

## ENERGY EFFICIENCY AS A BUSINESS POLICY FOR ECO-CERTIFIED HOTELS

**Marinela Krstinić Nižić**  
**Stefani Matoš**

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### **Abstract**

**Purpose** – Green business awareness has been steadily increasing among employers and guests, and a large number of green certificates for hotels are being developed around the world. However, Croatia has only about 40 certified green hotels with a "Sustainable Hotels" certificate. The purpose of this paper is to investigate whether these certified hotels operate in an energy-efficient way, and discover what the managers' attitudes are towards hotel energy management.

**Design/Methodology** – This study was conducted by sending an e-mail-based questionnaire to Croatian hotels with a "Sustainable Hotel" certificate. The questionnaire, based on a comprehensive literature review, was administered in two stages, and consisted of two groups of questions. The first group used closed-ended questions with a Likert scale, ranging from 1 (worst) to 5 (best). The second group used open-ended questions meant to explore the views of energy efficiency managers.

**Findings** – When it comes to energy efficiency, Croatian hotels have not yet reached the EU level, but there is great potential for responsible energy management development. The results of this survey point to the fact that some hotels in Croatia see significant benefits in terms of attracting ecologically conscious guests, but also lower operating costs. From the questionnaires, it can be concluded that managers and hoteliers are insufficiently informed about energy efficiency or the measures necessary to achieve satisfactory energy savings in general.

**Originality of the research** – Even without applying for the actual eco-label, eco-labelling criteria can be used as guidelines for improving the energy efficiency performance of a hotel. The obtained results represent a relevant information base necessary for managing energy savings and energy efficiency.

**Keywords** Energy efficiency, hotel industry, eco-labelling, energy management, sustainability

### **INTRODUCTION**

Energy efficiency is a measure that shows how much the implemented measures and technologies contribute to the reduction of energy and / or fuel consumption, such as domestic energy consumption or the production of a certain product (International Energy Agency). Energy efficiency is the sum of the planned and implemented measures aiming to use the least possible amount of energy so that the level of comfort and production rate are maintained, i.e. a series of measures and activities that enable the use of less energy (energy sources) for performing the same job (Herceg 2013, 308). Energy production and its use have a significant effect on the environment, causing both local and regional pollution, as well as global issues such as global warming and climate change. Energy production is always dictated by its consumption, so careless, inefficient

consumption causes unnecessarily high production, and thus an unnecessarily large negative impact on the environment (OECD/IEA 2014).

Numerous authors write about the environmental impacts of hospitality and tourism (Junaid and Hauteserre 2017, Krstinić Nizić and Blažević 2017, Perić and Šverko Grdić 2017, Gil-Saura, and Ruiz 2011, Sunlu 2003). All hotels, whether big or boutique hotels, have a considerable opportunity to lessen their carbon footprint and make a positive impact on the green movement. Each area of a hotel—guest rooms, event space, back of house operations and general facility use—perform operations that can have negative environmental impacts. Energy and water efficiency, waste reduction and management, sustainable and local purchasing and use of alternative transportation are all areas that offer opportunities for better cost efficiency and environmental efficiency. The most recent topic that has been considered in the green movement is the status of human health. The literature reviewed revealed a number of themes and relationship that relate to ecosystem health and human health (Tzoulas et al. 2007, Amano et al. 2018, MacNaughton, et al. 2018). Hotels can contribute to this cause by providing healthy, comfortable, and productive indoor environments with improved air quality, locally and organically grown food, access to daylight, and guest control of lighting and heating control in guest rooms (Krstinić Nizić et al., 2008). In order to be competitive in an international tourism market and in the hospitality industry, hotels can now attain a certification for their eco-friendly practices (Han and Yoon, 2015). The term sustainability has become increasingly widely used across many walks of life in recent decades and in some ways it seems to be used to mean all things to all people, but the idea of sustainability is not a mere mind game played by modern technocrats, nor the brainwave of some tree-hugging eco-warriors...it is our primal world cultural heritage (Grober 2012, 13; Jones et al. 2014, Blanco and Sheffi, 2015). The authors Moore et al. drew from over 200 studies to identify 24 existing definitions of sustainability (Moore et al. 2017) but for this purpose we can define that the oft-cited definition of sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43).

With regard to the above-mentioned, the *aim* of this paper is to investigate whether certified hotels in Croatia operate in an energy-efficient way, and what are the managers’ attitudes toward hotel energy management. Managers, as decision makers, become the group of a particular interest for researchers (Krupskyi and Grynko 2018, Bogodistov et al. 2017, Marco-Lajara and Ubeda-Garcia 2013, Chen and Chen 2012). Dynamic managerial capabilities can be seen as a part of dynamic capabilities with a stronger focus on managerial role in routines needed to face environmental challenges (Bogodistov 2015).

The paper is divided into three chapters, in addition to the introduction. The first part provides a description of the green certification, i.e. the benefits of implementing green certificates. The second part presents the research conducted by sending an e-mail-based questionnaire to Croatian hotels with “Sustainable Hotel” certificate. In Results and Discussion, the third part of the paper, the authors analyse the attitudes of managers regarding hotel energy efficiency and sustainable green business. The results of this

study will help hotel managers or operators gain better understanding of green certification and integrate energy efficiency into their business policy.

## 1. GREEN CERTIFICATION IN HOSPITALITY

Green certification helps consumers identify green hotels and the practices they incorporate (Deraman et al., 2017). A certification program also provides hoteliers with the opportunity to have their hotel rated and labelled based on predetermined environmental practices and policies (Chen, 2018). Ratings will vary depending on the organization selected to certify the hotel. In some instances, the hotels self-report which environmental practices they participate in; in other instances, the certifying organization inspects the hotel. The standards that most certification programs use incorporate those areas of the hotel that relate to energy management, waste management, water use reduction, and education (Mohd Suki and Mohd Suki, 2015). Certifications in the hospitality industry have been prevalent over the last few decades, and the list of certifications continues to grow (Deale and Schoffstall, 2015). For this reason, the following table presents different benefits of green certificate in order to increase their implementation in Croatian hospitality industry. Green certification is assumed to be the most powerful tool to promote green hotel (Chen, 2018).

Table 1: The benefits of green certificate implementation

Benefits of green certificates	Description
1. Green certification standards provide a basis for the sustainability plan	When it comes to the exact definition of the concept "green", there is no general agreement (Lee and Cheng, 2018). Since all hotels start from different stages in ecological awareness, that which may seem green to one, can be perceived as undefined to the other, and vice versa. Therefore, the hoteliers are challenged by meeting and fulfilling the undefined green expectations of a variety of different guests (Mishra and Gupta, 2018). Hotels need to achieve sustainable development without generating significant environmental problems (Chen et al. 2018). Additionally, most hotel managers do not have a degree in ecology, and are not familiar with catering business processes that have the best impact on the environment. The certificates provide the hotel managers with the means to successfully manage the hotel in accordance with sustainable development and the "green" concept, backed by certain standards and features of each selected certificate, and provide guests with an insight into the business policy of a particular hotel (Molina-Azorín et al., 2015)

Benefits of green certificates	Description
2. Green certificates reduce the risk of eco-manipulation charges	Eco-manipulation or, originally referred to as "greenwashing", refers to certain marketing tricks that lead to customer misunderstanding in favour of products or services, i.e. their ecological aspect which is actually questionable (Tufts and Milne, 2015). The implementation of green certificates and the policy of adopting their standards, ensure the dismissal of such accusations.
3. Certificates help the hotels in meeting the environmental protection requirements imposed by governments, clients and partners	All countries have certain laws and policies pertaining to sustainable development, i.e. its implementation in the daily business of companies (McQueen, 2016). In addition to helping the companies realise higher profits and ecological and sustainable awareness, certification standards also help them adapt their business to the laws, as well as the requirements of certain partners in a business environment consistent with sustainable development (Mallory et al., 2018).
4. Exposing the company to a new market segment of green consumers	The number of eco-conscious people has been steadily increasing year after year, as well as the market for that hotel type (Sari and Suslu, 2018). Environmentally conscious people have higher incomes, look for luxurious services and products, and enjoy a luxurious lifestyle. In recent years, environmental awareness has increased, along with the category of eco-conscious consumers (Verma and Chandra, 2018).
5. Building market recognition	In a virtually connected world, it is sometimes difficult to tell a story that draws attention. Hotels with implemented green certificates are more likely to be recognized by the media, showing their way to sustainability and improving their business performance, which in turn leads to guest recognition and their interest in specific objects (Eskerod and Đurić, 2018).
6. Certificates help increase guest satisfaction	Guest satisfaction is proved to be greater when guests are aware of the green programs of their hotels (Sungpo et al., 2016). The compliance with the standards is determined by an easily recognizable eco-certification which allows the hotel to clearly define and describe its green initiatives to the guests, thus increasing the overall guest satisfaction (Yau, 2012., Barber, 2014).

Benefits of green certificates	Description
7. Increased profitability	While many companies doubt the profitability of promotion and going green, it should be emphasised that profitability in this area is focused exclusively on long-term solutions (Devine and Kok, 2015). In order to implement a specific certificate, the hotel needs to make changes that initially require greater investment by the company; however, the goal of sustainable development, green certificates and promoting green business practices are precisely long-term savings and return on investment (Matisoff et al., 2016).
8. Improving the image, reputation, and involvement in the local community	One of the many directives of the implementation of all green certificates is that hotel companies must be involved in the local community while respecting the principles of socially responsible business (Slivar, Golja, 2016, 166). Hotel management must also provide certain forms of environmental education for employees and guests (Lanfranchi and Pekovic, 2014; Moreo et al., 2018).

Source: Authors' interpretation according to Millar, 2012  
[http://hotelexecutive.com/business\\_review/2857/five-important-benefits-of-green-certification\(01/03/2018](http://hotelexecutive.com/business_review/2857/five-important-benefits-of-green-certification(01/03/2018)

Presented below are the basic characteristics of some of the green certificates used in hotel business.

- **Green Globe Certification**

The Green Globe certification is a structured assessment of the sustainability performance of travel and tourism businesses and their supply chain partners (Green Globe Certification). Businesses can monitor improvements and document achievements leading to certification of their enterprises' sustainable operation and management. The Green Globe Standard includes 44 core criteria supported by over 380 compliance indicators. The applicable indicators vary by type of certification, geographical area as well as local factors. The entire Green Globe Standard is reviewed and updated twice per calendar year. Green Globe is active in harmonizing with other established sustainability certification programs around the world. The process of harmonization contributes to maintaining core criteria and, at the same time, addresses regional issues through the adoption of locally developed standards. To guarantee compliance with the highest international standards, a third-party independent auditor is appointed to work with clients on-site. The international standard ISO 19011 provides guidance on the management of audit programs, the conduct of internal and external management systems, as well as competence and evaluation of auditors. Green Globe has drawn on ISO 19011:2002 in the development of its audit program.

- **Green Key Standard**

The Green Key award is the leading standard for excellence in the field of environmental responsibility and sustainable operation within the tourism industry (Green Key Criteria). This prestigious ecolabel represents a commitment by businesses that their premises adhere to the strict criteria set by the Foundation for Environmental Education. Green Key stands for the promise to its guests that by opting to stay with the Green Key establishment, they are helping to make a difference on an environmental level. The high environmental standards expected of these hotels are maintained through rigorous documentation and frequent audits.

- **Green Hotels Association**

Although the Green Hotel Association does not issue or support certificates because of their belief that the costs of implementing certain certificates are too high, the association needs to be mentioned because of its particular way of doing business which includes concern for its members and their improvement (Green Hotels Association). The main goal of this association is to provide its members with all the information they can gather in a multitude of ways to achieve and preserve green business practices. The Association assures its members that by using the ideas, techniques and information they provide, all users can save more money than they spend on their membership fee. The information is provided in their book and the newspapers that members receive six times a year. Also, one of the goals of this association is to bring business to the door of each particular member by involving the media and making the guests, clients and business partners interested in visiting certain hotels. Likewise, the Association helps companies improve their marketing (i.e. make it green) using websites that provide the guests with information about their green business and that stimulate visitors' interest in them.

- **Sustainable Hotel Certificate**

A number of hotels in Croatia base their operation on green hospitality principles. The analysis of the 2018 situation reveals that Croatia currently has 40 hotels with the "Sustainable Hotel Certificate by UPUHH", awarded by the Association of Employers in Croatian Hospitality (UPUHH, 2016) for the period from 2014 to 2016. The certificate guarantees that the facility follows the global trends in sustainable business, such as: successful sustainability management in the daily hotel business, environmental protection and continuously raising environmental protection awareness, energy efficiency, staff training, energy and water saving, sustainable procurement, sales, marketing and PR, and the control of CO<sub>2</sub> emissions into the atmosphere. Figure 1 shows the current list of certified eco-friendly hotels in Croatia. The competitiveness of firms (hotels) depends on internal efforts, but also on a number of external factors, such as overall perception of producers coming from a region or city (Stojčić et al., 2016).

In order to determine differences and similarities across the four presented certificates, different aspects were selected: levels of assessment, cost, monitoring, region and well-being of its customers, staff and local community.

Table 2: Selected characteristics of analyzed certificates

Green certificate	Levels of assessments	Cost	Monitoring	Region	Well-being of its customers, staff and local community
Green Globe	Certified, Gold or Platinum	Dependent on size plus independent audit fees (EUR 620-4200)	Annual renewal period, standard is updated and reviewed twice per year	International (Europe)	Yes
Green Key	No	EUR 1000 plus EUR 500 + expenses for audit	Audits are conducted first and second year and then every three years. GK is awarded for one year at a time	International	Yes
Green Hotel Association	No	Membership fee \$200 +\$1 for each guestroom	The members receive valuable information six times a year	International	Yes
Sustainable Hotel Certificate by UPUHH	Basic, Advanced, Superior	Free of charge	Every three years	National (Croatia)	Yes

Source: Authors' own research according to Eskerod & Đurić 2018, 186.

The Table 2 an overview of different characteristics among the four certifications is presented. Our research shows that Sustainable Hotel Certificate exists only in Croatia, so the Figure 1 presents the map of certified eco-friendly hotels by destination in Croatia.

Figure 1: Map of certified eco-friendly hotels by destination in Croatia



Source: Krstinić Nižić and Šverko Grdić 2017, 83-104.

One reason for concern is the fact that out of 200 UPUHH members, which account for about 80% of the total Croatian hotel industry, only 40 have been rewarded the Sustainable Hotel Certificate. However, the plan is that by the end of 2018, other hotels also adopt the concept of green business, and that new professional associations (from camping, nautical and other segments of tourism) join the project. The costs of this project are covered by the UPUHH and co-financed by the Ministry of Tourism and other partners. The strategic goal of the project is in line with the goals of the Croatian Tourism Development Strategy until 2020, which are based on the introduction of green business practices and which imply a synergy of economic benefits, the concern for the environment in its broadest sense and social inclusion in the wider community (IZTZG, 2016; MINT, 2013), all in accordance with the principles of sustainable development and energy efficiency.



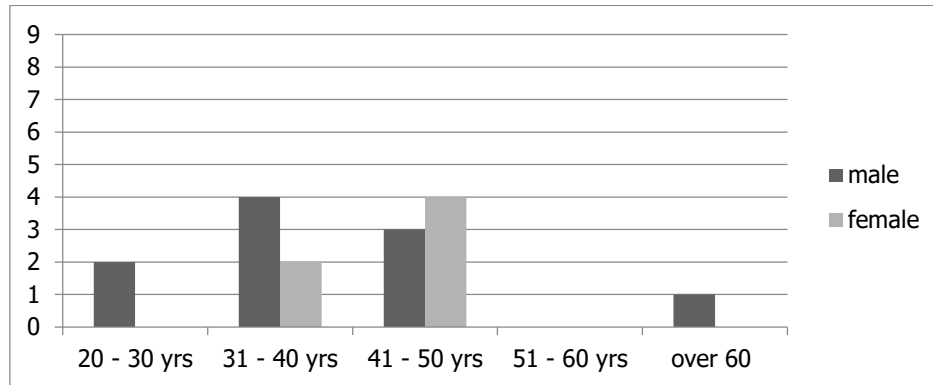
## **2. METHODOLOGY**

This study was conducted by sending an e-mail-based questionnaire to Croatian hotels with “Sustainable Hotel” certificate. The Sustainable Hotel Certificate has been awarded to forty hotels in Croatia in three categories: basic, advanced and superior, i.e. the highest category which, according to the List of Classified Tourist Facilities in the Republic of Croatia, in October 2017 represented 5.9% of the total number of hotels in Croatia (Ministry of Tourism). The target group was chosen because the selected hotels are the bearers of eco-certification, which implies that energy efficiency and green business are their business strategy. The questionnaire, based on a comprehensive literature review, was administered in two stages (October through December 2016 and in January 2017), and consisted of two groups of questions. The first group used closed-ended questions with Likert scale, ranging from 1 (worst) to 5 (best). The second group used open-ended questions meant to explore the views of energy efficiency managers. The collected questionnaires were encrypted and statistically analysed. The questions were asked in order to determine the level of managers’ awareness on energy efficiency issues, whether they use energy-saving measures in their business, and their attitudes towards sustainable development with an emphasis on energy management. The questionnaire was submitted electronically; sixteen were completed and returned, which makes a 40% return rate. Those that haven’t responded have reported that their data is secret or that they do not want to participate in the research because of the lack of available time. The survey respondents expressed an interest in analysing the obtained results, and the overall results are to be sent to the hoteliers who participated in the survey.

## **3. RESULTS AND DISCUSSION**

Of the total number of analysed questionnaires, the largest number of respondents is between 41 and 50 years of age, followed by respondents between the ages of 31 and 40, signifying a relatively young group of respondents. The respondents are mostly male (62.5%), while the female gender, between 31 and 50 years of age, represents 37.5% of the respondents (Graph 1). As far as the educational structure is concerned, it was to be expected that the majority (93.75%) would have a high level of education since they are hotel managers. As for the age of hotels, the largest number of hotels is over twenty-five years old; and implementing energy efficiency measures is harder in the existing facilities than in the newly built ones.

Graph 1: Respondents by gender and age



Source: Authors' own research

The questionnaires were filled out by hotel managers with a Sustainable Hotel Certificate, while one of them also has a Friend of the Environment Certificate (Ministry of Environment and Energy). When asked whether the hotel implemented an ISO standard such as ISO 14001 (environmental protection) or ISO 50001 (energy management), 56.25% responded that they implemented the ISO 14001 standard, while 37.50% of hotels had implemented the ISO 50001.

Table 3: Awareness of energy efficiency issues

Level of awareness of the issue?(%)	negligible	low	moderate	high	extremely high
Energy-saving and energy-efficiency in different areas of human activity?	0	6.25	12.50	75.00	6.25
Measures for more efficient use of energy at the level of the company you work in?	0	0	6.25	43.75	50.00
The use of renewable energy sources in your company?	6.25	6.25	12.50	37.50	37.50
The problem of climate change?	0	6.25	12.50	43.75	37.50
The environmental impact of the existing power plants?	6.25	6.25	25.00	50.00	12.50

Source: Authors' own research

The first part of the questionnaire relates to the level of awareness of energy efficiency issues; as many as 75% respondents showed a high level of awareness on energy-saving and energy-efficiency in different areas of human activity. The next question concerns the level of awareness of various measures for a more efficient use of energy at the level of the company; half of the respondents (43.75% and 50%) answered positively to the question. When it comes to the use of renewable energy sources in the respondents' companies, the results could be viewed as positive since 75% of the respondents marked the level of awareness as high or extremely high. What is concerning is the 6.25% of respondents on the low part of the scale. The level of awareness of the problem of climate change can also be viewed in a positive light, since 43.75% of the respondents marked it as "high". In general, it can be concluded that the level of awareness of energy efficiency issues is satisfactory. However, since these are all managers of hotels that operate in accordance with the principles of sustainable development, continuous education on these issues is required.

Table 4: **Energy-saving measures**

To what extent do you save energy in your company? (%)	negligible	low	moderate	high	extremely high
reducing heating / cooling to the lowest acceptable level	0	0	12.50	50.00	37.50
careful use of light (turning the lights off in areas where it is not necessary; lighting sensors)	0	0	6.25	43.75	50.00
the use of energy-efficient light bulbs	0	0	6.25	50.00	43.75
efficient use of hot water	0	0	43.75	37.50	18.75
using energy-efficient appliances	0	0	37.50	37.50	25.00

Source: Authors' own research

When asked whether heating or cooling is reduced to the lowest acceptable level, whether they use the lights carefully, and whether they use energy-efficient light bulbs, there is an equal ratio of respondents who answer positively, showing a high level of awareness of the issue. However, when it comes to the efficient use of hot water, the results show that 43.75% of the respondents marked it as "moderate", which points to the need to introduce changes in the near future by additional training and education of managers on all hotel levels, making energy-efficient use of hot water a practice, not an exception in hotels. When it comes to the purchase and use of energy-efficient appliances, 37.50% of the respondents marked it as "high" or "moderate". The purchase and use of energy-efficient appliances should be encouraged by various measures since they have a fast ROI, despite their originally higher price.

**Table 5: Attitudes on sustainable development**

Attitude regarding the following statements(%)	strongly disagree	disagree	neutral	agree	strongly agree
Humans have the right to completely change the natural environment to meet their needs.	43.75	56.25	0	0	0
Planet Earth is an inexhaustible resource, but humans do not know how to fully utilize it.	12.50	12.50	6.25	31.25	37.50
Environmental issues are sufficiently present in Croatian media	6.25	50.00	18.75	25.00	0
Consumers of our products or services / guests are willing to pay a higher price for the service due to electricity produced from RES because they are aware of the importance of environmental protection and climate change	6.25	50.00	31.25	12.50	0
Environmental protection is interconnected with the development of the economy (tourism).	0	0	6.25	62.50	21.25
Tourism in Croatia is threatened by industrial development.	0	31.25	50.00	18.75	0

Source: Authors' own research

Regarding the right of humans to completely change the natural environment to meet their needs, the responses are fairly similar. Namely, 56.25% of respondents answered "disagree", while 43.75% of them "strongly disagree" with this statement. In general, the respondents' view on environmental change for their own needs is positive, since there is clearly a high level of awareness regarding unnecessary pollution and environmental change. The majority of the respondents agree that Earth is an inexhaustible resource, but humans do not know how to fully utilize it. However, as many as 12.50% answered "strongly disagree" and "disagree". The question whether environmental issues are sufficiently present in Croatian media today divided the respondents. The different responses indicate that the respondents are not fully informed about the presence of environmental issues. As many as 50% of the respondents answered "disagree" to the question of the consumers' willingness to pay more for services in order to achieve energy efficiency. 12.25% answered "agree", thus expressing the view that a small number of consumers are willing to pay higher prices, which is one of the reasons why the hotels introduce systems that help them produce electricity from renewable energy sources, protect the environment and mitigate climate change. The 62.50% ratio of responses proves that the respondents are aware of the fact that environmental protection affects tourism and the economy, either positively or negatively. Half of the respondents

cannot assess the state of Croatian tourism, i.e. its vulnerability to industrial development, which indicates a lack of awareness regarding the state of the sector in which they operate.

**Table 6: Attitudes on energy management**

Attitude regarding the following statements(%)	strongly disagree	disagree	neutral	agree	strongly agree
Energy management must be an integral part of entrepreneurial management	0	0	0	31.25	68.75
Energy management and environmental protection creates a positive image and reputation	0	0	18.75	43.75	37.50
Business activities can have a negative impact on the environment	0	0	0	43.75	56.25
Insufficient managerial knowledge (lack of interest) of energy management hinders the use of RES (renewable energy sources).	0	25.00	18.75	18.75	37.50
Lack of financial resources hinders a greater use of RES (renewable energy sources).	0	0	6.25	43.75	50.00
The demand for "green" services is still limited in the Republic of Croatia	0	12.50	6.25	43.75	47.50

Source: Authors' own research

The majority of the respondents (68.75%) agree that energy management must be an integral part of entrepreneurial management. The managers are aware that energy is an integral part of management and that energy management and environmental protection create a positive image and business reputation. Business activities can have a negative impact on the environment, but positive environmental awareness can bring about changes that open up the path to a greener business. The statement that insufficient managerial knowledge of energy management hinders the use of renewable energy sources is confirmed by the largest number of respondents (37.50%), while 25% of them disagree with this statement. Most agree that the lack of financial resources hinders a greater use of renewable energy sources. As far as demand for "green" services is concerned, the respondents believe that demand is still limited, at least in the Republic of Croatia.

## CONCLUSION

According to the Croatian Tourism Development Strategy until 2020, tourism facilities should introduce green business practices, implying a synergy of economic benefits, environmental protection and social inclusion in the wider community. Various green certificates can help the hotel industry to move on to "green", i.e. energy-efficient business, providing guidelines for hotel companies by pointing to the business segments that would perform best in accordance with sustainable principles.

The results of this survey point to the fact that some hotels in Croatia see significant benefits in terms of attracting ecologically conscious guests, but also lowering the operating costs. Since this may give them a marketing advantage, they are equally aware of the financial benefits. From the questionnaires, it can be concluded that managers and hoteliers are insufficiently informed about energy efficiency or the measures necessary to achieve satisfactory energy savings in general. From the analysed results, it can be concluded that hotels are becoming increasingly aware of energy efficiency issues, not only because of the directive imposed by the European Union but also because of the demand for "green" services. In general, it can be concluded that the current level of awareness of energy efficiency issues is satisfactory. However, since these are all managers of hotels that operate in accordance with the principles of sustainable development, continuous education on these issues is required. Although the surveyed hotel managers utilize certain forms of energy saving, thus reducing total energy consumption as well as costs, the main problem in switching to an energy-efficient business are the initial costs needed for the implementation of various technologies that lead to a better long-term performance, return on investment and, eventually, higher profits. Furthermore, the results provide future managers, as well as guests, with guidelines about introducing green business practices in order to achieve greater energy efficiency.

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**Marinela Krstinić Nižić**, PhD, Associate Professor  
University of Rijeka, Faculty of Tourism and Hospitality Management  
Primorska 42, 51410 Opatija, Croatia  
Phone: +385-51-294189  
E-mail: [marikn@fthm.hr](mailto:marikn@fthm.hr)

**Stefani Matoš**, BSc, Student  
University of Rijeka, Faculty of Tourism and Hospitality Management  
Primorska 42, 51410 Opatija, Croatia  
Phone: +385-51-294189  
E-mail: [stefanimatos04@gmail.com](mailto:stefanimatos04@gmail.com)

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