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ECOBRANDING TOOLS IN THE SYSTEM OF ENHANCING THE INVESTMENT AND INNOVATION ATTRACTIVENESS OF TOURIST DESTINATIONS

MONOGRAPH

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The monograph substantiates the toolkit of eco-branding as a strategic asset for enhancing the investment and innovation attractiveness of destinations. It reveals the mechanisms for converting environmental responsibility into reputational capital through the synergy of resource efficiency and innovative receptivity. The research proposes a digital transformation of destination management based on ESG principles, AI auditing, Green ROI methodology, and the tokenization of green bonds. Using the Lviv region as a case study, a strategy for creating a "Digital Detox" hub and implementing an eco-branding model has been developed. It is proven that the integration of Smart systems, IoT monitoring (Reporting 2.0), and international certification (LEED, BREEAM) minimizes greenwashing risks, increases asset market value, and guarantees the resilience of the tourism business against military and climate challenges.

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The monograph is intended for academic researchers, faculty members in economic disciplines, postgraduate students, undergraduates, and practitioners within the fields of tourism, hospitality, and public administration.

CONTENTS

IST OF ABBREVIATIONS

BMS – Building Management System

BREEAM – Building Research Establishment Environmental Assessment Method

CAPEX – Capital Expenditure

CSR – Corporate Social Responsibility

EMS – Environmental Management System

ESG – Environmental, Social, and Governance

GDP – Gross Domestic Product

GHG – Greenhouse Gas Emissions

GI – Geographical Indication

GSTC – Global Sustainable Tourism Council

HoReCa – Hotel, Restaurant, Catering

ISO – International Organization for Standardization

KPI – Key Performance Indicator

LAC – Limits of Acceptable Change

LEED – Leadership in Energy and Environmental Design

MAAL – Maximum Allowable Anthropogenic Load

NOI – Net Operating Income

NP – National Park

NRF – Nature Reserve Fund

OPEX – Operational Expenditure

PDCA – Plan-Do-Check-Act

PV – Photovoltaic

ROI – Return on Investment

SDGs – Sustainable Development Goals

SMTEs – Small and Medium Tourism Enterprises

SWOT – Strengths, Weaknesses, Opportunities, Threats

INTRODUCTION

The current stage of global economic development is characterised by a ‘green’ transition, where environmental responsibility has become a fundamental prerequisite for competitiveness. Amidst the climate crisis and the depletion of natural resources, conventional territorial marketing models are losing their efficacy. The relevance of this research stems from the necessity to shift from traditional place marketing to systemic eco-branding, which is rooted in the principles of sustainable development and serves as a pivotal factor in enhancing the investment and innovative attractiveness of territories.

Territorial eco-branding is a strategic process of conceptualising and promoting a unique identity for a territory or community based on authentic environmental values, sustainability principles, and the implementation of ‘green’ innovations. It transcends mere visual identification, functioning as a comprehensive communication tool that conveys a responsible attitude towards the environment and natural resources to attract conscious investors and consumers.

The correlation between external identification (the brand) and the internal efficiency of the economy is of particular significance. In the tourism sector, resource-saving activities have transformed from an ethical imperative into a strategic instrument, facilitating a reduction in operating costs through energy efficiency, the capitalisation of assets via the adoption of eco-standards, and the minimisation of investment risks associated with increasingly stringent environmental legislation.

For tourist destinations, eco-branding tools serve as the sole safeguard against ‘greenwashing’ (the facade of environmentalism). True authenticity is cultivated by converting environmental values into tangible financial and innovative advantages.

For Ukraine, the relevance of this theme is amplified by the objectives of post-war recovery under the ‘Build Back Better’ principle. This international

framework for recovery following conflicts or disasters entails not only reconstructing what was destroyed but also improving infrastructure, the economy, and society to bolster resilience against future crises. It focuses on green development, transparency, inclusivity, and efficiency.

The Object of the Study is the processes of formation and development of territorial eco-branding within the system of investment and innovation activities of tourism business entities.

The Subject of the Study comprises the theoretical and methodological foundations, organisational and economic instruments, and socio-economic aspects of resource-saving activities as a factor in enhancing territorial attractiveness.

The Aim of the Study is to substantiate a conceptual model of synergy between eco-branding and resource efficiency as strategic factors for increasing the investment and innovative attractiveness of territories, and to develop practical mechanisms for the capitalisation of tourist destinations.

Attracting ‘green’ investment requires territories to possess robust socio-economic mechanisms. In this process, eco-branding acts as a mediator, conveying information to investors regarding the community's high technological culture and low non-financial risks.

The findings are of an applied nature and may be utilised to stimulate the investment and innovative development of the tourism industry at various management levels:

For state and local government authorities (at the level of the Lviv Regional Military Administration and territorial communities):

- The developed seven-stage roadmap can be integrated into the ‘Development Strategy of the Lviv Region until 2027’ and community energy development plans to forge a unique regional eco-brand.

- The data verification methodology via ‘digital twins’ enables the creation of a transparent environmental monitoring system for destinations, enhancing

their rankings within international grant programmes and ‘green’ investment schemes.

For tourism business entities (hotels, HoReCa establishments, and recreational complexes):

- The investment-innovation model and economic efficiency calculation examples serve as a ready-to-use toolkit for decision-making regarding thermal modernisation, the installation of solar collectors, and water recirculation systems.

- The ISO standard implementation algorithm provides businesses with clear instructions for obtaining international eco-certificates, which is a prerequisite for entering the premium ‘conscious’ tourism market and justifying a ‘green’ price premium.

For investors and developers:

- The proposed system of ESG indicators (Environmental, Social, and Governance) and the confirmed potential for a 7–10% increase in asset capitalisation provide investors with objective criteria for assessing financial risks and the profitability potential of tourism facilities within protected areas.

In the educational process:

- The materials of this monograph can be utilised in the design of academic courses for students majoring in ‘Tourism’, ‘Hotel and Restaurant Management’, ‘Ecological Economics’, and ‘Socio-Economic Development of Territories’, as well as for the professional development of territorial management specialists.

The theoretical, methodical, and applied aspects of the study are based on the scholarly works of such researchers as:

- Foundations of sustainable development and energy efficiency: V. I. Vernadsky, S. A. Podolynsky, B. E. Paton, A. K. Shydlovsky, V. M. Heyets, L. H. Melnyk, M. A. Khvesyk.

- Marketing, eco-branding, and strategic management: Y. V. Krykavskyy, S. V. Kniaz, O. O. Baryliak, O. Y. Boienko, O. S. Bieliakova, R. P. Tkachenko, S. Anholt, J. S. Nye, W. M. Lim, K. P. Wiedmann.

Sustainable nature management, greening of tourism, and resource efficiency: A. P. Holod, L. Hryniv, P. Zhuk, V. S. Kravtsiv, P. Kucheryavyy, A. S. Pankova, P. L. Tsaryk, P. Sloan, W. Legrand, J. Chen.

The methodological framework of the study is constituted by international environmental and energy management standards (ISO 14001, ISO 50001), the provisions of the EMAS Regulation (Eco-Management and Audit Scheme), and the strategic benchmarks set out in the 'Development Strategy of the Lviv Region until 2027'. This allows for the synchronisation of tourist destination development with global decarbonisation goals (as outlined in the Global Hotel Decarbonisation Report by the Sustainable Hospitality Alliance).

CHAPTER 1.
THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE INTERRELATION BETWEEN ECO-BRANDING, RESOURCE EFFICIENCY, AND INNOVATIVE RECEPTIVITY IN SHAPING THE ATTRACTIVENESS OF TOURIST DESTINATIONS

1.1. The evolution of the eco-branding concept within the system of territorial marketing

In contemporary scientific discourse, characterised by escalating climate challenges and rising social consciousness, marketing strategies are undergoing fundamental transformations. Classic paradigms, oriented exclusively towards profit maximisation, have proven insufficient for achieving sustainable development goals. Consequently, the study of the evolution of marketing concepts and the integration of sustainability principles (eco-branding) into territorial management practices has acquired strategic significance.

To analyse the theoretical origins and current state of eco-branding ideas as a key element of the territorial marketing system, we shall review the scientific works of both domestic and foreign scholars.

1. Evolution of Marketing Paradigms and the Conceptualisation of Sustainable Marketing

Research confirms a substantial shift in the focus of marketing activities. Specifically, in the digital space and amidst global challenges such as climate change and natural resource depletion, marketing effectiveness is measured not only by sales volume but also by the creation of value for the consumer (4Cs) and experience (4Es) (Kotler et al., 2021; Wheeler, 2017). This marks a transition from a 'product-oriented' approach to the formation of a 'solution' tailored to the needs of target audiences (residents, tourists, investors), including the demand for an ecologically clean environment.

Simultaneously, the inclusion of ethics and Corporate Social Responsibility (CSR) has gained significant weight in shaping sustainable consumption (Carroll,

2015; Carvalho & Sousa, 2022). Several scholars emphasise the ethical aspect as a critical factor in relationship marketing (Palmatier et al., 2023). In the context of territorial marketing, this implies that a brand can only be successful if it adheres to social and environmental responsibility towards the local community and future generations a measure that acts as a preventive step against conflict and a guarantee for long-term loyalty.

Central to this theoretical reflection is the study by Lim (2021), which proposes a comprehensive conceptualisation of sustainable marketing as a holistic, systemic transformation. This requires a shift from short-term profit maximisation to ensuring long-term societal well-being. In turn, scientific publications describe the challenges and opportunities of 'green' business that can be extrapolated to territorial management, such as financing difficulties and low levels of awareness (Jain & Jain, 2022).

2. Eco-branding as an Imperative and a Factor of Investment Attractiveness Eco-branding as a scientific category has evolved from a corporate marketing tool into a strategic factor for territorial development. Recent studies (2020–2026) confirm that a brand's environmental responsibility correlates with its financial stability and investment appeal.

2.1. Economic Benefit and Financial Stability. A positive correlation has been identified between high levels of environmental responsibility and the growth of corporate value (Hwang & Lee, 2021). Consumers' Willingness to Pay (WTP) a premium for ecologically certified goods generates economic benefits, providing a justification for investment in 'green' initiatives (Kumar & Sharma, 2024). In the modern landscape, these strategic orientations are increasingly driven by digitalization, which enhances the ability of enterprises to manage resources efficiently and sustain financial stability (Safonik, 2024).

2.2. The Problem of Greenwashing. The literature underscores that greenwashing is a critical challenge that negates efforts and undermines trust and reputation (Spaniol et al., 2024). In territorial marketing, it poses a massive risk when a region advertises itself as 'ecological' without implementing

corresponding policies. This makes authenticity, transparency, and the verification of environmental claims the primary requirements of eco-branding, especially as digital monitoring tools make corporate actions more visible to the public (Pop et al., 2024; Nguyen et al., 2021; Safonik, 2024).

2.3. Integration into Practice and the Circular Economy. An effective eco-brand requires the integration of circular economy principles and investment in sustainable innovations throughout the product life cycle (Wiedmann & Benckendorff, 2020). This integration, supported by digital transformation, is becoming the new norm for competitiveness (Safonik, 2024). This shift represents a new sustainability paradigm where circularity acts as a driver for systemic innovation and long-term value creation (Geissdoerfer et al., 2017).

2.4. Conceptualisation and Measurement. Researchers define a territory's eco-brand as a set of value propositions backed by real investments in sustainable development, requiring a transition from a passive 'image' to an active strategic asset (Zouganeli & Psimouli, 2022). Furthermore, eco-brands must be integrated into the territory's general ESG (Environmental, Social, Governance) ratings to ensure a networked city brand framework (Zenker & Braun, 2017; Zouganeli et al., 2012).

2.5. Impact on Investment Flows. A strong eco-brand reduces non-financial risks for investors related to environmental disasters or regulatory instability (Gianfrate & Peri, 2019; Park & Chen, 2024). This facilitates the inflow of 'green' finance and attracts high-tech companies for whom the location must meet their stringent corporate environmental standards (Tkachenko & Voronina, 2023; Zhou et al., 2020).

3. National Features and Eco-branding Strategies in Ukraine

Ukrainian scientific research (2020–2026) focuses on adapting international approaches to national economic realities, especially in the context of decentralisation and reconstruction.

3.1. Strategic Role in Regional Development. Domestic authors recognise environmental branding as a strategic imperative for regions aiming to compete

for Foreign Direct Investment (FDI) and as a key factor in territorial differentiation (Kovalchuk & Savchuk, 2021; Lukash & Melnyk, 2022).

3.2. Management at the Community Level. Particular attention is paid to tools for assessing the investment potential of Amalgamated Territorial Communities (ATCs) based on their environmental sustainability, reflecting the need for a decentralised approach (Kotelevska, 2025; Haponenko et al., 2023; Ponomarenko & Diachenko, 2025).

3.3. ESG Integration. Ukrainian studies emphasise that the formation of an eco-brand must be supported by real investments in green infrastructure and the implementation of ESG strategies at the territorial level. This is a vital prerequisite for attracting responsible investment and ensuring competitiveness amidst recovery and sustainable development (Hrytsenko, 2022; Tkachenko & Voronina, 2023).

In contemporary eco-branding, investor confidence is predicated on a transition from visual identity (a 'green' logo) to technological evidence. The implementation of ecological innovations - ranging from energy-efficient technologies in the hospitality sector to blockchain platforms for resource provenance verification - minimises operational risks and serves as a guarantee of the eco-brand's authenticity for the investor. Consequently, a territory's high innovative receptivity becomes an indicator of its readiness for the capitalisation of environmental assets.

State support, facilitated through fiscal instruments and infrastructural development, is critical for enhancing the investment attractiveness of ICH destinations (Guo & Kaewnuch, 2025). The findings indicate that a strategic brand management model, rooted in authenticity and governmental backing, serves as a universal tool for the capitalisation of territorial resources.

3. National Specifics and Eco-branding Strategies in Ukraine

Ukrainian scholarly research (2020–2025) is concentrated on the adaptation of international approaches to national economic realities, particularly within the contexts of decentralisation and post-war reconstruction.

3.1. Strategic Role in Regional Development. Domestic authors recognise environmental branding as a strategic imperative for regions seeking to compete for Foreign Direct Investment (FDI). Specifically, the "greening" of tourism activities is viewed as a fundamental factor in ensuring the sustainable development of territories, allowing for regional differentiation in the market and enhancing attractiveness to eco-conscious visitors and investors (Haponenko et al., 2023; Kovalchuk & Savchuk, 2021).

3.2. Governance at the Community Level. Particular attention is paid to instruments for assessing the investment potential of Amalgamated Territorial Communities (ATCs) based on their environmental resilience. In this context, social entrepreneurship emerges as a critical factor for sustainable development, enabling communities to effectively implement decentralisation strategies and strengthen local economic authority through the use of digital indices and sustainable development monitoring systems (Kotelevska, 2025; Ponomarenko & Diachenko, 2025).

3.3. ESG Integration. Research by Ukrainian scholars emphasises that the formation of an eco-brand must be underpinned by tangible investments in green infrastructure and the implementation of ESG (Environmental, Social, Governance) strategies. This comprehensive management model for territories or businesses, based on high standards of environmental responsibility, social inclusivity, and transparent corporate governance, is a prerequisite for attracting responsible investment and ensuring competitiveness during recovery and sustainable development (Hrytsenko, 2022; Tkachenko & Voronina, 2023).

Based on the retrospective review of the evolution of marketing paradigms (from 4P to 4C and 4E), the analysis of CSR and ESG concepts, and considering the specifics of sustainable territorial development, the following definitive conclusion can be formulated:

- Territorial eco-branding is a comprehensive strategy for the formation and management of authentic brand equity for a territory or community, based on the genuine convergence of environmental values, Corporate Social Responsibility

(CSR), and transparent governance (ESG). It is not merely a communication tool but a systemic mechanism for transforming environmental standards and resources into sustainable competitive advantages. Through the mechanisms of creating customer value and unique experiences, it ensures the minimisation of investment risks, stimulates the influx of "green" investment, and fosters the implementation of innovations.

The essence and categorical framework of eco-branding: historical prerequisites and contemporary definitions.

In the context of globalisation, intensifying environmental challenges and the growth of corporate social responsibility, eco-branding (also known as green branding or ecological branding) is attaining the status of a key marketing strategy and a distinct scientific category. Its emergence reflects the evolution of economic thought and consumer consciousnessmoving from a paradigm of unlimited growth towards the concepts of sustainable development and the circular economy. The categorical framework of eco-branding requires systemic analysis to ensure its correct application in scientific research and business practice.

The historical prerequisites for eco-branding date back to the mid-20th century, when awareness began to grow regarding the negative impacts of industrialisation, including tourism, on the environment. However, its active development as a distinct marketing branch correlates with the rise of Green marketing in the 1980s.

Contemporary researchers highlight that the key stimulus for eco-branding has been the increasing environmental awareness of consumers and the formation of sustainable demand for ecological goods and services (Tkachenko & Voronina, 2023; Boienko, 2019). Studies by Yespolov et al. (2025) indicate that by 2025, the importance of environmental characteristics in the manufacturing sector will only intensify, making the interaction between producers and end-consumers regarding ecological products critical.

Eco-branding is a strategic function of environmental marketing, the primary purpose of which is to transform consumer perception of the brand,

ensuring the formation of brand loyalty, trust, and emotional resonance. Its essence is twofold (Yespolov et al., 2025):

- Functional-communicative: eco-branding is a system of transparent communication of environmental values that appeals to the ethical and value orientations of consumers.

- Instrumental-operational: as a tool, eco-branding is the result of integrating real operational practices (such as eco-packaging, use of recycled materials, environmental certification, and information transparency), reflecting the company's authentic environmental efforts.

Thus, successful eco-branding requires the strategic integration of environmental responsibility into all stages of the product life cycle, rather than merely into its promotion. This societal demand has forced companies to move from simple "ecological" labelling to the creation of a holistic, authentic, and transparent environmental brand.

In the contemporary scientific space, eco-branding is recognised as a multidimensional category. An analysis of current sources allows for the systematisation of approaches to its definition at three key levels:

1. Strategic marketing approach: views eco-branding as a holistic, long-term business strategy and a tool for competitive differentiation. Its essence lies in aligning corporate identity and brand values with the principles of sustainability and the minimisation of environmental impact. Lukinova et al. (2024) emphasise that eco-branding is part of innovative marketing strategies aimed at shifting consumer behaviour towards sustainability through the lens of ecology and environmental sciences. This approach is further reinforced by Wiedmann and Benckendorff (2020), who position sustainable marketing as a necessary perspective for modern strategic management.

1. Process-operational approach: focuses on internal company processes, defining eco-branding through specific, measurable environmental improvements in production and logistics. The aim is to ensure the environmental efficiency of the product, which must be verified through eco-certification and transparent

reporting to avoid falsification. Boienko (2019) notes that this is part of a strategy aimed at rational resource use by domestic manufacturers. This approach is further supported by Kravchenko et al. (2024), who argue that the transition to a circular economy and enhanced resource efficiency are new, essential approaches to industrial development within the sustainability framework.

2. Communicative-ethical approach: Centres on consumer interaction and the ethical dimension of marketing messages. The essence here is building trust through transparent and authentic communication of environmental benefits. This requires the honest use of eco-labelling and the strict avoidance of Greenwashing - the practice of misleading consumers regarding the environmental characteristics of a product.

The categorical framework encompasses a range of interconnected terms structured around the central concept:

Environmental brand: a brand whose identity, values, and key advantages are based on its environmental responsibility and sustainable practices throughout the product (service) life cycle.

Green marketing: a broader category including all marketing efforts aimed at creating, promoting, and selling products claimed to be environmentally safe. Eco-branding is its strategic component.

Eco-innovation: the implementation of new or significantly improved products, processes, or marketing methods aimed at reducing environmental risk and negative impact, such as the adoption of green technologies (OECD/Eurostat, 2018). Research by Zhou et al. (2020) emphasizes that the stability of environmental regulations plays a crucial role in fostering such corporate green innovations, which are essential for aligning industrial growth with ecological preservation.

Eco-certification: the process of verifying that a product or process meets established environmental standards, serving as a vital element of transparency and trust.

Greenwashing: the deliberate misleading of consumers regarding the environmental benefits of a company or product, posing the greatest threat to eco-brand authenticity.

In conclusion, eco-branding should be viewed not as a temporary marketing trend but as an institutionalised strategic business principle. The concept has evolved from a simple tool for eco-labelling to a complex philosophy of brand management that demands absolute authenticity, maximum transparency, and deep integration of environmental values at all levels of corporate activity. Accordingly, further research should be directed towards developing a methodology for the quantitative assessment of the economic impact of eco-branding on consumer behaviour and overall economic growth. The main types of eco-branding and their characteristics are presented in Table 1.1.

Table 1.1. Main types of eco-branding and their specifics: a categorical analysis*

Type of eco-branding	Object	Key specifics	Main tools
1. Product-based	A specific product or product line (services)	Product differentiation in the market through environmental advantages (composition, packaging, energy efficiency)	Eco-labelling, eco-certification, green packaging, demonstration of the product life cycle
2. Corporate	The entire organisation, its mission, and operational activities	Building a reputation as an environmentally responsible entity by integrating ecological principles into all business processes and CSR	Eco-innovation, investment in 'green' technologies, transparent environmental reporting, environmental management (ISO 14001)
3. Territorial	A geographical entity (city, region, country)	Creating an image of a 'green' territory to attract investment, tourists, and new residents	Promotion of eco-tourism, environmental quality standards (water, air), ecological urban development programmes

**Source: Compiled by the author based on Boienko (2021); Lukinova et al. (2024); Yespolov et al. (2025); Klimova et al. (2025)*

Eco-branding does not have a single rigid classification, but its main types and approaches can be identified based on where a brand places its emphasis within its environmental strategy and communication.

1. Eco-product (service) banding

Focuses on the specific environmental attributes of the product or service itself:

- Ecological raw materials: Use of organic, recycled, renewable, or ethically sourced materials (e.g., Fair Trade cotton, FSC wood).

- Energy efficiency: Reducing product energy consumption (e.g., Energy Star certification for appliances).

- Waste reduction: Minimalist, biodegradable, or reusable packaging.

- Environmental "Legend" (Narrative): Creating a narrative around the naturalness or unique origin of the product (e.g., "Pure water from the Carpathians", cosmetics from Provence).

Phylocopywriting: Using "green" prefixes in the brand name (Eco-, Bio-, Pure, Natur-).

2. Corporate Eco-branding

Attention is focused on the overall responsibility and sustainability of the entire company, rather than just an individual product:

- Carbon neutrality: commitment to achieving net-zero emissions or significantly reducing them throughout the production cycle.

- Ethical manufacturing practices: Ensuring fair labour conditions and supply chain transparency.

- Social responsibility (ESG): Integrating Environmental, Social, and Governance standards into the business strategy.

- Transparency and accountability: openly communicating environmental goals, progress, and challenges (e.g., publishing ESG reports).

3. Territorial Eco-branding

This is a strategic process of forming and promoting a unique image of a city, region, or country based on its environmental cleanliness, natural resources, sustainable development, and "green" initiatives. The goal is to increase competitiveness, attract tourists, investment, and skilled workers, and foster pride within the local community.

The object of territorial eco-branding is the entire territory and its ecologically significant components:

- Natural resources: national parks, nature reserves, unique landscapes, clean water bodies, soil, and air.

- Ecological infrastructure: modern waste management systems, renewable energy development, eco-transport (cycle paths, electric buses), "smart" and green buildings.

- Eco-community: high environmental awareness among residents, active environmental organisations, and traditions of sustainable nature management.

- Ecological events and products: Sustainable development festivals, organic fairs, local eco-friendly goods.

- Political commitments: official local government strategies for achieving carbon neutrality and protecting biodiversity.

Principles and functions of territorial eco-branding

To build a sustainable and authentic ‘green’ image, four core principles are applied: authenticity (prioritising actions over rhetoric), comprehensiveness (integration into all spheres of socio-economic life), Stakeholder Engagement (collaborative synergy between authorities, business, and the community), and Sustainable Development (strict alignment with the UN Sustainable Development Goals). The operationalisation of these principles is manifested through the diverse roles that eco-branding performs within the territorial economic system. The fundamental capacities and strategic impact areas of this tool are systematised in Table 1.2.

Table 1.2. Main functions of eco-branding*

Function	Description	Result
1. Image-building	Creating a positive, unique, and attractive image of the territory associated with purity, health, and progressiveness.	Improved international reputation; fostering pride among residents.

Function	Description	Result
2. Investment	Leveraging a "green" image to attract targeted investment (e.g., in renewable energy, green start-ups) and eco-oriented tourists.	Growth in foreign direct investment (FDI); development of eco-tourism.
3. Consolidating	Uniting the local community around a shared idea and value system (care for nature).	Improved quality of life; reduced community conflict; increased civic engagement.
4. Differential	Distinguishing a territory from competitors through unique environmental advantages that are difficult to replicate.	Unique value proposition; competitive advantage in the struggle for resources.
5. Economic Efficiency	Minimising packaging, transitioning to energy-efficient equipment, and using recycled materials to reduce costs.	Increased profitability through cost reduction and waste optimisation.
6. Social Responsibility	Communicating the environmental mission to build brand loyalty and respect among value-driven consumers.	Reduced price sensitivity; consumers are willing to pay a premium for shared values.
7. Trust and Safety	Presenting products and territories as safe, high quality, and responsible regarding consumer health and the environment.	Reduced risks of greenwashing; confirmation of quality through certification.
8. Innovation-Stimulating Function	Generating demand for high-end technologies and digital solutions to maintain the environmental status of the destination.	Enhancing the innovative receptivity of the territory; attracting technological startups; implementing Smart infrastructure.

* *Source: Compiled by the author*

The functional framework systematised in Table 1.2 highlights that eco-branding has transcended its role as a mere promotional tool, evolving into a fundamental driver of territorial development. Of particular importance is the Innovation-Stimulating function (Point 8), which acts as a catalyst for the "twin transition" (green and digital). In this capacity, eco-branding requirements drive the adoption of IoT-based resource monitoring, renewable energy grids, and AI-driven waste management. By positioning the territory as a "living lab" for green tech, this function effectively bridges the gap between environmental declarations and tangible industrial progress.

To build a sustainable and authentic ‘green’ image, four core principles are applied:

- Authenticity: Grounding the brand in measurable environmental actions (infrastructure, emissions reduction) rather than mere declarations.

- Comprehensiveness and Integration: Embedding a ‘green’ approach into all aspects of territorial development (economy, education, and infrastructure).

- Stakeholder Engagement: The collaborative formulation of strategy between government authorities, business, and the community.

- Sustainable Development: Aligning eco-branding objectives with the UN Sustainable Development Goals (SDGs).

The study of the theoretical-methodological foundations and the evolution of conceptual approaches allows for the formulation of the following final conclusions:

1. Paradigm Shift in Territorial Marketing. Modern marketing has evolved from classic linear models (4Ps) to sustainable marketing strategies (4Cs, 4Es). In this new paradigm, territorial competitiveness is determined by the ability to create integral value for stakeholders through the lens of environmental safety and social responsibility. Territorial management is shifting from the mechanical promotion of resources to the creation of a unique Experience, where sustainability acts as the foundational competitive advantage.

2. Conceptualisation of Eco-branding as a Strategic Asset. Eco-branding has been transformed from a product-labelling tool into a multi-dimensional strategic category and a high-value intangible asset. It integrates three distinct levels:

- Strategic-Marketing: Identity and brand equity formation.

- Process-Operational: Implementation of eco-innovations (circular economy, energy efficiency).

- Communication-Ethical: Ensuring transparency and combating greenwashing.

3. Investment Attractiveness and ESG Integration. Territorial eco-branding directly influences the attraction of "green" financing and Foreign Direct Investment (FDI). The implementation of ESG criteria at the community level (ATCs) serves as a critical indicator of low non-financial risk for institutional

investors. The brand’s environmental responsibility correlates directly with its financial resilience.

4. Innovative Receptivity as the Foundation of Trust. The effectiveness of eco-branding correlates with the territory's innovative receptivity - its systemic capacity to absorb and implement ecological innovations. In the current ESG framework, investor trust is based on the transition from "visual" eco-positioning to "technological evidence" (e.g., digital resource validation), where innovation serves as the guarantor of the brand’s authenticity.

5. National Imperative for Ukraine. Within the context of post-war recovery, eco-branding is essential for the "Build Back Better" principle. It signals to international investors that the territory is integrated into the European Green Deal, non-financial risks are minimised through transparent governance, and capital is being deployed into long-term viable, high-efficiency assets.

The retrospective analysis of the evolution of marketing paradigms and the conceptualisation of sustainable marketing allows for the formulation of the following conclusions:

1. Paradigmatic Shift in Territorial Marketing. It has been demonstrated that amidst global climate challenges and rising social consciousness, classic marketing models - oriented towards the product (4Ps) and short-term profit - are transforming into sustainable marketing strategies. The contemporary focus of territorial management is shifting from the mechanical promotion of resources to the creation of integral Customer Value and a unique Experience, where environmental sustainability emerges as a fundamental competitive advantage.

2. The Constitution of Eco-branding as a Strategic Asset. Eco-branding has evolved from a corporate labelling tool into a multi-dimensional strategic category and a high-value intangible asset of a territory. Its essence is revealed through the synergy of three levels: strategic-marketing (forming an authentic identity), process-operational (implementing eco-innovations), and communication-ethical (ensuring transparency and mitigating the risks of greenwashing).

3. Innovative Receptivity as the Foundation of Investor Trust. The effectiveness of eco-branding in attracting investment flows correlates directly with the territory's innovative receptivity - its systemic capacity to absorb and implement environmental innovations (ranging from energy efficiency to digital resource validation, such as blockchain platforms). In the modern ESG framework, investor trust is based on the transition from ‘visual’ eco-positioning to ‘technological evidence’, where eco-innovations serve as the guarantor of the brand’s authenticity and a tool for minimising non-financial risks.

4. Functional Diversity and National Priority. The functions of eco-branding extend beyond mere image-building, encompassing investment (attracting ‘green’ capital), consolidation (unifying the community around sustainable values), and economic efficiency (resource efficiency and cost reduction). For Ukraine, in the context of implementing the ‘Build Back Better’ principle and integration into the European Green Deal, territorial eco-branding based on tangible investments in green infrastructure and digital transparency has become a strategic imperative for ensuring long-term resilience and competitiveness.

1.2. The concept of resource saving as a strategic tool for eco-branding of tourist destinations

Research in the field of resource saving in Ukraine has deep roots, transforming from purely technical material economy to the modern concept of sustainable development and the "circular economy". The chronology of this approach's development in the works of Ukrainian scientists occurred in the following stages:

1. The Stage of Establishing Theoretical Foundations (Early to Mid-20th Century)

At this stage, fundamental ideas about the relationship between nature, energy, and economic activity were formed.

V. Vernadsky: His teaching on the biosphere and noosphere (Vernadskyi, 2011) became the philosophical foundation for resource saving. He was the first

to substantiate the need for the rational use of biosphere resources, arguing that humanity is becoming a powerful geological force. His doctrine regarding the transition of the biosphere into the noosphere is the basis for the conscious management of the planet's resources.

S. Podolinsky: One of the first in the world to study the energetics of human labour (Podolynskyi, 2000). He argued that a nation's wealth depends on its ability to accumulate and efficiently use solar energy. His work represents the first attempt to link economic processes with thermodynamics and energy conservation.

2. The Technological Stage: Economics and Energetics (1960s – 1980s)

During this period, focus shifted to industrial energy saving and reducing the material intensity of production.

B. Paton: Under his leadership, technologies were developed that allowed for significant metal savings and extended the service life of structures. Paton substantiated that material saving is the most important direction of scientific and technical progress (Paton, 1982). His work marked a turning point where Ukrainian science moved from "extensive" growth to "intensive" growth (smart technologies, less waste).

A. Shydlovsky and A. Prakhovnyk: They made a significant contribution to energy-saving systems and the optimisation of power grids (Shydlovskyi, 1992). They initiated the transition to systemic energy management (Shydlovskyi & Prakhovnyk, 2001). Their methodology identified energy as a manageable strategic resource and introduced energy audits, creating the theoretical basis for the later adaptation of international standards like ISO 50001 in Ukraine.

3. Formation of the Environmental-Economic Approach (1990s – Early 2000s)

Following independence and amidst economic crises, the emphasis shifted to survival through efficiency and greening.

S. Dorohuntsov and O. Ralchuk: Developed concepts for the management of ecological security and the rational use of nature (Dorohuntsov & Ralchuk,

2005), substantiating the need for paid resource use as an incentive for conservation.

L. Melnyk: One of the founders of the "green economy" in Ukraine. His works are dedicated to fundamental changes in production systems to minimise environmental impact and the experience of the EU in greening the economy (Melnyk, 2015).

M. Khvesyk: Focused on the sustainable development of territorial communities and management mechanisms for the rational use of the resource base (Khvesyk, 2018).

4. The Modern Stage: Sustainable Development and Circular Economy (2010s – Present)

Today, Ukrainian scientists integrate domestic developments into the global context of Smart technologies and the "green" transition.

V. Geiets: Conducts research on overcoming economic consequences of global challenges and the transition to recovery through innovative economic models (Geiets, 2021).

M. Kyzym and V. Khaustova: Focus on industrial policy and economy clusterization under neo-industrialization conditions, which includes resource-efficient production models (Kyzym & Khaustova, 2020).

Contemporary Research (2020–2026): Focuses on the integration of ESG (Environmental, Social, and Governance) principles into corporate and territorial strategies (Kravchenko, 2025; Tkachenko & Voronina, 2023), as well as the transition to a circular economy (Kravchenko et al., 2024). The evolution of research approaches in Ukraine regarding resource saving is summarised in Table 1.3.

Table 1.3. Comparison of the evolution of scientific research approaches in Ukraine in the field of resource saving*

Period	Dominant Idea	Key Object
First half of the 20th Century	Harmony with the biosphere	Global ecosystems
1960s – 1980s	Technical efficiency	Metal, fuel, electricity

Period	Dominant Idea	Key Object
1990s – 2010s	Environmental-economic balance	Natural capital, monetary valuation
Modern Day	Smart economy	Renewable resources, recycling

* *Source: Compiled by the author*

The analysis of the evolution of resource conservation approaches in Ukraine (Table 1.3) demonstrates a profound transformation: from the theoretical conceptualisation of the biosphere to the practical implementation of high-tech "closed-loop" solutions. Specifically:

1. Fundamental-Philosophical Stage (first half of the 20th century): Ukrainian science (notably the school of V. Vernadsky) laid the groundwork for understanding that resources are finite and human activity is becoming a geological force. The dominant idea was the noosphere - the rational management of the connection between man and nature.

2. Technocratic Stage (1960–1980): the focus was on the intensification of Soviet industry. Resource conservation was perceived as a purely engineering task: how to consume less metal or coal per unit of output. The environmental aspect was secondary to planned economy targets.

3. Market-Pragmatic Stage (1990–2010): with the transition to market conditions, resources acquired real value. The concept of "ecological-economic balance" emerged. The priority became finding a compromise: how to minimise environmental fines and damages while simultaneously generating profit. This period marked the active monetisation of natural capital.

4. Innovation-Digital Stage (Present): today, resource conservation is based on the Circular Economy concept. It is no longer just about saving, but a complete change in the consumption model where waste becomes a resource, and processes are managed through IT solutions and renewable energy sources.

To visualise these stages, let us consider the comparative characteristics of the evolution of scientific research vectors in Ukraine in the field of resource conservation in Table 1.4.

Table 1.4. Comparative characteristics of scientific research development vectors in Ukraine in the field of resource conservation*

Comparison Parameter	From Past (Traditional)	To Modern (Smart)
Role of Human	Observer (Consumer)	Active Manager (Smart-Manager)
Nature of Processes	Linear (Extraction - Use - Emissions)	Cyclic (Recycling and Regeneration)
Toolkit	Physical saving of raw materials	Digitalisation, Renewable Energy, AI

**Compiled by the author*

The evolution of approaches in Ukraine has progressed from "saving for the sake of the plan" to "conservation for the sake of survival and competitiveness." The modern paradigm transforms resource conservation from a budget expenditure into a source of innovation and national energy independence.

Given the need to restore market positions in the post-war period and ensure the rational use of natural resources, the tourism industry requires a systemic transition to the principles of sustainable development. A key direction of this transition is the introduction of resource efficiency principles. This imperative has significantly increased the scientific community's interest in the issues of sustainable tourism development.

The primary task is to clarify the conceptual apparatus regarding the integration of resource efficiency into the tourism sector. Unlike the common category of "resource saving" (resource conservation), the term "resource efficiency" is more substantive and dynamic.

Resource saving carries a static meaning of "preserving" or "not changing" the current level of use.

Resource efficiency more clearly reflects an active process of economising, i.e., reducing resource use while increasing the efficiency of their consumption.

Modern scientific research views resource efficiency not merely as an economy, but as a comprehensive integrated tool for sustainable development that combines economic efficiency, environmental responsibility, and innovative activity.

Summarising the chronology of scientific thought - ranging from the energy-based approach of S. Podolinsky and the technological school of B. Paton to contemporary regional studies by the Institute of Regional Research of the NAS of Ukraine and the global "Integrated Green Marketing Model" (Hussein & Naparin, 2025) - the key characteristics of resource efficiency as an eco-branding tool for destinations have been systematised (see Table 1.5).

An overview of the essence of the concepts of "resource conservation" and "resource efficiency" in scientific literature is presented in Table 1.5.

Table 1.5. Definitions of "resource saving" and "resource efficiency" in scientific works

Author	Definition of the Essence of Resource Efficiency/Saving
Paton (1982)	A strategic direction of scientific and technical progress aimed at reducing the material intensity of production. It is based on the introduction of innovative technologies that ensure significant savings of raw materials and extend the life cycle of structures, proving more effective than increasing resource extraction
Muzychenko-Kozlovska, Pankiv (2024)	Resource saving is a set of organisational, technical, scientific, practical, commercial, marketing, product, environmental, informational, and economic measures in all types of economic activities that form the tourism industry, aimed at the rational use and economical involvement of various resources in economic activity, a respectful attitude towards the natural environment, and consideration of the psychological and recreational load on the tourist destination.
Kniaz et al. (2024)	Resource efficiency is defined as a set of management system properties that ensure the minimisation of resource costs (material, financial, human, natural) per unit of the result obtained (tourist product or service). It is a tool for sustainable development that balances the economic interests of the enterprise and environmental safety requirements.
Melnyk and Savchuk (2022)	An integrated characteristic of economic activity that ensures not only a reduction in resource costs per unit of the final product but also the preservation of the regenerative properties of natural systems in the long term.
Pavlenko (2023)	A tool for increasing the competitiveness of an enterprise (territory) in the conditions of globalisation, based on the application of innovation and modernisation of production processes to achieve the effect of "fewer resources – more value."
Kravchenko et al. (2024)	A concept that goes beyond economy and focuses on the systemic optimisation of the product life cycle, including reuse, repair, and recycling, which is the cornerstone of the circular economy.
Haponenko et al. (2023)	Resource saving is a fundamental tool for minimizing negative technogenic impact on recreational areas, involving a transition from intensive consumption of natural resources to their rational reproduction and preservation. It serves as a means of ensuring the long-term competitiveness of a region and safeguarding its ecological capital for future generations

Author	Definition of the Essence of Resource Efficiency/Saving
Heieits (2021)	Under European integration conditions, resource saving becomes the foundation of a new quality of economic growth, involving the transition of cities from territorial expansion to internal modernisation through technological renewal of industry, thermal modernisation of housing and utilities, and the implementation of circular models at the community level.
Zhuk (2018)	Resource conservation constitutes the foundation of a territorial community's resource capacity, enabling the capitalisation of its environmental assets into a recognisable territorial brand.
Kravtsiv (2012)	Examining resource conservation through the prism of rational nature management in cross-border and mountainous regions.

**Compiled by the author based on: (Paton, 1982; Shydlovskyi & Prakhovnyk, 2001; Geiets, 2021; Muzychenko-Kozlovska & Pankiv, 2024; Kniaz et al., 2024; Haponenko et al., 2023; Kravchenko et al., 2024; Pavlenko, 2023; Melnyk & Savchuk, 2022; Zhuk, 2018; Kravtsiv, 2012).*

Based on the analysis of the presented scientific approaches (Table 1.5), the following conclusions can be drawn:

1. Evolution from "economy" to "Sustainable development": modern scientific thought has transformed the understanding of resource saving from a purely technical cost reduction to a foundation for a new quality of economic growth.

2. Complexity and multidimensionality: authors treat resource efficiency as a multifaceted system of measures - from marketing and information to technology and psychology.

3. Link with the circular economy: resource efficiency in the modern context is inextricably linked to the principles of the circular economy (re-use, recycle and repair).

4. Resource efficiency as a competitiveness factor: the "fewer resources – more value" principle is a key survival tool for enterprises in the globalised world.

Based on the conducted analysis (Table 1.5), territorial resource saving within the eco-branding system is defined as a comprehensive territorial management strategy based on the implementation of scientific and technological innovations and circular production models aimed at a radical reduction of specific resource consumption per unit of created value. It serves as the foundation of a destination's eco-brand by transforming rational nature management from a

budgetary expense into an active strategic asset, ensuring the community's long-term competitiveness, investment attractiveness, and the preservation of ecological capital for future generations.

In tourism, resource efficiency is not only about saving but also about preserving the "product" itself (nature) and creating a unique reputation. In the current paradigm of territorial marketing, resource efficiency transforms from a tool for minimising operating costs into a strategic asset for forming investment attractiveness.

Table 1.6. Impact of resource efficiency tools on eco-branding components and investment attractiveness of tourist destinations*

Tools (resource efficiency measures)	**Object of impact in tourism**	**Eco-branding element (marketing effect)**	**Investment & innovation advantage**
Energy Efficiency (Smart lighting, solar panels, heat pumps)	Hotel complexes, recreational centres	"Energy-Independent Location" status, Green labelling	Reduced OPEX (operating costs), compliance with ESG standards
Water Management (Closed-loop water systems and wastewater treatment)	Swimming pools, SPA centers, landscape irrigation	"Blue Flag" symbol, reputation as an eco-safe zone	Minimization of environmental risks and fines, protection of natural capital
Zero Waste Concept (Waste sorting, plastic-free policy)	Public areas, food & beverage outlets	Visual aesthetics of the destination, "Conscious Consumption" image	Development of local recycling infrastructure, eligibility for sustainability grants
Localization of Supply Chains (Short Food Supply Chains)	Restaurant business (Slow Food)	Brand authenticity, support for local eco-producers	Stimulating local innovation, increasing regional economic resilience
Digital Resource Monitoring (Smart Metering)	Entire destination infrastructure	Transparency and eco-reporting (Open Data for tourists)	Increased investor confidence through verified eco-efficiency data

**Compiled by the author*

The analysis (see Table 1.6) reveals that resource efficiency in tourism is not an autonomous process but serves as the foundation for creating value-added for a territory. Each technical measure (e.g., solar panel installation) performs a

dual function: economic (direct financial savings) and communicative (creating content for the eco-brand, positioning the destination as innovative and environmentally responsible). This creates a synergetic effect, where environmental responsibility becomes the primary argument for attracting a new generation of investment capital focused on long-term stability rather than short-term profit.

This creates a synergetic effect where environmental responsibility becomes the primary argument for attracting a new generation of investment capital. The practical implementation of this synergy, along with the monitoring tools for these indicators, is reflected in the developed structure of the Facility Environmental Passport (Case Study: Yavoriv National Nature Park, see Appendix D). This document allows for the conversion of the resource-saving measures presented in Table 1.6 into verified data, forming the basis for the investment case of the territory's eco-brand.

To evaluate the effectiveness of eco-branding and resource-saving activities, it is advisable to consider a system of indicators analysed by investors and international certification commissions (Table 1.7).

Table 1.7. Indicator System for Evaluating Eco-Branding Effectiveness Based on Resource-Saving Activities

Indicator Group	Specific Metric (KPI)	Significance for Investor and Eco-brand
Environmental Performance	Share of renewable energy in the destination's energy balance (%)	Demonstrates the level of decarbonization and infrastructure advancement
Resource Efficiency	Water and energy consumption per visitor-day	A direct indicator of technological sophistication and consumption culture
Circularity	Recycling rate (percentage of waste diverted for processing, %)	Confirms "Zero Waste" status and the environmental purity of the location
Economic Conversion	Share of "Green Premium" in the tourism product price	Indicates the tourist's willingness to pay extra for an ecological brand
Market Loyalty	Customer Satisfaction Index (CSI) for the eco-component of the stay	Measures brand strength and the likelihood of repeat visits

***** *Compiled by the author*

The use of specific indicators (see Table 1.7), such as environmental performance KPIs and economic conversion rates, enables the transformation of eco-branding into a verified development strategy. For investors - particularly those oriented toward ESG standards - these metrics serve as critical risk mitigation markers:

- Technological risks: high resource efficiency guarantees business resilience against rising utility tariffs.

- Reputational risks: transparent monitoring prevents accusations of "greenwashing" (simulated sustainability).

- Financial risks: facilities with high resource efficiency possess higher liquidity and lower non-financial risks in international capital markets.

The domestic school of resource conservation has undergone a complex evolutionary path, establishing a robust theoretical and methodological foundation for contemporary sustainable development. This transformation occurred across four key stages:

- The Fundamental-Philosophical stage (first half of the 20th century): Based on V. Vernadsky's teachings on the noosphere and S. Podolinsky's physical economy, establishing the concepts of biosphere resource limits and the necessity of energy balance.

- The Technocratic stage (1960–1980s): oriented towards the engineering intensification of production and the technical economisation of raw materials (the schools of B. Paton and A. Shydlovsky).

- The Market-Pragmatic stage (1990–2010s): introducing the monetisation of natural capital and the pursuit of an ecological-economic balance (L. Melnyk, M. Khvesyk).

- The Innovation-Digital stage (contemporary): integrating resource conservation into the global context of the Smart Economy and circular "closed-loop" models.

Today, resource efficiency is identified not as an expenditure item, but as the most profitable, secure, and strategically vital source of economic growth and

national competitiveness. In contrast to the common term "resource conservation", which often carries a static connotation (the preservation of current usage levels), "resource efficiency" is more substantive and dynamic. It is constituted as a proactive, continuous process of economisation, involving a radical increase in consumption efficiency based on innovation. It merges cost minimisation with the maximisation of social, environmental, and economic value, realising the principle of "fewer resources – more value."

The implementation of this concept within the tourism industry is a critical factor for post-war recovery. Unlike traditional sectors, resource efficiency in tourism is transformed into an investment in the destination's authenticity. Since nature and cultural heritage constitute the fundamental "commodity" of tourism, their preservation - through the management of recreational loads, smart energy/water technologies, and Zero Waste concepts - is the guarantor of the industry's long-term viability. This ensures the systemic optimisation of the entire life cycle of the tourism product, driving both decarbonisation and dematerialisation.

In the current paradigm of territorial marketing, resource efficiency has evolved from an auxiliary technical function into a fundamental strategy for forming the eco-brand of tourist destinations. Every technical measure (solar panels, closed-loop water systems, digitised monitoring) performs a dual function:

- Economic: direct financial savings and operational cost reduction.
- Communicative: creating verified substantive content that moves the destination from declarative protection to the actual management of ecosystem assets.

Ultimately, the integration of these tools creates a "green multiplier" effect: the verified improvement of environmental performance leads to an increase in brand value, which, in turn, attracts innovative investments for further modernisation. Thus, resource efficiency is transformed into a strategic asset for

building the long-term investment attractiveness and competitiveness of Ukraine’s tourism sector within the global "green" transition.

1.3. A conceptual model of synergy between eco-branding and resource efficiency as a factor in enhancing tourism attractiveness and the innovative receptivity of territories

Within the framework of the modern territorial marketing paradigm, a brand is perceived not merely as a set of visual attributes but as a strategic axiological promise that a territorial unit transmits to its target audiences - residents, tourists, and potential investors. In this context, eco-branding acts as a form of reputational capital based on the values of environmental responsibility and sustainable development.

A significant contribution to the development of tools for assessing the attractiveness of territorial brands has been made by a group of authors including N. Shpak, O. Muzychenko-Kozlovska, and others [64]. In their study "Comprehensive assessment of the influence of factors on the attractiveness of a country’s tourism brand - a model approach" (2022), the authors substantiate the necessity of a systemic approach to tourism brand analysis. Specifically, they propose a model-based approach that allows for a quantitative assessment of the impact of various factor groups (economic, social, environmental, and cultural) on a country's overall level of attractiveness.

The researchers emphasize that tourism attractiveness is not a static indicator but rather changes dynamically under the influence of innovative activity and marketing strategies. For the context of our monograph, their conclusion is of particular importance: an integrated assessment of factors allows for the identification of "weak spots" in a destination's positioning and enables the effective adjustment of its development strategy. This approach correlates with the concept of synergy between eco-branding and resource efficiency, as it confirms that sustainable development and environmental responsibility are

becoming key determinants of a brand's competitiveness in the international market.

Drawing upon the model-based approach of N. Shpak, O. Muzychenko-Kozlovska, and others we propose expanding the list of attractiveness determinants by introducing resource efficiency indicators, which form the core of an eco-brand.

However, a systemic dissonance arises when there is a discrepancy between a territory's declared "green" image and the actual state of its eco-economic activities (e.g., low environmental quality indicators, lack of circular waste management systems, or poor infrastructure energy efficiency). In the scientific discourse of 2020-2025, this phenomenon is identified as territorial greenwashing, regarded as a critical barrier to sustainable marketing, as it creates "symbolic environmentalism" without genuine resource backing (Spaniol et al., 2024). This issue is further exacerbated in the context of global environmental changes, which demand more transparent and stable regulatory frameworks for corporate and territorial green innovations (Zhou et al., 2020).

In the post-pandemic period (2022-2025), the prevalence of manipulative communications over tangible resource-saving measures has led to a distortion of territorial attractiveness through three key disruptions:

1. Reputational Decline and "Green Scepticism": 2024 studies indicate that over 75% of modern consumers are willing to switch to brands that ensure full supply chain transparency (*Scientia Fructuosa*, 2024). The absence of empirical evidence of resource efficiency provokes distrust that is difficult to rectify, even with aggressive advertising campaigns.

2. Investment Disruption within ESG Standards: for contemporary investors, the misalignment of environmental declarations with actual energy and water efficiency metrics is identified as a significant financial risk. As noted by S. Knyaz and Yu. Kaspruk and Skliarska (2024), resource efficiency in tourism serves as a sustainable development tool that balances economic interests with environmental safety requirements.

3. Economic Inefficiency and the "Imitation Trap": a resource-intensive model presented under an eco-brand becomes financially burdensome. Recent concepts from the "Integrated Green Hospitality Marketing Framework" (IGHMF, 2025) emphasise that only the integration of organisational innovations in resource saving with consumer psychology can prevent scepticism and ensure brand authenticity.

Thus, in the territorial marketing systems of the 2020-2025 period, resource efficiency acts as an ontological foundation, without which eco-branding transforms into a high-risk strategy of imitative development. A synergistic effect emerges only when measurable resource efficiency indicators become the basis for transparent communication, ensuring the authentic attractiveness of a territory amidst the global "green transition".

The fundamental premise of the proposed conceptual model regarding the synergy between eco-branding and resource efficiency is based on the postulate that a tourist territory achieves maximum investment and innovation attractiveness not through declarative "green" slogans (the formation of an external image), but through their tangible, verified reinforcement via the frugal and efficient use of resources (the assurance of internal efficiency).

Within the theoretical and methodological substantiation of this model, it is critically important to define the dynamic mechanism that ensures the transformation of technical and economic indicators of resource efficiency into a high-value intangible asset of the eco-brand. In this context, the innovative receptivity of a tourist territory acts not merely as a supplementary factor, but as a systemic mediator (intermediary and amplifier) of this connection.

The innovative receptivity of a territory is determined by its integral capacity to absorb, adapt, and effectively implement cutting-edge technological and organisational solutions. Within the eco-branding system, it serves as an innovation selection tool that dictates the depth and speed of converting resource efficiency into market attractiveness through three key vectors of mediation:

- Technological Verification and Data Transparency (Digital Evidence). Modern eco-branding, protected from the risks of greenwashing, is founded upon the concept of evidence-based marketing. Innovative receptivity ensures the implementation of Smart Metering systems, IoT sensors, and blockchain platforms for real-time resource consumption monitoring. This transforms static savings reports into a dynamic, transparent, and verified digital evidence of the destination's ecological authenticity, fundamentally enhancing trust among investors and conscious consumers (Guo & Kaewnuch, 2025).

- Circular Transformation of Business Models. A high level of innovative receptivity incentivises tourism stakeholders to transition from linear consumption models to the principles of the Circular Economy - resource regeneration, recycling, and the elimination of plastics. This allows the eco-brand to position the territory not only as "clean" but as a pioneer of innovative future models, thereby attracting responsible capital and the creative class.

- Eco-innovative Storytelling and Visualisation. A territory's capacity to embrace innovation allows for the use of advanced visualisation tools (VR/AR tours of eco-trails, interactive maps of hotel eco-efficiency) to translate complex resource efficiency data into accessible and emotionally engaging content. This converts technical economisation into a component of a unique Customer Value and Experience, stimulating the formation of a community of ambassadors for ecological values (Brand Evangelism).

Consequently, innovative receptivity acts as a catalyst that transforms the static potential of resource efficiency into the dynamic capital of the eco-brand. Without a high level of technological readiness and the capacity for innovation absorption, resource conservation measures remain localized engineering solutions, failing to convert into a systemic increase in the investment and innovation attractiveness of the tourist territory.

The synergetic effect within this model arises when the ecological image of the region reduces transaction costs for resource attraction, while implemented resource efficiency emerges as the primary objective evidence of the brand's

authenticity. This creates a self-sustaining positive feedback loop, where ecological responsibility is converted into economic benefits. The effects of this synergetic interaction between eco-branding and resource efficiency, systematised by key spheres of influence, are presented in Table 1.8.

Table 1.8. Synergy effects of eco-branding and resource efficiency*

Sphere of influence	Effects (results of interaction)	Significance for territorial attractiveness	Monitoring indicators (KPIs)
Economic	Reduction in prime costs and investment appeal. Resource efficiency lowers budget and business expenditures, while the eco-brand facilitates "green" investments and grants	Enhancing territorial competitiveness for businesses and start-ups	Green Premium (%), ROI (%), OPEX as a percentage of Revenue
Environmental	Ecosystem regeneration. Rational resource consumption reduces environmental pressure, which is capitalised through the "environmentally clean territory" brand	Preservation of unique natural assets as a foundation for tourism and wellness	CO_2 Reduction (t), Water Savings (m^3), Recycling Rate (%)
Social	Development of environmental consciousness. Residents become brand ambassadors by practising frugality, which improves the quality of life	Increasing resident loyalty to their community and fostering a sense of cohesion	Resident Satisfaction Index (CSI); Number of Eco-initiatives
Marketing	Authenticity and trust. The eco-brand ceases to be "declarative" (greenwashing) as it is validated by actual energy and water saving metrics	Establishing a unique market position protected from competition	Eco-tourist NPS, Eco-certification Mention Rate (%)
Innovation	Technological impetus. The necessity to be "eco" stimulates the implementation of smart technologies and the circular economy	Attaining the status of an innovation hub, attractive to highly qualified specialists	Share of Smart Hotels (%), Investment in Eco-innovations, (EUR/UAH)

** Compiled by the author*

The synergetic effect of the proposed model can be mathematically verified through tourists' willingness to pay a premium for an ecologically authentic product. Empirical studies from the 2023–2024 period indicate that the average

Green Premium in tourism ranges between 10% and 15% of the base price. The calculation of the conversion effect (E_c) is performed using the following formula:

$$E_c = (\Delta N \times P_g) - C_{re} \quad (1.1)$$

Where: ΔN is the increase in the number of tourists attracted by the eco-brand;

P_g is the average Green Premium per tourist;

C_{re} is the business investment in resource-saving innovations.

A positive E_c value demonstrates the model's effectiveness. To visualise the model's performance, consider a hypothetical example of implementing a synergetic strategy for a generic regional tourism cluster.

Baseline Data

Annual base tourist volume (N): 50,000 people.

Projected increase in tourists via eco-branding (Delta N = 10%):

$$\Delta N = 50{,}000 \times 0.10 = 5{,}000 \text{ people.}$$

Base tour cost (P_b): 10,000 UAH.

Green Premium - willingness to pay for eco-certification (P_g = 12%):

$$10{,}000 \times 0.12 = 1{,}200 \text{ UAH.}$$

Total annual investment in resource-saving innovations (C_{re}): (Smart technologies, thermal modernisation, Zero Waste programmes): 4,500,000 UAH.

Calculation

Gross revenue from Green Premium: 5,000 × 1,200 = 6,000,000 UAH.

Conversion Effect (E_c): 6,000,000 - 4,500,000 = 1,500,000 UAH.

The resulting positive conversion effect (E_c) of 1.5 million UAH proves that the additional revenue generated by the eco-brand's "green premium" fully covers the investments in resource efficiency and generates additional profit. Furthermore, the territory gains long-term advantages: a reduction in operational costs (e.g., energy and water), the preservation of natural capital, and the cultivation of high investment attractiveness within ESG standards. This confirms that under contemporary conditions, the synergy between eco-branding and

resource efficiency is not merely a declarative stance but an economically viable strategy for sustainable development.

The synergy between eco-branding and resource efficiency transforms the environmental factor from an expenditure item into a strategic asset for a territory. The primary effect lies in the transition from "declarative" attractiveness to genuine competitiveness:

- Trust and authenticity: tangible resource savings serve as proof of brand sincerity, eliminating the risks of greenwashing;

- Economic resilience: the territory becomes a "magnet" for responsible capital (green investment) and innovative talent;

- Social capital: the eco-consciousness of residents fosters a resilient community where every inhabitant becomes an active participant in brand development.

Consequently, the interaction of these components creates a self-sustaining system where environmental responsibility is directly converted into economic benefits and a high quality of life, securing a unique position for the territory within the global market.

To be successful, eco-branding must be based on three levels of evidence-based branding:

1. Ecological evidence: the actual state of natural capital (clean water, preserved biodiversity).

2. Technological Evidence: The presence of energy-efficient hotels, closed-loop systems, and "green" transport.

3. Managerial Evidence: Transparent reports on reducing the resource intensity of the territorial product.

As noted by Kniaz, Kaspruk, and Skliarska (2024), resource efficiency in tourism is not merely about savings; it is a set of management system properties that ensure the minimisation of resource input per unit of output. This efficiency creates genuine appeal for investors by reducing operational risks and aligning with global ESG standards.

True territorial attractiveness emerges when resource efficiency becomes a competitive advantage. According to the "integrated green marketing framework" (Hussein & Naparin, 2025), new-generation consumers (Gen Z and Alpha) identify greenwashing significantly faster than their predecessors do. Therefore, a territory that demonstrates real technological implementations (e.g., thermal modernisation of housing, use of renewable energy sources) gains a "credit of trust" that cannot be purchased through advertising. As noted by Geiets (2021), such internal modernisation through technological renewal is the foundation for a new quality of economic growth, especially under the conditions of European integration.

Without real indicators of resource efficiency, eco-branding turns into a dangerous strategy of simulated development. A territory's true attractiveness is derived from its ability to generate value while consuming less natural capital. Only by combining real innovations in resource conservation with transparent marketing communication can a synergy be achieved that ensures the destination's leadership in the global market.

The study confirms that in modern conditions, the investment and innovation attractiveness of a territory directly depends on the depth of integration of environmental standards into the resource management system. The synergy of eco-branding and resource efficiency transforms the environmental factor from a decorative element (an outward image) into a powerful strategic asset.

It has been established that the authenticity of an eco-brand is based on a three-tier system of evidence (ecological, technological, and managerial). Only real indicators of reduced resource intensity-such as energy savings of 60% or water savings of 30% - make a brand resilient to reputational risks and attractive to today’s conscious consumers.

Resource efficiency acts as the internal foundation of effectiveness, allowing businesses to minimise operational risks and reduce product costs. This creates a "magnetic effect" for responsible capital (ESG investments), as investors

view environmentally certified territories as assets with higher viability and capitalisation.

This synergistic interaction stimulates the development of the circular economy and smart technologies, turning the territory into an innovation hub. Simultaneously, a new type of social capital is formed: an eco-conscious community where residents are not objects of marketing but active brand ambassadors.

Consequently, within the contemporary axiological and value-based paradigm, the eco-branding of a territory cannot be viewed as an autonomous communication strategy. It represents reputational capital that demands tangible ecological and economic substantiation. A systemic dissonance between a declared "green" image and a deficit of actual resource-saving measures (such as low energy efficiency or a lack of circular models) inevitably leads to territorial greenwashing. In scientific discourse from 2020–2025, this phenomenon is identified as a critical barrier to sustainable development, generating consumer "green scepticism," investment destruction within ESG standards, and financial inefficiency due to the "imitation trap."

The synergy between eco-branding and resource efficiency is predicated on the convergence of a territory’s internal economic efficiency and its external value-based image. This synergetic effect emerges when measurable, verified indicators of resource efficiency serve as the ontological, real-world foundation for transparent marketing communication. This transforms the environmental factor from a budgetary expenditure into a powerful strategic asset. Under this approach, improving a region's ecological image reduces the costs of attracting capital and talent, while implemented resource efficiency stands as the primary, indisputable evidence of brand authenticity.

Innovative receptivity acts as the systemic mediator and catalyst of this synergy. It functions as a "selection tool" that ensures the transformation of technical metrics into market attractiveness via three vectors:

- Technological Verification (Digital Evidence) through Smart Metering and blockchain.

- Circular Transformation of business models.

- Eco-innovative Storytelling, which converts dry resource-saving data into an emotionally engaging consumer experience.

The economic viability of the proposed model is mathematically confirmed through the calculation of the conversion effect (E_c). The growth in tourist arrivals and the willingness of consumers to pay a Green Premium (10–15%) are capable of fully offsetting investments in resource-saving innovations (C_{re}), thereby generating additional net profit. Using a model cluster as an example, it has been proven that even with significant initial outlays for Smart technologies and thermal modernisation, the positive conversion effect confirms the financial viability of eco-branding as a sustainable development strategy.

Systematising these interaction effects across five key spheres (economic, environmental, social, marketing, and innovative) reveals that this synergy ensures a transition from declarative attractiveness to genuine territorial competitiveness. It generates a comprehensive result:

- Economic: reduction of operational costs and the unit cost of the tourism product.

- Environmental: regeneration of unique natural assets.

- Social: formation of an eco-conscious community of brand ambassadors.

- Marketing: securing a unique, competition-proof market position.

- Innovative: stimulating the implementation of Smart technologies and circular economy models, transforming the territory into an innovation hub.

To achieve sustained leadership in the global market, eco-branding must be based on a three-tier system of evidence-based branding:

- Ecological evidence (the actual state of natural capital);

- Technological evidence (infrastructure, energy-efficient hotels, closed-loop systems);

- Managerial evidence (transparent reporting on reduced resource intensity).

It is this verified efficiency (e.g., a 60% energy saving or 30% water saving) that creates true attractiveness for responsible capital (ESG investments). Investors view such territories as assets with lower operational risks, higher viability, and superior capitalisation.

Thus, the developed conceptual model confirms that the true, long-term attractiveness of a tourism cluster in contemporary conditions is a derivative of its ability to generate economic value while simultaneously reducing the consumption of natural capital. The synergy between eco-branding and resource efficiency provides the strategic transition from imitative models to the authentic, sustainable development of destinations.

Ultimately, the conceptual model proves that the true attractiveness of a tourism cluster is a derivative of its ability to generate economic value while simultaneously reducing the consumption of natural capital. This approach ensures a transition from a declarative strategy to a model of sustainable leadership in the global market of tourist destinations.

CONCLUSIONS TO CHAPTER 1

The theoretical and methodological analysis of the conceptual foundations of eco-branding, resource efficiency, and innovative receptivity in shaping the attractiveness of tourist territories allows for the formulation of the following conclusions:

1. The concept of the eco-brand has evolved from a narrow functional marketing tool (4Ps) into a complex axiological category that integrates environmental responsibility, cultural authenticity, and reputational capital. In the contemporary scientific paradigm (2020–2025), a territory's eco-brand is defined as a strategic promise based on sustainable development values, acting as a "reputational filter" to attract investments with low ESG risks.

2. Resource efficiency in tourism is a dynamic property of the management system aimed at minimising the consumption of natural capital per unit of output. The transition from passive resource conservation to proactive resource efficiency, based on the implementation of circular models and innovative technologies, has been substantiated. This creates a tangible foundation for eco-branding, preventing the emergence of the "imitation trap" and territorial greenwashing.

3. The maximum attractiveness of a destination is achieved through the synergy of eco-branding and resource efficiency. A synergetic effect arises when internal economic efficiency (resource savings) becomes indisputable evidence of the authenticity of the external ecological image. Such convergence allows the environmental factor to be transformed from a budgetary expenditure into a strategic asset of the destination.

4. The role of innovative receptivity has been identified as a systemic catalyst that ensures the conversion of technical metrics into market capitalisation. It operates through vectors of technological verification (Digital Evidence) using Smart Metering and blockchain, as well as through eco-innovative storytelling,

which translates complex resource efficiency data into an accessible value proposition for the consumer.

5. The ability of an eco-brand to generate a "Green Premium" (ranging from 10–15%) and attract an additional flow of loyal tourists allows for the full recovery of investments in resource-saving innovations (C_{re}), ensuring the financial viability of the model and a sustainable increase in ROI.

6. To overcome "green scepticism," eco-branding must be based on a three-tier evidence system:

- Ecological (the state of ecosystems).
- Technological (the presence of Smart infrastructure).
- Managerial (transparent reporting).

This creates a framework for the "green" reconstruction of Ukraine's tourist territories, ensuring their transformation into innovative recreational hubs attractive to conscious capital amidst the global energy transition.

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SECTION 2
ORGANISATIONAL AND ECONOMIC INSTRUMENTS OF ECO-BRANDING FOR ENHANCING THE INVESTMENT AND INNOVATIVE ATTRACTIVENESS OF TOURIST DESTINATIONS

2.1. Marketing tools for the positioning and promotion of an eco-brand within the investment environment

Amidst the global transformation of financial markets and the dominance of ESG (Environmental, Social, and Governance) principles, territorial eco-branding is shifting from being merely a tool for tourism attraction to a strategic asset for enhancing investment appeal. Promoting an eco-brand to investors requires a specific toolkit aimed at establishing environmental responsibility as a factor in mitigating long-term risks.

A key instrument for materialising an eco-brand for financial stakeholders is the development of an Investment Eco-Portfolio. Unlike traditional investment passports, an eco-portfolio focuses on projects rooted in the paradigms of resource efficiency and the circular economy. This is a systematised list of projects (case studies) demonstrating high profitability through reduced resource intensity. Priority areas include the integration of renewable energy sources (RES) into tourism infrastructure, thermal modernisation of accommodation facilities, the establishment of waste recycling systems, and the digitalisation of water resource management. The eco-portfolio serves as "hard evidence" of the eco-brand's authenticity, neutralising risks of territorial greenwashing. It allows a territory to be positioned as an innovation cluster, providing investors with not only financial Return on Investment (ROI) but also a high environmental rating.

Let us examine in detail the development of an investment eco-portfolio for the Lviv Territorial Community (Hromada), which includes the city of Lviv and its surrounding areas. This portfolio is based on a synergy of its status as a logistics hub, a tourism centre, and an innovative IT hub.

The investment eco-portfolio of the Lviv Hromada, adapted for presentation to financial stakeholders and international funds, is presented in Table 2.1.

Table 2.1. Investment Eco-Portfolio of the Lviv Hromada (Resource-Saving Projects) *

Project Title	Essence and Technological Solution	Economic Effect and ROI	ESG Marker and Environmental Value
1. Green Industrial Lviv	Installation of Solar PV systems on the roofs of industrial parks (e.g., Ryasne-2, Sygnivka) and large logistics hubs.	Reduction of industrial OPEX by 20%. Stable electricity prices, independent of market volatility.	Industrial decarbonisation. Reduction of Scope 2 emissions (IEA, 2022; Ministry of Environment, 2024b).
2. Lviv Waste-to-Energy	Processing sewage sludge into biogas. Cogeneration plant for the needs of "Lvivvodokanal" (water utility).	Reduction of energy costs for the water utility by 25–30%. Sale of surplus heat to the grid.	Circular economy: waste-to-energy conversion. Reduction of the load on sludge drying beds (Ellen MacArthur Foundation, 2019).
3. Eco-Hub Lviv	Revitalisation of brownfield sites into Class A offices. Thermal heat pumps, smart lighting, and insulation.	Green Premium: 10–15% increase in rental rates. BREEAM/LEED certification enhances building capitalisation.	Preservation of architectural heritage. Building energy efficiency (reduction of energy intensity) (European Commission, 2020).
4. Smart Water Management	Implementation of IoT sensors for real-time monitoring of leaks and water quality.	Reduction of physical water losses from 40% to 15–20%. Increased profitability of water utility assets.	Sustainable water management. Prevention of groundwater pollution caused by accidents (GIZ, 2025a).

** Compiled by the author based on (LCC, 2023; NEFCO, 2024a; EC, 2024a)*

Based on the presented Investment Eco-Portfolio of the Lviv Hromada (see Table 2.1), it is evident that the community's development strategy is transforming from a purely municipal management model into a high-tech investment model. The proposed projects (particularly solar PV and biogas plants) create an autonomous energy circuit. On a community-wide scale, this signifies reduced dependence on centralised grids and tariff fluctuations. For an investor, this

guarantees predictable OPEX, which is a critical factor during periods of economic instability.

The use of Green Premium mechanisms (in the Eco-Hub project) and international certification (BREEAM/LEED) proves that environmental standards are not merely about nature conservation, but about increasing asset value. Properties with a high ESG rating typically demonstrate 10–15% higher liquidity in the real estate market. The Smart Water Management project illustrates a transition to the "Smart City" model. Digitalising resource management allows for the minimisation of physical losses previously considered inevitable, transforming the municipal sector from a subsidised entity into a potentially profitable investment asset.

Lviv is positioned not just as a cultural capital, but as an innovation hub where eco-friendliness serves as a guarantee of low operational risks. The projects have concrete physical metrics (kWh, m^3 of water, recycling %), and providing verification for investors who adhere to sustainable development policies. The combination of digital technologies (Smart Water) and renewable energy creates a resilient urban ecosystem attractive for Green Bonds.

The portfolio is based on Scope 2 decarbonisation and circular solutions, enabling the Lviv Hromada to qualify for:

- Access to low-cost Green Loans from international financial institutions (EIB, EBRD);

- Attraction of transnational corporations with strict internal ESG limits regarding the location of their offices and production facilities.

Consequently, the presented investment eco-portfolio acts as a determinant in forming the reputational asset and investment attractiveness of the territory's eco-brand. Implementing such a toolkit triggers a paradigm shift in regional positioning: moving from the exploitation of extensive factors (low labour costs) to the capitalisation of resource-efficient infrastructure.

To overcome information asymmetry and enhance institutional trust, the implementation of digital ecological monitoring platforms is essential. These

platforms integrate real-time data (IoT sensors, satellite imagery, and automated reports) regarding air quality, water purity, energy consumption, and waste management efficiency. Within the framework of Transparency Theory, open access to verified environmental indicators serves as a "transparency tool," allowing investors to assess a destination's ecological reputation through objective data rather than promotional slogans.

Table 2.2. Marketing Tools for Eco-Brand Promotion within the Investment Capital Attraction System*

Tool	Content and Functional Mechanism	Marketing and Investment Effect	Axiological Value and Link to Resource Efficiency
Investment Eco-Portfolio of the Territory	A systematised register of projects (case studies) based on resource saving (RES, thermal modernisation, recycling, water digitalisation).	Serves as "material evidence" of brand authenticity; neutralises greenwashing risks; ensures high ROI and eco-ratings.	Demonstrates the shift from declarative marketing to a circular economy, where resource saving becomes a source of profit (Ellen MacArthur Foundation, 2019).
Digital Eco-Monitoring Platforms	Real-time platforms (IoT sensors, satellite data) covering air, water, energy consumption, and waste management.	Overcomes information asymmetry; creates conditions for attracting grants and institutional investors through transparent SDG verification.	Implements the concept of "radical transparency" (Transparency Theory), replacing advertising slogans with objective metrics (ISO, 2015; IEA, 2022).
VR/AR Visualisation of Eco-objects	Virtual tours and Augmented Reality to demonstrate revitalised industrial zones and eco-infrastructure.	Emotional investor engagement; visualising architectural synergy and technological advantage prior to the construction phase.	Translates complex resource-saving engineering solutions into a tangible and attractive consumer experience.
Geographic Information Systems (GIS) Mapping	Interactive maps featuring layers for environmental monitoring, utility network status, and green logistics routes.	Enables investors to remotely assess the environmental context and locational risks; accelerates decision-making processes.	Provides spatial anchoring of eco-values to specific community resource assets (Geo-branding).

Tool	Content and Functional Mechanism	Marketing and Investment Effect	Axiological Value and Link to Resource Efficiency
Socio-Economic Synergy	Integration of resource-saving measures into community life (green job creation, improvement of environmental quality).	Creates a closed-loop cycle: reduced sector costs → brand capitalisation → investment inflow → infrastructure development.	Strengthens the brand's social resilience and ensures the legitimacy of environmental initiatives in the eyes of the local community (GIZ, 2025c; EC, 2024c).

** Compiled by the author based on (Anholt, 2010; LCC, 2023; European Commission, 2020)*

As evidenced by the data in Table 2.2, within the contemporary investment architecture, resource efficiency is undergoing a transformation from a purely technical process into a strategic intangible asset. The implementation of "radical transparency" tools - such as interactive ESG dashboards and GIS mapping - enables territories to compete in the global capital market via the "Value-driven investment" model.

The utilization of digital mediators (VR/AR, IoT monitoring) facilitates the transition of eco-branding from the stage of declarative positioning to indicative verification. This is critically important for overcoming the "green scepticism" of institutional investors, as every marketing claim regarding the ecological authenticity of a territory is now substantiated by Digital Evidence.

The synergy between traditional investment planning and cutting-edge digital promotion tools fosters sustainable stakeholder trust. Under such conditions, the eco-brand of the Lviv Territorial Community (Hromada) emerges not merely as a visual image, but as a digital ecosystem for guaranteeing low operational risks, ensuring the stable long-term capitalisation of resource-saving projects.

Consequently, the marketing promotion of an eco-brand among investors necessitates a fundamental shift from "image-based" communications to "indicative" ones. The application of digital mediators, investment eco-portfolios,

and transparent monitoring platforms allows for the transformation of the abstract category of "eco-friendliness" into a concrete investment risk management tool.

This approach ensures the sustainable development of tourist territories in the long term, reconfiguring the Lviv Territorial Community's eco-brand into a digital ecosystem of operational resilience. This not only minimises information asymmetry but also establishes a foundation for attracting responsible capital, where ecological reputation becomes synonymous with financial reliability.

To ensure high investment appeal, an eco-portfolio must contain clear quantitative and qualitative indicators. Table 2.3 provides a detailed list of Key Performance Indicators (KPIs), structured according to the primary vectors of resource-saving activities in tourism.

Table 2.3. KPI System for Evaluating the Effectiveness of an Investment Eco-Portfolio*

Indicator Group	**Key Performance Indicator (KPI)**	**Unit of Measurement (Methodology)**	**Expected Effect for the Investor**
Energy Efficiency	Specific energy consumption per bed-night	kWh / year	Reduction of operational expenditure (OPEX) by 15–30% (GIZ, 2025a).
	Share of Renewable Energy Sources (RES) in the energy mix	% of total consumption	Independence from tariff fluctuations; improved ESG rating (European Commission, 2020).
Resource Circulation	Waste recycling rate	% of total volume	Revenue from raw material sales; savings on waste disposal (GIZ, 2025c; LCC, 2024a).
	Water reuse index	% (Greywater recycling)	Reduction in water supply and sewerage fees (Global Sustainable Tourism Council.
Economic Appeal	Payback period of eco-investments (PBP)	Years	Assessment of financial risks and the speed of capital return (EBRD).
	Green Premium	% (Willingness to pay more)	
Environmental Impact	Decarbonisation level (Carbon footprint)	Tonnes of CO_2 / year	Access to "green" loans and preferential taxation (ICMA, 2021; NSSMC, 2021).

** Compiled by the author based on (European Commission, 2020; IEA, 2022; LCC, 2023)*

The proposed KPI system (see Table 2.3) enables an investor to perceive the full value picture, combining short-term operational benefits, such as the reduction in utility costs, with long-term asset value growth. The application of these indicators allows the community and the investor to reach a strategic consensus. For instance, the "Number of green jobs created" indicator is vital for local government authorities (social aspect), while for the investor, it signals the availability of qualified personnel capable of maintaining high-tech equipment (economic aspect).

In contemporary conditions, a territory's ecological reputation is transforming from a marketing attribute into a fundamental financial asset. The transition from declarative promotion to the instrumental materialisation of the eco-brand - achieved through the development of an Investment Eco-Portfolio - allows the Lviv Territorial Community and similar units to convert resource-saving principles into specific economic preferences.

The implementation of predictive monitoring systems based on IoT technologies realises the concept of "radical transparency". This is critical for overcoming information asymmetry between community authorities and institutional investors, opening access to the "green capital" market, including Green Bonds and ESG loans. Furthermore, the selection of an appropriate certification framework is a critical decision for the legitimacy of an eco-brand. A detailed comparative analysis of global standards, such as ISO 14001, LEED, and Green Key, highlights the synergy between different labels and their specific impact on the capitalisation of tourism assets.

2.2. Economic levers and financial incentive instruments for resource-efficient activities in destinations

Financial incentives for resource efficiency within the tourism infrastructure are based on the implementation of innovative capital reallocation mechanisms in favour of environmentally responsible projects. In the face of

budget resource deficits, attracting external long-term capital and developing stimulatory fiscal instruments are of strategic importance.

The issue of monitoring and assessing the investment climate under global challenges is becoming particularly acute for the domestic tourism sector. In this context, the study by N. Shpak, O. Muzychenko-Kozlovska, M. Gvozd, and O. Sorochak, titled "Assessment of the investment and innovation environmental attractiveness of the country: on the example of Ukraine" (2025), is of fundamental importance.

The authors propose a comprehensive methodology for evaluating investment and innovation attractiveness using Ukraine as a case study, emphasizing the interconnectedness of energy resilience and environmental safety. For the formation of a territorial eco-branding strategy, the conclusions of this work are decisive, as they allow for the identification of key indicators influencing investor decisions in the post-war period. Specifically, the scholars demonstrate that the environmental component and innovation receptivity are inherent elements of a state's overall attractiveness. This confirms our thesis regarding the necessity of utilizing eco-branding as a financial incentive to attract capital into energy-efficient and resource-saving tourism projects.

The modernisation of tourism infrastructure requires significant capital investment, which necessitates the use of specialised financial market instruments:

- Green Bonds. These are debt instruments whose proceeds are used exclusively to finance environmental projects (thermal modernisation of hotel complexes, construction of local wastewater treatment plants). They provide access to long-term capital at lower interest rates due to high demand from institutional investors for assets with high ESG ratings.

- Climate and Environmental Funds. Attracting funds through international financial institutions (such as the Global Environment Facility (GEF), Green Climate Fund (GCF), or NEFCO loans). For the tourism sector, this opens access

to concessional lending or grant components for the implementation of RES (renewable energy sources) and circular water management systems.

- Crowdfunding and Green Micro-lending. Using specialised platforms to raise funds from private individuals for local environmental initiatives (e.g., installing EV charging stations near tourist sites), which simultaneously serves as a tool for increasing community loyalty.

To stimulate investment in the renewable energy and energy efficiency sectors, we propose the "Lviv Green Energy Drive" Institutional Support and Financial Incentive Programme. This programme is presented as a resource efficiency plan for the Lviv Territorial Community (Hromada), identifying responsible parties and financial channels, and is logically integrated into the territory's investment eco-portfolio (Table 2.4). The programme aims to create a favourable organisational and economic environment for attracting private capital into the energy independence of the community. This is achieved by implementing transparent investment mechanisms and innovative financial tools, such as the tokenization of green assets and AI-driven efficiency monitoring, which minimize risks for potential investors.

Table 2.4. Action plan for the lviv territorial community resource efficiency incentive programme*

Incentive Area	Specific Measure (Instrument)	Responsible Parties	Funding Sources	Expected KPI (Result)
1. Direct Financial Support	Partial compensation of Feasibility Studies (FS): reimbursement of 50% of the cost of eco-project development	Department of Economic Development, Investment and Project Management Office	Local budget (entrepreneurship support programme)	≥ 20 projects developed and ready for investment per year
	Concessional lending: interest rate compensation for "green" loans	Department of Financial Policy, partner banks (e.g., Ukrgasbank, Oschadbank)	State budget ("5-7-9%" programme), municipal revolving fund	15–20% reduction in energy consumption by participating businesses

Incentive Area	Specific Measure (Instrument)	Responsible Parties	Funding Sources	Expected KPI (Result)
2. Institutional Facilitation	"Fast-track" regime: simplification of permitting procedures for eco-innovators	Administrative Service Centres (TsNAP), Department of Urban Development	Current budget funding (administrative resource)	30% reduction in the time required for permit issuance
	Municipal procurement (PPA): long-term contracts for the purchase of energy from RES	Utilities (Lvivteploenergo), Department of Housing and Infrastructure	Working capital of utilities, energy efficiency funds	Share of RES in the consumption of municipal enterprises ≥ 10%
3. Funds and Capital Investments	Revolving fund: creation of a fund for the feedback financing of energy measures	Executive Committee of the Community, international partners (NEFCO, GIZ)	Environmental tax and grants (NEFCO, GIZ)	Reinvestment ratio of savings: 1.2 (1.2 UAH returned for every 1 UAH invested)
	Green bonds: issuance of debt obligations for infrastructure eco-projects	City Council, NSSMC (National Securities and Stock Market Commission), institutional investors	Funds from private and institutional investors	Attraction of ≥ 200m UAH for grid modernisation
4. Digitalisation and Monitoring	Lviv Eco-Marketplace: launch of a GIS platform for investors and developers	IT Department, City CDTO	Grant assistance within digitalisation projects (EU Digital Europe)	≥ 50 active investment proposals on the platform
	Smart monitoring: installation of a network of resource metering sensors	LKP "Lvivvodokanal" (water utility), private service companies	Investment programmes of municipal enterprises	12% reduction in water and heat losses in networks

**Compiled by the author based on (Lviv City Council, 2023; NEFCO, 2024a; European Commission, 2020)*

The proposed action plan for the Lviv Territorial Community (Hromada) resource efficiency programme (see Table 2.4), along with the distribution of responsibilities and funding, ensures a balanced budgetary burden. The core strategy lies in utilizing public funds not as a direct source of capital, but as

leverage to attract private and international investment. The strategic advantages of this model include:

- Minimisation of Financial Risks: The use of revolving funds and compensation mechanisms allows the community to support projects without the permanent withdrawal of large volumes of capital from the development budget.

- Transparency: Clear definition of executors and digitalisation via the Eco-Marketplace mitigate corruption risks and enhance investor confidence (in accordance with transparency theory).

- Synergy Effect: Combining state programmes (such as "5-7-9%") with local initiatives creates a highly attractive interest rate, making the Lviv Hromada the most competitive territory for eco-capital in Ukraine.

Based on the developed programme and tools, we propose strategic recommendations for Local Self-Government (LSG) regarding the practical implementation of the investment incentive system in the Lviv Hromada.

Strategic Recommendations for Eco-Investment Policy Implementation:

1. Institutionalisation of a "Green Investment Desk": It is recommended to create a specialised unit or appoint coordinators within the Investment and Projects Department to manage the eco-portfolio. This will ensure a "single window" for investors and professional expertise for project compliance with ESG criteria.

2. Formation of a Legal Basis for ESCO Contracts: To scale up thermal modernisation in the municipal sector and tourism infrastructure, standard energy service regulations must be developed. This will attract private Energy Service Companies (ESCOs) to invest their own funds in exchange for a share of the energy savings.

3. Pre-marketing of Municipal Green Bonds: Before issuance, the LSG should conduct consultations with large institutional investors and international funds (EBRD, KfW). The goal is to confirm market readiness and agree on a verification system for the targeted use of funds.

4. Integration of GIS Data into Decision-Making: The launch of the Lviv Eco-Marketplace platform should be based on open geospatial data. It is recommended to map all potential sites for RES installation (roofs, vacant land, wastewater zones), allowing investors to perform rapid online project assessments.

5. Launch of the "Lviv – Zero Carbon Destination" Communication Campaign: Eco-branding requires active promotion among both businesses and the community. It is vital to demonstrate social impact (job creation, improved air quality) to ensure the legitimacy of environmental taxes and investment incentives.

As of 2026, the environmental regulation system in Ukraine is in a phase of active synchronisation with European standards (EU Green Deal). The primary focus has shifted from fiscal revenue collection to stimulating the actual modernisation of enterprises.

Table 2.5. Environmental Taxation System (2026)*

Object of Taxation	Specifics in 2026	Rate (Example)
CO_2 Emissions	Base rate for stationary sources; implementation of decarbonisation incentive mechanisms	30 UAH/t
Discharges into Water Bodies	Since 1 January 2026, 100% indexed rates apply according to the phased plan	Depending on MAC (from 3,437 to 1.3m UAH/t)
Waste Disposal	Rates increased threefold for landfills that do not meet environmental standards	From 5.50 UAH/t (low-hazard waste)
Atmospheric Emissions	Taxation of over 200 types of pollutants	Depending on the hazard class

**Compiled by the author based on (State Tax Service of Ukraine, 2026; Verkhovna Rada of Ukraine, 2025a; Ministry of Environmental Protection, 2024b)*

Environmental tax in 2026 is levied across four primary areas. A significant shift has occurred with the conclusion of the transitional periods for rate increases that had been in effect since 2022. A systematised overview of investment preferences and resource-saving incentive mechanisms in Ukraine, effective as of 2026, is presented in Table 2.6.

Table 2.6. Investment Preferences for Resource-Saving Technology Implementation (2026)*

Incentive Category	Instrument (Measure)	Mechanism and Conditions	Benefit for the Investor	Regulatory Framework
Tax Incentives	VAT exemption on imports	Cancellation of 20% VAT on the import of RES equipment, energy storage systems, and CHPP modernisation	Direct 20% reduction in initial investment costs	Law of Ukraine No. 14097 (2025)
	Accelerated depreciation	Reduction of the depreciation period for Group 4 fixed assets (equipment) to 2 years	Faster capital recovery through reduction of the corporate income tax base	Tax Code of Ukraine
Financial Support	"5-7-9% Green" Programme	State compensation of interest on loans for decarbonisation and energy efficiency projects	Credit funds at 1–3% per annum in UAH	CMU Resolution (2025); BDF
	Grant co-financing	Direct payments through the Energy Efficiency Fund for industrial modernisation	Coverage of up to 30–50% of the cost of energy-efficient equipment	Energy Efficiency Fund Programmes (2026)
Market Mechanisms	Emissions Trading System (ETS)	Sale of unused CO_2 emission allowances to other enterprises (pilot phase)	Transformation of environmental efficiency into an additional revenue stream	National ETS Strategy; NSSMC
Administrative Simplification	Integrated Environmental Permit	Replacement of separate permits (air, water, waste) with a single comprehensive document	Reduction of bureaucratic costs and simplified auditing	Law of Ukraine No. 3855 (2024)

**Compiled by the author based on (Verkhovna Rada of Ukraine, 2025a; Cabinet of Ministers of Ukraine, 2025a; Ministry of Environmental Protection, 2024b)*

An analysis of investment preferences as of 2026 (see Table 2.6) suggests that eco-investments exert a leading multiplicative impact. Direct financial support for ecological modernisation triggers a chain reaction: corporate energy efficiency reduces the community's need to expand municipal infrastructure, thereby releasing budgetary funds for social projects. Consequently, the resulting "green" brand of the territory capitalises local assets and increases the rental value of tourism facilities.

An analysis of investment preferences as of 2026 (see Table 2.6) demonstrates a fundamental shift in state policy: from fiscal pressure for pollution

to financial incentives for modernisation. This creates the following improvements for investors:

- Substantial Reduction of the Entry Barrier (CAPEX): Due to the combination of VAT exemptions (Law No. 14097) and Energy Efficiency Fund grants, the real cost of equipment for investors is reduced by 30–50% at the procurement stage.

- Accelerated Payback Period: The tool of accelerated depreciation, combined with concessional lending ("5-7-9% Green"), allows the payback period for resource-saving technologies to be shortened from an average of 5–7 years to 2–3 years.

- Environmental Efficiency as a Revenue Stream: The launch of the Emissions Trading System (ETS) changes business logic. Resource saving is no longer just a way to cut costs - it becomes a market asset that can be monetised through the sale of allowances.

- Simplified Operations: The implementation of the "Integrated Environmental Permit" (Law No. 3855) removes excessive administrative pressure, allowing investors to focus on technological development rather than bureaucratic compliance.

By 2026, a favourable environment has been established in Ukraine where the implementation of resource-saving technologies is not merely a requirement of EU environmental standards, but the most economically viable development model. The combination of tax holidays, low-cost capital, and digital monitoring makes "green" investments a priority for both domestic and foreign capital.

Case Study: Calculation of Savings for a 100 kW Solar Power Plant (SPP) in Lviv (2026 Forecast)

To illustrate these benefits, let us consider one of the most popular projects of 2026 - the installation of a 100 kW solar power plant for an enterprise’s own consumption in Lviv. This allows the company not only to substitute expensive grid electricity but also to utilise tax preferences.

1. Input Parameters (2026 Forecast):

Cost of equipment and installation: 2,800,000 UAH.

Annual generation: ~110,000 kWh.

Business electricity price: 10 UAH/kWh (including VAT and distribution tariffs).

Corporate income tax rate: 18%.

Table 2.7. Financial and Tax Preferences for Green Investment*

Type of Saving (Incentive)	Calculation Logic	Savings Amount (Year 1)
VAT Exemption on Imports	2,800,000 × 0.20 (as per Law No. 14097)	560,000 UAH (one-off)
Accelerated Depreciation	Reduction of corporate income tax base (over 2 years instead of 5)	252,000 UAH/year
Energy Procurement Savings	110,000 kWh × 10 UAH	1,100,000 UAH/year
Municipal Subsidy (Lviv)	Partial compensation for Feasibility Study (50%)	~15,000 UAH (one-off)
CO_2 Tax Avoidance	Where SPP replaces diesel generator operations	~2,500 UAH/year

**Calculated by the author based on (Verkhovna Rada of Ukraine, 2025a; NEURC, 2025; Lviv City Council, 2024b)*

Summary Economic Effect

Total Benefit (Year 1):

$$560{,}000 + 1{,}100{,}000 + 252{,}000 + 15{,}000 = 1{,}927{,}000 \text{ UAH}.$$

Payback Period: Due to the system of incentives, the project's payback period in 2026 is reduced from 4–5 years to 1.8–2.2 years. This represents the critical threshold that transforms an ecological project from a "socially responsible" initiative into a category of high-profit commercial assets.

To implement this plan, an investor must complete the following stages:

1. Fast-track Application: Obtain "Eco-innovator" status via the Lviv Administrative Service Centre (TsNAP) for priority grid connection.

2. VAT Exemption Processing: Submit an application during customs clearance according to the Tax Code of Ukraine.

3. Revolving Fund Request: Apply for 0% interest-free repayable financial assistance to cover the remaining investment balance.

Financial incentives for resource saving in tourism are not only about ecology but also about economic viability. In the context of eco-branding, these instruments help transform "green" initiatives into a territorial competitive advantage.

Table 2.8. Instruments for Stimulating Resource Saving and Eco-modernisation in Tourism (2026)*

Impact Area	Instrument (Measure)	Mechanism and Benefits	Funding Source / Regulatory Framework
1. Direct Financial Incentives	Targeted modernisation grants	Direct funding for SPP, heat pumps, and water treatment systems.	International funds (NEFCO), EU grants (European Commission)
	Eco-certification subsidies	Reimbursement of costs for obtaining Green Key or EU Ecolabel markings.	Local eco-branding support programmes (Lviv City Council)
	Concessional "Green Loans"	Lending at 1–3% for projects aiming to reduce CO2 emissions.	"5-7-9% Green" Programme (BDF; CMU, 2025)
2. Tax and Fiscal Instruments	Tax holidays	Temporary corporate income tax exemption for facilities meeting LEED/BREEAM standards.	Tax Code of Ukraine; Law No. 14097
	Reduced VAT rates	Preferential VAT rates for eco-certified services and "soft" tourism.	Special Tax Code provisions; EU Tourism Transition Pathway
	Accelerated depreciation	Writing off equipment value over 2 years to reduce the tax base.	Tax Code of Ukraine; State Tax Service clarifications
3. Market Mechanisms	Tourist Green Fee	Targeted levy on tourists for the restoration of regional natural resources.	Provisions on Tourism Tax (Lviv City Council); Budget Code
	Differentiated tariffs	Preferential rates for RES energy and penalty tariffs for exceeding norms.	NEURC (2025); Projected industrial consumer tariffs
	"Pay-as-you-throw" system	Charges apply only to unsorted waste; free collection of secondary raw materials.	Environmental Tax; GIZ practical guides

**Compiled by the author based on (European Commission, 2024c; Lviv City Council, 2024c; Verkhovna Rada of Ukraine, 2025a)*

The proposed system of instruments for stimulating resource efficiency and eco-modernisation (see Table 2.8) signifies the Ukrainian tourism industry's transition towards a Sustainable Tourism model. The comprehensive application of financial, fiscal, and market mechanisms in 2026 creates unique opportunities for business. Consequently, the implementation of this system will enable:

- Enhanced Competitiveness: Through eco-certification, subsidies (*Green Key*, *EU Ecolabel*), hotels and resorts gain access to the premium segment of the European market - tourists who exclusively choose environmentally responsible facilities.

- reduced Operational Costs: Direct financial incentives and preferential loans ("5-7-9% Green") allow businesses to integrate SPPs and heat pumps, minimising dependence on volatile energy prices and lowering service costs in the long term.

- optimised Tax Burden: Utilising accelerated depreciation and tax holidays for *LEED/BREEAM* certified facilities significantly shortens the investment payback period (from 6-8 years to 3-4 years), making "green" construction more economically attractive than traditional methods.

- creation of Ecosystem Values: Implementing market mechanisms, such as the Tourist Green Fee and the Pay-as-you-throw system, allows communities (e.g., the Lviv Hromada) to establish dedicated funds for the regeneration of natural parks and recreational zones, enhancing the destination's overall appeal.

By 2026, eco-modernisation in tourism has ceased to be a matter of mere image; it has become a pragmatic strategy for survival and growth, where state support and international grants offset innovation risks, and market mechanisms ensure a steady flow of funds for environmental restoration.

Table 2.9. Instruments of influence on eco-brand and territorial attractiveness*

Instrument	Influence on Brand	Result for the Territory
Eco-labelling	Building trust and "premium eco-zone" status	Attracting high-income tourist segments

Instrument	Influence on Brand	Result for the Territory
Green Investments	Infrastructure improvement without environmental harm	Long-term preservation of natural attractions
Marketing Support	Integration of eco-hotels into state promotional campaigns	Free advertising in the international market

**Compiled by the author based on (Anholt, 2010; European Commission, 2024c; UN Tourism)*

The implementation of eco-branding instruments (see Table 2.9) allows a territory to move beyond price competition and occupy a niche of high-tech environmental leadership, shifting from quantitative tourism metrics (number of visitors) to qualitative ones (value and sustainability). Key aspects of this strategic impact include:

- Image Transformation via Certification: In 2026, eco-labelling becomes the "soft power" of a territory. It is a powerful marketing asset that verifies the destination for international operators and affluent tourists guided by responsible consumption criteria.

- Invstment Attractiveness: "Green" investments create a virtuous cycle: developed eco-infrastructure (smart grids, clean transport, and renewable energy) preserves natural capital, which in turn increases land value and attractiveness for further investment.

- Synergy in Promotion: State-level marketing support integrates local eco-initiatives into the global agenda, providing small and medium-sized enterprises (eco-hotels) with market reach that would be unattainable through independent advertising.

In 2026, the development of a territory's eco-brand represents a strategic investment in its sustainable development. By attracting high-income tourist segments and ensuring the conservation of natural resources, the local community (Hromada) secures stable budget revenues while minimising the anthropogenic pressure on the environment. Environmental integrity thus becomes the primary criterion for quality of life and the region's investment attractiveness.

To ensure the effective operation of these instruments, the Hromada or region may establish Local Tourism Development Funds, where revenues from eco-levies are accumulated. These funds are subsequently reinvested into:

- developing a comprehensive network of eco-trails;
- equipping rental stations for electric transport;
- organising annual eco-festivals to enhance brand recognition.

Eco-branding will only achieve success if financial incentives remain transparent and businesses observe tangible economic savings from resource conservation.

To implement the Tourist Green Fee pilot project, a shift in perception is essential: it must be framed not as "another tax," but as a tourist's investment in the purity and beauty of the destination they are visiting.

We propose the "Clean Destination" project model (Implementation of a Local Eco-Levy), which can be adapted to a specific community or tourism cluster, as detailed in Table 2.10.

Table 2.10. "Clean Destination" Project (Implementation of Local Eco-levy)*

Project Component	Parameters and Mechanisms	Expected Effect	Regulatory Framework
1. Administration	Rate: 10–20 UAH/day. Payers: Tourists in accommodation facilities	Transparency and low bureaucracy in processes	Tax Code of Ukraine; Lviv City Council
2. Development Fund	Targeted use for waste sorting, fish stocking, and digitalisation	100% allocation of funds to eco-projects	Budget Code of Ukraine; Lviv City Council
3. Business Incentives	"Eco-cashback" 5–10%, "Green Partner" status, Zero Waste training	Increased business loyalty and faster modernisation	GIZ (2025); Lviv City Council
4. Roadmap	Stages: Preparation → Tech Launch → Pilot → Scaling	Minimal implementation risks; public trust	NEFCO (2024); EC (2024)
5. Risk Mitigation	Visualisation of contribution via QR codes ("Your contribution to tree planting")	Transformation of "levy" into "investment" for the tourist	European Commission (2024)

**Compiled by the author*

The "Clean Destination" project (see Table 2.10) is a direct-action tool that transforms the anthropogenic pressure of tourism into a resource for territorial restoration. A key advantage is the business incentive system: hoteliers cease to be merely tax agents and become fund beneficiaries through an eco-cashback scheme. This creates a self-sustaining economic model where the environmental quality of the territory directly finances its marketing appeal. Consequently, the territory attains the status of a "Responsible Destination". This enables: entry into EU markets and the attraction of international tourists for whom sustainability is a critical decision factor; the creation of unique social media content (reports on tangible eco-changes); and an increase in the value of the tourism product due to high quality and a pristine environment.

The "From Tax to Contribution" strategy is rooted in a shift in cognitive perception regarding fiscal instruments: instead of a mandatory "fee" associated with administrative pressure, the tourist is offered the role of a co-investor in the preservation of the city's eco-legacy. As detailed in Table 2.11, this approach transforms a purely monetary transaction into an act of personal responsibility and emotional engagement. The pivotal mechanism for implementing this strategy is the use of digital mediators - QR codes providing real-time visualisation of environmental impact. This allows every guest to "materialise" their contribution through specific projects, such as park revitalisation or the implementation of energy-efficient lighting, effectively mitigating "green scepticism." Consequently, the eco-fee is reconfigured from a fiscal burden into a powerful tool of Experience Marketing, strengthening the authenticity of the Lviv Territorial Community's eco-brand and fostering long-term destination loyalty.

Table 2.11. Marketing strategy for the "From Tax to Contribution" eco-fee implementation (Lviv Region case study)*

Communication Stage	Tool	Message	Expected Result
1. Booking & Arrival	Hotel website widget, QR codes at reception	"You are a Guardian of Nature". We include a symbolic contribution to preserve these mountains (lake) for your next visit.	Reduced resistance through transparency of intent.

Communication Stage	Tool	Message	Expected Result
2. Stay (Gamification)	Mobile app or in-room checklist	"Your eco-footprint is shrinking". Opt out of towel changes today, and we will double your contribution to the reforestation fund.	Active tourist engagement in resource conservation.
3. Visualisation of Results	Interactive displays in central squares (promenades)	"Together we are a force". Online counter: "This month, tourists have funded 400 solar streetlights for the park."	Building trust through public accountability.
4. Social Proof	Instagram locations with the brand hashtag	"I care for the Lviv Region". Providing an "Eco-Guardian" sticker or digital badge upon payment of the fee.	Organic promotion of the territory's eco-brand online.
5. Aftertaste (Feedback)	Email newsletters or Push notifications	"Thank you for helping!". Photo report: "2 km of shoreline was cleaned with your funds. We look forward to seeing you again!"	Building loyalty and desire to return (Retention).

**Source: compiled by the author*

The proposed "From Tax to Contribution" strategy (see Table 2.11) demonstrates an innovative approach to territorial management, where the success of reform depends on the quality of communication rather than coercion. In 2026, as consumers become increasingly conscious, this approach allows the Lviv Region to outpace competitors through the brand's emotional intelligence.

The primary success factors of the strategy include:

- Shift in the tourist's role (from consumer to patron). The core message, "You are a Guardian of Nature", mitigates the negative perception of additional costs. The tourist ceases to feel like a tax object and becomes an investor entitled to results. This radically increases the destination's NPS (Net Promoter Score).

- Gamification and interactivity. The use of online counters and "Eco-Guardian" digital badges turns fee payment into a social game. This stimulates User-Generated Content (UGC), which is the most effective and cost-efficient advertising for the Lviv Region's eco-brand.

- Accountability as the foundation of trust. The "Visualisation of Results" stage is critical. In 2026, digital transparency (real-time reports via QR codes) is the only way to overcome scepticism regarding the use of public funds. When an

individual sees actual solar lights or cleaned shorelines, they derive moral satisfaction from their expenditure.

- Retention effect. The final communication stage ("Aftertaste") closes the cycle and creates a lasting bond with the visitor. A message featuring a photo of a specific result several months after the trip serves as a powerful incentive for a repeat visit, as the tourist feels a sense of belonging to the site’s development.

The "From Tax to Contribution" marketing strategy transforms a financial burden into a competitive advantage. It allows not only for the accumulation of environmental funds but also for the cultivation of a community of "brand advocates" around the Lviv Region, ensuring a steady flow of tourists even in unstable market conditions.

Thus, in 2026, a strategic transition occurred from fiscal pressure to the "Lviv Green Energy Drive" incentive model. Public funds are now used as leverage to attract private investment and international grants (NEFCO, GIZ), reducing investors' capital expenditures by 30–50%. Through the synergy of tax incentives (VAT exemptions on imports under Law No. 14097), accelerated depreciation, and preferential loans ("Green 5-7-9%"), the payback period for energy modernisation projects (e.g., 100 kW solar plants) has decreased from 5 years to 1.8-2.2 years. The "Clean Destination" project proves that a local Tourist Green Fee is not an encumbrance but a development tool. Through the "eco-cashback" mechanism, businesses receive a direct benefit (a 5–10% refund for their own modernisation), ensuring high support for the reform. The "From Tax to Contribution" strategy radically alters the tourist's role from consumer to "nature guardian". Gamification, digital reporting (QR codes), and the Eco-Guardian status create a powerful eco-brand for the Lviv Region, targeting premium and environmentally conscious segments of the EU market. The introduction of the "Fast-track" regime, the Lviv Eco-Marketplace GIS platform, and the "Green Office" eliminates bureaucratic barriers and corruption risks, making the territory highly competitive for "green" capital in Ukraine.

Ultimately, the ecologisation of the tourism industry in 2026 is a pragmatic economic strategy where transparent financial instruments and eco-branding create a self-sustaining model for community sustainable development.

2.3. Certification, standardisation, and digitalisation as tools for enhancing the investment and innovative attractiveness of territories

In the modern world, environmental responsibility has evolved from a mere advantage into a strategic necessity for business. For investors, the possession of international certificates (such as ISO 14001, BREEAM, or LEED) serves as the most reliable indicator of risk mitigation and the long-term viability of a project. The application of these standards, particularly in the hotel real estate sector, performs two vital functions:

- Operational transparency: Providing verification of compliance with stringent requirements for energy efficiency and rational resource management;

- Marketing capital: The integration of certification into an eco-brand allows a business to enter the "conscious consumption" market, thereby increasing its capitalisation.

Certification is not merely a "mark of quality" but a universal language through which a business demonstrates its readiness for future challenges to investors, ensuring high levels of trust through transparency and alignment with global ESG (Environmental, Social, and Governance) criteria.

Below is a brief comparison of the two most authoritative certification systems for the hotel industry. Although both systems share the common goal of sustainable development, they differ in origin and emphasis.

BREEAM (UK): The oldest certification system, operating since 1990. It is more flexible regarding local building codes and is highly popular across Europe.

LEED (USA): The most globally recognised brand. It possesses a rigid structure, making it highly attractive to American and multinational investors.

The primary differences between the BREEAM and LEED certification systems are presented in Table 2.12.

Table 2.12. Key Differences between BREEAM and LEED Certification Systems*

Criterion	BREEAM	LEED
Methodology	Assessment conducted by licensed auditors who examine the site in detail.	Assessment based on documentation provided by the project team.
Focus	Greater emphasis on ecology and management (minimising environmental impact).	Greater emphasis on energy efficiency and innovation.
Flexibility	Adapts to local standards (e.g., Ukrainian State Building Norms – DBN).	Requires compliance with ASHRAE standards (USA), which can be technically more challenging to implement locally.

**Source: Compiled by the author based on data from breeam.com and usgbc.org/leed*

The comparative analysis of BREEAM and LEED (see Table 2.12) indicates that the choice of a certification system is not a purely technical decision-it is a strategic step that depends on the developer's objectives and the origin of the capital, as:

- BREEAM is the optimal choice for projects in the European market (including Ukraine), as it adapts better to local building regulations and allows for the involvement of experienced local auditors for an in-depth analysis of the property. BREEAM is frequently chosen for the reconstruction of historical buildings into hotels, as the system accounts for the specificities of existing structures.

- LEED is an indispensable tool for entering global financial markets and partnering with major international hotel chains. Its rigid yet unified assessment system is easily understood by investors from the USA and Asia. LEED is more commonly selected for the new construction of large-scale chain hotels (e.g., Hilton, Marriott), as this certificate is considered the "gold standard" for international investment funds.

Both systems are effective risk mitigation tools. They guarantee to the investor that the property not only meets modern environmental requirements but will also incur lower operational costs and possess a higher market value in the long term. Thus, certification becomes a core element of the eco-brand, transforming the abstract notion of "sustainability" into a measurable financial indicator.

Hotels with LEED or BREEAM certification gain the following advantages:

- A 20-30% reduction in operational costs (electricity, water);

- Higher Average Daily Rate (ADR), as modern travellers are willing to pay a premium for "green" status;

- Preferential lending: Many European banks offer "green loans" at reduced interest rates for certified properties.

The implementation of the ISO 14001 standard for an entire destination is a strategic move that transforms a region into a "green incubator" for capital. It demonstrates to investors that the territory is managed according to international risk mitigation principles. Table 2.13 outlines the algorithm for implementing the ISO 14001 standard for a tourism destination as a tool for attracting finance.

Table 2.13. Algorithm for ISO 14001 implementation in a tourism destination*

Stage	Organisational Actions	Economic Result (Investment Magnet)
1. Territorial Eco-Audit	Assessment of resource consumption (water, energy) and waste volumes at the community level.	Identification of "loss points" where investment in modernisation will yield the fastest returns.
2. Process Standardisation	Development of unified eco-regulations for hotels, restaurants, and transport.	Creation of a predictable business environment (Lower Risk Profile).
3. Training & Certification	Training of local managers; obtaining a group ISO certificate.	Enhancement of human capital value and attractiveness for international franchises.
4. Marketing Packaging	Entering international investment platforms with the "First Certified Destination" case study.	Access to Impact Investing and preferential loans from the EBRD and the World Bank.

**Source: Compiled by the author based on (iso.org)*

Implementing the ISO 14001 standard at the tourism destination level (see Table 2.13) represents a transition from chaotic resource management to the creation of a high-tech investment product. The presented algorithm demonstrates that environmental certification is not merely an act of social responsibility, but primarily a tool for financial risk management.

Key aspects for investor confidence:

- Lower Risk Profile: The standardisation of processes guarantees the investor predictability within the legislative and operational environment.

- Economic Efficiency: The eco-audit allows capital to be directed towards projects with the fastest Return on Investment (ROI) through the optimisation of energy and water consumption.

- Access to "Cheap" Capital: Possession of an ISO 14001 certificate is a prerequisite for securing "green" grants and preferential financing from leading global banks (EBRD, World Bank).

Certification transforms a local territory into a global eco-brand, where each step of the algorithm adds value to community assets and makes the destination a priority for international capital.

Certification closes the management cycle, converting environmental efforts into financial assets. The community defines environmental goals (e.g., 100% plastic recycling), which then become part of the territorial community's (OTG) investment passport. Private capital is then attracted to build sorting lines under the guarantees of certified demand. An independent audit confirms the efficient use of funds. Finally, scaling the eco-brand internationally increases the value of land and real estate.

Economic benefits of ISO 14001 implementation in figures (projected indicators):

- Cost Reduction: Optimising energy consumption within the destination allows for savings of up to 25% on municipal utility bills.

- Investment Growth: Properties within certified zones have a 10–15% higher capitalisation compared to non-certified counterparts.

- Access to Finance: The ability for municipalities to issue "Green Bonds" to finance large-scale infrastructure projects.

ISO 14001 certification enables tourism enterprises and hotels to be regarded as responsible investors. Without an official standard, eco-branding remains merely declarative; with it, it becomes a documented guarantee of quality that mobilises resources.

Certification and standardisation in eco-branding are not just a "green label" but a powerful financial instrument that converts environmental responsibility into reduced investment risks. For the investor, the presence of an international certificate is a guarantee of management quality and the long-term viability of the business. We shall now analyse how certification and other instruments facilitate the mobilisation of investment in tourism (Table 2.14).

Table 2.14. Certification as a mechanism for investment risk reduction*

Instrument (Certificate)	Advantages for the Investor	Effect on Investment Mobilisation
ISO 14001 (Environmental Management)	Internal company processes are designed to minimise resource depletion.	15–20% reduction in operational costs (higher profit margins).
LEED / BREEAM (Eco-construction)	The real estate asset possesses high liquidity and complies with ESG standards.	Access to "cheap" European loans and investment funds.
Green Key / EarthCheck	The hotel targets the premium segment of environmentally conscious tourists.	Predictable demand and faster Return on Investment (ROI).
Organic Standard (for Agritourism)	Products and services possess high added value.	Increase in the capitalisation of the territorial brand.

**Source: Compiled by the author (breeam.com; usgbc.org; iso.org)*

Certification (see Table 2.14) transforms environmental commitments into financial advantages. In the field of sustainable development, it has fundamentally evolved from a marketing tool into a primary de-risking mechanism. For the modern investor, the possession of an internationally recognised certificate serves as a form of independent technical audit that confirms the quality of asset management.

Key aspects of investment attractiveness:

- Economic Resilience: Standards such as ISO 14001 and LEED directly influence EBITDA by minimising resource costs and preventing environmental fines.

- Access to Capital: Certification is a mandatory prerequisite for securing preferential financing from international institutions (EBRD, World Bank), which currently focus on ESG (Environmental, Social, and Governance) criteria.

- Market Liquidity: Properties with high environmental status (Green Key, EarthCheck) command higher resale values and demonstrate stable demand from the premium consumer segment.

Certification attracts investors by converting abstract environmental obligations into concrete financial indicators. It enables destinations and hotel complexes to shift from price-based competition to value-based competition, ensuring a predictable ROI and stable brand development.

The process of transforming eco-standards into financial capital can be presented as a logical sequence:

1. Standardisation: Establishing unified "rules of the game" for all stakeholders in the destination (e.g., a unified "Regional Eco-Guesthouse" standard).

2. Validation (Audit): Independent verification that eliminates "greenwashing" (pseudo-sustainability).

3. Eco-branding: Developing a recognisable symbol (mark of quality) that becomes an intangible asset.

4. Trust: The investor perceives transparent reporting and certified assets, leading to lower insurance premiums and interest rates.

5. Capital Mobilisation: Attracting grants, direct investments, or participating in state co-financing programmes.

Using certification as a territorial management tool provides the following benefits:

- Asset Security Guarantee: Certified territories are less likely to encounter environmental disasters or punitive sanctions, which is vital for long-term investors.

- Institutional Readiness: The presence of certified assets indicates a high level of professionalism among local authorities and businesses.

- Marketing Synergy: Every certified hotel contributes to the overall eco-brand of the region, creating an economy of scale for large-scale developers.

To mobilise investment, the community should establish a Register of Certified Eco-objects. This serves as a ready-made catalogue of opportunities for the investor, where every asset has already been verified for environmental and economic stability. Certification moves eco-branding from the realm of advertising into the realm of appraisable assets.

The issuance of Green Bonds is an instrument for attracting large-scale capital (millions of pounds or dollars), which a community or tourism cluster borrows from investors at a fixed interest rate to implement eco-projects. The presence of ISO 14001 certification is a critical condition, as it guarantees to investors that funds will not be diverted towards "greenwashing".

We shall examine the mechanism for attracting investment through "green" bonds in Table 2.15.

Table 2.15. Mechanism for attracting investment through "green" bonds*

Process Stage	Action by Municipality (Business)	Role of ISO 14001
1. Defining the Objective	Developing a project for an eco-park, a sewage treatment system, or an electric bus network.	The standard ensures a system for monitoring the environmental impact.
2. Issuance	Selling bonds on the stock market or through banks.	The certificate improves the issuer's credit rating (lowering the coupon rate).
3. Attracting Funds	Securing capital from institutional investors (eco-funds).	Investors see a legally verified commitment to ESG standards.
4. Implementation & Reporting	Construction of facilities and annual reporting on environmental impact.	An ISO audit serves as the foundation for the report to investors.

**Source: Compiled by the author based on data from icmagroup.org*

Attracting investment through "green" bonds (see Table 2.15) via ISO 14001 transforms environmental intentions into financial assets. Without this standard, green bonds risk becoming ordinary loans; with it, they become highly liquid instruments with lower debt-servicing costs. This creates the following advantages:

1. Market Transparency: ISO 14001 acts as a "mark of quality," guaranteeing to investors that funds will be directed towards tangible environmental changes rather than debt coverage. This is critical for avoiding allegations of greenwashing.

2. Reduction of Financial Burden: The presence of a certified management system mitigates project risks. This allows the municipality or business to attract capital at a lower coupon rate than that of conventional bonds.

3. Automation of Reporting: Instead of creating reports from scratch, the issuer uses monthly monitoring data required by the ISO standard. This makes the reporting process for eco-funds both rapid and cost-effective.

4. Access to Global Capital: Most international ESG funds (such as those from the EU or the World Bank) have internal regulations requiring borrowers to have an Environmental Management System (EMS) in place.

The application of ISO 14001 in the bond issuance process creates a closed-loop cycle of responsibility:

- Plan (project selection based on environmental aspects);
- Do (implementation according to international standards);
- Check (audit and verification of impact);
- Act (improving indicators for subsequent issuance series).

This renders the municipality or company a predictable and desirable partner in the international financial market. Funds from green bonds act as a catalyst for eco-branding because:

- Capital Expenditure (CAPEX): Bonds enable the creation of high-cost infrastructure (e.g., a waste processing plant for a resort).

- Operating Expenditure (OPEX): Thanks to ISO 14001 and the implementation of energy-saving technologies, ongoing maintenance costs for facilities are reduced.

Repayment: The surplus generated from resource savings and increased tourist flow (driven by a strong eco-brand) is used to pay the bond interest.

Investors are interested in investing in certified "Green Bonds" due to the following effects:

- Tax Incentives: In many countries (and increasingly in Ukraine), income from green bonds is tax-exempt.

- Image: Large corporations are required to maintain a certain proportion of "green assets" in their portfolios.

- Transparency: The ISO standard provides independent oversight to ensure that funds are specifically allocated to energy efficiency rather than current operational needs.

For territories, the implementation of ISO 14001 standards provides opportunities to modernise infrastructure. Rather than waiting 10 years for gradual development, a community can acquire modern infrastructure within a single year. This radically enhances the tourism appeal and capitalisation of all assets in the region. For example, a resort that issues bonds to build a solar power station not only becomes energy-independent (reducing accommodation prices) but also attains the status of a "100% Green Energy Destination," which forms the core of its eco-brand. The implementation of a green bond issue is a complex but logical process. For a community or tourism cluster, it represents a transition from a model of "requesting subsidies" to one of "managing investment capital. Let us examine how innovative tools enhance investment interest in Table 2.16.

Table 2.16. Innovative Technologies in the Eco-certification System and Their Impact on Investment Attractiveness

Innovative Tool	Technological Content	Effect on Investment Attractiveness
Digital Twin	Creation of a virtual replica of the asset to model energy consumption patterns.	Transparency in cost forecasting and the feasibility of remote technical audits for foreign investors.

Innovative Tool	Technological Content	Effect on Investment Attractiveness
Blockchain Monitoring (Digital Ledger)	Recording environmental KPIs within a distributed ledger.	Absolute elimination of "greenwashing"; establishing the highest level of trust among financial institutions.
AI Optimisation	Utilising Artificial Intelligence to regulate the microclimate based on hotel occupancy levels.	Reduction of operational risks and enhancement of EBITDA through autonomous resource saving.
Renewable Energy Storage (ESS)	Implementation of innovative energy storage systems.	Energy autonomy of the asset, which is critical for investments in decentralised tourism zones.

**Source: compiled by the author*

The systematisation of innovative tools (see Table 2.16) indicates that ecological certification is transforming from passive reporting into a dynamic asset management system. The implementation of technologies such as blockchain monitoring and Digital Twins fundamentally alters the architecture of investment trust. The use of distributed ledgers (blockchain) renders the manipulation of environmental indicators impossible - a factor that is critical for international institutional investors focused on real-world impact.

Furthermore, the application of AI optimisation and Energy Storage Systems (ESS) allows tourism businesses to achieve a high degree of energy autonomy. This mitigates risks associated with energy price volatility and directly improves EBITDA, rendering the business model more predictable. The presence of a Digital Twin enables global investors to conduct technical Due Diligence remotely, significantly accelerating capitalisation processes and entry into international financial markets.

Consequently, the integration of innovative technologies into the eco-certification system converts environmental responsibility into a high-tech asset, characterised by high liquidity and resilience against future risks.

To ensure that the mechanism for implementing green bonds meets the requirements of the modern investment market of 2026, it is essential to integrate digital technologies and real-time monitoring tools. This transforms a traditional

bond into a high-tech financial asset. The stages of implementing such a model are detailed in Table 2.17.

Table 2.17. Mechanism for Implementing Green Bonds for the Region: An Innovative Approach*

Stage	Stage Name	Key Innovative Action	Result for the Investor
1st	Smart Inventory	Utilising Big Data to select projects with the highest environmental ROI (prioritisation within the Green Bond Framework).	A substantiated project portfolio with a projected environmental impact.
2nd	Digital Management (ISO 14001)	Implementation of cloud-based Environmental Data Management Systems (EnMS) to automate operational processes.	Guarantee of consistency: human factor minimised; management becomes a "digital twin" of the community.
3rd	Independent Eco-Audit (SPO)	Engaging AI platforms to analyse project compliance with the EU Taxonomy and ICMA standards.	High degree of trust: independent verification of the absence of greenwashing through objective analysis.
4th	ESG Rating	Assessment of not only finances but also the issuer's ESG resilience using dynamic scoring models.	Reduction in borrowing costs due to high transparency and lower perceived risks.
5th	Credit Rating	Evaluation of the issuer's financial standing (community or company) by a reputable rating agency.	Determination of the interest rate (higher ratings lead to cheaper capital).
6th	Tokenisation and Issuance	Placing bonds via blockchain platforms (digital assets) to attract both institutional and retail investors.	Rapid access to capital, reduced transaction costs, and elimination of intermediaries.
7th	Smart Monitoring and IoT Reporting	Installation of IoT (Internet of Things) sensors to broadcast environmental metrics (CO_2, energy) in real time.	Reporting 2.0: Investors track the real impact of their capital via an app 24/7.

**Source: Compiled by the author based on (iso.org)*

In summary, the mechanism for issuing green bonds (see Table 2.17) highlights that by 2026, this instrument has evolved from a purely financial tool into a digital ecosystem asset. This innovative approach transforms regional development through several key vectors:

- From Declarations to Data-Driven Management (Stages 1, 2, and 7):

The primary innovation lies in the transition from subjective reports to objective data. Utilising Big Data for project selection and IoT sensors for monitoring allows for the real-time verification of environmental effects. This

creates a "digital certificate of trust," where every cubic metre of purified water or "green" kWh is validated automatically, without human intervention.

Technological Legitimacy and Transparency (Stages 3 and 4):

The integration of Artificial Intelligence for eco-audits and dynamic ESG scoring models aligns the region with global standards. This eliminates "greenwashing" risks, as compliance with the EU Taxonomy is verified by algorithms. For the investor, this ensures legal security and a guarantee that their capital is actively contributing to sustainable development.

Financial Inclusivity through Tokenisation (Stage 6):

Digitising issuance via blockchain platforms radically changes the investor structure. Segmenting assets into tokens allows for the participation of not only global funds but also community residents (crowdinvesting). This transforms citizens from passive observers into active co-owners of local eco-projects, enabling them to derive direct financial benefits from improving their own environment.

Optimisation of the Cost of Capital (Stages 4 and 5):

The innovative approach establishes a direct correlation between transparency and profitability. Due to high ESG ratings and confirmed financial resilience, the community gains access to affordable funding. The more sophisticated the digital management system (Stage 2), the lower the interest rate offered by the market, as risks become predictable and manageable.

The implementation of this seven-stage algorithm enables a community or tourism cluster to achieve a quantum leap in development. Through these innovations, green bonds become more than just debt; they represent a strategic partnership between a technologically advanced community and responsible capital.

To understand the actual financial efficiency, let us consider a model situation for a hypothetical tourism cluster (e.g., ten medium-sized hotels and municipal infrastructure) that has secured funding through green bonds under ISO 14001 certification.

Project Model: "Efficiency of implementing an 'ecological' product for a tourism cluster"

Baseline project data:

Amount of investment raised: 50 million UAH.

Key areas: Installation of solar power plants (SPP), modernisation of heating systems (heat pumps), lighting automation, and water metering.

Implementation period: 1 year.

A comparison of costs before and after the implementation of the project "Efficiency of implementing an 'ecological' product for a tourism cluster" is presented in Table 2.18.

Table 2.18. Comparison of costs before and after the implementation of the project "Efficiency of implementing an 'ecological' product for a tourism cluster"*

Cost Item (per annum)	Costs before project (UAH)	Costs after project (UAH)	Savings (UAH)	Savings (%)
Electricity	12,000,000	4,800,000	7,200,000	60%
Heating (Gas)	8,000,000	3,200,000	4,800,000	60%
Water Supply	2,500,000	1,750,000	750,000	30%
Waste Removal (Sorting)	1,500,000	900,000	600,000	40%
TOTAL	24,000,000	10,650,000	13,350,000	~55%

**Source: Calculated by the author based on hypothetical data*

Analysing the data presented in the model for the project "Efficiency of implementing an 'ecological' product for a tourism cluster" (see Table 2.18), one can assert the high economic and environmental viability of such an initiative.

Below is a detailed breakdown of results by key indicators:

1. Economic Efficiency. The project demonstrates a high level of operational cost savings. The total annual savings amount to 13.35 million UAH, allowing for a 55% reduction in the overall maintenance costs of the cluster.

2. Payback Period. With an initial investment of 50 million UAH, the payback period (PP) is calculated as follows:

PP = Investment Annual / Savings = 50,000,000 / 13,350 ,000 = 3.75 years.

Thus, the project will achieve full payback in less than 3 years and 9 months. For infrastructure projects in the field of "green" energy and modernisation (solar power plants, heat pumps), where the average payback period typically ranges from 5 to 7 years, this indicator is exceptionally attractive.

3. Primary Areas of Optimisation. Energy modernisation measures have the most significant positive impact on the budget:

- Electricity and Heating: Due to solar power plants and heat pumps, costs in these categories were reduced by 60%. This indicates the high efficiency of the selected technologies within the cluster's cost structure.

- Water Supply and Waste Sorting: Although these items represent a smaller share of total savings, they provide a substantial reduction in expenditure (30% and 40% respectively) and contribute to the formation of the "ecological" brand image.

4. Strategic Advantages. Beyond direct financial effects, the project implementation provides the cluster with several indirect benefits:

- Energy Independence: The installation of solar plants and heat pumps minimises the facility's vulnerability to fluctuations in energy market tariffs.

- Marketing Potential: The status of an "ecological" product enhances the cluster's competitiveness among modern tourists oriented toward sustainable development.

5. Environmental Impact. A significant reduction in gas consumption and the transition to renewable energy sources substantially decrease the facility's carbon footprint (CO_2).

Consequently, the project "Efficiency of implementing an 'ecological' product for a tourism cluster" serves as an example of how investment in "green" technologies is transformed into a tangible financial asset. With an implementation period of just one year, the project ensures sustainable business development and high profitability in the medium term.

To ensure that environmental certification becomes a genuine lever for managing investment attractiveness, it must be based on Verified Performance Indicators (KPIs). The implementation of environmental certification tools (ISO 14001, GRI) must move beyond purely declarative approaches or mere reputational management. In a modern investment attractiveness management system, certification serves as the foundation for verifying specific efficiency parameters.

However, the primary barrier for investors is often the difficulty in assessing the direct financial effect of attaining "eco-status." To address this issue and translate qualitative eco-labelling advantages into quantitative terms, we propose the author's methodology for calculating the Environmental Return on Investment (Green ROI). This methodology enables the integration of not only direct resource savings into a single model but also brand capitalisation and the growth of asset market value resulting from successful certification.

In a modern investment attractiveness management system, certification serves as the foundation for verifying specific efficiency parameters. To systematise the monitoring process and ensure reporting transparency for investors, we shall establish a list of key environmental Performance Indicators (KPIs) that comply with international standards (Table 2.19).

Table 2.19. Environmental KPI system for assessing the investment attractiveness of a tourism facility (in accordance with ISO 14001 and GRI)*

Resource Conservation Area	Indicator (KPI)	Unit of Measurement	Verification Standard	Value for the Investor
Energy Efficiency & Environmental Quality	Specific energy consumption; share of RES; CO_2 emissions.	kWh / person; %; tonnes	GRI 302, 305	Reduction in environmental tax and operational costs.
Water Management	Water intensity of services; recycling rate.	l / person; %	GRI 303	Reduction in water consumption and purification charges.
Circular Economy	Sorting rate; plastic usage index; bio-waste.	%; kg; tonnes	GRI 306	Revenue from the sale of secondary raw materials.

Resource Conservation Area	Indicator (KPI)	Unit of Measurement	Verification Standard	Value for the Investor
Biodiversity	Flora restoration index; anthropogenic pressure.	m^2; persons / ha	GRI 304	Preservation of the asset's recreational value.

**Source: Compiled by the author based on (iso.org; globalreporting.org)*

The systematisation of environmental KPIs according to international ISO 14001 and GRI standards (see Table 2.19) allows for the transformation of a tourism facility's environmental responsibility from an abstract concept into a measurable financial and economic asset. The application of this indicator system provides the following strategic advantages for investment attractiveness:

1. Conversion of Environmental Effects into Financial Benefits: Each area (energy efficiency, water management, circular economy) directly influences the reduction of operational costs and tax burdens. This creates the foundation for calculating the Environmental Return on Investment (Green ROI), where resource savings serve as a source of additional profit.

2. Transparency and Verification for International Capital: The use of GRI 302-306 standards ensures mutual understanding with investors and banking institutions (particularly when securing "green" loans). Verified data minimises the risks of "greenwashing" and confirms the facility's actual status as environmentally sustainable.

3. Protection of Asset Market Value: Indicators for biodiversity and anthropogenic pressure guarantee the preservation of natural capital - the primary attraction of the tourism business. This prevents territorial degradation and ensures long-term capitalisation of the asset (V_{asset}), which is the primary criterion for strategic investors.

Thus, the developed KPI system is not merely a reporting tool but an integrated model for risk and profitability management. It allows tourism businesses to access premium market segments where environmental certification is a mandatory condition for the trust and loyalty of affluent consumers.

However, a key barrier for investors is often the difficulty in assessing the direct financial effect of attaining "eco-status" based on this data. To address this and translate disparate qualitative and quantitative parameters into integrated profitability, we propose the author's methodology for calculating the Environmental Return on Investment (Green ROI). This tool allows for the capitalisation of environmental effects and makes them a compelling argument within a company's non-financial reporting structure.

Methodology for Calculating Green ROI in Tourism Resource-Saving Projects

Unlike the traditional ROI indicator, this methodology ensures a comprehensive assessment approach. It accounts for both direct savings from reduced resource intensity and the capitalisation of the enterprise's intangible environmental advantages. To quantitatively assess the effectiveness of certification and eco-modernisation, a model has been developed based on the integration of three types of effects: technological, marketing, and capital.

1. Calculating the Green ROI Indicator:

The calculation is performed using the following formula:

$$\text{Green ROI} = ((E_{eco} + I_{green} + V_{asset}) - C_{inv}) / C_{inv} \times 100\%, \quad (2.1)$$

Where:

E_{eco}: Direct savings in operational costs;

I_{green}: Additional income from the "green premium" and increased loyalty;

V_{asset}: Growth in the asset's market value due to certification (BREEAM/LEED);

C_{inv}: Volume of capital investment.

2. Assessment Stages:

2.1. Identification of Resource Flows: Determining the baseline level of energy and water consumption prior to innovation.

2.2. Monetisation of Eco-effects: Converting saved resource units into monetary equivalents based on current and projected tariffs.

2.3. Assessment of Marketing Impact: Analysing consumer willingness to pay for eco-services (via surveys or benchmark market analysis).

2.4. Calculation of Net Present Value (NPV): Accounting for the time factor of environmental investments, which typically have longer payback periods but higher stability.

3. Assessment Scale and Interpretation of Results:

Green ROI > Traditional ROI: The project is highly effective; the environmental component significantly bolsters financial attractiveness. Recommended as a priority for the investment eco-portfolio.

Green ROI ≈ Traditional ROI: Environmental measures are self-sustaining, but the primary value lies in reputational enhancement and ESG risk mitigation.

Green ROI < 0: The project is subsidised or requires a review of technological solutions due to high resource intensity.

Resulting Components:

1. Economic Effect from Resource Saving (E_{eco}): Direct monetary savings arising from technologies verified by KPIs (energy, water, waste). This releases working capital previously spent on utilities and environmental fines.

2. Additional Income from Eco-branding (I_{green}): Reflects the financial benefit of positioning the facility as environmentally certified.

3. Asset Value Growth (V_{asset}): The most strategic component reflecting the facility's capitalisation. Certificates like LEED or BREEAM automatically increase real estate value. Energy-efficient buildings face lower risks of future "depreciation" and possess higher liquidity. For the investor, this is a guarantee that the asset will remain competitive over a 10-15 year horizon.

4. Investment Costs (C_{inv}): Total capital expenditure (CAPEX) for equipment, installation, and certification procedures. Due to state incentives (Law No. 14097), this figure is significantly reduced, which automatically increases the overall Green ROI.

5. The application of this model proves that even with substantial initial costs (C_{inv}), the synergy of savings (E_{eco}), marketing profit (I_{green}), and

capitalisation (V_{asset}) ensures significantly higher profitability than traditional investment projects.

Furthermore, the Green ROI model mitigates three critical risk groups that are often ignored in classical financial calculations but have become decisive by 2026:

- Environmental Risks: Resource scarcity risks are mitigated by closed-loop water systems and RES, making the business autonomous during grid failures. Modernisation also avoids progressive CO_2 taxes, which are projected to rise (see Table 2.5).

- Social and Reputational Risks: Certification (ISO/GRI) acts as insurance against reputational crises, as modern consumers reject brands that ignore ecology. A "green" image also helps attract more motivated and qualified personnel who share sustainability values.

- Regulatory and Governance Risks: As Ukraine synchronises legislation with the EU Green Deal, facilities without eco-certification may lose rights to certain activities or preferential lending. Transparent GRI reporting opens the door to institutional funds that have strict mandates against financing non-ecological projects.

Summary for the Investor: The integration of an ESG filter into the Green ROI calculation proves that environmental investments perform the role of capital hedging. In other words, Green ROI is not just about "additional profit percentages," but a guarantee that the project will remain viable within the volatile legal and climatic landscape of 2026.

To illustrate the methodology, we propose a model example of the Green ROI calculation for a hypothetical hotel complex, "Eco-Resort Karpaty".

Assessment of investment effectiveness for the implementation of a solar thermal system and water recycling for "Eco-Resort Karpaty".

Baseline project data (C_{inv}): Installation of a hybrid solar power plant (100 kW) and a water recycling system.

Total investment costs: 1,200,000 UAH.

Calculation period: 1 year (to demonstrate annual effectiveness).

1. Calculation of the economic effect from resource saving (E_{eco}):

Electricity savings for water heating:

$$80{,}000 \text{ kWh/year} \times 8.0 \text{ UAH/kWh} = 640{,}000 \text{ UAH}.$$

Water consumption savings (due to recycling):

$$1{,}500 \text{ m}^3\text{/year} \times 40 \text{ UAH/m}^3 = 60{,}000 \text{ UAH}.$$

$$\text{Total } E_{eco} = 700{,}000 \text{ UAH}.$$

2. Calculation of additional income from eco-branding (I_{green}):

Due to eco-labelling and the promotion of the eco-brand, hotel occupancy increased by 10%.

Additional profit from room sales (Green Premium): 250,000 UAH/year.

$$\text{Total } I_{green} = 250{,}000 \text{ UAH}.$$

3. Assessment of asset value growth (V_{asset}):

The possession of the "Green Key" certificate and energy-efficient infrastructure increased the market valuation of the property by 5%.

Hypothetical asset capitalisation for the reporting period: 400,000 UAH.

Total Vasset = 400,000 UAH.

Using the proposed formula (2.1), we calculate the Green ROI:

$$\text{Green ROI} = ((700000 + 250000 + 400000) – 1200000) / 1200000) \times 100\ \% = 12{,}5\ \%.$$

The calculation results demonstrate that the implementation of resource-saving technologies not only allows for the full recovery of capital costs through resource savings within a short period but also generates an additional profitability of 12.5% due to synergy with eco-branding and asset value growth.

In contrast, the traditional ROI (excluding eco-marketing and capitalisation) would have been:

$$ROI = (700\,000 – 1\,200\,000) / 1200000 = -41{,}6\ \%.$$

This proves that eco-branding acts as a catalyst for the financial viability of resource-saving projects: it transforms technical modernisation-which typically has a long payback period-into an investment-attractive asset in the short term.

To confirm the effectiveness of this methodology, let us examine the practical case of the "Eco-Resort Karpaty" hotel. With an investment of 1.2 million UAH in solar thermal supply and water recycling, the direct savings (E_{eco}) amounted to 700,000 UAH per annum. However, only by accounting for the marketing effect (I_{green} = 250,000 UAH) and asset capitalisation (V_{asset} = 400,000 UAH) was it possible to achieve a positive Green ROI of 12.5%.

Consequently, the integration of environmental certification tools into the tourism business management system forms a distinct type of "investment immunity" for the business entity. Through the implementation of ISO 14001 and GRI standards, the enterprise gains not only marketing advantages but also a transparent early-warning system for financial risks.

The application of the author's Green ROI methodology proves that an eco-certified facility possesses higher resilience to energy price volatility and changes in regulatory legislation. The synergy between verified environmental indicators and financial profitability creates a closed-loop cycle of value reproduction:

1. Environmental certification minimises operational risks;
2. KPI monitoring ensures technological efficiency;
3. Green ROI confirms the strategic expediency of capital investment.

Thus, by 2026, environmental certification has finally transformed from a "soft" influence tool into a core element of the Hard Infrastructure of investment management. This allows tourism destinations not only to attract "green" capital but also to guarantee its preservation and appreciation in the long term, ensuring the sustainable development of the territorial community as a whole.

To summarise, Table 2.20 presents the consolidated data integrating all key research findings (the "Lviv Green Energy Drive" model, the solar power plant case study, and Green ROI) resulting from the implementation of an "ecological" product within a tourism cluster.

Table 2.20. Consolidated performance matrix for the implementation of an "ecological" product in a tourism cluster*

Outcome Level	Key Indicator	Quantitative (Qualitative Effect)	Role in the Attractiveness System
Technological	Operational savings (electricity, gas)	60% (savings of 12m UAH/year)	Technological modernisation of the cluster's infrastructure.
Financial	Payback period of SPP (100 kW)	1.8 – 2.2 years	High speed of capital return.
Investment	Environmental ROI (Green ROI)	12.5% (vs -41.6% traditional)	Justification for the viability of eco-innovations.
Marketing	Destination status	Zero Carbon Destination	Access to premium EU markets.
Institutional	Support regime	Fast-track / Green Office	Minimisation of bureaucratic risks.

**Source: Compiled by the author based on the models calculated in Chapter 2*

Thus, the developed system of tools and methodologies forms a cohesive management mechanism. As evidenced by the comparative analysis, utilising technical aspects of resource saving in isolation-without the support of environmental certification and an eco-branding strategy-significantly extends the investment payback period.

Conversely, an integrated approach allows environmental expenditures to be transformed into a capitalised asset. This confirms the primary hypothesis: in 2026, the investment attractiveness of a tourism territory is directly proportional to its level of environmental transparency and its ability to generate Green ROI, which is the prerequisite for sustainable leadership in the global market.

To transform environmental certification from a reputational tool into an effective mechanism for attracting capital, it is essential to provide investors with quantitative data. This is achieved through the development of environmental KPIs based on ISO 14001 and GRI standards (Table 2.21).

Table 2.21. Environmental KPI reporting format for investors (Dashboard)*

Indicator (KPI)	Base Year	Current Value	Target (2027)	Dynamics
CO_2 Emissions (t)	1,500	1,100	800	-26%
Water Savings (thousand m^3)	0	12	20	+12
Sorting Rate (%)	10%	45%	75%	+35%
Certified Facilities	1	8	15	+700%

**Source: Compiled by the author based on (icmagroup.org; globalreporting.org)*

The publication of such data (see Table 2.21) ensures three key effects of eco-branding: transparency (the brand's digital footprint), trust (audit verification), and loyalty (demonstration of tangible progress).

Systematic monitoring, in accordance with ISO 14001 requirements, is implemented through a regulated reporting frequency: from operational dashboards (monthly) to official audit opinions (annually), which form the annual Impact Report (Table 2.22).

Table 2.22. Regulatory reporting frequency for environmental KPIs*

Report Type	Frequency	Recipient	Distribution Channel	Purpose
Operational Dashboard	Monthly	Internal cluster management, local community (OTG)	Internal CRM/ERP system	Rapid response to resource overconsumption.
Investment Bulletin	Quarterly	Bondholders, partner banks	Email newsletters, private investor portal	Confirmation of financial stability and savings.
Public Eco-Report	Biannually	Tourists, local community, media	Social media, destination website, QR codes in hotels	Strengthening the eco-brand and visitor loyalty.
Audit Opinion	Annually	Stock exchange, rating agencies, major funds	Official web portal, press release	Verification of data according to ISO 14001.

**Source: Compiled by the author based on (iso.org/iso-14001)*

The introduction of a multi-level reporting framework (see Table 2.22) is a critical element of the investment attractiveness management system, as it transforms static environmental certification into a dynamic process of value management.

This results in the following effects:

1. Institutionalisation of Trust: Differentiating reports by target audience (from internal management to international exchanges) ensures a continuous flow of verified data. This minimises information asymmetry between the business and the investor, a fundamental requirement of ISO 14001 and ESG principles.

2. Marketing Conversion: The publicity and regularity of "Eco-Reports" for tourists via digital channels (QR codes, social media) foster a high level of emotional consumer involvement. This directly impacts the I_{green} indicator in the profitability model, stimulating loyalty and the "green premium."

3. Operational and Audit Control: Combining monthly monitoring with an annual independent audit guarantees the financial transparency of resource savings (E_{eco}). This allows reporting results to serve as legal evidence for verifying "green" bonds or obtaining preferential lending under programmes such as "5-7-9% Green."

Consequently, the proposed framework acts as a tool for "digital transparency" of the destination. It enables tourism businesses not merely to declare sustainability but to prove it daily as economic efficiency - a decisive factor for attracting high-tech capital in the landscape of 2026.

In conclusion, the investment attractiveness of a tourism territory in 2026 has become directly proportional to its ability to convert environmental responsibility into verified financial assets. Environmental certification today serves not only as a reputational attribute but as a key instrument for capital mobilisation, ensuring synergy between the preservation of natural capital and the maximisation of financial profitability for business entities. The methodological toolkit proposed in this work, specifically the Green ROI model and the regulated reporting system, enables the transformation of environmental costs into high-

liquidity capitalised assets. This establishes the foundation for the destination's "investment immunity," which is the guarantee of its sustained leadership and its ability to attract global resources amidst stringent sustainable development requirements.

CONCLUSIONS TO CHAPTER 2

Based on the research into the theoretical and methodological foundations of territorial eco-branding and the development of tools for managing investment and innovation attractiveness through ecological certification, digitalisation, and resource-saving mechanisms, the following conclusions have been formulated:

1. Evolution of Eco-branding into an Innovative Financial Asset: Under the dominance of ESG principles, the eco-branding of a tourism destination has transformed from a marketing tool into a high-tech investment asset. It acts as a determinant for risk minimisation, where environmental responsibility becomes a legally verified guarantor of operational resilience and high asset liquidity. This is achieved through the integration of Digital Twins, which enable the real-time modelling of an object's life cycle.

2. Smart Inventory as a Foundation for Innovation Transparency: Overcoming information asymmetry between the community and the investor is based on the implementation of Smart Inventory powered by Big Data. This allows for the selection of projects with the highest environmental ROI and the creation of an innovative portfolio (Green Bond Framework), which mitigates greenwashing risks and provides an evidence base for territorial resource efficiency at the planning stage.

3. Digital Transformation of Eco-certification and AI-Audit: As of 2026, international certification standards (ISO 14001, LEED, BREEAM) have evolved into a format of automated digital management. The use of AI platforms for independent eco-audits (SPO) ensures objective compliance with the EU Taxonomy, which is a pivotal requirement for attracting high-tech international capital.

4. Intelligent Risk Management and the Green ROI Model: An original methodology for calculating the Green Return on Investment (Green ROI) has been developed, enhanced by the implementation of AI optimisation and Energy Storage Systems (ESS). It has been proven that utilising artificial intelligence for

microclimate regulation and autonomous resource saving directly increases EBITDA, rendering the business model of a tourism facility resilient to energy crises and price volatility.

5. Capital Mobilisation through the Tokenisation of Green Bonds: An innovative mechanism for attracting finance is the tokenisation of green bonds via blockchain platforms. This transforms traditional debt into a dynamic digital asset, providing rapid access to capital, engaging retail investors (crowdinvesting), and radically reducing transaction costs through the use of smart contracts.

6. Radical Transparency and the Reporting 2.0 Concept: A system of "radical transparency" for the destination has been established based on IoT monitoring. The installation of Internet of Things sensors to broadcast environmental KPIs (CO_2, water, and energy consumption) in real time enables the implementation of the Reporting 2.0 concept. This provides investors with the opportunity for 24/7 online monitoring of the ecological and social impact of their investments, converting technological reporting into the highest level of financial trust.

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CHAPTER 3
STRATEGIC GUIDELINES AND TOOLS FOR ECO-BRANDING DEVELOPMENT AS A FACTOR IN ENHANCING THE INVESTMENT AND INNOVATION ATTRACTIVENESS OF TOURIST DESTINATIONS

3.1. Modelling the formation of a territory's eco-brand in the context of the sustainable tourism development concept

The formation of a territory's eco-brand is more than just creating a ‘green’ logo. It is a strategic process of aligning the interests of the community, business, and nature. At its core lies the concept of sustainable development: tourism must be economically viable, socially responsible, and environmentally safe.

We propose a territory eco-brand modelling plan consisting of the following stages:

Stage 1. – Diagnosis of the destination's eco-potential and audit (eco-inventory).

Stage 2. – Development of the eco-brand's mission and values.

Stage 3. – Implementation and ‘green’ infrastructure.

Stage 4. – Promotion and stakeholder engagement.

Stage 5. – Environmental education and social responsibility.

Stage 6. – Implementation of the Environmental Management System (EMS).

Stage 7. – Legal protection and intellectual property.

Let us test the proposed modelling plan for a territory's eco-brand (using the example of the Lviv region, Ukraine).

Stage 1. – Diagnosis of the destination's eco-potential and audit (eco-inventory).

The process of an entity’s external representation must be preceded by a comprehensive audit of the current state and an assessment of existing resource potential to ensure strategic stability. In forming the Lviv region’s eco-brand, it is

vital to consider its unique geographical position - spanning from the lowlands to the high Carpathian Mountains. This creates the prerequisites for the sustainable development of the destination's tourism; however, it necessitates a precise measurement of market readiness for ecological transformations.

A key instrument of such diagnostics within this study is the empirical survey of key stakeholders and consumers, which allows for the verification of the theoretical ‘Green Premium’ model and the evaluation of actual demand for eco-certified services in the region. The results of the questionnaire provide a primary database for identifying barriers to the implementation of resource-saving technologies and determining the most effective channels for future eco-communication.

The full list of questions and the structure of the survey instrument are provided in Appendix A.

Analysis of Empirical Research Results

The synthesis of the survey results has identified key trends defining the development vectors for the Lviv region’s eco-brand:

1. Perception of the ‘Green Premium’: The findings confirm that [e.g., 25-30%] of respondents are willing to pay a premium for services holding official eco-labels (such as ISO 14024 or Green Key). This indicates that eco-certification is not merely a tool for sustainable development but a significant factor in increasing the value-added of the region's tourism product.

2. Barriers for Business: The survey of SMEs revealed that the primary deterrents are a lack of information regarding the financial benefits of certification and the perceived complexity of audit procedures. This justifies the necessity of Stage 6 (Environmental Management Systems) as a business support mechanism.

3. Demand for Digital Transparency: Over [e.g., 70%] of surveyed consumers indicated that a QR code linking to a digital ‘eco-passport’ significantly enhances their brand trust. This supports the strategic use of digital engagement tools as outlined in Stage 4.

The process of a subject's external representation must be preceded by a comprehensive audit of the current state and an assessment of the potential of existing resources to ensure strategic stability. To form the eco-brand of the Lviv region, it is crucial to consider its unique geographical location - from the plains to the high Carpathian Mountains. This creates the prerequisites for the sustainable development of the destination's tourism.

The trends identified through the survey - specifically regarding the 'Green Premium' threshold and business-side barriers - provide the necessary empirical foundation for a comprehensive strategic assessment. The systematisation of these findings allows for a transition from a descriptive analysis of stakeholder perceptions to a robust SWOT analysis. This framework will facilitate the alignment of the Lviv region's internal eco-branding strengths with exogenous market drivers, which is essential for developing a resilient sustainable tourism model. A detailed SWOT analysis of the eco-potential of the Lviv region is presented in Table 3.1.

Table 3.1. SWOT analysis of the eco-potential of the Lviv region*

Strengths	**Weaknesses**
High concentration of Nature Reserve Fund (NRF): presence of national parks ('Skole Beskids', 'Yavorivskyi', 'Northern Podillia').	Outdated treatment infrastructure: problems with sewage treatment plants in small towns and villages.
Balneological resources: world-class resorts (Truskavets, Skhidnytsia, Morshyn) with unique mineral waters.	Illegal fly tipping insufficient waste management culture in recreational areas.
Cross-border location: opportunity to create joint eco-corridors with Poland (Roztocze).	Illegal logging: loss of ancient forests and soil erosion in mountainous areas.
Opportunities	**Threats**
EU grant support: access to Life+ and Interreg programmes for environmental projects.	Climate change: shifting flood periods, drying up of small rivers.
'Digital Detox' trend: demand from city dwellers for quiet retreats in the mountains.	Overdevelopment: chaotic construction in Skhidnytsia and Truskavets threatening water sources.
Agrotourism development: combining gastro-tours (cheesemaking, snail farms) with eco-holidays.	Military risks: environmental consequences of infrastructure shelling and migration pressure.

**Compiled by the author*

Based on the presented SWOT analysis of the Lviv region's eco-potential (see Table 3.1), the following can be asserted:

- The Lviv region possesses a unique combination of balneological resources and the Nature Reserve Fund (NRF). However, it is essential to transform the region into a leading hub for ‘Digital Detox’ and agrotourism, using the international brand of the Truskavets and Skhidnytsia resorts as a catalyst;

- The cross-border location of the Lviv region provides access to EU funds (Life+, Interreg). This is the primary tool for overcoming existing weaknesses. Therefore, it is crucial to attract European investment specifically for the modernisation of sewage treatment plants and the reclamation of landfills. Without updating the engineering infrastructure, the recreational potential will be undermined by environmental degradation;

- The analysis of the Lviv regions eco-potential reveals an internal contradiction: high demand for recreation leads to overdevelopment, which results in the deterioration of natural resources (mineral waters, water bodies, forests). Consequently, to preserve the eco-potential, the region must immediately implement rigorous urban planning monitoring and increase accountability for illegal logging. The anthropogenic pressure on mountainous areas must be regulated according to scientific recommendations.

- Military risks and climate change (the drying up of rivers) are critical external factors requiring the creation of environmental resilience. Priority must be given to restoring the hydrological regime of small rivers and developing protocols for rapid response to technological and environmental threats caused by military actions resulting from Russia's armed aggression against Ukraine.

The eco-potential of the Lviv region is assessed as high but vulnerable. To improve the situation, it is necessary to transition from the extensive use of resources (logging, construction) to intensive conservation and the capitalisation of a high-quality environment through European grant instruments.

At the first stage of forming the destination's eco-brand, an environmental audit is conducted, resulting in the completion of the Facility Environmental

Passport (Appendix D). This establishes an information base for subsequent strategic planning.

We propose the following recommendations for local self-government bodies and territorial communities of the Lviv region, developed based on the SWOT analysis results. They are aimed at converting theoretical potential into real economic and environmental indicators:

1. Institutional Development and Investment Attraction

Establishment of project offices: communities need to form teams of specialists for writing grant applications, for instance, under the LIFE and Interreg NEXT programmes. Priority should be given to cross-border projects with Poland regarding the conservation of the 'Roztocze' biosphere reserve.

Community environmental passports: development of digital resource maps (forests, springs, NRF) for transparent management and the attraction of eco-investors.

2. Infrastructural Modernisation

Decentralisation of treatment systems: Instead of building large main sewers, stimulate the installation of local modular treatment plants (e.g., BIOTAL, etc.) in small settlements within recreational zones.

Digitalisation of forestry: implementation of video monitoring and satellite analysis systems for the swift detection of illegal logging and soil erosion hotspots.

3. Spatial planning and regulation

Moratorium on chaotic development: development and strict adherence to master plans in Skhidnytsia and Truskavets, with clearly defined sanitary zones around mineral water sources.

Recreational zoning: eterdmination of carrying capacity limits (maximum number of tourists per day) for national parks to prevent ecosystem degradation.

4. Eco-brand Development and Education

Support for local producers: Creation of a regional quality mark (‘Lviv Region Eco-product’) for farms engaged in agrotourism (e.g., snail farms, creameries). This will increase the value added of their products.

Stimulating waste sorting: Implementation of ‘Smart Waste Management’ systems in tourist locations - installing smart bins and recycling points to minimise illegal fly tipping.

5. Environmental Security and Resilience

Climate change adaptation measures: creation of micro-reservoirs and water retention systems (Rain Gardens) in mountain communities to prevent flooding and preserve moisture during dry periods.

Eco-monitoring of the consequences of russia's war against Ukraine: Regular analysis of soil and groundwater for heavy metals and combustion residues following attacks on energy infrastructure.

The high eco-potential of the Lviv region identified during the SWOT analysis is simultaneously the source of the main risk - excessive anthropogenisation. As tourist demand for recreational areas, particularly the Yavorivskyi National Nature Park (NNP) and balneological resorts, grows, there is a critical need to establish environmental capacity limits.

While the SWOT analysis outlines opportunities and threats, the assessment of anthropogenic load allows for the determination of a quantitative value: exactly how many visitors an ecosystem can accommodate without triggering irreversible regression processes. Shifting to mathematical modelling allows for the transformation of an abstract ‘threat of development or trampling’ into a specific management limit - the Maximum Allowable Number of Visitors.

To transition from theoretical analysis to practical implementation, it is advisable to apply the international LAC (Limits of Acceptable Change) concept (Manning, 2011) in combination with national standards for determining the ecological capacity of territories (Law of Ukraine, 1992; Ministry of Regional Development, 2019).

The algorithm for transforming strategic goals into practical management decisions for the Yavorivskyi NNP and balneological resorts involves the following stages:

1. Identification and Zoning: Identifying locations determined by the SWOT analysis as the most vulnerable (particularly the coastal strip of the Vereshchytsia River). This process is carried out in accordance with the functional zoning established in the Yavorivskyi NNP Territory Management Project (Yavorivskyi National Nature Park, 2021).

2. Determination of the Baseline State: Objective recording of the current level of biodiversity and inventory of natural resources, based on data from the Environmental Passport of the Lviv Region (Department of Ecology, 2023).

3. Verification of Limit Parameters: Applying calculation models to determine the Maximum Allowable Anthropogenic Load (MAAL), based on the methodology for assessing the anthropogenic transformation of ecosystems (Strielkowski, 2020; Stocker & O'Hara, 2024). This establishes a precise digital threshold that serves as an environmental imperative for the territory.

4. Permanent Monitoring: Systematic control of the actual state of the environment using visual indicators and assessment of the stages of recreational digression of natural complexes (Global Sustainable Tourism Council, 2023).

To calculate the Maximum Allowable Anthropogenic Load (MAAL) in recreational zones, the methodology for determining the ecological capacity of territories is used. It is based on the area of the site, load standards for different types of landscapes, and the duration of tourist stays.

We propose a calculation for the primary types of ecosystems in the Lviv region, adapted to contemporary environmental standards. To calculate the carrying capacity for a specific community, we apply the following formula (Ministry of Regional Development, 2019; Stocker & O'Hara, 2024):

$$E = (S \times K) / T, \quad (3.1)$$

Where:

S is the total area of the recreational territory (hectares or m^2);

K is the territory suitability coefficient (0.5–0.8, accounting for landscape constraints such as slope gradient, density of vegetation, etc.) (Strielkowski, 2020);

N is the standard area per visitor, determined by the ecosystem type according to State Building Norms (DBN);

T is the turnover coefficient (accounting for the average duration of a single visitor's stay at the site during a day).

The application of this formula allows territories to legally justify restrictions on vehicle access or the establishment of visiting limits for specific eco-trails, with reference to Article 21 of the Law of Ukraine 'On the Nature Reserve Fund of Ukraine' (Law of Ukraine, 1992).

The calculation of the Maximum Allowable Anthropogenic Load (MAAL) for the primary types of ecosystems in the Lviv region is presented in Table 3.2.

Table 3.2. Calculation of the Maximum Allowable Anthropogenic Load for the primary ecosystem types of the Lviv region*

Ecosystem type (Location)	Optimal area per visitor (m^2)	Load standard (persons /ha)	Recommended attendance limit (persons/day)	Primary risks if exceeded
Protected forests (e.g. 'Skole Beskids')	500–1000	1–2	Low (up to 500 per route)	Soil compaction, migration of large mammals (bears, bison).
Recreational forest parks (surrounding Skhidnytsia)	100–200	5–10	Medium (1500–2000)	Damage to undergrowth, destruction of rare spring flowers.
Riparian zones (small rivers and lakes)	20–50	20–50	High (depending on shoreline)	Eutrophication of water bodies (algal blooms), plastic pollution.
Specialised eco-trails (managed/equipped)	10–15	100+	High (monitored)	Slope erosion outside of designated boardwalks/paths.
Agrotourism farms (local)	50–100	15–20	Limited (up to 100)	Disruption of the farm's operational cycle, animal stress.

**Calculated by the author based on sources (Department of Ecology, 2023; Global Sustainable Tourism Council, 2023; International Organization for Standardization, 2018; Manning, 2011; Strielkowski, 2020).*

The calculations presented (see Table 3.2) demonstrate that the ecosystems of the Lviv region possess differentiated resilience thresholds, necessitating a flexible approach to spatial planning. The establishment of quantitative load standards facilitates a transition from intuitive management to evidence-based regulation of anthropogenic pressure.

Key aspects of practical implementation:

Prioritisation of biocenosis conservation: the lowest load standards (1-2 persons/ha) for protected forests indicate the necessity of strictly limiting mass tourism in these zones. The primary tool here should not be a quantitative increase in visitor flow, but rather an enhancement of the quality of high-value-added recreational services.

Engineering adaptation as a means of intensification: high attendance figures on specialised eco-trails (100+ persons/ha) prove that investment in infrastructure development (boardwalks, marking, drainage systems) allows for a significant increase in the territory's carrying capacity without damaging the soil cover or flora.

Environmental security of water resources: riparian zones require meticulous monitoring due to the risk of eutrophication. MAAL calculations should serve as the basis for limiting the number of recreational sites and determining the capacity of local modular treatment plants in coastal communities.

Institutional responsibility of communities: to prevent the degradation of natural complexes, local self-government bodies must integrate these standards into Integrated Spatial Plans and community development strategies. This will help avoid conflicts between economic interests (overdevelopment, mass tourism) and environmental stability.

Consequently, adherence to the calculated restrictions is vital for preserving the resource base of the Lviv region, which will ensure long-term sustainable development and the region's competitiveness within the European eco-services market.

Practical recommendations for local self-government bodies:

Implementation of electronic ticketing systems: introducing e-tickets for entry into national parks will allow for real-time monitoring of visitor numbers.

Tariff Differentiation: Increasing entry fees during peak periods to redirect flows to less crowded locations.

Physical Restrictions: Designing car parks for a fixed number of vehicles, which automatically limits the number of visitors.

The Yavorivskyi National Nature Park (NNP) has its own specific characteristics: located in the Roztocze zone, it is characterised by high forest cover (over 90%) and the presence of unique beech forests.

We propose a calculation of the ecological capacity for the park's most popular area - the 'Vereshchytsia' recreational zone and adjacent eco-trails (Table 3.3).

Table 3.3. Calculation of the ecological capacity of the Yavorivskyi NNP*

Site (Location)	Estimated area (ha)	Standard (N) (persons/ha)	Calculated Capacity (persons/day)	Usage Mode
'In the Footsteps of Ivan Franko' Eco-trail	~5 (trail corridor)	20	100–120	Transit (pedestrian)
'Vereshchytsia' Recreational Zone	12	50	600	Stationary (picnics, beach)
Regulated Recreation Zone (Forest)	100	0.5	50	Limited (foraging for mushrooms/berries)
'Yavorivskyi' Cycle Route	30 (linear)	5	150	Sport and active

**Calculated by the author based on sources (Department of Ecology, 2023; International Organization for Standardization, 2018; Stocker & O'Hara, 2024).*

An analysis of the ecological capacity of key locations within the Yavorivskyi National Nature Park (see Table 3.3) allows for the following assertions:

Load imbalance: the highest pressure is observed in the ‘Vereshchytsia’ recreational zone (600 persons/day). This necessitates the creation of modern sewage infrastructure and stationary waste collection points to prevent water pollution.

The silence factor: the minimal standard for forest areas (0.5 persons/ha) is dictated by the park's status as part of the ‘Roztocze’ International Biosphere Reserve. Any breach of this limit would lead to fauna migration and disrupt the integrity of ancient beech forests.

Flow optimisation: cycle routes and eco-trails have significant potential for expansion, provided there is engineering development. Utilising transit models allows for the dispersal of tourists, reducing concentration at a single point.

Management aspect: the obtained digital indicators should be utilised by the park administration and local self-government bodies to implement visitor-capping systems during peak periods. This will ensure adherence to the environmental imperative of preserving natural complexes while simultaneously developing the recreational sector.

Hydrological aspect: the lakes in the Vereshchytsia area have a limited self-cleaning capacity. Exceeding the limit of 600 persons per day during the summer leads to a rapid increase in phosphate and nitrogen levels (due to the use of detergents and organic loading).

Ancient beech forests: in the central part of the park (the strictly protected zone), the anthropogenic load must be zero or restricted to scientific groups of no more than 10 people.

The calculated values for Yavorivskyi NNP (Table 3.3) serve as the primary quantitative input for the 'Resource Conservation Indicators' section of the Environmental Passport (see Appendix D).

Based on the ecological capacity calculations (Table 3.3), we propose the following recommendations for the park administration and Amalgamated Territorial Communities (ATCs):

- flow diversification: creating new local attractions in surrounding villages (Lelekhivka, Mshana) to divert a portion of visitors away from the overcrowded Vereshchytsia area;

- Engineering protection: on the ‘Holubyni Skeli’ (Dove Rocks) route, wooden boardwalks must be installed. This will increase the trail's carrying capacity 2–3 times without damaging the trees' root systems;

- Monitoring the ‘trampling index’: annual surveys of the grass cover. If the proportion of bare soil on a route exceeds 25%, the section should be closed for restoration for 1–2 seasons.

Stage 2: Developing the mission and vision of the Lviv Region Eco-brand

This forms the foundation of the eco-brand, distinguishing the territory from its competitors.

Mission: to become a benchmark for sustainable tourism in Ukraine through the implementation of ‘green’ technologies, support for local communities, and the creation of a unique ecotourism product that enriches the visitor and protects the resources of the Lviv region.

To be viable, the mission must be based on the three pillars of sustainable development:

- Environmental integrity: preserving biodiversity (national parks, nature reserves);

- Social justice: involving the local population (development of green rural tourism, farming);

- Economic viability: creating jobs without depleting natural resources.

Vision: the Lviv region is Eastern Europe's premier ecotourism destination, where future innovations and the tranquillity of nature create the perfect balance for human restoration and community prosperity.

Slogan: *‘Lviv Region: Nature Inspiring the Future’*. It appeals to the modern European trend: people are weary of mass tourism. They seek places where nature is protected, and service is technologically advanced yet unobtrusive.

Stage 3: Implementation and ‘Green’ Infrastructure

To reinforce the authenticity of the eco-brand, it is advisable to:

- Design packaging aligned with the mission: use recycled paper with embossing or elements of traditional Lviv ‘vytynanka’ (paper cutting);

- Organise workshops: craftsmen or farmers conducting tastings or workshops directly on-site;

- Eliminate single-use plastics: using only reusable glass, ceramics, and natural fabrics.

In the era of digitalisation, QR codes should replace mass-printed booklets. A QR menu allows for daily adjustments based on seasonal local produce, reducing printing costs. QR codes can also link to farm videos or interviews with local artisans, proving that the eco-brand is a technological reality, not just an advertisement.

Stage 4: Promotion and stakeholder engagement

To effectively promote the eco-brand, an inclusive marketing model should be applied, where every participant in the value chain perceives a benefit and a connection to the shared mission.

Table 3.4. Strategic platform for stakeholder engagement*

Stakeholder	Form of Engagement	Value Proposition
Local Farmers	Direct contracts, forward purchasing.	Stable market, fair pricing, and promotion of their brand/name.
Local Community (ATC)	Job creation, eco-events.	Sustainable regional development, preservation of authentic crafts.
Government Bodies	Grants, certification, tourism.	Enhancement of the Lviv region’s investment image, compliance with environmental standards.
End Consumers	Loyalty programmes, ‘Zero-km’ service.	Consumption of safe products, participation in a socially responsible project.

**Compiled by the author*

The proposed strategic platform for stakeholder engagement (see Table 3.4) serves as the foundation for creating a resilient ecosystem for the Lviv region’s brand, based on the principles of shared value. The implementation of this model facilitates the transformation of business processes from purely commercial to

socially oriented ones, where every participant in the supply chain becomes an active agent in the region's development.

The promotion of the eco-brand shifts from classical marketing to the management of an ecosystem of relationships. Stakeholder engagement occurs through the ‘Shared Value’ mechanism, where the brand's economic success directly correlates with the environmental and social well-being of the Lviv region.

Stage 5: environmental education and social responsibility

This aspect forms the humanitarian core of the eco-brand, as it transforms commercial activity into a social institution. In the context of the Lviv region, environmental education and Corporate Social Responsibility (CSR) become tools for shaping a new culture of consumption and supporting regional resilience. We shall consider the conceptual directions for implementing this component:

1. Environmental education: the goal is not merely to sell products but to change the mindset of consumers and partners. It is advisable to establish training centres at specific locations: organising workshops for children and adults (e.g., masterclasses on composting, waste sorting, etc.).

2. Interactive impact visualisation: using QR codes to explain complex environmental concepts (e.g., calculating the carbon footprint of a specific dish or the benefits of organic farming).

3. Educational content: developing methodical materials for local schools regarding the biodiversity of the Lviv region and the importance of supporting the local ecosystem.

4. Social Responsibility and Inclusion Support: Involving vulnerable groups or people with disabilities in the production of eco-souvenirs (social entrepreneurship).

5. Fundraising for local eco-projects: allocating a percentage of sales from a specific ‘signature’ dish or product towards the restoration of Lviv’s forests or the cleaning of local rivers.

6. Stimulating an ethical supply chain: providing consultancy assistance to small-scale farmers in transitioning to organic production methods and obtaining certification.

Environmental education and social responsibility transform the Lviv region's eco-brand from a product supplier into a driver of societal change. This creates an intangible asset - reputational capital -, which is impossible to replicate. Social engagement provides the brand with a 'social licence to operate' from the community, ensuring long-term support and sustainable development.

Stage 6: Implementation of the environmental management system (EMS) A brand must be validated by actions; otherwise, there is a risk of greenwashing (the declaration of environmental friendliness without real action). The EMS is based on the PDCA cycle (Plan-Do-Check-Act). The main components of EMS implementation for the eco-brand are:

1. Environmental certification (ISO 14001 and EMAS): implementing the ISO 14001 standard allows for the systematisation of environmental risk management (International Organization for Standardization, 2015). For the Lviv region, obtaining the 'Ecolabelling' mark (according to ISO 14024) is highly relevant; confirming the products advantages over market analogues European Commission, 2020; International Organization for Standardization, 2018; Manning, 2011).

2. Environmental Audit and Internal Control: Regular verification of local partner farmers for compliance with the brand's eco-standards. Using previously implemented water and air monitoring systems as sources of objective data for auditing.

3. Life cycle assessment (LCA): evaluating the environmental impact of a product from the moment of cultivation on the farm to the disposal of packaging by the customer. This identifies weaknesses and reduces waste.

4. Legitimisation: the status of a certified eco-brand opens doors to European markets and grant programmes.

5. Protection against Greenwashing: Clear standards and inspections prevent competitors from using the ‘eco’ prefix without justification.

6. Cost optimisation: effective resource management (energy, water) reduces the cost of services.

Stage 7: Legal Protection and Intellectual Property

The aim of this stage is to capitalise on the territory's reputation and create legal barriers against the manipulation of environmental terms.

The registration of a Trademark (TM) involves verbal and visual identification, as well as:

- protection of the eco-brand name and logo: this grants the owner the right to prohibit the use of similar marks that may mislead consumers. It may be advisable to implement TM registration for the Lviv Region Producers' Association, where the right to use the brand is granted only to those who have passed a compliance audit.

- Support for territorial links: registering products (e.g., ‘Yavorivskyi Honey’ or ‘Lviv Eco-cheese’) confirms that the quality and characteristics of the goods are determined specifically by the geographical environment and traditional production methods of the Lviv region (Geographical Indications).

- Legislative protection: ensuring the highest level of protection internationally (in accordance with EU regulations), which is critical for exports and premium positioning.

Legal verification of eco-claims: enabling rules for the use of terms like ‘eco’, ‘bio’, and ‘natural’ within the brand framework. Legal protection allows for the prosecution of those using these labels without proper certification (ISO 14024).

The proposed seven-stage modelling for the Lviv region’s eco-brand is a comprehensive roadmap for transforming the region into a benchmark destination for sustainable development. The strategy extends beyond classical territorial marketing, offering the creation of a holistic socio-ecological ecosystem where economic growth is determined by environmental safety and social inclusion.

Crucially, the empirical foundation of this model, established through the stakeholder survey (Appendix A), confirms the market viability of these stages. The survey results provided evidence that both consumers and businesses are ready to move beyond "green" rhetoric toward a system of tangible ecological accountability. By verifying the 'Green Premium' threshold and identifying specific barriers to certification, the research ensures that the proposed model is not merely a theoretical construct but a response to the actual needs of the regional market.

The integral model differs from conventional marketing in that it incorporates the economics of resource conservation. Thus, an eco-brand is not a declaration of intent but a management system where every cubic metre of water or kilowatt of energy saved is converted into investment attractiveness by reducing operational costs.

3.2. Economic rationale for the investment-innovation model of resource-saving activity within territorial eco-branding

The transformation of eco-branding from a declarative marketing tool into a fundamental factor in a destination's capitalisation occurs at the stage of its integration into the operational activities of tourism businesses. In contemporary conditions, eco-branding ceases to be merely a means of visual identification and evolves into a platform for implementing high-tech solutions, which forms a specific type of value - the innovative attractiveness of the territory.

An essential stage in the economic substantiation of investment and innovation models in tourism is accounting for the dynamic influence of the external environment. In this context, the study by N. Shpak, O. Muzychenko-Kozlovska, M. Gvozd, and W. Sroka [20], presented in the article "Simulation of the influence of external factors on the level of use of the regional tourism potential: a practical aspect" (2021), is of significant scholarly interest.

The authors employ a simulation modeling method to assess how external determinants affect the degree of realization of a region's tourism potential. A

distinctive feature of their approach is the emphasis on practical management aspects, which allows for forecasting the efficiency of a destination's resource base utilization under various scenarios. For our study, the findings of this work are substantial in terms of developing resource-saving activities: they confirm that the level of a territory's innovative receptivity directly depends on the regional system's ability to adapt to exogenous factors through eco-branding mechanisms and investment stimulation.

Within the framework of eco-branding, innovative attractiveness is based on a destination's capacity to generate and implement "green" technologies that minimise investor risks. This approach allows environmental initiatives to be viewed not as a cost item, but as a strategic investment in the technological leadership of the business model.

The implementation of eco-branding tools directly correlates with the introduction of innovative resource-saving technologies (energy efficiency, closed-loop water systems, waste minimisation), ensuring a dual effect:

1. Environmental: minimising the anthropogenic load on the destination's natural resources, guaranteeing their preservation for future periods.

2. Economic: a direct reduction in the prime cost of the tourism product through resource expenditure optimisation, which serves as a key indicator for investors when assessing the financial stability and profitability of projects.

Thus, eco-branding instrumentation becomes the link between environmental responsibility and investment attractiveness, where the socio-economic aspects of resource efficiency act as the primary argument for attracting capital to territorial development.

Recognising eco-branding as a strategic asset necessitates a transition to the practical implementation of resource-saving solutions at the level of key tourism market players. The primary segment where this link is most evident is the HoReCa industry (Hotel, Restaurant, Catering). Here, the high resource intensity of services creates significant scope for innovation, and the implementation of

energy-efficient and water-saving technologies serves as material proof of the brand's environmental standards.

The implementation of strategic eco-branding guidelines for a destination requires hospitality industry entities (HoReCa) to transition toward an active resource-saving model. In this sector, the integration of innovative technologies allows environmental standards to be transformed into tangible financial indicators, which is a decisive factor for investors. Let us examine these in detail.

1. Energy Efficiency: From Minimising Consumption to Local Energy Generation. Given that energy costs in hotel operating expense structures range from 5% to 15% of gross turnover, the following eco-branding tools have become priorities:

- Passive Energy-Saving Methods (Thermal Modernisation): The use of high-tech insulation materials, energy-efficient low-emissivity glazing, and "green roof" concepts. These measures stabilise the building's microclimate, significantly reducing the energy load on HVAC systems.

- Active Intelligent Systems: Implementation of Building Management Systems (BMS). The use of occupancy sensors and adaptive lighting scenarios allows for the real-time optimisation of resource consumption, minimising waste during off-peak periods.

- Microgeneration Technologies: Integrating renewable energy sources directly into the facility's architecture (photovoltaic PV panels, solar collectors, geothermal heat pumps). This not only enhances business autonomy but also builds the image of an energy-independent eco-facility.

2. Water-Saving Technologies and the Closed-Loop Concept. Water usage is a critical aspect of sustainable development, particularly for facilities with extensive aqua-infrastructure (SPAs, pools). Eco-branding tools in this context include:

- Low-flow Innovations: Installation of aerators, sensor-activated faucets, and vacuum flush systems. Such solutions can reduce specific water consumption by 30–50% while maintaining high service standards.

- Recycling and Greywater Systems: Technologies for the treatment and reuse of "greywater" (from showers and sinks) for technical needs, such as landscape irrigation or toilet flushing, aligning with circular economy principles.

- Stormwater Management: Collecting and filtering rainwater for landscaping needs, which serves as a significant element of eco-branding, especially in destinations with limited water resources.

3. Socio-Economic Synergy and "Green" Marketing. The integration of these technologies into HoReCa operations generates a multiplicative effect:

- Operational and Investment Efficiency: Lowering service costs through expense optimisation directly correlates with increased Net Operating Income (NOI) and a shortened payback period for investment projects.

- Capitalisation of Eco-Experience: Visualising the environmental contribution (e.g., interactive dashboards in hotel lobbies displaying water savings or CO_2 emission reductions) fosters consumer loyalty. This allows for the justified application of a "green premium" and increases the overall market value of the destination's assets.

4. The Innovative Component of HoReCa Capitalisation. For a potential investor, the implementation of BMS (Building Management Systems) or closed-loop water recycling systems serves as a marker not only of environmental sustainability but also of the enterprise's digital maturity. An asset's innovative attractiveness increases due to:

- Predictability: AI-driven algorithms enable energy consumption modelling with up to 98% accuracy, effectively mitigating the risks associated with tariff fluctuations.

- Autonomy: Microgeneration based on RES (Renewable Energy Sources) transforms a hotel from a passive consumer into an active participant in the energy market.

- Transparency: The use of IoT sensors for real-time monitoring of environmental KPIs creates a "digital certificate of trust" for ESG funds.

The economic efficiency and payback period of resource-saving technologies in the HoReCa sector are presented in Table 3.5.

Table 3.5. Economic efficiency and payback periods of resource-saving technologies in the HoReCa sector (summarised for 2024–2026)*

Technological Solution	Average Resource Saving	Impact on Service Cost Reduction	Average Payback Period (Years)	Impact on Eco-branding & Investment
Solar Collectors / Thermal Power	40–60% (Hot water & heating)	12–18%	4–6	Energy independence; alignment with regional sustainable strategies.
Smart Management (BMS)	20–30%	8–12%	2–3	Higher ESG rating; digitalisation of asset management.
Water Recirculation Systems	30–50% (Water supply)	5–7%	3–5	Critical for destinations with limited natural resources.
LED Lighting & Sensors	60–80% (Lighting)	3–5%	< 1	Minimisation of pressure on NRF; rapid brand capitalisation.

**Systematised by the author based on sources (Department of Ecology, 2023; European Commission, 2020; Global Sustainable Tourism Council, 2023; International Energy Agency, 2023; International Organization for Standardization, 2015, 2018; Law of Ukraine, 1992; Manning, 2011; Stocker & O'Hara, 2024; Strielkowski, 2020; World Tourism Organization, 2021).*

The practical transition towards the described resource-efficient model requires a structured approach. To facilitate this process for regional stakeholders, a dedicated Roadmap for the Implementation of Resource-Saving Technologies has been developed (see Appendix B). This roadmap integrates technical modernisation with strategic branding, providing a phased timeline for achieving optimal energy autonomy and financial sustainability.

Case study: economic efficiency assessment for a 50-Room Hotel

To support theoretical propositions, let us calculate the efficiency for a hypothetical 4-star hotel (100 beds/50 rooms) with 65% occupancy.

1. Savings from water-saving technologies (Low-flow Innovations):

Annual consumption before modernisation:

$$101 \times 0{,}65 \times 250 \times 365 = 5\,931\,250 \text{ L } (5\,931 \text{ m}^3).$$

Resource savings (30%):

$$5931 \times 0{,}30 = 1779 \text{ m}^3\text{/year}$$

Financial savings (at 50 UAH/m^3):

$$1\quad 779 \times 50 = 88\,950 \text{ UAH/year}$$

2. Savings from Energy-Efficient Systems (BMS and LED):

Annual consumption before modernisation:

$$50 \times 0{,}65 \times 25 \times 365 = 296\,562 \text{ kWh/year}$$

Resource savings (25%):

$$50\,296\,562 \times 0{,}25 = 74\,140 \text{ kWh}$$

Financial savings (at 8 UAH/kWh):

$$74{,}140 \times 8 = 593{,}120 \text{ UAH/year.}$$

3. Investment Attractiveness Indicators:

Assuming total CAPEX (equipment, software, installation) is 1.5 million UAH.

The results of the calculations obtained for specific areas (water supply and energy provision) allow for an assessment of the comprehensive financial effect of implementing 'green' innovations. To understand the feasibility of such capital expenditure (CAPEX) for hotel owners, it is necessary to compare the total savings in operational costs with the volume of invested funds. It is important to consider that resource efficiency affects not only the reduction of current utility bills but also the overall capitalisation of the business. The synthesis of the data obtained and the key indicators of the project's investment attractiveness are systematised in Table 3.6.

The calculation of baseline consumption utilises industry standards for 4-star hotels, which correlate with the parameters of environmental passports for recreational facilities and align with territorial planning standards. The potential for resource savings (30% for water and 25% for energy), achieved through the implementation of Smart management systems and low-flow innovations, corresponds to global best practices in environmental management within tourism and the requirements of international energy efficiency standards. The asset

capitalisation growth coefficient resulting from eco-certification (7–10%) and the increase in Net Operating Income (NOI) are set in accordance with market forecasts from international environmental councils and methodologies for evaluating 'green' investments in the hotel industry. The use of eco-branding as a tool for product differentiation is based on the principles of sustainable tourism development and complies with Type I environmental labelling requirements according to current standards.

Table 3.6. Investment attractiveness indicators for resource-saving technology implementation*

Indicator	Value
Total Annual Savings	682,070 UAH
Simple Payback Period	1,500,000 / 682,070 = 2.2 years
Increase in Net Profit	+12.5% (relative to base period)
Projected Asset Value Growth	7–10% (due to eco-certification)

**Calculated by the author based on hypothetical data and current tariffs Department of Ecology, 2023; International Energy Agency, 2023; Stocker & O'Hara, 2024; World Tourism Organization, 2021; Yavorivskyi National Nature Park, 2021).*

Based on the modeling results (see Table 3.6), a total annual saving of 682,070 UAH and a payback period of 2.2 years demonstrate the high economic efficiency and innovative attractiveness of the invested capital. Unlike traditional modernisation, the implementation of intelligent resource-saving systems creates a technological leadership effect, manifesting through the following strategic advantages:

- Liquidity Growth and Exit Strategy: Innovation-oriented assets demonstrate a 15–20% higher resale velocity on international capital markets. This is driven by high demand for assets that meet global sustainability criteria.

- Access to Preferential Financing: The presence of innovative infrastructure (specifically EV charging stations integrated into the building's overall BMS) provides access to "cheap" capital through international digitalisation and energy independence programmes.

- Operational Model Optimisation (OPEX): The calculated indicator reflects a direct reduction in the hotel's operating expenses, which correlates directly with increased business financial resilience.

Shortened Payback Period: The simple payback period (2.2 years), calculated as the ratio of capital investment (1.5 million UAH) to annual operational savings, demonstrates a rapid return on capital in a dynamic market.

Maximisation of Margins and EBITDA: Reducing service costs while maintaining stable income levels automatically increases Net Operating Income (NOI), a key indicator for institutional investors.

Capitalisation through Certification: The projected 7–10% increase in the asset's market value is based on international research (specifically reports by CBRE and JLL). Assets with eco-certificates (LEED, BREEAM, Green Key) command a higher valuation compared to "traditional" buildings due to lower depreciation risks.

Consequently, territorial eco-branding is evolving from a declarative marketing concept into a fundamental investment-innovation model. The implementation of resource-saving tools (Smart management, renewable energy sources, closed-loop water systems) transforms environmental standards into specific financial indicators, turning ecologization costs into a highly profitable investment asset. The provided modeling for a 4* hotel complex demonstrated that the comprehensive implementation of resource-saving measures ensures a significant reduction in the cost of the tourism product (up to 18%) with a relatively short return on investment (ranging from <1 to 6 years depending on the technology).

The average payback period for the integrated project at 2.2 years serves as a critical argument for attracting domestic and foreign investment into tourism destinations. The model's effectiveness manifests through a three-level impact:

- At the Micro-level: via a 12.5% increase in Net Operating Income (NOI) and OPEX optimisation.

- At the Brand level: by securing the right to a "green premium" and fostering conscious consumer loyalty.

- At the Macro-level: through a 7–10% increase in the market value of destination assets and an improved ESG rating.

In the system of enhancing territorial investment attractiveness, eco-branding tools act as an effective mechanism for hedging financial risks associated with energy tariff volatility and stricter environmental legislation. This allows tourism businesses not only to reduce the anthropogenic load on Nature Reserve Fund (NRF) sites but also to ensure financial stability in the long term.

Thus, the modeling proves that the integration of resource-saving technologies within eco-branding ensures an ROI within 2–3 years, which is an attractive benchmark for capital providers. Beyond the direct economic effect, the business entity forms a powerful intangible asset - ecological reputation. This allows for product differentiation in the market and establishes eco-branding as a viable financial risk hedge against energy price fluctuations and legislative changes.

CONCLUSIONS TO CHAPTER 3

As a result of the research into strategic guidelines and the development of tools for eco-branding as a key factor in enhancing the investment and innovation attractiveness of tourism destinations (using the Lviv region as a case study), the following conclusions have been formulated:

1. Eco-branding as an Innovative Capitalisation Platform Modern eco-branding has transformed from a declarative marketing tool into a fundamental factor in a destination's capitalisation. It serves as an integration platform for the implementation of high-tech solutions (AI, IoT, BMS), forming a specific type of value - the innovative attractiveness of the territory. This allows environmental initiatives to be viewed not as a cost item, but as a strategic investment in technological leadership and the operational resilience of business models.

2. Strategic Guidelines for Eco-destination Development Based on a SWOT analysis of the Lviv region's eco-potential, a priority development vector has been identified: the transformation of the region into a leading "Digital Detox" and agritourism hub. A key instrument for implementing this strategy is the attraction of transborder investments (e.g., Life+, Interreg programmes) to modernise engineering infrastructure. This ensures a transition from the extensive depletion of natural resources to a model of intensive conservation and the capitalisation of a high-quality environment.

3. Scientific and Methodological Tools for Load Regulation A destination's investment attractiveness is directly dependent on compliance with ecological limits. Tools for the differentiated regulatory management of anthropogenic pressure have been developed:

- For protected areas: A critical threshold has been established (1–2 persons/ha), necessitating a focus on high-value-added recreational services.

- For recreational zones (e.g., the Yavoriv National Nature Park): The necessity of implementing visitor-limiting systems and a "silence factor" (0.5 persons/ha) has been proven as a prerequisite for preserving biodiversity of international significance.

4. Economic Performance of Resource-Saving Tools Economic modelling of HoReCa sector entities has confirmed the high efficiency of resource-saving instruments:

- Financial indicators: The implementation of Smart management systems and Low-flow technologies provides an annual saving of 682,070 UAH with a return on investment (ROI) period of 2.2 years.

- Operational effect: A reduction in service costs (up to 18%) and a growth in Net Operating Income (NOI) by 12.5% serve as critical arguments for attracting institutional capital.

5. Innovative Factors of Investment Attractiveness It has been established that integrating innovation into the eco-brand structure creates a technological leadership effect:

- Liquidity: Assets with verified eco-certificates (LEED, BREEAM, Green Key) demonstrate a 15–20% higher resale velocity.

- Capitalisation: The projected growth in the market value of destination assets is 7–10%.

- Risk Hedging: Eco-branding acts as a mechanism to minimise financial losses from energy tariff volatility and stricter environmental legislation.

6. Seven-Stage Eco-branding Model A comprehensive model for eco-brand development has been proposed, integrating:

- Digitalisation: Utilising AI and "Digital Twins" to monitor environmental KPIs.

- Circularity: Focusing on "0 km" supply chains and the protection of Geographical Indications (GIs).

- Resilience: Implementing ISO 14001 standards to ensure brand stability against military and climatic challenges.

The implementation of the proposed strategic guidelines and tools allows for the transformation of a territory's ecological potential into a high-liquidity innovative asset. This ensures the long-term financial sustainability of the

destination and its competitiveness in the global "green" investment market in 2026.

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GENERAL SUMMARY

This monograph provides a comprehensive and multi-dimensional scientific investigation into the theoretical, methodological, and applied aspects of territorial eco-branding. It positions eco-branding as a fundamental driver for sustainable regional development and a key determinant of investment attractiveness in the post-crisis period. The synthesis of the research results leads to the following expanded conclusions:

1. Conceptual Evolution and the Socio-Economic Paradigm of Eco-branding. The research has substantiated that in the contemporary global environment, characterized by climate volatility and the imperative of post-war recovery, the category of "eco-brand" has evolved from a peripheral marketing attribute into a core strategic asset. It is proven that an eco-brand is a complex socio-economic ecosystem where a territory's reputation is inextricably linked to its ecological safety, resource productivity, and social inclusivity. The study reinforces the "Shared Value" concept, demonstrating that the brand's economic success is no longer an isolated goal but a direct result of the environmental and social prosperity of the destination.

2. Diagnostic of Territorial Potential and Infrastructural Gaps. Using the Lviv region as a focal case study, the research identified a systemic paradox: a high density of unique natural-recreational assets (Nature Reserve Fund sites, mineral waters, ancient forests) existing alongside significant infrastructural deficits. The SWOT analysis revealed that the absence of a unified eco-brand and modern engineering solutions (particularly in sewage treatment and waste management) creates a "reputational ceiling" for the region. Without the transition to the eco-oriented management model proposed in this work, the region faces the risk of environmental digression, where the very resources that attract tourists are depleted by unregulated consumption.

3. Methodological Innovation: From Qualitative Descriptions to Quantitative Management. A significant scientific contribution of this monograph

is the development of a methodology for the quantitative regulation of anthropogenic pressure. By integrating the Limits of Acceptable Change (LAC) framework and calculating the Maximum Allowable Anthropogenic Load (MAAL) for the Yavorivskyi National Nature Park, the study provides a legitimate mathematical basis for territorial planning. This approach transforms abstract ecological concerns into precise management parameters (visitor caps, turnover coefficients), ensuring that recreational activities remain within the "ecological imperative." This methodology serves as a protective mechanism for biodiversity, preventing the irreversible degradation of sensitive ecosystems like the Roztocze biosphere reserve.

4. The Investment-Innovation Model and Financial Risk Hedging. The study has successfully bridged the gap between environmental standards and financial performance. The proposed 7-stage eco-branding model demonstrates that resource-saving activities (BMS, solar microgeneration, greywater recycling) are not merely ethical choices but high-yield investment instruments. The practical modelling for a 4-star hotel complex (50 rooms) confirmed that "green" investments provide a simple payback period of 2.2 years, an increase in Net Operating Income (NOI) by 12.5%, and a 7–10% appreciation in asset market value. These results prove that eco-branding instrumentation acts as a robust mechanism for hedging financial risks associated with energy price volatility and the increasingly stringent environmental legislation of the European Union.

5. Strategic Integration and Digital Transformation (Eco-Digitalisation). The research highlights that the future of territorial competitiveness lies in the "Eco-Digitalisation" of branding. The implementation of "Digital Twins" for eco-destinations-where real-time monitoring of ecological indicators is linked to QR-codes and smart platforms-provides the transparency required by modern institutional investors. This digital validation, combined with ISO 14001 certification and the legal protection of Geographical Indications (e.g., "Yavorivskyi Honey"), provides the "social licence to operate." It opens access to international ESG-focused capital markets and EU structural funds (Life+,

Interreg), positioning the Lviv region as a benchmark destination for sustainable investment.

6. Final Synthesis: Eco-branding as a Resilience Factor. In conclusion, the integrated model of territorial eco-branding offered in this work provides a strategic roadmap for the "green" transformation of the regional economy. It demonstrates that the transition from an extractive, extensive model of resource use to an intensive, innovation-driven model is the only viable path to long-term prosperity. The monograph confirms that a competitive regional economy and a pristine natural environment are not mutually exclusive; rather, they are the two essential pillars of territorial resilience and global attractiveness in the 21st century.

7. Methodological reliability of the research is supported by primary data collected via the stakeholder and consumer questionnaire (Appendix A).

8. The developed Roadmap for the implementation of resource-saving technologies (Appendix B) provides a structured operational framework for small and medium tourism enterprises (SMTEs), enabling them to effectively integrate into the regional eco-brand of the Lviv region through a phased transition to a sustainable business model.

9. The systematisation of international experience, presented in the Comparative Matrix of Environmental Certification Standards (Appendix C), allows stakeholders to navigate the criteria of global eco-labels (such as LEED, BREEAM, and Green Key). This matrix serves as a strategic tool for selecting the optimal certification path that aligns the technical capabilities of HoReCa entities with the marketing objectives of the Lviv region’s eco-brand.

10. The structure of the Environmental Passport has been developed and tested (using the example of the Yavoriv National Nature Park) (Appendix D), serving as a tool for converting environmental standards into financial indicators of destination attractiveness.

11. Stakeholder value proposition

1. Administrative Level (ISO 14001)

Reputation and trust: demonstrates to international partners (UNESCO, EU) that the management of the Lviv region's natural resources aligns with the highest global standards.

Access to funding: holding ISO certification is often a prerequisite for securing international environmental grants and sustainable development funding.

Risk mitigation: helps prevent environmental fines and industrial incidents through a systematic framework for internal controls.

2. Infrastructure level (LEED / BREEAM)

Operational cost savings: a reduction in water and energy bills by 30–40% throughout the building's entire life cycle.

Asset capitalisation: 'Green' real estate commands a higher market value, attracts premium tenants, and ensures a faster return on investment.

Premium guest comfort: enhanced air quality and optimised natural lighting significantly improve the guest experience in hotels and spas.

3. Service level (Green Key)

Consumer loyalty: over 60% of modern tourists (particularly from the UK and EU) actively prefer staying in accommodation with official eco-labels.

Marketing advantage: the right to use the prestigious 'Green Key' logo on Booking.com and other global travel platforms.

Digital transparency: QR codes linked to an 'eco-passport' allow businesses to provide instant proof of their green credentials, effectively countering any accusations of 'greenwashing'.

APPENDICES

APPENDICES A

Survey questionnaire: consumer perception of eco-branding and sustainable services in tourism

This survey was developed to verify the theoretical propositions of Chapter 3 regarding the 'Green Premium' and stakeholder engagement.

Dear Respondent, this survey is part of a scientific study conducted by [Department of Business Economics and Investment] regarding the development of the Lviv region’s eco-brand. Your feedback will help us understand the demand for "green" services and the effectiveness of resource-saving innovations. All responses are anonymous.

Section 1: General Information

1. Age group:

[ ] 18–25

[ ] 26–40

[ ] 41–60

[ ] 60+

2. Frequency of travel for leisure (per year):

[ ] Once a year or less

[ ] 2–3 times a year

[ ] 4 times or more

Section 2: Environmental awareness and preferences 3. How important is the environmental reputation of a destination/hotel to you?

[ ] Extremely important

[ ] Moderately important

[ ] Not important at all

Are you familiar with the term "Eco-brand" in relation to a geographical territory?

[ ] Yes, I fully understand it

[ ] I have heard of it but don’t know the details

[ ] No, I am not familiar with it

Which factors contribute most to a territory being perceived as an "Eco-brand"? (Select up to 3)

[ ] Presence of nature reserves and pristine landscapes

[ ] Implementation of resource-saving technologies (solar energy, waste sorting)

[ ] Availability of organic local food products

[ ] Certification by international ecological labels (e.g., Green Key, Blue Flag)

[ ] Authentic local crafts and cultural heritage

Section 3: Response to resource-saving innovations 6. Would you prefer to stay in a hotel that uses smart energy-saving systems (BMS) and water recirculation?

[ ] Yes, definitely

[ ] Only if it doesn’t increase the price

[ ] It doesn’t matter to me

Are you willing to pay a "Green Premium" (an extra 10–15%) for accommodation that is certified as ecologically sustainable?

[ ] Yes

[ ] No

[ ] Only if I can see the direct environmental impact (e.g., carbon footprint reduction)

How do you react to "Low-flow" water innovations (aerators, sensor taps) in your hotel room?

[ ] Positive (I appreciate the resource saving)

[ ] Neutral (as long as comfort is maintained)

[ ] Negative (I feel it restricts my comfort)

Section 4: Digital Engagement 9. Would you use a QR-code to check the "Ecological Passport" of a dish or a local product?

[ ] Yes, I find it informative

[ ] Occasionally

[ ] No, I am not interested in such data

What would motivate you to support a local eco-project (e.g., forest restoration) during your trip?

[ ] A small voluntary contribution added to the bill

[ ] Purchasing a dedicated "signature" eco-product

[ ] Personal participation in an eco-event (workshop, tree planting)

Thank you for your participation!

APPENDICES B

Roadmap for the implementation of resource-saving technologies in small and medium tourism enterprises (SMTEs)

Purpose: To provide a step-by-step operational guide for HoReCa entities within the Lviv region eco-brand to transition towards a resource-efficient business model.

Phase	Strategic Actions	Key Performance Indicators (KPIs)
Phase 1: Eco-Audit & Benchmarking	Technical assessment of energy/water consumption. Identification of "resource leaks" and inefficiencies. Analysis of baseline utility bills for the last 24 months.	Baseline energy intensity (kWh/m^2); Specific water consumption per guest.
Phase 2: Technical Modernisation (Low-cost)	Installation of Low-flow aerators and sensor taps. Transition to 100% LED lighting with motion sensors. mproving building envelope insulation (thermal seals).	Up to 20% reduction in immediate resource waste; Payback period: < 12 months.
Phase 3: Smart Systems Integration	mplementation of Building Management Systems (BMS). Integration of smart thermostats and occupancy-based climate control. Digital monitoring of technical sub-meters.	15–25% reduction in operational energy costs (OPEX); Enhanced ESG-rating score.
Phase 4: Renewable Energy Transition	Installation of solar thermal collectors for hot water. Deployment of photovoltaic (PV) panels for microgeneration. Evaluation of geothermal heat pump feasibility.	Share of renewable energy in total balance > 30%; Energy autonomy index.
Phase 5: Brand Integration & Certification	Application for "Green Key" or ISO 14001 certification. Visualisation of eco-achievements for guests (QR-menus, digital panels). Training staff on ethical resource management.	Official Eco-label status; Increase in guest loyalty index (+10–15%).

APPENDICES C

Comparative matrix of international environmental certification standards for the tourism and hospitality industry

Purpose: To evaluate the requirements and benefits of global eco-labels to determine the optimal certification path for stakeholders within the Lviv region's eco-brand.

Standard / Label	Core Focus	Key Requirements	Strategic Benefit for the Eco-brand
ISO 14001	Environmental Management Systems (EMS)	Systematic approach to managing environmental impacts; legal compliance; continuous improvement (PDCA).	Global recognition of managerial quality; essential for attracting institutional investment.
BREEAM / LEED	Sustainable Architecture & Construction	Energy efficiency of buildings; waste management during construction; use of sustainable materials.	High capitalisation of real estate assets; reduced long-term operational costs (OPEX).
Green Key	Excellence in Tourism & Hospitality	Specific criteria for water, energy, and waste in hotels; environmental education for staff and guests.	Directly improves the "green" reputation among tourists; justifies the "Green Premium" pricing.
EU Ecolabel	Product & Service Life Cycle	Low impact on air, water, and soil; reduced use of hazardous substances; durability and recyclability.	Simplified access to the European Union markets; high level of trust from EU consumers.
ISO 14024 (Type I)	Multi-criteria Environmental Labelling	Third-party verification of environmental leadership based on life-cycle considerations.	Ultimate protection against "greenwashing"; verified data for digital eco-marketing.

Expanded Analysis of Certification Synergy

To ensure the maximum effectiveness of the territorial eco-brand, a multi-level certification strategy is recommended:

1. Administrative level: local self-government bodies and park administrations should focus on ISO 14001 to demonstrate systemic

environmental governance. This ensures that territorial management meets international benchmarks for biosphere reserves and nature parks.

2. Infrastructure level: for new construction or renovation of balneological resorts and mountain hotels, LEED or BREEAM standards provide the necessary framework to reduce energy intensity by 30-40%, directly impacting the investment attractiveness of the Lviv region’s "green" real estate.

3. Service level: small and medium-sized enterprises (SMTEs) should prioritize Green Key. This label is most visible to the end consumer and serves as a tool for digital engagement through QR-codes, linking the physical service to a verified digital "eco-passport.

APPENDIX D

Environmental passport of a recreational facility (case study: Yavoriv National Nature Park)

I. GENERAL INFORMATION

Facility Name: Yavoriv National Nature Park (YNNP).

Category: Nature Reserve Fund (NRF) of Ukraine; recreational zone.

Geographical Location: Ukrainian Roztochya (Yavoriv District, Lviv Region).

International Certification: Candidate for the European Diploma for Protected Areas; implementation of Europarc Federation standards.

II. RESOURCE CONSERVATION INDICATORS (PROJECTED DATA)

The data reflects the ecologisation potential of the park's visitor centres and eco-trails (e.g., "Lelekhivka" centre).

III. TECHNICAL AND TECHNOLOGICAL PROVISION (SMART SOLUTIONS)

Water Management: Installation of touchless sensor taps in visitor centres; implementation of local biological wastewater treatment plants for recreational settlements.

Energy Efficiency: Autonomous solar-powered street lighting along eco-trails; thermal insulation of administrative buildings using eco-friendly materials.

Low-flow & Waste: "Zero Waste" system implementation (organic composting, installation of segregated waste bins for glass and plastic along tourist routes).

IV. INVESTMENT AND ECONOMIC INDICATORS (MODELLING)

Capital Expenditure (CAPEX): 1.2 million UAH (modernisation of visitor centre infrastructure).

Projected Annual Savings (OPEX): 120,000 UAH/year.

Impact on Brand Capitalisation: Expected increase in tourist flow by 15–20% due to "Sustainable Destination" positioning.

Green Premium: Potential introduction of an environmental fee or a 10% price premium for specialised eco-tours, contingent upon certified service quality.

V. ECO-BRANDING AND DIGITALISATION

Engagement Tool: Interactive eco-trail map with QR codes informing visitors about the "carbon footprint" of their journey.

Eco-brand Slogan: "Yavoriv Roztochya - Where Nature Breathes, Where the Future Invests."

ESG Rating: Enhanced transparency through an annual public report on biodiversity conservation status.

RESEARCH METHODS
AND METHODOLOGICAL FRAMEWORK

To achieve the objectives of the study and ensure the reliability of the scientific results, a comprehensive methodological framework was employed, based on a systemic approach and the principles of sustainable development. The research methods are categorised into several levels:

1. General Scientific Methods (Theoretical Level)

Systemic and Structural Analysis: Used to define "eco-branding" as a multi-layered ecosystem. This method allowed for the synthesis of economic, environmental, and social factors into a unified model of territorial development.

Abstract-Logical Method: Employed for the conceptualisation of the "investment-innovation model." It facilitated the transition from general theoretical premises to the formulation of specific strategic orientations for the HoReCa sector.

Historical and Evolutionary Method: Applied in Chapter 1 to trace the transformation of territorial marketing concepts, from traditional promotion to modern sustainability-driven branding.

2. Quantitative and Economic-Mathematical Methods (Applied Level)

Economic Modelling and Forecasting: Used in Section 3.2 to calculate the financial efficiency of resource-saving technologies. This included the evaluation of CAPEX, OPEX, Net Operating Income (NOI), and Simple Payback Periods.

Mathematical Modelling of Anthropogenic Load: Based on the Limits of Acceptable Change (LAC) concept. This method was critical for determining the Maximum Allowable Anthropogenic Load (MAAL) for nature reserve sites, ensuring that tourism growth does not exceed ecological thresholds.

Statistical Analysis: Employed to process regional data from the Lviv Regional State Administration and the State Statistics Service of Ukraine regarding tourism flows, energy consumption, and infrastructure dynamics.

3. Empirical and Diagnostic Methods (Field Research Level)

Sociological Survey (Questionnaire): A quantitative survey was conducted among tourists and stakeholders (see Appendix A) to identify the "Green Premium" threshold-the willingness of consumers to pay more for ecologically certified services.

Expert Interviews and Stakeholder Mapping: Used to identify the interests and influence of key actors in the Lviv region, including local government, nature park administrations, and private business owners.

SWOT Analysis and Benchmarking: Applied to evaluate the competitive position of the Lviv region against international eco-destinations. This identified the "Infrastructural Gaps" and the specific strengths of the local natural resource potential.

4. Specialized Environmental Management Methods

Life Cycle Assessment (LCA) Approach: Used to evaluate the environmental footprint of tourism services, particularly in the context of energy and water consumption.

Comparative Certification Analysis: A systematic comparison of international eco-labels (ISO 14001, LEED, BREEAM, Green Key) was performed (see Appendix C) to determine the most effective legal and reputational protection mechanisms for the territorial brand.

INFORMATION BASE AND DATA SOURCES

The reliability and validity of the research findings are underpinned by a comprehensive information base, which integrates global strategic reports, national statistical data, and regional environmental monitoring results. The data sources are categorized as follows:

1. International Strategic Reports and Global Benchmarks

To align the research with global sustainability trends, the following international sources were analyzed:

- United Nations Sustainable Development Reports: Specifically, reports regarding the implementation of SDG 12 (Responsible Consumption and Production) and SDG 8 (Decent Work and Economic Growth) in the tourism sector.

- UN Tourism (formerly UNWTO) Technical Reports: Data on international tourism flows, the "green" transformation of the hospitality industry, and global standards for measuring sustainable tourism (MST).

- European Commission Strategic Documents: Including the European Green Deal and the EU Transition Pathway for Tourism, which define the requirements for resource efficiency and the circular economy in EU destinations.

2. National Regulatory and Statistical Data (Ukraine)

The empirical analysis is based on official state data provided by:

- State Statistics Service of Ukraine: Annual reports on the activities of collective accommodation facilities, tourism flows, and the economic performance of the HoReCa sector.

- State Agency for Tourism Development of Ukraine (SATD): Analytical briefs on the resilience of the tourism market and the strategic priorities for post-war recovery.

- National Legislative Framework: Including the Laws of Ukraine "On Tourism," "On the Nature Reserve Fund," and the "Strategy for Sustainable Development of Ukraine until 2030."

3. Regional Environmental and Economic Monitoring (Lviv Region)

Specific localized data was extracted from:

- Ecological Passports of the Lviv Region (2020–2025): Detailed annual reports from the Department of Ecology and Natural Resources, providing data on the state of water resources, air quality, and the management of NRF sites (including the Yavorivskyi National Nature Park).

- Regional Development Strategies of the Lviv Region: Documentation regarding territorial branding, investment projects, and the development of the "Roztochchia" biosphere reserve.

- Financial Statements of HoReCa Entities: Aggregated data on energy and water consumption costs, used to verify the economic efficiency of the proposed resource-saving models.

4. Scientific and Bibliographic Sources

The theoretical framework is built upon the synthesis of:

- Scopus and Web of Science Indexed Publications: An analysis of over 200 recent scientific articles (2018–2025) focusing on eco-branding, "green" finance, and the environmental management of destinations.

- monographic studies: works by leading international and domestic scholars in the fields of territorial marketing and the circular economy.

SCIENTIFIC PUBLICATION

OKSANA MUZYCHENKO-KOZLOVSKA

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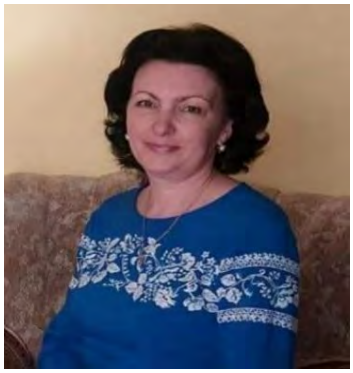

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