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# **Environmental Awareness in the Hotel Industry – Questionnaire Analysis - Draft of Final Report**

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The survey forms part of an investigation performed within the framework of a doctoral research project in progress at the Royal Institute of Technology in Stockholm, Sweden and funded by the Energimyndigheten.

## Summary

Hotels, or more broadly accommodation sector represents one of the most important sub-sectors of the travel and tourism industry. There is no recent detailed data on the size of the hotel sector but it can be reasonably estimated at the level of over 360 000 facilities and 30 million beds worldwide (IH&RA 2000; JLLSH 2001). Premises located in Europe account for almost 50% of the overall global market (IH&RA 2000).

Among commercial buildings, lodging facilities are unique with regard to operational schemes, the type of services offered, as well as the resulting patterns of natural resource consumption. Hotels constitute “a refuge far removed from the caves of everyday life”, as G. B. Shaw once expressed. They are designed to provide multi-faceted comfort and services to guests frequently accustomed to, and willing to pay for exclusive amenities, treatment and entertainment.

Many of the services provided to hotel guests are highly resource intensive, whether it concerns energy, water or raw materials. As a consequence, hotels have been found to have the highest negative impact on the environment of all commercial buildings, with the exception of hospitals (Rada 1996). In view of the globally growing environmental degradation, the need for effective measures is being increasingly endorsed by both guests and industry. Approximately 40 percent of more than 3000 respondents to a 1998 Horwath hotel industry survey confirmed using different quantitative measures of environmental performance, including those relevant to energy use and water consumption, waste disposal, as well as volume and treatment of wastewater (Vögl 1998).

This e-mail based survey aimed to assess the environmental awareness among the hotel representatives in Europe, as well as to gather the information about the environmental initiatives already taking place within the industry.

Although there are some differences in certain issues, the situation looks relatively similar for all regions under investigation. Generally it can be concluded that majority of hoteliers perceive environment as an important factor in the development and well being of both tourism and hotel industry, and that various environmental initiatives are already taking place in the industry. The energy-efficient lighting, together with towel-and-linen reuse programs are among the most commonly mentioned initiatives, followed by waste minimisation measures. As regards the incentives that would encourage hotel managers to undertake environmentally-oriented initiatives in their hotels, the possibility of reducing the operational costs is the one by far the most commonly pointed out. Furthermore the will to decrease the negative environmental impacts has been underlined, together with the requirements of customers.

This report is just a preliminary evaluation of the results. Further, more detailed evaluations will be performed and published in the future.

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## Introduction

Over the recent decades, the international tourism industry has rapidly grown to become the world's largest employer, providing jobs for over 260 million people (Töpfer 1999). According to the 1999 report of European Information Service (EIS 1999b; Rita 2000) travel and tourism industry comprised of approximately 2 million businesses in the European Union, generating 5.5% GDP, and 30% of external trade in services. 7 million direct and 15 million of indirect jobs are currently provided by tourism (assuring 6% of employment in the EU), and according to the estimations of Geoffrey Lipman, the president of WTTC, the number is expected to more than double by the year 2010 (EIS 1999a, Rita 2000). Moreover, with further unification of European Community, and introduction of Euro currency, the EU has the potential to become the largest single tourist market in the world (EIS 1999a; Ratz & Puczko 1999). In some parts of the world, especially island communities, tourism is, indeed, the most important source of income. According to most prognoses, the numbers of people travelling for business or pleasure will continue to increase, in some regions very rapidly. While providing significant benefits to local and national economies, the accelerated growth of the travel and tourism industry simultaneously poses a range of serious environmental and socio-cultural threats. The short-term-profit-oriented overexploitation of naturally and culturally attractive environments is in many cases straightforwardly self-destructive. To a large degree, this is due to the high resource-intensiveness of this industry. In order to preserve for future generations the quality and attractiveness of tourist destinations, as well as their potential for generating valuable income, a wholesomely sustainable approach needs to be adopted.

Hotels, or more broadly accommodation sector represents one of the most important sub-sectors of the travel and tourism industry. There is no recent detailed data on the size of the hotel sector but it can be reasonably estimated at the level of over 360 000 facilities and 30 million beds worldwide (IH&RA 2000; JLLSH 2001). Premises located in Europe account for almost 50% of the overall global market, while North American hotels represent 22% of the market (IH&RA 2000).

Among commercial buildings, lodging facilities are unique with regard to operational schemes, the type of services offered, as well as the resulting patterns of natural resource consumption. Hotels constitute "a refuge far removed from the caves of everyday life", as G. B. Shaw once expressed. They are designed to provide multi-faceted comfort and services to guests frequently accustomed to, and willing to pay for exclusive amenities, treatment and entertainment. Comfortable indoor environments, safety and reliability are some of the amenities valued by guests. State-of-the-art technical infrastructure is typically utilized in hotels to provide high levels of comfort.

Many of the services provided to hotel guests are highly resource intensive, whether it concerns energy, water or raw materials. As a consequence, hotels have been found to have the highest negative impact on the environment of all commercial buildings, with the exception of hospitals (Rada 1996). In view of the globally growing environmental degradation, the need for effective measures is being increasingly endorsed by both guests and industry. Approximately 40 percent of more than 3000 respondents to a 1998 Horwath hotel industry survey confirmed using different quantitative measures of environmental performance, including those relevant to energy use and water consumption, waste disposal, as well as volume and treatment of wastewater (Vögl 1998).

## Methodology

A questionnaire has been sent via e-mail to hotel representatives in European and World countries throughout the months of October to December 2002, while collection of answers that are included in this report was completed on January 10, 2003. The questionnaires were being sent to hotels, which did not respond previously, periodically approximately every 2 or 3 weeks. In case of Sweden 100 additional questionnaires were sent by ordinary mail. The copy of the questionnaire is attached to this document (Appendix 1).

The e-mail addresses of hotel establishments were obtained mainly from various web pages and hotel directories commercially available (Appendix 2), no help from local hotel associations was received, even if author asked for it.

Initially the survey was aimed to include establishments located in all parts of the world. However due to the fact that the number of non-European hotels targeted was too small to be representative the evaluation of non-European hotels will be performed later, when more establishments will be included in the survey.

The main countries targeted in this survey were Sweden and Poland, where the questionnaire was distributed among the majority of accommodation establishments (not only hotels). Additionally questionnaires to chosen hotel chains and individual hotels in Europe were sent (hotel chains include: Best Western International – not all countries, Concorde Hotels, Radisson SAS Hotels & Resorts, RICA Hotels, Rocco Forte Hotels, Scandic Hotels AB and establishments associated in Scan +, namely Norlandia Hotellene, Rainbow Hotels and Worldwide Hospitality - Tulip). In this report the term “European hotels” refers to facilities located in all European countries with the exception of Poland and Sweden, which are treated separately.

During the evaluation process the sample targeted was limited only to the facilities regarded as hotels. The classification of facilities was discussed with Mrs Gunlög Eiderbrant-Nilsson, the head of Travellers and tourism statistics at the SCB, Sweden, and Mrs. Jolanta Frydel, Poland. This report therefore includes the information received from the representatives of hotel establishments located in Europe.

A total number of 2995 hotels located in Europe were targeted, 476 completed questionnaires were received, out of which 14 had to be rejected, either because the establishments did not exactly meet the criteria of hotel or because answers were incomplete to the extent preventing their proper analysis. Thus the total number of correct answers was equal to 462, giving response rate of 16.4%, 21.3% and 14.8% for Poland, Sweden and the rest of Europe, respectively. This response rate was calculated excluding the e-mail addresses, which proved to be invalid. When response rate is calculated based on the number of existing facilities it is equal to 12% for all regions. More detailed description of samples targeted is presented in Table 1. A number of hotels (28) have marked the author’s e-mail as spam, thus preventing further attempts of reaching them.

Surveys, especially those conducted via e-mail have a general drawback of very low response rate. Such situation can be attributed to the form of e-mail correspondence, lacking personal contact and thus believed to be less obligatory. However the author believes that the response rate achieved allows for the formulation of some general statements.

The questionnaire consisted of 22 questions, which will be analysed below.

The main aim of this evaluation is to show differences among responses coming from different regions, the diversification of answers among hotels from the same regions but varying in standard or size is not included, unless otherwise stated.

Table 1. Statistics of the survey

Region	Existing facilities (INTUR 2002, SCB 2002, Appendix 2)	Facilities targeted*	Facilities targeted as % of total existing establishments, %	Problems with e-mail address	Read-no-answer	Incomplete answer	Complete and correct answer	Response rate with invalid e-mails, %	Response rate excluding invalid e-mails, %	Response rate as % of existing establishments, %
Poland	966	942	97.51	156	17	2	122	12.95	16.44	12.63
Sweden	1550	946	61.03	54	15	9	190	20.08	21.3	12.25
Europe	1206	1107	91.79	95	31	3	150	13.55	14.82	12.43

\* not all hotels publish their e-mail address

chain hotels are included in the country statistics first

## Evaluation

### General statistics

Questionnaires were usually sent to general hotel addresses therefore it was important to know who actually completed them. The profile of respondents is presented in Figure 1.

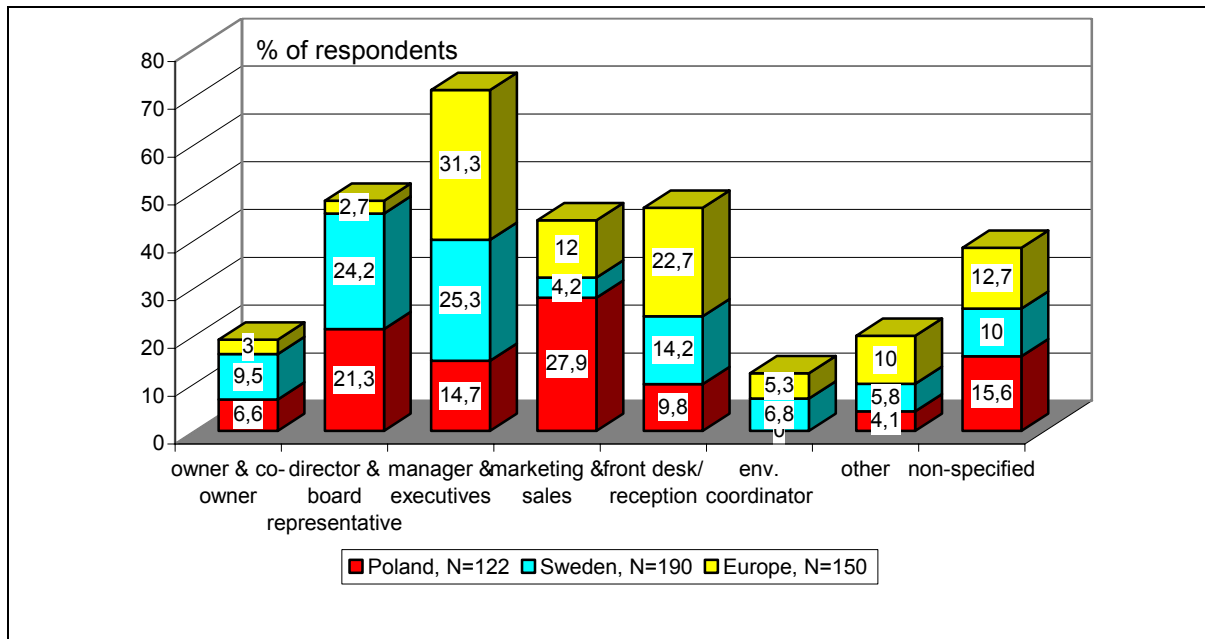


Figure 1. Profile of the respondents

Generally high response rate from the representatives of hotel management (directors, board representatives, managers and executives) allows the conclusion, that the survey was treated seriously, despite the lack of backup from any tourism organisation, and that the answers obtained are representative for the European hotel industry. There are some important differences in the respondent profile distribution among the countries as well as within the same country but among different hotel sizes and standards.

In Poland the highest share of responses originated from marketing and sales departments (27.9%), while in Sweden and other European countries managers and executives constituted the dominating group, 25.3% and 31.3%, respectively. Low number of respondents describing themselves as owners and co-owners among the European hoteliers can be explained by the fact that mainly chain hotels were targeted, which represent different ownership schemes. Unfortunately none of the Polish respondents directly declared to be an environmental coordinator, which may be attributed to still low interest in environmental issues in the sector in Poland. As will be shown later on there are workers responsible for the environment, however these are usually additional duties. Usually at least 10% of respondents from each region did not specify their function at the facility. As regards the reliability of answers it needs to be mentioned that some of the responses, especially the anonymous ones and those coming from the reception staff, indicate that the personnel does not possess the background information enabling them to answer questions about the environmental issues, or activities within the facility. It may be attributed to still low interest in environmental matters and not enough attention given to these topics in tourism and hospitality schools, as well as during basic training at the facility (at least in case of Poland).



The sample investigated comprises of very diversified establishments, representing wide variety of sizes and standards. Based on the size, hotels are classified as small (below 50 rooms), medium (50 to 150 rooms), and large (over 150 rooms) (THERMIE 1994). Facilities ranging from 10 to over 700 rooms were included in the sample (Table 2).

*Table 2. Hotel sizes, room*

Region	Total number of rooms	Mean hotel size, rooms	Minimum room number	Maximum room number
Poland	9082	74.4	10	480
Sweden	19004	100.5	11	704
Europe	18855	125.7	20	560

The variations in size distribution of facilities (Table 3), can be explained by the diversified market needs and dynamics, as well as ownership schemes present in investigated regions.

*Table 3. Distribution of hotels according to size, % of respondents*

Region	Below 50 rooms	50-150 rooms	Above 150 room
Poland	49.2	38.5	12.3
Sweden	36.3	44.2	19.5
Europe	26.7	44	29.3

While medium-sized hotels are almost evenly represented in all regions (appr. 42%), significant regional differences can be observed in case of small and large-size facilities. Small hotels are most widely represented in Poland (49.2%), followed by Sweden and the rest of Europe (36.3% and 26.7%, respectively). The reason for high share of large establishments in the European sample (29.3%, including 3.3% having more than 400 rooms) may be attributed to the fact that mainly chain hotels were targeted. Even in the case of Poland chain hotels are usually located in the upper size range.

Evaluation of hotel distribution according to standard needs to be limited to Polish and European samples only, since in Sweden the star classification is not very common and was used by half of the respondents only. The other half used the descriptive classification (luxury, middle market and budget/economy), which made proper analysis very difficult.

In Poland the profile and demands of customers have directed the market development in the direction of 3- and 2-star facilities mainly, which nowadays account for the largest share of the market. This situation is clearly indicated in the distribution of respondents, with over half of them representing the 3-star category, followed by the 2-star ones (18.9%) (Table 4). On the other hand there are only six 5-star hotels in the country.

Table 4. Distribution of hotels according to standard (star classification), % of respondents

Region	5-star	4-star	3-star	2-star	1-star	Other	Non-described
Poland	0.8	8.2	55.7	18.9	6.6	9	0.8
Europe	16	44	30	3.3	0.7	2	4

Relatively large share of higher standard hotels in the European sample (4-star - 44%, 3-star – 30%, 5-star –16%), can be explained by the type of facilities targeted, mainly mid- to upper-scale chain establishments. In both groups a number of facilities do not meet the criteria of star classification or do not apply the star system at all.

Hotel and tourism associations, including hotel corporations, have a very important role in raising environmental awareness and promoting more sustainable practices among the representatives of hospitality industry. Majority of such organizations have their own environmental policy and action plan, furthermore they possess the means and capabilities /tools to advise and help hoteliers in making right decisions. They often offer training and consulting services for their members, as well as publish various guidelines and best practice case studies. Therefore it is very unfortunate that only 41.8% of respondents from Poland declare membership in branch associations. The figures for Sweden and Europe are 68.9% and 75.3%, respectively. In case of Poland and Sweden the larger the facility the higher the probability that it belongs to some kind of sector association, while in the European sample 80% of small hotels declare membership in branch associations.

The most commonly mentioned associations for Poland include (number of votes): Polish Hotel Association (33), Polish Hotel Council (7), International Hotel & Restaurant Association (6), Polish Tourism Council (4).

In Sweden the organizations mentioned are (number of votes): Sweden Hotels-Ramada (18), Svenska Kursgårdar (17), Scandic Hotels/Hilton Hotel International (15), Ditt Hotel (Your Hotel Worldwide) (12), Countryside Hotels (11), First Hotels (10), Best Western, Choice Hotels Scandinavia (8), Sveriges Hotell- och Restaurangföretagare - SHR (5), Svenska Turistföreningen, Romantik Hotels, Rica Hotels (4), Radisson SAS Hotels & Resorts (3), SRS-Worldhotels, Accor Hotels (2).

While among the European hotels the following are the most popular (number of votes): Best Western (43), Design Hotels (8), Radisson SAS Hotels & Resorts (5), Scandic Hotels/Hilton Hotel International (4), Concorde Hotels Int (4), Swiss Hotel Association (4), Leading Hotels of the World (3), Horesta (2).

Substantial numbers of hotels nowadays rely on business and conference guests as basic and major customers, unless the destination is predestined to leisure purposes. Over half of the respondents from Poland (55%) and Sweden (56.9%), and more than sixty percent from the rest of Europe (62%) indicated that customers traveling in business account for more than 50% of all guests. Furthermore in the category “other” the conference participants were most commonly mentioned. Only few respondents stated that tourists are their major clientele. Such profile of customers defines the occupancy and operation patterns of the facility and often times their attitudes towards environmental protection. Hotels located outside cities in more natural surroundings and catering for holiday tourists mainly, oftentimes seem to appreciate the importance of the environment more and are aware of the magnitude of the impacts their facility

has on the surroundings. However, the questionnaire prepared was, as appeared later, lacking an important question related to the location of the facility.

### **Advertising means and features advertised**

Advertising means used by hoteliers in various regions represent similar pattern with own brochures, Internet and co-operation with travel agencies being among the most common ones (Figure 2).

Distribution of folders with hotel information is a long and well-established practice, which is known to bring about very satisfactory results, and was mentioned by nine out of ten respondents. The popularity of the Internet advertising can be easily explained by its wide coverage, easy access by both customers and hoteliers, simplicity of updating information, and last but definitely not least, relatively low cost as compared with other advertising methods. High competition on the lodging market and the development of packet offers has lead to closer co-operation between hoteliers and various tourism and travel organisations, which is most frequently mentioned by the representatives of the European sample. Advertising in press, branch magazines as well as daily newspapers has an advantage of reaching wide range of potential customers and is used by more than two thirds of the respondents.

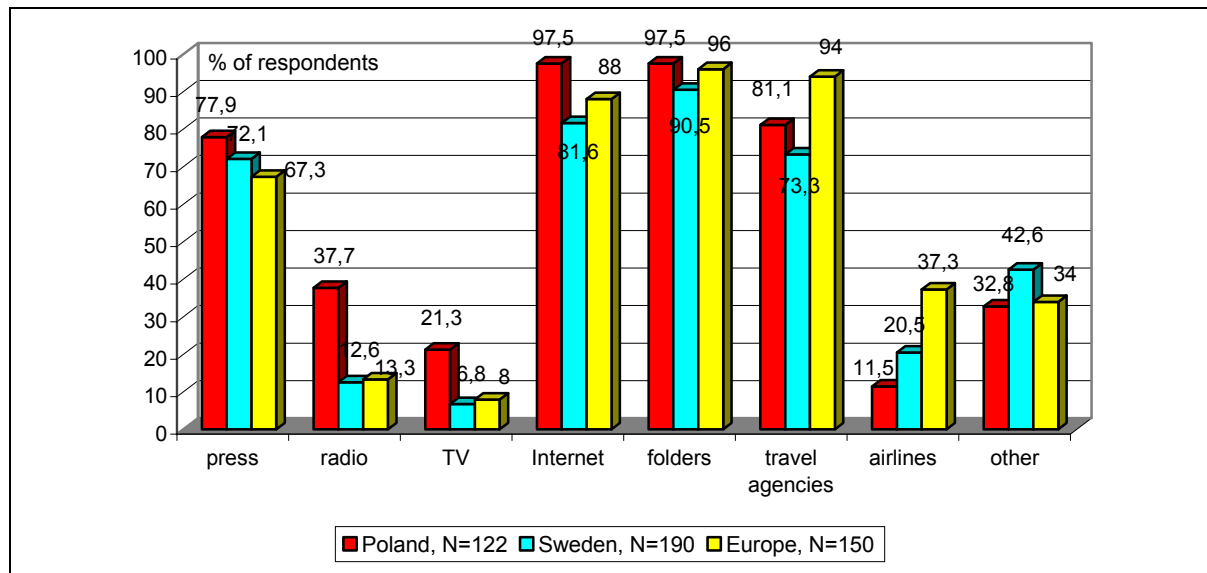


Figure 2. Advertising means used by hoteliers

The use of other means of advertising, namely campaigns in the radio and TV as well as contracts with airlines are less common and show higher regional variations. Polish respondents indicated advertising their facilities in radio and TV much more frequently than their Swedish and European counterparts. On the other hand contracts with airlines are much more popular in Sweden and other European countries. However this trend again can be attributed to the type of hotels in the European sample. Chain hotels usually have active co-operation with airlines on the corporate level.

Among the opportunities offered by the hotel and tourism associations one needs to mention marketing within the hotel chain or association, indicated by 23 respondents among European hotels, 15 among the Swedish ones and only 3 from Poland. Other means mentioned include direct marketing, trade fairs and booking companies.

The picture looks slightly different depending on the size and standards of the facility.

Next two questions dealt with the issue of hotel features most commonly advertised and the ones believed to have the highest influence on the customer's choice of the facility. While the question about features advertised required a "yes-no" answer, in the other one respondents were asked to rank the features according to their importance, with 1- being the most important, 6 – the least important and 0 – not mentioned at all. Unfortunately not all completed questionnaires contained the ranking. Often times a number of features were given the same mark or a "yes-no" format was used. The former scheme was kept unchanged in the evaluation, while in case of a "yes-no" answer all indicated features were assumed to have highest priority and all given mark 1. In the analysis only highest priority features were included, which means that the percentage of responses was calculated according to the number of answers marked 1. The responses given by hotel representatives to both questions are as expected and follow basically the same pattern in all regions with only minor differences, and will thus be analysed together (Figure 3).

Location of the facility together with the quality of services offered, are by far the most commonly mentioned hotel features (more than 75% of all respondents). The same features are also believed to have the highest influence on customer's decision (42 – 55%). While for Poland and Sweden the location is more important, European respondents marked the quality of services offered as the top priority.

Price is generally located on the third position, but both the importance and advertising frequency are much higher for Poland than for the other two regions, which show similar pattern. Although more than one third of the respondents admit to advertise the traditions of their establishment, less than 10% believes in the crucial role of this feature in the decision-making process. Advertising of features other than listed in the questionnaire, was indicated by approximately one-fourth of the respondents, however their importance was relatively rarely mentioned (less than 9%).

Point about advertising the concern for natural environment resulted in most diversified answers. Over one-quarter of Swedish respondents (26.3%) admit to advertise that in their facility they feel strongly about the protection of natural environment. In the rest of Europe positive answer was given by 22.7%, while in Poland by 9.8% of respondents only. However, when asked to rank the importance of hotel's concern for natural environment in relation to consumer's choice of facility these were Polish respondents who ranked it highest the most frequently (5.7%). For Sweden the figure was 2.6%, while none of the hoteliers from the European sample mentioned this feature in the first place. Such distribution of answers was slightly surprising especially when taking into consideration general involvement of Western hotel corporations in various environmental activities. Furthermore a comment was received from one of the Swedish hotel representatives stating that these are mainly foreign travelers that actually pay attention to the environmental involvement of the facility. Generally many hoteliers from all regions expressed their regret that the environmental concern plays such an unimportant role and also hope that the situation will change in the future.

Concern for the natural environment was also the most often non-mentioned feature, except for "other", 0 marks were given by 32.8%, 24.2%, and 27.3% of respondents from Poland, Sweden and Europe, respectively. Furthermore a number of hoteliers used numbers outside the scale to rank the unimportance of this particular feature.

The author is aware that various markets and customer types have different priorities in decision-making process, therefore making such a general ranking list is not entirely relevant, but as the answers show, there are certain trends common to all market types.

The next step in this research will be to ask actual customers/hotel guests about their choice criteria, and then to compare it with the opinion of hoteliers.

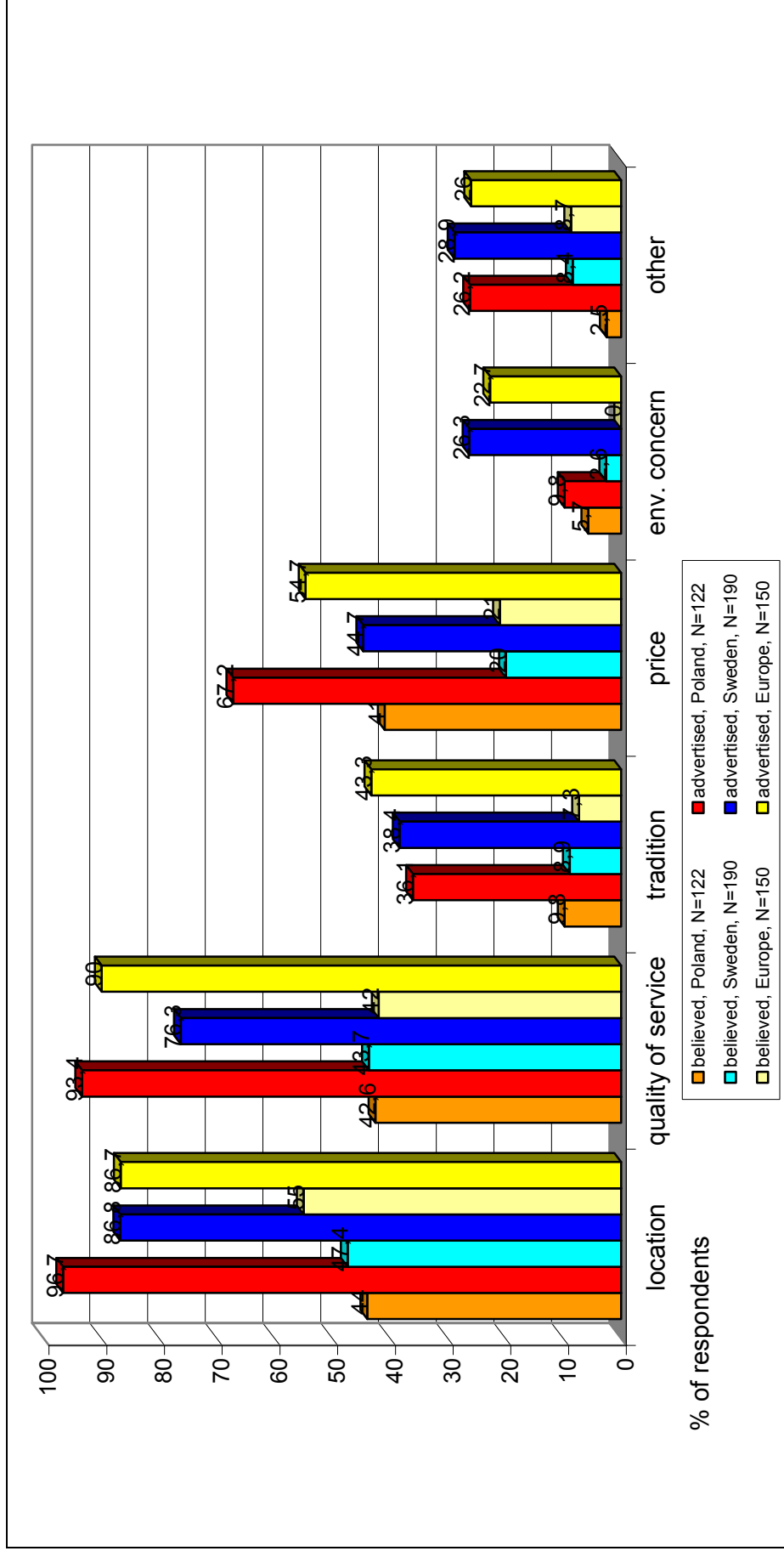


Figure 3. Hotel features important in customer's choice – believed vs. advertised

### **Importance of the environment and hotel impacts**

The next question dealt with the issue of perceived importance of environment and its protection in future development and well-being of the tourism and lodging industry. The tourism industry has a dual relationship with the environment. The nature (often fragile and unique environments) is the main asset of the tourism industry and it is also negatively affected by tourism activities. Although almost no tourists/travellers refer to the issues of the environment and sustainability directly, it can be said that these aspects have always been of high importance for visitors. Ironically, for many years the industry claimed to be absolutely free of any negative impacts. Tourism industry, as compared to other industries indeed does not possess easily identifiable point sources of pollution. However it is the conglomeration and longevity of its impacts that are reasons for serious concern.

Nowadays the attitudes have changed and tourism authorities admitted that the industry is not without guilt, both at local as well as global scale. And even though the impacts imposed on local destinations are due to limited space, much more visible, and of greater magnitude, the contribution to global threats should not be underestimated since the consequences are also of a global scale. Although tourism and travel industry may not be a primary cause of global environmental threats, it definitely contributes to the process at various levels and quantities, but worldwide.

It is therefore a very positive sign that the vast majority of respondents, 79.5% for Sweden, 81.1% and 89.3% for Poland and the rest of Europe, respectively, believes that the issues of natural environment and its protection are important for the performance and further development of tourism industry. Recognizing the problem is always the first step towards remediation and more responsible behaviour.

Furthermore, majority of hotel representatives are aware that hotel facilities do have an influence on natural environment. As a matter of fact the hotel industry constitutes one of the most energy- and resource-intensive branches of the tourist industry. Substantial quantities of energy and water are consumed in providing comfort and services to guests, many of who are accustomed to, and willing to pay for exclusive amenities, treatment and entertainment. The resource use efficiency of the many different end-users in hotel facilities is frequently low, and the resulting environmental impacts are, therefore, typically greater than those caused by other types of buildings of similar size. The effects on the environment are caused by the excessive consumption of local/imported resources (e.g., water, food, electricity, and fuels), as well as by emissions released to air, water and soil. The large quantities of waste products generated in hotel facilities pose a further significant environmental threat. Therefore the belief expressed by most of the respondents, namely that the impacts are medium to significant (Table 5), agrees relatively well with the outcomes of the scientific investigations.

*Table 5. The magnitude of hotel's influence on the natural environment*

Region	Magnitude of impact, % of respondents			
	Significant/large	Medium	Non-significant/small	There is no influence
Poland	17.2	51.6	28.7	2.5
Sweden	20	66.3	13.2	0.5
Europe	24	52	21.3	2

Fortunately, due to its size and distribution all over the globe the hotel industry, which is a major stakeholder of travel and tourism industry also possesses an enormous potential for introducing more positive changes and solutions. This potential should definitely not be left unused, since the future of travel and tourism industry depends on constant availability of clean environment. It is therefore a very promising sign that apart from being aware of the impacts lodging facilities have on the environment, vast majority of hoteliers expresses concern about the environmental issues. Sweden is definitely leading in the ranking with 94.2% positive answers, followed by Poland (82%) and the rest of Europe (80.7%). There are some variations in opinions in different hotel classes but they will not be commented here.

### **Environmental concern and information**

Swedish hoteliers not only show the highest concern for the environmental issues, the knowledge about the activities making hotels more “green” is also the most widespread (64.2% positive answers, including 57.9% actually listing the mitigation methods). European hotel representatives occupy the second location (56% and 43.3% respectively), followed closely by the ones from Poland (55.7% and 42.6%). A number of respondents did not answer this question at all (1.7% in Poland, 7.4% in Sweden, and 7.3% in Europe), furthermore there are certain variations among hotels belonging to different classes. It is also very interesting to analyse the types of activities mentioned by the respondents. Votes between various activities were most evenly distributed in the European sample, while in Poland responsible waste management and recycling were most commonly mentioned. In Sweden the choice of environmentally-friendly products (chemicals and others) seemed to receive highest attention followed by the responsible waste management. It is also worth mentioning that among Swedish hoteliers active environmental policy and plan within the company, corporation and branch association, as well as fulfilment of the requirements stated in environment-related standards and certificates are believed to be efficient ways towards sustainability.

Another very important issue mentioned by one of the respondents is the general need of better promotion of environmentally certified establishments. Information about eco-certificates owned by the hotel should be displayed in hotel catalogues/directories, city guides as well as booking and travel agencies. There is also a need of environmental education and increased awareness among the general public.

Among the comments received from the respondents were also ones questioning the negative impact of hotels on the environment, as well as doubting the need of a hotel to be environmentally friendly. Fortunately such voices were only singular. On the other hand, there was an issue raised by many of the respondents, namely the cost of becoming “green” and environmentally responsible. Many hoteliers believe that the road to environmental sustainability is too expensive to be undertaken, especially in current economically unstable and risky times.

High level of environmental awareness among the Swedes has been proven further when the hoteliers were asked about institutions dealing with the environmental issues in the hotel industry. Almost 56% of the respondents gave positive answer, compared to approximately 51% in Europe and only 10% in Poland. SIS Miljömarking – issuing the Nordic Swan Ecolabel is by far the most widely known with 60 votes, followed by ISO 14000 series standards (18), and various Scandinavian initiatives including Swedish Hotel & Restaurant Association - SHR, KRAV and Det Naturliga Steget (11 votes each). Environmental policies and certification schemes offered within hotel chains and associations are evenly popular among Swedish and other European hoteliers. Surprisingly initiatives like IHEI – International Hotel Environmental Initiative, IH&RA – International Hotel & Restaurant Association Green Hotelier Award, or Green Globe 21 each received less than 5 votes in the regions under survey.

The knowledge of Polish hoteliers was really poor in that matter with single votes given to ISO, Green Globe 21, Greenpeace, local hotel marketing program - Polish Prestige Hotels and local environmental NGO. However the hotel representatives are aware of the situation and a number of voices were raised saying that some action and initiative from national hotel and tourism authority is needed and expected. Hopefully when Poland is accepted to the European Union the situation will change, as the hoteliers will have easier access to European initiatives and organisations.

The positive thing, however, is that despite the lack of help from hotel organisations majority of hoteliers in Poland (84.4%) declare involvement in environmentally-oriented activities. The situation is even brighter in Sweden where 92.6% of hotels have some type of ecological initiatives. The figure for Europe is somewhat surprising though, with only 75% of positive answers. It is difficult to find a relevant explanation for such result.

One may be tempted to conclude that the sample analysed is not representative because only hoteliers having some type of environmental initiatives actually answered the questionnaire. Such comment would however be incorrect as at least 10% of respondents admitted not to be involved in any activities, and often times not interested in it at all.

### **Environmental activities**

Fields of activities undertaken by hoteliers vary, often significantly, with the region as well as size and standard of the facility (Figure 4). Most probably some of the differences result from the local laws and regulations, as well as local conditions. Furthermore corporate policy and level of environmental awareness represented by the management, not to mention the financial condition of the establishment, have a significant influence.

The representatives of the Swedish hotels generally show the highest interest and involvement in all types of activities, apart from brochures about water conservation displayed in hotel rooms, where European hoteliers have minimally higher share; and the donation of left-over good quality food to local charity organisations, which is twice as popular in Poland than in other two regions. However the latter issue may be easily explained by local regulation forbidding any reuse of food, or the separation of hotel and restaurant ownership and management.

More than half of the Swedish hotel managers declare having environmental policy statement in their business policy, followed by their European colleagues with almost 35% positive answers. In Poland only 3.3% of respondents indicated the incorporation of environmental statement in their business plan. Hopefully the situation will change when Poland enters the European Union and the businesses will be required to include environmental issues in their management plans.

In total more than 70% of the respondents in all regions declare activities in energy and water saving methods as well as responsible waste management.

The hotel industry is one of the most energy-intensive subsectors of the tourism industry, and the prevalence of fossil-fuel generated power and the (still) marginal utilisation of renewable energy resources translate into significant emissions of carbon dioxide, particulates, nitrogen and sulphur oxides and other air pollutants, both locally and globally. Secondary pollution in the form of acid rain causes the acidification of lakes and soils, with negative effects on flora and fauna, human health and man-made structures and products. It is estimated that a typical hotel releases about 160 kg CO<sub>2</sub>/m<sup>2</sup> of room floor area annually, which is equivalent to about 10 tons of CO<sub>2</sub> per bedroom per year (BRESCU 1993). Globally, the hotel industry is responsible for the emission of at least 130•10<sup>6</sup> tons of CO<sub>2</sub> annually.



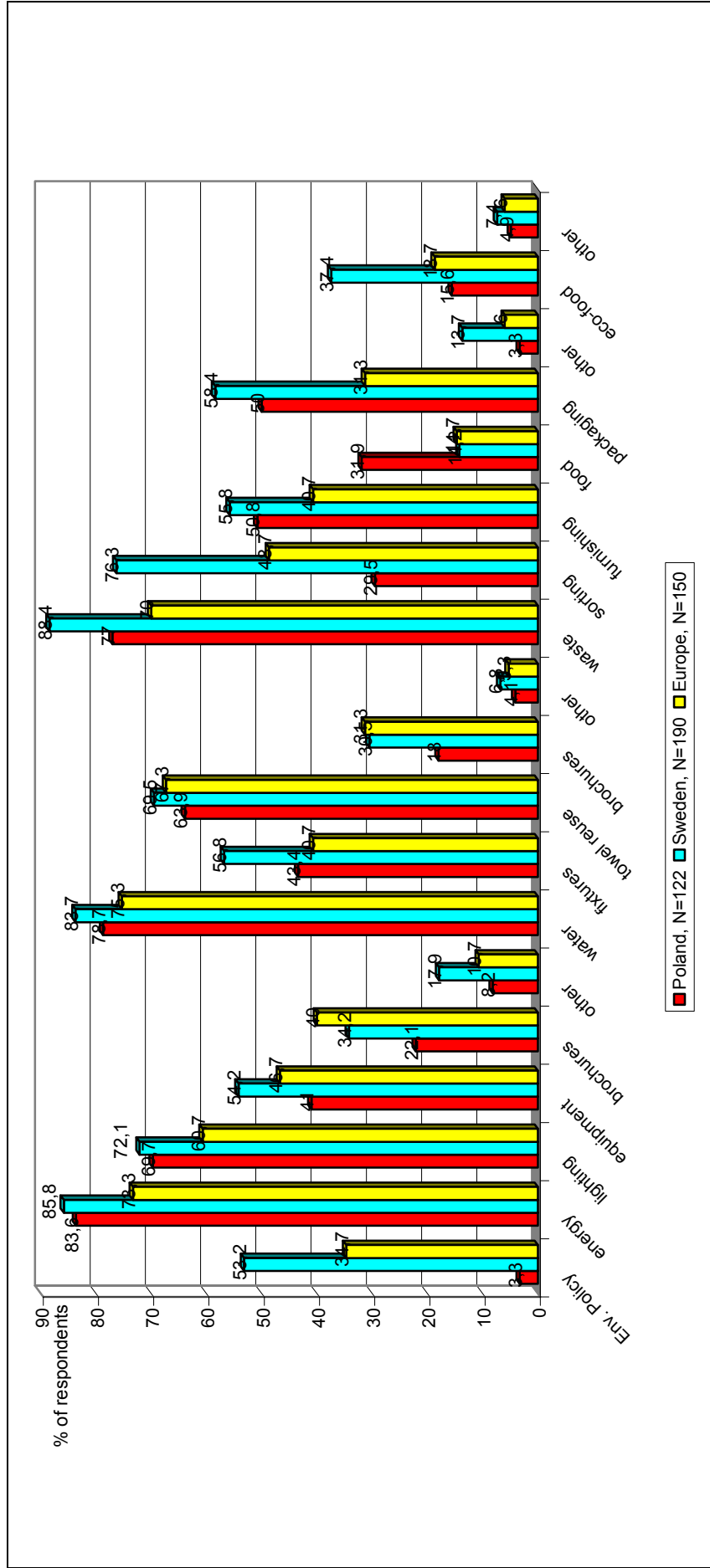


Figure 4. Fields of environmental activities, % of respondents

Depending on the category of the establishment, lighting may amount to up to 12-20%, and in some cases to up to 40% of the total energy consumption of the hotel (THERMIE 1994). High popularity of energy-efficient lighting among all respondents (over 60%) may be attributed to promotion campaigns that have been performed in most of the regions, as well as the fact that even small savings actually translate to reasonable economic benefits. It needs to be mentioned that energy costs expressed in terms of gross hotel revenue currently range from 3-5% for limited-service hotels, to 4-6% for typical full-service properties, and are expected to increase in the future (Pateman 2001). The energy expenses of some historic, luxury and/or urban-boutique hotels are predicted to reach up to 10% of their gross revenue (Pateman 2001). In the light of these facts it becomes clear why efficient lighting as well as maximizing the use of natural light are so popular among hotel managers. Furthermore energy efficient fluorescent bulbs last 8 to 10 times longer than incandescent lights (EHOA 1998), thus resulting in time and maintenance cost savings, as well as allowing to avoid the inconvenience associated with bulb replacement in the busy areas of the hotel. Fluorescent bulbs produce nearly 5 times as much light for the same 20 watts of electricity used (EHOA 1998), and generate much less heat, thus reducing the cooling demand. Additionally payback times for installing energy-efficient lighting equipment are usually less than three years (Alliance to Save Energy 2000), which is a reasonable time span.

As regards the variations in the energy-efficient equipment (41% for Poland, 46.7% - Europe, and 54.2% for Sweden), the author believes that the situation in all regions will slowly be getting better, as the appliances become more efficient and at the same time their prices go down.

Leaflets encouraging hotel guests to save energy are most frequently displayed in the rooms of European hotels (40%), followed by the Swedish and Polish ones (34.2% and 22.1%, respectively). Leaflets encouraging to water saving are slightly less popular, however in the same country ranking (31.3%, 30.5%, and 18%). Relatively low popularity of various leaflets may be explained by the role that hotels have in the society. They are a part of the service industry and are designed to provide multi-faceted comfort and services to guests frequently accustomed to, and willing to pay for exclusive amenities, treatment and entertainment. Therefore, the placement of any "Please save" information in the room, may be perceived by the guests as intrusion into their privacy and comfort. On the other hand, such leaflets do not oblige anyone to follow their content their aim is to suggest the possibility of co-operation. The attitudes of hotel guests towards various ecological initiatives performed in hotels will be evaluated in the follow-up survey, and results presented in a due time.

Among other energy efficiency measures suggested, the modification and/or change of the heating source and system was most commonly mentioned by Polish respondents (6). It actually is a very important issue as space conditioning accounts for approximately half of the total energy consumed at the facility (THERMIE 1994), and is therefore responsible for equivalent share of CO<sub>2</sub> emissions. The incorporation of renewable energy systems in the form of solar water heating and heat pumps was listed by a number of respondents. Various energy consumption control methods including occupancy sensors/light controls, master cards and even computerised Building Management Systems were mentioned. The installation of occupancy sensors can lead to savings of 35–45% of the lighting cost (THERMIE 1994). Further savings of 20–30% of the energy used for space conditioning can be achieved by zoning and/or using autonomous temperature control systems in individual rooms (THERMIE 1994). These systems may, for instance, be used to switch off, or reduce the flow of air-conditioned air, when a room is unoccupied.

Only three respondents mentioned proper training and induction of behavioural changes among personnel. Such a solution is typically much cheaper than most technological measures with simultaneously similar energy savings achieved. The issue of behaviour influence on the energy consumption is gaining more attention in recent days and is definitely worth a closer look at.

The availability of good quality drinking water is very important for the operation of any hotel facility since it is the commodity used in vast quantities. It is estimated that hotel, depending on the size, location, standard and services offered can consume between 50,000 m<sup>3</sup> and 500,000 m<sup>3</sup> of fresh water annually (Parasnis & Randar 1998), and produce the equivalent quantity of wastewater, that requires treatment. When these values are multiplied by the number of hotel establishments world-wide, the quantities of water used become of considerable significance. As a consequence of these findings numerous local and international initiatives promoting water saving and more efficient water utilization have been launched world-wide. Many of them have shortly recorded significant response from the industry and hotel customers, followed by the examples of successful implementation case studies (IH&RA 1997).

Among the water saving measures the towel and linen reuse program is an already well-established practice in most of the European countries, with more than 2/3 of the respondents indicating this area of activity. This initiative saves not only water and electricity but it also reduces the use of detergents and prolongs the life of materials. Water saving fixtures are most common in Sweden, where more than half of the hotels in investigated sample is equipped with them. A comment that was frequently given was that in existing facilities these type of fixtures are installed during refurbishment of the rooms, which is usually performed every 15 to 25 years (Rutes, Pennes & Adams 2001). The use of environmentally safe detergents and contracting an external company for laundry services were also mentioned.

As mentioned before hotel facilities are responsible for the generation of large quantities of waste, which need to be transported away and landfilled. The avoidance of waste generation is a beneficial solution both environmentally and economically. Waste sorting, mainly in offices and kitchens, not so common in guestrooms, but into a number of fractions, is by far the most common in Sweden, where more than 75% of hotels included in the survey have an active waste sorting and recycling program. In Scandinavian countries, in general, significant attention is placed on waste sorting and recycling, which explains high share of Swedish hotels (76.3%) performing this activity, as compared to European ones at the level of 48.7%. Relatively low popularity of waste sorting in Poland (29.5%), may be attributed to the lack of sorting facilities in some regions of the country. Furthermore, as indicated by one of the respondents, there is often only one truck collecting trash in the area, which dumps sorted and unsorted waste into a common container, thus discouraging the locals to continue separating waste.

According to the general experience the fabrics found in hotel rooms, such as carpets, drapery etc, should be changed every 5 years, while furniture and most of the equipment every 10 years (Rutes, Pennes & Adams 2001). Most of these items are still in fairly good conditions, therefore donation/sale to local charity organisations is a common practice (from 40.7% respondents in Europe to 55.8% in Sweden). This initiative goes well with the idea of sustainability because by prolonging the active life of various items their environmental costs (from the life cycle point of view) are lowered. The issue of food donation is a very controversial one and often prohibited by local sanitary law, which explains its low popularity (31.9% in Poland, 14.2% and 14.7% in Sweden and Europe, respectively).

The utilisation of bulk or/and reusable food and detergent packaging instead of throw-away one is least popular among the European hotel representatives, only 31.3%, while in the other two regions at least half of the respondents declares such purchases. Furthermore food composting, and complete rule out of throw-away packaging was listed by a number of Swedish hoteliers (3 votes each), together with the use of paper compactors on-site as well as eco-products (2 each). The installation of soap and shampoo dispensers in guest bathrooms instead of individually packed toiletries was also mentioned a few times. However a comment was attached that, since guests treat such items as advertising means and take them home, the

hotel management is not willing to resign from displaying them. Repair of the furniture instead of the purchase of new one was mentioned by one of the respondents, while another stated that 80% of the furniture at the facility comes from a local second-hand antique shop. One of the hotel chains also states and advertises having a 97% recyclable room.

Restaurant menu containing ecological, and often times certified food was most commonly mentioned by Swedish respondents (37.4%), followed by the European and Polish hoteliers (18.7% and 15.6% respectively).

Among other initiatives undertaken in hotels the purchase of local materials and food in order to decrease the transport distance, as well as collective deliveries of supplies were mentioned. Furthermore responsible business program at the facility and team events and co-operation were listed together with a regular donation of money to a local conservation charity.

A number of respondents stated to go one step further with their ecological activities and to involve the suppliers. They purchase products, which have reduced impact on the environment during their lifetime, and often times they even persuade the producers and suppliers to eco-certify their products and services.

Current efforts undertaken by many hoteliers to make the industry more environmentally friendly are note-worthy, and their attitude should be widely promoted as good practice case studies. However, unfortunately these efforts are so far area (department within a hotel) or company (hotel chain) specific. The message and effort are yet to reach hotels on larger scale.

Environmental officers are most commonly found among the staff of European hotels (38%), followed by the Swedish ones (27.4%). Only 13.9% of respondents from Poland declared having a person appointed for environmental issues, and usually it was just an additional duty, for hotel and kitchen managers, technical as well as administration or reception staff. Only one establishment has a person solely dedicated to environmental matters, a responsible business coordinator. Workers at all the above-mentioned positions are also responsible for environmental issues in Swedish and European hotels, however it is more common in these regions to find a position dedicated primarily to environment, namely environmental coordinator, responsible business coordinator, miljöansvarig (in Swedish).

Swedish hoteliers were additionally asked about having an eco-certificate awarded to their facility, and 25% answered positively. The Nordic Swan is by far the most popular with 17 hotels already having it (the total for Sweden is 32), and three being in the process of acquisition (December 2002). Certificates issued by hotel chains/associations and local communities also seem to be popular, as are ISO and KRAV certifications. Only one respondent stated that the application and acquisition process for Swan and similar labels is too troublesome to bother about.

## **Incentives**

Question dealing with the most probable incentives encouraging the hoteliers to undertake environmentally-oriented initiatives only partially proved the general truth that these are money and customers' demands that control the market entirely.

In this question the respondents were asked to rank the features according to their importance, with 1- being the most important, 7 – the least important and 0 – not mentioned at all. Unfortunately not all completed questionnaires contained the ranking. Often times a number of features were given the same mark or a “yes-no” format was used. The former scheme was kept unchanged in the evaluation, while in case of a “yes-no” answer all indicated features were assumed to have highest priority and all given mark 1. In the analysis only highest priority

features were included, which means that the percentage of responses was calculated according to the number of answers marked 1.

The possibility of reducing the operational costs is by far the strongest incentive, although not so much for the Swedish hoteliers (only 36.3% as compared to Europe and Poland where 51.7% and 65.5% of respondents gave the mark 1) (Figure 5). The reduction of negative impacts imposed by the hotel appears to be the second priority before the requirements expressed by customers. The desire to improve the image of the establishment is on the fourth place.

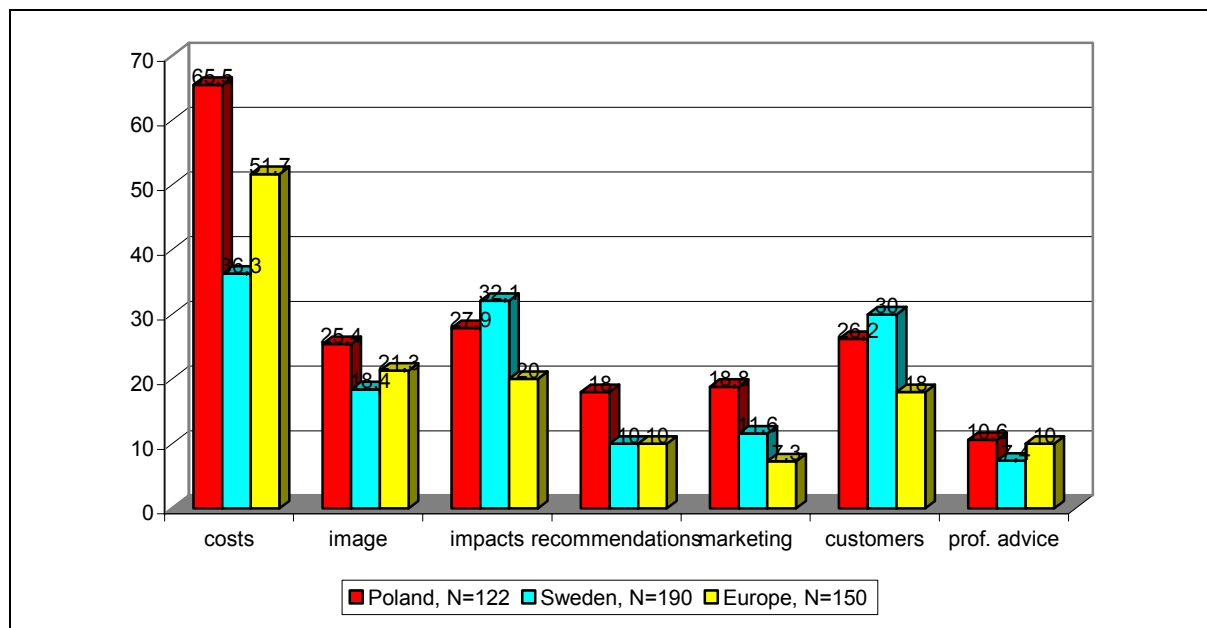


Figure 5. Incentives to become environmentally friendly (mark 1), % of respondents

Low ranking of environmental friendliness as an additional marketing asset can be easily explained by the fact of low or almost no demand from the customers. If the clients do not look at environmental aspects of hotel portfolio it is not a preferable marketing asset. Recommendation of hotel or hotel chain board seems to be the most important for Polish hoteliers, while all respondents ranked low the availability of professional advice. The latter may result from the fact that consulting companies offering such services already exist on the market, however their help is usually costly.

When the amount of respondents giving rank 1 and 2 to certain feature is summed up the situation looks somewhat different (Figure 6). Although the reduction of operational costs is still the top incentive, the distribution of votes among other aspects shows much greater variations.

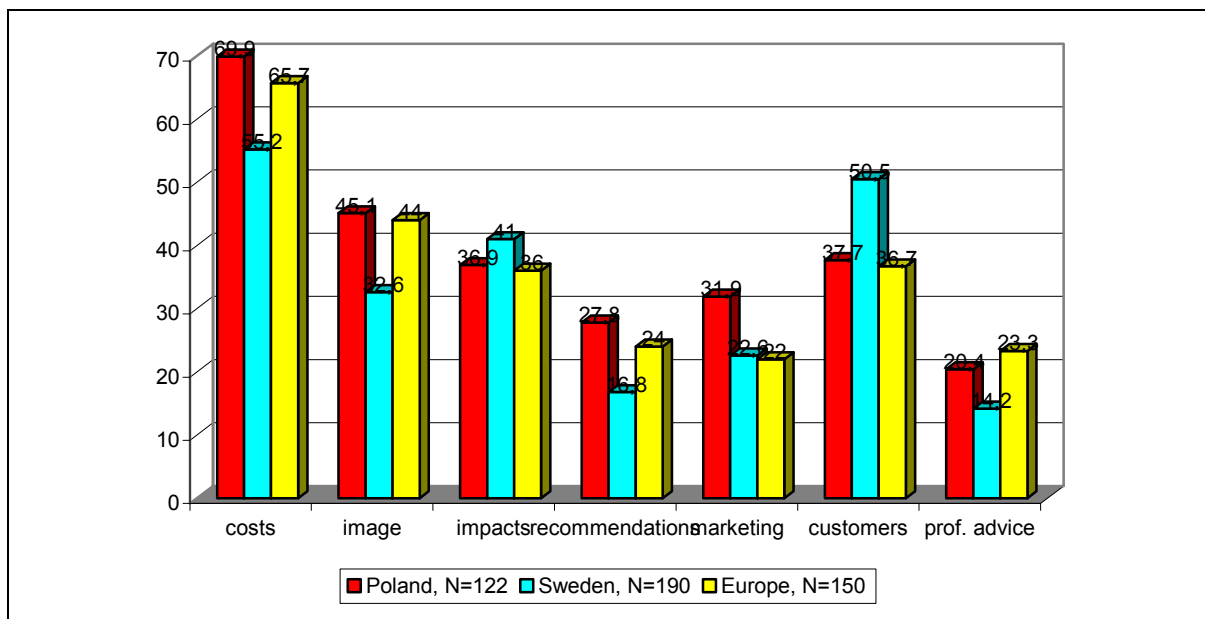


Figure 6. Incentives to become environmentally friendly (combined mark 1 and 2), % of respondents

For the half of Swedish respondents the requirements of customers are definitely the second-most incentive, which considering the fact that lodging is a service industry is fully understandable. Then comes the desire to diminish negative impacts imposed by the facility on the environment, followed by the improving of the image of the hotel. Additional marketing asset, recommendations of hotel board and professional advice come last.

For the European and Polish hoteliers the improvement of image comes second, followed by customers' requirements and diminishing impacts. The last three features for Poland are marketing asset, recommendations and professional advice, while for Europe recommendations, professional advice and marketing asset.

Despite the differences the general trend is clear. If environmental initiatives result in the cost reduction, which they often times do, in the longer run though and with substantial capital costs sometimes, and if there is a clear demand from the customers, direct or indirect, then the hoteliers will most probably step onto the road towards sustainability.

What is therefore needed is the education and increase of environmental awareness of the general public. The process in which the hotels can actually not only take part but also significantly contribute to, since almost every person is a traveller once and stays at a hotel or other commercial accommodation facility. If people see examples of good practice there, there is a high probability that they may pick it up and apply elsewhere.

The last two questions dealt with more practical issues, namely the permission to use the hotel name in scientific reports and the will to receive the copy of the final report. Approximately half of the respondents granted the author the permission to use the name of their establishment, and if such need comes the author will contact them again. On the other hand vast majority of hoteliers was interested in receiving a copy of the report. This report is just a preliminary draft, but more papers are planned, dealing with different aspects of the survey, and as soon as they are published the author will distribute them among the participants of this survey.

## Final conclusions

Environment is generally perceived as an important factor in the development and well being of both tourism and hotel industry. Hoteliers are typically aware that their facilities influence the natural surroundings, although the magnitude of the impact is often underestimated. Furthermore, there is a certain level of environmental knowledge and possible mitigation methods among hotel representatives.

Hoteliers in general have access to professional branch organisations offering consulting services and even certification schemes, however the existence of such institutions and knowledge about them is region-specific. One may conclude that often times the organisations do not actually reach to the potential recipients to the extent necessary. It is usually a pity, because branch organisations, dealing not only with environmental issues, have a large potential of positively influencing not only the hotel managers but also guests. These institutions may assist hoteliers in “greening” their facilities by issuing codes of conduct and guidelines leading to more responsible business management, by disseminating the information and promoting the examples best practice. The structure of hotel associations and tools possessed by them may be used as a very powerful marketing mechanism. Furthermore, co-operation between various hotel associations may allow them to become a strong enough actor as to influence the creation of hotel regulations, locally or even internationally, as well as help in establishing preferential financial schemes and mechanisms for the implementation of environmental measures in the hotel industry. Nowadays, these are the financial aspects that usually prevent hotel managers from incorporation of various efficiency measures in their facilities. Branch organisations may also contribute to closing of the information gap between the two stakeholders – service provider and receiver.

However, despite the existing barriers various environmental initiatives are already taking place in the industry. Vast majority of investigated hotels declares having some type of initiative in the area of energy, water and waste management. The energy-efficient lighting, together with towel-and-linen reuse programs are among the best-established practices, followed by waste minimisation measures. Some establishments go even further by making the incorporation of renewable energy technologies one of their goals, or by involving their suppliers in ecological activities. Growing popularity of environmental certificates for tourism sector is also worth mentioning, especially that nowadays the EU Flower label is also available for the lodging industry (APAT 2002).

As regards the incentives that would encourage hotel managers to undertake environmentally-oriented initiatives in their hotels, the possibility of reducing the operational costs is the one by far the most commonly pointed out. Furthermore the will to decrease the negative environmental impacts has been underlined, together with the requirements of customers. Therefore it can be concluded that, if environmental initiatives result in the cost reduction, which they often times do, in the longer run though and with substantial capital costs sometimes, and if there is a clear demand from the customers, direct or indirect, then the hoteliers will most probably step onto the road towards sustainability.

High interest in receiving a copy of this report expressed by the participants of the survey is a sign of changes occurring in the hotel industry. The author strongly believes that these changes will take positive direction, towards the sustainability.

The next steps of the investigation will be to perform the questionnaire among the hotel customers in order to compare and verify opinions about some of the issues mentioned, as well as more comprehensive analysis of energy aspects of chosen facilities.

Furthermore the same questionnaire will be distributed to other hotels in Europe and chosen world countries.

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## Appendix 1

### ENVIRONMENTAL AWARENESS IN THE HOTEL INDUSTRY - QUESTIONNAIRE

It takes less than 15 minutes to complete this questionnaire.

This questionnaire has been designed to assess the level of environmental awareness in the hotel industry, and to compare the situation in various parts of the world. It forms part of an investigation performed within the framework of a doctoral research project in progress at the Royal Institute of Technology in Stockholm, Sweden.

Any data collected will be treated confidentially, and no information whatsoever linking any data with their origin will be publically disclosed, unless explicit permission has been requested from and granted by the hotel/establishment providing specific information of interest.

Your information is extremely valuable to the quality our work, and I would like to thank you kindly on behalf of our research group for your time and effort in providing us with information and returning the filled in form to:

Via e-mail: [paulinka@egi.kth.se](mailto:paulinka@egi.kth.se)

Via fax: +46 8 20 30 07

Or by post: Paulina Bohdanowicz,  
Department of Energy Technology,  
Royal Institute of Technology,  
Brinellvägen 60,  
100 44 Stockholm, Sweden

1. Name and address of the hotel:..... (OPTIONAL)
2. Name and function of the person filling in the questionnaire:.....  
(NAME OPTIONAL, Please fill in the function)
3. E-mail:.....
4. Year of the hotel opening:.....
5. Number of rooms / beds offered:...../.....
6. Standard of the hotel:  
 5 star     4 star     3 star     2 star     1 star     no-star  
or  
 luxury                     middle-market                     budget/economy
7. Does the hotel belong to any hotel/tourism association(s) (national or international):  
 NO                                     YES, name:
8. What is the profile of the guests:  
 business - .....%,     tourists - .....%,                     other, .....%
9. How do you advertise your hotel:  
Advertisements in press ,    radio ,    TV , Internet ,  
Own brochures ,  
Contracts with travel agencies , airlines ,  
Other ,.....
10. What assets of the hotel are underlined in the advertisements:  
 localisation,

- quality of services offered,  
 tradition of the hotel,  
 price,  
 concern for the natural environment,  
 other,.....
11. In Your opinion which of the factors mentioned below have the highest influence on the customers' choice of the hotel (1- the most important, 6 – the least important)  
 localisation,  
 quality of services offered,  
 tradition of the hotel,  
 price,  
 concern for the natural environment,  
 other,.....
12. Are, in Your opinion, the issues of natural environment and its protection important for the performance and development of tourism:  
 NO  YES
13. What is, in your opinion, the magnitude of the hotels' influence on the natural environment:  
 significant/large,  
 medium,  
 non-significant/small,  
 there is no influence.
14. Is Your establishment concerned with environmental issues:  
 NO  YES
15. Do You have any information what activities should be undertaken to diminish the negative influence hotel has on the environment:  
 NO  YES, please give example(s):.....
16. Are you aware of any institutions (national or international) which deal with environmental issues in the hotel industry (guidelines, advising services, certificates, awards):  
 NO  YES, name(s).....
17. Is Your hotel involved in any environmentally-oriented activities:  
 NO  YES
18. If You answered YES for previous question please mark the field of activities and give an example:
- a)  Environmental Policy Statement
  - b)  energy conservation:  
example:  energy-efficient lighting,  
 energy-efficient equipment,  
 leaflets encouraging customers to save energy,  
 other:.....
  - c)  water conservation:  
example:  water-efficient bathroom and kitchen fixtures, toilets,  
 linen and towel re-use program,  
 leaflets encouraging customers to save water,  
 other:.....
  - d)  reduction, sorting and/or recycling of waste:  
example:  sorting of waste in guestrooms, offices and kitchens,  
 donation of hotel furniture and equipment to local charity organisations,

- donation of leftover, good quality food to local charity organisations,  
 reusable food and detergent packaging instead of throwaway ones,  
 other:.....
- e)  ecological food  
f)  other:.....
19. Are there environmental officers appointed among the hotel personnel:  
 NO  YES, function.....
20. What could encourage You to undertake environmentally-oriented initiatives in Your hotel (1 – the most probable, 7 – the least probable):  
 possibility of reducing operational costs of the hotel,  
 improving the image of the hotel,  
 diminishing the negative impacts imposed by the hotel onto the environment,  
 recommendations of hotel/hotel chain board,  
 additional marketing asset,  
 requirements of customers,  
 professional advise in the choice of the most beneficial solution (environmentally, economically and socially).
21. Do You grant the author the permission to use the name of Your hotel in scientific reports:  
 NO  YES
22. Would You be interested in the copy of the final report:  
 NO  YES

THANK YOU  
Paulina Bohdanowicz

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