THE GREEN BUILDINGS: SUSTAINABLE DEVELOPMENT ACTIONS IN THE ACCOMMODATION SECTOR

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Abstract

In the tourism industry the accommodation sector generates major water, energy, and other resources consumptions. Concerns regarding consumption reductions are constant issues, both in the theory and practical activities that target the hotel sector. At international and European level there are innovative systems specifically designed to support the construction and renovation of green buildings. These buildings ensure environmental protection and, at the same time, generate a considerable reduction in maintenance costs. The present article proposes a comparative analysis of these systems and an assessment of their degree of implementation in the Romanian accommodation sector. The results obtained show that managers of Romanian hotels are aware with the importance of the sustainable development actions and, at the same time, have initiated projects aiming to apply these demarches in the units they manage. In this respect, operating accommodation activities in buildings that generate nearly zero energy costs is an important preoccupation. Their presence in the tourism market from our country and their accumulated experiences are important steps in the direction of improving the concrete tourism sustainable development actions. The continuation of these actions and the expension to a larger number of accommodation units implies the education of the hoteliers in this direction but also authorities' involvement with appropriate measures to promote the positive effects and to ease financial issues.

Keywords: *Green building, nearly zero energy hotels, sustainable development actions, accommodation sector*.

Clasificare JEL: *M14, Z32*

1. Introduction

The importance of high environmental quality for the development of tourism was acknowledged by the WTO in the late 1970s with the establishment of the Environmental Committee. Following the 1992 Rio Earth Summit, which identified tourism as one of the priority areas for sustainable development, the green movements within the hotel industry gained momentum and recognition. The United Nations launched in 2015 the 2030 Agenda for sustainable development and, among the 17 set of objectives, tourism is targeted directly by three of them. Also, the United Nations 70th General Assembly has designated 2017 as the International Year of Sustainable Tourism for Development [6].

Currently, it is fully recognized that tourism must be developed in a controlled and sustainable manner, embodied in a well-established plan, tourism could generate substantial economic benefits for a specific region if it adopts a strategy of sustainable development, socially and environmentally friendly.

Sustainable development practices are commonly found in the managerial actions of accommodation units. The benefits experienced as a result of their introduction into current activities, as well as the appreciations and also the pressures from guests and stakeholders in this direction, are factors that explain the decisions aiming at sustainable development [1, 17]. These measures also foster greater competitiveness in tourism [8].

Previous researches pointed out the importance of green issues and demonstrated that green behavior is a key strategic tool for smart hotels, a tool to incorporate into their management strategies and policies [23]. The same study acknowledges the importance to improve hotels' green image and increase the level of consumer green satisfaction and green trust, to promote green campaigns to highlight the significance of environmental problems, as well as to develop multiple

channels to publicize the advantages of green hotels (such as taking part in eco-friendly forums and sponsoring environmental projects).

Sustainable behavior of accommodation units is reflected in various ways, such as eco-certification labels [3], specific codes of conduct [14], environment protection measures and management systems (EMAS–EU Eco-Management and Audit Scheme, ISO 14001), and ecological performance indicators – ETIS-European Tourism Indicators System for Sustainable Destination Management [12]. In February 2013, the European Commission launched the European System of Indicators for Sustainable Destinations Tour as the informational support for assessing the level of sustainable development of tourism in the framework of the European tourist destinations. ETIS was designed as a dynamic and resilient system, paying for all destinations wanting to implement it, a high degree of freedom, including the recommendation to devise new indicators in order to meet the specific needs of each destination. In all proposed indicators, assessment of the contribution of the sustainable development of the destination has a major role to play [12].

Among all these solutions, constructing green buildings is considered one of the greatest importance, as a lower environmental impact of tourism products is considered necessary for more and more visitors [9].

The main goal of the paper is to analyse Romanian hotels' achievements in implementing sustainable development measures, i.e. Romanian neZEH experience. The decisions and results of three Romanian hotels involved in this project are evaluated, highlighting also important factors to promote the concept of "green hotel" throughout the national accommodation sector.

2. The Green Building concept

In order to reduce the greenhouse gas emissions by 80-95% by 2050 compared to levels of 1990, the European Council sets a very ambitious but also difficult goal due the low turnover rate of the building stock which explaines the fact that the greatest challenge is the refurbishment of the existing buildings, even more than the construction of nearly zero energy buildings [2]. Recent statistics reveal that 14% of EU-27 building-stock dates before 1919 and about 12% between 1919 and 1945 [2].

Green Building means to build with the aim of ensuring people's wellbeing, regarded as a physical and mental condition in which an individual's health, socio-economic balance and environmental protection play a role [9].

Hotels and all other types of accommodation units are major energy consumers for their daily operations [23]. Therefore, energy-efficient buildings could be considered an essential step in achieving sustainable development for the accommodation sector. In this respect, nearly zero-energy buildings (NZEBs) represents a project developed by the European Commission since 2014, which acknowledged that "the majority of the energy-saving potential is in the building sector" [11].

The main principles for implementing Nearly Zero-Energy Buidings in Europe are the following: [10]

- ✓ Meeting the EU low-carbon 2050 goals;
- ✓ Convergence with EPBD (Energy Performance of Buildings Directive) cost-optimality requirement;
- ✓ (Nearly) zero CO2 and zero energy building;
- ✓ Renewables temporal/local disparities;
- ✓ Balance between energy efficiency and renewable energy supply;
- ✓ Transferability to varied climate and building types;
- ✓ Flexible and open nZEB definition;
- ✓ Single building vs groups of buildings;
- ✓ Household electricity for appliances;
- ✓ Life cycle energy.

D'Alessandro (2016) proposes a zero impact alternative in tourists' accommodation offer, which comprises: [9, p.206]

- ✓ Green Building for every structure;
- ✓ Use of alternative energy;
- ✓ Environmental production of electricity and heat energy for heating systems;
- ✓ Recycling water;
- ✓ Waste separation and production of organic compounds;
- ✓ Local cultivation's recovery, to favour biodiversity;
- ✓ Offer, to the guests, of recreational activities that can respect and enhance the historical and natural environment.

According to EU Directive no. 31/2010 on the energy performance, the framework and boundaries were set in order to proceed along this track. Among other items, two mechanisms were considered decisive for the development of the building sector:

- The principle of nearly zero-energy buildings;
- The principle of cost optimality.

A "nearly zero-energy building" means a building that has a very high energy performance. Also, the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby [10].

From this starting point, the European Commission promoted the Nearly Zero Energy Hotels (neZEH) project aiming at "accelerating the rate of large scale renovations of existing hotels into NZEBs by providing technical advice to committed hoteliers and demonstrating the feasibility of such investments through pilot projects, undertaking training and capacity building activities, promoting front runners at national and EU/International level through integrated communication campaigns, increasing awareness of NZEBs benefits and challenging more SMEs to invest in neZEH refurbishment projects" [13].

The EU specialists acknowledge that the hospitality sector in the European Union is composed mainly by SME hotels (90%) [13]. They appreciate that refurbishment decision becomes, in such a context, even more difficult due to lack of funding, technical and legislative limits (especially historical ones). Public support is very important and extends on various domains: financial, informational/technical support (awareness raising, capacity building), favorable regulatory framework (harmonized policies, coordination between competent authorities). At the same time, a behavioral change is important and regards staff training and educated and involved guests. Hotels need tailored technical assistance and financial incentives because the renovation project is complex and unique. Moving towards a low carbon growth requires holistic resource management approach for hotels (energy, water consumption, waste management, sustainable mobility etc) [13].

3. Nearly zero energy Romanian hotels

The neZEH pilot project included 16 hotels across seven European countries: Croatia, France, Greece, Italy, Romania, Spania and Sweden, which followed large scale renovations in order to accomplish NZEB goals. Three Romanian pilot hotels were part in this major project, namely two hotels from Brașov, Cubix Hotel and Kolping Hotel, the third hotel being Grand Hotel Balvanyos.

Cubix Hotel is a four stars hotel with a 57 double rooms capacity. The hotel's owner declared that being green is the only responsible option and decided to choose green instead of grey. The partnership with the neZEH team in Romania was a decisive moment towards understanding the oversized costs and energy consumption in the Cubix Hotel and also a starting point for investments in efficient solutions and updated equipments. The path to create a green hotel included energy audits and large workings to achieve the final goals of 95 kWh/m2 year and a 79% reduction for the utilities costs. Also, important updates are considered, such as 60% energy savings through

envelope building, an integrated management building with an estimated 12% reduction in energy consumption, smart thermostates, and others [7].

Kolping Hotel is also located in Brașov, is a three stars hotel with 43 rooms, four conference halls, a restaurant, a café, parking, and four terraces. Sustainability is a main objective of hotel's management decisions, fact that explains the involvement in neZEH project. Important adjustment were made following the energy audit: replacing the classical lighting sources with LED technology, implementing a lighting management system, enveloping the building and replacing the warm water boiler with a condensing boiler. The results obtained generated reductions in the electricity costs by 40% and in the heat consumption by 35%. At the same time, the CO2 emissions were reduced by 63.15%. Additional measures were undertaken, like recycling the paper, used oil and electronic devices, use of taps with two power stages and others [16].

Grand Hotel Balvanyos is a four stars hotel with a capacity of 110 rooms, four conference halls, two restaurants and a bar, a spa center, adventure park, sports multifunctional court. Unfortunatelly, is the only hotel which does not offer detailed information regarding its status as neZEH pilot project [4].

The examples regarding the application of this pilot project highlight the desire of the Romanian hoteliers to improve their activity and achieve higher economic, social and environmental performance. At the same time, the Grand Hotel Balvanyos example cannot be omitted. The lack to promote such tasks and results highlight, once again, the mentality of "small traders" among some managers in the Romanian hotel sector. Ambitious projects deserve to enjoy recognition as well as impact among the guests.

Overall, the experience of these hotels highlight the fact that nearly zero energy building is a feasible concept for the accommodation sector which creates important opportunities in reducing energy and heat consumptions, reducing CO2 emissions, environment protection and sustainable development. Moreover, promoting the "green concept" within these three hotels has gained full support among guests.

4. Conclusions

The Romanian experience demonstrates the neZEH hotels feasibility of renovations towards NZEB in the hotel sector, acting as examples of best practice and inspiring more hoteliers in EU to invest in energy renovation projects [13]. Romanian contributions are notable also for the energy market which has faced important transformations, especially because wind energy gained attractiveness due to favourable weather conditions and a generous subsidy scheme offered by the government, and by 2020 at least 38% of Romanian electricity consumption will be ensured from renewable sources [20].

The Romanian accommodation supply is dominated by family-owned companies. In the hotel industry in Romania, in 2015, the percentage of SMEs was 93.6% [15]. This is of particular importance, as managers of economic units in this category have a distinct sustainable management behavior, they have no resources, they demonstrate resistance towards the application of sustainable development measures, they invest insufficiently in research and development, and have no internal capabilities and resources necessary to monitor environmental issues [6, 19, 22], elements which explain reluctance and a general opposition in developing environmental protection decisions.

Moreover, tourists' satisfaction is influenced by the quality of accommodation services and affects decisively purchase intentions [18]. Romania still has problems with the quality of the accommodation services offered and the need to implement legal norms for the protection of the consumer of tourist services is imperative both to protect the tourist and to offer him safety, but also to continue to develop the quality offered [21].

The major difficulties associated with the introduction of managerial practices for sustainable operation in the Romanian hotels are considered to be related to the lack of an environmental culture among economic operators in Romania, fear of increased costs due to investments in

"green" technologies, the desire to obtain immediate profit from the completed investment associated to the lack of medium and long term plans and, also, the appreciation of usenessless of such actions in the direction of sustainable development because they wouldn't be appreciated neither by consumers nor wholesalers.

In order to attract and convince an important number of accommodation units' managers that sustainable development is the most correct and also efficient option, constant public support, tailored technical assistance and financial incentives, awareness raising and training programmes are among the fundamental elements in creating general recognition of updated sustainable behavior. The Romanian SMEs with extended support from the government will be determined to finance investments in new technologies which could help them to improve the quality of the products offered on international markets [5].

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