

# Implementing Circular Practices in Tourism: Examples From Portugal's Hospitality and Restaurant Sectors

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**Abstract:** The transition to more sustainable tourism models is essential to address environmental degradation, the mismanagement of natural resources, and the social challenges exacerbated by overtourism. Within this context, the circular economy (CE) emerges as a solution to make the tourism value chain more efficient and even regenerative. By presenting concrete and diverse examples, this study seeks to inform policymakers and stakeholders of the significant potential of CE strategies in advancing tourism sustainability. Eight practical cases from the Portuguese tourism sector – particularly within hospitality and food service – are examined, each illustrating one of eight dimensions of circularity: waste management, energy, water, food and beverages, packaging, infrastructure management, consumables, and transport and suppliers. The study adopts a qualitative and exploratory approach. The examples were selected to demonstrate the diversity of CE applications in tourism, ensuring that they reflected distinct domains of intervention. Preference was also given to cases awarded certifications or prizes in the field of sustainability, as indicators of impact, credibility, and relevance. The findings show that CE practices are already being implemented in Portugal's tourism sector through innovative and efficient strategies. The examples analysed include zero-waste kitchens, textile upcycling, closed-loop water systems, and locally sourced food supply chains. These initiatives demonstrate not only the feasibility of CE in tourism but also its multiple benefits, such as resource efficiency, community engagement, and enhanced brand recognition. For such practices to become more widespread, supportive policy frameworks and cross-sectoral collaboration are required. Future research should incorporate stakeholder interviews in order to provide a more holistic understanding of CE practices in tourism.

**Keywords:** Circular Economy, Sustainable Tourism, Hospitality Industry, Resource Efficiency, Circular Business Models, Portugal

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## 1. Introduction

Growing awareness of the planet's ecological limits and the impacts of human activity has triggered a transition toward more sustainable development models. This shift, which cuts across economic, environmental, and social sectors, calls for innovative solutions capable of reconciling economic growth with social well-being and environmental responsibility.

Tourism, one of the most dynamic global industries, generates significant economic and social benefits but also exerts pressure on natural and cultural resources. The sector's strong dependence on these resources makes it particularly vulnerable to environmental degradation, excessive waste generation, and social inequalities. In this context, the circular economy (CE) emerges as a transformative approach that reconfigures the dominant *take–make–dispose* model into a regenerative and inclusive framework.

By promoting efficient resource use, extending product life cycles, and minimising waste, CE offers a systemic strategy for rethinking tourism development. Integrating circular principles requires a structural transformation in how destinations are managed, how experiences are designed, and how resources are consumed by visitors and local communities. Circularity thus becomes a distinguishing factor for competitiveness, efficiency, reputation, and innovation in tourism.

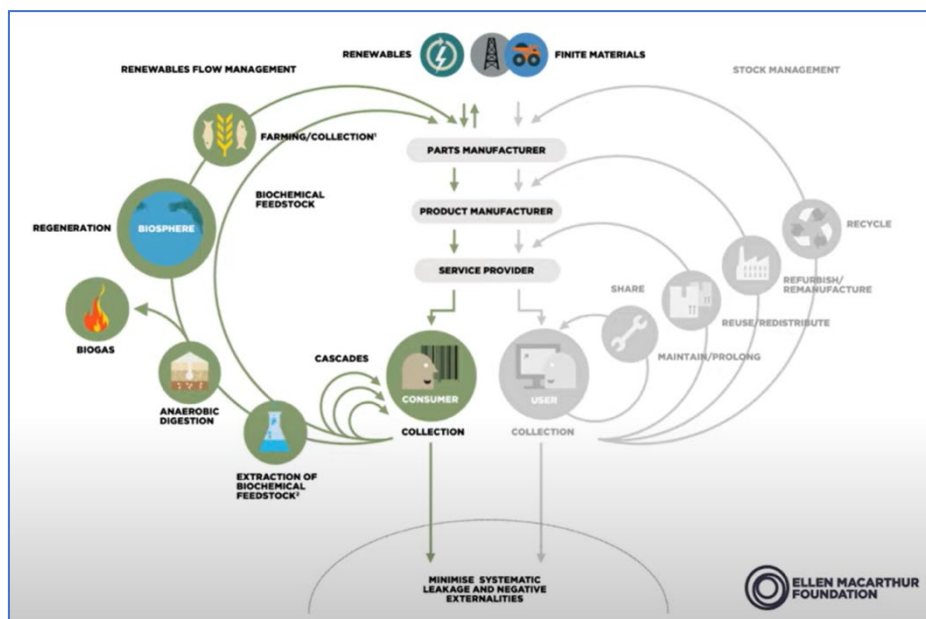
This study explores the application of the CE within the tourism industry. Following a brief conceptual overview, it outlines the key principles of circularity in tourism, identifying related opportunities and challenges. Finally, eight illustrative examples from Portugal are presented to illustrate how circularity can be integrated into the management of tourism supply and demand, highlighting the CE's potential to support territorial regeneration, strengthen local communities, and foster sustainability across the entire tourism value chain.

## 2. Literature Review

### 2.1 Circular Economy

The concept of circular economy, according to Ekins et al. (2019), was originally theorised by Boulding (1966). This author highlighted the differences between open and closed systems, considering their three essential elements: materials, energy and information/knowledge. Economically speaking, the open system corresponds to the linear economy model (aka “extract-produce-dispose” or “take-make-dispose”), as opposed to a closed system with finite resources, which characterises the CE model, where it is vital the stock maintenance and the reduction of negative externalities.

However, the concept of the CE only came to the attention of academia at the turn of the century. It can be said, that it was with the creation of the Ellen MacArthur Foundation (EMF), in 2010, that the issue of the CE acquired the level of respectability that is widely recognised today (Ekins et al., 2019). The publication of the three-volume series “Towards the Circular Economy” (EMF, 2013), the first of which included the famous “butterfly” diagram (Figure 1), marked the institutionalisation of a new field in the approach to industrial development.



**Figure 1: The ‘butterfly’ circular economy diagram**

Source: [www.ellenmacarthurfoundation.org](http://www.ellenmacarthurfoundation.org)

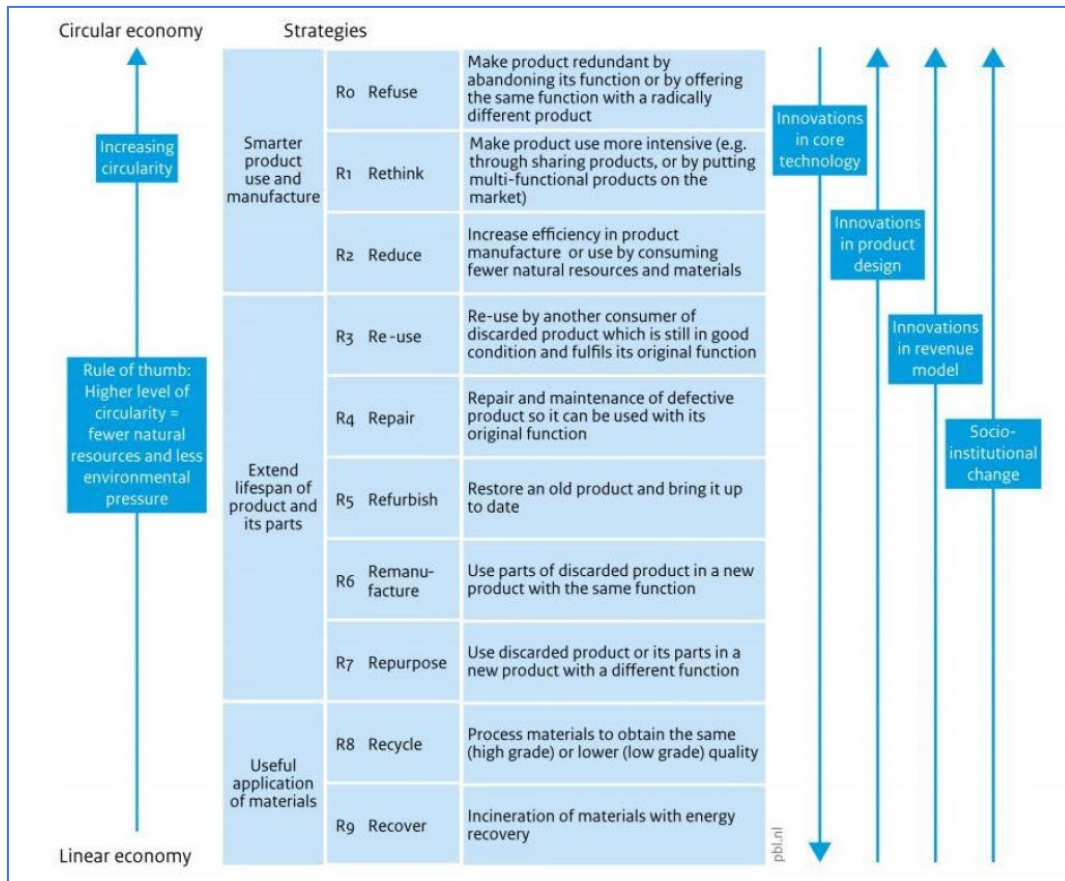
Despite some scarce references in scientific literature to this topic in the last decade of XX century, the publications of the Ellen MacArthur Foundation (EMF, 2013) have been so impactful that in 2017 it was possible to identify 114 definitions of the CE (Kirchherr et al., 2017). On the basis of this huge body of theory, Kirchherr et al. (2017) proposed the following summary definition: "circular economy describes an economic system that is based on business models which replace the ‘end-of-life’ concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes, thus operating at the micro level (products, companies, consumers), meso level (eco-industrial parks) and macro level (city, region, nation and beyond), with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations" (Kirchherr et al. 2017: 224-225).

The central concepts of the definition proposed by Kirchherr et al. (2017) are reflected in the 4 Rs approach: reduce, reuse, recycle and recover. However, in the same year, Potting et al (2017) proposed a CE model structured around 10 “R” strategies: Refuse, Rethink, Reduce, Re-use, Repair, Refurbish, Remanufacture, Repurpose, Recycle, Recover (see Table 1).

Potting et al's (2017) model has the advantage of integrating the two main aspects of the CE concept: on the one hand, the aspect related to the flow of materials through an economy (the downward vertical arrow relating to innovations in core technology) and, on the other, the aspect of reflection about the economic conditions

that might bring about such a flow (the upward vertical arrows relating to innovations in product design, innovations in revenue models and socio-institutional changes). However, to the 10 Rs approach proposed by Potting et al. (2017) should be added the 2 Rs of the classic definition advocated by the Ellen MacArthur Foundation: restoration and regeneration.

**Table 1: Circularity strategies in the production chain, in order of priority**



Source: Ekins et al. (2019)

In contrast to the traditional linear economy of “take-make-dispose”, the CE model aims to keep resources in use for as long as possible, extracting their maximum value. And, according to the Ellen MacArthur Foundation (EMF, 2013), the CE is based on three fundamental principles: (1) eliminate waste and pollution; (2) circulate products and materials; (3) regenerate natural systems. Based on these principles, the transition to a CE can be achieved through various strategies and business models:

- *Product as a service*: companies retain ownership of their products and lease them to customers. This encourages manufacturers to design for longevity and durability. Examples include furniture rental or car-sharing services.
- *Sharing platforms*: digital platforms facilitate the sharing of idle assets, such as tools or food, among users to maximise their use and minimise waste.
- *Remanufacturing and refurbishment*: involves restoring used products or components to a “like new” or better state, with a focus on sectors such as electronics and automotive parts.
- *Industrial symbiosis*: waste or by-products from one sector are used as raw materials for another. This creates a resource exchange network that reduces waste and consumption.

According to many authors (Ghisellini et al., 2016; Sauvé et al., 2016; Geisendorf and Pietrulla, 2018; McCarthy et al, 2018), the CE brings clear benefits to businesses, society and the environment, namely: (1) *environmental protection* (conserving natural resources, minimising pollution and reducing greenhouse gas emissions); (2) *economic growth and innovation* (creating new business opportunities, strengthening economic resilience by reducing dependence on volatile raw material markets, and creating jobs in new sectors such as repair and remanufacturing); (3) *cost reduction* (optimising resource use and minimising waste can lead to substantial long-

term savings in materials, energy and waste disposal); (4) *improving brand image and customer loyalty* (with consumer demand for sustainable practices on the rise, companies that embrace circularity can enhance their reputation and attract loyal customers).

## 2.2 Circular Economy in the Tourism Industry: Opportunities and Challenges

The tourism sector is particularly well positioned to benefit from CE principles, given its dependence on local resources and its potential for innovation. However, implementation remains uneven and often limited to pioneering enterprises.

The “three Rs” – reduce, reuse, and recycle – remain the foundation of circular strategies in hospitality and tourism. Many hotels and restaurants have introduced initiatives to minimize food waste, reduce water and energy consumption, and improve recycling (Rodríguez-Antón and Alonso-Almeida, 2019). Sustainable waste management plays a key role in urban destinations with high visitor density, where preventive measures and waste sorting help build resilient urban ecosystems (Camilleri, 2021).

Technological innovation, particularly through digitalisation, is expanding the scope of CE in tourism. Artificial intelligence, automation, and smart systems allow real-time monitoring and optimization of resource use, enabling businesses to reduce waste and repurpose materials more effectively (Vargas-Sánchez, 2023). Such innovations are vital to transforming supply chains and operational models.

Applying CE principles to tourism also involves ecologisation – adapting circular strategies to broader sustainability goals. This includes developing assessment systems to measure progress, thus moving from abstract commitments to measurable outcomes (Xu et al., 2022).

In cultural tourism, *adaptive reuse* of heritage buildings and underutilized spaces is a particularly valuable approach. It preserves cultural assets while generating economic opportunities, revitalizing local economies, and minimizing the environmental costs of new construction (Rudan, 2023).

Circularity encourages companies to embed sustainability within their core operations, integrating smart technologies, renewable energy, and eco-friendly accommodation solutions. Such models enhance efficiency and competitiveness while aligning with evolving consumer expectations (Vecchio et al., 2021).

Despite its potential, the transition toward a circular model faces multiple challenges. The most significant barrier is cultural – shifting from linear to circular thinking requires changes in consumer behaviour, management practices, and policy frameworks. Many CE initiatives still rely on technological or market-based mechanisms that do not fully address the systemic nature of environmental crises. Culture-led approaches emphasizing regeneration, degrowth, and community-driven place-making are needed for deeper transformation (De Martino et al., 2024).

In developing countries, structural obstacles such as weak infrastructure, inadequate regulation, and limited public awareness hinder the effective implementation of CE practices in tourism (Bittner et al., 2024).

Furthermore, tourism’s complexity – encompassing governments, businesses, communities, and tourists – demands cross-sectoral coordination. Regulatory frameworks must evolve to support CE adoption, offering incentives for businesses that reduce their environmental footprint (Camilleri, 2021). Governments play a crucial role in providing policy support, tax benefits, and funding schemes, while enterprises must invest in supply chain innovation, sustainable design, and consumer education to ensure a long-term transition (Holly et al., 2023).

The integration of CE principles into tourism offers an opportunity to align economic performance with environmental and social sustainability. By rethinking production, consumption, and management models, CE can transform tourism into a regenerative system that supports territorial resilience, community empowerment, and ecological balance.

However, realizing this potential requires coordinated action among public authorities, private stakeholders, and local communities. Only through such collaboration can the tourism sector move beyond incremental improvements toward a genuinely circular and sustainable future.

## 3. Methodology

This study adopts a qualitative and exploratory approach based on concrete examples from Portuguese tourism enterprises, aiming to understand how CE principles are being implemented, with a particular focus on the

accommodation and food service sectors. CE practices were identified based on national-level guidelines and policy frameworks promoting sustainability and circularity in tourism.

The analytical dimensions used in this study were drawn from the Guides of Good Practices for a Circular Economy developed by Turismo de Portugal and AHRESP (the Portuguese Association of Hotels, Restaurants and Similar Establishments), namely the Guide of Good Practices for a Circular Economy in Tourist Accommodation (2021) and the Guide of Good Practices for Circular and Sustainable Restaurants (2021). These documents define eight dimensions of intervention, which were also applied in this study: waste management, energy, water, food and beverages, packaging, infrastructure management, consumables, and transport and suppliers.

The eight practical examples selected illustrate different levels of maturity and diverse approaches to the implementation of circular practices in tourism. Their selection aimed to ensure heterogeneity in terms of geographical location, innovation, and typology across the various dimensions. This diversity enables the exploration of a wide range of experiences and strategies, consistent with the exploratory nature of the study (Flyvbjerg, 2006).

The analysis of the examples was based on secondary data sources, including institutional websites, public reports, technical documents, and information on sustainability awards and certifications (Dias et al., 2024).

The following section presents the selected examples, providing a concise description of their context and the circular practices implemented by each enterprise, categorised according to their main dimension of intervention.

## 4. Results

Estratégia Turismo 2027 is a document that outlines strategic and priority areas for action to be pursued in the short and long term to foster tourism development in Portugal (Turismo de Portugal, 2017). In this framework, one of the lines of action for the economic growth of tourism activities is based on the encouragement and promotion of the CE. Therefore, some of the projects and initiatives carried out in this area are in terms of economic, environmental, social and governance sustainability, as well as integrated circular practices, such as recycling, recovery and reuse. Furthermore, the strategy underscores the increasing relevance of sustainability as a criterion in the evaluation and classification of tourist establishments, encouraging the adoption of both environmental and social good practices.

In this sense, it is relevant to assess what practices, measures and initiatives are being undertaken by Portuguese tourism companies (specifically tourist accommodations and restaurants) in the field of the CE. In this section, the good practices adopted by each specific tourism service case are analysed for each of the following areas of CE: energy, water, food and beverages, packaging, consumables, waste management, infrastructure management and transport and suppliers.

### 4.1 Energy

When it comes to the CE in the tourism industry, one of the main points is energy efficiency (Kaszás et al., 2022). Some of the activities that consume the most electricity in tourist accommodation are room air conditioning, the preparation and production of hot water, lighting, food preparation using equipment and sports, health and leisure facilities (Turismo de Portugal, I.P. and AHRESP). The design, architecture and planning of buildings with renewable energy sources, such as solar thermal and photovoltaic panels, heat pumps, biomass for heat generation, among others, are a solution capable of reducing energy consumption and, consequently, greenhouse gas emissions (Kaszás et al., 2022). Technology is an effective tool for monitoring energy consumption. Through motion sensors in communal areas, light level control panels, air conditioning automation, etc., consumption can be reduced. However, regular maintenance of this equipment is essential (Turismo de Portugal, I.P. and AHRESP, 2021).

#### Example 1. Energy

MH Hotels is a group formed by two hotels, the MH Peniche and the MH Atlântico, both located in Peniche. From an energy perspective, the hotel group has installed 190 solar panels and 1520 photovoltaic panels to produce electricity and reduce carbon emissions. In both hotels, LED lights have been installed in the buildings and the electronic equipment is more efficient (rated A++). On the televisions, guests have access to an internal channel that highlights the energy being produced from greener and more renewable sources in the hotels (Marteleira Hotelaria Lda, 2024).

**Certification:** Green Key 2024

## 4.2 Water

The tourist industry urgently needs to implement measures to manage water resources, otherwise the number of environmental problems, such as pollution, waste and water scarcity, will increase (Ingrao et al., 2023). In leisure accommodation facilities, water consumption primarily occurs across several key operational areas. These include laundry processes, recreational water-based activities, housekeeping, personal hygiene (showers and baths), and food preparation procedures (Styles et al., 2015; Strippoli et al., 2024). Through systems and wastewater treatment plants, it would be possible to recycle and reuse grey water, for example for irrigation and flushing toilets. The collection of rainwater for storage and subsequent use in irrigation systems or for general cleaning is also encouraged (Turismo de Portugal, I.P. and AHRESP, 2021).

### Example 2. Water

Rio do Prado is a tourist property located near the Óbidos Lagoon, which adopts and encourages the practice of a sustainable lifestyle. At Rio do Prado, grey water from baths and sinks, as well as rainwater, is treated in its own wastewater treatment plant (ETAR) for future reuse, namely for watering the gardens (Rio do Prado, 2025).

**Award:** Sustainability Award Boa Cama Boa Mesa 2024

## 4.3 Food and Beverages

Eating is a basic human need that requires the consumption of nutritious products on a daily basis (Gómez, 2023). The raw materials used to make dishes, i.e. animal and vegetable proteins, must be carefully selected, namely sustainable, certified and responsibly sourced. To reduce the amount of food waste, measures should be taken such as reusing and recycling “vegetable scraps, fruit peels, coffee grounds, and eggshells” into compost, which nourishes the soil and contributes to vegetation (Strippoli et al., 2024, p. 8). Monitoring refrigeration equipment, managing stocks, encouraging take-away and implementing consumer-friendly portions are some of the strategies that restaurants and accommodation services should adopt to reduce food waste (Turismo de Portugal, I.P. and AHRESP, 2021).

### Example 3. Food and Beverages

Hotels such as the Sheraton Hotel Lisboa & SPA, the Moxy Lisboa Oriente, the Lisboa Marriott Hotel, among others, which belong to the Marriott International Business Council Portugal Group, announced in September 2024 the launch of a craft beer. This drink produced by Cervejeira Aldeana, called Rooster Ale, stands out for its creation process, as it is made with leftover bread from the different hotel units that belong to the Group. At any Marriott International hotel bar in Portugal, you can now consume this drink, which transforms surplus bread from the hotels into an essential ingredient for the development of the beer.

**Certifications:** Green Key 2025 (Sheraton Hotel Lisboa & SPA, Moxy Lisboa Oriente, Lisboa Marriott Hotel); Biosphere Certification (Sheraton Hotel Lisboa & Spa)

## 4.4 Packaging

Plastic packaging has a negative impact on the environment, as its production requires materials derived from fossil fuels (Gabisa et al., 2023). They are one of the most widely used and disseminated because of their properties of preventing contamination, preservation and combating waste. In order to introduce CE strategies in the tourism industry on this issue, the search for more sustainable materials and substitutes for plastic is being reinforced, as is the elimination of non-essential plastic items. Some of the practices to increase in tourist accommodations are related to changing plastic key cards for other materials (e.g. wood or digital) and exchanging single-use items for refillable dispensers (e.g. shampoos, shower gels, etc.) (Turismo de Portugal, I.P. and AHRESP, 2021).

### Example 4. Packaging

At Areias do Seixo, large bottles/dispensers of cosmetic products are available instead of individual disposable amenities. This makes it easier to re-stock the products in line with guests' current needs. In the hotel's restaurant, everything made of disposable plastic has been removed, such as straws and water bottles (Areias do Seixo Empreendimentos Hoteleiros Lda, n.d.).

**Certification/Award:** Green Key 2024; Chave Michelin 2025

## 4.5 Consumables

Consumables are recognised as disposable, single-use and replaceable products that have an impact on the environment as they cause considerable waste. In the tourism industry, these include cleaning products, work

utensils, uniforms and other textile products. All these consumables must meet certain safety, hygiene and health standards without jeopardising the environment. Thus, some of the measures to be implemented by tourism companies are: (a) using cleaning products of plant origin and that are cruelty-free; (b) purchasing textile products made from recycled fibres; (c) donating textile products to non-profit institutions and associations; (d) using textile material instead of paper towels and napkins (Turismo de Portugal, I.P. and AHRESP, 2021).

**Example 5. Consumables**

The You and the Sea aparthotel, located in Ericeira, has created a new project called, 'Cura by the Sea'. The aim of this initiative is about transforming sheets that are no longer used in the aparthotel into unisex shirts. Other actions adopted for the creation of each garment were: the use of natural ingredients for dyeing, collaboration with local artists for the creation of new collections, the buttons used are not new but come from other products and the threads are 100% organic cotton (Cura by the Sea, 2025).

These shirts can be bought at the reception of the aparthotel or online and the proceeds of each sale go to the Zero association. Some of the leftover fabrics have been used to create uniforms for the different departments of the aparthotel (Cura by the Sea, 2025).

**Certification/Award:** Biosphere Certification; One key - Michelin 2025

#### 4.6 Waste Management

Gastronomy is a tourist product that shows tourists the traditions and culture of a destination (Turismo de Portugal, I.P. and AHRESP, 2021). However, more food waste is appearing, which is causing problems for both the consumer and the producer (Al-Obadi et al., 2022). Waste has negative impacts on the environment, namely "GHG emissions, land use change, biodiversity loss, and increased water scarcity" (Strippoli et al., 2024, p. 8). There is therefore a need to manage consumption responsibly and reduce waste. Some strategies in the tourist industry to encourage cutbacks are, for example, investing in agrotourism, where food from organic gardens produced in the surroundings of the accommodation is consumed by tourists. In addition, decreasing the number of journeys is reinforced in order to guarantee seasonal, quality and fresh products (Camilleri, 2021). Educating and involving visitors, the community and workers in CE strategies reinforces the adoption of efficient and sustainable behaviour and consumption (Meschini et al., 2021; Segarra-Oña et al., 2024).

**Example 6. Waste Management**

The Restaurante da Herdade do Esporão, located in Reguengos de Monsaraz, stands out by using ingredients from its organic farms or from other local and national producers who adopt a regenerative agriculture. The preparation of the dishes is determined by the seasonality of the produce, so the menu is subject to change. The waste produced at the restaurant is reused and repurposed in different ways, for instance as food for the chickens at Herdade do Esporão. The restaurant also makes use of all the animal parts and incorporates the waste from some roasted vegetables to create a dessert. Therefore, the leftovers from one dish are transformed into another, making this restaurant's cuisine zero-waste (Esporão, 2025).

**Award:** Estrela Verde Michelin 2025

#### 4.7 Infrastructure Management

When planning and designing a tourist accommodation or restaurant, it is important to consider what type of construction and decoration materials should be applied. When making a decision, some important points to take into account are quality, style, cost-effectiveness, state of repair, durability, environmental impact, maintenance, among other aspects. Reusing, reconditioning and repairing furniture, utensils, equipment and textiles are essential circular practices that not only benefit the company financially but also on the environment (Turismo de Portugal, I.P. and AHRESP, 2021).

**Example 7. Infrastructure management**

São Lourenço do Barrocal, located in Monsaraz, is a property that has belonged to one family for over 200 years. One of the generations of owners has developed a project in which the neglected agricultural estate of around 780 hectares is transformed into different facilities dedicated to tourism/hospitality and agriculture. The result is a rural hotel surrounded by a natural landscape of vineyards, olive trees and holm oaks. There was a concern to rebuild the property, more specifically 7 buildings, in a sustainable, traditional way, in keeping with the region's identity and authenticity. In the construction process, priority was given to materials that already existed on the estate, such as the recovery of around 70,000 bricks from the buildings and the rehabilitation of approximately 250,000 old terracotta tiles for the foundations, roofs and other structures. In addition, around 350,000 bricks were produced using local, artisanal processes. The furniture outside and inside the hotel has been restored by a carpentry company for this purpose (São Lourenço do Barrocal, 2025).

**Certification/Award:** Biosphere Certification; One key - Michelin 2025

#### 4.8 Transport and Suppliers

As tourism depends heavily on travel, it inevitably leads to higher consumption of fossil fuels. To combat the increase in pollution, some of the strategies that stakeholders should encourage in this area are: (a) selecting public transport for long-distance journeys; (b) travelling by bicycle, scooter or other small electric vehicles in the grounds of the accommodation; (c) installing electric car charging stations in the accommodation; (d) exploring more sustainable deliveries with suppliers; (e) optimising delivery routes and times. The method by which an ingredient is grown, processed and transported has an impact on the carbon footprint, so local suppliers and the choice of products close to the preparation sites are favoured. By reducing transport distances, CO<sub>2</sub> emissions are consequently reduced (Turismo de Portugal, I.P. and AHRESP, 2021).

##### Example 8. Transport and suppliers

The 'aCozinha' restaurant in Guimarães is committed to its community, its products, and the environment. To this end, it has developed the 'aCozinha Km zero' project, which aims to include ingredients from local producers in its menus and dishes. This initiative has the potential to reduce the ecological footprint because it reduces the distance between suppliers and the restaurant. At the same time, the use of regional products allows local gastronomy to be valued and promoted, in addition to incorporating the traditions and customs of the community. The mission is to develop meals with products 100 per cent sourced in Guimarães, which even the restaurant's own chef can walk to collect. The restaurant intends to maintain constant communication with suppliers and all other partners in order to reduce the amount of packaging used and to guarantee and encourage safety when transporting food in reusable containers (Restaurante aCozinha por António Loureiro, 2025).

**Certification/Award:** Green Key 2024; Sustainability Award Boa Cama Boa Mesa 2024

Considering the examples presented above, each hospitality and restaurant business was examined across all eight CE dimensions (Table 2). This cross-dimensional analysis made it possible to assess whether establishments demonstrated engagement beyond their primary dimension of intervention. It also facilitated the identification of key environmental challenges and areas requiring further development. The findings indicate that the dimensions showing the strongest collective progress towards CE implementation are Waste Management, Food & Beverages, Packaging, and Transport & Suppliers.

**Table 2: Identification of restaurants and hotels in 8 circular economy dimensions**

	aCozinha (Restaurant)	Areias do Seixo (Boutique Hotel)	Restaurant e Herdade do Esporão (Restaurant)	MH Hotels	You and the Sea (Aparthotel)	Rio do Prado (Hotel)	São Lourenço do Barrocal (Hotel)
<b>Waste Management</b>	x	x	x	Not identified	Not identified	x	x
<b>Energy</b>	Not identified	x	Not identified	x	Not identified	x	x
<b>Water</b>	Not identified	x	Not identified	x	Not identified	x	x
<b>Food &amp; Beverages</b>	x	x	x	x	x	x	x
<b>Packaging</b>	x	x	x	Not identified	x	x	x
<b>Infrastructure Management</b>	Not identified	x	x	Not identified	Not identified	x	x
<b>Consumables</b>	Not identified	Not identified	Not identified	Not identified	x	Not identified	x
<b>Transport &amp; Suppliers</b>	x	x	x	x	x	x	x

Source: Own elaboration

Note: "Not identified" indicates that no publicly available information was found regarding initiatives in that specific dimension.

## 5. Conclusion and Recommendations

The transition to a circular economy in tourism is both an opportunity and a necessity. The sector's traditional dependency on finite resources and its contribution to environmental degradation call for an urgent reconfiguration of existing models. While the early adoption of CE principles has already yielded promising results – particularly in waste reduction and business model innovation – scaling up these practices will require systemic change, cross-sector collaboration, and robust policy frameworks (Camilleri, 2021).

This study has demonstrated that circularity in tourism is not merely a technical solution but a transformative paradigm that redefines how value is created, preserved, and regenerated across the tourism system. The successful implementation of CE principles in tourism holds significant potential to enhance sustainability, resilience, and inclusivity in the face of growing environmental and social challenges.

The eight examples analysed from different accommodation and food service establishments in Portugal provide valuable insights for managers seeking to deepen their transition towards more sustainable and circular business models. These practices are economically viable, help strengthen brand differentiation in the market, and contribute to greater operational efficiency (Del Vecchio et al., 2021).

At a theoretical level, this study contributes to advancing knowledge on the applicability of circular economy concepts within the tourism sector. By categorising the examples according to distinct operational dimensions, it becomes evident that circularity in tourism is multifaceted, encompassing both traditional and technological solutions.

Since this study relies primarily on secondary data sources, future research should include interviews with those responsible for implementing these initiatives in order to better understand their motivations, challenges, and the actual environmental, economic, and social impacts of the circular practices adopted (Rodríguez-Antón and Alonso-Almeida, 2019).

### Ethics Declaration

This study did not require ethical clearance, as it relies exclusively on secondary data.

### AI Declaration

No generative AI tools were used in the development of this paper.

### Funding

This work was financially supported by the research project FAST – Ferramentas de Apoio à Sustentabilidade no Turismo | Agenda ATT | PRR.

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