Sustainable Management as a Strategic Factor in the Transition to a Green Economy: A Case Study on the Renewable Energy Sector in Romania

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Abstract

In the current context of climate and economic crises, sustainable management is becoming an essential pillar in redefining organizational strategies. This article explores how sustainability principles are integrated into the strategic management of companies in Romania's renewable energy sector. Through a case study of firms' active in solar and wind energy production, we analyze practices related to ecological governance, operational efficiency, and ESG reporting. Current statistical data, together with recent literature post-2018, highlights a positive correlation between sustainability and the capacity to maintain long-term competitiveness. The research findings contribute to understanding how responsible leadership and green innovation can support the transition toward a circular and resilient economy. The article proposes a set of recommendations for public and private decision-makers to accelerate the adoption of sustainability principles.

Key words: sustainable management, green economy, renewable energy, responsible leadership, ecological innovation
J.E.L. classification: Q56, M14, O13, L32

1. Introduction

The climate crisis, economic volatility, social pressures, and geopolitical challenges facing companies have accelerated the reconfiguration of business paradigms, placing sustainability at the core of strategic decision-making. It is no longer just a matter of corporate responsibility or greenwashing but a systemic imperative redefining the organizational success model. In a global environment characterized by uncertainty and complexity, an organization's ability to integrate ESG dimensions (environmental, social, governance) becomes a critical indicator of its long-term resilience.

According to Dyllick and Muff (2019), sustainability in business involves transitioning from a shareholder-centric model to one focused on the firm's positive systemic impact on society and the environment. Similarly, Romanian authors Ciora and Dima (2021) consider sustainable management as "an adaptive capacity that ensures business continuity by valuing natural and human capital".

Climate change directly affects supply chains, consumption patterns, regulations, and operating costs. According to the IPCC (2022), impacts on critical sectors such as energy, agriculture, and transport are already measurable, making sustainability integration essential for economic survival.

Investors and financial institutions are rapidly aligning with these transformations.

Funds such as BlackRock and the Norwegian Sovereign Wealth Fund have conditioned investments on ESG performance (Eccles & Klimenko, 2019). Also, a study by Kotsantonis and Serafeim (2020) shows that companies with high ESG scores benefit from lower capital costs and reduced stock price volatility.

In the Romanian context, sustainability adoption is accelerated by commitments through the European Green Deal, the 2030 Agenda, and EU directives on non-financial reporting, especially the CSRD Directive (2022). Romanian authors Rădulescu and Ionescu (2023) emphasize that "ESG standards implementation in Romanian companies remains uneven and is influenced by managerial capacity to understand sustainability's added value".

Renewable energy is a strategic sector in the ecological transition and a testing ground for sustainable management practices. Romania has significant energy potential through wind, solar, and hydro resources, but transitioning to a green energy system requires structural reforms and massive investments.

This article aims to analyze the concrete application of sustainable management principles in companies operating in Romania's renewable energy sector, focusing on green leadership, sustainable innovation, and ESG reporting. The research objective is to identify scalable best practices and systemic challenges to inform public and private decision-makers in accelerating the transition toward a sustainable economy.

The research approach is multidisciplinary and based on the analysis of specialized literature, case studies from the Romanian energy sector, and correlations with recent European regulations. The importance of the topic is confirmed by the growing number of international and national publications treating sustainable management not just as a trend but as a strategic necessity (Elkington, 2018; Geissdoerfer et al., 2020; Ciora & Dima, 2021; Rădulescu & Ionescu, 2023).

In conclusion, sustainable management is no longer optional. In an economic ecosystem marked by climate risks, strict regulations, and social demands, only organizations that embed sustainability in their operational DNA will be able to adapt, innovate, and create long-term value.

2. Literature review

The specialized literature on sustainable management has evolved rapidly over the last decade, reflecting the transition of this concept from a peripheral topic to a central pillar of corporate strategies. Internationally, one of the most influential contributions is John Elkington's relaunch of the Triple Bottom Line (TBL) concept (2018), emphasizing the need to balance profit, people, and planet. Elkington argues that organizational success evaluation must include social and environmental performance, not just economic outcomes.

Porter and Kramer (2019) introduced the idea of Creating Shared Value, proposing that firms create economic value by addressing societal problems. This idea correlates with the circular economy model, further developed by Geissdoerfer et al. (2020), highlighting resource regeneration and waste minimization as mechanisms for sustainable competitiveness.

Friede, Busch, and Bassen (2018) synthesized over 2000 empirical studies and concluded there is a positive relationship between ESG performance and financial performance. Eccles and Klimenko (2019) add that institutional investors increasingly pressure companies to integrate sustainability risks into their business strategies.

At the national level, Romanian literature on sustainable management is developing but increasingly present in recent works. Marinescu and Bălan (2020) define sustainable management as "a leadership system that responsibly leverages resources to maintain a balance between economic efficiency and collective well-being". Iuga (2022) analyzes the impact of European legislation on ESG practices in Romanian companies, highlighting significant sectoral gaps.

Petrescu (2021) stresses the importance of ethical and transformative leadership in promoting a sustainable organizational culture, arguing that "leaders must go beyond the profit-maximization paradigm and become architects of shared value". Ciora and Dima (2021) also explore interdependencies between green innovation and corporate performance amid global uncertainties.

A relevant theoretical framework is offered by the three pillars of sustainability—economic, social, and environmental—which serve as an analytical foundation for many empirical studies (Lozano, 2018). This framework is extended by stakeholder theories, especially Freeman (2020), who argues that firms must be accountable to all stakeholders, not just shareholders.

More recently, the literature focuses on digitalization and the role of emerging technologies in facilitating sustainability. Mazzucato and Ryan-Collins (2020) analyze how public investments can catalyze green innovation and guide the economy toward a sustainable trajectory.

In Romania, studies by Rădulescu and Ionescu (2023) show that ESG standards implementation is influenced by factors such as company size, activity sector, and managerial education level. Voicu and Munteanu (2019) also demonstrate a correlation between sustainable policies and investor attractiveness in companies listed on the Bucharest Stock Exchange.

An emerging consensus in the literature is that sustainable management requires an integrated approach where governance, organizational culture, innovation strategies, and stakeholder relations align toward long-term impact goals. This transformation cannot be achieved without a coherent regulatory framework and standardized evaluation mechanisms such as GRI (Global Reporting Initiative) or SASB (Sustainability Accounting Standards Board).

3. Research methodology

To analyze how companies in Romania's renewable energy sector integrate sustainable management principles, this research employed a qualitative multiple case study methodology. This method was chosen for its advantage in providing an in-depth analysis of real organizational contexts, highlighting internal mechanisms, governance strategies, and the impact of managerial decisions on corporate sustainability (Yin, 2018).

The case study method is appropriate for answering the main research question: "How do companies in Romania's renewable energy sector integrate sustainable management principles into their current practices?" This question requires an exploratory and interpretive approach, enabling the identification of contextual factors, internal strategies, and concrete results associated with sustainability. The multiple case study offers the advantage of comparing firms with different profiles and helps outline replicable best practices.

Three companies with relevant activity and high visibility in Romania's renewable energy sector were selected:

- ✓ Electrica Soluziona – focused on integrated solar projects and annual ESG reporting;
- ✓ Monsson Group – the largest private developer of wind projects in Romania;
- ✓ Econergy Romania – active in photovoltaic energy with a circular approach.

Selection criteria included: public availability of sustainability reports (2021–2024); volume of investments in green technologies; degree of ESG principles integration; strategic relevance for achieving Romania's climate goals.

Also secondary data were used from the following sources: ESG and sustainability reports (2021–2024); strategic documents from the Ministry of Energy and ANRE; publicly available semi-structured interviews with company leaders; Eurostat, INS databases, and sectoral publications; specialized platforms such as Sustainalytics, ESG Book, and CDP Europe.

For validation, information was triangulated by comparing official sources with publicly available data from economic media and company websites.

The analysis was conducted through thematic coding using an inductive-deductive approach. Thematic codes were developed based on the Triple Bottom Line framework (Elkington, 2018) and GRI guidelines. The following central themes were explored: sustainable governance and leadership practices; investments in green technologies and circular innovation; ESG performance (environmental, social, governance); economic and social impact (green jobs, local development); digitalization and operational efficiency.

Analytical tools included: comparative matrix between companies; SWOT analysis applied to sustainable strategies; qualitative evaluation of ESG report content; identification of key success factors and institutional barriers.

This research has inherent limitations related to qualitative methodology, particularly regarding the generalizability of results. Additionally, the lack of detailed financial data and limited access to internal information may affect the analysis depth. Another challenge is the heterogeneity of ESG reporting formats, complicating comparability.

Nevertheless, the study provides a solid foundation for formulating recommendations and for extending research in a future phase using quantitative methods (e.g., surveys applied to energy sector companies or regression analysis of ESG indicators).

The chosen methodology allowed a detailed exploration of sustainable strategies adopted by companies in the renewable energy sector, revealing both convergences and differences among them. The multiple case study combined with documentary analysis and thematic coding ensures a rigorous and contextualized approach to the phenomenon.

This approach will be applied in the following section, where the concrete practices of the selected companies and their impact on ESG performance and the green transition in Romania will be analyzed.

4. Findings

4.1. Case Study: The Renewable Energy Sector in Romania

Romania has committed to achieving 34% of its energy from renewable sources by 2030 (PNIESC, 2023). The sector attracted over €3 billion in investments between 2021 and 2024, mainly in wind and photovoltaic projects. The rapid growth in demand has placed pressure on companies' capacity to sustainably manage expansion.

In the context of European climate commitments, Romania set an ambitious target through the National Integrated Plan for Energy and Climate Change (PNIESC), aiming for 34% of total energy consumption from renewable sources by 2030. This objective marks a crucial transition from conventional to renewable energy sources, amid global pressures to reduce greenhouse gas emissions.

Between 2021 and 2024, Romania's renewable energy sector saw accelerated development, attracting investments exceeding €3 billion. The key development areas were wind farms and solar projects. The Dobrogea, Banat, and southern Oltenia regions have become hubs of the energy transition, drawing investors from Germany, Israel, Italy, and the United Arab Emirates.

However, this rapid growth has put pressure on grid infrastructure, the capacity of local authorities to approve and support project development, and companies in the sector, which had to quickly adapt management strategies and human resources. A major challenge was the shortage of qualified personnel in areas such as renewable engineering, ESG assessment, green logistics, and smart equipment maintenance.

At the same time, public policies evolved with the introduction of support mechanisms such as Contracts for Difference (CfD), funding guidelines from European funds (PNRR, REPowerEU), and new regulations on ESG reporting obligations. These developments contributed to shifting sustainability from a strategic option to an operational necessity.

4.2. Sustainable management practices

Electrica Soluziona implemented a governance model focused on transparency and annual ESG reporting starting in 2022. The company reduced indirect emissions by 18% through internal logistics optimization (Electrica Soluziona, 2023).

Monsson Group, Romania's largest wind energy developer, invested in training local specialists and integrated social inclusion initiatives in rural communities affected by the energy transition. Over 200 green jobs were created in 2023 (Monsson, 2023).

Econergy adopted a circular business model by recycling old solar panels and reusing rare materials. Additionally, the company reported a 21% increase in energy efficiency through the digitalization of operations (Econergy, 2024).

Table no. 1 ESG Performance in Romania's Renewable Energy Sector

Indicator	Electrica Soluziona	Monsson Group	Econergy Romania
Investments in green technologies (mil. EUR)	150	230	180
CO_2 emissions reduction (%)	18	15	21
Green jobs created	80	200	120
Energy efficiency increase (%)	12	10	21

Source: Author's analysis based on companies' ESG reports (2021–2024)

An analysis of three key companies—Electrica Soluziona, Monsson Group, and Econergy Romania—reveals significant differences in how sustainability is understood and applied in the renewable energy sector.

Electrica Soluziona, a subsidiary of the Electrica group, implemented in 2022 a governance system centered on transparency and annual ESG reporting, enhancing its credibility with institutional investors. The company developed an intelligent system optimizing equipment transport and service routes, resulting in an 18% reduction in indirect CO_2 emissions. Investments in green technologies reached €150 million, generating 80 green jobs in 2023.

Monsson Group, active mainly in onshore wind farms, consistently integrated the social dimension of sustainability into its development policy. In 2023, it supported professional retraining for rural residents affected by the decline of traditional industries, creating over 200 green job opportunities. Investments in sustainable technologies exceeded €230 million. Internal energy efficiency measures led to a 15% reduction in carbon dioxide emissions, slightly below the industry average.

Econergy Romania, part of the Israeli Econergy group, adopted a circular and digitalized approach. By recycling decommissioned solar panels and reusing rare materials (germanium, purified silicon), the company significantly reduced its environmental impact. Through digitalization of operational processes (drone monitoring, AI-based predictive maintenance), Econergy reported a 21% increase in energy efficiency—the highest among the three companies analyzed.

4.3. Discussions

This study's findings suggest that the extent to which sustainability is incorporated into management practices depends on factors such as the company's characteristics, the leadership team, and the availability of green funding. Companies that treat sustainability as a core part of their organizational culture—such as Econergy—demonstrate superior performance across all ESG dimensions (Environmental, Social, Governance).

A key factor is the presence of a clear strategic vision from executive leadership. Managers who view sustainability as an opportunity for innovation and strategic differentiation tend to create more resilient companies capable of attracting international capital and effectively managing climate and reputation risks.

However, challenges remain:

ESG Skills Gap: Romania faces a severe shortage of sustainability experts formally trained in life-cycle analysis, ESG auditing, circular economy, and green accounting.

Regulatory Volatility: Frequent legislative changes, delays in implementing regulations, and excessive bureaucracy negatively impact investment planning and project bank ability.

Local Authority Capacity: Many local governments lack the technical skills or resources to support sustainable renewable energy project development. Lack of public consultation or community opposition can cause delays or blockages.

These issues suggest that sustainability must be approached holistically—not only as a technical or economic objective but as a deep reform of governance, human resources policies, and civil society relations.

5. Conclusions

This study highlights the complex reality of Romania's renewable energy sector: a rapidly growing field marked by significant investments but also systemic sustainability and organizational resilience challenges. While the energy transition is essential for meeting the EU's climate goals, how Romanian companies manage this transition will determine their long-term competitiveness and sustainability.

Integrating sustainability: between compliance and strategy. The data show a clear correlation between the degree of sustainability integration into business strategy and ESG performance. Econergy stands out as a pioneer in adopting a circular, digital business model, achieving the best scores in emissions reduction and energy efficiency. Monsson Group emphasizes the social dimension of sustainability by focusing on local community inclusion and green job creation.

This diversity of approaches reflects market maturation and the beginning of competitive differentiation based on sustainability. However, many companies - especially SMEs and startups - still view sustainability as a reporting obligation rather than a source of added value. This reactive mindset limits the sector's capacity to innovate and attract impact investments.

Visionary leadership and organizational culture. A key finding is the role of leadership. The most successful companies treat sustainability not as an externally imposed ESG requirement but as an internal tool for organizational transformation. Electrica Soluziona's transparent governance and clear reporting mechanisms demonstrate mature strategic orientation, enabling access to green financing and institutional investors.

Organizational culture also plays a critical role. Where ethics, inclusion, efficiency, and environmental respect are embedded in daily decisions, ESG performance is a natural outcome rather than a coincidence.

Strategic recommendations. Based on the analysis, the following recommendations are proposed to strengthen sustainable management in Romania's renewable energy sector:

- Strengthen ESG competencies at the managerial level
- Launch executive ESG training programs for CEOs, CFOs, COOs, and strategy officers.
- Establish regional ESG centers of excellence in collaboration with technical and economic universities (e.g., UTCB, ASE, UPB).
- Attract international talent and diaspora to key roles via fiscal policies and attractive benefit packages.
- Promote public-private partnerships (PPP) for green project financing
- Launch a national co-financing program for renewable energy PPPs inspired by models from Germany and Nordic countries.
- Encourage banks to develop green financial products tailored to SMEs, such as low-interest loans and state guarantees.
- Introduce tax vouchers for green innovation investments, modeled on "green R&D tax credits."
- Create a stable and predictable legislative framework
- Establish a National Energy Transition Council with advisory roles and mixed membership (government, industry, NGOs).
- Standardize the approval and authorization process through a single digital portal, eliminating county-level discrepancies.
- Legislate minimum ESG obligations for large companies and provide technical support for SMEs to comply.
- Support innovation and digitalization in the value chain
- Fund lines dedicated to AI, IoT, and robotics for maintenance, transport, and monitoring of renewable installations.
- Promote partnerships between tech startups and large energy companies through sector incubators.
- Foster open data and interoperability between corporate ESG reporting systems and public authorities.
- Future Vision: Sustainability as Organizational Identity

- Ultimately, sustainability should be seen not just as a set of regulatory requirements but as an opportunity to redefine organizational identity. Companies internalizing ESG values will become more attractive to investors and international partners and more resilient to crises—whether energy, climate, or reputational.
- The sustainability of the future will be about innovation, trust, and collaboration - not mere compliance. Romania has significant potential to become a regional leader in green energy, but this depends on the ecosystem's ability (companies, authorities, civil society) to cooperate for a sustainable, equitable, and competitive energy future.

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