SUSTAINABLE TOURISM: INTEGRATING RENEWABLE ENERGY INTO DESTINATION STRATEGIES

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Abstract

In recent decades, tourism has undergone a significant transformation, with an increasing emphasis on sustainability-oriented practices. One of the key pillars of this shift is the use of renewable energy technologies, which help reduce environmental impact without compromising the quality of the visitor experience.

Tourist destinations with rich cultural and natural heritage provide fertile ground for developing eco-compatible models, where resource conservation is harmoniously integrated with hospitality. Among the solutions implemented are solar panels in resorts and hotels, as well as geothermal heating and cooling systems in accommodation facilities. These initiatives not only enhance the added value of tourist destinations but also foster a more responsible dialogue between visitors and the local environment. Thus, tourism takes on a new dimension as a catalyst for ecological and social change.

Key words: *renewable energy, sustainability, solar panels*

INTRODUCTION

The integration of renewable energy sources into tourism infrastructure has become a vital component of the global effort to achieve sustainable development. As environmental damage, climate instability, and resource shortages escalate, tourism stakeholders are increasingly compelled to adopt low-impact operational models that align with ecological, economic, and social objectives. This shift is significant, as tourism plays a dual role, both driving economic growth and contributing to environmental strain [1]. With over 10% of the world's GDP tied to tourism activities, the sector's environmental impact-particularly in terms of energy use and emissions—calls for urgent and comprehensive change.

Furthermore, integrating innovative energy systems, including energy storage, intelligent grid management, and IoT-based monitoring, has increased the ability of tourism infrastructure to operate efficiently and adaptively. These systems support circular economy strategies and enable dynamic energy management, improving both ecological efficiency and financial sustainability [2]. Energy storage enhances resilience by balancing supply and demand, intelligent grid management optimizes distribution through real-time analytics, and IoT-based monitoring enables continuous tracking of energy flows and equipment

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The manuscript was received: 25.10.2025
Accepted for publication: 28.11.2025

performance, facilitating predictive maintenance and adaptive operations. Together, they form a synergistic framework that empowers tourism infrastructure to align with sustainability goals while maintaining operational flexibility and cost-effectiveness[2]. These technologies are being implemented across a broad spectrum of facilities, from small-scale eco-lodges to large resorts, often located in remote or environmentally sensitive areas. In such contexts, decentralized energy systems not only reduce dependence on fossil fuels but also preserve the visual and ecological integrity of landscapes, particularly in protected natural zones and heritage sites [6]

Furthermore, integrating innovative energy systems-including energy storage, intelligent grid management, and IoT-based monitoring-has increased the ability of tourism infrastructure to operate efficiently and adaptively. These systems support circular economy strategies and enable dynamic energy management, improving both ecological efficiency and financial sustainability [2]. The merging of digitalization and decarbonization in tourism infrastructure reflects a broader shift toward regenerative and climate-resilient destination planning.

Empirical evidence from European countries further supports the economic viability of renewable energy in the tourism sector. A recent panel data analysis revealed that increased solar energy use is positively correlated with tourism growth and ICT development, while also reducing CO_2 emissions [3]. Case studies from cities like Barcelona and Amsterdam demonstrate how urban tourism can benefit from integrated clean transportation systems, including solar-powered charging stations and wind-assisted electric buses, supported by cohesive municipal and EU-level climate policies. In mountainous areas such as South Tyrol, Italy, agritourism facilities have successfully implemented off-grid solar and biomass systems, thanks to regional subsidies and environmental zoning regulations [4]. These examples demonstrate that renewable energy is not only technically viable but also economically and institutionally scalable across diverse geographic and governance settings.

In Romania, the first structured photovoltaic funding programs commenced in 2024 under the National Recovery and Resilience Plan (PNRR), marking a significant milestone in the country's energy transition. Through Investment 4.2 and 4.3, the Ministry of Energy began contracts to support local solar panel manufacturing and battery storage infrastructure, aiming to increase energy independence and reduce reliance on imports [4]. These initiatives were complemented in 2025 by private investments, such as the €12.4 million funding secured by R.Power for the development of utility-scale solar projects, demonstrating growing investor confidence and institutional support for renewable energy in Romania [5] Although tourism-specific applications are still in development, these efforts lay the groundwork for integrating photovoltaic systems into hospitality and ecotourism facilities, particularly in areas with high solar potential and limited access to the grid.

In this evolving landscape, renewable energy is no longer a peripheral upgrade but a core component of destination strategy. By investing in clean technologies, tourism operators can enhance brand reputation, meet regulatory expectations, and respond to the growing demand for environmentally responsible travel experiences. Furthermore, the integration of renewable energy contributes to broader climate mitigation goals, supports biodiversity conservation, and fosters inclusive economic development through the creation of green jobs and community-based energy initiatives.

The present study builds on this foundation to examine how the integration of renewable energy can reshape tourism

infrastructure, drawing on interdisciplinary insights and international case studies to inform future development pathways. By analyzing the interplay between technology, governance, and environmental context, the research aims to identify replicable models and strategic levers that can accelerate the ecological transition of tourism destinations worldwide (Figure 1).

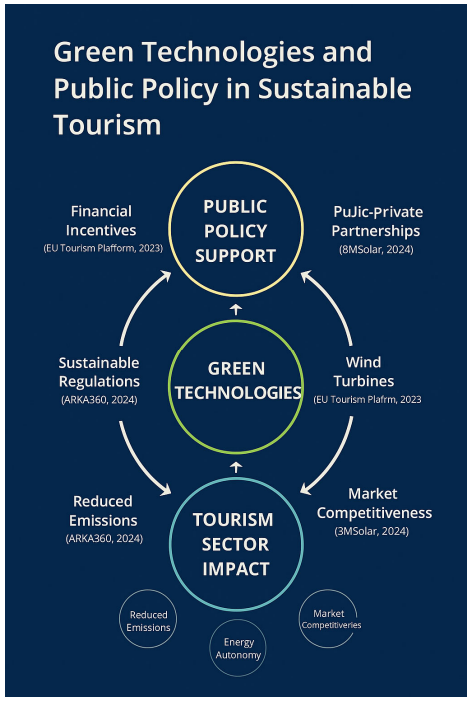

Fig. 1 Green Technologies The role of solar energy in supporting sustainable tourism and travel (source ARKA360.2024)

MATERIALS AND METHODS

This study employs a qualitative and interdisciplinary research design to investigate the integration of renewable energy technologies into tourism infrastructure, with a focus on their role in promoting sustainable development. The approach is based on understanding tourism as a complex socio-economic system that intersects with environmental, technological, and policy factors. Therefore, a diverse analytical perspective is necessary to capture the subtleties of ecological transition in this sector.

The research was part of a larger academic project on sustainable tourism and energy transition, using sources from peer-reviewed journals, EU policy documents, technical reports from renewable energy providers, and case studies published by tourism operators and environmental NGOs. The study also included data from open-access repositories, such as ScienceDirect, SpringerLink, and the European Commission's Climate Action portal. Methodologically, it combines documentary analysis, contextual observation, and case study evaluation to develop a comprehensive understanding of current practices and strategic directions. The documentary review involved systematically analyzing academic literature, policy frameworks, and industry publications that examine the connection between sustainable tourism and renewable energy. Special focus was given to sources analyzing the operational, environmental, and economic impacts of deploying solar photovoltaics, wind energy, and electric mobility solutions in tourism settings [5,6]. These references, spanning over two decades-from UNEP's foundational report in 2003 to the most recent scholarly contributions in 2022 and 2025-provide a robust temporal framework for understanding the evolving relationship between renewable energy and sustainable tourism.

To connect theoretical insights with practical applications, the study chose six case studies-three international and three European-based on criteria such as technological diversity, geographic relevance, and documented sustainability outcomes. The international examples include Svart Hotel in Norway, Six Senses Resort in Fiji, and EcoCamp Patagonia in Chile, each demonstrating innovative methods in energy-positive architecture, hybrid energy systems, and off-grid ecological integration.

Additionally, three European case studies were included to illustrate regional strategies and policy environments. In Barcelona, Spain, the integration of solar-powered charging stations and bus depots into the urban transportation system has improved low-carbon mobility for both tourists and locals, aligning with the city's municipal climate goals and EU sustainability directives [7]. In Amsterdam, Netherlands, the deployment of wind-powered electric buses and solar-powered ferry terminals demonstrates how renewable energy can be integrated into city-scale tourism infrastructure, enhancing air quality and boosting the city's eco-friendly reputation [7]. Meanwhile, in South Tyrol, Italy, mountain lodges and agritourism facilities use solar panels and biomass heating systems to operate off-grid, supported by regional incentives that promote environmental protection and energy independence in mountain tourism areas [4]. To support the contextual analysis, the study also examined the technical specifications of the renewable energy systems used at the selected sites. Photovoltaic systems ranged from 10 kWp in small eco-lodges to over 500 kWp in urban transport hubs, utilizing monocrystalline or polycrystalline solar panels with efficiency rates between 18% and 22%. Examples include the SunPower Maxeon 6 (monocrystalline, ~22% efficiency), Canadian Solar HiKu (polycrystalline, ~19% efficiency), and LG NeON R (monocrystalline, ~21.7% efficiency). These systems were often combined with lithium-ion battery storage for load balancing and nighttime use. Wind energy systems, such as those in Amsterdam's electric bus network, utilize vertical-axis turbines optimized for urban airflow, with capacities ranging from 5 to 30 kW each. Biomass heating in South Tyrol relies on locally sourced wood pellets and automated feeders, producing up to 100 kW of thermal energy for grouped accommodations at remote sites, such as EcoCamp Patagonia. Hybrid setups incorporate solar panels, micro-hydro turbines, and composting sanitation systems, supported by rainwater harvesting and passive thermal design.

These examples were analyzed to identify successful patterns, obstacles, and models that could guide future efforts. At the same time, a policy review examined how governance influences the adoption of renewable energy in the tourism sector. This analysis examined fiscal incentives, regulations, and strategic documents, revealing that destinations with clear and supportive policies tend to adopt new technologies more quickly and remain aligned with sustainability goals [7].

The interdisciplinary nature of the study is reflected in its integration of concepts from environmental economics, energy policy, tourism management, and spatial planning. This synthesis enables a holistic understanding of how renewable energy can be integrated into tourism infrastructure, not merely as a technical upgrade, but as a transformative element of destination development. By contextualizing global trends and drawing on diverse international and European examples, the study positions tourism as a strategic vector for sustainability-capable of making meaningful contributions to climate mitigation, biodiversity conservation, and socio-economic resilience.

The following analysis is grounded in the integrated methodological framework illustrated in Figure 2, which connects documentary analysis, policy review, and case studies across thematic domains such as environmental economics, energy policy, and tourism management. This framework enables a structured exploration of how governance, strategic planning, and empirical evidence converge to support the adoption of renewable energy in tourism infrastructure.

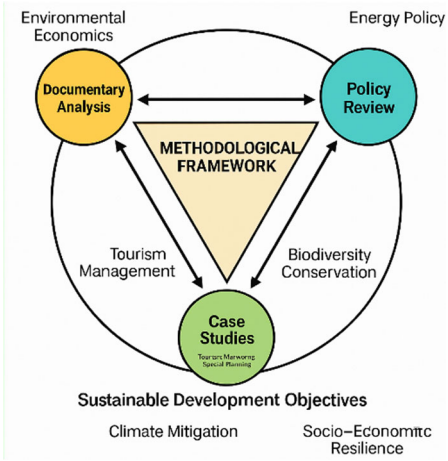

Fig. 2 Integrated methodological framework for the analysis of renewable energy in tourism (source Copilot Microsoft)

RESULTS

The integration of renewable energy technologies into tourism infrastructure has yielded a diverse set of measurable outcomes across multiple geographic and operational contexts. Accommodation facilities have increasingly adopted solar photovoltaic systems, enabling them to cover a substantial share of their energy needs while significantly reducing reliance on fossil fuels. This transition has led to enhanced energy autonomy, improved operational resilience, and notable reductions in utility costs.

In regions with favorable wind conditions, investments in small-scale wind farms have facilitated the generation of clean energy through decentralized systems. These installations contribute to the diversification of local energy supply and alleviate pressure on centralized grids, particularly in remote or insular destinations where grid access is limited or unstable. Complementary technologies, such as solar thermal systems for water heating, have proven effective in high-consumption facilities, offering a reliable and low-impact alternative to conventional heating methods.

Beyond stationary infrastructure, the deployment of photovoltaic-powered charging stations and electric vehicles for tourist transport has demonstrated strong potential for reducing emissions associated with travel. These innovations support the emergence of low-carbon tourism models and contribute to the decarbonization of mobility systems within destination areas.

European case studies further illustrate the operational integration of renewable energy into tourism systems. In Barcelona, solar-powered bus depots and public charging stations have been embedded into the city's transport infrastructure, facilitating low-emission mobility for both tourists and residents. Amsterdam has implemented wind-integrated electric buses and solar-powered ferry terminals, reinforcing its position as a leader in sustainable urban tourism. In alpine regions such as South Tyrol, off-grid solutions, including solar panels and biomass heating systems-have been adopted by mountain lodges and agritourism facilities, supported by targeted regional incentives.

Collectively, these results demonstrate that renewable energy integration in tourism infrastructure not only delivers environmental benefits, but also enhances energy security, operational efficiency, and destination competitiveness. The observed outcomes reflect a growing alignment between technological innovation, regional policy support, and evolving consumer expectations, positioning tourism as a strategic sector in the broader transition toward sustainability (Figure 3).

DISCUSSIONS

The integration of renewable energy technologies into tourism infrastructure cannot be effectively realized without a coherent legislative and fiscal framework that incentivizes green investment [6]. National governments should actively promote the adoption of sustainable technologies by offering targeted tax relief,

grants, and low-interest financing schemes to tourism operators committed to environmental innovation [4]. Such financial instruments have proven effective in accelerating the deployment of solar, wind, and geothermal systems within hospitality facilities, particularly in regions where upfront costs remain a barrier to entry [5].

Fig. 3 Pivot points for sustainable tourism transformation (source Copilot Microsoft)

Concrete examples highlight the importance of policy support in enabling technological adoption. The Svart Hotel in Norway, designed to be energy-positive, combines solar panels and geothermal systems within a circular structure that maximizes energy efficiency in Arctic conditions. Its development was supported by Norway's national sustainability agenda and building codes that promote low-emission architecture [8]. This case shows how regulatory clarity and environmental planning can encourage innovation even in challenging, cold climates.

Similarly, the Six Senses Resort in Fiji demonstrates the effectiveness of hybrid energy systems in island tourism. Supported by Fiji's national renewable energy strategy, the resort combines solar arrays, battery storage, and biodiesel generators, while also investing in electric transport and coral reef restoration. These initiatives align with fiscal incentives and conservation policies that promote integrated sustainability across sectors [6].

In protected natural areas, policy frameworks play a decisive role in enabling low-impact tourism. EcoCamp Patagonia in Chile operates off the grid, utilizing solar and micro-hydro systems, composting toilets, and rainwater harvesting. Its success is linked to Chile's environmental regulations and ecotourism guidelines, which support modular, nature-compatible infrastructure (8MSolar, 2024). This case highlights how governance can facilitate ecological integration without compromising visitor experience.

European destinations provide further evidence of how policy and planning frameworks can facilitate the adoption of renewable energy in tourism. In Barcelona, Spain, the municipality has implemented solar-powered charging stations and bus depots as part of its urban transport strategy, enhancing low-emission mobility for tourists and residents. These initiatives are supported by EU climate directives and local sustainability plans, illustrating how city-level governance can drive the development of green infrastructure in tourism [8].

In Amsterdam, Netherlands, the deployment of wind-integrated electric buses and solar-powered ferry terminals reflects a strong commitment to sustainable urban tourism. These systems are embedded within the city's broader climate action framework and benefit from national incentives for clean transport, reinforcing Amsterdam's reputation as a leader in eco-conscious destination management [8].

Meanwhile, South Tyrol, Italy, showcases how regional policy can support off-grid tourism in mountainous areas. Alpine lodges and agritourism facilities in the region utilize solar panels and biomass

heating systems, enabled by targeted subsidies and environmental zoning regulations. These measures promote energy independence and ecological compatibility in sensitive landscapes [5]

Equally important is the establishment of clear and enforceable regulations for sustainable construction. These standards-covering energy efficiency, material sourcing, and environmental integration-can guide developers toward eco-compatible solutions that minimize ecological disruption and enhance long-term resilience [6]. When aligned with broader climate and conservation goals, these regulatory frameworks contribute to the emergence of responsible tourist destinations that strike a balance between economic viability and environmental stewardship.

Beyond environmental benefits, this policy-driven approach offers a strategic advantage to tourism enterprises that embrace green innovation. Facilities that invest in renewable energy and sustainable design not only reduce operational costs but also position themselves favorably in a market increasingly shaped by eco-conscious consumer preferences [8] In this context, well-designed incentives and governance mechanisms can transform tourism into a pivotal sector of sustainable development-one capable of responding to the ecological imperatives of contemporary society while fostering inclusive economic growth.

To illustrate how various technologies and governance models have been successfully applied in tourism settings, the following table provides a comparative overview of six case studies analyzed in this study.

Table 1 Comparative Overview of Renewable Energy Integration in Tourism Case Studies

Case Study	Location	Technologies Used	Environmental Impact	Policy Support	Replicability Potential	References
Svart Hotel	Norway	Solar PV, geothermal heating, passive design	Net-positive energy balance; reduced emissions	Supported by national sustainability codes	Highly applicable in cold climates with planning	[9]
Six Senses Resort	Fiji	Solar PV, battery storage, biodiesel backup, electric buggies	Reduced fossil fuel use; marine conservation synergy	Aligned with Fiji's renewable energy strategy	Moderate – suitable for island contexts	[10]
EcoCamp Patagonia	Chile	Solar panels, micro-hydro, composting toilets, rainwater harvesting	Off-grid autonomy; minimal ecological footprint	Enabled by ecotourism and environmental zoning	High – ideal for protected natural areas	[11]
Barcelona City Tourism	Spain	Solar-powered bus depots, public EV charging stations	Reduced urban emissions; enhanced low-carbon mobility	Municipal climate strategy and EU directives	Highly replicable in urban tourism hubs	[12]
Amsterdam Urban Transport	Nether-lands	Wind-integrated electric buses, solar ferry terminals	Improved air quality; reduced transport-related emissions	National clean transport incentives	Highly scalable in innovative city frameworks	[11]
South Tyrol Agritourism	Italy	Solar PV, biomass heating, off-grid systems	Energy independence; low-impact alpine tourism	Regional subsidies and environmental zoning	Moderate – effective in mountainous regions	[10]

These examples reinforce the core idea that the successful adoption of renewable energy technologies in tourism depends not just on technical feasibility but also on the outcome of a synergistic interplay among coherent policy frameworks, strategic planning, and contextually adapted design. Coherent policies-such as fiscal incentives, regulatory clarity, and long-term sustainability goals-provide the institutional support needed for innovation to flourish. Strategic planning ensures that the integration of renewable energy aligns with broader development objectives, including infrastructure upgrades, environmental stewardship, and community involvement. Meanwhile, context-aware design allows technologies to be tailored to local climatic, geographic, and socio-economic conditions, ensuring both operational efficiency and cultural relevance. When these elements come together, tourism moves beyond its traditional role as a resource-intensive industry and becomes an active force for ecological transition. Destinations that adopt this integrated approach can make significant contributions to global climate efforts by reducing greenhouse gas emissions, conserving biodiversity through low-impact infrastructure, and promoting inclusive economic growth through green jobs and community-based energy projects. In this way, tourism transitions from merely benefiting from sustainability policies to becoming a key driver in their implementation-linking environmental needs with economic opportunities and social development (figure 4).

- Barcelona – 0.96 MW
- Six Senses Resort (Fiji) – 0.46 MW
- Amsterdam – 0.19 MW
- EcoCamp Patagonia (Chile) – 0.05 MW
- Svart Hotel (Norvegia) – 0.02 MW
- South Tyrol (Italia) – 0.02 M

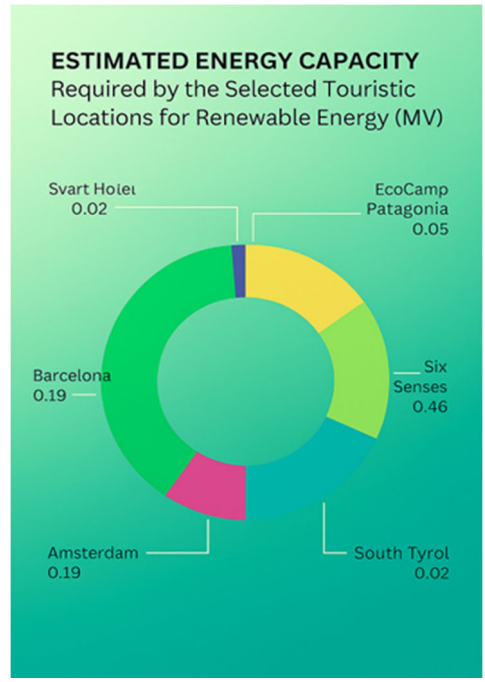

Fig. 4 Estimated Energy Capacity (source Copilot Microsoft)

Barcelona: Uses approximately 0.96 MW of monocrystalline solar panels connected to the urban grid. These systems power EV charging stations and solar-equipped bus depots, supported by smart energy management platforms. Six Senses Resort (Fiji): Operates with 0.46 MW of polycrystalline solar panels, combined with lithium-ion battery storage, biodiesel generators, and electric transport. The hybrid system is optimized for tropical conditions and off-grid resilience. Amsterdam: Deploys around 0.19 MW of thin-film solar panels integrated into ferry terminals and electric bus infrastructure. The system is enhanced by vertical-axis wind turbines and IoT-based grid optimization tools. EcoCamp Patagonia (Chile): Functions off-grid with 0.05 MW of monocrystalline solar panels, supplemented by micro-hydro turbines, composting toilets, rainwater harvesting, and passive thermal design for full energy

autonomy. Svart Hotel (Norway): Features 0.02 MW of high-efficiency monocrystalline Building Integrated Photovoltaics (BIPV), combined with geothermal heating, circular architecture, and advanced insulation tailored for Arctic conditions. South Tyrol (Italy): Operates with 0.02 MW of alpine-grade monocrystalline solar panels, paired with biomass heating systems using wood pellets, modular off-grid configurations, and thermal insulation supported by regional incentives.

CONCLUSIONS

This study confirms that integrating renewable energy sources and smart energy systems into tourism infrastructure is a key priority for advancing the ecological transition in the sector. The case studies examined-Svart Hotel in Norway, Six Senses Resort in Fiji, and EcoCamp Patagonia in Chile-show that solar, hybrid, and off-grid energy solutions can be effectively adapted to various geographic and climatic environments, leading to measurable improvements in carbon reduction, energy independence, and landscape integration.

Complementing these international examples, the European case studies-Barcelona in Spain, Amsterdam in the Netherlands, and South Tyrol in Italy-highlight the critical role of urban and regional governance in promoting renewable energy adoption. These destinations illustrate how municipal strategies, national incentives, and regional zoning regulations facilitate the deployment of clean technologies in both densely populated urban environments and ecologically sensitive rural areas.

Importantly, the success of these initiatives is increasingly connected to the integration of advanced energy systems that extend beyond just generation. Energy storage technologies allow facilities to balance supply and demand, ensuring continuity during peak load periods or low generation times. Intelligent grid management systems improve energy distribution through real-time analytics and automated controls, boosting operational efficiency and cutting waste. Meanwhile, IoT-based monitoring provides ongoing tracking of energy flows, equipment performance, and environmental conditions, supporting predictive maintenance and flexible decision-making.

These technological advancements are reinforced by enabling public policies-such as fiscal incentives, sustainability regulations, and support for public-private partnerships-which play a decisive role in accelerating adoption. In their absence, financial and administrative barriers may significantly limit the capacity of tourism operators to invest in ecological innovation, particularly in regions with limited access to capital or technical expertise. This underscores the need for coordinated action among policymakers, industry stakeholders, and local communities to embed renewable energy and intelligent systems into the core of tourism development.

The findings of this research suggest that future interventions should prioritize the strengthening of regulatory frameworks, expansion of financing mechanisms, and promotion of integrated planning approaches that align energy innovation with tourism development goals. Investments in modular technologies, electric mobility solutions, and smart energy infrastructure should be encouraged, especially in destinations facing seasonal demand fluctuations or infrastructural constraints. Simultaneously, capacity-building efforts and awareness campaigns are essential to ensure that both operators and visitors understand the value of sustainable energy practices and actively contribute to their implementation.

Through its interdisciplinary approach, this study contributes to a deeper understanding of the interplay between

technology, governance, and environmental context. It positions tourism not as a passive recipient of sustainability mandates, but as an active agent of climate mitigation, biodiversity protection, and socio-economic resilience. As ecological awareness continues to shape traveler preferences and regulatory landscapes, destinations that embrace renewable energy and intelligent energy systems not only reduce their environmental footprint but also enhance their competitiveness, credibility, and long-term viability in a rapidly transforming global market. The integration of clean and smart technologies into tourism infrastructure must therefore be guided by strategic foresight, inclusive governance, and adaptive design-ensuring that the sector evolves toward a regenerative model capable of responding to the ecological imperatives of our time.

ACKNOWLEDGMENTS

This research was made possible through the generous institutional support of the Research and Development Institute for Aquatic Ecology, Fisheries, and Aquaculture (ICDEAPA) Galați, whose expertise and resources significantly contributed to the successful completion of this study.

REFERENCES

1 Guo, Y., & Chai, Y. (2025). *Toward green tourism: The role of renewable energy for sustainable development in developing nations*. Frontiers in Sustainable Tourism, 4. https://doi.org/10.3389/frsut.2025.1512922

2 Fawzy, A. (2025). *Integration of intelligent energy systems in sustainable infrastructure for tourism applications*. PowerTech Journal. https://powertechjournal.com/index.php/journal/article/download/2100/1525/4026

3 Tai, Y., & Javed, M. A. (2025). *Energy integration as a catalyst for tourism growth and economic stability: Evidence from European nations*. International Journal of Energy Research.

4 CEENERGYNEWS. (2024). *Romania signs first contracts for solar panel production and energy storage under PNRR*.

5 EnergyWorld. (2025). *R. Power secures €12.4 million for Romanian solar projects*.

6 ARKA360. (2024). *The role of solar energy in supporting sustainable tourism and travel*. Retrieved from https://arka360.com/ros/solar-energy-sustainable-tourism

7 8MSolar. (2024). *Promoting green travel with renewable energy: Sustainable tourism*. Retrieved from https://8msolar.com/promoting-green-travel-with-renewable-energy-sustainable-tourism

8. .EU Tourism Platform. (2023). *The role of renewable energy in urban transport for sustainable tourism*. Retrieved from https://transitionpathways.europa.eu/tourism/articles/role-renewable-energy-urban-transport-sustainable-tourism

9. Gössling, S., & Hall, C. M. (2021). *Sustainable tourism futures: Energy, emissions, and adaptation*. Journal of Sustainable Tourism, 29(4), 567–585. https://doi.org/10.1080/09669582.2020.1850744

10. Svart. (n.d.). Architecture. Svart. https://www.svart.no/architecture

11. Six senses. (n.d.). Sustainability — Six Senses Fiji. https://www.sixsenses.com/en/hotels-resorts/asia-the-pacific/fiji/fiji/sustainability

12. EcoCamp patagonia. (n.d.). Green Ethos. https://www.ecocamp.travel/en/sustainability/green-ethos