



Green and Circular Business Model Guide for MSMEs

A guide to developing a green/circular business idea into a sustainable business model

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EU for Economic Growth

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Glossary

1. Business concept - A succinct statement of the purpose and intent of a business idea.
2. Business idea - A concept envisioned by individuals or teams that can be monetized through the delivery of products or services
3. Business Model Canvas - Strategic management tool that provides a visual chart with elements describing a company's value proposition, infrastructure, customers, and finances, facilitating an organized approach to developing or documenting business models.
4. Circular Business Model - Circular business models focus on strategies to slow, extend, and close resource cycles, reducing resource input and preserving value, while breaking linear production patterns through restructuring.
5. Circular Economy - An economic system focused on the reuse and regeneration of materials or products, aimed at minimizing waste and maximizing resource utilization. This approach promotes transitioning from a linear "take-make-dispose" economic model to a circular system that emphasizes waste reduction, material reuse, and reduced environmental impact.
6. Circular Transition - The core objectives. include reducing demand for primary materials, increasing the quality of life and creating. a sustainable, regenerative society.
7. ESG traceability - about understanding the origin and path of all goods and materials across increasingly complex and global supply chains.
8. European Green Deal - The main aim of the European Green Deal is to become climate neutral by the year of 2050. The reasons pushing for the plan's creation are based upon the environmental issues such as climate change, a loss of biodiversity, ozone depletion, water pollution, urban stress, waste production and more.
9. Green Business - A way of doing business that protects the natural environment.
10. Green Business Model - describes how the enterprise creates, delivers and captures environmental, economic and social value or benefit
11. Green investment - refer to the allocation of financial resources to projects or companies that focus on sustainable practices, environmentally friendly technologies, and the conservation of natural resources.
12. Green skills - the knowledge, abilities, values and attitudes needed to live in, develop and support a sustainable and resource-efficient society.

13. Green transition - The transition to a green economy entails redefining economic models and policies to ensure environmental sustainability while fostering economic growth and social well-being. It involves adopting practices that minimize carbon emissions, promote resource conservation, and encourage renewable energy sources.
14. Green work place - a workplace that is environmentally sensitive, resource efficient, and socially responsible
15. Public-Private Partnership - a partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector.
16. Reduction of greenhouse gases - Emission reduction refers to minimisation of the greenhouse gas (GHG) emissions generated by an individual, organisation, or country. These gases include carbon dioxide (CO₂), methane, nitrous oxide, and hydrofluorocarbons (HFCs).
17. Social enterprises - businesses that put the interests of people and planet ahead of shareholder gain. These businesses are driven by a social/environmental mission and reinvest profits into creating positive social change.
18. Social entrepreneurship - an approach by individuals, groups, start-up companies or entrepreneurs, in which they develop, fund and implement solutions to social, cultural, or environmental issues

List of Acronyms

BMC	Business Model Canvas
CBAM	Carbon Border Adjustment Mechanism
CSRD	Corporate Sustainability Reporting Directive
CS3D	Corporate Sustainability Due Diligence Directive
EFRAG	European Financial Advisory Group
ESG	Environment, Social and Governance
EU	European Union
EUR	Euro
EU4EG	EU for Economic Growth
FMP	Financial Market Participant
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (English: German Development Cooperation (GIZ))
GHG	Green House Gas Emission
MSME	Micro, Small and Medium Enterprises
NFRD	Non-Financial Reporting Directive
PAI	Principle Adverse Impact
PPP	Public Private Partnership
RTS	Regulatory Technical Standards
SFDR	The Sustainable Finance Disclosure Regulation
SDG	Sustainable Development Goal
TLBMC	Three-Layered Business Model Canvas

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Executive Summary

In the period from May 30, 2024, to July 3, 2024, in the organization of GIZ through the EU4EG project, 6 thematic events were organized that resulted in business models for circular economy, with the involvement and networking of relevant stakeholders (small and medium sized companies (SMEs), donors, business support organizations (BSOs), financial institutions, non-governmental organizations (NGOs) and some large companies).

The thematic events were conducted in the four project target regions, Polog, North-East region, and South-West region and Prespa area (Municipality of Resen).

Objective of the events:

The overall objective of the events was to acquaint participants with the obligations for enterprises arising from the EU Green Deal, and to harmonize the ideas and concepts of the participants with the regulatory framework set by the EU Green Deal when creating green and circular business models.

Specific objectives of the events:

The specific objectives of the events were:

- To give guidance to the participants for developing green and circular organizations
- To initiate the development of ideas and concepts for green and circular practices in enterprises and cooperation with the local community
- To provide guidance to participants on economic and investment practices for the development of green and circular business models
- To initiate the creation of models for financing sustainable green and circular projects initiated by joint partnership of companies with the local community
- To provide feedback and recommendations for implementation steps

According to the dynamics, 4 events (workshops) were held, one in each region, where the participants were introduced to the details of the climate change agreement, the EU's Green Deal and the obligations according to the new European Sustainability Reporting Standard (ESRS) standard, which is a set of several components with emphasis on the circular economy. At the same time, information on new business models was reviewed and the foundations for a business model were laid by using the "Canvas model".

The last two events were conceived as a mix of the ideas that emerged at the previous events, so the Polog and North-East regions were covered in one workshop, while the Prespa and South-West regions were covered in another workshop.

Weaknesses were mapped at the workshops, but ideas were given for improvement and creation of business models for green and circular economy, with a special focus on SMEs.

1. Developing green and circular organization

Companies, and in particular SMEs, that want to increase the sustainability of their business focus on the development of green socially responsible products and services. The introduction of green socially responsible practices in operations helps companies, their staff to plan and build long-term relationships with foreign clients and associates, investors, relevant institutions and raise environmental awareness in the community.

There is an increasing demand for green products and services worldwide. Green products and services are demanded by consumers in industrialized countries, but in developing countries there is also an increasing demand for environmentally responsible products and services. Offering green products and services can enhance companies' business reputation with customers and communities who are concerned about environmental sustainability.

Responsible Environment, Social and Governance (ESG) practices of companies in EU countries are defined as part of green public procurement. There are several EU legislations: Non-Financial Reporting Directive (NFRD), Corporate Sustainability Reporting Directive (CSRD), SFDR, Corporate Sustainability Due Diligence Directive (CS3D), ESRS, etc., that encourage and oblige companies for responsible social and governance practices in their operations.

The introduction of responsible ESG practices in operations, the implementation of a socially responsible legal regulations, selling environmentally friendly products or greening their processes makes companies more environmentally sustainable.

Green businesses are continuously engaged in developing and improving business models that will contribute to reduction of greenhouse gas (GHG) emissions, life cycle management, resource efficiency and cleaner production, environmental management systems and environmental certification.

1.1 The EU Green Deal

1.1.1. Key elements

The European Climate Law sets a legally binding target of net zero greenhouse gas emissions by 2050. The EU Institutions and the Member States are bound to take the necessary measures at EU and national level to meet the target, taking into account the importance of promoting fairness and solidarity among Member States.

The Climate Law includes measures to keep track of progress and adjust our actions accordingly, based on existing systems such as the governance process for Member States' national energy and climate plans, regular reports by the European Environment Agency, and the latest scientific evidence on climate change and its impacts.

Progress will be reviewed every five years, in line with the global stocktake exercise under the Paris Agreement.

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind

The European Green Deal is also our lifeline out of the COVID-19 pandemic. One third of the 1.8 Trillion EUR investments from the Next Generation EU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal.

(https://climate.ec.europa.eu/eu-action/european-climate-law_en)

1.1.2. Legally binding climate goals

- targets for reducing emissions in a wide range of sectors
- aim to strengthen the natural "cleaners" of the carbon footprint
- an updated emissions trading system to limit emissions, put a price on pollution and generate investment in the green transition
- social support for citizens and small businesses.

1.1.3. Green Deal specifications applicable to the EU

The new social climate fund will allocate 65 billion EUR from the EU budget and more than 86 billion EUR in total to support the most vulnerable citizens and small businesses with the green transition.

The new carbon border adjustment mechanism (CBAM) will ensure that imported products will also pay a carbon price at the border in the covered sectors.

As a further step towards climate neutrality, the Commission presented its assessment of the EU's 2040 climate target in February 2024. It recommended reducing the EU's net greenhouse gas emissions by 90% by 2040 compared to 1990 levels, which is in line with recent scientific advice and the EU's commitments under the Paris Agreement.

Currently, Macedonian companies do not have the opportunity to directly use these funds, which are intended as support for small and medium-sized companies in the EU.

Companies from North Macedonia, if they are in direct correlation and cooperation with a company from the EU, and there are not enough resources and capacities, in that case the partner company from the EU can ask for support from the EU and receive funds with which it will be able to help the supplier to meet the standards.

This comes from the very obligation in the ESRS that requires all EU companies to provide sustainability reports from all vertical and horizontal collaborators.

In the following, we will make a small retrospective and the speed of carrying the directives and how it will affect the companies that are outside the EU, including the Macedonian companies.

- Fund for social climate 65 billion EUR from the EU budget
- 86 billion EUR to support small businesses with a green transition and vulnerable groups of citizens
- The Carbon Border Adjustment Mechanism (CBAM) will ensure that companies pay a carbon price as well
- Reduction of greenhouse gases by 2040 by 90% compared to 1990.

ESRS as a standard comes after a series of research and problems that arose with reporting based on previous standards. In the following, we will follow the standards that contributed to the introduction of ESRS, and which as a package should support green and circular business models.

1.1.4. The Corporate Sustainability Reporting Directive (CSRD)

The CSRD is European Union (EU) legislation, effective from 5 January 2023, that requires EU businesses—including qualifying EU subsidiaries of non-EU companies—to disclose their environmental and social impacts, and how their environmental, social and governance (ESG) actions affect their business.

The goal of the CSRD is to provide clarity that will help investors, analysts, consumers and other stakeholders better evaluate EU companies' sustainability performance and the related business impacts and risks. Introduced as part of the European Commission's Sustainable Finance Package, the CSRD notably expands the scope, sustainability disclosures and

reporting requirements of its predecessor, the Non-Financial Reporting Directive (NFRD).

By 2028, all of the following organizations or enterprises should comply with the CSRD. According to the obligations arising from the new standards, these include:

1. These include any companies listed on an EU-regulated market exchange—except for listed ‘micro undertakings’ that fail to meet two of the following three criteria on consecutive balance sheet dates:

- at least 450,000 EUR in total assets
- at least 900,000 EUR in net turnover (revenue)
- at least 10 employees (average) throughout the year

2. EU-based large undertakings, listed or not

These include any listed or non-listed companies that meet two of the following three criteria on any two consecutive balance sheet dates:

- at least 25 million EUR in total assets
- at least 50 million EUR in net turnover
- at least 250 employees (average) during the year.

3. These include non-EU parent companies, with annual EU revenues of at least 150 million EUR in the most recent two years, and also own:

- a large EU-based undertaking, or
- an EU-based subsidiary with securities listed on an EU-regulated market exchange, or
- an EU branch office with at least 40 million EUR in net turnover.

1.1.5. The Corporate Sustainability Due Diligence Directive (CS3D)

The Council of the EU has formally adopted the corporate sustainability due diligence directive on 24 May 2024.

The directive introduces obligations for large companies regarding adverse impacts of their activities on human rights and environmental protection. It also lays down the liabilities linked to these obligations. The rules concern not only the companies’ operations, but also the activities of their subsidiaries, and those of their business partners along the companies’ chain of activities.

The directive will affect companies of more than 1,000 employees with a turnover of more than 450 million EUR, and their activities ranging from the upstream production of goods or the provision of services, to the downstream distribution, transport, or storage of products.

The directive requires companies to ensure that human rights and environmental obligations are respected along their chain of activities. If a violation of these obligations is identified, companies will have to take the appropriate measures to prevent, mitigate, bring to an end or

minimise the adverse impacts arising from their own operations, those of their subsidiaries and those of their business partners in their chain of activities. Companies can be held liable for the damage caused and will have to provide full compensation.

Companies affected by the directive will also have to adopt and put into effect a climate transition plan in line with the Paris agreement on climate change.

1.1.6. The Sustainable Finance Disclosure Regulation (SFDR)

The Sustainable Finance Disclosure Regulation is a mandatory European Union regulation that requires financial market participants (FMPs) and financial advisers to disclose information about the ESG risks and opportunities of their investment products.

The most significant aspect of this legislation is that fund managers must submit quarterly detailed, quantitative data on behalf of their portfolio companies.

The SFDR has three main goals:

- Eliminating greenwashing and false claims
- Holding accountable the sustainability claims made by FMPs
- Improving transparency of sustainable investment products in the European Financial Sector

In brief, to meet these goals, the SFDR will require two levels of disclosure regarding integrating sustainability risks and opportunities into their investment decision-making process.

Level one requires FMPs to disclose whether and how sustainability risks are considered in their investment decision-making process. FMPs must also explain the likely impacts of sustainability risks on the returns of the financial products they offer. This disclosure became mandatory in March 2021.

Level two requires FMPs to disclose the principal adverse impacts of their investments on sustainability factors. This level of disclosure requires adherence to the Regulatory Technical Standards (RTS) on ESG and became mandatory in January of 2023. In June of 2023, adherence to Principle Adverse Impacts (PAIs) under RTS also became mandatory. PAI disclosures include specifics about sustainability risks such as greenhouse gas emissions, water usage, and human rights impacts.

1.1.7. European Sustainability Reporting Standard (ESRS)

On April 29, 2024, the European Council confirmed. All countries that are not members of the EU, and want to enter the EU market, must make mandatory ESRS reports and

harmonize them with the ESRS standard by June 30, 2026. This is an obligation for all companies outside the EU. The deferred application of two years remains. From June 30, 2028, any company from a third country that has not complied with the ESRS report will have to say goodbye to the EU market. Officially, a day later an announcement was made in the official gazette, making the obligation mandatory for all companies.

The specific sectors remained untouched by this decision, as well as large companies outside the EU were not affected by these changes, but they must submit reports in 2026, otherwise, companies outside the EU will say goodbye to EU markets, and companies in the EU from the specific sectors will pay high penalties.

(<https://www.consilium.europa.eu/en/press/press-releases/2024/04/29/council-adopts-directive-to-delay-reporting-obligations-for-certain-sectors-and-third-country-companies/>; <https://www.esgtoday.com/eu-approves-2-year-delay-to-sustainability-reporting-obligations-for-specific-sectors-and-non-eu-companies/>)

What does ESRS mean?

ESRS explains reporting on all standards used by the company that are part of ISO or other practices that are not certified but are important and necessary for following the green agenda, as well as other obligations arising from the climate neutrality strategy. So, the following definition is derived:

The standards cover the full range of environmental, social and corporate governance issues, including climate change, biodiversity and human rights. They provide investors with information to understand the sustainability impact of the companies in which they invest. Common standards are intended to help companies reduce reporting costs and prevent the use of voluntary standards, as is currently the case, as this creates problems with the quality of reporting. Only their unification will make public reporting of companies confidential.

- Notification in a total of three areas (“ESG“), 10 SUB-AREAS, total of 17 Chapters,
- Two summary reports (“S1 and S2“)
- Comparative analysis in each report (past, present and future)
- Plans in each chapter of notification and adherence to the same
- A total of about 70 pages for medium – sized companies and over 150 pages of written text for large companies

Why “ESRS“?

ESRS as described in the definition above should affect several factors in the company. Mainly they should report in certain chapters such as:

Environment, Social and Corporate, Management, Biodiversity, Climate Change and Human Rights.

- It sets Standard that will contribute to easier checking of ESG practices

- Motivating small and medium-sized companies to secure a better position on the market and among investors with a real pack
- Pressure on big companies to really help the community and society with measurable impacts
- The excess money should be assumed for real environmental protection, not for fictitious activities that have no effect on CO₂ emissions

Concept of “ESRS” and financial benefits

Innovation and Gaining Competitive Edge

Applying the ESRS can also spur innovation. Analysing their sustainability performance in detail allows corporations to identify areas for improvement and innovation. For example, innovative technologies to minimize GHG emissions. This insight can result in the creation of new offerings or processes that not only advance sustainability performance but also provide a competitive edge.

As sustainability becomes a more prominent factor in the marketplace, businesses demonstrating robust sustainability performance may be able to distinguish themselves from their competitors.

(<https://thecsrcompass.com/10-benefits-of-esrs-for-businesses/>)

- Recognition by banks and other financial institutions as a responsible company
- Real display of practices when submitting a request for any financial instrument
- Easy verification of provided green practices
- Easy verification of work with employees and active involvement of social impact
- Easy verification in making plans to fulfil the EU Green Deal.

How will ESRS impact competitiveness?

The ESRS framework gives corporations a powerful tool to illustrate their dedication to sustainability and to measure progress towards these sustainable goals:

- The more impact from the practices the greater the opportunity for new investors
- The more collaboration with the society, the greater recognition for the prediction of greenhouse gas
- The more transparent the behaviour the more positive points that prevent the negatives of greenhouse gas emissions
- More money in the company, instead of paying greenhouse gas tax after 2030.

(<https://thecsrcompass.com/10-benefits-of-esrs-for-businesses/>;
<https://www.datia.app/blog/how-the-newly-approved-esrs-will-benefit-financial-markets>)

1.2. Circular Transition

Most of the global economy today is optimized for a linear business model, where raw materials are extracted from the earth and used to produce goods; the goods are consumed and, finally, discarded as waste. A linear economy drives over-consumption as it promotes the constant production of new products and the disposal of used ones, leading to the continuous depletion of resources and increased waste and pollution. According to the United Nations Environment Programme, manufacturing products and goods accounts for approximately one-third of global greenhouse gas emissions. This includes emissions from the extraction of raw materials, production, transportation, and end-of-life disposal.

The solution is moving to circular economy business models, where resources are kept in use for as long as possible, extracting the maximum value from them while in use, and then recovering and regenerating products and materials at the end of each service life. It aims to reduce waste and pollution and promote sustainable economic growth by keeping resources in use for as long as possible.

Circular business models are green business models where companies independently or in cooperation with mostly local social entrepreneurs develop new products using raw materials from waste from current operations/production and/or use recycled products or materials in current operations.

Circular business models achieve an increase in the companies' sustainability performance because the waste created by the companies acquires a new economic value and contributes to greater positive financial results and a greater positive impact in environmental protection.

The picture below shows how in the linear economy the added value of a product together with the value of the materials it is made of is lost after its use. In the circular economy, the added value of the product is maintained by repairs and technical maintenance, and the value of the materials from which the product is made after use retains its value in several ways: refurbish, remanufacture, recycle.

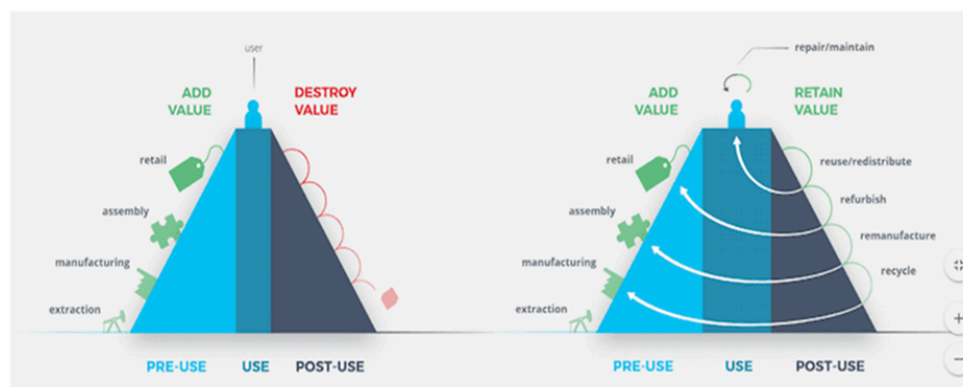


Figure 1: The Value Hill (Achterberg, Hinfelaar and Bocken, 2016).

The circular transition of companies will contribute to the transition of the established linear economy to a circular economy. The world is only 8.6% circular according to the Circularity Gap Report 2021 by the Circle Economy <https://www.circularity-gap.world/2021> . The current linear economy is firmly steering people worldwide towards a 3 to 6 °C degree temperature increase. If mankind continues business-as-usual, it will emit 65 billion tonnes of GHG emissions in 2030. The big shift is the circular economy. To sustain our world and enable it to thrive it is necessary to double global circularity from 8.6% to 17%.

The circular triangle (Figure 2 below) shows the multiple levels of the economy, the way global population creates circular businesses and society – by developing a circular culture and changes towards circular operations.

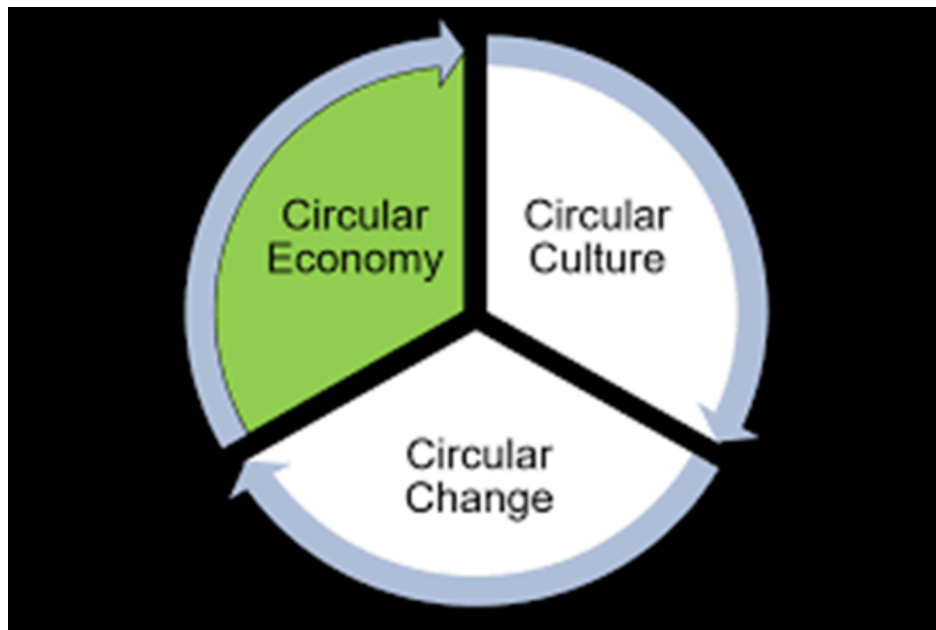


Figure 2: The three fundamental aspects of the circular transition (Circular Change, Giacomelli Media Ltd, 2017)

1.3. Developing green and circular business concepts

The development of green and circular business models requires greater involvement and four-party cooperation (so called quadruple helix actors): enterprises, municipalities, non-governmental sector with the involvement of citizens and educational institutions. Namely, initially in the creation of business/project concepts that will be further developed into business models.

A business concept is a statement that describes the reach and reason of existence of a given business idea. A business concept is a brief description of an idea behind the existence of a business. The business concept is the fundamental idea behind the business. Project concept means the basic purpose, scope, and objectives of the project. Business definition of project concept is a proposed solution to a business problem.

Such cooperation and networking can create business models of the type of social entrepreneurship, or Public – Private Partnerships (PPP) models where the municipality would be actively involved in the development processes of SMEs that take care of green and circular economy. The bearers of these projects should be NGOs that would help primarily in the relationship with the community and their active involvement in the processes. Also, large companies would be involved as project holders and to support SMEs (social entrepreneurs) and the community for the formation of the so-called green cooperatives.

Working in groups with quadruple helix actors will contribute to the development of a business concept, which will later be linked to the development process of various business models and their analysis, and in the final stage, the development of a complete business plan.

The questionnaire (Annex1) can be used for group work to develop ideas for introducing green and circular practices in companies and to upgrade the ideas into green and circular business/project concepts.

2. Developing green and circular business models

The importance of environmental management, social practices and responsible governance (ESG) is increasing, businesses are challenged to rethink their strategies and use innovative business models to embed responsible and sustainable practices in their organizations – to ensure sustainable development.

The reader shall be aware that the context of ESG is different in this chapter. It was previously explained how ESG practices are imposed through EU legislation, what is the position of ESG practices as one of the instruments for the realization of Green Deal policies, and in this chapter it is about establishing sustainable business models that are appropriate/adjusted to the defined ESG practices (with legislation and policy) and the interests of stakeholders. For that reason, the wording is slightly different.

SUSTAINABLE DEVELOPMENT - *development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

Source: Our Common Future, also known as the Brundtland Report, published in October 1987 by the United Nations (World Commission on Environment and Development)

2.1. Sustainable Business Models

Increased and inefficient use of resources has negative effects, including climate change, loss of biodiversity, pollution, ill health and poverty. The majority of businesses are aware of the above-mentioned consequences, but it is still a challenge for them to develop sustainable business models.

Sustainable business models are needed to fulfil the following:

- coping with environmental change: climate change, resource depletion and pollution
- regulatory compliance: regulatory bodies enforce stricter environmental and social regulations
- long-term value creation: it goes beyond short-term profit maximization and focuses on long-term value creation
- building resilience and managing risk: helps businesses build resilience by addressing risks (ESG factors).

Businesses can implement sustainable business models in the following way:

- Assess current practices to find areas for improvement.
- Involve stakeholders at all levels and listen to their opinions to build support.
- Identify a sustainable business model that aligns with your needs
- Set measurable goals to achieve long-term sustainability goals.
- Innovate your purpose, product and processes using the chosen sustainable business model as a framework.
- Transparently and consistently communicate your sustainability efforts and activities to relevant business stakeholders and customers.
- Track your business progress against key sustainable performance indicators and continuously seek improvements.

2.1.1. Components of sustainable and circular business models

Sustainable business models are part of the circular economy, social enterprises, sustainability standards and partnerships between business and social actors in sustainability.

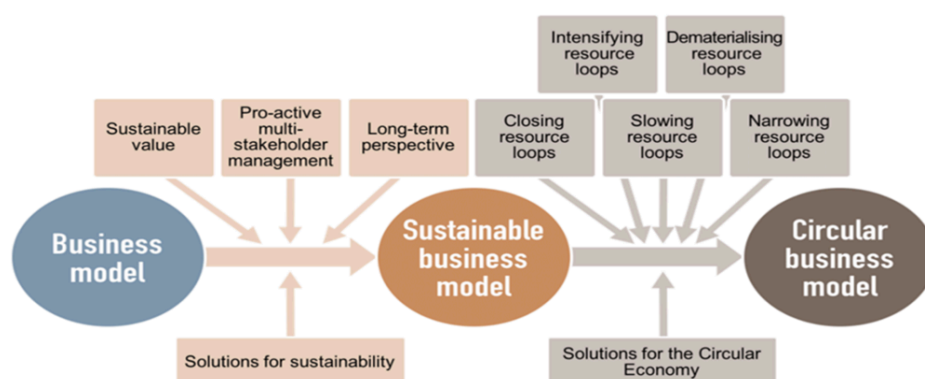


Figure 3: Sustainable and circular business models (Geissdoerfer et al., 2018a).

Sustainable business models that support the circular economy are also circular business models.

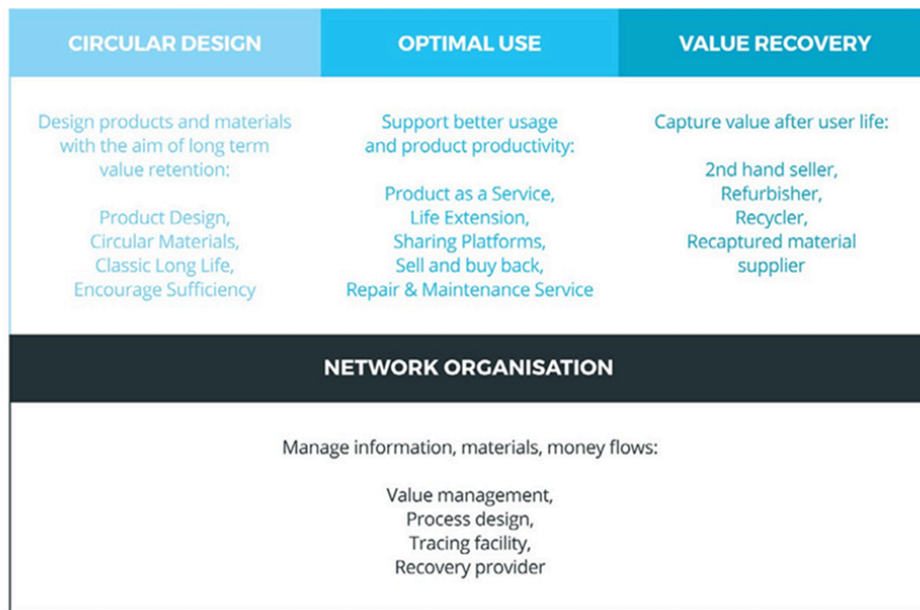


Figure 4. Circular Business Model Development Framework (Achterberg, Hinfelaar & Bocken, 2016).

During the development of circular business models, various methods of circular design, optimal use and value recovery are practiced. But the implementation of the methods always requires the support of a network organization that will manage the information, materials and money flows.

2.2. Green/Circular Sustainable Business Models and Business Plans Development

According to ESRS basic postulates for successful preparation of sustainability reports are:

- Collaboration as a new business model
- For easier and more acceptable reports, companies need to collaborate with the community and invent new business models
- Formation of small cooperatives
- Support of start-up businesses and support for involving multiple stakeholders
- companies should include socially vulnerable categories and if necessary, help in the Development of social entrepreneurship
- Companies should have measurable results from the activities with the local population, the vulnerable categories and the support of small companies.

2.2.1. Sustainable Business Model CANVAS

For the creation of Sustainable business models, the use of the Sustainable Business Model CANVAS can be recommended - it is actually the so-called three-layer Canvas business model.

The original Business Model Canvas (BMC) developed by Osterwalder and Pigneur (2009), is widely used and highly valued among entrepreneurs. Although extensive, it does not take into account the social and environmental impacts of business. Joyce and Paquin (2016) developed the Three-Layered Business Model Canvas (TLBMC) to incorporate social and environmental impacts.

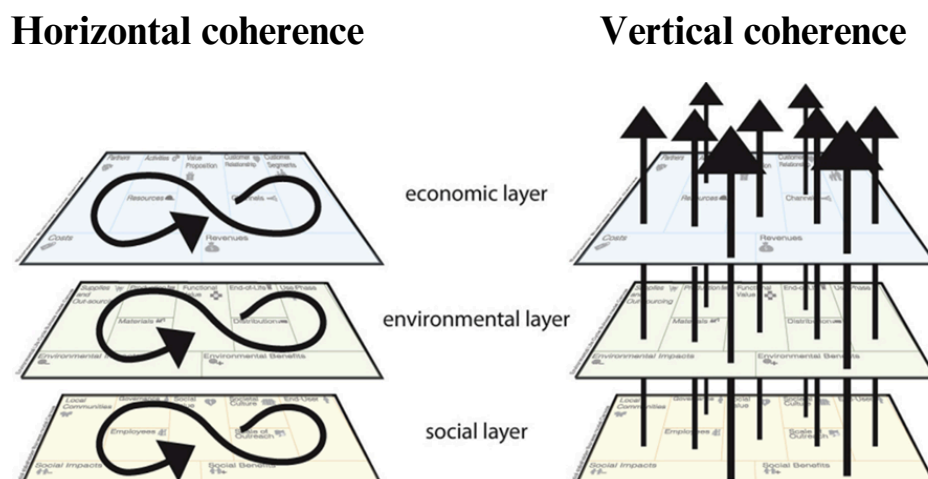


Figure 5. Triple Layered Sustainable Business Model Canvas (Joyce, A., Paquin, R.L., The triple layered business model canvas: A tool to design more sustainable business models, Journal of Cleaner Production (2016), <http://dx.doi.org/10.1016/j.jclepro.2016.06.067>)

BMC can help users visually represent business model elements and potential interrelationships and impacts on value creation. As a visual tool, BMC can facilitate discussion, debate and exploration of potential innovations of the underlying business model; with users developing a more systemic perspective of the organization and highlighting its value-creating impacts.

BMC forms the economic layer (given in the Figure 6 below) of the three-layer business model Canvas (TLBMC)



Figure 6. Green Governance Economic Business Model Canvas (Joyce, A., Paquin, R.L., The triple layered business model canvas: A tool to design more sustainable business models, Journal of Cleaner Production (2016), <http://dx.doi.org/10.1016/j.jclepro.2016.06.067>)

A new TLBMC tool will need to more explicitly integrate economic, environmental and social value into a holistic view of corporate sustainability. As a way to put this into practice, TLBMC offers users the ability to explicitly address a three-layer business model where each layer of the Canvas is dedicated to one dimension and together provide a means to integrate the relationships and influences across the layers. When analysing with the TLBMC, organizations consider their economic, environmental and social impacts.

Innovating towards more sustainable business models requires developing new business models that go beyond an economic focus to one that generates and integrates economic, environmental and social value through the organization's activities.



Figure 7. Social stakeholder Business model Canvas (Joyce, A., Paquin, R.L., The triple layered business model canvas: A tool to design more sustainable business models, Journal of Cleaner Production (2016), <http://dx.doi.org/10.1016/j.jclepro.2016.06.067>)

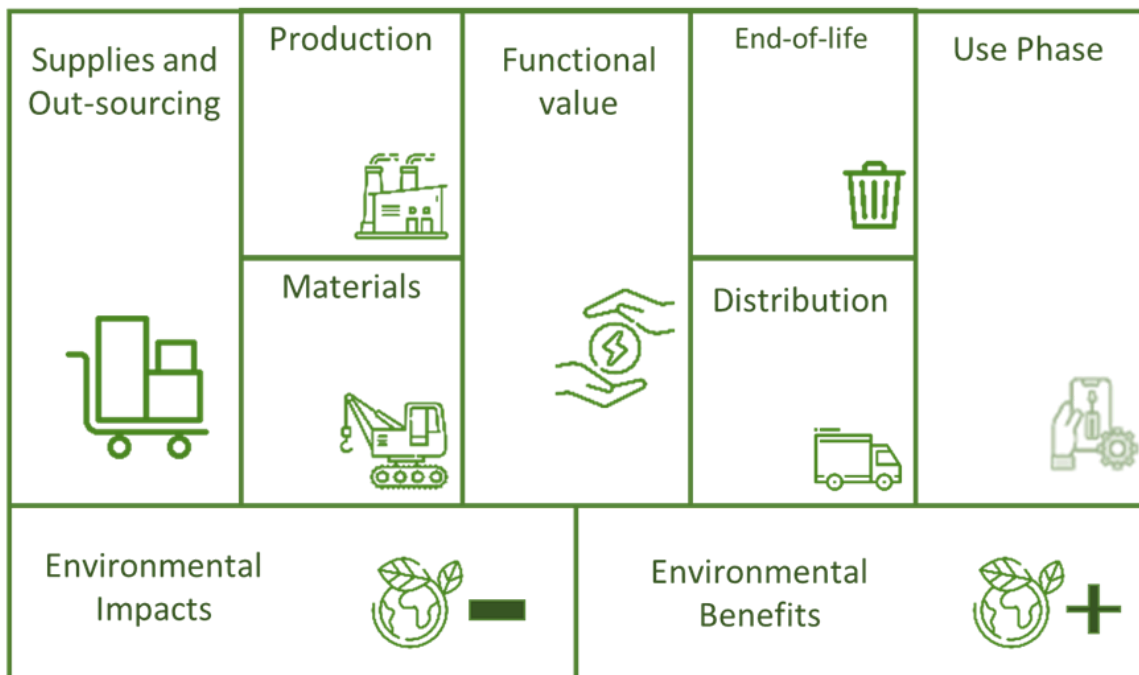


Figure 8. Environmental Life Cycle Business model Canvas (Joyce, A., Paquin, R.L., The triple layered business model canvas: A tool to design more sustainable business models, Journal of Cleaner Production (2016), <http://dx.doi.org/10.1016/j.jclepro.2016.06.067>)

2.2.2. Difference between business model and business plan

Business Model: Considered a project or business plan¹

It is a structure that describes the logic behind a project, the way the project should be run, the people and steps involved, the market in which the project should be operational and the financial plan foreseen for this project. In other words, it's about describing how a project creates sustainable long-term added value for a company, its target groups and society as a whole.

Business Plan/Strategy: It is considered as a roadmap of a project or business over a certain period.

It is a formal written document that outlines all aspects of a project, including the strategy, vision, objectives, marketing plan, financial aspects and operational, management and organizational plan.

The Sustainable Business Canvas concept uses an integrated approach, asking classic and sustainability-oriented questions for each of its elements.

The Questionnaire in Annex 2 can serve to develop the business idea/concept into a sustainable business model.

Sustainable Business Models shows how the TLBMC is used to develop a business idea/concept into a sustainable business model.

¹ The business model describes a project in a company (for-profit), but also in a non-profit entity. Non-profit projects are often further described with a logical framework and budget, and for-profit projects with a business plan. A sustainable business model is often used instead of the term sustainable business plan in social entrepreneurship, organizations that support stakeholder networking to support a circular economy, and other mostly non-profit organizations.

3. Conclusions

Consumer demand for sustainable products is rising, and businesses worldwide are pressured to adopt more circular models to meet this demand. While there is no shortage of discussion among policymakers and analysts about the high-level frameworks needed to achieve a more circular economy, there remains a **significant gap in the practical guidance available to individual businesses** seeking to make the transition.

Many businesses have realized that the time for the profit maximizing imperative has passed. The single-minded focus on shareholder value often over stakeholder value has proven less and less of an option. **Most companies have been forced to or are rethinking their products, product-service bundles and the entire value networks in their strive for competitiveness and customer acceptance.**

Evident resource constraints have also forced some **companies to find new ways of value creation.** For example, the difficulties related to the mining of metals and minerals necessary for battery production has opened-up a profitable business for car battery recycling.

The **circular business model differs from the linear business model** in attempting to close the loop by creating value for a broader range of stakeholders and taking into consideration also the benefits from societal and environmental perspectives. The ambition of a circular business model is to reduce resource consumption and resource dependency, to keep resources in circulation for as long as possible and to create as little waste throughout as possible. The circular economy business models demand companies to be involved in the product life cycle for a longer period than in the linear model; especially since **companies need to plan and design not only the product use phase but also disposal and recovery. Circular elements can be embedded in the product/ service also during its design/ redesign phase.**

4. Recommendations

Companies need to be ready to innovate or reinvent their business models to make them incorporate the notion of the circular economy. These changes may include new value propositions, potentially new segments, new channels, novel products and services and different revenue models.

A business model aligned with the principles of the circular economy can be attained either through innovations in the supply chain, product life extension, recovery and recycling or through sharing platforms or offering of the product as a service; or a combination of these approaches.

While many companies prefer traditional business models because of lower costs, it would seem that most companies do not know how to integrate circular economy models into existing business models. This may be due to the fact, that business model innovation is not yet a commonplace. In addition, companies are largely unsure of the potential reactions of customers or consumers to moving towards resource-efficient circular economy models.

In the following text recommendations are given for Adopting Circular Practices in SMEs. Case studies for two principles for Adopting Circular Practices are provided in Annex 3 and Annex 4.

Adopting Circular Practices

1. Designing for Durability and Repairability

In a circular economy, businesses prioritize the design of products with durability and repairability in mind. By creating long-lasting and easily repairable products, businesses extend the lifecycle of their offerings, reduce the need for replacement, and minimize waste generation.

2. Implementing Resource Efficiency

Resource efficiency is a cornerstone of the circular economy. Businesses can adopt practices such as lean manufacturing, efficient energy use, and responsible sourcing to minimize resource consumption. This includes using recycled materials, optimizing production processes, and exploring alternative energy sources.

3. Embracing Product Life Extension

Businesses can contribute to the circular economy by promoting product life extension. This can be achieved through strategies like refurbishing, remanufacturing, and offering product upgrades or leasing options. By extending the lifespan of products, businesses reduce waste and maximize the value derived from each item.

4. Facilitating Material Recycling and Reuse

Circularity hinges on the efficient recycling and reuse of materials. Businesses can collaborate with suppliers, customers, and recycling partners to create closed-loop systems. This involves designing products with easily separable and recyclable components and establishing take-back programs to ensure proper recycling and reutilization of materials.

5. Shifting to Service-Based Models

An emerging trend in the circular economy is the shift from selling products to offering services. Instead of owning products outright, customers can access them through sharing platforms, rentals, or subscriptions. This model incentivizes businesses to maintain the quality and durability of their offerings while minimizing the environmental impact associated with product ownership.

6. Collaborating for a Circular Supply Chain

Businesses can embrace collaboration and cooperation throughout their supply chains to foster circular practices. By engaging suppliers, customers, and other stakeholders, businesses can streamline material flows, optimize logistics, and explore opportunities for waste reduction and resource recovery.

7. Embracing Digitalization and Technology

Digitalization and technological advancements play a vital role in enabling the circular economy. Technologies like the Internet of Things, blockchain, and artificial intelligence can enhance supply chain transparency, facilitate product traceability, and enable efficient material tracking, thus enabling businesses to implement.

The Green and Circular Business Model “New plastic economy case study” (Annex 3) shows the principle of Facilitating Material Recycling and Reuse for Adopting Circular Practices.

The Green and Circular Business Models “New organic waste economy case study” (Annex 4) shows the principle of Collaborating for a Circular Supply Chain for Adopting Circular Practices.

ANNEX1. Green and Circular Project Concept Template

Name of the green/circular project concept:

Team members organization/company, names and function:

1. Project concept objectives

- eco-entrepreneurship ...
- eco-management ...
- eco-innovation ...

2. What problem(s) does the project solve (organizational, local community, global)

3. Project concept inputs (investments)

4. Project concept activities (run by the project partners for resource efficiency, sustainable products, certifications)

5. Project concept outputs/results

6. Project concept outcomes (improved resource productivity, socio-economic, added value....)

7. Project concept realization challenges

8. Project concept realization solutions (green/circular models examples listed - choose from the list or add a model):

- Tools for improving citizen engagement
- Improving operational efficiency and monitoring compliance
- Resource marketplace - connecting buyers with sellers (collectors, recyclers, manufacturers)
- Interface and support for informal waste collection networks
- Traceability of materials along (parts of) the life cycle
- Better data for better waste management planning and interventions
- Automation, robotics and artificial intelligence to optimize circular systems

9. Sustainable Development Goals (SDGs) on which project concept has a direct positive impact (select from the list):

- No poverty
- Zero hunger
- Good health and well-being
- Quality education
- Gender equality
- Clean water and sanitation

- Affordable and clean energy
- Decent work and economic growth
- Industry, innovation and infrastructure
- Reduced inequalities
- Sustainable cities and communities
- Responsible consumption and production
- Climate action
- Life below water
- Peace, justice and strong institutions
- Partnerships for the goals

ANNEX2. Sustainable Business Model Canvas Template

Name of the green/circular project model

1. Customer segment

(the different target groups of your project)

2. Value proposition

(value propositions to your target groups can be quantitative – e.g. price, speed of service or qualitative – e.g. design, experience of target groups).

3. Customer relationship

(defining how you will communicate with your target groups, from initial access to converting them into loyal customers)

4. Selling channels

(channels for building relationships and interactions with customers according to a specific plan that fits and corresponds with your project goals)

5. Revenue streams

(identify how much your target groups have to pay to get your solution)

6. Social and environmental benefits (the external benefits your project produces for the communities and environment in which it operates)

- position yourself as a project that has a positive social and environmental impact
- the project enriches/strengthens the credibility of the value offered to the target groups
- attract financial support from governments, donors or influential investors who can support you to take your project to the next level

7. Key sustainable activities

(operational project management activities - performance optimization, product design, production/recycling/repairs)

8. Key resources:

(assets that a project must have to guarantee the overall success of its business model. This includes all physical resources (such as building, vehicles, ... etc.), intellectual resources (such as partnerships, knowledge, brands, ... etc.), human resources (such as employees, experts, consultants, ... etc.))

9. Key sustainable partners

(the network of external individuals, universities, companies, suppliers and parties with whom the project should partner - you should only create partnerships that introduce specific and much-needed added value to your project.)

10. Cost structure

(description of the monetary costs for operation and implementation of the project)

11. Social and environmental inputs

(additional external costs arising from the impact your project activities may have on the environment and communities).

ANNEX3. Green and Circular Business Model “New plastic economy case study”

Summary

Plastic pollution is one of the biggest global environmental problems. The increase in the production of single-use plastic products is outstripping the world's ability to handle them with classic models of recycling selection.

Plastic pollution is a challenge everywhere, but probably the biggest in developing countries, where plastic waste sorting systems are often inefficient or non-existent. But the developed world, especially in countries with low recycling rates, also has problems with sorting and collecting discarded plastic.

At the same time, the classic models of waste plastic selection, logistics to recycling centers and recycling technology create products that are not competitive in price on the market and the financial motivation for waste plastic selection, incineration or recycling is globally in decline.

This case study presents the possibilities for the introduction of single-use waste plastic products in business models of the circular economy, where waste plastic will gain a new material value, at the same time, recycling and reuse of waste plastic will reduce greenhouse gas emissions compared to the emission of greenhouse gases during the production of the same plastic products from fossil-based materials.

Background

More than 500 million tons of CO₂ are produced by plastic production annually. This is equivalent to the amount produced worldwide by all passenger cars, motorbikes, planes, and trains combined.

For every kilogram of fossil-based plastic produced, there is between 1,7 and 3,5 kilograms of carbon dioxide released. Burning plastic emits 2,9 kg of CO₂ for every kg of plastic burned. Per kg of plastic, about 6 kg CO₂ is created during production and incineration.

Plastic use in G20 countries is on course to nearly double by the middle of the century – annual plastic production could rise to 451 million tones. By 2050, plastic production and incineration could emit 2,8 billion of tones of CO₂ per year. Some 32% of all plastic package leaks into ecosystems where can stay there hundreds of years. It is estimated that until 2050 there will be more plastics than fish in the sea!

New plastic economy case study shows the principle of Facilitating Material Recycling and Reuse for Adopting Circular Practices, which will lead to a reduction in environmental pollution with waste plastic and a reduction in greenhouse gas emissions for the production of plastic products.

Case Description

Only 14% of global plastic package is recycled. All the rest worth 70-110 billion EUR is lost after only one short use. New plastic economy drive a movement toward a system that works transforming current take-make dispose economy into one where plastics are managed to be used over and over again.

Challenges and problems faced

Per kg of plastic, about 6 kg CO₂ is created during production and incineration. Recycling of plastic (chemical recycling (pyrolysis) or mechanical recycling) saves on average about 2.5 kg CO₂ per kg of plastic. But recycled plastic costs still more than new plastic because collecting, sorting, transporting, and reprocessing plastic waste is exorbitantly expensive.

Solutions implemented

New plastic economy – Pillar 1

Innovation in logistic and reprocessing the plastic waste

In order to save the expenses of recycling the plastics “**Spider Blockchain Network**” brings together leading organizations, experts and entrepreneurs across the world on the global web platform to innovate, collaborate and rethink the way we produce, use and recover plastics.

New plastic economy – Pillar 2

ESG financial reporting and investing

There are now more than 550 ESG mutual and exchange-traded funds available to U.S. investors — more than double the universe five years ago, according to Morningstar.

ESG investing is a form of sustainable investing that considers environmental, social and governance factors to judge an investment's financial returns and its overall impact.

Spider Blockchain Network enables records to verify companies' ESG responsibilities and helps build companies' ESG investment portfolio.

New plastic economy – Pillar 3

Digital Green Marketing

- Innovative concept "Digital Green Marketing“

Digital Green Marketing is motivation tool that supports circular path of linear consumers culture change into circular green economy value.

- Spider Blockchain Network

Spider Blockchain Network generates digital tokens which it assigns to consumers who support circularity.

Companies can purchase a marketing package that suits them. There is a certain number of digital tokens in each package. The company decides the value of digital tokens assigned to every product. New marks on the product packaging could be:

- NFT logo
- Referral QR code of the company
- Award-winning unique QR code

The products should be packed in plastic bottles!



Figure 1. Schematic description of the process

Ecological and financial motivation of the clients

- Buying the product with NFT logo
- Scanning company's referral QR code (one time only)
- Awarding buyer for purchase the product

- Awarding for recycling the packaging
- Client award
- Recycle company award

Outcomes

Company efforts to apply the three pillars of the circular economy in their operations lead to the following outcomes:

- Efficient use of natural resources – efficient use of fossil materials for product packaging
- Reduction in total annual greenhouse gas (GHG) emissions in production
- Effective innovative marketing and promotion of the company's green practices in the public
- Increased motivation among customers to buy products that are part of the circular chain and encourage sales
- Increased revenues needed to cover the costs of ESG practices and reporting and sustainability of the circular model
- Positive impact on the circular ecosystem due to business cooperation with new subcontractors in logistics, marketing, recycling and contribution to new employment in the community
- Impact in the community for increased selection of plastic waste by citizens and reduced possibility of plastic waste reaching the ground or waters and negatively affecting the environment.

Lessons Learned

Practising the three pillars of the circular economy provide key lessons to organisations:

- Carbon Offsetting as a Complementary Strategy: When emissions cannot be fully eliminated, investing in innovative carbon offset projects can achieve carbon neutrality
- Commitment to Continuous Improvement: Sustainability leadership requires ongoing efforts to assess, improve, and innovate in reducing environmental footprints.
- Advancement towards full digitalization and cross-cutting organizational processes: Management of product sales data with digitalization of plastic packaging logistics and its treatment for a resource that will return to the production process.

Conclusions

Organizations that implement the pillars of a circular economy demonstrate exceptional sustainability leadership with achieving carbon neutrality through a comprehensive strategy that includes efficient use of natural resources, promotion of the company's green practices in the public, business cooperation with new subcontractors in logistics, marketing, recycling and community motivation for increased selection of plastic waste. The organizational determination for continuous improvement of responsibility for the environment sets high standards for others in the industry, demonstrating the importance of sustainable practices to achieve long-term success.

ANNEX4. Green and Circular Business Model “New organic waste economy case study”

Summary

In low-income countries, the waste is the prevalent fraction of the municipal solid waste (MSW) and its decomposition can create problems with processing, odour, biogas and leachate. On the other side it is an important resource because rich in organic matter and nutrients, which can be properly recycled. Therefore, it is essential to correctly send the organic fraction to a dedicated collection and valorization flow.

One of the objectives of the case study is to show the proper management, separation, valorisation and disposal of MSW. The composting process is a valid solution for the treatment of the organic fraction as it allows a substantial reduction in the volume of putrescible material stored in landfills, and at the same time it makes it possible to produce and sell a good quality soil conditioner. In order to move the organic fraction further away from the urban context, a subsequent expansion of the input matrix of the Compositing Centre is essential.

The case study involves region, cities, green markets, hotels, restaurants, catering companies, bars and cafes in the process of separating, collecting and managing the organic fraction. In all cases, because of the primary need to bio-stabilise the MSW, it is advisable to consider the implementation of alternative treatment plants to Composing Centre that can produce a suitable material for landfill or energy recovery.

Background

MSW management and disposal practices vary significantly by income level, region and country development. About 93% of waste is burned or dumped in lower-income countries. Although more than 40% of the waste is organic (OFMSW- Organic Fraction of Municipal Solid Waste), only less of 1% is composted.

The OFMSW is the biggest fraction in the MSW, and its decomposition in the case of uncontrolled destination (e.g. in dumpsites) can create problems of processing, odour, biogas and leachate, leading to pollution problems and costly environmental restoration. That is why it is essential to correctly dispose this waste fraction by directing it to a dedicated treatment: composting, anaerobic digestion, etc.

Waste management hierarchy in circular economy recommends making the greatest efforts in new source reduction and reuse, significant efforts in recycling, especially of communal and organic waste, and the amount of waste that will be left to be deposited in landfills to be minimal.



Figure 1. Waste Management Hierarchy (source: EPA – United States Environment Protection Agency)

- **Source Reduction and Reuse**

Source reduction, also known as waste prevention, refers to reducing the amount of waste generated.

- **Recycling and Organic Waste Management**

Recycling is a series of activities that includes collecting used, reused, or unused items that would otherwise be considered waste; sorting and processing the recyclable products into raw materials; and remanufacturing the recycled raw materials into new products.

Organic waste management deals with the diversion and treatment of organic waste through composting and anaerobic digestion (AD). Compost is organic material that can be added to soil to help plants grow. AD is a process that generates biogas – a renewable energy source – using organic waste as a feedstock.

- **Energy Recovery**

Energy recovery is the conversion of non-recyclable materials into useable heat, electricity, or fuel through a variety of processes. This process is often called waste-to-energy. Converting non-recyclable materials into electricity and heat generates an energy source and reduces carbon emissions by offsetting the need.

- **Treatment and Disposal**

Prior to disposal, treatment can help reduce the volume and toxicity of waste. Treatments can be physical (e.g. shredding), chemical (e.g. incineration), or biological.

A new case study on the economy of organic waste shows the principle of selection and logistics of recycling organic waste to adopt circular practices, which will lead to the reduction of environmental pollution with organic waste and the reduction of greenhouse gas emissions that would be released uncontrollably if it is disposed of in a landfill.

Case Description

Composting lowers greenhouse gases (GHG) by improving carbon sequestration in the soil and by preventing methane emissions through aerobic decomposition, as methane-producing microbes are not active in the presence. Effective pile management and aeration are key to minimizing CH₄ (methane) emissions.

However, greenhouse gases (methane and nitrous oxide) and odor emissions (ammonia, hydrogen sulfide, etc.) during composting are practically unavoidable, leading to severe environmental problems and poor final compost products.

Challenges and problems faced

Operating a solid waste management program economically and efficiently requires significant cooperation from waste generators (e.g., individual residents and businesses), waste handlers, the informal sector, and all other individuals and organizations impacted by the management of solid waste.

Solutions implemented

New plastic economy – Pillar 1

Innovation in logistic the organic waste

Separation, Collection, and Transportation

Effective waste separation and collection programs are a critical component of an integrated solid waste management system. These activities involve a range of stakeholders, from individual households to collection fleet operators;

OFMSW (Organic Fraction of Municipal Solid Waste) acquisition

- a. Door to door collection
- b. Non-domestic food waste from hotels, restaurants, catering companies, bars and cafes
- c. Expired and non-compliant food – from large scale retailers and distributors

Cost Recovery

Cities in lower income countries generally have less-comprehensive waste collection services than higher-income countries. Establishing a means of recovering waste collection costs is a key component of a sustainable and effective waste collection program.

New plastic economy – Pillar 2

Organic Waste Treatment and Potential Solutions

Although more than 40% of the waste is organic (OFMSW), only less of 1% is composted. The OFMSW is the biggest fraction in the MSW (Municipal Solid Waste), and its decomposition in the case of uncontrolled destination (e.g., in dumpsites) can create problems of processing, odour, biogas and leachate, leading to pollution problems and costly environmental restoration.

That is why it is essential to correctly dispose this waste fraction by directing it to a dedicated treatment.

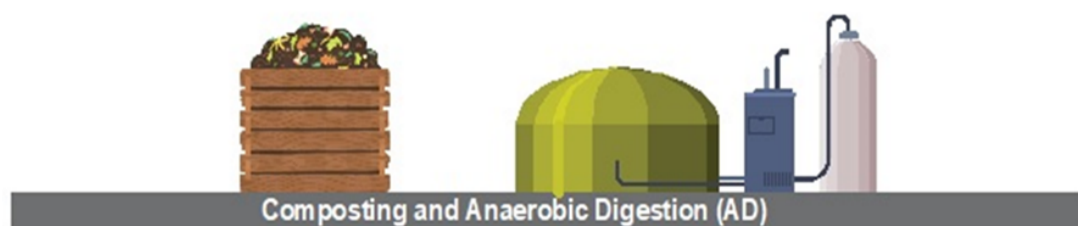


Figure 2. Composting and Anaerobic Digestion

Composting lowers greenhouse gases by improving carbon sequestration in the soil and by preventing methane emissions through aerobic decomposition, as methane-producing microbes are not active in the presence. Effective pile management and aeration are key to minimizing CH₄ (methane) emissions.

However, greenhouse gases (methane and nitrous oxide) and odor emissions (ammonia, hydrogen sulfide, etc.) during composting are practically unavoidable, leading to severe environmental problems and poor final compost products.

If waste is anaerobically digested prior to composting, N₂O (nitrous oxide), NH₃ (ammonia), and VOC (volatile organic compounds) emissions tend to decrease relative to composting the untreated waste.



Figure 3. Composting

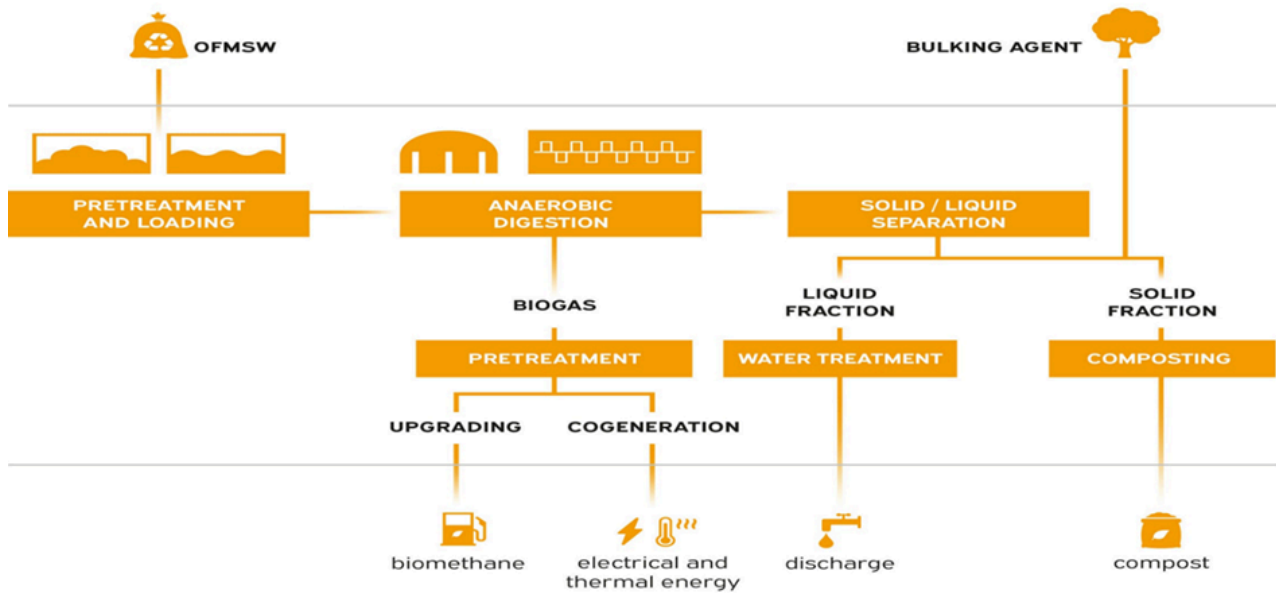


Figure 4. Anaerobic Digestion

New plastic economy – Pillar 3

Spider Platform - Digital Product Tracking



Figure 5. Spider Platform

BENEFITS:

WE ALWAYS KNOW WHERE OUR PACKAGING IS

WE HAVE REAL-TIME PRODUCT MANUFACTURING INFORMATION

WE KNOW WHO CONSUMED IT AND WE KNOW IF THERE ARE NEGATIVE CONSEQUENCES FOR EXAMPLE POISONING FROM WHERE IT WAS OBTAINED

WE KNOW WHAT AMOUNT OF WASTE IS COLLECTED

WE KNOW WHERE THE WASTE WAS TAKEN IN REAL TIME

WE HAVE INFORMATION WHAT HAPPENED TO THE WASTE

Igor Mickoski, MBA Spec. strategic management

SPIDER PLATFORM

RESULTS :

- 1. TRACEABILITY OF THE PRODUCT FROM PRODUCTION TO RECYCLING**
- 2. POSSIBILITY FOR FULL CONTROL THROUGH A DIGITAL PLATFORM**
- 3. OPPORTUNITY TO CONNECT WITH ALL RELEVANT INSTITUTIONS**
- 4. IN REAL TIME DISPLAY WHERE THE PRODUCT IS**
- 5. DEVELOPMENT OF APPLICATION AND COMPREHENSIVE DIGITAL PLATFORM, APPLICABLE TO OTHER SEGMENTS**
- 6. OPPORTUNITY FOR GLOBAL EXPANSION OF THE PLATFORM**
- 7. APPLICABILITY FOR MONITORING WASTE, PRODUCTS, ETC.**

Igor Mickoski, MBA Spec. strategic management

SPIDER PLATFORM

Outcomes

Organisations efforts to apply the three pillars of the circular economy in their operations lead to the following outcomes:

- Strengthen the proper management, separation, valorisation and disposal of MSW
- Reduction in uncontrolled greenhouse gas emissions with aerobic digestion of open landfills
- Effective management of waste logistic - tracking the amount and position of collected waste
- Increased motivation among citizens and companies to select organic waste that are part of the circular chain and encourage their financial benefit
- Increased impact of ESG practices important for reporting sustainability of the circular model in the companies
- The creation of an updated database that contributes substantially to define services and investments needed for collection, transport, form of treatment and final disposal of MSW
- Positive impact on the circular ecosystem due to business cooperation with new stakeholders in waste logistics, marketing, recycling and contribution to new employment in the community
- Impact in the community for increased selection of organic waste by citizens and reduced possibility of organic waste reaching the ground or waters and negatively affecting the environment

Lessons Learned

Practising the three pillars of the circular economy provide key lessons to organisations:

- The composting process is a valid solution for the treatment of the organic fraction as it allows a substantial reduction in the volume of putrescible material stored in landfills, and at the same.
- The concept strengthens the public institution in its material and human components, searching for sustainable and integrated solutions for the MSW management.
- The production of biogas in agricultural areas may provide additional income from agricultural activities, which is an opportunity to develop the local economy in rural areas and promote circular economy principles in local communities.

Conclusions

Organizations that implement the pillars of the circular economy demonstrate exceptional sustainability leadership by achieving carbon neutrality through a comprehensive strategy that includes efficient waste management, promotion of the organization's green practices to the public, business collaboration with new subcontractors in logistics, marketing, recycling and motivation of the community for increased selection of organic waste. The organizational determination for continuous improvement of responsibility for the environment sets high standards for others in the community, demonstrating the importance of sustainable practices to achieve long-term success.



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