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Review
Pregledni rad

THE SIGNIFICANCE OF ENVIRONMENTAL SUSTAINABILITY IN TOURISM DESTINATION DEVELOPMENT: THE CONTRIBUTION OF THE HOTEL INDUSTRY IN THE NORTH WESTERN COASTAL AREA OF CROATIA

ABSTRACT

While developing its tourism, every tourist destination must be ecologically oriented in order to obtain a stabile ecological balance in both sustaining and prudent use of its environment. According to this, economical consumption of poor goods is understood, together with its orientation towards the renewable energy sources.
In order to promote sustainable development of a tourist destination, the strong co-operation between local authorities, tourism boards and authorities entitled for environmental protection is an absolute priority.
It is noted that because of the insufficient education and information, along with large initial costs, neither a satisfactory organization of environmental protection, nor the submitting or the application of the reports on environment and on renewable energy sources are possible.
The purpose of the study is to analyze the awareness of the need for the ecologically oriented management concept in the four and five star hotels in Istarska and Primorsko-goranska County.
The aim of the paper is to provide concrete and useful information to the hoteliers and further more to the business environment, in order to emphasize the importance of environmental protection in achieving sustainable development of tourism destination.

JEL: Q00, Q5, Q26, L83

Key words: *environmental protection, tourist destination sustainable development, renewable energy sources, counties Istarska and Primorsko-goranska*

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1. INTRODUCTION

As the natural environment represents the original element of every tourist offer, the care for its preservation and protection represents an obligatory and essential element of consideration and of the further tourist destination development concept. Great attention from various aspects, weather theoretical[1] or practical, has been given to these problems in foreign countries for a long time. The situation in Croatia is still not satisfactory, at least when taking into consideration the research range of this paper which includes the counties Istarska and Primorsko-goranska, the two leading tourist destinations in the country. An adequate perception of the importance of the ecologically directed market consideration within tourism has still not been obtained by the public, i.e. by hotel managements, while the sustainable development conception within the generating tourist offer has been represented quite poorly.

The acceptance of the ecological management concept represents the prerequisite for the quality and successful contemporary Croatian tourist offer positioning and for the entrance into the European Union, as well as satisfying its rigorous legislation within the environment protection area. On account of this, the fundamental goal of this paper is represented by the research of the situation in present hotel objects on environmental protection within the system of a tourist destination, as well as by the stressing of indispensable use of ecologically sustainable development while generating the contemporary tourist offer. The research has been conducted in order to establish the importance of the ecologically conceived tourist offer, the environment protection implementation and the sustainable energy sources appearance of a tourist offer. The insufficient involvement of the hotel management or the impact of its indifference to the ecological activities of the hotel as well as of the whole tourist destination environment has been inspected closely.

The research goal was to investigate the organized means of environmental protection and of renewable energy sources within hotels of a tourist destination, as well as the motives for their harnessing or not harnessing. The research originated with the hypothesis of the insufficient awareness of the need for the ecologically oriented concept of management within the hotels of a tourist destination, i.e. of a very low ecological perception level. From this main hypothesis the sub-theses emerge of ecological awareness of both present and future guests that wish to live in accordance with the sustainable development principles.

The paper consists of an introduction and two more chapters. The first chapter defines the environmental protection, sustainable development, and the renewable energy sources, together with their importance for the tourist destination. The second chapter presents the research based on the questionnaire. The lack of planning and investing in installing various forms of environmental protection or renewable energy sources is established by analysis, as well as of the non-sufficient education and information on various reports on environment and sustainable development.

Within the conclusive reflections the need for the larger ecological awareness on all the tourist destination levels is suggested. The environmental protection obtains an ever higher place within tourism development, which depends on the environment conditions.

[1] See more: Doggart, V., Doggart, N., (1996), Environmental Impacts of Tourism in Developing Contries, Travel and Tourism Analyst, (2), 5, p. 76

2. THE SIGNIFICANCE OF ENVIRONMENTAL PROTECTION FOR THE DEVELOPMENT OF TOURISM

The history of human production and consumption indicates rare eco-system careful handling conditioning by their originators. For centuries no one has been particularly jeopardized by this, as the extension of human activities was both globally and locally negligible. Nevertheless, from the middle of the 18th century it has been growing continually at a very fast rate, so nowadays the parallel and undisturbed human activities and natural transformation interaction are difficult to be found anywhere. Damages brought about within the eco-systems became noticeable only when the human superiority grew up to the ecologically important proportions, i.e. not even a hundred years ago. As the obtained proportions continued to grow, human activities started interfering with each other, disarranging the eco-system and jeopardizing even the essential human physiological processes within individual industrialized and urban areas on Earth. Everything nature has in common with the mankind brought to its damage.

If the nourishing communities within the affected eco-system have not been disarranged, and if a number of spaces and their population have not decreased, such accumulations and radiations are considered as environmental contamination[2]. If, on the other hand, the impoverishment and the decrease in eco-system activities are shown, they are considered as contaminations that grew into environmental pollution, and are usually divided into ground, air, sea, and inland water pollutions.

Consequently, when a sufficiently high concentration of odd substances or energy can be found within the environment for a considerable time period and can be a cause of various short-term, long-term, or postponed damages for people, plants, or animals, it becomes polluted.

When expressing it ecologically, pollutions appear when odd substances or energy exceed the **carrying capacity** of the given eco-system, which is designated as the extent of a certain activity or a substance and/or energy flow within the given time unit which can be accepted by the eco-system and biologically or biochemically disintegrated or laid aside without permanent damage[3]. Economically, the determination of the reception potential forms one of the sustainable development elements and represents the tourist management approach where the levels of tourist activities and of tourist destination development are managed according to the tolerable impacts on the environment[4]. It represents the most expansive form of mass-tourism, where no development plan of the tourist destination level can be realized until the further growth in a number of similar objects is prevented.
Therefore, the following is indispensable[5]:

- the reception potential calculation must become obligatory for every tourist destination,
- to form interdisciplinary expert teams on county, town, and municipality levels as tourist destination levels, with their main task of instigating the forming of larger

[2] NN: 12/01
[3] Starc, N.,(2003), Priroda, čovjek i figa u džepu, Društvena istraživanja, Zagreb, (), 3-4, pp. 338-339
[4] Smolčić, Jurdana, D.,(1999), Značaj prihvatnog potencijala za ekološki uravnotežen razvoj turizma, 2nd International Scientific Conference „Economics and Ecology in Function of Tourism Development“, Faculty for Tourism and Hospitality Management, Opatija, Faculty of Comerce, Institute of Service and Tourism, Bratislava, p. 432
[5] Blažević, B., (2007), Turizam u gospodarskom sustavu, Faculty of Tourist and Hospitality Management of Opatija, Opatija, p. 474

social function of the public as the indispensable corrective in developing policy implementation,

- to create law regulations for the coastline construction (200-300m from the sea-shore), taking into consideration all sustainable development concept elements, particularly alluding to the rigorous inhibitions that in this case have long-term "benefits",
- all members of both public and tourist destination managements on all formed levels must take part in the compulsory yearly educative refresher courses for educational and for the overall awareness, knowledge, and particularly ecological level purposes.

The world conference on environment and development took part in Rio de Janeiro in 1992 under the patronage of the UN, and the concept of sustainable development was definitely accepted as the only known and possible solution to the development and environment problem[6].

Given that the environmental protection represents one of the three pillars of the "sustainable development concept", The Operational Environmental Programme[7] contains not only the sustainable development concept but also a direct influence and contribution to sustainable development itself. The present situation together with the planned steps predicted in obtaining a permanent improvement in environmental protection is worked out in detail within The Operational Programme. It can be generally said that the measures undertaken within The Operational Programme have double impact on the sustainable development concept:

- investments into the offals and water managing (including the sub-sectors of drinking water and liquid waste), which contributes directly to the environmental protection of the areas,
- contributions are made to the economic development by investments, new working places, and the shaping of particular environmental living and working conditions.

The investments anticipated within the priority areas contribute to the implementation of the EU legal acquirements within the environmental protection and to the actualization of the required EU standards and norms, one of the key aspects within the process of the European integrations. Taking into account the previously mentioned terms, special attention towards environmental sustainability and protection will be drawn to within the phase of selection, where the greatest economic, social, and ecological impact are chosen as the most important selection criteria, and within the phases of supervision and evaluation. As The Operative Programme is mainly concerned with large projects[8], the important question in selecting the sustainability and environment protection principles represents the need for the implementation of the environmental impact evaluation within the planned investments.

All the indispensable procedures in environmental impact estimations, according to the demands of the EU, are implemented by the Ministry of Environmental Protection, Physical Planning and Construction[9] or by the competent local authorities. In order to implement the estimation procedures on environmental impact the already existing institutional structures are used, while technical support is requested for the professional capability improvement.

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[6] Črnjar, M., (1997), Ekonomija i zaštita okoliša, Školska knjiga, Zagreb, p. 285

[7] Operativni program na okoliš 2007-2009, Instrument pretpristupne pomoći, Ministry of Environmental Protection, Physical Planning and Construction, Zagreb, 2007

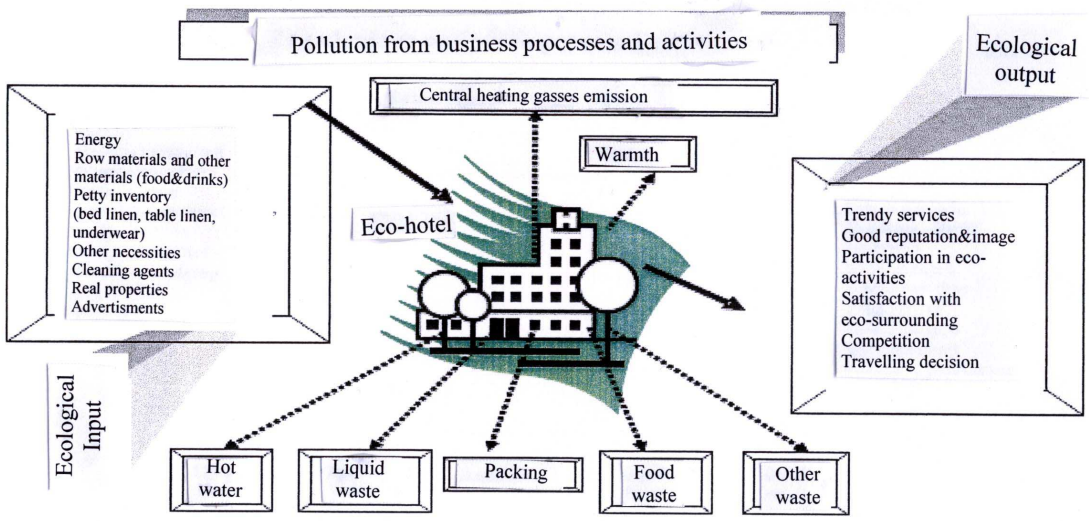
[8] Investments larger than € 10 million

[9] http://www.mzopu.hr

The Republic of Croatia has been undertaking the environmental impact estimation in specific operations since 1987, i.e. from the moment the procedure became obligatory under The Act on Physical Planning and Spatial Regulations.
Since 1994, when The Act on Environmental Protection[10] was passed, the environmental impact estimation procedure has been regulated by both this act and by the Implementation Regulation. Nowadays The Book on Environmental Estimated Impacts Regulations is effective[11].

Figure 1

Environmental protection control indicators according to the tourism sustainable development principles



Source: MAIN TOURISM DEVELOPMENT PLAN FOR THE COUNTY PRIMORSKO-GORANSKA http://www.uniri.hr/gpta/a/POGLAVLJE_8_PRIHVAĆANJE,%20PROVEDBA,%20KONTROLA_I_PRILAGODJAVANJE-pfd(p. 428, 12-08-2008)

The presented indicators represent the results of empiric, quality and quantity measures based on specific starting points and in order to appraise the situation in various areas of tourist development. Sustainable tourism development of each tourist destination requires a system and acceptance of indicators for systematic control of investments within the environmental audit as well as for continual quality audit, i.e. TQM effect. The approach to the arrangements of such indicators within the global tourist market is based on the generally accepted standards of environmental control: ISO 1400ff (given the system can be certified on base of ISO 14001 standard), EMAS I[12], EMAS II[13] norms and others, together with the standards of systematic quality audit: ISO 9000ff norm, while their application becomes a valuable and,

[10] NN 94/1994, 128/1999
[11] NN 59/00, 136/2004, 85/2006; The Act and the Book on Regulations mostly contain the requests from the Councel Directive 85/337/EEZ from june 27, 1985 on the effect estimate of certain public and private projects on the invironment, changed by the directives 97/11/EEZ and 2003/35/EEZ
[12] EMAS – Eco (Environment) Management and Audit Scheme
[13] http://www.ec.europa.eu/environment/emas/index_en.htm (12-08-2008)

indeed, obligatory information base for the tourist development management within every tourist destination.

The quality of information published within the eco-reports designed for extern users must be shaped according to EMAS norms. In other words, as a relatively small number of firms hold a certificate according to the EMAS standards and the system is functioning within the area of the EU only and lacks some internationally generally accepted principles, criteria, and standards according to which the data and information published within the frame of basic or special eco-reports could be compared and judged on a unique base, in year 1997 the initiative was set in motion on global scale (*Global Reporting Initiative)* in order to insure the reporting system harmonization on sustainable development (GRI)[14].

The Environmental Management System (EMS) supports the realization of green strategies, which must be included into the operative plans that, according to their specific characteristics, are carried out by the managements of hotels and tourist destinations. Particularly important are the ecological actions in drinking water preservation and savings (water-pipes, water-wells, rain-water gathering), liquid waste providing (sewage system, purificators, precipitations, water quality control), air protection (exhaust gases, heating, cooling), promotion of waste decrease and selection actions (packing materials, recycling, education), stimulation of the locally manufactured produce use (healthy food, agro-tourism, involving tourists into various actions), introduction of clean technologies, polluters substitution, stimulation of public transportation use, etc. All the stated activities simultaneously represent the groups of joint initiatives of hotel managements and other tourist offer participators within the level of the tourist destination in solving the open environment improvement and protection problems. Involving all the hierarchy levels within hotels or tourist destinations, and taking into consideration the guests' needs and wishes, the prerogatives are formed for the eco-commitment, i.e. for the acceptance of the eco tourist produce. Environmental education is indispensable for the employees, as well as for the local inhabitants, as it represents the assumption to include the guests into various eco-activities they will experience as something new and interesting. Potential tourist nowadays live and work surrounded by the general growth of personal and public standard conditions as the result of the general science development and the ever larger application of new technologies, general growth in public culture and public knowledge, the ever more accessible forms of collective and individual means of transportation which becomes ever cheaper, more accessible, faster, more complex, and more suitable for the ever greater number of potential tourists. Among the change peculiarities on the tourist demand market the return to nature is emphasized. Together with the quick growth and the ever higher level of alienation between people, the demand for the unique areas of nature with accentuate clean and intact landscape and nature is growing. The intact nature represents the prevailing reason for the tourist demand[15].

The basic principle of all actions and measures on environmental protection must be credibility, as only spectacular actions implemented and worked out by team work will lead to success. It includes implicitly[16]:

- introducing the guests to the possible saving areas,
- educating the guests for the correct waste providing,

[14] http://www.globalreporting.org
[15] Drawn out of the picture 1.3. Characteristic changes within the tourist demand market, http://www.uniri.hr/gprt/a/POGLAVLJE_1_TURISTIČKA_DESTINACIJA_KVARNER.pdf, p. 26
[16] http://interhoga.de/web.select/betriebskosten/ (11-04-2008)

- opening of “green advertising” to assemble various guest ideas,
- induce the guests to compete in order to identify new environmental protection measures, and provide attractive prizes for this purpose,
- working out the personal internal catalogue of environmental protection measures, print it in various foreign languages, and make it accessible to guests,
- stimulating the use of public transportation, ensure the transfer of guests from and to the railway stations, airports, etc,
- popularize the use of eco-produce and make public the information on eco-suppliers and partners,
- inform the regular guests of obtained savings based on the undertaken measures on environmental protection.

3. SUSTAINABLE USE OF THE RENEWABLE ENERGY SOURCES (RES) WITHIN THE TOURIST DESTINATION

Sustainable use of renewable energy sources represents a simple and operative concept, applicable particularly in the countries whose development is based on the use of natural sources. It is defined as the non-decreasing amount of sustainable natural capital. This definition takes us back to the sustainability level and to the possibility to substitute one source with some other. At present moment the most acceptable definition of the sustainable development for the decision-makers and the environment protection policy creators seems the one that accentuates the importance of leaving the development possibilities and capacities for the forthcoming generations, observing uniformly economic, ecological, and social sustainability[17]. When accepting the definition of sustainable development, which stresses the importance of retaining various possibilities, i.e. the capacities for the development to the future generations, we are leaving the thesis of retaining the same capital structure and value. Subsequently, we have the possibility to substitute one form of capital with some other, which leads us further to the question of sustainability level. Before that, nevertheless, it is necessary to define the substitution rate of one capital form with some other, as well as the complementary level between different capital forms and their changes in due course. Today we can conditionally speak of tree different sustainability levels[18].

The first level consists in various capital forms that perform perfect substitutes. No importance is given to the capital structure. Within the ***second level*** of sustainability greater importance is given to the capital structure. The complementarity of various capital forms is appreciated up to a certain level, therefore the defining of critical boundaries within every capital form is needed, above which the sustainability is jeopardized. The development should not influence the total shortage in one capital form regardless of any other capital form accumulation. ***The third level*** of sustainability, which enables all forms of operability, sustains to leave each particular capital form intact for the future generations.

The defining of all the needs, the possibilities, and the priorities while taking advantage of RES in Croatia is based on the analysis undertaken for every particular RES within the Zelena knjiga (Green book) outline[19]. The analysis results clearly show a number of advantages and

[17] Kordej-De Villa, Ž., (1999), Ekonomski rast i održivi razvitak, Privredna kretanja i ekonomska politika, 73/99, p. 326
[18] Ibidem, p. 325
[19] Ministarstvo gospodarstva, rada i poduzetništva i Program Ujedinjenih naroda za razvitak, (2008), Prilagodba i nadogradnja strategije energetskog razvoja Republike Hrvatske, available at: http://www.energetska-strategija.hr (12-10-2008)

possibilities for substantial increase in sustainable sources use in Croatia. Their successful implementation depends on overcoming the encountered and well-known obstacles mostly referring to the weak, but in the future indispensable links between all the relevant policies – energy, industry, agriculture, environmental protection, construction, and physical planning, where renewable energy sources form an indispensable part.

By its Energetic Strategy Croatia decides on RES exploiting in accordance with the sustainable development principles. The following thesis sequences present a short survey on solar energy, the only form of renewable energy minimally used in the counties Istarska and Primorsko-goranska.

3.1. Solar energy potentials

The estimation of the solar energy potentials, mostly for the Croatian coastline, was published within the National Energetic Programme SUNEN[20] for the year 1998, and for the whole Croatian territory within the Solar Manual[21] for the year 2007. Natural solar energy potential in the inland parts of Croatia with the average daily insulation of 3.6kWh/m2, is of approx. 74,300TWh/year (267,500 PJ/year), over 800 times more than the primary energy consumption in Croatia for the year 2000. The technical solar energy potential on 1% of Croatian inland territory is estimated by 830 TWh/year (3,000 PJ/year) or almost 10 times the present primary energy consumption in Croatia. On the assumption of 60% of the total energy used in thermal and of 40% in the electric energy production, the following economic potentials of the Croatian (estimated) solar energy can be deduced[22]:

- Thermal energy in the amount of approx. 50% of the low-temperature heat for the year 2000 in Croatia, i.e. approx. 12 TWh/year (43.2 PJ/year) by thermal energy from solar collectors and passive solar energy use (solar architecture). This forms approx. 7% of the technical potential in solar thermal energy in Croatia.
- Electric energy obtained from solar energy in photo-voltage systems and in solar thermal power-plants could become economic by the year 2020. While using a little less than 1% of its technical potential, the economic potential in solar electric energy production could form approx. 0.3 TWh/year, which accounts for approx. 200 MWe in electric power.

3.2. Predicted goals

In exploiting solar energy, the following two goals are predicted:

- The solar thermal system situation in Croatia by the year 2020 must draw level with the situation between Germany and Greece per capita today (the goal: 0.225 m2 per capita)
- The photo-voltage systems situation in Croatia by the year 2020 must draw level with Spain per capita today (11.71 W per capita), and with Germany by the year 2030 (over 45 W per capita).

[20] Nacionalni energetski programi (NEP) – prethodni rezultati i buduće aktivnosti, (1998), Energetski institut Hrvoje Požar, Zagreb

[21] Energetski institut Hrvoje Požar, (2007), Sunčevo zračenje na području Republike Hrvatske – Priručnik za energetske primjene Sunčevog zračenja, Zagreb

[22] Potočnik, V., Lay, V., (2002), Obnovljivi izvori energije i zaštita okoliša u Hrvatskoj, Ministarstvo zaštite okoliša i prostornog uređenja RH, Zagreb.

The presumed rate of growth in using solar thermal collectors is by 47% annually by the year 2010, with the diminishing rate of growth by approx. 10% expected after the year 2020.
The presumed rate of growth in using photo-voltage collectors is by 68% annually by the year 2020, with the rate of growth by approx. 20% expected by the year 2030.

The control year totals are shown in Table 1. In the presented calculations, the average insulation of Croatia is predicted to be about 1.37 MWh/m2/year: the average solar PTV by 1.5 m2 of solar collectors per inhabitants using these systems, and by 1.825 peak hours of photo-voltage systems per year (of maximal importance, on the average of 5 hours daily throughout the year).

Table 1

Growth in solar energy exploiting in Croatia by the year 2030

	year 2010	year 2020	year 2030
Solar energy – PTV [PJ]	0,5	4,96	12,21
Inhabitants using solar energy (1,5 m2 collectors / inhabitant)	67.691	660.000	1.653.017
Average m2 on 1000 inhabitants	23,8	225,00	563,53
Solar energy – FN [PJ]	0,01	0,3	1,66
Installed energy [MWp]	1,52	45,66	252,66
Average W per inhabitant	0,34	10,38	57,42
Solar energy – total [PJ]	0,51	5,27	13,87

Source: Ministarstvo gospodarstva, rada i poduzetništva i Program Ujedinjenih naroda za razvitak, (2008), Prilagodba i nadogradnja strategije energetskog razvoja Republike Hrvatske, p.89, available at: http://www.energetska-strategija.hr

Passive solar energy use in Croatia, and particularly within its seaside parts, brings large energetic savings in building heating, mostly within the tourist and hospitality and residential sectors. The total amounts are estimated at a level of 50-75% compared to the present consumption. By the year 2030 all the hospitality and residential objects, particularly those erected in the coastline counties after the year 2010, should be built using all the modern conveniences and based on contemporary technologies, mostly high energetic efficacy with passive solar systems, but, simultaneously, using all the necessary and available active solar systems in heating, cooling and illumination[23]. The total annual energetic needs in new objects should not surpass 80 kWh/m2, i.e. half of the amount used today.

[23] http://www.sustainablebuild.co.uk/alternative-types-energy-sources.html (12-10-2008)

4. SUSTAINABILITY COMPARISON ON THE EXAMPLES OF THE COUNTIES ISTARSKA AND PRIMORSKO-GORANSKA (RESEARCH)

4.1. The aim and the methodology of the research

The research was conducted within the tourist destinations of two counties: Istarska and Primorsko-goranska (PGŽ), in August and September of the year 2008, by collecting the necessary data on the sample of 28 hotels within the stated tourist destination counties, using 14 hotels per county. All of them were 4 stars category hotels, taken from the list of categorized objects by the Ministry of Tourism of the Republic of Croatia [24].

According to the list of categorized objects belonging to the group "hotels" taken from the data base of the Ministry of Tourism of the Republic of Croatia, four star hotels in the Istarska county represent 21,84% of all hotels in the county, whilst the share of four star hotels in the total number of hotels in the Primorsko-goranska county is 26,73%. In both counties, there are 46 four star hotels, which represents 24,47% of the total number of hotels in these two counties, or 36,8% of all four star hotels in the Republic of Croatia. All of the hotels in the Istarska county returned the questionnaire, i.e. 100%, whilst in the Primorsko-goranska county, 14 hotels or 70% returned the questionnaire. Basically, 28 questionnaires were returned back to researchers, which represents 83% of all four star hotels in both Istarska and Primorsko-goranska county. According to this, we can consider the sample representative.

The authors selected only four star hotels assuming that the higher the category of the hotel is, the better the ecological awareness would be, taking into consideration the these hotels should operate respecting the ecological standards. Basically, the higher category hotels also have a greater possibility to adopt the best available technologies and to invest into continuous education of the human capital. In order to obtain business discretion, no hotel names were mentioned. Various target groups were included in the questionnaire: the hotel management (hotel manager) and the technical sector manager (maintenance manager). Most of the questionnaire consisted of already offered answers (yes, no, it is planned), while the rest consisted of ranking the motives on the scale from 1 to 5, 1 being the weakest motive. In collecting the requested data, the method of self-filling up of the questionnaires was used, after which they were returned by e-mail or given over to the researchers by the hotel managers. The questionnaire results are shown in the following graphics.

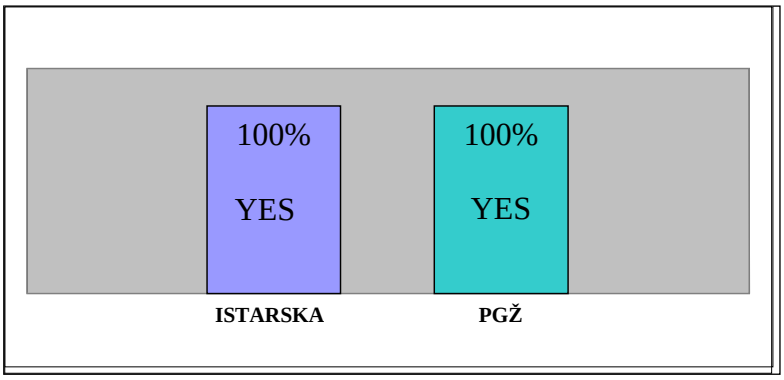
4.2.The analysis and the interpretation of the results attained

In the following charts, in order to provide better clarity, the results of the analysis will be shown as well as comments provided below each graph.

[24] http://www.mint.hr/UserDocsImages/080818-istra-zu.pdf, http://www.mint.hr/UserDocsImages/080818-hotel-pgz.pdf - Counties Istarska and Primorsko-goranska (07-10-2008)

Graph 2

The perception of the hotel managers in Primorsko-goranska and Istarska County regarding the correlation between environmental protection and tourism development



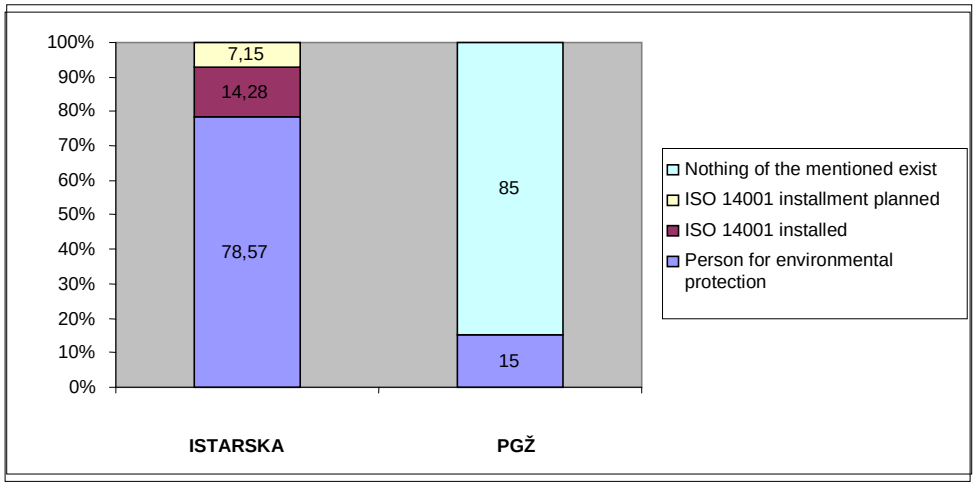
Source: The author's research results

As shown in Graph 2, when asked whether they believed into the connection between environmental protection and further development of tourism, all the respondents from both counties answered positively and agreed on the connection between environmental protection and tourism development. It is quite interesting to observe the hotel managers being aware of the importance of environmental protection within tourism and of the environmental protection representing one of the developing tourism terms of reference, as the very same environment and climate represent the essential tourism resources and the main directions of the tourist destination comparative advantages. In addition to comparative advantages, sure enough, there are competitive advantages that profile a certain tourist destination within the global tourist market, but, if the quality and the preserved environment do not exist, the destination cannot sustain within the tourist market and cannot make the most of its developing potentials. Consequently, it is quite encouraging to see managers nowadays conscious of the correlation between the environment and its tourism, i.e. of the knowledge of those who manage ecologically efficiently and will therefore manage to "survive".

In the following figure the organized way of environmental protection is presented.

Graph 2

The organized way of environmental protection in analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

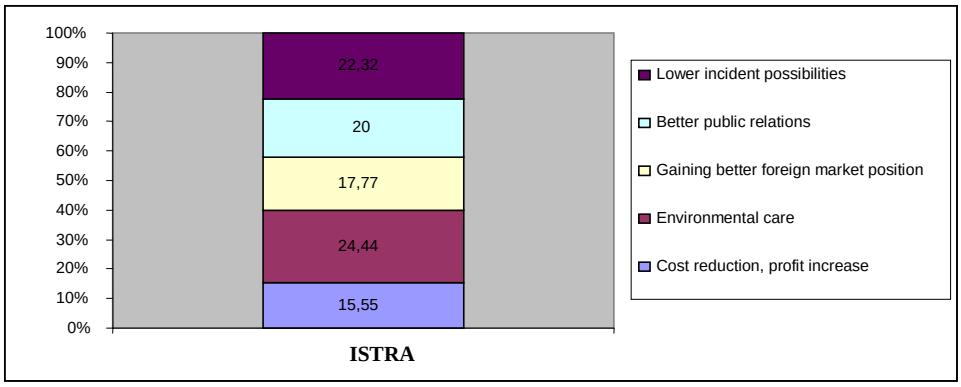
From Graph 2 , we can note that within the county Istarska area, i.e. in 78.57% of hotels there is a person responsible for environmental protection, which represents a positive result as in most hotels environmental protection and the ecological dimension of sustainable development are seriously taken into account. Only two hotels from the mentioned area have implemented a system of environmental control according to the ISO 14001 standard, which accounts for 14.28%. Only one hotel is preparing the implementation of the ISO 14001 environmental control standard within the following year (7.15%).

Within the tourist destination of the county Primorsko-goranska (PGŽ), the situation is alarming, particularly because in as many as 85% of respondents there is no person responsible for environmental protection, no system of environmental control according to the ISO 14001 standard, and no plans exist for installing the environmental control according to the ISO 14001 system.
Subsequently, from the first graph the existence of the ecological awareness can be deduced, but the second graph shows the inadequate results in both the application and the functioning of environmental protection or in the application of any organized form of environmental protection as the installing of the ISO 14001 system.

The motives that encourage managers to implement environmental management systems are presented in Graph 3

Graph 3

The motives of the environmental management system implementation within analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

As shown in Graph 3, the greatest stimulating motive in implementing the environmental management system of ISO 14001 standard for the hotel managers within the Istra county destination is represented by the environmental care (24.44%), followed by the lower incident possibilities (22.32%), by better public relations (20%), by gaining a better foreign market position (17.77%), and - the least important motive - by costs reduction or profit increase (15.56%).

As no respondent hotels from the neighbouring county Primorsko-goranska have installed, and have no plans for installing the environmental control system according to ISO 14001, the motives for such installation are not even mentioned.

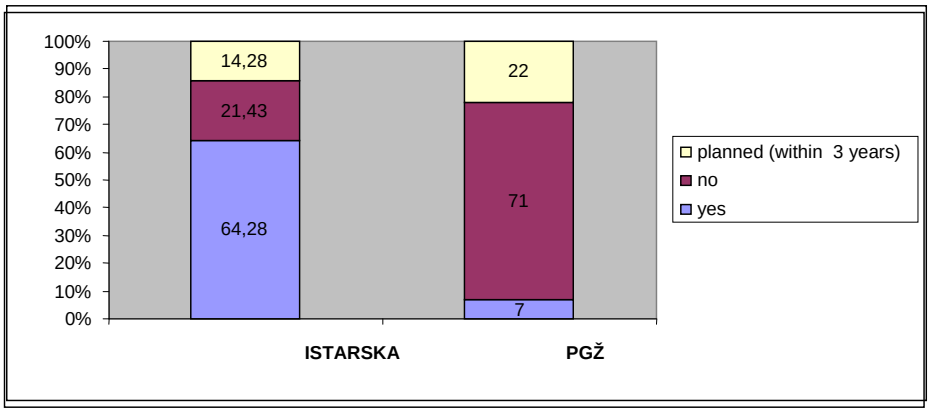
Upon delving into the mentioned subject of environmental control, we noticed that the responding managers from Istrian hotels, as economists, put the ecological requests before the economic ones, i.e. they put the cost reduction and the profit increase motives on the last place, far after the environmental care motives that were put in the first place.

Such a stand represents the only possible long-term orientation towards profitability, which must be adopted by all the other managers, whether in the hotel industry or elsewhere.

In order to get a better picture of whether the renewable energy sources are in use in 4 star hotels in Istarska and Primorsko-granska County, one question in the questionnaire was specifically focused on that particular issue. The results can be seen in Graph 4.

Graph 4

The use of renewable energy sources in analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

When asked if the renewable energy sources were used in their undertaking, 64.28% of the responding hotel managers answered positively, 21.43% of them answered negatively, while 14.28% plan to start using them as the additional energy source within their hotels in the following three years (Graph 4).

Within the destination of the county Primorsko-goranska the situation is unenviable, as only 7% of hotels use renewable energy sources, i.e. in 71% of them no form of renewable energy sources are used.
When comparing the obtained results from two counties, 22% of hotels from the county Primorsko-goranska plan to use some form of renewable energy sources (RES), while in the neighbouring county the same percentage of hotels use no form of renewable energy sources. The reasons could be looked in the fact that Istria set such an example when taking into account the use of RES. As for the county financial stimulus in RES implementation, both destinations find themselves in a similar position[25].

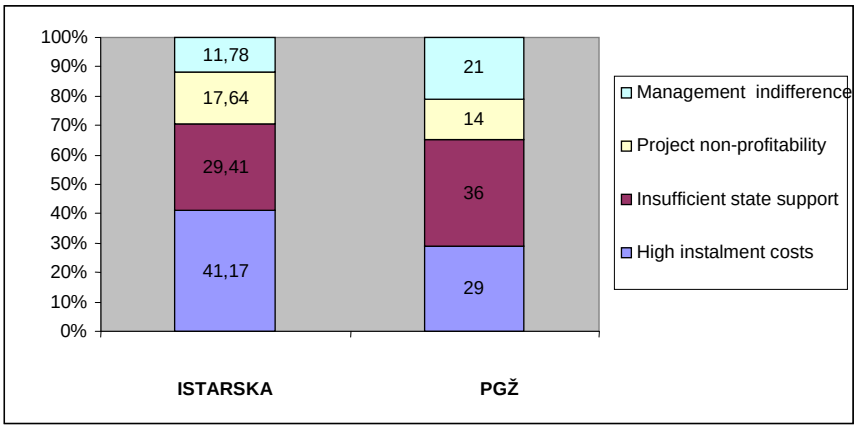
Among all the RES forms the most present one is the solar energy[26], as the hotels are heated and supplied with hot water by photo-voltage cells and collectors and this form of technology, unlike the others RES forms, has already been tried out. As considerable energy consumers, hotel managers will have to pay greater attention to the use of renewable energy sources, particularly to solar energy as due to favourable climate conditions, with up to 2700 solar hours per year and with a total solar radiation of 1600kWh/m2[27], greater solar energy consumption is expected in the future.

The reasons for renewable energy sources still not being used in some hotels, (mostly in the Primorsko – goranska county) are presented in Graph 5.

[25] The forming of the regional energetic agencies is planned (REA), with goals in energetic efficacy and sustainable energy sources promoting, and particularly in informing citizens and entrepreneurs (www.energetska-strategija.hr), REA Kvarner starts work at the beginning of 2009 (Glavan, M., „REA Kvarner starta početkom 2009.", Novi list, November 24, 2008
[26] completely clear solar energy which cannot pollute the environment is particularly important for tourism
[27] http://www.grujic.pondi.hr/Solarna%20energija.html (11-28-2008)

Graph 5

The reasons for non-installing the renewable energy sources in analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

In Graph 5, high instalment costs stated by Istrian hotel managers as the main reason for non-installing of such energy sources can be noticed.

Measurable economic factors are not the only reasons influencing the decision whether to invest into solar facilities as the substitute for the boiler-room using healting-oil, or maybe invest into boiler-rooms using marsh-gas or coal. As the potential investor, the hotel manager will analyze the following[28]:

- ecological facts,
- availability and possibility of obtaining and transportation of sufficient quantities of classical combustible within a certain region,
- transportation costs and possible expenditures for imported equipment and energetic raw materials,
- possibilities to use heat coming from industrial facilities waste,
- possibilities of heated waters use from geothermic sources,
- possibly the use of electric energy.

As the main reason for non-installing RES in the county Primorsko-goranska, the insufficient influence of the state in such project stimulation is accentuated, together with the high initial investment costs into RES.

Insufficient state support in instalment of such projects can be accentuated, as, on the other hand, an unsatisfactory manager information, considering a great step was undertaken by forming the Environment Protection and Energetic Efficacy Fund[29], which will invest 429 million kunas into the project of energetic efficacy promotion in the year 2008. The energetic efficacy projects will be stimulated by interest or loan subventions. Last year 31.8million kunas were set aside to help 37 different projects[30]. The Ministry of Economy[31] announces

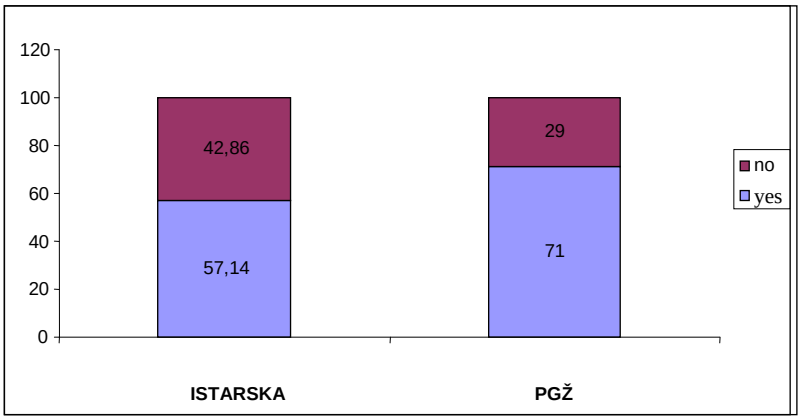
[28] Grabovac, J., (1992), Energetski doprinos sunčeve energije u hotelskim objektima, 11th Biennial Scientific Meeting, Hotelska kuća, Opatija, p. 127
[29] See more: http://www.fzoeu.hr/hrv/index.asp?s=sredstva (12-08-2008)
[30] http:// www.poslovni.hr/Content/PrintArticle.aspx?Id=11547 (11-04-2008)
[31] http://www.mingo.hr/ (12-08-2008)

public notices in order to invite firms to join the project of "eliminating energetic efficacy barriers" and offer subventions for sustainable energy sources installation. The Croatian Bank for Reconstruction and Development[32] also offers a crediting program for RES development support, so it cannot be said no state support is present, but it is up to the managers to make good use of such opportunities and possibilities and turn them into their own benefit (i.e. organizing of energetic counsellor courses[33]).

Since implementation of business intelligent rooms in hotels brings many positive effects, we wanted to check whether hotel managers have recognized this. Graph.6 we can see the results followed by discussion.

Graph. 6

The implementation of business intelligent systems (intelligent hotel rooms) within analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

By implementing business intelligent rooms varied hotel benefits are obtained: decrease in energy and water consumption, maximal comfort for guests is obtained, increase in security and quality, as well as the development of ecological consciousness of both guests and employees. By connecting all the hotel room functions to a computer the quality of service and of the managing results is highly developed. Integrating various functions and using central management and system control the employees get various forms of information necessary to ensure the overall quality service, rational consumption of energents and better quality in the overall business management. But the information system goes even further, and the notion of "intelligent hotel room" was soon replaced by the notion of "intelligent hotel". The intelligent hotel is based on the quality infrastructure and on the possibilities of linking all the sub-systems into a unique system, where the pieces of business information

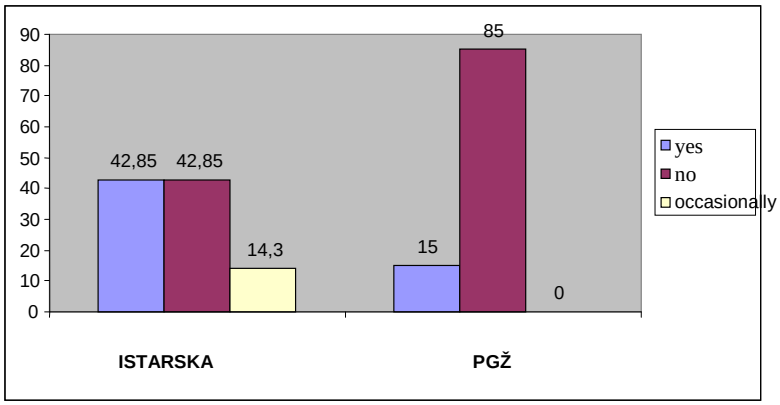
[32] Loan Programme for the Financing of Projects of Environmental protection , Energy Efficiency and Renewable Energy Resources; available at: http://www.hbor.hr/Default.aspx?sec=1406 (12-08-2008)
[33] See more: http://www.energetskaefikasnost.undp.hr/index.php?option=com_content&view=article&id=190&Itemid=139 (11-08-2008)

must be precise, right on time, comprehensive, and never for its own purpose only. Besides, they must be followed in a way to suggest further possible activities[34].

According to the results presented in Graph 6, the stated advantages were recognized by 71% by the hotel management of the county Primorsko-goranska (PGŽ), while in the county Istarska the intelligent systems were not recognized or omitted because of some other reasons by 42.86% of their management.
Publishing the reports on environment and sustainable development raises the credibility of a business company. We wanted to check whether the analyzed hotels elaborate these kind of reports. The results are presented in the following chart (Graph 7).

Graph 7

Elaboration of the report on environment or sustainable development in the analyzed hotels in Primorsko-goranska and Istarska County



Source: The author's research results

In order to become aware of the report elaboration on environment or on sustainable development within the high category hotels, i.e. in four stars hotels, the results of both destinations were compared: the reports were elaborated – but at the same time not elaborated - by 42.85% of hotels, with 14.28% of hotels in Istria elaborating reports only occasionally. The situation in the county PGŽ is even worse, as the reports on environment or sustainable development were elaborated by only 15% of the responding managers.

The information on environment reports can be made public only in case they fulfil the following demands, so they must[35]:

→ be precise and genuine,
→ reflex the essence and can be authenticated,
→ be relevant and cannot be expressed out of context,
→ give a general result picture of the eco-activities within the business system,
→ be unmistakable, in order not to lead to false conclusions,
→ be significant in relation to the overall impact of a certain system on the environment.

[34] Krstinić Nižić, M., Karanović, G.,(2008), Importance of intelligent rooms for energy savings in the hotel industry, 19th Biennial International Congress, Tourism&Hospitality Industry 2008, New Trends in Tourism and Hospitality Management, Opatija, p. 114
[35] According to: EMAS, 2001, Annex III, para 3.5: according to Peršić, M., „Zeleno računovodstvo – što je i kome koristi?", Računovodstvo i financije, no. 12/2007, 47-53

According to the stated criteria, the pieces of information must be published openly, and considered in the context of their meaning for the evaluation of the business system against its surroundings, with the contemporary special interest for their buyers, competition, and the regulatory bodies. The meaning of the EMAS norms implementation within the framework of the EU countries is explained by obtaining the following advantages[36]:

- the implementation of both the norms ISO 14000ff and ISO 9000ff is sustained in order to ensure the integral system of environment quality managing, in lifting the employee consciousness, the eco-culture of the firm, and the dealing with the environment in general,
- risk control management is facilitated under the conditions of imperilled eco-system, it acts preventively within the area of possible environmental damages, by which the indemnity incident, accident, and disaster insurances are reduced,
- the disposable resources are managed rationally, representing the grounds for better relations with partners, neighbours, media, community, and public, which, on the other hand, helps conquering new markets and retaining the old ones,
- it represents the grounds for the obtaining of the EU funds benefits, but sustains the positive ecological approach to the proper work, to the ecologically oriented production and service extending.

CONCLUSION

The short-term business decisions usually get into conflict with ecological requests. In everyday life the economization is spreading in forms of predicted economic values and various opinions. In order to enforce the ecologic responsibility when carrying out business decisions, questions must be asked about the place of economy within the ecological system, and the place the ecological system has within the economy and management. The national tourism policy of Croatia must be ecologically oriented and the stabile ecological balance must be ensured, the environment sustained and used respectfully, the meagre goods consumed sparingly, i.e. the sustainable energy sources must be headed for. It is important to form a hierarchy of ecological problems which arise as the consequence of tourism development. Because of continuous tourist demand, resource consumption (energy, raw materials) becomes even more important. In order to establish primary ecological goals, environmental quality goals, and to be able to measure both the results and the costs of the conducted actions, the regular gazetting of reports on tourism and natural surroundings is desirable.

Consequently, the following facts are important:

- stimulation of the ecologically acceptable means of transportation and ecologically acceptable tourism forms;
- enlarging of nature protection, linking up tourism stimulating with regard for ecological criteria and conditions;
- invigorate research, business education, and improvement for sustainable tourism development;
- extend the part of the ecologically accepted offers;
- increase in the demand for the ecologically acceptable tourist offers.

[36] Adjusted according to Injac, N.: Mala enciklopedija kvalitete – IV dio – Okoliš i njegova zaštita, Oskar, Zagreb, 2004, pp. 2234/235; according to: Peršić, M., „Zeleno računovodstvo – što je i kome koristi?“, Računovodstvo i financije, no. 12/2007, pp. 47-53

Within the first phase of the Strategy implementation and connected to the Energetic Strategy implementation, the activities must be directed towards the stimulation of solar thermal systems use, as well as to the use of other forms of renewable energy. Furthermore, the imperative must be the building of solar collectors for thermal energy use (low-temperature heating and preparing of consumer hot water) into all new buildings, whether within the continental part of the Republic of Croatia or on its coastline. The Republic of Croatia is situated on a geographical position which enables great energetic efficacy when using such systems. No system is eliminated, with installing possible either in individual or in condominium buildings. The intention should not be a 100% heat covering for the overall hot water consumption, but a consumer hot water contribution, and, according to this, a lower need in electric energy or any other energents.

The long-term stimulation in both the solar heating system and the photo-voltage system use will show its positive results in the development of the national industry, the segment which must be included into the state stimulus policy.

The strong trend in taking advantage of the RES must be continued even after the year 2020. Within the following ten years, new technologies which have not been considered within the Strategy are expected to develop, as they are still in the research phase. When taking advantage of the RES, the national technological development possibilities are favourable and the research[37], development, and their implementation stimulus must be ensured. Large potentials exist in the technology development for the use of bio-mass and the wind energy within the wind-power-plants, the system of distributed production of energy and small water-power-plants, development of "intelligent" electro-energetic networks (smart grids), the ways of RES production anticipating and managing the electro-energetic systems with large RES shares. In order to be able to adopt the best available technologies as soon as they become profitable, it is indispensable for Croatia to keep up with the world progress in this field.

Tourism development must fulfil the criteria of the ecological innocuousness, i.e. it must be long-term ecologically acceptable and economically feasible. Sustainable development represents a guiding process with the goal of global resource managing in order to ensure their further existence, together with the sustaining of our natural and cultural capital.

The alternative energy forms compatible with the sustainable development must be constantly stimulated in order to ensure the ecological tolerance. With the improvement of co-operation between the tourist and the environmental authorities, together with an improvement of the local authorities' capacities in tourism development, the sustainable tourism will be promoted. The need to re-establish and invigorate the regional co-operation is obvious. With the co-operation between the counties Istarska and Primorsko-goranska, as well as with their experience exchange, the line of direction for a better sustainable tourism development can be elaborated.

[37] The Republic of Croatia Ministry of Science, Education and Sports has for the period of 2007-2011 accepted the research programme (2012298) „Mogućnosti i učinci obnovljivih izvora energije u Hrvatskoj" (interdisciplinary), lead by EIHP, Zagreb, with the following projects: (1) 116-2012298-2574 Obnovljivi izvori energije za eko-hotele i eko-turističku destinaciju (ekonomija), lead by FTHM, Opatija// (2) 130-2012298-0912 Sociokulturni aspekti odnosa javnosti prema obnovljivim izvorima energije (politologija, sociologija, socijalna geografija, socijalne djelatnosti i sigurnosne znanosti), lead by FF, Zagreb// (3) 201-2012298-1423 Obnovljivi izvori u funkciji gospodarskog razvitka (ekonomija), lead by EIHP, Zagreb// (4) 201-2012298-2304 Integralno istraživanje prostorno-vremenskih značajki obnovljivih izbora energije (elektrotehnika, računarstvo), lead by EIHP, Zagreb// (5) 120-2012298-1810 Biogoriva – nužnost održive mobilnosti u RH (strojarstvo, brodogradnja, tehnologija prometa i transport, zrakoplovstvo, raketna i svemirska tehnika), lead by FSB, Zagreb

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VAŽNOST ODRŽIVOSTI OKOLIŠA U RAZVOJU TURISTIČKE DESTINACIJE: DOPRINOS HOTELIJERSTVA U SJEVEROZAPADNOM OBALNOM PODRUČJU HRVATSKE

SAŽETAK

Razvojem turizma na svom području, svaka turistička destinacija mora biti orijentirana na ekologiju kako bi osigurala stabilnu ekološku ravnotežu održivosti i pažljivog korištenja okoliša. Prema tome, podrazumijeva se potrošnja jeftinih dobara kao i orijentacija prema obnovljivim izvorima energije.
Kako bi se promovirao održivi razvoj turističke destinacije, potrebna je snažna suradnja lokalnih vlasti, turističkih zajednica i vlasti zaduženih za zaštitu okoliša.
Primijećeno je da radi nedovoljne edukacije i informiranosti, a i radi velikih troškova, nije moguće na zadovoljavajući način organizirati zaštitu okoliša niti podnositi izvještaje o stanju okoliša i obnovljivim izvorima energije.
Svrha ovog rada je analizirati svijest o potrebi ekološki orijentiranog koncepta managementa u hotelima s četiri ili pet zvjezdica u Istarskoj i Primorsko-goranskoj županiji.
Cilj rada je dati konkretne i korisne podatke hotelijerima i čitavom poslovnom okruženju kako bi se naglasila važnost zaštite okoliša u postizanju održivog razvoja turističke destinacije.

JEL: Q00, Q5, Q26, L83

***Ključne riječi**: zaštita okoliša, održivi razvoj turističke destinacije, obnovljivi izvori energije, Istarska i Primorsko-goranska županija*