

# GREEN ENTERPRISES AND THEIR DEFINING ELEMENTS, STANDARDS & MANAGEMENT CONTEXT. HOW DO SUSTAINABLE COMPANIES RELATE TO THE 3Es OF THE GREEN ECONOMY?

## Teodora NACU<sup>1</sup>, Emilia JERCAN<sup>2</sup>

<sup>1</sup>Bucharest University of Economic Studies, Romania, 0009-0007-3049-6835 <sup>2</sup>Bucharest University of Economic Studies, Romania, 0009-0001-5837-4828

Abstract: Understanding how businesses can improve in a sustainable environment has an increasingly significant role in the economic context and its growth. Nowadays, sustainable companies are constantly reducing the pressure of law, diminishing the costs of utilities, and cultivating a culture inside the working context. More than 90% of CEOs of environmental companies acknowledge that sustainability represents essential business market growth. Green businesses prioritize sustainability and social responsibility in their operations and environmental business practices, as they aim to conserve the natural environment and promote green practices while ensuring high levels of profitability and reducing the carbon footprint. Unfortunately, over time companies have faced significant barriers such as affording green investments and the costs implied or analysing the market demand, due to not all the systems and governments aligning with the emergent models of a green economy. The public sector should however play an important role when considering sustainability by promoting green operations and policies, applying regulatory alternatives, and providing more concrete incentives for green businesses. Nowadays, green enterprises have grown in importance in the economic environment cultivating more shared green values. Therefore, promoting green entrepreneurship among all segments of society is a focus both at the policy level and inside the business culture. This paper aims to define concepts of economic growth and sustainable development around the business context and to understand how sustainable companies relate to the 3 E's of the green economy, as these appear to determine business longevity and help maintain a positive business reputation among other businesses.

Keywords: Green Enterprises, Sustainability, Green Economy, Business Culture

JEL classification: F43, Q01, Q56, M10

### 1. Introduction

A green activity means any activity or service that performs some or at least one of the following duties inside the business and economic segment: 1. generating renewable sources, products or services; 2. recycling existing materials and producing new ones; 3. using energy-efficient products and manufacturing, construction, installation, and maintenance of all these products; 4. include a green education, compliance and awareness about the subject; 5. promoting and using natural and sustainable product manufacturing. The green path of business includes a diversified technology that relates to a broad range of products, services and processes that lower performance costs, reduce negative ecological impact, and improve the productive and conscious use of natural resources. It also includes business activities that support the widespread application of new technologies, such as reducing emissions and producing sustainable products.

Therefore, green enterprises are businesses that prioritize environmental sustainability and social responsibilities. Moreover, they aim to reduce their carbon emissions, conserve natural resources, and promote sustainable paths inside the business culture. Green enterprises can operate in various industries, such as renewable energy, the retail industry or services sectors, sustainable agriculture, ecotourism, green building, and sustainable transportation. These businesses may use renewable energy sources,

<sup>&</sup>lt;sup>1</sup> nacuteodora21@stud.ase.ro\* - corresponding author

<sup>&</sup>lt;sup>2</sup> emilia.jercan@gmail.com



implement green technologies, reduce waste and emissions, support local communities and adapt to European standards and new paths of sustainability. Green enterprises play a crucial role in promoting environmental sustainability and social responsibility in the business world. They demonstrate that profitability and sustainability can go hand in hand and inspire other businesses to follow their lead. Green enterprises are companies that integrate environmental sustainability into their business models to create economic, social and environmental value.

Several defining elements characterize green enterprises, such as a. use of renewable energy sources; b. minimization of waste and waste management; c. use of sustainable materials and reduction of environmental impact; d. promotion of corporate social responsibility (CSR); e. adoption of fair and sustainable labor practices; f. collaboration with other players in the value chain to achieve common sustainability goals. For green businesses, standards are important to ensure the quality of their sustainable practices and demonstrate their credibility to stakeholders. There are numerous sustainability standards, e.g. ISO 14001, EMAS etc. that provide guidelines for environmental management, environmental impact reduction, and overall company sustainability. The management framework of green businesses focuses on sustainability as a fundamental business management principle. This means that sustainability is integrated into all business decisions, from product design to supplier selection, human resource management and stakeholder communication. Therefore, considering that sustainable enterprises relate to the concept of green economy, the notion that will be further developed in the next section, they also relate to the 3Es of the green economy, considering:

- green economy: green enterprises are an integral part of the green economy, which promotes efficient use of natural resources, reduction of pollution and protection of the environment. In addition, the green economy supports green job creation and sustainable economic growth.
- social equity: green enterprises promote social equity through the creation of fair and sustainable jobs, respect for workers' rights, and involvement of the local community.
- economic efficiency: green enterprises seek to gain a competitive advantage through economic efficiencies, such as reducing energy costs and improving operational efficiency. This can lead to greater competitiveness and long-term profitability.

The aim of this paper is to define the main elements of green enterprises considering the management context and sustainability standards. Moreover, it also aims to understand how sustainable companies relate to the 3E's of the green economy.

#### 2. Literature review

The concept of a green economy was coined in the 1980s by several environmental scholars and activists, such as the economist Edward Barbier, who published a book titled Economic Development with Unlimited Supplies of Labor in 1987, in which he proposed the idea of an ecologically sustainable economy or economic ecology. In subsequent years, the concept has been further developed and popularized, especially since the 2000s, as a result of the growing awareness of global environmental problems and the need to adopt a more sustainable approach to economic development. The European interest in the green economy and green enterprises is constantly increasing (Bina and LaCamera, 2011). In the European Union context, the European Commission (EC) has designed a set of policy initiatives, the so-called European Green Deal, that has the purpose to transform the EU into a modern and efficient economy with zero emissions of greenhouse gases by 2050. According to Moreno-Mondejar et al., this initiative will promote the transition toward a circular economy (CE) (Moreno-Mondéjar et al., 2021) and through the promotion of green enterprises and sustainable paths of the economy. This idea behind the circular economy was developed during the 1980s by rethinking the system of an industrial process. Despite the linear economy, circular economy actors act with no net effects on the environment by redesigning the life cycle of the process with minimal input and output waste. The necessity for converting to a green economy has accordingly been globally recognized. It widely consents that a green economy implies preserving the environment by utilizing renewable resources, reducing energy and resource use, and expanding green production and markets (Zhironkin and Cehlar, 2022), as it should be inside the business culture. Most advocates for the green economy consider that the economy is a



segment of the environment and therefore endorse the thought that there must be an untroubled relationship between the people and the environment for each of their requirements to be fulfilled, the same approach is valid for enterprises. This is one of the reasons why there has also been an increased interest in measuring and evaluating the progression of the green economy over the past years, relying on different sets of indicators.

The United Nations Environment Programme is one of the organizations that proposed its own set of indicators to evaluate the progress of the green economy applicable to green businesses. It includes three sections of indicators (UNEP, 2011): 1. indicators for environmental issues and targets; 2. indicators for green economy policy interventions; 3. indicators for the green economy impacts on well-being and equity. According to the UNEP in its research on Measuring Progress towards an Inclusive Green Economy (2011), in the green economy field, a significant policy instrument is considered the shift in investment towards green activities, encouraged by other conditions such as pricing policy or fiscal reform (UNEP, 2011). However, multiple scholars argue that it is very challenging to create a unique and comprehensive set of indicators capable of monitoring and evaluating the progress of the green economy and applying them to enterprises, especially because of the complexity of the concept and its multiple dimensions. Another issue could also appear from the lack of data (insufficient data) for specific indicators, leading to a reflection of the facts not entirely accurate.

Furthermore, a similar and close approach to the one of the green economy is known as green growth, which is centred on the idea that national output (GDP) can be increased with the help of conserving natural resources and decreasing the pressure on the environment (Hickel and Kallis, 2020). Again, the same approach can be implemented at the regional level or for single businesses. In an article from 2018, Gissin et al. state that the green economy and its actors (companies, governments etc.) have the power and ability to ensure growth while also increasing income and employment. However, according to the authors, for the transition to be possible, 2% of the world's GDP is required to be invested in ten key sectors in 2012-2050: 'agriculture, housing and communal services, power economy, fishing industry, forestry, manufacturing industry, tourism, transportation, waste disposal and recycling, water resources management' (Gissin et al., 2018). Today, the green economy is a widely recognized and internationally debated concept that is an important component of the debate on sustainable development and combating climate change. Defining green enterprises and businesses is a difficult task, as the concept itself is recent and has been receiving attention starting from the 1990s. The interest in green enterprises and entrepreneurship is not only reflected in the growing literature on the topic but also in the proliferation of terms used to identify the concept itself. A green business can be either making her business "green" or simply entering a "green business". In other words, green enterprises could be defined in terms of the technology used for production in any sector of the economy, or in terms of the sector's firms that are active, in which case our attention is restricted to parts of the economy producing specific types of output (OECD, 2011). The former is sometimes referred to as a process approach in defining green business, while the latter is an output approach. Authors tend to add complexity to those definitions by often incorporating ethical, social, or environmental motivations in the definitions of green entrepreneurial activity (OECD, 2011). The concept of green enterprises is at the heart of economic activity and their industrial production processes are dependent on the environment. If they have an unsustainable production this contributes to resource depletion, waste, pollution, environmental degradation and climate (ILO, 2023). In developing countries, green enterprises can help to deliver sustainable goods and services, create jobs and improve environmental standards. Green enterprises are thus in the middle of the environmental, economic and social segments (ILO, 2023) which are also the three main pillars of sustainability.

Measuring green entrepreneurship is challenging as it has to separate activities within green sectors from activities occurring in the rest of the economy. Plus, the indicators used to describe business performance (e.g. birth, death or survival rates of firms) are usually not available at the detailed level of industrial activities defined as green. (OECD, 2011). There is an annual report on the Global 100 ranking of the world's most sustainable companies. Corporate Knights have been ranking the world's 100 most sustainable corporations since 2005 and it is based on a rigorous assessment of public companies with



revenue over \$1Billion. Some examples of the greenest and most sustainable enterprises considering the Corporate Knights ranking of 2023 are represented in Table 1.

Table 1: The most sustainable companies in 2023

| Company's name                   | 2023<br>Ranking | 2022<br>Ranking | % Nonmale board directors | % Green<br>revenue | % Green investments |
|----------------------------------|-----------------|-----------------|---------------------------|--------------------|---------------------|
| Schnitzer<br>Steel<br>Industries | 1               | 15              | 50%                       | 100%               | 100%                |
| Vestas<br>Wind<br>Systems        | 2               | 1               | 42%                       | 100%               | 100%                |
| Brambles<br>Ltd                  | 3               | 10              | 40%                       | 100%               | 100%                |
| Brookfield<br>Renewable          | 4               | N/A             | 33%                       | 99%                | 100%                |
| Autodesk<br>Inc                  | 5               | 3               | 45%                       | 93%                | 43%                 |

Source: Author's creation based on Corporate Knights (2023)

Green enterprises are businesses that prioritize environmental sustainability and social responsibility in their operations and business practices. These businesses aim to reduce their carbon footprint, conserve natural resources, and promote sustainable development while also ensuring profitability. Therefore, the defining elements of green enterprises can be summarized in some elements such as:

- Sustainability, where green enterprises prioritize sustainability in their operations, products, and services. They strive to reduce their environmental impact and conserve natural resources.
- Social responsibility, where green enterprises are also socially responsible and take into account the well-being of their employees, communities, and stakeholders.
- Innovation and technology, where green enterprises often develop innovative solutions to environmental challenges, such as developing renewable energy technologies or creating sustainable products and services.
- Collaboration, where green enterprises often work with other organizations and stakeholders to achieve their sustainability goals and promote sustainable development.

Other elements of characterizing a sustainable business are standards e.g. ISO 14001, an internationally recognized standard for environmental management systems that provides a framework for organizations to manage their environmental responsibilities and reduce their environmental impact, it includes a set of requirements for general frameworks, life-cycle analysis, and labeling, methods for businesses to adapt climate change.

Generally,

the International Organization for Standardization (ISO) is a global network of the standardized identified set of certifications related to sustainability other examples are the ISO 45001 for an occupational health and safety management system, or the ISO 26000 about guidance on social responsibility, that provides guidelines on how businesses and organizations can operate in a socially responsible way, (ISO, 2018) or also ISO 9001 for business sustainability, in the quality management systems. ISO standards support businesses in achieving long-term corporate sustainability and improve the company aims through regulation compliance (Meza-Ruiz et al., 2017), and competition.

This paper identifies that the management context for green enterprises must consider the following elements: 1. Corporate Social Responsibility (CSR), a business approach that aims to integrate



social and environmental concerns into a company's operations and business practices; b. Triple Bottom Line, a framework that takes into account the economic, social, and environmental impacts of a company's operations. 3. Sustainable Development Goals (SDGs), a set of 17 goals adopted by the United Nations to promote sustainable development. Green enterprises can align their operations with these goals to promote sustainability and social responsibility. The SDGs are part of the 2030 Agenda, adopted by the United Nations General Assembly on September 25th, 2015, and have to be achieved within the next 15 years. The SDGs aim to ensure global prosperity, eliminate poverty, provide equality, fight against climate change, afford environmental care, etc. (Valls Martínez, et al., 2022).

According to the ILO and the OECD, green entrepreneurship and enterprises can be defined from two perspectives regarding the output (products and services) and the process (or production) of economic activity. Usually, green enterprises and entrepreneurs consider both aspects in their business models, creating additional decent employment through the use of more sustainable processes, while reducing the overall environmental impact as a result of people or companies using the final product or service (ILO, 2016). Finally, sustainable companies relate to the 3 E's of the green economy considering:

- Environment / Ecology, where sustainable companies prioritize environmental sustainability in their operations and business practices. In this case, green businesses aim to reduce their environmental impact, conserve natural resources, and promote sustainable development. They may use renewable energy sources, implement green technologies, and reduce waste and emissions.
- Economic situation, where sustainable companies: 1. contribute to the progress of the economy by creating jobs in industries that promote sustainability, such as renewable energy, sustainable agriculture, and ecotourism 2. invest in sustainable infrastructure and 3. promote green finance.
- Equity, where sustainable companies prioritize social responsibility and promote equity in their operations. Plus, they ensure fair labor practices, support local communities, promote diversity and inclusion, ensure that their products and services are accessible and affordable for all etc.

Overall, sustainable companies aim to balance the 3 E's of the green economy to promote environmental sustainability, economic growth, and social equity. By doing so, they contribute to a more sustainable and resilient future for all.

#### 3. Methodology

This paper consists of a literature review that analyzes the elements of green enterprises and their relations to the 3E. The methodology chosen for this research is a three-step process defined as 1. understanding the main elements of a business model related to green enterprises; 2. identifying green enterprises elements, standards and management context; 3. analyzing how sustainable companies related to the 3E's of the green economy. This paper defines how green businesses of the European market relate to sustainability and it takes into consideration elements such as 1) a literature review concerning different concepts (e.g., sustainable development, green economy, ISO standards, managerial elements of green companies, business elements/models of these companies and how some elements of these relates to the 3E's (environmental, economic, equity) of the green economy. The environmental aspect represents the consumption, productivity, costs or percentage of materials and resources used by a company. The economic aspect indicates the total amount of income and expenditure of a business. The equity aspect regards the presence of a code of ethics and the employees' situation for both women and men regarding health and safety, departures, fatalities, diversity and so on.

#### 4. Results and discussion

Defining the elements of green businesses does not necessarily need to rely on alternative products. Thus, new green business models suggest delivering value to customers differently, such as selling the value this product can offer, (ILO, 2106). According to Bocken et al. (2014), a business model is defined by three main elements as illustrated in Figure 1.



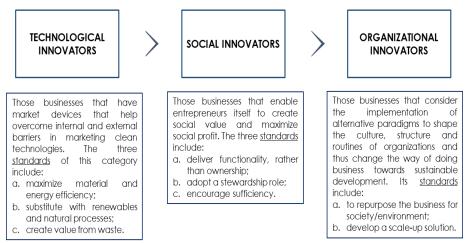
Figure 1: Elements of the business model



Source: Author's creation based on Bocken et al. (2014)

Plus, sustainable business models incorporate a triple-bottom-line approach, considering stakeholder interests, driving and implementing corporate innovation inside businesses, helping companies embed sustainability into their processes and serving as a key driver to competitive advantage (ILO, 2016). By replacing old business practices, these new business models allow companies to do the following: 1. restructure their value chain, 2. generate new types of producer-consumer relationships, 3. alter the consumption culture and 4. use sustainable practices. The business model perspective of green enterprises is thus relevant to a systemic eco-innovation, including how business models and strategies can induce and help diffuse eco-innovation and enable systemic changes and transformation (ILO, 2016). To identify the green enterprise elements and management context it is important to understand which are groupings (and their specific elements) where green businesses can fit, as seen in Figure 2.

Figure 2: Main groups of innovators of green (elements and standards)



Source: Author's creation based on ILO (2016)

On the other side, the management context for green enterprises must include (i) a company's sustainable value position to its customers and stakeholders, and the creation and delivery of this value, (ii) the capture of economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries (ILO,2016), (iii) a knowledge system that is scattered in persons and documents regarding sustainability, (iv) the use of green resources to reduce costs, increase profits etc. The keys to successful change in the business practices and management context are overall related to the business leadership, the internal structural, organizational and cultural capabilities, the use of renewable resources and new technologies, the need to collaborate and create value for the stakeholders beyond all business levels (ILO, 2016). Moreover, a survey from 2022 by the European Investment Bank and the European Bank for Reconstruction and Development identified the four pillars of green management across countries and businesses of Central, Eastern, Southern and Western Europe and Central Asia, Figure 3 summarizes this survey's results.



GREEN STRATEGY

GREEN MANAGEMENT RESPONSIBILITY

Source: Author's creation based on EIB & EBRD (2022)

The 3Es of the green economy are also known as the pillars of sustainability or elements of the triple bottom line of Sustainable Development. The Es are offering a useful framework to operationalize the company's efforts and to understand what practical actions a company should take to be greener, sustainable and eco-friendly.

To reply to the third point of methodology regarding how sustainable companies relate to the 3 E's of the green economy, this study analyzes the results of the first five most sustainable companies of the Global 100 ranking by Corporate Knights with revenue over \$1Billion (already analyzed in Figure 1). The results were divided into three macro-categories of indexes (environmental/ecological, economic and societal / equity) and high and low rates of Global 100 ranking results were assigned to these companies as illustrated in Figure 4.

Figure 4: Matrix of high/low rate of impact of the 3 E's of the green economy

| of the green economy          |                          |                       |                    |  |  |  |
|-------------------------------|--------------------------|-----------------------|--------------------|--|--|--|
|                               | Environment /<br>Ecology | Economic<br>situation | (Social)<br>Equity |  |  |  |
| Schnitzer Steel<br>Industries |                          |                       |                    |  |  |  |
| Vestas Wind<br>Systems        | II.                      |                       |                    |  |  |  |
| Brambles Ltd                  | II.                      |                       |                    |  |  |  |
| Brookfield<br>Renewable       |                          | 11.                   |                    |  |  |  |
| Autodesk Inc                  |                          | 11.                   |                    |  |  |  |
|                               |                          | High rat              | e Low rate         |  |  |  |

Source: Author's creation

This matrix is a planning/representation tool that uses the company's indexes in an analysis plan, to understand how much these companies relate to the three E's of the green economy. This matrix can be expanded by including more companies in the analysis and focusing on specific segments of their portfolio. The matrix is a management framework that helps companies decide how to prioritize their businesses by their degree of sustainability, and on the columns, each macro-category can be expanded in micro levels to have a more-in-deep analysis of the subject. Lastly, we identified a proposed framework of the circular business model applied to the green companies system as indicated in Figure 5.



Renewable energy Limit use of additional Minimize waste infrastructures Reduce demand Supply chain, digital Green energy & technologies etc. economy Efficient products Reduce, recycle Recycle and reuse Environmental and reuse products and services resources

Figure 5: Framework of the circular business model of green enterprises

Source: Author's creation

In general, the green economy aims to reduce waste and maximize resource efficiency in various sectors. Our framework considers various scenarios from the companies' situations and concludes that the elements of the model include the following: the use of renewable energy sources, implementation of sustainable efficiency measures, promotion of products reuse and recycling, utilization of sustainable products and services and so on. As so, the strategies connected to this framework consider a circular process a business may adopt e.g. sustainable supply chains, energy generation from waste etc.

#### 5. Conclusions

Joint with environmental advantages, the social and economic benefits of green enterprises are growing worldwide, providing real opportunities from an economic, social and environmental perspective. Commitment to a green economy and the growth of sustainable businesses suppose opportunities for systems to adapt to a model that optimizes the use of resources, produce new jobs and opportunities for society, reducing waste but also enhancing green investments, employment and economic alternative and sustainably oriented approaches (Moreno-Mondéjar et al., 2021). This paper has aimed to define green enterprises and their defining elements, standards and management context and how sustainable companies relate to the 3 E's of the green economy. This approach had the following advantages: the study of the concept of green enterprises is actual and intuitive and information is available from multiple sources. The model quantifies improvements, where information and analysis both represent the factual elements of achieving results. The weaknesses of this study regard externalities or any unpredictable situation that can impact an economy or at the business level.

Moreover, doing the research only from one perspective, it cannot always be exhaustive. This study underscores the role of green enterprises in shaping the future of the economic sector, offering information about the managerial context and different sustainable solutions to optimize companies' operations and resources as a critical driver of the sustainable sector's transformation. The proposed paper underlines how sustainable companies relate to the 3 E's of the green economy considering that these 3E's are the main elements of sustainability. Sustainability-driven policy frameworks and roadmaps aligned with the circular economy business model present competitive and forward-looking approaches to modern policy development and implementation. This paper considers the evolving landscape of the business sector and provides a roadmap for researchers, governments, and other stakeholders to address the challenges and unlock the potential of businesses for a sustainable, equitable, and impartial future (Mir Sayed & Tomonobu, 2023). This study emphasizes the significance of the potential of sustainable companies, promoting a circular economy, and creating benefits for both society and the environment. It will contribute to developing concrete sustainable business models, enabling policymakers and researchers, and providing rationales to develop a general and adequate sustainable policy development and implementation roadmap (Mir Sayed & Tomonobu, 2023).

Moreover, it has to be mentioned that this study focuses only on some parts of the concept of green enterprises as this is a very broad subject. This paper has implications for understanding this field of economy and for giving sustainable inputs to enterprises, researchers and other studies of the field.



Joint with environmental advantages, the economic and social benefits of green enterprises are growing in the EU context and provide important opportunities in a more competitive, sustainable and efficient way (Meza-Ruiz et al., 2017). The 3 E's matrix of the green economy in a portfolio management framework helps companies analyze their current situation regarding sustainability and the green economy, and this study considers it to better understand this relation and illustrate it graphically. Lastly, this study has opened several topics for future research, including management and implementation processes, data management and governance, ethical implications of sustainable companies, environmental analysis of sustainable policies, and international benchmarking and collaboration in the context of sustainable business practices (Mir Sayed & Tomonobu, 2023).

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