few years has seen the emergence of new, innovative climate finance mechanisms to drive climate change mitigation and adaptation, while aligning national, regional and global financial flows with the environmental objectives outlined in international agreements, such as the Paris Agreement and making it a cornerstone of contemporary climate change policy and action.<sup>82</sup>

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<sup>82</sup> See, for example, UNECE (2023) Mobilizing financing for the circular economy, available at: <https://unece.org/info/publications/pub/378112>.

- **Green bonds**, which enable enterprises to raise funds from the capital markets to finance climate action investments focused on energy diversification and energy efficiency.<sup>83</sup>
- **Sustainability linked bonds (SLBs) and sustainability-linked loans (SLLs)**, which are linked to the borrower's performance against predetermined sustainability targets or key performance indicators (KPIs) related to environmental, social, or governance (ESG) metrics. The interest rate and other financial terms are adjusted based on the enterprise's ability to meet the predetermined targets.<sup>84</sup>
- **Impact bonds**, also known as social impact bonds (SIBs), refer structured financial instruments typically structured as pay-for-success contracts for financing investments in upscaling social impacts. They involve multiple stakeholders, including governments, investors and service providers, whereby investors provide upfront capital against measurable targets or KPIs.<sup>85</sup>
- **Outcome-based contracts**, another type of impact investing that is known as pay-for-performance contracts or results-based contracts, are contractual agreements between a service provider and a payer (usually a government or funding agency). The payments are contingent upon meeting specific targets or KPIs.<sup>86</sup>
- **Climate grants** and funds to provide financial support to MSMEs working on innovative climate solutions. These grants and funds are often provided by governments, international organizations, or foundations dedicated to promoting sustainable development and climate resilience.<sup>87</sup>
- **Green financing facilities** to provide loans, grants, or technical assistance to support enterprises in adopting sustainable practices, investing in renewable energy technologies, or implementing energy-efficient measures.<sup>88</sup>
- **Climate innovation funds** to support enterprises engaged in innovative climate technologies, products, or services. These funds focus on promoting technological advancements and scalable solutions that contribute to climate mitigation or adaptation.<sup>89</sup>
- **Energy efficiency financing**, typically by financial institutions and energy service providers, to provide specialized financing options for enterprises committed to investing in energy-efficient equipment, technologies, or building retrofits.<sup>90</sup>

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<sup>83</sup> For further details, see, for example, UNECE (2023) Mobilizing financing for the circular economy; available at: <https://unece.org/info/publications/pub/378112>.

<sup>84</sup> Ibid.

<sup>85</sup> For further details, see, for example, OECD (2016) Understanding social impact bonds, available at: <https://www.oecd.org/cfe/leed/UnderstandingSIBsLux-WorkingPaper.pdf>.

<sup>86</sup> For details on the use of this financing mechanism for supporting MSMEs, see, for example, World Bank (2018) Can outcome-based financing catalyze early-stage equity investments in green small and growing businesses? Lessons from South Africa.

<sup>87</sup> Latest climate grants for non-governmental organizations, enterprises, and entrepreneurs around the world are published at: <https://www2.fundsforngos.org/category/environment/>.

<sup>88</sup> Examples of such facilities are published at: <https://ebrdgeff.com/>.

<sup>89</sup> See, for example, the European Commission's approach to promoting climate finance, available at: [https://energy.ec.europa.eu/topics/energy-efficiency/financing/innovative-financing\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/financing/innovative-financing_en).

<sup>90</sup> See, for example, the European Commission's approach to promoting energy efficiency financing, available at: [https://energy.ec.europa.eu/topics/energy-efficiency/financing/innovative-financing\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/financing/innovative-financing_en).



The above are just a few examples of the most widely known climate financing mechanisms. Each has its own characteristics, requirements, and potential benefits. It is, therefore, important for MSMEs, Governments and financing organisations to carefully evaluate and select the financing mechanisms that best align with their specific contexts. For entrepreneurs and MSME owners, working with specialized advisors and engaging with relevant networks is essential for navigating the requirements and implications associated with the different funding opportunities.

### 3.3. Case studies

Success stories serve as valuable source of inspiration, offering insights into the challenges and opportunities that arise from embracing circular and green economy practices. Below is a summary of case studies presented during UNECE webinars, which were held in 2022<sup>91</sup>.

#### Case study 1. Finland's circular SMEs

Finland is among the frontrunners in promoting circular economy models, being the first EU country to adopt a national circular economy plan in 2016 and institutionalize green public procurement.<sup>92</sup> Finland is committed to:<sup>93</sup>

- Ensuring that the consumption of non-renewable natural resources remains below the 2015 levels.
- Doubling the productivity of resources by 2035 in relation to 2015.
- Doubling the circular material use rate by 2035 in relation to 2015.

Among the SMEs that have successfully embraced circular economy business models are [Fiksuruoka](#), a food producing company that is committed to reducing food waste; [Varusteleka](#), a clothing buy-back company that promotes the use of goods rather than the ownership; and [Vaateelaastari](#), a clothing company that produces patches to repair torn clothes.<sup>94</sup>

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<sup>91</sup> UNECE webinars (2022) Empowering MSMEs to harness opportunities in the transition to sustainable trade and a circular economy in the context of the post-COVID recovery. Recording and presentations available at: <https://unece.org/info/Trade/Technical-Cooperation/events/367326>.

<sup>92</sup> <https://www.hankintakeino.fi/en>.

<sup>93</sup> <https://ym.fi/en/strategic-programme-to-promote-a-circular-economy>.

<sup>94</sup> Further examples of circular SMEs are available at: <https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/#the-most-interesting-companies-in-the-circular-economy-in-finland-2-1>.

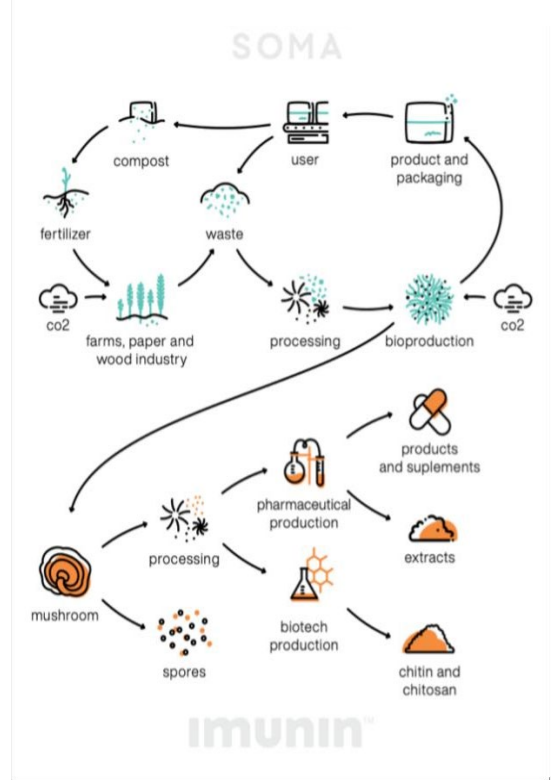
## Case study 2. SOMA–Serbia’s circular packaging producer

[SOMA](https://www.soma.eco)<sup>95</sup> is a Serbian start-up dedicated to circular packaging, which uses biotechnological and biodegradable materials. Its flagship product, Biosporin, is derived from mushrooms and offers a sustainable alternative to traditional plastic packaging. Notably, Biosporin requires 98 per cent less energy for production, generates no wastewater, and has a carbon-negative production process.

As shown in figure 6, SOMA developed a fully circular production system, effectively repurposing all by-products and waste as secondary raw materials to create a diverse range of sustainable products:

- Biosporin™ - Green and biodegradable single use material
- Soma Yoga Block - Natural and biodegradable yoga block made from Biosporin
- Chitin and Chitosan - Vege-sourced versatile biomaterials
- Organic mushrooms - Sustainably produced
- Wellness products - Mushroom-based, natural, sustainably produced

Figure 6: SOMA's material flow



Source: SOMA

The company was financed by EU Innovation Fund, one of the assistance instruments for countries acceding to the EU. In 2014, the company received a grant within the context of the Direct Grant Agreement “New Products and Services Developed by MSMEs Through Research Commercialization”.

## Case study 3. Hygglo – Sweden’s sharing economy platform

Originally hailing from Sweden, Hygglo<sup>96</sup> is a peer-to-peer rental platform, which promotes the sharing economy across multiple Scandinavian countries. It enables individuals to offer or rent a wide range of items, including garden tools, sports equipment, cameras, and more. The core principle of Hygglo’s business model revolves around the concept of renting items for the necessary duration rather than purchasing new ones. Transactions predominantly occur within the local community or neighborhood. Lenders retain 80 per cent of the rental price, while the remaining 20 per cent is allocated to insurance, payment handling, and verification services that are provided by Hygglo.

<sup>95</sup> <https://www.soma.eco>.



#### Case study 4: Uzbekistan's business accelerator – C.A.T. Science Accelerator

An initiative of Uzbekistan's Center for Advanced Technologies under the Ministry of Innovational Development, C.A.T. Science Accelerator<sup>97</sup> is focused on promoting scientific projects and the commercialization of scientific advancements. As the first of its kind in the country, C.A.T. Science Accelerator is leading the way in fostering connections between R&D and the business community, and in driving the implementation of innovative ideas. It acts as a collaborative space where R&D institutions, the private sector and academia converge to generate cost-effective and sustainable solutions. C.A.T. Science Accelerator:

- Functions as an online platform for promoting innovations in the natural sciences.
- Facilitates knowledge sharing.
- Promotes talent (entrepreneurs, scientists, and students).
- Attracts Investors.

C.A.T. Science Accelerator supported numerous companies in developing financial models, enabling them to implement innovative projects, and is playing an important role in promoting innovation and fostering economic growth in Uzbekistan.

#### Case Story 5: The international virtual networking company – ENRIGA

ENRIGA<sup>98</sup> is an international consultancy focused on assisting business-to business tech companies scale-up their outreach, with main offices located across Eurasia and the Americas. With a strong focus on building effective market entry plans and providing hands-on support for sales development and management, ENRIGA enables start-ups and existing companies to expand their outreach and maximize their growth potential.

To help SMEs withstand the market disruptions caused by the COVID-19 pandemic, ENRIGA developed a comprehensive step-by-step strategy tailored specifically to their needs. As part of this strategy, it formed a strategic partnership with Lancaster University, SFTC Hartree Centre (United Kingdom), and IBM to develop an AI-powered tool to help SMEs follow market trends, identify business opportunities and potential partners. Furthermore, by leveraging its expertise and industry insights, ENRIGA was able to help SMEs overcome obstacles and network within their respective industries.

Additionally, ENRIGA developed a user-friendly feedback tool to gain a deeper understanding of its clients' emerging needs. The tool generated invaluable information, which enabled ENRIGA to strategically redesign its business model to ensure responsiveness and extend its outreach.

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<sup>97</sup> <https://www.gistnetwork.org/ihub/cat-science-accelerator>.

<sup>98</sup> <https://enriga.eu/>.

## Case Story 6: The Republic of Moldova's Clean Technology Innovation Programme for MSMEs and Start-ups

The Clean Technology Innovation Programme for MSMEs and Start-ups<sup>99</sup> is an initiative aimed at promoting clean technologies among MSMEs and start-up, with a view to enhancing resource efficiency, reduce environmental impacts, and contribute to the overall sustainability of businesses. The programme offers a range of support services, including:

- Capacity building, such as workshops, training sessions, and mentorship programs to enhance the knowledge and skills of enterprises in clean technology development, implementation, and commercialization.
- Financial assistance in the form of grants or funding schemes, which are made available to eligible MSMEs and start-ups, enabling them to invest in research, prototype development, and scaling up clean technology solutions.
- Advisory services to assist MSMEs and start-ups in the formulation of business plans, market research, technology assessment, and accessing relevant networks and partnerships.
- Networking and collaboration opportunities through events, matchmaking sessions, and industry-specific platforms to foster collaboration and knowledge sharing among MSMEs, start-ups, industry experts, investors, and other stakeholders.
- Market access and commercialization support for identifying market opportunities, conducting market validation, and facilitating connections with potential customers, investors and strategic partners to accelerate the commercialization of clean technology solutions.

### 3.4. Selected tools and reference materials

Table 2 below provides a curated selection of tools and reference materials to help MSMEs catalyze innovation for green and circular economies resurgence. The tools and reference materials comprise strategic frameworks and best practices to assist MSMEs, including start-ups and existing ones, in integrating sustainable, circular and green economy principles into their operations. They also offer policymakers and regulators with practical insights and action-oriented approaches to consolidate a conducive environment to enable MSMEs to take a lead role in advancing the wider global agenda of sustainable development and climate resilience.

*Table 2. Selected tools and reference materials for MSME green and circular innovation*

Resource	Overview
UNECE	
Policy Handbook: Supporting IHGEs in Eastern Europe and South Caucasus	The Handbook provides practical guidance and recommendations for promoting Innovative High-Growth Enterprises (IHGEs) in Eastern Europe and the South Caucasus. It offers valuable insights and strategies for

<sup>99</sup> Further details are available at: <https://www.thegef.org/projects-operations/projects/10457>.

Resource	Overview
<a href="https://unece.org/economic-cooperation-and-integration/publications">https://unece.org/economic-cooperation-and-integration/publications</a>	supporting these enterprises in various areas, such as financing, talent acquisition, market entry, innovation management, and scaling up operations. The Handbook serves as a resource for policymakers, entrepreneurs, and other stakeholders committed to strengthening IHGEs, as a key requisite for driving economic growth and the achievement of the SDGs.
<p>Policy Handbook: Business incubators for sustainable development in the UNECE-Economic and Social Commission for Asia and the Pacific (ESCAP) Special Programme for the Economies of Central Asia (SPECA)<sup>100</sup></p> <a href="https://unece.org/economic-cooperation-and-integration/publications">https://unece.org/economic-cooperation-and-integration/publications</a>	The Handbook provides guidance and recommendations for establishing and operating business incubators in SPECA participating States. It covers a range of topics, including incubator management, service offerings, financing mechanisms and multi-stakeholder collaboration. The Handbook serves as a resource for policymakers and donors seeking to establish effective and sustainable business incubators in the sub-region.
<p>Innovation for Sustainable Development Reviews (ISDRs)</p> <a href="https://unece.org/innovation-sustainable-development-reviews-i4sdrs">https://unece.org/innovation-sustainable-development-reviews-i4sdrs</a>	These demand-driven Reviews examine the innovation capabilities and practices in UNECE countries in the context of sustainable development. They provide a comprehensive analysis of each country's innovation landscape, covering areas such as technology development, entrepreneurship, R&D, and policy frameworks. UNECE ISDRs offer recommendations for fostering innovative ecosystems, which are developed in consultation with governments and other stakeholders. In so doing, they facilitate knowledge exchange and contribute to fostering sustainable, innovation-driven, and inclusive economic growth in the region.
<p>Sub-regional Innovation Policy Outlook (IPO)</p> <a href="https://unece.org/innovation-policy-outlook-ipo">https://unece.org/innovation-policy-outlook-ipo</a>	These demand-driven publications assess the scope and quality of innovation policies, institutions, and processes across up to six UNECE countries. The goal is to improve innovation policies, institutions and processes, thereby enhancing overall productivity and national competitiveness. They are based on 50 indicators structured around three pillars: Innovation Governance, Innovation Policy Tools, and The Innovation Policy Process. In so doing, the IPOs capture central mechanisms that translate inputs to outputs, such as institutional capacities and policy design, facilitating evidence-based knowledge exchange and economic cooperation.

<sup>100</sup> SPECA is supported jointly by UNECE and ESCAP. Membership comprises: Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Resource	Overview
<p>Transformative Innovation Network (ETIN)</p> <p><a href="https://unece.org/eci/icp/ETIN">https://unece.org/eci/icp/ETIN</a></p>	<p>ETIN is a multistakeholder, collaborative network for supporting transformative change in the UNECE and beyond. It brings together policymakers, experts, and representatives from diverse sectors to facilitate the exchange of knowledge, experiences and best practices as well as research in key areas such as digital transformation, circular and green economy, green finance, and social innovation.</p>
<p>Circular Stakeholder Engagement Platform (STEP)</p> <p><a href="https://unece.org/trade/CircularEconomy">https://unece.org/trade/CircularEconomy</a></p>	<p>UNECE Circular STEP is a multistakeholder, collaborative network for supporting the circular economy transition in the UNECE and beyond through exchange of experience, capacity-building and analytical work. It brings together representatives from governments, private sector, academia, research institutions, civil society, and other stakeholders from UNECE. Circular Step harnesses partnerships with other UN initiatives (e.g., One Planet Network, Issue-Based Coalition on Sustainable Food Systems) and other development partners.</p>
<p>Simply Measuring: UNECE Food Loss and Waste Measuring Methodology for Fresh Produce Supply Chains</p> <p><a href="https://unece.org/info/Trade/pub/366261">https://unece.org/info/Trade/pub/366261</a></p>	<p>The Methodology provides a practical, user-friendly approach for measuring the food lost and wasted at several key points of the fresh produce supply chains. It builds on methodologies used in food waste and food loss assessments around the world, with a view to helping supply chain actors systemically collect data on production, sales, and losses to prevent, reduce, repurpose, and redistribute the food currently being lost.</p>
<p>Guidelines and Best Practices for MSMEs to Assure resiliency and Progress Towards a Circular Economy in Sustainable Resource Management and Critical Raw Material Supply Chain Solutions</p> <p><a href="https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/MSME_circular_economy_report.pdf">https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/MSME_circular_economy_report.pdf</a></p>	<p>The Guidelines provide practical recommendations and insights for MSMEs to adopt sustainable practices, which reduce resource consumption and waste. They cover a range of topics, including resource efficiency, waste management, sustainable sourcing of critical raw materials, and innovative business models. By following these guidelines, MSMEs can improve their environmental performance, enhance their competitiveness, and contribute to the overall transition towards a more sustainable and circular economy.</p>
<p>The United Nations Framework Classification for Resources (UNFC) and its derivative United Nations Resource Management System (UNRMS)</p> <p><a href="https://unece.org/sustainable-energy">https://unece.org/sustainable-energy</a></p>	<p>UNFC is a standardized framework for classifying and managing energy resources, including mineral reserves, and renewable resources, while UNRMS is a practical tool for supporting the implementation of the UNFC. UNRMS provides a structured approach for managing natural resources throughout their life cycle, from exploration and extraction to processing, distribution, and end-use. Together, UNFC and UNRMS provide regulators and policy makers with a comprehensive framework to harmonize resource management practices and improve data</p>



Resource	Overview
	collection and transparency. Once referenced in regulatory frameworks, UNFC and UNRMS enable countries and industries, including MSMEs, to collaborate for responsible utilisation of natural resources.
<p>Guidelines and Best Practices for MSMEs in Delivering Energy-Efficient Products and in Providing Renewable Energy Equipment</p> <p><a href="https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/Guidelines_MSME_EE-RE_Final.pdf">https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/Guidelines_MSME_EE-RE_Final.pdf</a></p>	<p>The Guidelines provide practical recommendations and examples of best practices for MSMEs to enhance their role in the transition to sustainable energy. They cover various aspects, including product design, manufacturing processes, distribution, and customer engagement, and emphasize the importance of incorporating energy-efficient technologies, utilizing renewable energy sources, and optimizing energy consumption throughout the product lifecycle. By following these guidelines, MSMEs can reduce their GHG emissions and improve energy efficiency.</p>
<p>UNECE PPP and Infrastructure Evaluation and Rating System (PIERS): An Evaluation Methodology for the Sustainable Development Goals</p> <p><a href="https://unece.org/ppp/em">https://unece.org/ppp/em</a></p>	<p>PIERS provides a coherent approach for undertaking ex-ante and ex-post quantitative and qualitative assessment of the developmental impacts of all types of public-private partnership (PPP) infrastructure projects across the three pillars of sustainability, irrespective of their size and terms of procurement. In so doing, it operationalizes the 2030 Agenda's core principles of implementation, ensuring socially inclusive PPPs that provide opportunities for SMEs participation. PIERS is being integrated into the Sustainable Infrastructure Foundation's online SOURCE platform for infrastructure project preparation and management.<sup>101</sup></p>
<p>Guidelines and Best Practices for MSMEs to Assure Resiliency and Progress Towards a Circular Economy in Sustainable Resource Management and Critical Raw Material Supply Chain Solutions</p> <p><a href="https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/MSME_circular_economy_report.pdf">https://unece.org/fileadmin/DAM/energy/se/pdfs/geee/MSME_circular_economy_report.pdf</a></p>	<p>These guidelines and best practices aim at helping MSMEs improve their sustainable resource management and critical raw material supply chains. They provide valuable insights and recommendations for MSMEs to adopt sustainable practices, improve resource efficiency, and enhance the circularity of their operations. By following these guidelines, MSMEs can reduce waste generation, mitigate environmental impacts, strengthen their competitiveness, and promote responsible and efficient management of resources in their industries.</p>
<p>Mobilizing Financing for the Circular Economy</p> <p><a href="#">Mobilizing Financing for the Circular Economy   UNECE</a></p>	<p>This paper defines what constitutes circular economy finance, what instruments are available and have been used successfully as well as incentive structures and measurement challenges to creating an enabling environment for financing circular economy initiatives and enterprises. It explores various forms of financing,</p>

<sup>101</sup> <https://public.sif-source.org/source/>

Resource	Overview
	such as venture capital, impact investments, green bonds, and public-private partnerships, and provides case studies from the UNECE region.
<i>United Nations General Assembly and Specialised Agencies</i>	
UN Resolution on Entrepreneurship for Sustainable Development, 2020, A/RES/75/211 <a href="https://digitallibrary.un.org/record/3896576">https://digitallibrary.un.org/record/3896576</a>	The Resolution highlights the contribution of entrepreneurs, particularly women and youth, in driving economic growth, innovation, and job creation, and emphasizes the importance of creating an enabling environment for entrepreneurship, including access to finance, technology, markets, and skills development. The Resolution calls for a holistic approach and enhanced collaboration between governments, private sector, and civil society to promote entrepreneurship to address social and economic challenges, foster inclusive development and advance the SDGs.
UNCTAD Entrepreneurship Policy Framework <a href="https://unctad.org/topic/entrepreneurship-development/entrepreneurship-policy-hub">https://unctad.org/topic/entrepreneurship-development/entrepreneurship-policy-hub</a>	The Framework provides a comprehensive and coordinated approach to support policymakers in formulating and implementing effective measures for entrepreneurship. It emphasizes aligning policies with national priorities and the specific contextual needs of entrepreneurs. The Framework addresses various issues such as regulatory optimization, entrepreneurship education, technology exchange, access to finance, and networking. It provides policy objectives, recommended actions, checklists, and good practices for each area, along with a user guide for monitoring and evaluation.
UNCTAD EMPRETEC Programme <a href="https://unctad.org/topic/entrepreneurship-development/Empretec">https://unctad.org/topic/entrepreneurship-development/Empretec</a>	EMPRETEC is UNCTAD's flagship capacity-building programme for promoting entrepreneurship and MSME development. It involves intensive training workshops, covering the various aspects of entrepreneurship, including business planning, financial management, marketing strategies, customer relations, and innovation, with a special module on green entrepreneurship. It follows a highly interactive training methodology, incorporating practical exercises, case studies, and group discussions. The Programme also offers individualized coaching and mentoring to help entrepreneurs refine their business ideas, overcome challenges, and implement effective strategies for business growth.
UNIDO Green Industry Platform <a href="https://www.unido.org/our-focus/cross-cutting-services/green-industry/green-industry-platform">https://www.unido.org/our-focus/cross-cutting-services/green-industry/green-industry-platform</a>	This Platform serves as a global network and knowledge-sharing facility for businesses, governments, and organizations committed to advancing the green industry agenda. It is of relevance to MSMEs, as it provides a range of services and tools to help enterprises adopt green practices, including tools, case studies, and technical

Resource	Overview
	guides and access to technical assistance, capacity building and financing opportunities.
GreenToCompete (G2C) <a href="https://intracen.org/our-work/projects/greentocompete-g2c">https://intracen.org/our-work/projects/greentocompete-g2c</a>	A joint initiative by the International Trade Centre (ITC), the World Trade Organization (WTO) and the UN, G2C focuses on helping MSMEs in developing countries embrace green business practices. It provides a range of online resource materials, including business guides, comparative statistics, and case studies. The emphasis is on helping MSMEs reduce their carbon footprint and improve their competitiveness in the increasingly environmentally conscious global market.
<i>UNECE Partners</i>	
<i>OECD</i>	
OECD Recommendation on SME and Entrepreneurship Policy <a href="https://www.oecd.org/cfe/smes/oecdrecommendationsmeandentrepreneurshipolicy/">https://www.oecd.org/cfe/smes/oecdrecommendationsmeandentrepreneurshipolicy/</a>	Adopted by OECD Council on 10 June 2022, this Recommendation addresses the longstanding need for frameworks and tools to enhance the effectiveness of policies focused on SMEs and entrepreneurship development in light of the COVID-19 crisis and the rapid pace of digital and green economy transitions. The Recommendation promotes coherence and synergy across different policy areas and actors, while considering the diverse nature of the SME and entrepreneurship landscape affecting SMEs and entrepreneurs as they adapt to these transformative trends.
OECD Build Back Better Initiative <a href="https://www.oecd-ilibrary.org/economics/sme-digitalisation-to-build-back-better_50193089-enhttps://www.oecd.org/digital/sme/">https://www.oecd-ilibrary.org/economics/sme-digitalisation-to-build-back-better_50193089-enhttps://www.oecd.org/digital/sme/</a>	The Initiative aims at helping countries recover from COVID-19 and advance towards a more resilient, inclusive, and sustainable future by leveraging policy tools and international collaboration. It involves projects, research and practical tools covering a range of areas, including green growth, digital transformation, social inclusion, and effective governance, with a special focus on MSMEs. This includes comparative analysis of MSMEs performance, entrepreneurship, innovations, and potential mechanisms for improving MSME access to finance.
OECD policy paper: Digital for MSMEs (D4SME) <a href="https://www.oecd.org/digital/sme">https://www.oecd.org/digital/sme</a>	The paper provides insights and recommendations for empowering MSMEs to embrace digital technologies, as a requisite for enhancing MSMEs' productivity, innovation, and competitiveness post-COVID-19. It highlights key policy areas such as digital skills development, access to digital infrastructure, and supportive regulatory frameworks. The aim is to improve the understanding on how MSMEs respond to the COVID-19 crisis and adapt to the new environment, and how different players in their ecosystem can contribute to their digital transition.

Resource	Overview
<p>OECD Scoreboard: Financing SMEs and entrepreneurship</p> <p><a href="http://www.oecd-ilibrary.org/industry-and-services/financing-smes-and-entrepreneurs-2017-fin-sme-ent-2017-en">http://www.oecd-ilibrary.org/industry-and-services/financing-smes-and-entrepreneurs-2017-fin-sme-ent-2017-en</a></p>	<p>This Scoreboard provides a comprehensive assessment of SMEs' and entrepreneurs' access to finance. It utilizes a range of indicators, including data from financial institutions, statistical offices, and government agencies as well as surveys on financing needs. The Scoreboard offers insights into financing trends and evaluates the effectiveness of government policies in facilitating access to finance. In so doing, it helps policymakers design effective policies for improving SMEs' and entrepreneurs' access to, and benefits, from external finance.</p>
<p>OECD SME and Entrepreneurship Strategy</p> <p><a href="https://www.oecd.org/cfe/smes/strategy.htm">https://www.oecd.org/cfe/smes/strategy.htm</a></p>	<p>The strategy provides a comprehensive framework for developing coherent SME and entrepreneurship development policies. It emphasizes the importance of policy coordination, effective governance, and addressing ongoing trends and challenges faced by SMEs and entrepreneurs, such as digitalization and climate change. The framework highlights three key principles for providing SMEs and entrepreneurs with the necessary support to thrive in a rapidly changing economic environment. These include policy coordination and governance; transitions and resilience; and access to resources including skills, finance, and innovation.</p>
<p>OECD International Compendium of Entrepreneurship Policies</p> <p><a href="https://www.oecd.org/publications/international-compendium-of-entrepreneurship-policies-338f1873-en.htm">https://www.oecd.org/publications/international-compendium-of-entrepreneurship-policies-338f1873-en.htm</a></p>	<p>This Compendium provides a succinct overview of entrepreneurship policy interventions, delving into their objectives, design, and implementation. It categorizes these interventions into a typology of policy approaches while highlighting essential principles for policy success. It features 16 case studies from 12 OECD countries, showcasing inspiring policy practices in areas such as regulations, taxation, education, access to finance, internationalization, and innovation. In doing so, it offers comprehensive packages for building growth-enabling SME ecosystems.</p>
<p>OECD Environmental Policy Toolkit for Greening SMEs in the EU Eastern Partnership Countries</p> <p><a href="https://www.oecd.org/environment/outreach/Greening-SMEs-policy-manual-eng.pdf">https://www.oecd.org/environment/outreach/Greening-SMEs-policy-manual-eng.pdf</a></p>	<p>This Toolkit provides guidance and recommendations to help SMEs in the EU Eastern Partnership countries transition towards the green economy. It addresses the various aspects of environmental policy and offers successful case studies and best practices from the EU and other countries. The Toolkit covers three categories of instruments: regulatory simplification; awareness raising and advisory support; and financial and economic incentives.</p>
<p>OECD Platform on Financing SMEs for Sustainability</p>	<p>This Platform brings together governments, financial institutions, businesses, and other stakeholders to exchange knowledge, share best practices, and collaborate on developing innovative financing solutions</p>

Resource	Overview
<a href="https://www.oecd.org/cfe/smes/financing-smes-sustainability.htm">https://www.oecd.org/cfe/smes/financing-smes-sustainability.htm</a>	that support SMEs in their transition to sustainability. It focuses on key areas such as access to finance, green and sustainable investment, financial literacy and capacity building for SMEs, and policy frameworks that encourage sustainable financing. The Platform also conducts research and analysis to deepen understanding of the challenges and opportunities in financing SMEs for sustainability.
OECD No Net Zero Without SMEs: Exploring the Key Issues for Greening SMEs and Green Entrepreneurship  <a href="https://www.oecd-ilibrary.org/energy/no-net-zero-without-smes_bab63915-en">https://www.oecd-ilibrary.org/energy/no-net-zero-without-smes_bab63915-en</a>	This paper offers a stock take of data, analysis and policies, focused on greening SMEs and promoting green entrepreneurship. It provides insights on what drives, and hinders, green entrepreneurship and the improvement of SMEs' greening performance. The paper also discusses recent developments in SME and entrepreneurship policies, including COVID-19 recovery measures, and how they can support the greening of SMEs and green entrepreneurship.
OECD Business Models for the Circular Economy: Opportunities and Challenges for Policy  <a href="https://www.oecd.org/environment/business-models-for-the-circular-economy-g2g9dd62-en.htm">https://www.oecd.org/environment/business-models-for-the-circular-economy-g2g9dd62-en.htm</a>	This publication explores various business models that align with the principles of the circular economy, including product-as-a-service, sharing platforms, remanufacturing, and waste-to-value models. It discusses the benefits of these models and highlights the challenges that businesses may face when adopting them. The publication provides recommendations for creating an enabling environment through regulatory reforms, financial incentives, innovation support, and collaboration among stakeholders. It also includes case studies illustrating the practical implementation of circular business models.
OECD Inventory of Circular Economy Indicators <a href="https://www.oecd.org/cfe/cities/InventoryCircularEconomyIndicators.pdf">https://www.oecd.org/cfe/cities/InventoryCircularEconomyIndicators.pdf</a>	This Inventory provides a suite of indicators to measure and monitor the progress of circular economy transition at the national and regional levels. The indicators cover various dimensions of circularity, including resource use, waste generation, recycling rates, eco-design, market development, employment, and innovation. The aim is to support evidence-based policymaking through systemic assessment of circular economy policies. Furthermore, the Inventory promotes cross-country comparisons, and highlights success factors and challenges faced by different countries and regions.
<b>Government Initiatives</b>	
The Finish Innovation Fund (Finnish: <i>Suomen itsenäisyyden juhlarahasto</i> , SITRA) Circular Economy Playbook	This Playbook provides insights, strategies, and practical tools for transitioning towards a circular economy. It outlines the principles and benefits of a circular economy, emphasizing the importance of designing out waste and maximizing resource efficiency, and offers a step-by-step

Resource	Overview
<a href="https://teknologiateollisuus.fi/fi/circular-economy-playbook">https://teknologiateollisuus.fi/fi/circular-economy-playbook</a>	<p>approach to implementing circular economy practices. It covers the various aspects of the policy and regulatory frameworks for promoting circularity, and provides real-life case studies and best practices from different sectors around the world.</p>
<i>Independent knowledge-sharing and collaborative platforms: Illustrative examples</i>	
<p>World Business Council for Sustainable Development (WBCSD) Circular Transition Indicators</p> <p><a href="https://www.wbcd.org/Programs/Circular-Economy/Metrics-Measurement/Resources/Circular-Transition-Indicators-v3.0-Metrics-for-business-by-business">https://www.wbcd.org/Programs/Circular-Economy/Metrics-Measurement/Resources/Circular-Transition-Indicators-v3.0-Metrics-for-business-by-business</a></p>	<p>These indicators provide businesses with a framework to assess and track their progress towards a circular economy. They cover various aspects of circularity, including circular business models, product design, resource management, and value chain integration. The indicators are grounded in a user-friendly and adaptable approach to enable businesses to identify areas for improvement, develop strategies to transition towards circular business models and measure their progress in reducing primary resource consumption and waste generation.</p>
<p>Circular Glasgow</p> <p><a href="https://www.circularglasgow.com">https://www.circularglasgow.com</a></p>	<p>A joint initiative by Glasgow Chamber of Commerce and Zero Waste Scotland, Circular Glasgow provides networking opportunities, and resources to help businesses and entrepreneurs adopt circular practices. It focuses on key sectors such as construction, food and drink, manufacturing, and textiles, offering guidance on waste reduction, resource efficiency, and the development of innovative business models. Circular Glasgow also organizes events, workshops, and training programmes and connects businesses with potential partners and stakeholders to foster collaboration and knowledge sharing.</p>
<p>Circular Economy Finland (In Finnish, Kiertotalous Suomi in Finnish, KiSu)</p> <p><a href="https://kiertotaloussuomi.fi/en/">https://kiertotaloussuomi.fi/en/</a></p>	<p>KiSu brings together businesses, government agencies, research institutions, and other stakeholders to support the work of municipalities and local business communities in consolidating a carbon neutral circular economy. It offers guidance, training on waste reduction, recycling, product design, and resource efficiency in various sectors. KiSu also facilitates collaboration and knowledge-sharing among its members, and engages with policymakers to advocate for supportive policies and regulations that facilitate the transition to a circular economy.</p>
<p>Romanian Circular Economy Stakeholder Platform (ROCESP)</p> <p><a href="https://rocesp.ro">https://rocesp.ro</a></p>	<p>Created by the Institute for Research in Circular Economy and Environment “Ernest Lupan”, with funds from the EU, ROCESP is a “network of networks”. It brings research institutions together with representatives of the business community and is configured to serve as a one-stop-facility for accessing national initiatives for supporting</p>



Resource	Overview
	enterprises and facilitating the exchange of experiences and good practices. ROCESP also engages in policy advocacy, representing the views and interests of the Romanian business community in European fora.
<p>European Sustainable Business Federation (Ecopreneur.eu)</p> <p><a href="https://ecopreneur.eu">https://ecopreneur.eu</a></p>	<p>Ecopreneur.eu is a network of businesses and organizations focused on promoting sustainable entrepreneurship. It brings together ecopreneurs from various sectors and provides them with a platform to collaborate, share knowledge, and explore sustainable business practices. It offers a range of resource materials of relevance to MSMEs, including guidelines on sustainable business models, eco-innovation, and circular economy. Ecopreneur.eu also facilitates networking opportunities among its members through events and workshops and engages in policy advocacy at the EU level.</p>
<p>EU-Startups.com</p> <p><a href="https://www.eu-startups.com">https://www.eu-startups.com</a></p>	<p>EU-Startups.com is an online publication focused on providing resources for start-ups and entrepreneurs in Europe as well as policymakers. It features articles, interviews, and profiles of European start-ups, showcasing their innovative ideas, products, and success stories. It also offers information on events, competitions and funding opportunities relevant to start-ups, thereby facilitating networking and collaboration.</p>
<p>The Circular Design Guide by Ellen MacArthur Foundation in collaboration with Ideo Design and Consulting</p> <p><a href="https://www.circulardesignguide.com/">https://www.circulardesignguide.com/</a></p>	<p>This Guide features practical interactive tools and insights to inspire and support the adoption of circular design principles. It provides a step-by-step approach to help enterprises design for durability, reparability, recyclability, and resource efficiency. Through the guide, users can explore different aspects of circular design, such as materials and waste management, product lifecycle, business models, and systems thinking. The Guide also features real-life case studies showcasing successful examples of circular design.</p>
<p>Circle Economy</p> <p><a href="https://www.circle-economy.com">https://www.circle-economy.com</a></p>	<p>A global non-profit organization, Circle Economy maintains an online platform featuring publications, data, case studies and practical tools on circular design as well as training programmes for supporting a transition towards a regenerative economy. Among its key services are the circularity scans and assessments of enterprises, which evaluate the current state of their operations and identify opportunities for circularity and resource optimization.</p>



## IV. Bolstering MSME engagement in sustainable trade and green exports

### 4.1. Main trends in sustainable trade and green exports

The rise of the green and circular economy practices, along with the rapid advancements in ICT, has created new megatrends that are revolutionizing the landscape of global trade. Key megatrends include:

- Growing consumer awareness and demand for sustainable goods and services, produced using environmentally friendly and socially responsible practices with minimal ecological footprint.<sup>102</sup>
- Growing emphasis on supply chain transparency and traceability, with consumers and governments demanding enterprises to disclose the origin and environmental impact of their products.
- Growing number of environmental-related measures within the WTO-administered multilateral trading system as notified by member States.<sup>103</sup>
- Increasingly stringent regulatory requirements within bilateral and regional trade agreements for ensuring sustainable trade. For example, the European Commission is considering options to further strengthen the implementation and enforcement of Trade and Sustainable Development (TSD) chapters of the EU's trade agreements.<sup>104</sup>
- The above megatrends have shifted the structures of global value chains. Transnational corporations are increasingly prioritizing structural resilience over operational efficiencies, with many reshoring towards domestic and regional supply chains.<sup>105</sup>

These developments render it imperative for MSMEs to reevaluate their strategies to stay relevant and competitive. However, many MSMEs are unable to adopt sustainable practices, so that they cannot comply with the regulatory requirements in export markets. As shown in chapter 2, MSMEs tend to have weak technological capabilities. Further, they face numerous challenges, owing to the lack of adequate regulatory frameworks and support services as well enforcement capacities at the national level. Combined with transport and logistical bottlenecks, these factors inflate their transaction costs and create a disincentive to investment. In sum, the challenge is to enable MSMEs to harness the opportunities generated by green and circularity practices, while minimizing potential risks.

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<sup>102</sup> <https://nielseniq.com/global/en/>.

<sup>103</sup> WTO, Environmental Database, available at: <https://edb.wto.org/>.

<sup>104</sup> <https://circabc.europa.eu/ui/group/8a31feb6-d901-421f-a607-ebbdd7d59ca0/library/8c5821b3-2b18-43a1-b791-2df56b673900/details>.

<sup>105</sup> For further details, see, for example, OECD (2018) Move on up! Building, embedding and reshaping global value chains through investment flows: Insights for regional innovation policies, available at: [https://www.oecd.org/cfe/regionaldevelopment/CrescenziHarman\(2018\)MoveOnUp.pdf](https://www.oecd.org/cfe/regionaldevelopment/CrescenziHarman(2018)MoveOnUp.pdf); and, UNCTAD (2020) World Investment Report (2020), available at: [https://unctad.org/en/PublicationsLibrary/wir2020\\_en.pdf](https://unctad.org/en/PublicationsLibrary/wir2020_en.pdf).

## 4.2. Challenges to MSME transition to sustainable trade

Despite the crucial role of exports in enabling economies of scale and scope, there is a significant gap in the engagement of MSMEs in relation to large enterprises, and this is particularly the case of many developing countries and those with economies in transition. Whereas MSMEs account for over 50 per cent of total exports in most of the EU countries,<sup>106</sup> their share in the exports of developing countries and those with economies in transition exhibits significant variation, reflecting the diversity of economic landscapes and business environments.

Kazakhstan and Uzbekistan have the lowest levels of MSME engagement in exports, accounting for 5.7 per cent and 6.4 per cent, respectively. Serbia and Bosnia and Herzegovina demonstrate the highest levels of MSME engagement, contributing 38.6 per cent and 36.4 per cent of total exports, respectively.<sup>107</sup> Their weak productive capacities aside, MSMEs in these countries are faced with various regulatory and procedural trade barriers. These inflate the MSMEs' transaction costs, creating significant market access bottlenecks of greater significance than tariffs (Table 3).

*Table 3. Cross-border trade conditions facing exporters in selected UNECE countries*

Country	Clearance time (No. of days)	Regulatory and procedural compliance problems (Percentage of firms)
All Countries	7.4	16.2
Europe and Central Asia	4.5	8.4
Albania (2019)	1.1	7.7
Armenia (2020)	12	6.1
Azerbaijan (2019)	2.9	7.3
Belarus (2018)	1.4	9
Bosnia and Herzegovina (2019)	1.3	12.1
Georgia (2019)	2.5	7.7
Kazakhstan (2019)	9	4.9
Kyrgyz Republic (2019)	1.8	15.3
Moldova (2019)	2.3	13.8
Montenegro (2023)	1.3	6.5
North Macedonia (2019)	4.4	9
Serbia (2019)	1.6	12
Tajikistan (2019)	2.1	2.5
Türkiye (2019)	2.6	9.8
Ukraine (2019)	3.9	27.3
Uzbekistan (2019)	3.7	3.6

Source: World Bank<sup>108</sup>

<sup>106</sup> European Commission, Chief Economist Notes Series, DG TRADE (2020) The role of SMEs in extra-EU Exports: Key performance indicators, available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3777668](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3777668).

<sup>107</sup> UNECE (2022) Small and medium sized enterprises in economies in transition: Challenges, opportunities, and UNECE Tools, available at: <https://unece.org/sites/default/files/2022-05/SMEs%20Paper-forwebsite.pdf>

<sup>108</sup> World Bank, Enterprise Surveys, available at: <https://www.enterprisesurveys.org/en/data>.

Evidence from UNECE studies on regulatory and procedural barriers to trade point to the following key factors as responsible for undermining the market access of MSMEs operating in developing countries and countries with economies in transition:

- **Cumbersome trade procedures** due to complex paper-based administrative systems and inefficient border control procedures. These procedures are characterised by inadequate risk management systems and weak inter-agency cooperation (both among national authorities and with counterparts in partner countries). While most of the UNECE programme countries were quick to adopt the WTO Agreement on Trade Facilitation, implementation remains slow, covering 43 per cent and 49 per cent of their combined commitments in 2021 and in 2023, respectively.<sup>109</sup>
- **Regulatory and compliance burdens** due to the MSMEs' weak capacities to navigate these requirements and adopt the relevant standards for achieving compliance with health, safety and environmental conservation requirements in export markets. In many cases, proving compliance is complicated by the lack of adequate testing laboratories, forcing enterprises to ship samples abroad for laboratory testing to avoid product retesting.
- **Limited access to trade finance** as MSMEs have limited assets that can be used as collateral to secure trade financing, which, coupled with information asymmetry, cause banks to deny them trade finance. This constraint is also faced by many MSMEs in developed countries. According to the WTO, over half of trade finance requests by MSMEs are rejected, against just 7 per cent for multinational companies.<sup>110</sup>
- **Difficulties finding supply sources and new export markets** as MSMEs lack the resources to conduct market research and engage in networking activities. This means that they are unable to find quality supply sources at reasonable prices and identify new export opportunities. Further, their low standards implementation rates means that they experience difficulties in establishing relations of trust with potential international suppliers and buyers.
- **Connectivity problems** as MSMEs face high transport costs, given their modest export volumes. Those belonging to developing countries and countries with economies in transition assume additional costs, owing to the lack of adequate inland transport systems and at the border facilities (e.g., parking, single cashiers and joint control facilities). For MSMEs in landlocked countries, at issue are also the additional shipping costs and longer waiting time, given the lack of direct access to coastal ports.
- **Limited engagement in e-commerce** given a lack of resources, skills and experience in navigating international e-commerce rules. To these should be added the difficulties MSMEs experience in meeting and proving compliance with the regulatory requirements in export countries, connectivity problems and limited networks.

Under such circumstances of weak production capacities and unresolved regulatory and procedural trade barriers, MSMEs are unable to capitalise on growth opportunities created by regional trade agreements (RTAs). It is worth noting that most of the bilateral and regional trade agreements of UNECE developing countries and those with economies in transition do

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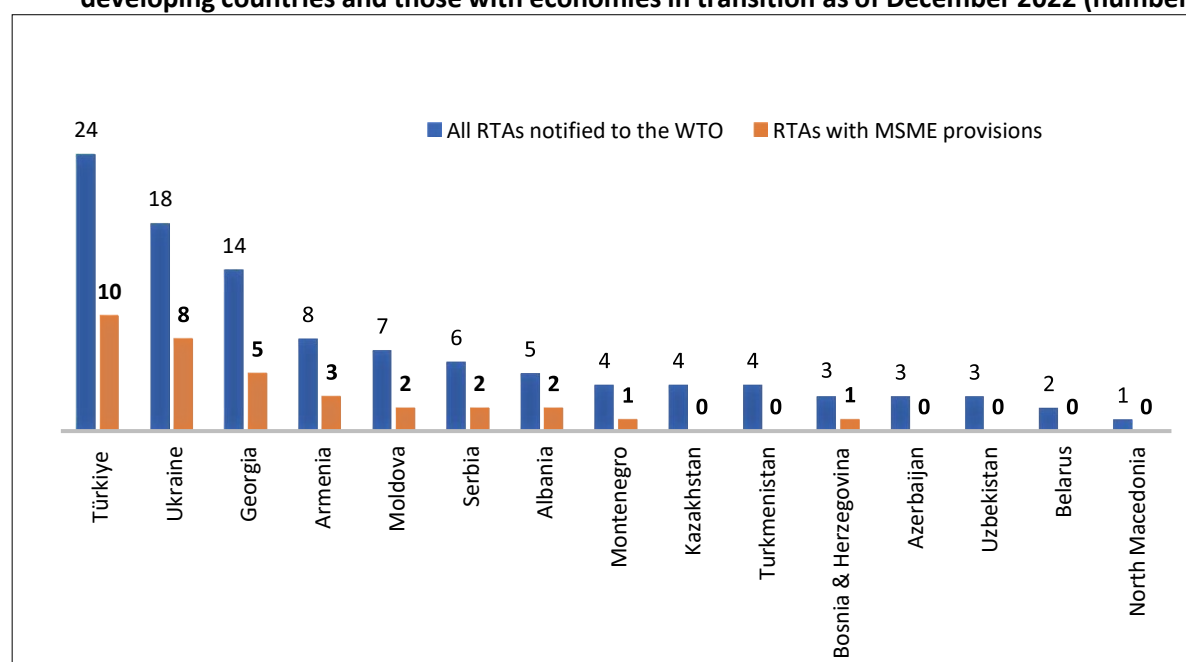
<sup>109</sup> UNECE (2021 and 2023) Digital and sustainable trade facilitation: UNECE regional report, available at: <https://unece.org/trade/outreach-support-TF/global-survey-digital-and-sustainable-trade-facilitation>.

<sup>110</sup> WTO (2020) Trade finance and SMEs: Bridging the gaps in provision, available at: [https://www.wto.org/english/res\\_e/booksp\\_e/tradefinsme\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/tradefinsme_e.pdf).

not include provisions for addressing the specific needs and challenges facing MSMEs (Figure 7). Where established, such provisions are couched in best endeavour language. The most common MSME-related provisions found in UNECE developing countries' bilateral and RTAs relate to promoting:

- Cooperation on MSME development, while specifying that programmes supporting MSMEs are not covered by the RTAs' obligations
- Customs and trade facilitation, emphasizing due consideration of MSMEs' compliance needs and ensuring that eligibility criteria for certain measures (e.g., Authorised Economic Operators) do not restrict MSMEs' participation.

**Figure 7. Bilateral and regional trade agreements with MSME provisions in selected UNECE developing countries and those with economies in transition as of December 2022 (number)**



Source: UNECE, based on WTO data.<sup>111</sup>

Other MSME-related provisions by UNECE developing countries and those with economies in transition, incorporated in a limited number of RTAs, pertain to government procurement (ensuring that eligibility criteria do not restrict MSMEs' participation), e-commerce (assisting MSMEs in overcoming obstacles to engagement in e-commerce) and transparency (providing a predictable regulatory environment).

In contrast, bilateral and RTAs by UNECE developed countries cover broader areas, including intellectual property, investment and industrial policy with those notified by the United Kingdom featuring the most extensive set of provisions. Further, the European Commission created an online platform to help MSMEs navigate the regulatory requirements established under the EU trade agreements (Box 7).

<sup>111</sup> WTO, Database on MSME provisions in RTAs, available at: [https://www.wto.org/english/tratop\\_e/msmesandtra\\_e/rtaprovisions\\_e.htm](https://www.wto.org/english/tratop_e/msmesandtra_e/rtaprovisions_e.htm).

#### *Box 7. European Commission Access2Markets Online Platform*

This online platform<sup>112</sup> aims at helping European businesses, especially SMEs, navigate international trade and expanding their market reach.<sup>113</sup> It provides comprehensive and user-friendly information on market access conditions in the context of the EU trade agreements, with valuable insights into import tariffs, rules of origin, trade barriers, and other relevant trade-related information. In so doing, it enables MSMEs to assess market opportunities, identify potential barriers, and comply with trade requirements. The platform also enables MSMEs to report regulatory and procedural barriers to trade in countries outside the EU common market.

### **4.3. Case studies**

Success stories can serve as valuable sources of inspiration and first-hand knowledge, offering insights into the challenges and opportunities that arise from embracing sustainable trade. Below is a summary of case studies presented during UNECE webinars, held in 2022<sup>114</sup>, and an example of successful initiative for promoting female-owned MSMEs engagement in e-commerce shared with the UNECE in the context of its COVID-19 impact assessments.<sup>115</sup>

#### **Case study 1. Woolcool –The United Kingdom’s consultancy company for green exports**

Woolcool<sup>116</sup> is a UK-based business established in 2008, led and owned by women. It specializes in manufacturing sustainable insulated packaging for food and pharmaceutical products using sheep wool instead of polystyrene. The company faced challenges in expanding its export operations. The first hurdle related to establishing the credibility of its product and meeting the certification requirements in export markets, which can be costly (in their case, exceeding 10,000 pounds). Woolcool also had to address issues such as protecting its IP, finding reliable partners, covering the high shipment costs, and managing the extensive paperwork involved in customs procedures.

In 2021, Woolcool was exporting its sustainable and recyclable packaging to the EU, the United States, South Africa, the United Arab Emirates and Saudi Arabia, having taken the below measures:

- Established a strong scientific basis: It ensured that its product had a solid scientific foundation to demonstrate sustainability to partners, investors, consumers, and regulatory authorities.
- Partnered with reputable haulage companies: It collaborated with reliable haulage companies to gain easy access to customs information and streamline their shipping processes.

<sup>112</sup> <https://trade.ec.europa.eu/access-to-markets/en/content/welcome-access2markets-market-access-database-users>.

<sup>113</sup> UNECE webinars (2022) Empowering MSMEs to harness opportunities in the transition to sustainable trade and a circular economy in the context of the post-COVID recovery. Recording and presentations are available at: <https://unece.org/info/Trade/Technical-Cooperation/events/367326>.

<sup>114</sup> Ibid.

<sup>115</sup> UNECE (2022) The Impact of COVID-19 on the Trade and Business Development Prospects of female-owned enterprises in Armenia: Evidence from UNECE’s Survey of Female-owned Micro, Small and Medium Enterprises, available at: <https://unece.org/trade/studies-regulatory-and-procedural-barriers-trade>.

<sup>116</sup> <https://www.woolcool.com>.

- Opted for air freight to minimize its environmental impact and reduce shipping time. This allowed for faster transportation and enabled them to maximize the volume of each shipment, making it more economically efficient.
- Forged strong partnerships with trade associations: It actively engaged with trade associations such as the Chamber of Commerce, the International Chamber of Commerce, and national trade institutions. This collaboration helped it gain valuable insights, provide feedback on policies affecting their industry, and obtain a broader understanding of the business landscape beyond their own company.

### **Case study 2. Cuptorul Moldovencei – Romania’s green confectionary company**

Cuptorul Moldovencei<sup>117</sup> is a green confectionary company specialized in producing high-quality sweets, which was founded by Nicole Hritcu, who participated in UNCTAD EMPRETEC programme. With a vision to produce delicious and healthy cookies and pies that honour Romania’s traditions and people, it uses natural ingredients, avoiding artificial additives and ensuring fresh products to gain consumer trust. It works with local suppliers, fostering win-win partnerships, and striving towards a zero-waste goal.

Cuptorul Moldovencei is dedicated to corporate social responsibility, with a focus on providing employment opportunities for unemployed women. Instead of focusing solely on formal training and previous working experience, the company prioritizes hard work and loyalty. In 2022, the company's team was dominated by women (91 per cent of total employees). Of these 87 per cent had high school degrees and 41 per cent were from rural areas.

In just 5 years, the company registered remarkable growth, expanding from 14 employees and a turnover of € 200,000 in 2015 to 67 employees and a turnover of € 1,857,393 in 2019, and opened two new outlets during the COVID-19 pandemic.

### **Case study 3. Buyarmenian.com – Armenia’s online marketplace for promoting female-owned MSME engagement in e-commerce**

Launched in April 2021 by an Armenian family in the diaspora, Buyarmenian.com<sup>118</sup> is an example of successful homegrown initiatives for helping female-owned MSMEs leverage e-commerce to boost exports. These MSMEs have consistently focused on selling domestically through social-media platforms and were hesitant to sell globally, given their limited skills. Many also experienced difficulties in ensuring compliance with the quality and regulatory requirements in export markets; were unable to afford the transport costs and lacked the experience and knowledge to navigate e-commerce laws.

Addressing these challenges form the focus of Buyarmenian.com. With a vision to become the Armenian equivalent of ETSY or Amazon, it is managed by a professional team, comprising an operations manager, a general director, a search engine optimization specialist, a marketing expert, ICT and web developers and customs service agents to help the female MSME owners sell globally. Legal and accounting functions are outsourced to professional firms to ensure due diligence and ensure undivided attention to helping registered enterprises

<sup>117</sup> <https://cuptoruldovencei.ro>.

<sup>118</sup> <https://buyarmenian.com/>.

By 6 October 2021, the site boasted 950 participating enterprises, with Armenian MSMEs constituting the largest segment (over 90 per cent). The remaining represented, among others, Canada, France, Germany, Lebanon, the United Kingdom and the United States. The enterprises sold 7,000 products, which were dominated by clothing and apparel (35 per cent) followed by arts and handicrafts (25 per cent), home goods and food (with a 15 per cent each), cosmetics and beauty products (10 per cent).

#### 4.4. Selected tools and reference materials

Table 4 below provides a curated selection of tools and reference materials to help MSME, MSMEs, including start-ups and existing ones, engage in sustainable trade. The tools and reference materials comprise practical guidelines, norms, standards and best practices to help these enterprises navigate the complex landscapes of sustainable trade effectively. They also span various policy and regulatory aspects of sustainable trade, offering policy makers and regulators with practical insights and action-oriented approaches to enable MSMEs to align their value chain operations with global sustainability requirements and market demand in export countries.

*Table 4. Bolstering MSME engagement in sustainable trade: Selected tools and reference materials*

Resource	Overview
<i>UNECE</i>	
Trade Facilitation Tools <a href="http://unece.org/trade/uncefact">http://unece.org/trade/uncefact</a>	Developed by the UNECE subsidiary body, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), which acts as a focal point within the United Nations Economic and Social Council for trade facilitation recommendations and electronic business standards, this suite comprises trade facilitation tools for advancing trade facilitation, electronic business, and interoperability in support of global trade. They include digital standards, technical specifications, recommendations, and guidance material, many of which are referenced in the WTO Agreement on Trade Facilitation (Annex D). The tools are developed in collaboration with government representatives and experts from the UNECE region and beyond following best practices for ensuring transparency and are available for free.
Trade Facilitation Implementation Guide (TFIG)  <a href="https://tfig.unece.org/">https://tfig.unece.org/</a>	TFIG provides a coherent framework and practical tools for governments to identify gaps and challenges and implement reforms using UN/CEFACT tools and other internationally recognised digital standards. It covers various aspects of trade facilitation including customs procedures, transit issues, and the use of information and communication technologies. Through the guide, UNECE aims to support countries in achieving a more transparent, streamlined, and



Resource	Overview
	efficient paperless trade environment in line with the WTO Trade Facilitation Agreement. This will reduce trade costs, thereby encouraging greater participation in international trade among enterprises, including MSMEs.
Agricultural Quality Standards <a href="https://unece.org/agricultural-quality-standards">https://unece.org/agricultural-quality-standards</a>	Developed by the UNECE subsidiary body, the Working Party on Agricultural Quality Standards (WP.7), this suite of standards comprises over 100 voluntary agricultural quality standards for improving end-to-end supply chain activities (from harvest to retail). These are available for free and cover a wide spectrum of fresh fruit and vegetables, dry and dried produce, in addition to seed potatoes, meat, cut flowers, eggs and egg products. By virtue of being referenced in the technical regulations of many UNECE countries and beyond, these standards constitute powerful tools for facilitating agricultural trade and, thereof, improving food security.
The Sustainability Pledge <a href="https://thesustainabilitypledge.org/">https://thesustainabilitypledge.org/</a>	The UNECE and the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), in collaboration with industry stakeholders, developed the Sustainability Pledge Initiative. With the support of the EU, this global Initiative was implemented jointly with the ITC to enhance transparency and traceability in the garment and footwear industry. It provides enterprises with tools to trace their products from raw materials to the shop shelf, enabling verifiable sustainability claims. As of September 2023, 80 pledges have been submitted, involving 100 actors, including 41 MSMEs, and 287 partners. The initiative covers 22 countries, with Uzbekistan <sup>119</sup> being the only UNECE program country involved. UNECE invites other countries to join and offers support for advancing sustainable and digital transitions through enhanced traceability and transparency.
Toolkit on Enhancing Transparency and Traceability of Sustainable Value Chain in the Garment and Footwear Sector <a href="https://unece.org/trade/traceability-sustainable-garment-and-footwear">https://unece.org/trade/traceability-sustainable-garment-and-footwear</a>	This Toolkit provides practical guidance for helping enterprises improve transparency and traceability in their supply chains. It outlines key steps and best practices for implementing traceability systems, including the use of digital technologies like blockchain. By adopting the toolkit's recommendations, MSMEs can identify and address labor and human rights violations and environmental impacts, combat counterfeits, and handle reputational risks, while embracing more sustainable production and consumption patterns that meet the growing demand for responsible and ethical fashion.

<sup>119</sup> Further details are available at: <https://unece.org/sustainable-development/news/unece-supports-uzbekistans-strategy-towards-sustainable-practices>.

Resource	Overview
<p>Accelerating the Circular Economy Transition in the ECE Region: Policy Options for Harnessing the Power of Trade and Economic Cooperation</p> <p><a href="https://unece.org/sites/default/files/2022-05/ECE_CTCS_2022_05_E.pdf">https://unece.org/sites/default/files/2022-05/ECE_CTCS_2022_05_E.pdf</a></p>	<p>This Policy Paper explores the potential of trade and economic cooperation to drive the transition towards a circular economy in the UNECE region. It presents policy options for promoting circularity in key sectors such as manufacturing, construction, and waste management. The Paper also highlights the role of trade in facilitating the exchange of circular products, services, and technologies across borders, and identifies barriers and opportunities for circular trade.</p>
<p>Regional Report on Digital and Sustainable Trade Facilitation</p> <p><a href="https://unece.org/sites/default/files/2022-01/ECE_TRADE_467E.pdf">https://unece.org/sites/default/files/2022-01/ECE_TRADE_467E.pdf</a></p>	<p>This Report provides an overview of the digitalization of trade facilitation processes in the UNECE region, highlighting the digital trade facilitation initiatives in place (such as electronic documentation, single window systems, and customs automation) and their benefits. It also discusses the challenges associated with digitalization, with a special focus on those facing SMEs, and provides recommendations for policymakers to advance digital and sustainable trade facilitation in the UNECE region.</p>
<p>Guidance document: Integrated Services for MSMEs in International Trade – ISMIT platform</p> <p><a href="https://unece.org/trade/document/s/2021/06/uncefact-guidance-material-wp-msmes-ismit">https://unece.org/trade/document/s/2021/06/uncefact-guidance-material-wp-msmes-ismit</a></p>	<p>Developed by UN/CEFACT, this Guidance Document goes through the different trade facilitation bottlenecks undermining MSMEs’ engagement in trade and establishes the principles of platforms called “Integrated Services for MSMEs in International Trade (ISMIT)” for addressing these bottlenecks. It covers a range of services, including access to trade information, business matchmaking, digital documentation, e-commerce, and financial service. It also provides use cases of existing platforms, which can be considered in building ISMIT solutions.</p>
<p>E-learning course: Building stronger economies after COVID-19: standards implementation for boosting micro, small and medium enterprises’ resilience</p> <p><a href="https://e-learning.unece.org">https://e-learning.unece.org</a></p>	<p>This self-paced learning course provide valuable support to MSMEs as they navigate the post-COVID-19 challenges. By completing this e-learning course, participants will acquire a deeper understanding of the international/regional harmonized sectoral standards. They will also gain practical insights and tools to effectively implement standards within their own businesses, enabling them to thrive in a rapidly evolving business landscape and leverage standards as a strategic tool for resilience. The course is available in English and other four languages of the UNECE region (Armenian, Georgian, Romanian and Russian).</p>
<p>Online course on agricultural quality standards and food loss reduction in fresh produce supply chains</p> <p><a href="https://unece.org/trade/wp7/e-learning">https://unece.org/trade/wp7/e-learning</a></p>	<p>This self-paced online course familiarizes food producers with the different aspects of reducing food loss in fresh produce supply chains. It is of relevance to MSMEs, covering a range of topics, including internationally recognized quality standards, grading and classification systems, post-harvest handling practices, packaging and labeling. Through a combination of interactive modules and case studies, participants gain</p>

Resource	Overview
	insights into optimal strategies for reducing food loss while ensuring the quality and safety of fresh produce.
Training material on the Use of Digital Standards <a href="https://unece.org/sites/default/files/2021-04/ECE_TRADE_C_CEFAC_T_2021_I_NF6-StandardsTraining.pdf">https://unece.org/sites/default/files/2021-04/ECE_TRADE_C_CEFAC_T_2021_I_NF6-StandardsTraining.pdf</a>	Developed by UN/CEFACT, this training material offers comprehensive guidance to businesses, including MSMEs for using internationally recognized digital standards to improve their production and management systems. It equips them with the necessary tools and strategies to rebuild and strengthen their businesses post-COVID-19. By adopting these standards, businesses can improve operational efficiency, enhance product quality, and streamline their processes, thereby strengthening their overall resilience and competitiveness in the post pandemic landscape.
Training material on Streamlining Formalities and Documentary Procedures Connected with Importation, Exportation and Transit <a href="https://unece.org/fileadmin/DAM/cefact/cf_plenary/2019_plenary/ECE_TRADE_C_CEFAC_T_2019_020E.pdf">https://unece.org/fileadmin/DAM/cefact/cf_plenary/2019_plenary/ECE_TRADE_C_CEFAC_T_2019_020E.pdf</a>	Developed by UN/CEFACT, this document is a comprehensive resource for supporting the implementation of the WTO Agreement on Trade Facilitation. It provides practical guidance and best practices for simplifying and harmonizing import, export, and transit procedures, and covers topics such as customs procedures, documentation requirements, risk management, and electronic data exchange. By implementing the recommendations outlined in the training material, governments and enterprises can enhance efficiency, reduce costs, and promote smoother cross-border trade transactions.
<i>United Nations General Assembly and Specialised Agencies</i>	
UNCTAD Trade Analysis Information System (TRAINS) <a href="https://trainsonline.unctad.org/home">https://trainsonline.unctad.org/home</a>	This online platform provides comprehensive data on applicable non-tariff measures (NTMs), based on the UN Multi-Agency Support Team (MAST) classification system. <sup>120</sup> The platform offers a user-friendly interface and powerful search functionality, allowing users to access information on NTM laws and regulations by product at detailed Harmonized Coding System (HS) 11-digit level. By using TRAINS, MSMEs and their counterparts in import countries can identify potential barriers, compliance requirements, and market access conditions, so that they can identify new trade partners and make informed decisions.
UNCTAD Publication: Fostering Green Exports Through Voluntary Sustainability Standards <a href="https://unctad.org/system/files/official-document/ditctab2020d1_en.pdf">https://unctad.org/system/files/official-document/ditctab2020d1_en.pdf</a>	This publication explores the role of VSS in promoting and supporting green exports. It provides insights into the benefits and challenges of adopting VSS for exporters, especially MSMEs, and discusses the role of governments in creating an enabling environment, supporting capacity-building initiatives, and fostering collaboration between public and private stakeholders. It also provides recommendations for policymakers, exporters, and other

<sup>120</sup> <https://www.un-ilibrary.org/content/books/9789210042000>.

Resource	Overview
	relevant actors on how to effectively integrate VSS into export strategies and promote sustainable trade.
United Nations Forum on Sustainability Standards (UNFSS) voluntary sustainability standards (VSS) reports <a href="https://unfss.org/">https://unfss.org/</a>	Published every two years, these reports cover a variety of topics pertaining to VSS, with a view to providing a robust resource for public and private sector stakeholders seeking to familiarize themselves with the global VSS systems. The reports is collaboratively determined by national VSS platforms, which function as neutral forums, fostering information exchange on VSS among stakeholders. The reports pave the way for actions towards sustainable development, tailored to meet the unique needs, circumstances, and developmental stages of different countries.
<i>G20</i>	
G20 Non-Binding Policy Toolkit: Born Green via Digital MSMEs and Entrepreneurship in Global Supply Chains <a href="http://www.g20.utoronto.ca/2021/211012-toolkit.html">http://www.g20.utoronto.ca/2021/211012-toolkit.html</a>	This Toolkit provides is a comprehensive guide for promoting sustainable and digital practices among MSMEs engaged in global supply chains. It comprises practical recommendations, case studies, and best practices to help MSMEs integrate environmental sustainability, digital technologies, and responsible business practices into their operations. These provide guidance on sustainable production, digitalization, access to finance, capacity building, and collaboration opportunities, ultimately supporting MSME growth and resilience in the evolving global trade landscape.
<i>UNECE Partners</i>	
Trade4MSMEs Online Platform, WTO <a href="https://trade4msmes.org">https://trade4msmes.org</a>	This Platform provides resources and support for MSMEs engaged in international trade. It comprises practical tools, training materials, and information on trade-related topics, including market access, trade finance, and trade regulations. These tools help MSMEs understand the complexities of global trade, including market access requirements and trade finance options, and acquire skills for expanding their business opportunities. The Platform also facilitates networking and collaboration among MSMEs, enabling them to explore new opportunities and connect with potential partners.
ITC Online Standards Map <a href="https://www.standardsmap.org/en/home">https://www.standardsmap.org/en/home</a>	This online Platform aims at helping enterprises looking to adopt VSS. It provides comprehensive information on these standards and associated requirements, thereby enabling businesses, particularly MSMEs, navigate the complex landscape of standards and regulations. The platform offers access to a vast database of standards, technical regulations, and conformity assessment procedures across various

Resource	Overview
	sectors and countries. It enables users to search, compare, and analyze standards, compare different standards and carry out self-assessments.
ITC Online Sustainability Map <a href="https://www.sustainabilitymap.org/home">https://www.sustainabilitymap.org/home</a>	This Platform enables MSMEs to create online profiles to showcase their commitment to sustainability. It enables MSMEs to verify the validity of their certifications, enhancing their credibility and trustworthiness among potential partners and customers. Further, the Platform also allows MSMEs to showcase brands that already source sustainable products from them, increasing their visibility and market opportunities. It also promotes networking and collaboration among stakeholders by facilitating connections between businesses, sustainability experts, policymakers, and other relevant actors.

## V. Concluding remarks

The rise of the green and circular economy, along with the rapid advancements in ICT, is revolutionizing the landscape of enterprise development and global trade, bringing about transformative changes and opportunities in various sectors. Enterprises, including MSMEs must, therefore, reevaluate their strategies to remain relevant. They should use renewable energy and eco-friendly production methods; optimize their supply chains to minimize waste and pollution; and leverage digital technologies for enhanced connectivity and efficiency.

MSMEs belonging to many UNECE developing countries and those with economies in transition are ill-equipped to rise to these challenges, given their weak technological capabilities and the high trade costs created by cumbersome border control procedures and the lack of adequate transport and conformity assessment systems.

Addressing these deep-seated structural weaknesses requires consolidating a conducive environment, which promotes innovation and reduces regulatory and procedural barriers to trade. This can be done through a multi-level system of incentives targeting the macro level of policies and legislation, the meso level of institutions and micro level of enterprises. This system should address the specific needs of MSMEs through flexible policies and legislations and forward-looking enterprise support institutions, focused on bolstering these enterprises' technological capability. The emphasis should be on enabling MSMEs to transform their businesses into IHGEs, capable of engaging in circular and green economy business models and production methods and, thereof, meeting the regulatory requirements in domestic and global markets and engaging in sustainable trade.

This Compendium offers a practical resource for consolidating such an environment. It features an array of best practice guidelines, recommendations, analytical reports, policy papers and tools by UNECE and its development partners as well as case studies and initiatives from the UNECE region. The Compendium is designed to help policy makers and business stakeholders tailor their support to the specific needs of MSMEs as well as enable these enterprises to implement sustainability practices.

However, unleashing the full growth potential of MSMEs remains difficult in the absence of reliable data. Hence, the urgent need for improving data collection capacities, particularly in developing countries and countries with economies in transition. It is necessary to collect accurate and comprehensive data sector-specific data on key performance indicators, including GHG emissions and gender statistics, to gain a deeper understanding of the MSMEs' needs and track their progress against the three pillars of sustainability. Further, to ensure inclusive growth, new proxy indicators and surveys should be developed to gain further insights into the needs and growth potentials of informal enterprises.

## Annex

Table A.1. Share of female-owned enterprises in selected UNECE countries

Country	Year	Percentage share in total registered enterprises
Spain	2021	61.8
France	2021	51.2
Austria	2021	36.9
Germany	2021	33.5
Ireland	2020	54.9
Belgium	2020	44.2
Finland	2020	44
Luxembourg	2020	40.5
Sweden	2020	37.3
Denmark	2020	31.8
Armenia	2020	27.4
Hungary	2019	51.9
Latvia	2019	46.6
Malta	2019	46
Cyprus	2019	45.1
Kyrgyz Republic	2019	45
Lithuania	2019	43.1
Bulgaria	2019	41.7
Moldova	2019	39.9
Ukraine	2019	38.6
Portugal	2019	37.8
Poland	2019	37
Estonia	2019	35.5
Slovenia	2019	34.1
Russian Federation	2019	34
Croatia	2019	31.7
Kazakhstan	2019	30.5
Czechia	2019	29.9
North Macedonia	2019	29.3
Slovak Republic	2019	28.9
Serbia	2019	28.5
Uzbekistan	2019	25.9
Bosnia and Herzegovina	2019	24.9
Italy	2019	24
Montenegro	2019	24
Georgia	2019	22.4
Albania	2019	20.7
Azerbaijan	2019	15.3
Turkiye	2019	11.3



Country	Year	Percentage share in total registered enterprises
Kosovo	2019	7.3
Greece	2018	45.9
Belarus	2018	45.5
Romania	2013	47.2
Tajikistan	2013	32.5
Israel	2013	27.3

Source: World Bank, Gender Data Portal

Table A.2: Promoting green and circular transition in the UNECE region: Illustrative examples

Focus area	Key initiatives
<i>Central Asia</i>	
<b>Green economy transition</b>	<ul style="list-style-type: none"> <li>Green Economy Concept, Kazakhstan <a href="#">Concept on Transition towards Green Economy until 2050 (EN).pdf (asiapacificenergy.org)</a></li> <li>Strategy for the Transition of the Republic of Uzbekistan to a Green Economy for the period 2019-2030 <a href="https://lex.uz/ru/docs/4539506">https://lex.uz/ru/docs/4539506</a></li> <li>Green Central Asia Initiative <a href="#">2021-11-02 GCA action plan_Final_ENG.pdf</a></li> </ul>
<b>Circular economy transition</b>	<ul style="list-style-type: none"> <li>Waste Recycling Programmes, Kyrgyzstan <a href="#">Let's Clean Kyrgyzstan's Waste</a></li> <li>Sustainable Water Management Initiatives, Tajikistan <a href="#">Tajikistan water sector reform – DUSHANBE WATER PROCESS</a></li> </ul>
<b>Digital transformation</b>	<ul style="list-style-type: none"> <li>Digital Azerbaijan <a href="#">Digital Azerbaijan</a></li> <li>Digital Kazakhstan State Programme <a href="#">Digital Kazakhstan   Electronic government of the Republic of Kazakhstan (egov.kz)</a></li> <li>Digital Kyrgyzstan <a href="#">Digital Kyrgyzstan (plus-forum.com)</a></li> <li>Concept of the digital economy in the Republic of Tajikistan <a href="#">Digital economy (medt.tj)</a></li> <li>Concept for the development of the digital economy of Turkmenistan in 2019-2025 <a href="#">Concept of Development of Digital Economy for 2019 – 2025 is approved (tfeb.gov.tm)</a></li> <li>Presidential Decree "On the Development Strategy of New Uzbekistan for 2022-2026" <a href="https://strategy.uz/index.php?news=1475&amp;lang=en">https://strategy.uz/index.php?news=1475&amp;lang=en</a></li> </ul>
<b>Sustainable finance</b>	<ul style="list-style-type: none"> <li>Green Finance Centre, Kazakhstan <a href="#">AIFC documents on sustainable finance</a></li> </ul>
<i>EU</i>	
<b>Green economy transition</b>	<ul style="list-style-type: none"> <li>The Green Deal <a href="#">A European Green Deal (europa.eu)</a></li> <li>Fit for 55 <a href="#">Fit for 55 - The EU's plan for a green transition - Consilium (europa.eu)</a></li> </ul>
<b>Circular economy transition</b>	<ul style="list-style-type: none"> <li>Circular Economy Action Plan <a href="#">Circular economy action plan (europa.eu)</a></li> <li>Farm to Fork Strategy <a href="#">Farm to Fork Strategy (europa.eu)</a></li> <li>EU New Industrial Strategy <a href="#">European industrial strategy (europa.eu)</a></li> <li>Chemicals Strategy</li> </ul>

Focus area	Key initiatives
	<a href="#">Chemicals strategy (europa.eu)</a> <ul style="list-style-type: none"> <li>Plastics Strategy <a href="#">Plastics strategy (europa.eu)</a></li> </ul>
Digital transformation	<ul style="list-style-type: none"> <li>Digital Services Package <a href="#">The Digital Services Act package   Shaping Europe's digital future (europa.eu)</a></li> <li>Digital Markets Act <a href="#">Digital Markets Act (europa.eu)</a></li> <li>Artificial Intelligence Act <a href="#">The Artificial Intelligence Act  </a></li> <li>The European Data Act <a href="#">The European Data Act (eu-data-act.com)</a></li> <li>2030 Digital Compass <a href="#">2030 DIGITAL COMPASS: YOUR DIGITAL DECADE   Futurium (europa.eu)</a></li> </ul>
Sustainable finance	<ul style="list-style-type: none"> <li>Legislation, guidance documents and tools <a href="#">Sustainable finance (europa.eu)</a></li> </ul>
<i>Central, Eastern and Southeast Europe</i>	
Circular economy transition	<ul style="list-style-type: none"> <li>Circular economy initiatives, Georgia <a href="https://mepa.gov.ge/En/">https://mepa.gov.ge/En/</a></li> <li>Law on Environmental Liability, Georgia <a href="#">Preview (matsne.gov.ge)</a></li> <li>Roadmap Towards the Circular Economy, Montenegro <a href="#">roadmap to circular economy - web - single.pdf (europa.eu)</a></li> <li>Roadmap for Circular Economy, Serbia <a href="https://www.ekologija.gov.rs/sites/default/files/2021-01/roadmap-for-circular-economy-in-serbia.pdf">https://www.ekologija.gov.rs/sites/default/files/2021-01/roadmap-for-circular-economy-in-serbia.pdf</a></li> </ul>
Green economy transition	<ul style="list-style-type: none"> <li>National Action Programme of Adaptation to Climate Change and the List of Measures for 2021-2025, Armenia <a href="#">NAP_Armenia.pdf (unfccc.int)</a></li> <li>Low Carbon Emission Strategy, Georgia <a href="#">50123 (mepa.gov.ge)</a></li> <li>Green Economy Initiatives, Republic of Moldova <a href="#">Green Economy – Ministry of Economic Development and Digitalization (gov.md)</a></li> <li>Long-term Strategy on Climate Action and Action Plan, North Macedonia <a href="#">unfccc.int</a></li> <li>Strategy of socio-economic development of the Russian Federation with low greenhouse gas emissions until 2050 <a href="#">Strategy of Socio-Economic Development of the Russian Federation with Low GHG Emissions EN.pdf (unfccc.int)</a></li> <li>Green Development Policy and Action Plan, Serbia <a href="#">Serbia social briefing: Serbia's' Green Development Policy and Action – China-CEE Institute</a></li> </ul>
Digital transformation	<ul style="list-style-type: none"> <li>e-Albania Initiative</li> </ul>

Focus area	Key initiatives
	<p><a href="#">Self Assessment Report Ver 2.23.pdf (opengovpartnership.org)</a></p> <ul style="list-style-type: none"> <li>• Digital Armenia <a href="#">Digital Armenia (digital-armenia.am)</a></li> <li>• Digital Services Georgia <a href="#">Digital Services Georgia</a></li> <li>• North Macedonia National ICT Strategy 2023-2027 <a href="#">  Ministry of information society and administration (mioa.gov.mk)</a></li> <li>• Digital Strategy Moldova 2020 <a href="#">Aprobată (eufordigital.eu)</a></li> <li>• Digital Transformation Strategy of Montenegro 2022-2026 and Action Plan for the period 2022-2023 <a href="#">Digital Transformation Strategy of MNE (www.gov.me)</a></li> <li>• Digital Serbia Initiative <a href="#">Digital Serbia Initiative (dsi.rs)</a></li> </ul>
<b>Sustainable finance</b>	<ul style="list-style-type: none"> <li>• National Bank of Georgia: Roadmap for Sustainable Finance in Georgia; Principles on Environment, Social and Governance (ESG) Reporting and Disclosure; and Sustainable Finance Taxonomy, Georgia <a href="#">Sustainable Finance (nbg.gov.ge)</a></li> <li>• Green Economy Financing Facility, Montenegro <a href="#">GEFF Montenegro – Welcome to the Green Economy Financing Facility (ebrdgeff.com)</a></li> </ul>

**Harnessing opportunities from the circular and green economy:  
Compendium of guidance resources for micro, small and medium-  
sized enterprise development**

United Nations Economic Commission for Europe

Palais des Nations

CH - 1211 Geneva 10, Switzerland

Telephone: +41(0)22 917 12 34

E-mail: [unece\\_info@un.org](mailto:unece_info@un.org)

Website: [www.unece.org](http://www.unece.org)