



ANPA

Italian Environment Protection Agency



EU Eco-Label

SECOND ACTIVITY REPORT

4TH OF MARCH 2002



Index

1	FIRST AHWG FINDINGS	4
1.1	DEFINITION OF THE PRODUCT GROUP	4
1.2	AIM OF THIS REPORT	5
2	ANALYSIS OF THE TOURIST OFFER AND DEMAND	7
2.1	TOURIST ACCOMMODATION OFFER	9
2.1.1	<i>Tourist offer in Europe</i>	9
2.1.2	<i>Distribution of tourist accommodation in European Countries</i>	12
	<i>Source: Elaboration ACTA on Eurostat data</i>	16
2.1.3	<i>Distribution of hotels by category</i>	17
2.1.4	<i>Trend of accommodation structures in medium – long period</i>	19
2.2	TOURIST DEMAND	25
2.2.1	<i>Tourist Demand in Europe</i>	25
2.2.2	<i>Distribution of the tourist demand in the European countries</i>	31
2.2.3	<i>Long to medium time span trend</i>	36
2.3	FINAL CONCLUSIONS	39
2.3.1	<i>From the analysis the following points have been observed:</i>	39
3	METHODOLOGY AND RESEARCH FOR CRITERIA DEVELOPMENT	40
3.1	CHOOSING THE HOTEL SYSTEM FOR THE DEVELOPMENT OF CRITERIA	40
3.2	FROM THE LEGISLATION FRAMEWORK	40
3.3	SERVICE ANALYSIS	41
3.4	LIFE CYCLE CONSIDERATIONS	43
3.5	CONSUMPTION DATA AND TOWARD CRITERIA	45
4	A FIRST IN DEPTH ANALYSIS: THE HOTEL SYSTEM	48
4.1	SOURCES	48
4.2	LEGISLATION: QUALITY REQUIREMENTS IN HOTELS THROUGH CLASSIFICATION	48
4.2.1	<i>Actors involved in classification</i>	48
4.2.2	<i>Regulation schemes and purposes</i>	49
4.2.3	<i>Coherence of the definition of lodging with the European Regulations analysed</i>	54
4.3	CONCLUSIONS	67
5	IN DEPTH ANALYSIS OF THE SERVICE	68
5.1	PURPOSE OF THE ANALYSIS	68
5.2	RESULTS OF THE ANALYSIS	70
5.3	DEFINITION OF SYSTEM BOUNDARIES AND IDENTIFICATION OF THE CLASSES OF OFFERED SERVICES	82
6	LIFE CYCLE CONSIDERATIONS	86
6.1	INTRODUCTION	86
6.2	AIM OF THE CHAPTER	86
6.3	ANALYSIS OF ECO- LABELS FOR ACCOMMODATION IN EUROPE	87
6.3.1	<i>The code book for analysis</i>	89
6.3.2	<i>Environmental aspects, impacts, objectives.</i>	93
6.4	GENERAL RESULTS	93
6.5	SPECIFIC RESULTS	98
6.6	CONCLUSIONS	112



7	CONSUMPTION DATA.....	114
7.1	INTRODUCTION.....	114
7.2	CONSUMPTION OF GOODS, WATER, ENERGY.....	115
7.2.1	<i>Consumption of disposal goods</i>	<i>115</i>
7.2.2	<i>Consumption of energy by using the goods (TV, hot shower, washing machine/laundry).....</i>	<i>119</i>
7.2.3	<i>Consumption of water by using the goods (shower, toilet, washing machine/laundry)</i>	<i>123</i>
7.3	INFLUENCING FACTORS FOR CONSUMPTION	124
7.4	AVAILABILITY OF CONSUMPTION DATA.....	125
7.5	CONSUMPTION UNITS	128
8	TOWARDS CRITERIA.....	133
8.1	INTRODUCTION.....	133
8.2	FACTORS INFLUENCING CRITERIA DEVELOPMENT	133
8.3	CONCEPTION FRAME.....	134
8.3.1	<i>Aims of the EU criteria.....</i>	<i>134</i>
8.3.2	<i>Environmental improvements to be achieved by the criteria.....</i>	<i>134</i>
8.3.3	<i>Specific requirements for criteria which can be proposed at a European level.....</i>	<i>135</i>
8.4	CRITERIA STRUCTURE	136
8.4.1	<i>Types of criteria.....</i>	<i>136</i>
8.4.2	<i>Distribution of the types of criteria in the different elements of the lodging service</i>	<i>138</i>
8.4.3	<i>Spheres of Influence of the criteria</i>	<i>141</i>
8.5	POSSIBLE CRITERIA SCHEME	143
8.5.1	<i>General and Specific Criteria.....</i>	<i>143</i>
8.5.2	<i>Requirement levels of criteria.....</i>	<i>143</i>
8.6	TOWARDS CRITERIA: RESULTS OF THE ECO-LABELS' ANALYSIS.....	145
8.7	SCORING SYSTEM FOR CRITERIA	145
8.8	DRAFT CRITERIA	145
8.9	OTHER ACCOMMODATION ESTABLISHMENTS	151
8.10	CONCLUSIONS	151
8.11	FURTHER STEPS	151
9	BIBLIOGRAPHY	153
9.1	CLASSIFICATION NORMATIVES	153
9.2	OFFICIAL HOTEL GUIDES.....	154
9.3	ECO-LABELS.....	155
9.4	ENVIRONMENTAL ISSUES.....	155



1 First AHWG Findings

During the first AHWG it was noticed again, as pointed out in the First Activity Report and in the Fematour Study, the difficulties to have clear and common definition for all tourist accommodation structures and a precise list of the services provided by each. Nevertheless the EU document Commission Decision 35/99/EC defines the broad groups into which different structures should be included when collecting statistical data. This document defines tourist accommodation as “any facility that regularly or occasionally provides overnight accommodation for tourists”. This document also states very generally the services provided by each group, it refers vaguely (but there is nothing more precise anywhere at European level), to room services, sanitary facilities, cleaning areas and other services, which could be referred to as “sleeping” facilities. From the information provided it was seen that two different approaches could be used to examine “tourist accommodation”: the approach which focussed on a particular type of structure (the structure-oriented approach) or the one which focused on the whole service of “providing tourist accommodation”, considered in each type of accommodation structure (the service-oriented approach).

The two approaches were presented, each with their distinctive elements with respect to the Regulation 1980/2000 requirements of consumer perception, action on the market, potential to achieve most environmental improvements (see First Activity Report).

1.1 Definition of the product group

During the AHWG meeting more precise definition of the product group was discussed and between the pursuit of the structure-oriented approach or the service-oriented approach, a “mixed approach” was opted for, which would consider the services broader than “sleeping” in the main tourist accommodation structures.

Keeping this in mind, the product group was identified in the “lodging service” which was defined as “the provision of sheltered overnight stay structured in rooms, with all their contents, including at least a bed fit for use, offered as main service to tourists behind a fee”.

This definition is in line with the need, as stated by the EU Environment DG, to take a pragmatic approach, setting a model and identifying a path for future EU Eco-labels for services, tackling such a complex service. Comments made by AHWG members highlighted, some issues such as the importance of considering existing eco-labels, the access of the European Eco-label to SME as well the consideration of the specificity of the accommodation structures.

Table 1 reports the components of “lodging in tourist accommodation” as a result of the First Activity Report and the first AHWG meeting.



ANPA

Italian Environment Protection Agency

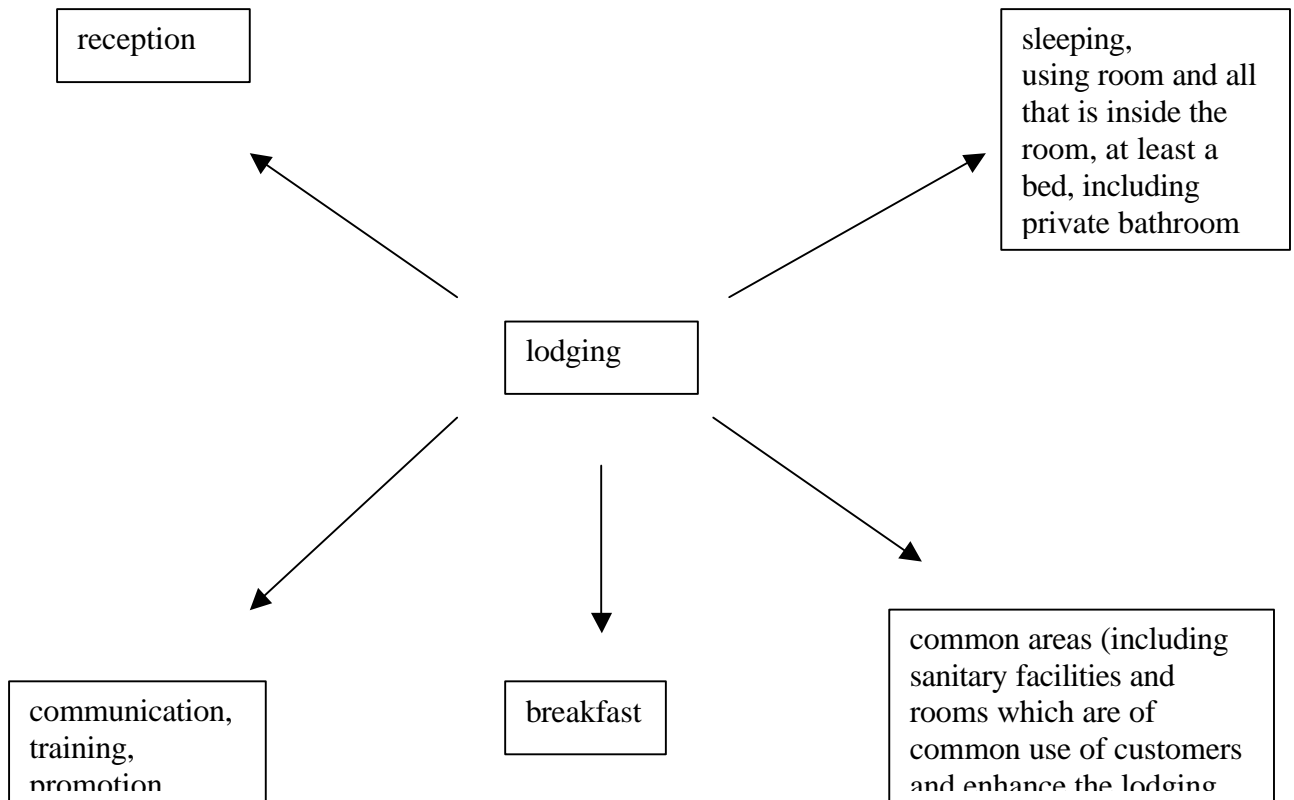
1.2 Aim of this report

In this report are described the coherence of the definition of product group with the reality of tourist accommodation seen from the main aspects required by the Regulation (market, legislation, promotion, environmental impacts), and the evaluation of how to identify and develop suitable criteria for a EU Eco-label for the product group.

In the following chapters each of these issues will be discussed and the developments, coming from research, of both the product group definition and the path for developing criteria will be depicted.



Table 1.1 Elements included as our product group lodging after the First AHWG.





2 Analysis of the tourist offer and demand

Methodological aspects

The initial look at the data and analysis of the offer and the demand is the high heterogeneity of the tourist offer, both in terms of types of accommodation and in terms of the services offered across Europe. Integrating the offer with the demand gives even more the idea of the complexity of the situation.

The data analysed come from secondary sources. In particular data from Eurostat have been integrated with data obtained from Statistical Institutions of singular European Community nations. The first step of the analysis examines the different types of accommodation structures: their quantitative distribution and the medium to long period trends. The analysis takes into consideration two different levels of geography: the entire European Union and the single nations and their regions. Analysing the same phenomenon on different levels allows to perceive differences and similarities of that phenomenon in its various manifestations and to identify homogeneous geographical areas according to boundaries which do not coincide with political borders.

In detail, the analysis is structured as follows:

- Analysis of the distribution of tourist accommodation in Europe per single type of accommodation:
 1. per number of establishments
 2. per number of beds
 3. per stars of hotels
- Analysis of medium and long term trend, taking into consideration the period 1985-1998.
- Geographical distribution of the tourist offer per type of accommodation.

The analysis of the accommodation offer is integrated with the tourist demand. The analysis of the demand is developed on the same geographical scale, national and regional, as the tourist offer.

The analysis is therefore structured according to the following pattern:

- Analysis of the distribution of the demand in the European Union as a whole
 1. Analysis of arrivals and overall overnight stays per kind of accommodation
 2. Analysis of arrivals and overnight stays divided between overnight stays due to residents and non-residents, overall and per type of accommodation structure.
- Geographical distribution of the demand
 1. Differences between arrivals and overnight stays per accommodation types in the different countries
 2. Trend analysis of the overnight stays in the different accommodation structures: medium and long period trends of tourist flows



ANPA

Italian Environment Protection Agency

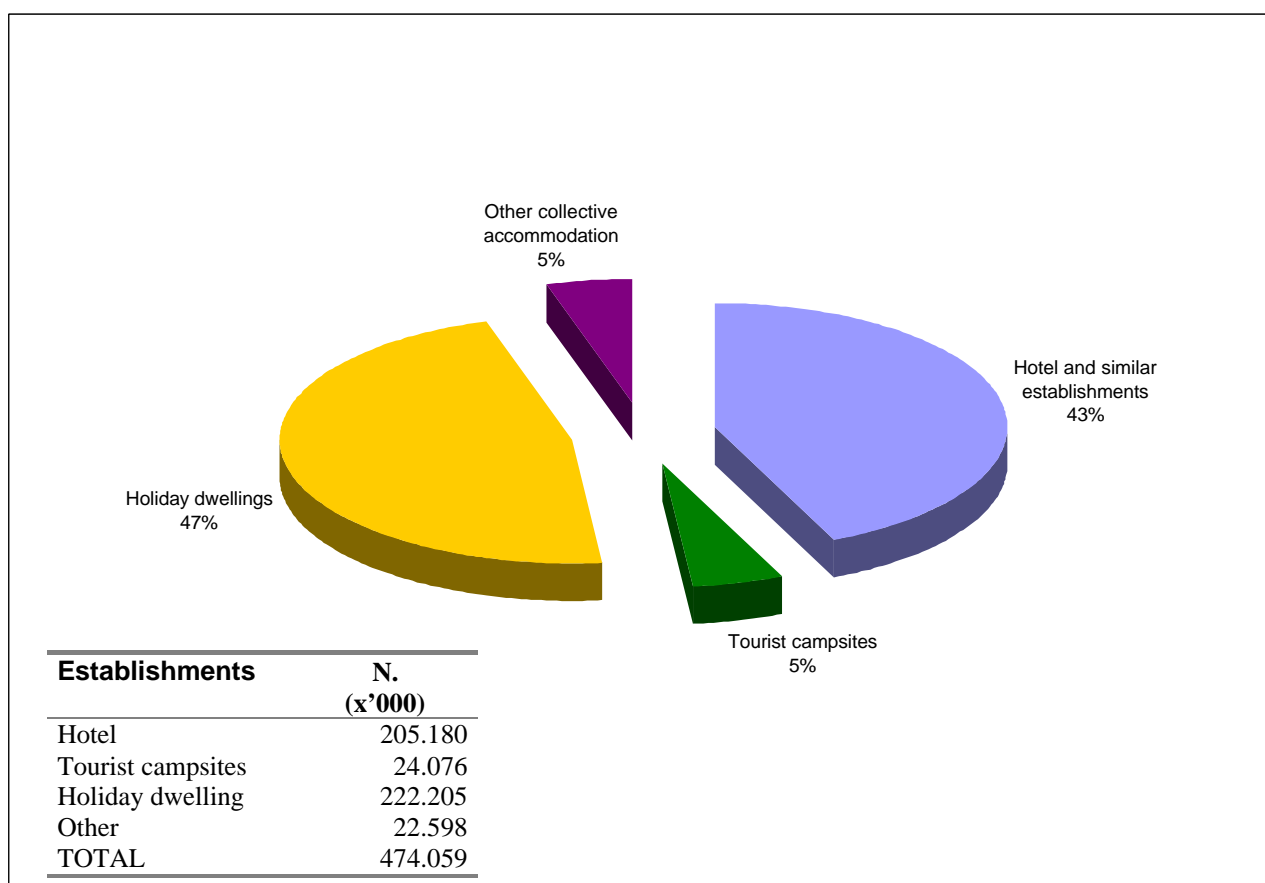
- Analysis of tourist flows: analysis of non-resident arrivals in the accommodation services according to main country of departure and to main country of destination (the analysis is conducted both in general and per the single types of accommodation: hotels and others)

2.1 Tourist accommodation offer

2.1.1 Tourist offer in Europe

In Europe the number of accommodation establishments is of 474 million, of which 90% is distributed quite homogeneously between Hotels and Similar establishments and Holiday Dwelling. These two accommodation types hold the 43% and 47% of the tourist establishments, respectively. The remaining 10% is equally distributed between campsites and other collective accommodation (Graph 2.1)

Graph. 2.1 - Tourist accommodation establishments, 2.000



Source: Elaboration ACTA on Eurostat data

If we analyse the distribution of the tourist accommodation offer with respect to the number of beds, the importance of hotels and similar establishments and of the Other Accommodation remains the same: the percent of hotels and similar establishments is always 43% and the other is 6 %.

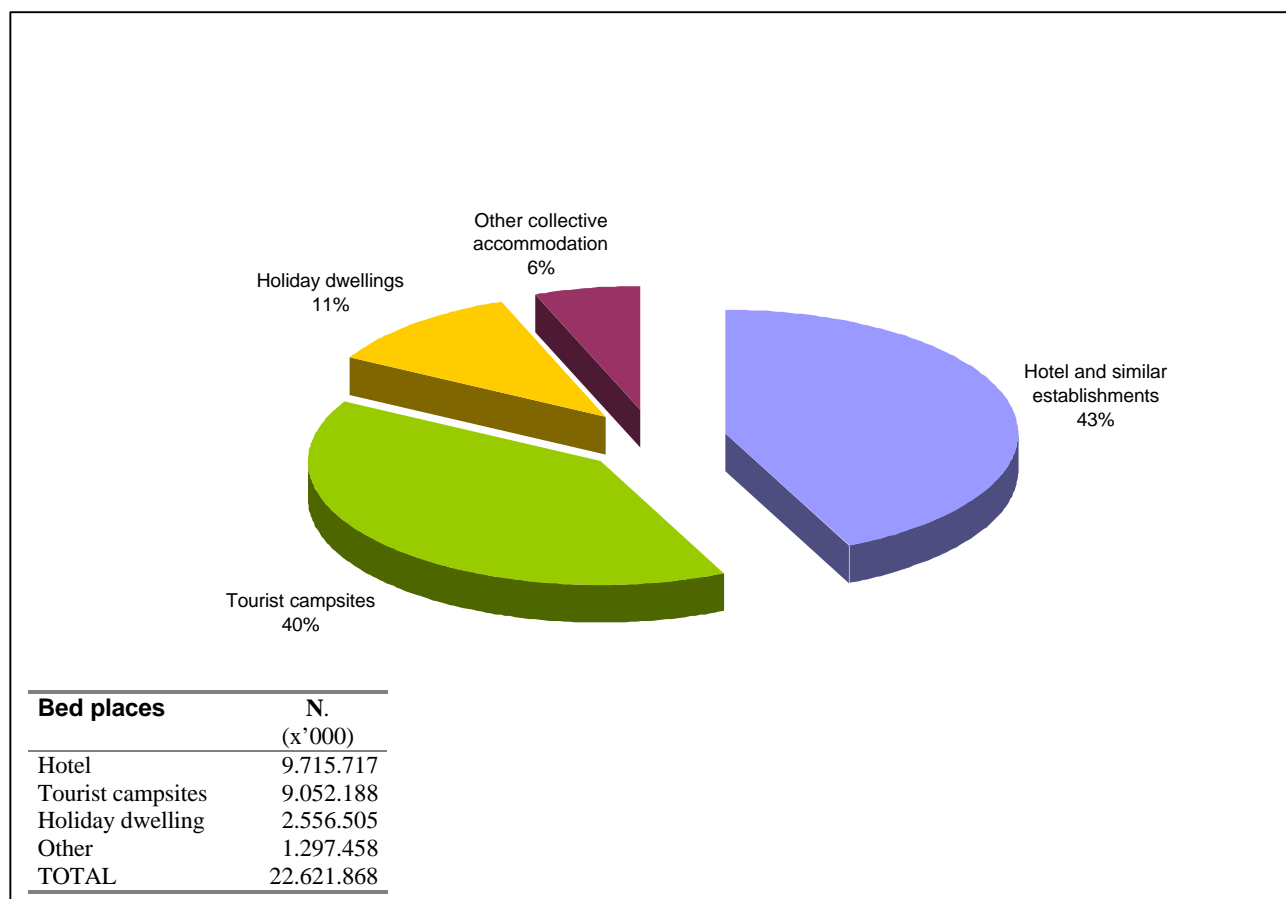
On the other hand, for the other types of accommodation establishments things change whether one considers the establishments or the number of beds.

In greater detail:

Holiday dwelling: the establishments represent 47% of the accommodation structures, but the number of beds only account for an 11% of the total number of beds. This means that the holiday dwelling are mainly little receptive units spread across the European territory. This phenomenon is mainly influenced by Spain, the nation with most little holiday dwellings.

Campsites: their situation is the exact opposite of that noticed for the holiday dwellings. They have a great capacity as per number of beds, second only after hotels and similar establishments.

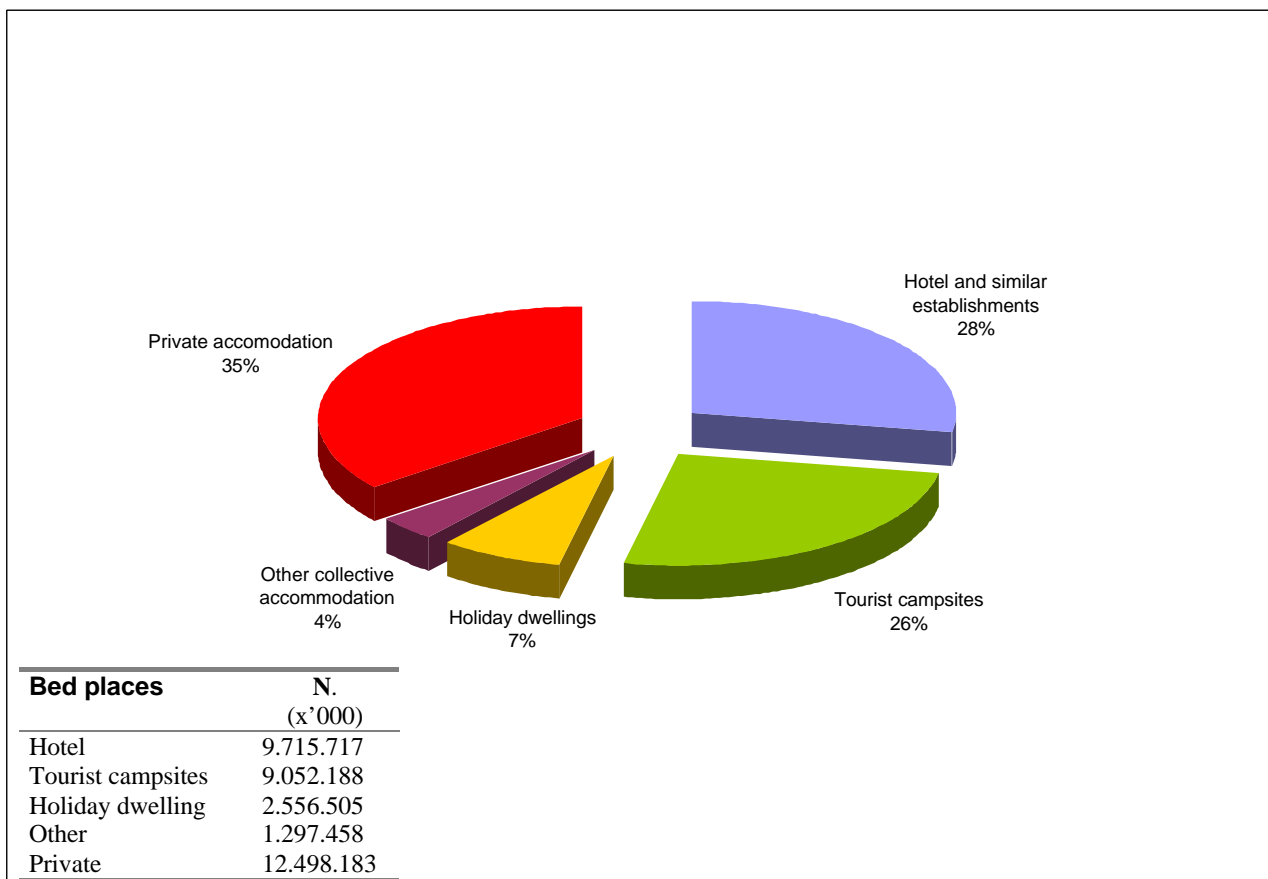
Graph 2. 2 Tourist accommodation establishments - Number of bed-places, 2.000



Source: Elaboration ACTA on Eurostat data

Another kind of accommodation structure which we have not seen so far is the Private Accommodation. This category is reported only as number of beds, and not as establishments. Including this accommodation in the picture the analysis is quite different from that seen before. The number of beds offered by private accommodation seems to be high: 35% of all the available bed places. Hotels follow with 28% and campsites with 26% of the beds in Europe.

Graph 2.3 Tourist accommodation establishments including private accommodations- Number of bed-places, 2.000



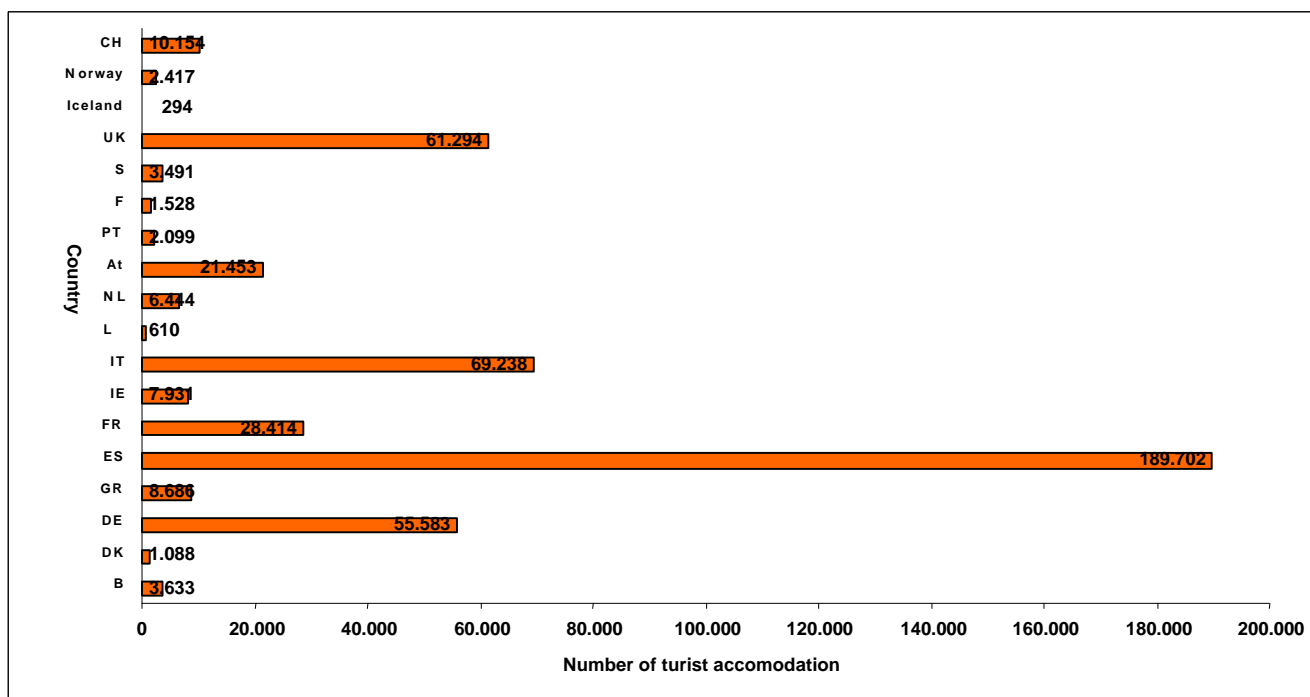
Source: Elaboration ACTA on Eurostat data

2.1.2 Distribution of tourist accommodation in European Countries

The distribution of tourist accommodation structures among the European countries presents a high heterogeneity. The country with the most number of structures is Spain, which in all has 189.702 structures, which represents 40% of the establishments in Europe. Behind Spain Italy, UK and Germany follow with 25 percentile points difference, respectively with the 14,6%, 12,9% and 11,7% of the accommodation establishments in Europe.

The country with the least number of accommodation structures is Iceland, with 294 establishments, 0,06% of the establishments present in Europe.

Graph. 2.4: Distribution of tourist accommodation in Europe¹



Source: Elaboration ACTA on different data, please see note 1

¹ The data concerning the study of the distribution of tourist accommodation in Europe refer to the year 2000 with the exception of:

- Italy: Tourist campsites – 1999
Holiday dwelling – 1998
Other collective accommodation – 1998
- Portugal: Holiday dwelling – 1998
- UK: Holiday dwelling – 1999
Other collective accommodation – 1998
- Iceland, Norway and Switzerland – 1998 except data on hotel e similar establishments which are from the year 1995.

If we consider the distribution per typology of the tourist accommodation the following picture is drawn:

Hotel and similar establishments:

The greater number of hotels is concentrated in the UK where the 24,64% of hotel and similar establishment in Europe can be found, followed by Germany with the 18,79% of establishments and Italy with the 16,20% (Graph 2.5).

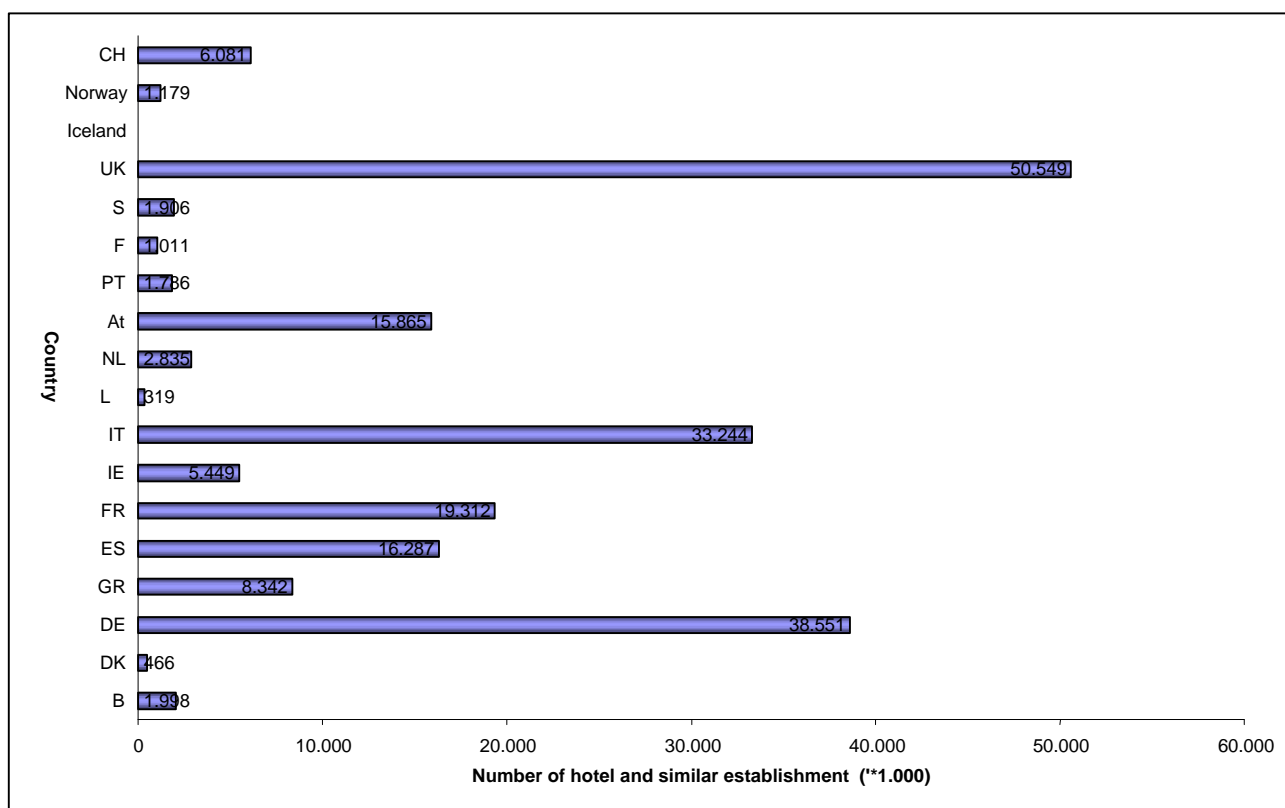
Campsites:

The highest number of campsites is in France, with over 30% of the total campsites can be found. This number is very much higher than that of any other country. As can be seen in Graph 2.6, the European country with the second highest number of campsites is the UK, with “only” the 11,07% of the total campsites.

Holiday dwellings:

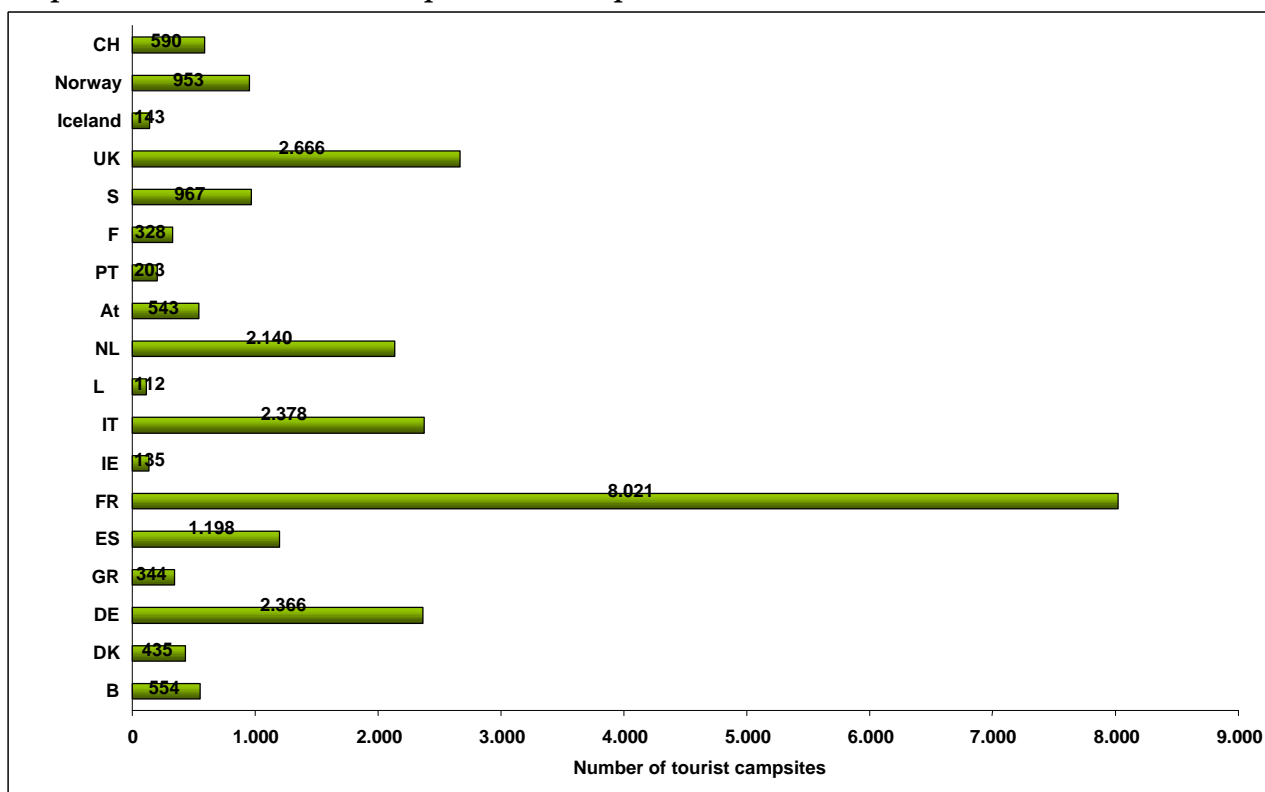
This is the accommodation type which has a fundamental role in making Spain the European nation with the highest number of structures. Over 3/4 of the holiday dwellings are in Spain, the rest are distributed among Italy (11%), Germany (4%) and UK (3%). The other countries have a minimal number of such accommodation establishments. Graph 2.7 reports the situation described above.

Graph. 2.5: Distribution of hotels and similar establishments in Europe



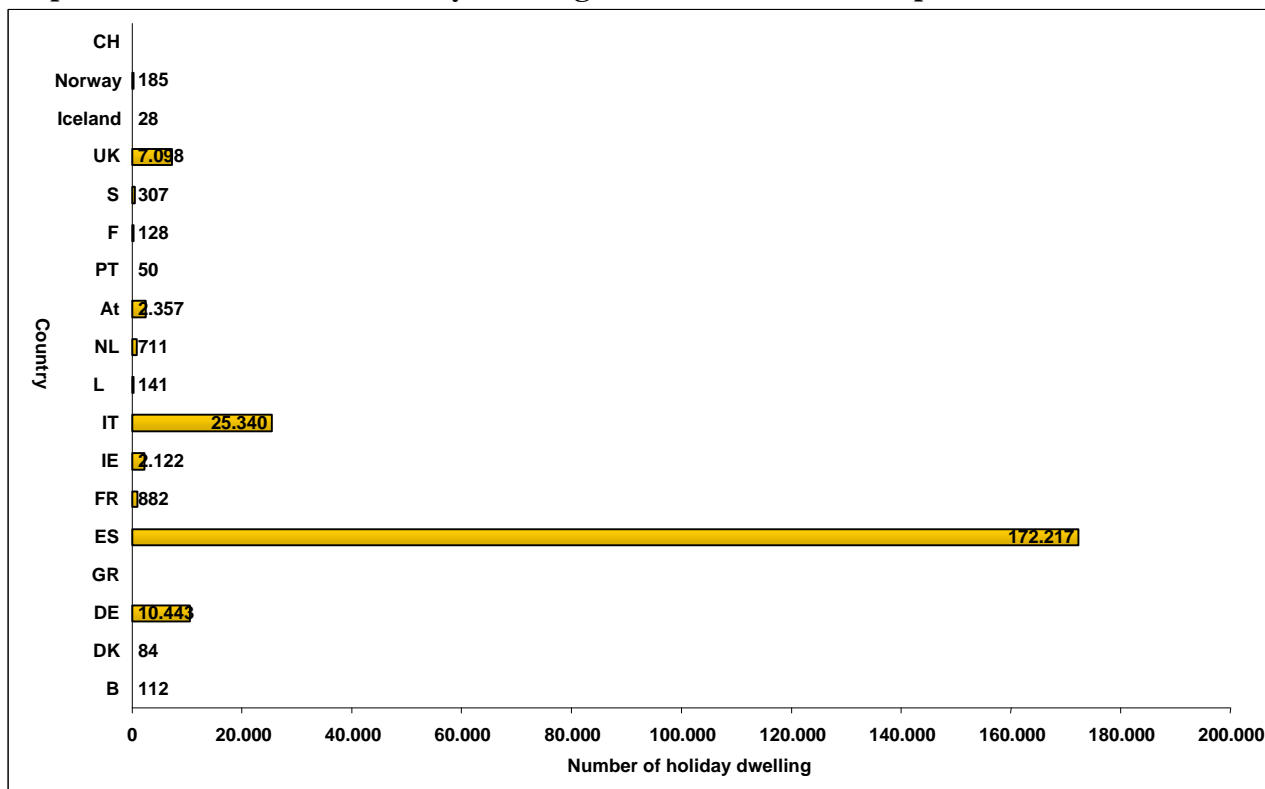
Source: Elaboration ACTA on Eurostat data

Graph. 2.6: Distribution of campsites in Europe



Source : Elaboration ACTA on Eurostat data

Graph. 2.7: Distribution of holiday dwelling establishments in Europe



Source: Elaboration ACTA on Eurostat data



ANPA

Italian Environment Protection Agency

If we take into consideration the distribution of number of beds, their distribution among the European countries changes. The country with the greatest number of beds is France (20% of the total number of beds available), whereas it has only the 6% of the establishments (28.457 establishments), after Spain, Italy, UK and Germany. At the same time Spain, which holds the lead of the establishments (40% of total), only has 7% of the beds. This can be understood if we take notice that the accommodations in Spain are 90% holiday dwellings, very small accommodations.

As per the distribution of the number of beds in the different accommodation structures, we can see the following picture:

Hotel and similar establishments:

The distribution among the different European countries is quite uniform. Italy has the greatest number of beds in Hotels and Similar Establishments (19%) followed by Germany (16%).

Campsites:

The distribution of the number of beds in campsites is similar to the distribution of the establishments. France has most (30%) followed by Italy and UK, both with 14% of the total beds available.

Holiday dwelling:

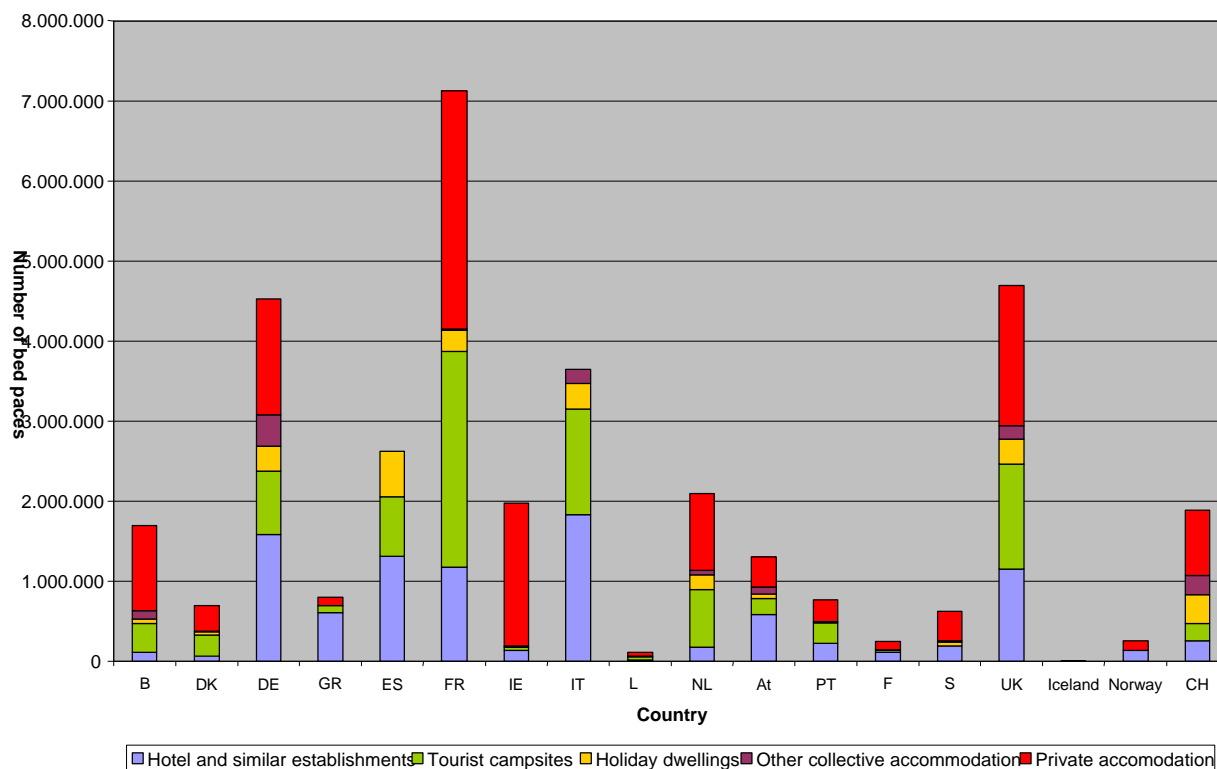
The greatest number of beds in holiday dwellings can be found in Spain, similarly as what is seen for the establishments. However, by the number of beds the percentages are more uniform in Spain and in the rest of Europe. Spain has the 22% of the beds in holiday dwellings, having 90% of the establishments, and Germany, Italy and UK have 12% of the beds. This means that in Spain these accommodation structures are very small. They have an average of 3,3 beds each, compared to the average 30 beds per dwelling in Germany.

Private accommodation:

The main concentration of private accommodation is in France, UK and Ireland.



Graph. 2.8 Distribution of beds in Europe, 2000



	Hotel and similar establishments		Tourist campsites		Holiday dwellings		Other collective accommodation		Private accommodation	
	Absolute values	% values	Absolute values	% values	Absolute values	% values	Absolute values	% values	Absolute values	% values
B	119.165	1,23	351.419	3,88	61.702	2,41	100.443	7,74	1.068.161	8,55
DK	62.107	0,64	268.446	2,97	40.003	1,56	11.307	0,87	317.760	2,54
DE	1.590.332	16,37	780.872	8,63	316.435	12,38	391.355	30,16	1.450.600	11,61
GR	607.614	6,25	93.941	1,04					97.280	0,78
ES	1.315.697	13,54	739.985	8,17	566.556	22,16				
FR	1.178.348	12,13	2.691.960	29,74	263.497	10,31	14.849	1,14	2.979.209	23,84
IE	138.579	1,43	33.924	0,37	11.276	0,44	12.796	0,99	1.772.300	14,18
IT	1.834.423	18,88	1.317.153	14,55	320.410	12,53	179.053	13,80		
UK	14.415	0,15	46.102	0,51	1.896	0,07	2.285	0,18	52.638	0,42
NL	173.066	1,78	726.157	8,02	182.614	7,14	56.799	4,38	958.857	7,67
At	588.213	6,05	198.963	2,20	54.566	2,13	92.668	7,14	372.298	2,98
PT	222.958	2,29	261.241	2,89	8.770	0,34	7.214	0,56	268.765	2,15
F	117.322	1,21	21.302	0,24	9.441	0,37	2.792	0,22	99.786	0,80
S	188.289	1,94		0,00	49.853	1,95	17.021	1,31	372.351	2,98
UK	1.154.580	11,88	1.311.594	14,49	308.479	12,07	165.553	12,76	1.759.673	14,08
Iceland	12.030	0,12			822				122	0,00
Norway	137.188	1,41	953	0,01	185	0,01	100	0,01	116.984	0,94
CH	261.391	2,69	208.176	2,30	360.000	14,08	243.223	18,75	811.399	6,49
EU	9.715.717	100	9.052.188	100	2.556.505	100	1.297.458	100	12.498.183	100

Source: Elaboration ACTA on Eurostat data

2.1.3 Distribution of hotels by category

The general picture of hotel distribution by category is very heterogeneous:

Not all countries have a hotel classification. The Nordic countries, and in particular Finland, Norway, Sweden and Iceland do not grade their hotels by stars;

In Germany, UK, Switzerland, France, Austria and Denmark, classification is voluntary, many are the hotels which are not classified. The exact number is not possible to know because data on hotels by star is quite new in many nations, especially the UK, Ireland, Belgium. In addition, not always is it compulsory to register oneself to the statistical bodies, especially when category statistics are collected by tourist bodies and it is not compulsory to answer to their request for data (UK for example). It could be that over 80% of hotels may be unclassified. Graph 2.9 below reports a high number of non classified hotels, especially in Switzerland, 60,6%, and Belgium, 31,9%. In Denmark a small 3,1% of hotels are not classified.

The criteria of evaluation are not the same from country to country. This increases the heterogeneity in hotels types, in that a hotel may be of the same category as another hotels of similar grade but present different standards.

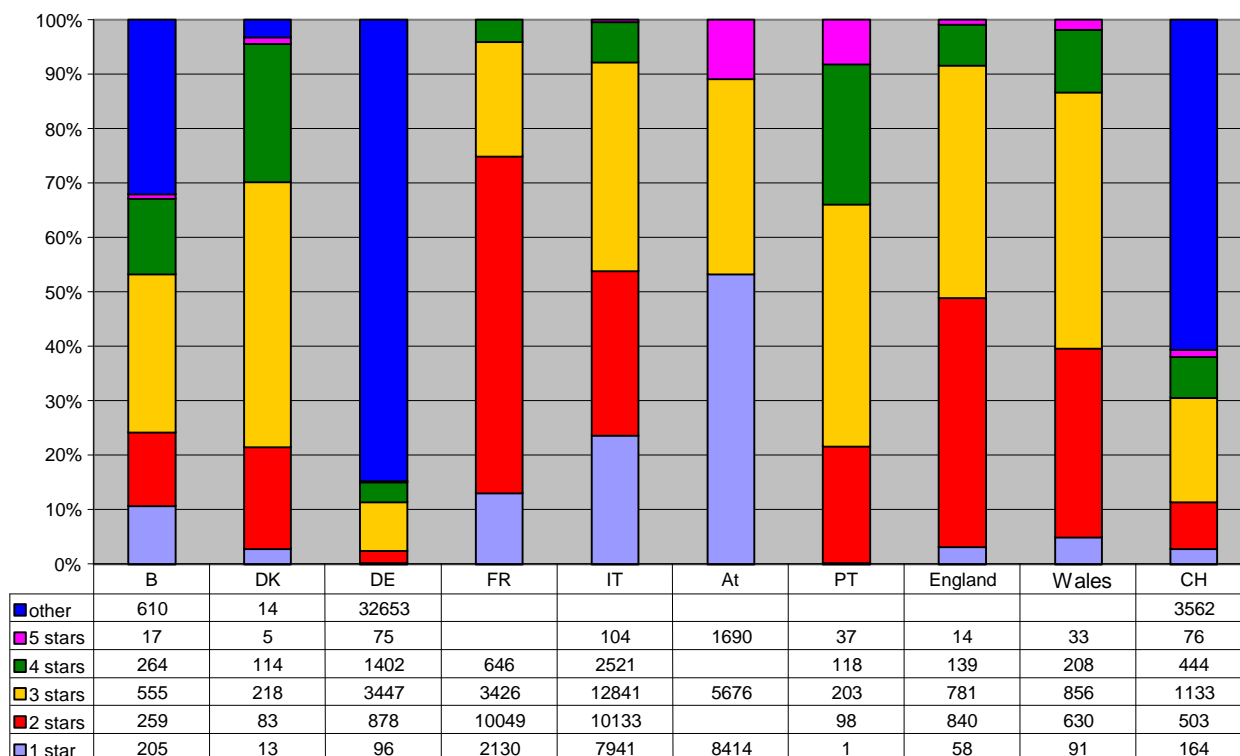
The 1 and 2 star hotels are a very great number in Austria, 53% of total.

The 2 star hotels are usually between 20-30% of total hotels. France is an exception where 1 and 2 stars together account for 60% of hotels.;

3 star hotels have approx. 40% of the share, and this is found rather homogeneously throughout Europe.

4 and 5 star hotels are marginal, except in Denmark where 4 star hotels are 25%.

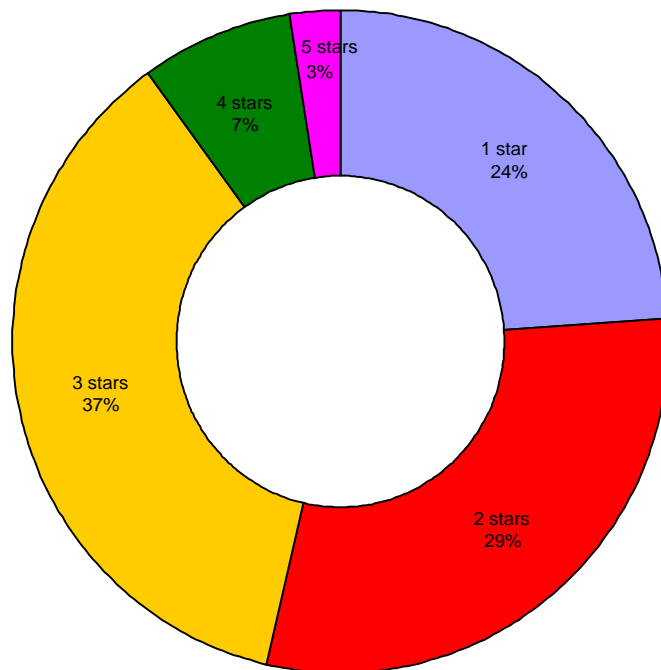
Graph.2. 9 Distribution of stars in hotels in the different European countries





Graph 2.10 underneath represents an estimate of the hotels per category in Europe, taking into consideration only the classified hotels. As can be seen, over 90% of the hotels are 1 to 3 stars, in particular 40% are 3 star hotels. A much lesser number are the 4-5 star hotels.

Graph.2. 10 Distribution of the stars in the EU



Source: Elaboration ACTA on data from the National Statistical Departments of the European nations with hotel classification

2.1.4 Trend of accommodation structures in medium long period

For the medium-long period trend, the last 15 years were examined, from 1985 to 2000; exceptions are notified with notes.

Due to the lack of homogeneity of the sources, the analysis of the general European trend was considered not methodologically correct, but the different countries were analysed separately. The following graphs and tables report the trend and the variation index in the years 1985-2000.

From the analysis it can be seen that:

Hotel and similar establishments:

Ireland stands out as the country with the most positive trend: from little over 800 establishments in 1985, it records almost 5.500 establishments in 2000. The other countries have undergone different trends. Another positive trend can be observed in Greece (+ 49,9%), a negative one in Austria (- 25,07%).

Campsites:

This trend has been dis homogeneous in the different countries: ten have undergone a positive trend, eight a negative one. In general there has been a positive trend.

Holiday dwelling:

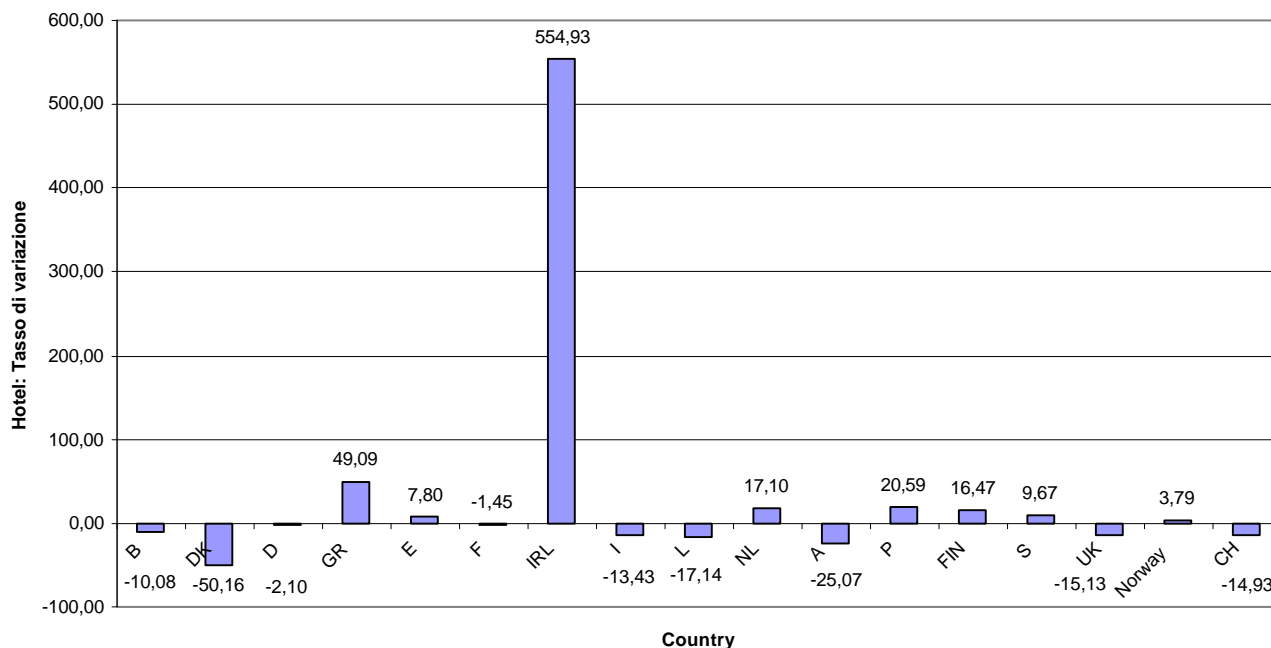
All countries except Spain (-8%), Belgium (-5%) and Denmark (no change) have seen a positive trend of this accommodation type, from a + 3% in Luxembourg to + 48% in the Netherlands.

Table 2.1 : Distribution in time of hotel and similar establishments

Country	1985	1990	1995	1998	1999	2000
B	2.222	2.123	2.038	1998	2015	1998
DK	935	539	564	467	464	466
D	39.376	35.154	38.172	38914	38701	38551
GR	5.201	6.713	7.754	7946	8168	8342
E	9.668	9.436	10.422	7539	16229	16287
F	19.597	20.472	20.147	19555	19379	19312
IRL	832	3.478	5.039	5460	5692	5449
I	38.743	36.166	34.296	33540	33341	33244
L	385	401	369	342	325	319
NL	2.421	1.546	1.749	2788	2826	2835
A	21.174	19.406	18.120	15780	15378	15865
P	1.481	1.758	1.733	1754	1772	1786
FIN	868	1.096	936	978	1004	1011
S	1.738	1.723	1.829	1891	1898	1906
UK		54.464	46.221	47532	51300	50549
Norway	1.136	1.135	1.179			
CH	7.148	6.634	6.081			

Source: Elaboration ACTA on Eurostat data

Graph 2.11 Variation in the number of hotels from 1985 to 2000²



Source: Elaboration ACTA on Eurostat data

Table 2.2 : Distribution in time of campsites

Country	1985	1990	1995	1996	1997	1998	1999	2000
België	714	725	602	601	591	579	574	554
Danmark	526	392	437	449	449	442	437	435
Deutschland	1591	1636	2218	2178	2243	2270	2359	2366
Ellada	240	316	296	334	335	340	344	
España	767	928	1130	1083	1084	1142	1170	1198
France	8242	8376	8693	8195	8141	8059	8027	8021
Ireland			131	133	132	133	134	135
Italy	2149	2319	2346	2367	2379	2375	2378	
Luxembourg	125	127	123	120	117	118	115	112
Nederland	2837	1035	967	979	1033	2035	2106	2140
Österreich	500	489	523	500	521	549	538	543
Portugal	116	157	173		177	183	196	203
Finland		363	348	347	341	338	336	328
Sverige	714	797	965	965	972	970	969	967
United Kingdom		3522	3013	3013	2926	2910	2666	
Iceland	77	108	141	144	146	143		

²The variations registered in the number of hotels refer to the years 1985 -2000 with the exception of :

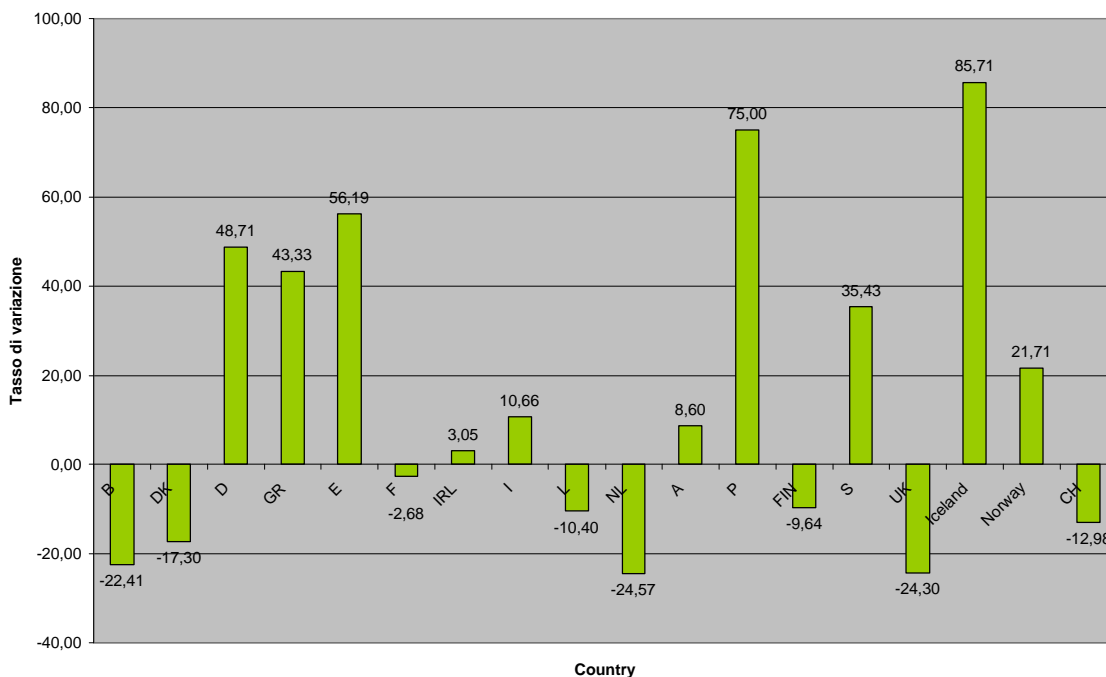
- UK 1990 -2000



Norway	783	760	744	748	953
Suisse	678	635	592	594	590

Source: Elaboration ACTA on Eurostat data

Graph 2.12 Variation of the number of campsites from 1985 to 2000³



Source: Elaboration ACTA on Eurostat data

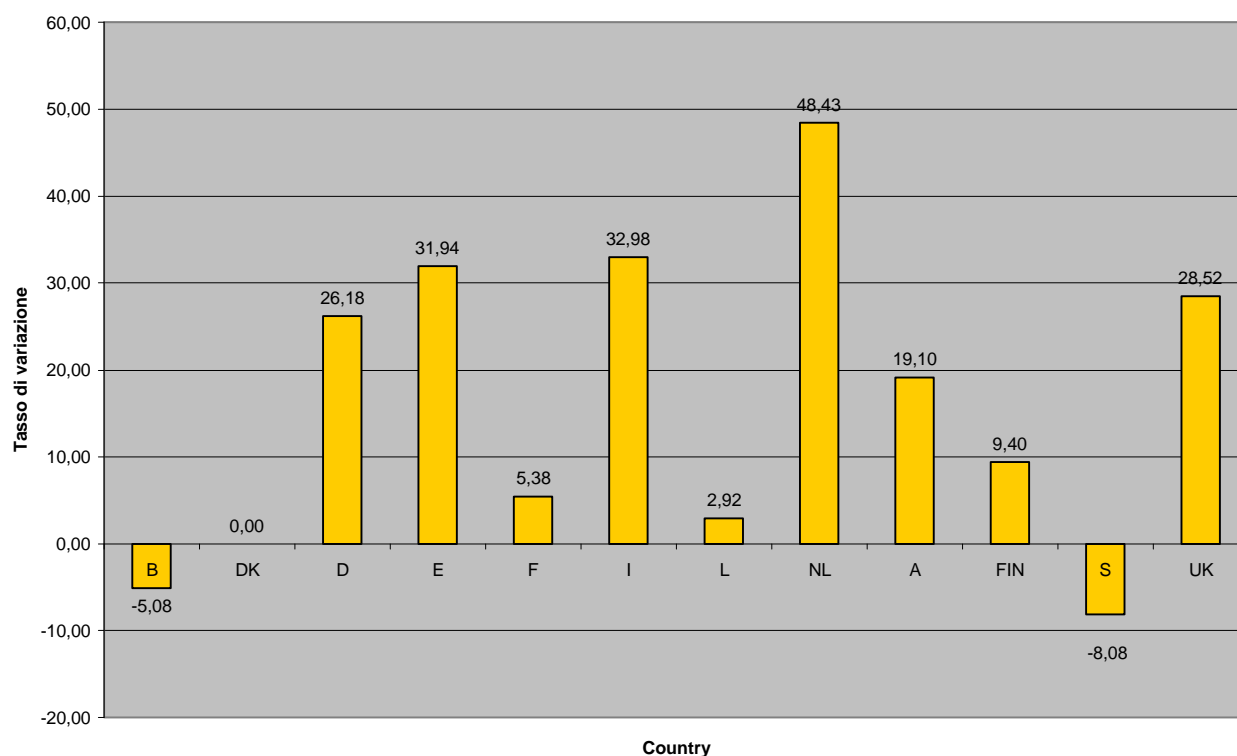
³ The variations used for the campsites refer to the years 1985-2000 except::

- Greece - 1985 – 1999
- Ireland - 1955 – 2000
- Italy - 1985 – 1999
- Finland - 1990 – 2000
- UK - 1990 – 1999
- Iceland - 1985 – 1998
- Norway - 1990 – 1998
- Switzerland - 1985 – 1998

**Table 2. 3 : Distribution in time of holiday dwellings**

Country/Year	1985	1990	1995	1996	1997	1998	1999	2000
België			118	117	112	112	108	112
Danmark				84	82	84	84	84
Deutschland	4735	6234	8276	9008	9601	9986	10055	10443
España	89923	117673	130529					172217
France	39475	58402	837	825	861	893	892	882
Italia		19807	19056	25863	21688	25340		
Luxembourg			137	153	157	160	144	141
Nederland			479	498	630	759	729	711
Österreich						1979	2204	2357
Finland			117	122	123	128	125	128
Sverige	325	333	334	334	339	333	324	307
United Kingdom		6584	5523	5523	5526	7346	7098	
Norway			4			185		
Suisse	78	87	72					

Source: Elaboration ACTA on Eurostat data

Graph 2.13- Variation in the number of holiday dwellings from 1995 to 2000⁴

Source : Elaboration ACTA on Eurostat data

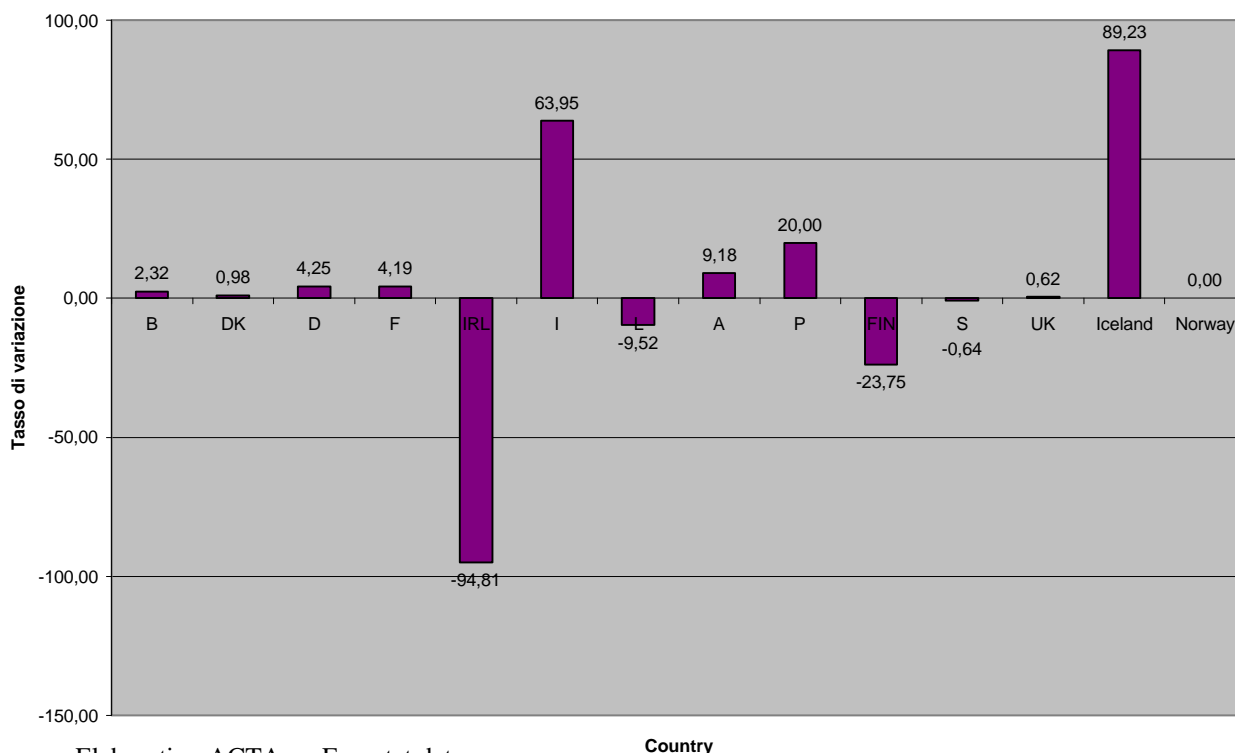
⁴ The variations registered in the number of holiday dwellings refer to the years 1995 – 2000 except:

- Denmark – 1996 – 2000
- Italy - 1995 – 1998
- Austria - 1998 – 2000
- UK - 1995 - 1999

**Table 2.4 : Distribution in time of Other Collective Accommodation**

Country/Year	1985	1990	1995	1996	1997	1998	1999	2000
België	173	155	947	996	986	964	964	969
Danmark				102	102	101	100	103
Deutschland	2799	3036	4051	4056	4157	4230	4218	4223
France			191	191	224	217	215	199
Ireland			4334				230	225
Italia	3370	3281	5048	5506	7775	8276		
Luxembourg		43	42	43	34	42	38	38
Österreich	1986	2399	2462	2449	2505	2679	2548	2688
Portugal			50	53	57	50	48	60
Finland			80	79	74	71	63	61
Sverige			313	301	305	298	309	311
United Kingdom		3323	975	975	980	981		
Iceland	36	86	65	138	128	123		
Norway			100	100	100	100		

Source : Elaboration ACTA on Eurostat data

Graph 2.14 Variation in the number of Other Collective Accommodation from 1995 to 2000⁵

Source : Elaboration ACTA on Eurostat data

⁵ The variations registered for the number of other collective accommodation refer to the years 1995 – 2000 except:

- Denmark – 1996 – 2000
- Italy - 1995 – 1998
- UK - 1995 – 1998
- Iceland - 1995 – 1998
- Norway - 1995 – 1998

The graph underneath compares the average number of accommodation establishments present in the different countries from 1985 to 2000. The graph shows that during the years, generally in Europe there have been no major changes in the accommodation offer. The variations at national levels, if important for the nation, are not sufficient to change the European picture.

In average, the main accommodation structures are historically hotels and holiday dwellings. For this last accommodation type, however, it important to point out a few things, which have been already reported in the paragraphs above, but are important to summarize:

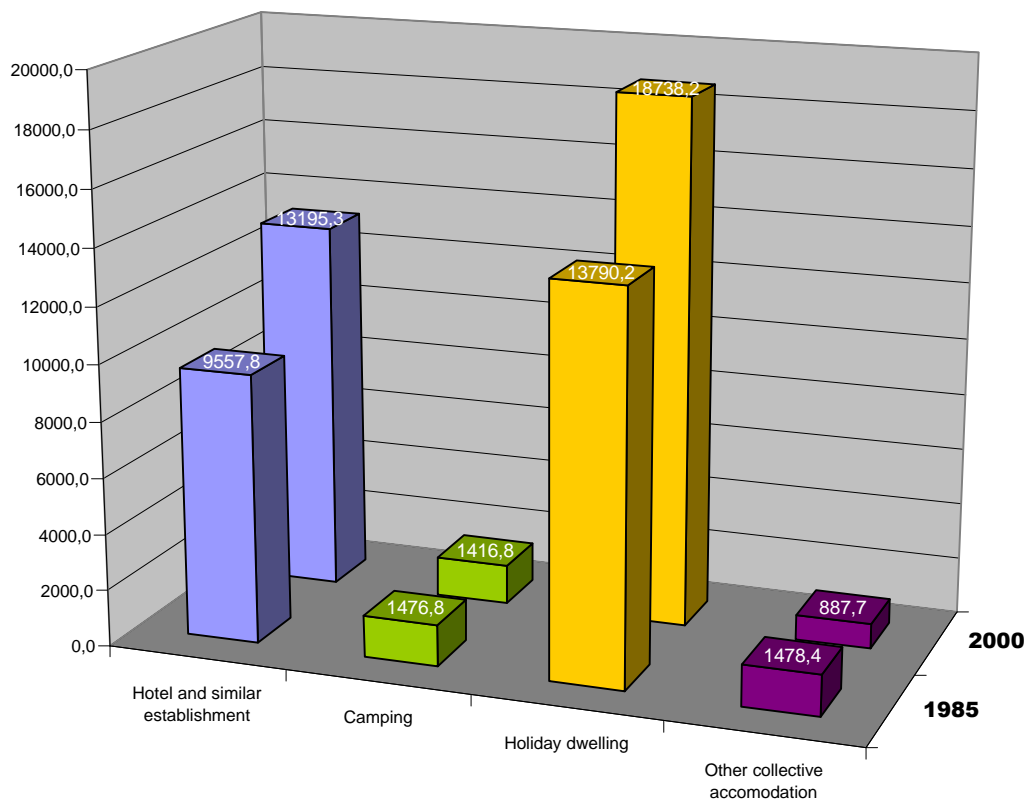
they are concentrated in few countries,

in the year 1985 only 5 countries had data on this type of accommodation (Table 3),

today, even if ten are the countries which offer holiday dwellings, they still seem to be concentrated in Spain,

They are characterized by a limited number of beds each, since in total, their offer in terms of number of beds is quite marginal.

Graph 2.15 Average number of accommodation establishments in EU from 1985 to 2000



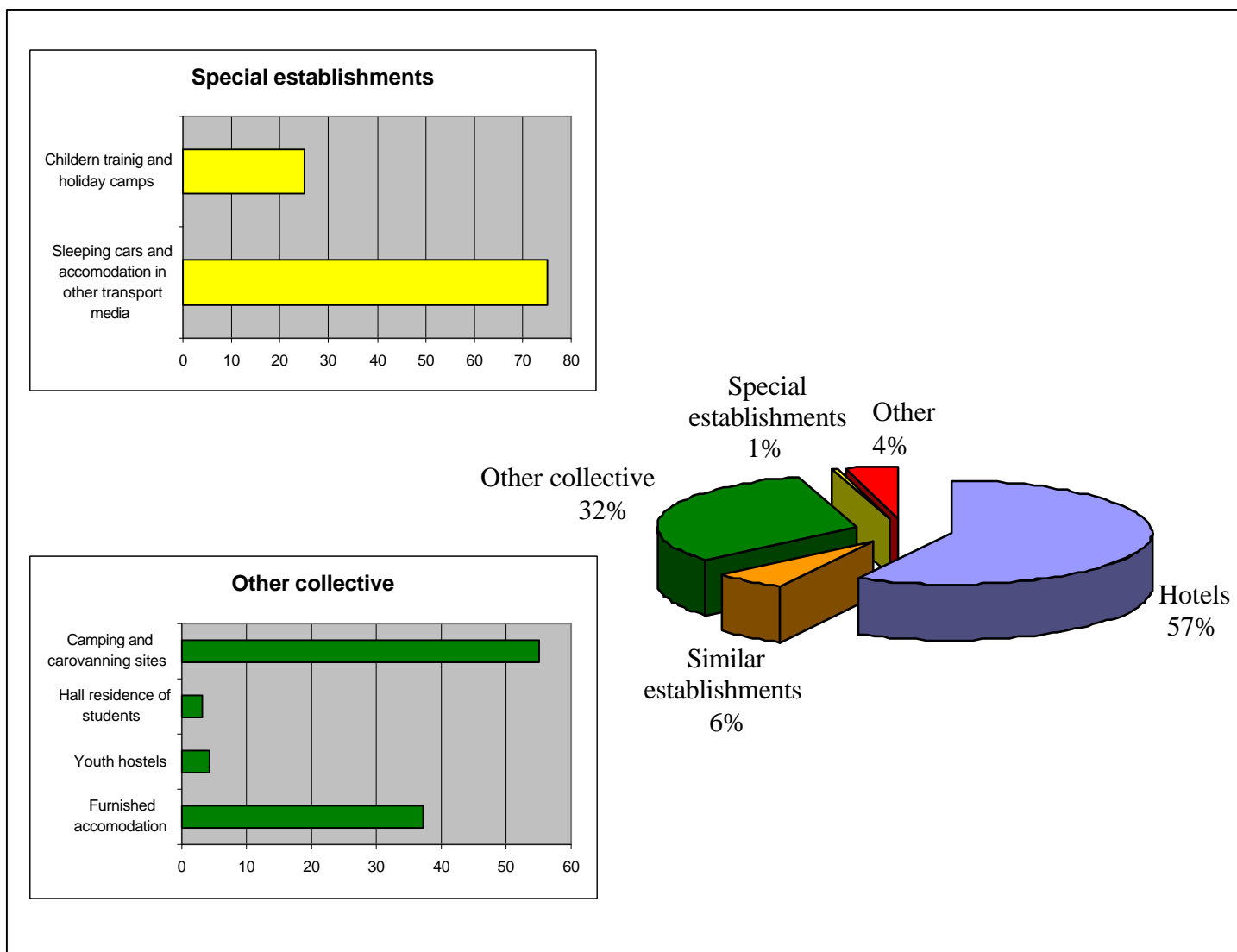
Source: Elaboration ACTA on Eurostat data

2.2 Tourist demand

2.2.1 Tourist Demand in Europe

The overall overnight stays in all types of accommodation in Europe in 1998 were approx. 1.750.000.000, the arrivals approx. 423.000.000. The overall average length of stay is 4,12 days. The number of overnight stays in the different accommodation structures (Graph 16) is concentrated for more than half in hotels, to which it is necessary to add a 6% of overnights in similar establishments (holiday centers and holiday homes). It should be noticed that about one third of the overnight stays takes place in other collectives and in particular in camping and caravanning sites.

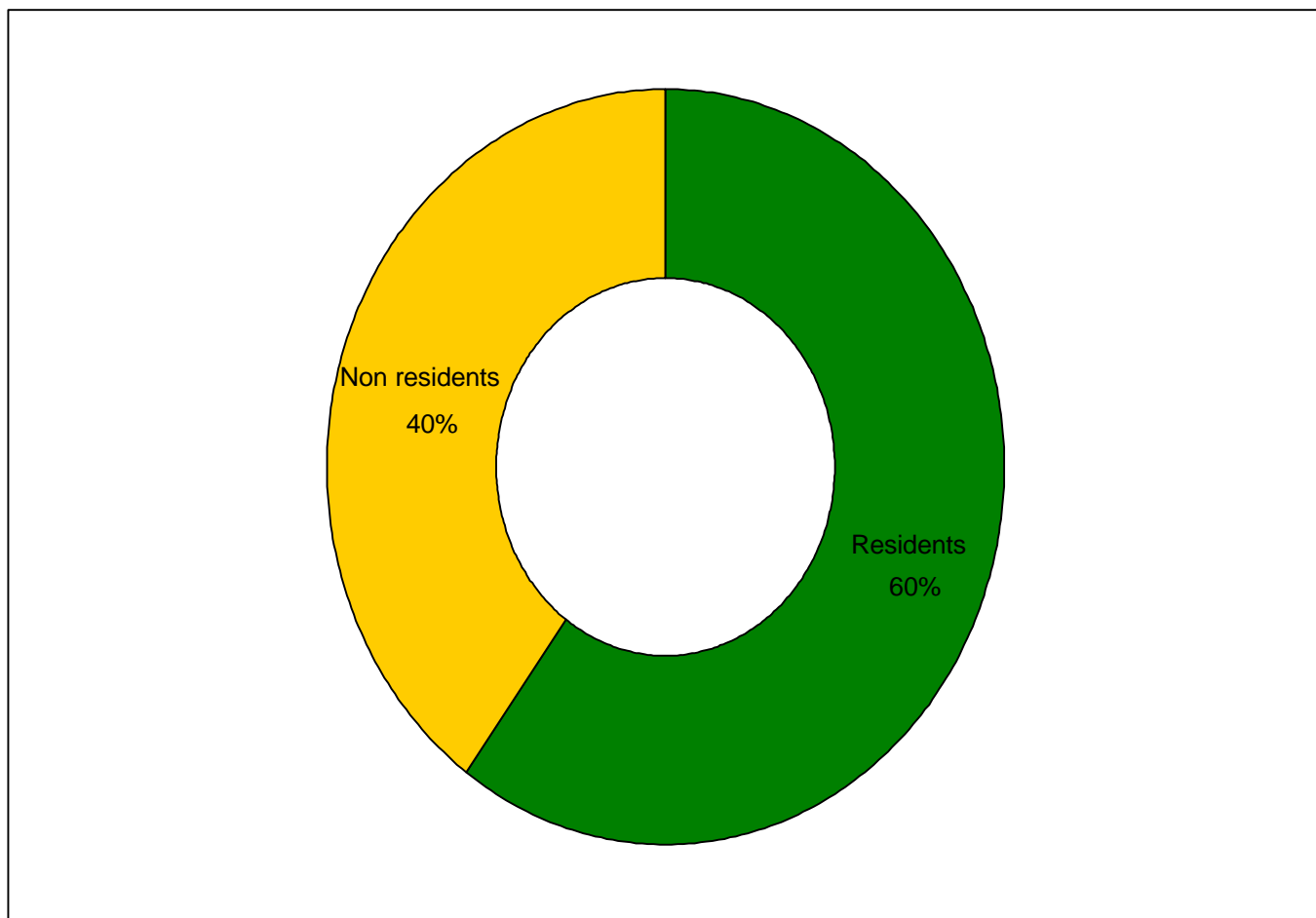
Graph. 2.16 Accommodations in Europe by number of overnights stays, 1998



Source: Elaboration ACTA on Eurostat data

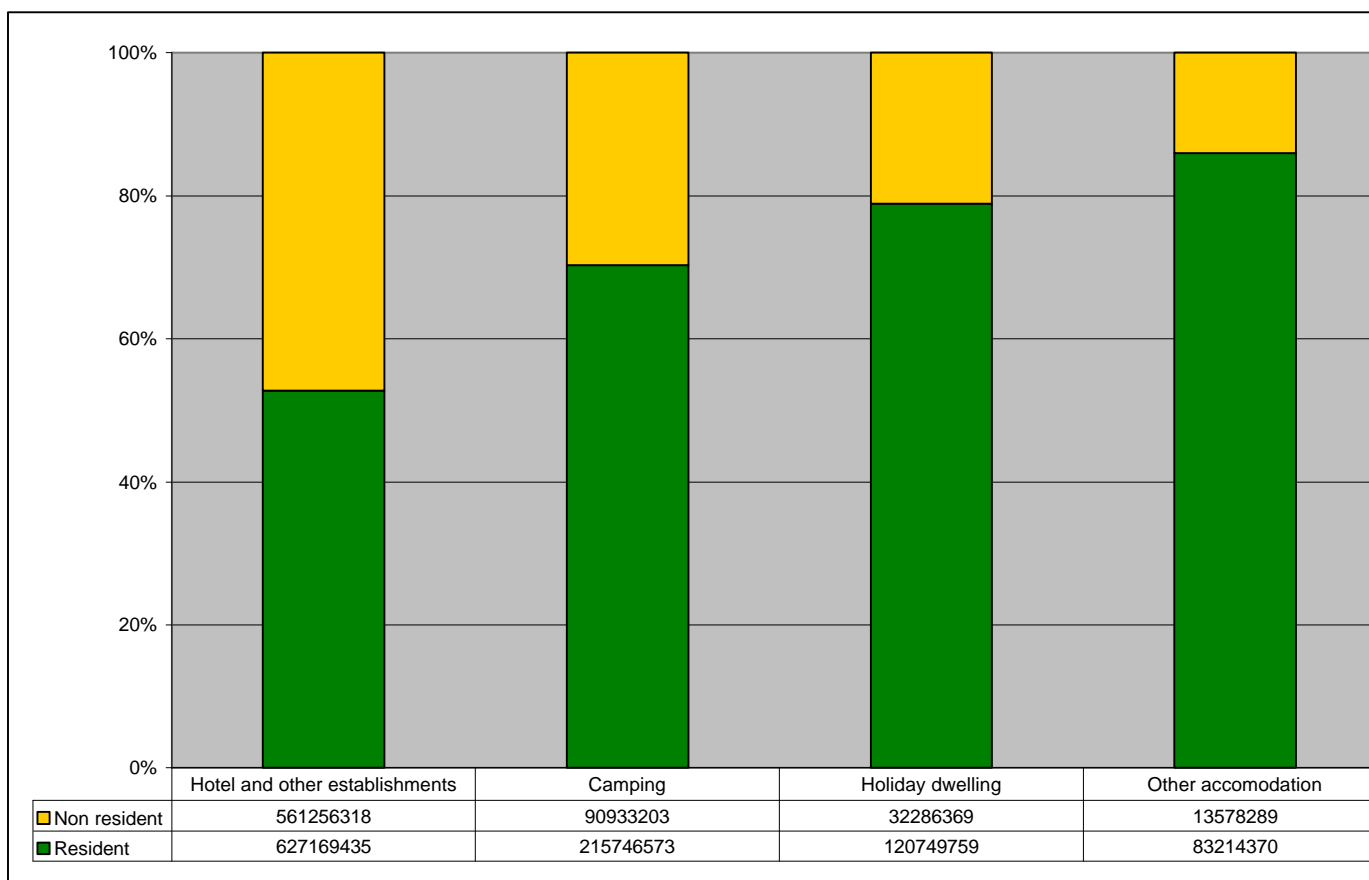
Regarding the classification of the total overnight stays in Europe between residents and non residents, the overnight stays due to residents are more of a 20% than the others (graph 2.17). Graph 2.18 shows the relation between the accommodation structure and the country of origin of the tourists. Non residents tend to prefer traditional accommodations: hotels, campsites are the two main accommodation types for non residents. Residents, on the other hand, prefer other accommodations such as holiday dwellings.

Graph 2.17 Overnight stays: residents and non-residents



Source: Elaboration ACTA on Eurostat data

Graph. 2.18 Distribution of overnight stays of residents and non residents in the different accommodation structures



Source: Elaboration ACTA on Eurostat data

The distribution of arrivals between residents and non residents is different from that of overnight stays; the arrivals from non residents decline to a 28% compared with the 40% of the overnight stays.(Graph 2.19)

This could be explained in the general different length of non resident stay: with respect to that of residents: 5,77 days average length of stay of non residents, 3,46 days that of residents.

Concerning the distribution of arrivals per type of accommodation, the link between residence and type of accommodation remains the same. There are two main blocks of accommodations used: hotels and similar establishments chosen mainly by non residents, and other accommodation types chosen by residents. The number of arrivals is similar between residents and non residents.

As concerns the overnight stays, on the other hand, the number of non residents grows quite steadily going from holiday dwellings, to campsites, to hotels.

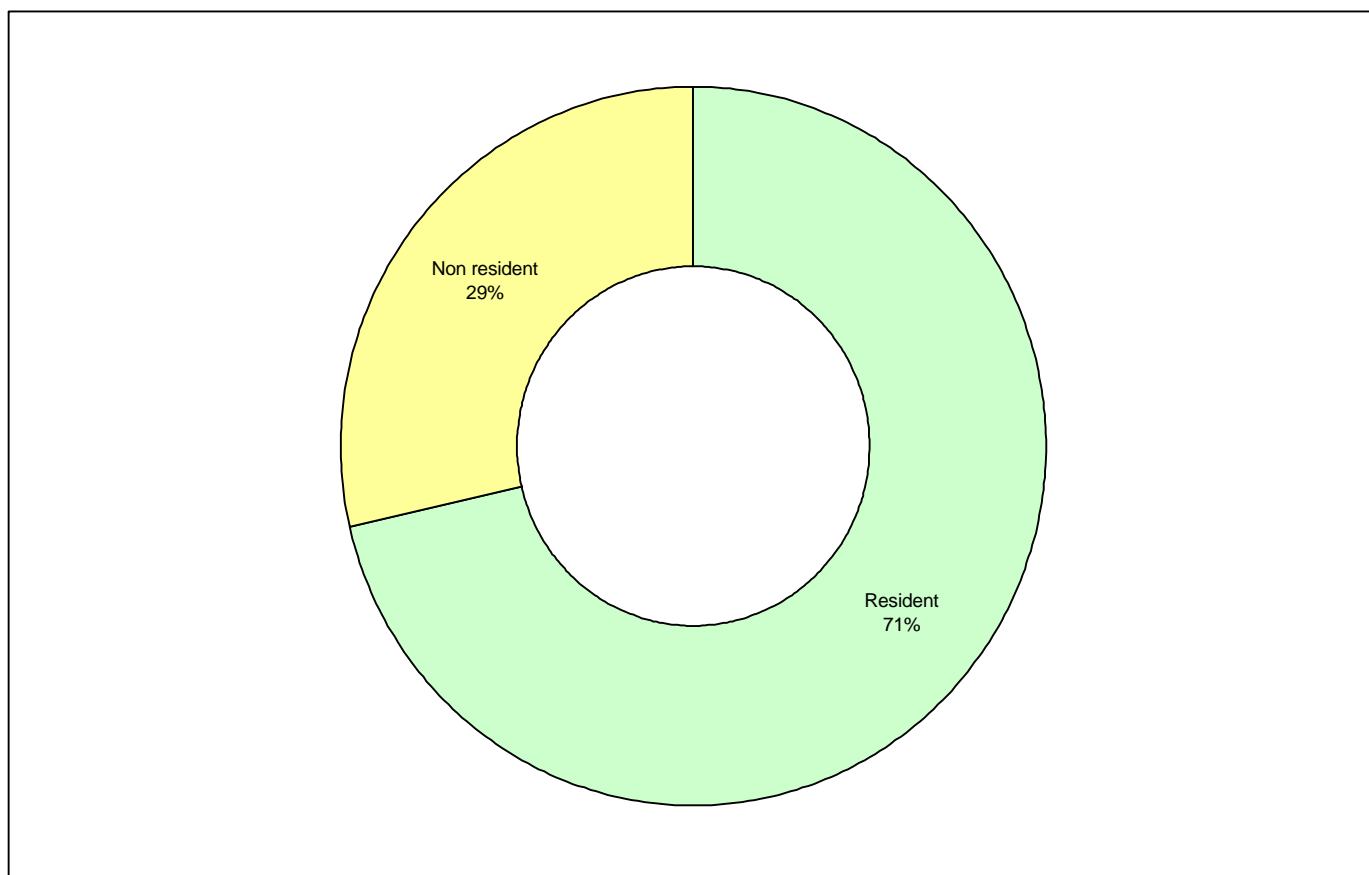
The different trends of arrivals and overnight stays in the different accommodation structures depend from a different average length of stay of the tourists depending on the type of accommodation chosen (Graph 2.20). The average stay of non residents is higher than that of

residents in all accommodation types. However, although the values are different, the trend of the average length of stay is similar enough between residents and non residents. It is different only as concerns hotels and similar establishments and campsites.

For non residents the lowest length of stay is in hotels (5,54 days), for residents in campsites (2,10 days).

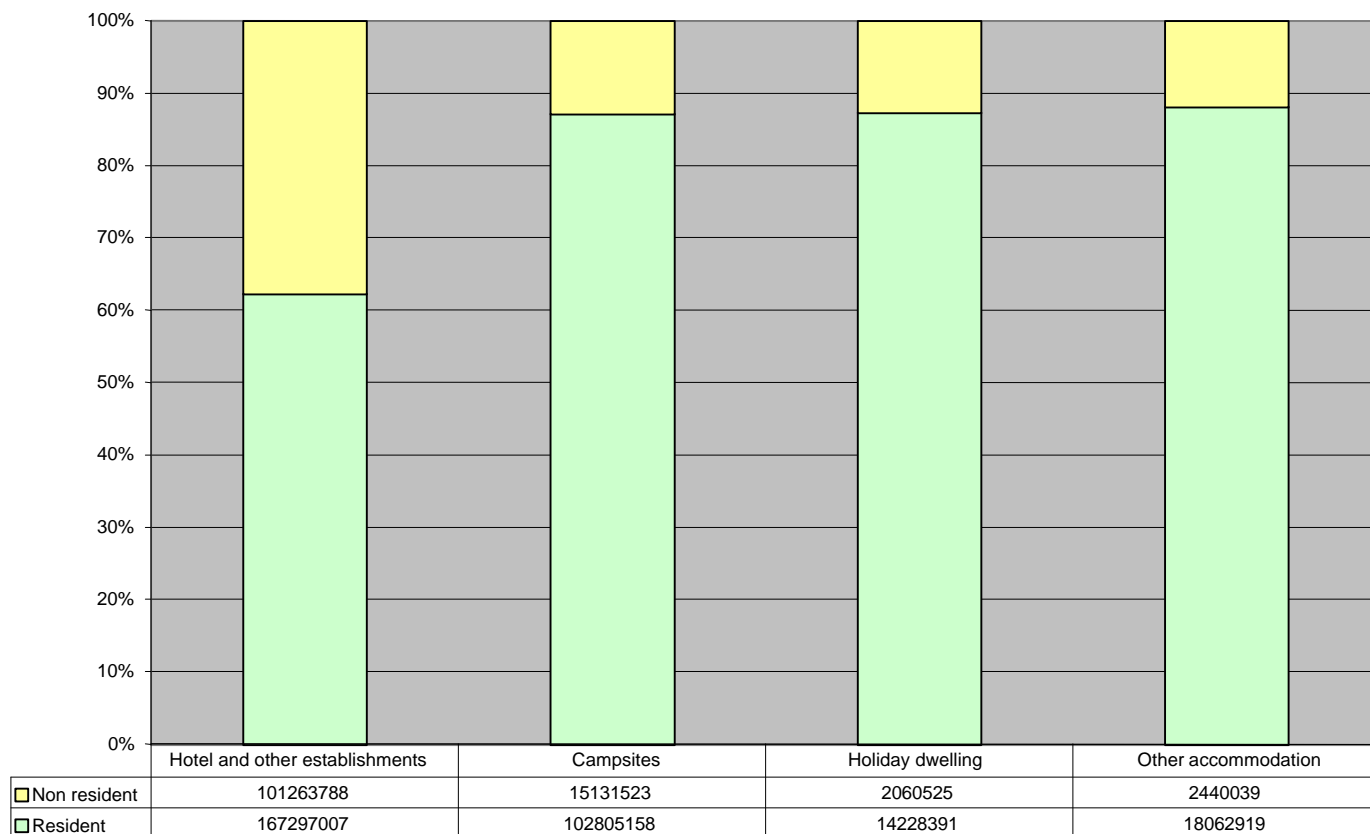
On the other hand, non residents tend to stay longer in campsites, 6,01 days. For all, the longest stay happens in holiday dwellings, where non residents stay an average of 15,67 days and residents 8,49 days.

Graph 2.19 Arrivals: residents and non residents



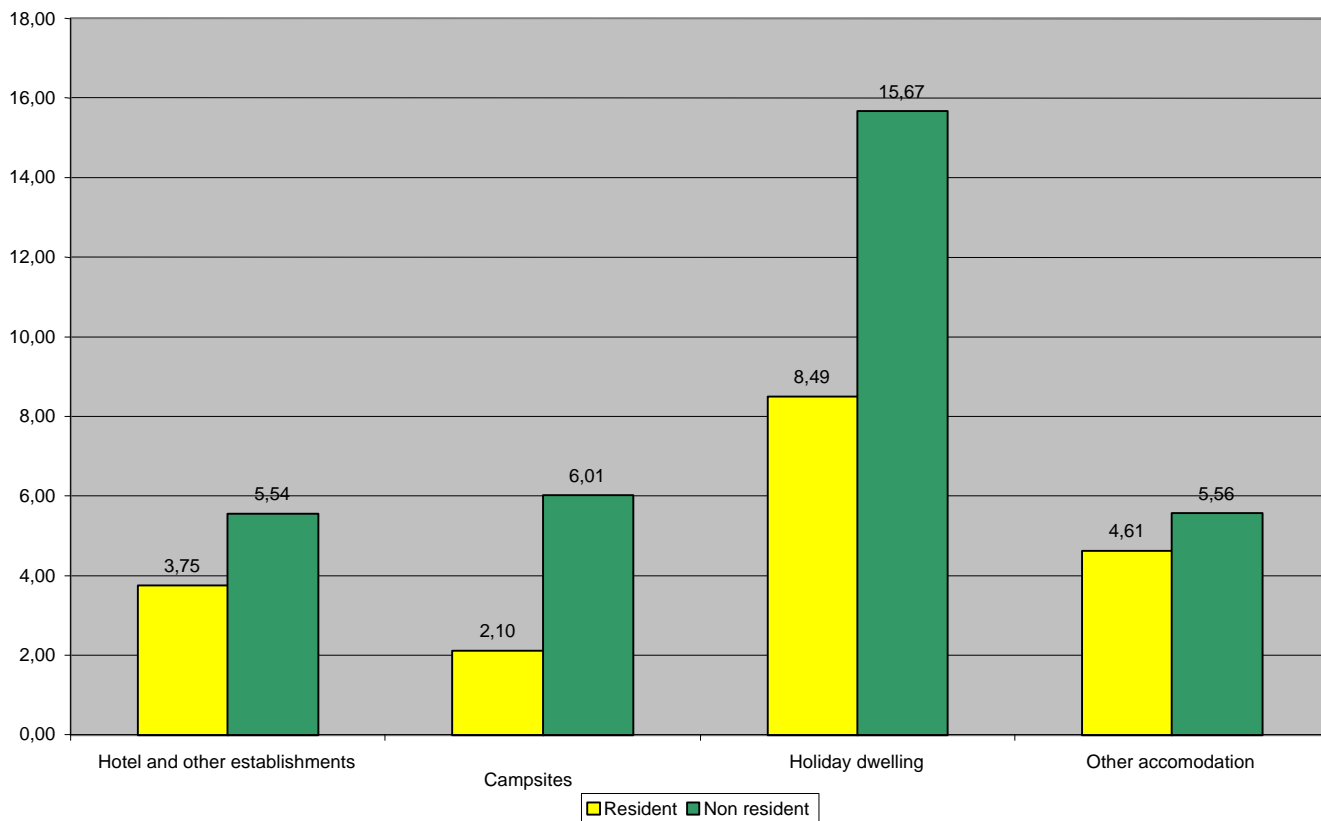
Source: Elaboration ACTA on Eurostat data

Graph. 2.20 Distribution of arrivals from residents and non residents in accommodation structures



Source: Elaboration ACTA on Eurostat data

Graph. 2.21 Average length of stay



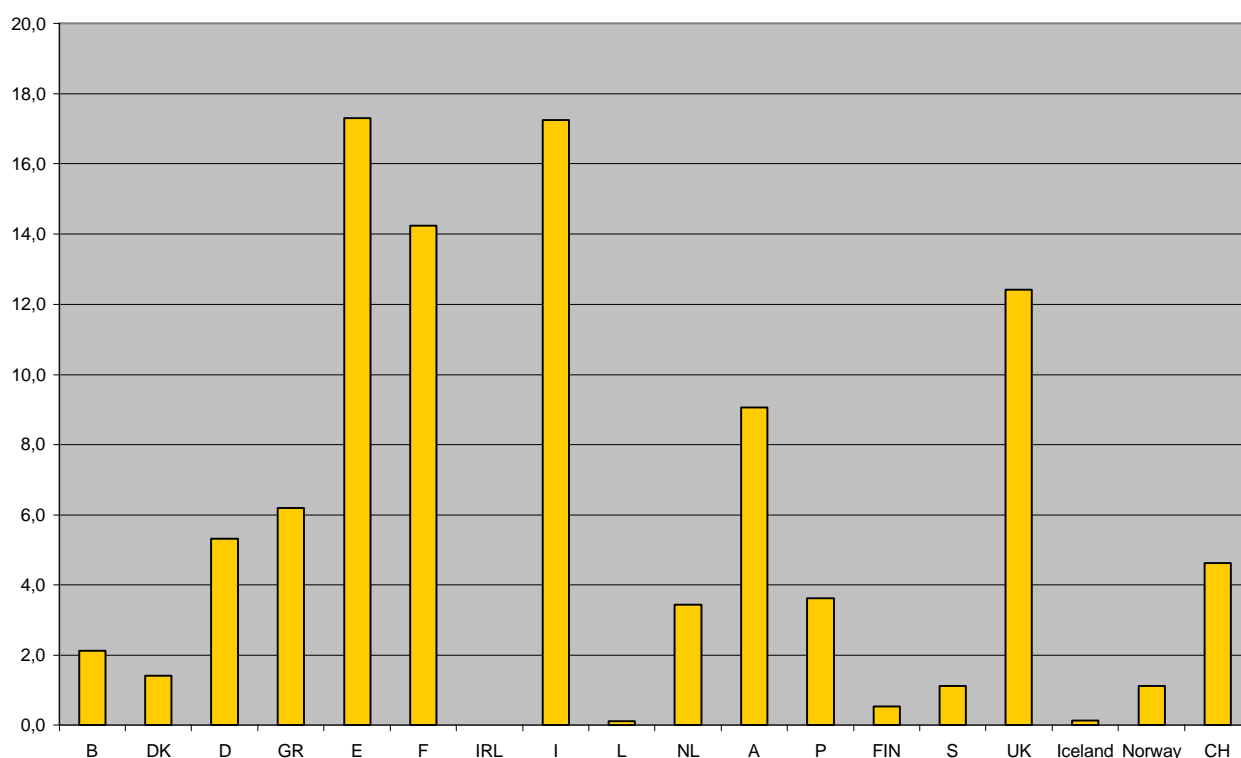
Source: Elaboration ACTA on Eurostat data

2.2.2 Distribution of the tourist demand in the European countries

The greater number of overnight stays is registered in Italy, with the 16,5% of overnight stays in Europe, followed by the UK and Germany with 15,9% and 15,1% respectively.

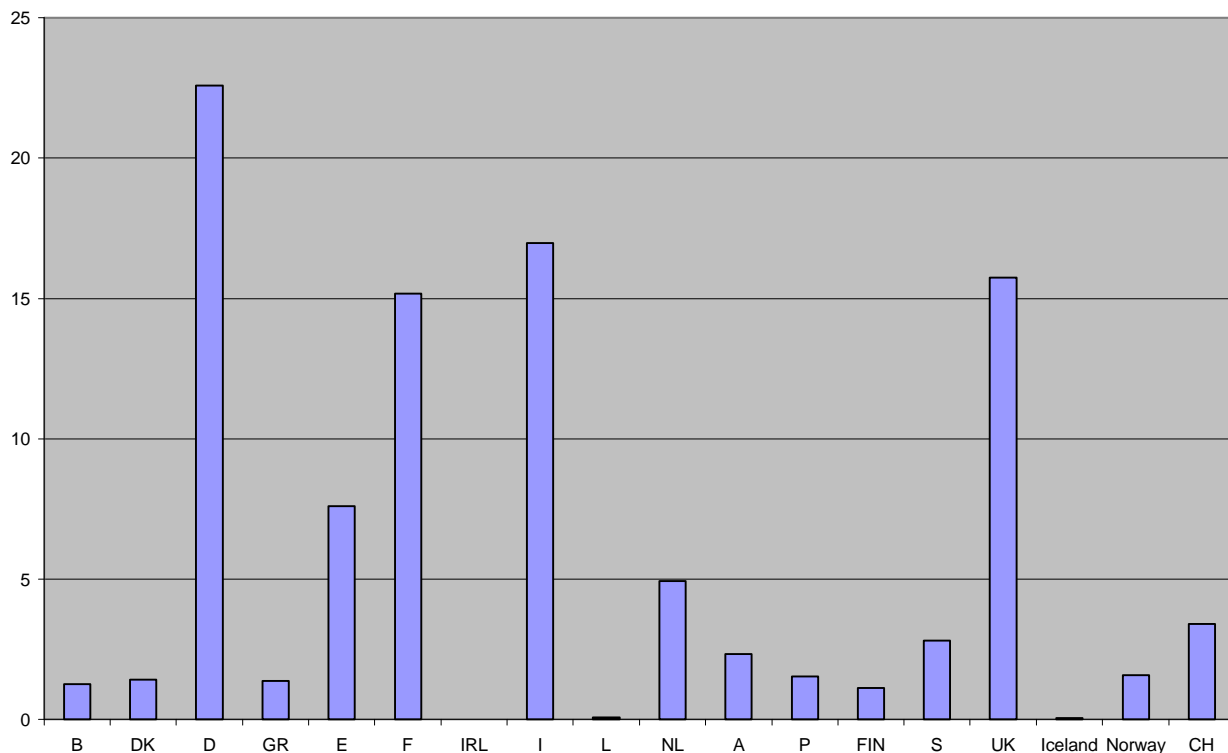
The countries with the higher number of non resident overnight stays are in Italy, France, Spain, with similar values: Italy and Spain 17%, France 14% of the total European overnights. Germany is the country with the highest number of overnight stays due to residents (23%), followed by Italy (17%) and UK (16%).

Graph. 2.22 Non resident overnight stays



Source: Elaboration ACTA on Eurostat data

Graph 2.23 Resident Overnight stays



Source: Elaboration ACTA on Eurostat data

Here are analysed the tourist fluxes, in particular the arrivals of residents and non residents divided by country of origin.

The analysis considers in general all the accommodation structures and independently hotels and similar establishments.

Germans travel most in the different European countries. They favour hotels as accommodation. In table 2.5 the different countries are coloured with an intensity of colour proportional to the intensity of their influence in European overnight stays. Germany is coloured with very intense colour in Italy, Austria, Spain, Norway and Iceland. Regardless of the intensity, they appear in almost all European countries.

**Table 2.5: Country of origin of non residents (data expressed in % of the two main countries of origin)****FROM:**

	B	DK	DE	GR	SP	FR	IE	IT	L	NL	At	PT	FIN	S	UK
B			17,3							29,3					
DK			31,8											44,0	
DE										24,7					17,0
ES			28,9												27,9
FR			20,3												28,8
IT			47,4			12,4									
UK	28,4									32,1					
At			67,3					8,1							
PT			18,8												19,3
F			22,6											32,0	
Iceland			34,2			13,3									
Norway			35,0											15,8	

Source: Elaboration ACTA on Eurostat data

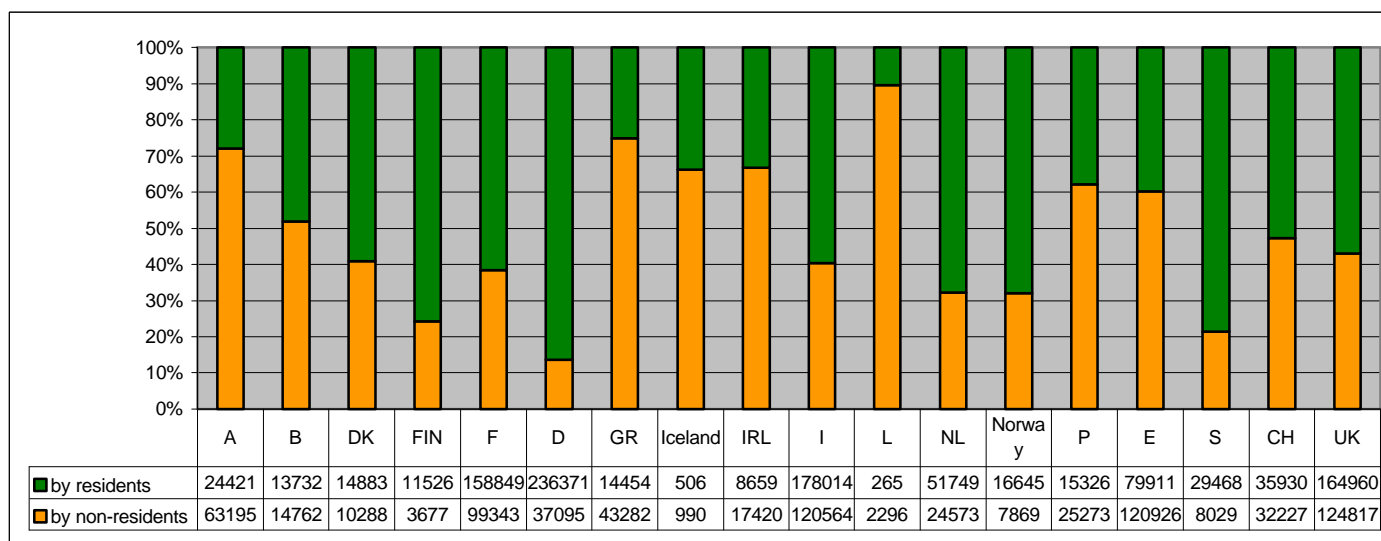
Table 2.6: Country of origin of non residents in hotels and similar establishments (expressed as % of the two main countries of origin)

	DK	DE	GR	ES	FR	IT	L	NL	AT	PT
B					19,3			20,5		
DK		16,8				4,7				
DE						11,5		19,0		
ES		29,5				8,9				
FR		19,4				16,3				
IT		44,4			14,0					
UK		18,9						16,2		
At		67,5								
PT		19,4		22,7						
F		21,8						7,2		
Iceland		32,8			10,9					
Norway	12,8	27,7								
CH		46,9			9,7					

Source: Elaboration ACTA on Eurostat data

For what concerns the internal distribution of resident and non resident tourists within each country, it can be noticed how in the Mediterranean countries, with the exception of Italy, non resident tourism is prevalent, while the northern countries have a greater share of resident tourism. The country with the highest % of non resident tourism is Luxembourg (89,7%), followed by Greece (75%) and Austria (72,1%). Germany is the country with mainly national tourism (86,4%).

Graph 2.24 - Nights spent in collective tourist accommodation in 1998



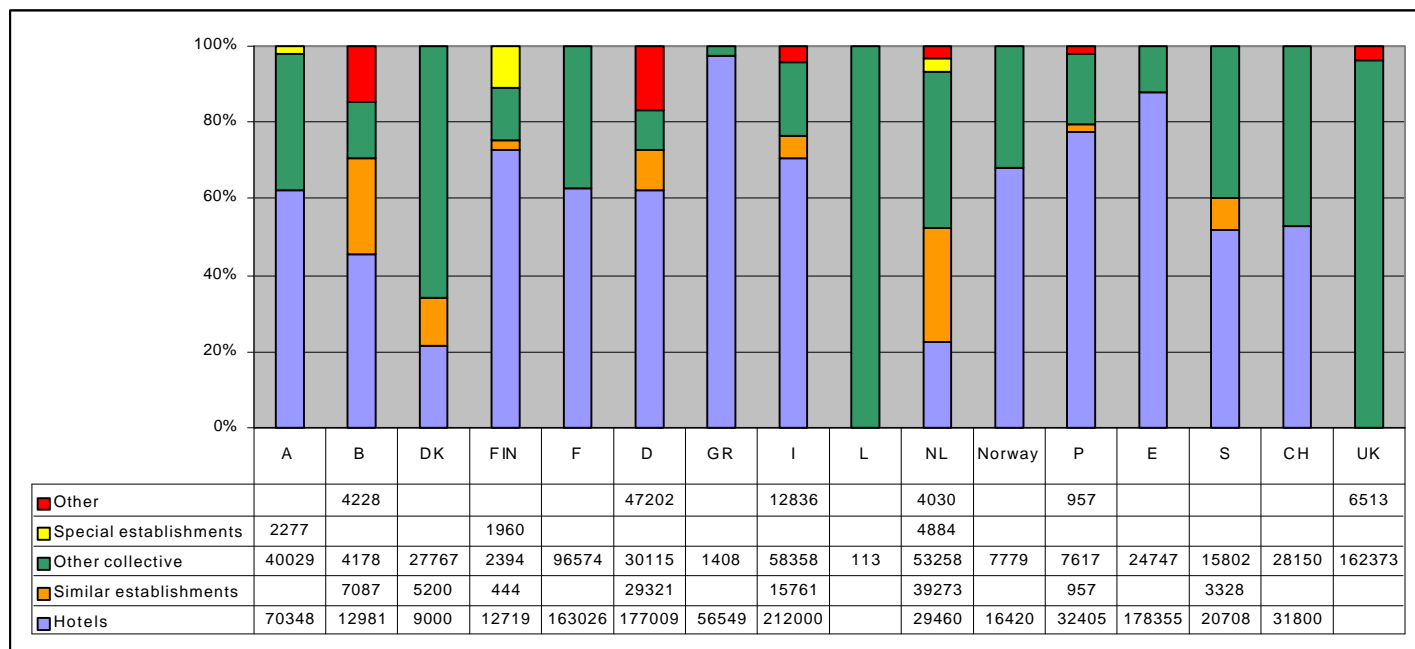
Source: Elaboration ACTA on Eurostat data

The graph reported below shows the geographical distribution of overnight stays in the different accommodation structures. From the data available it can be seen how there is no homogeneous European picture.

In Southern Europe, there is a high share of overnights in hotels, around 70% of total overnights in Italy and 97,6% of overnights in Greece. The same trend is seen in northern Europe with the exception of Denmark.

On the other hand, central Europe presents a more homogeneous situation: only Austria, France and Germany have a high concentration of overnight stays in hotels (higher to 60%) while the other European countries present a more uniform distribution among hotels, similar establishments and other collective accommodation.

Graph.2.25 Distribution of overnight stays for the different types of accommodation in the different European countries



Source: Elaboration ACTA on Eurostat data

As far as tourist density is concerned, if it is computed per 1000 inhabitants, the countries with most tourist density are Austria, The Netherlands, Germany and Switzerland. From the available data it can be seen that in the majority of cases the majority of the overnight stays is in hotels. It is important to notice that there are exceptions to this general picture:

More specifically:

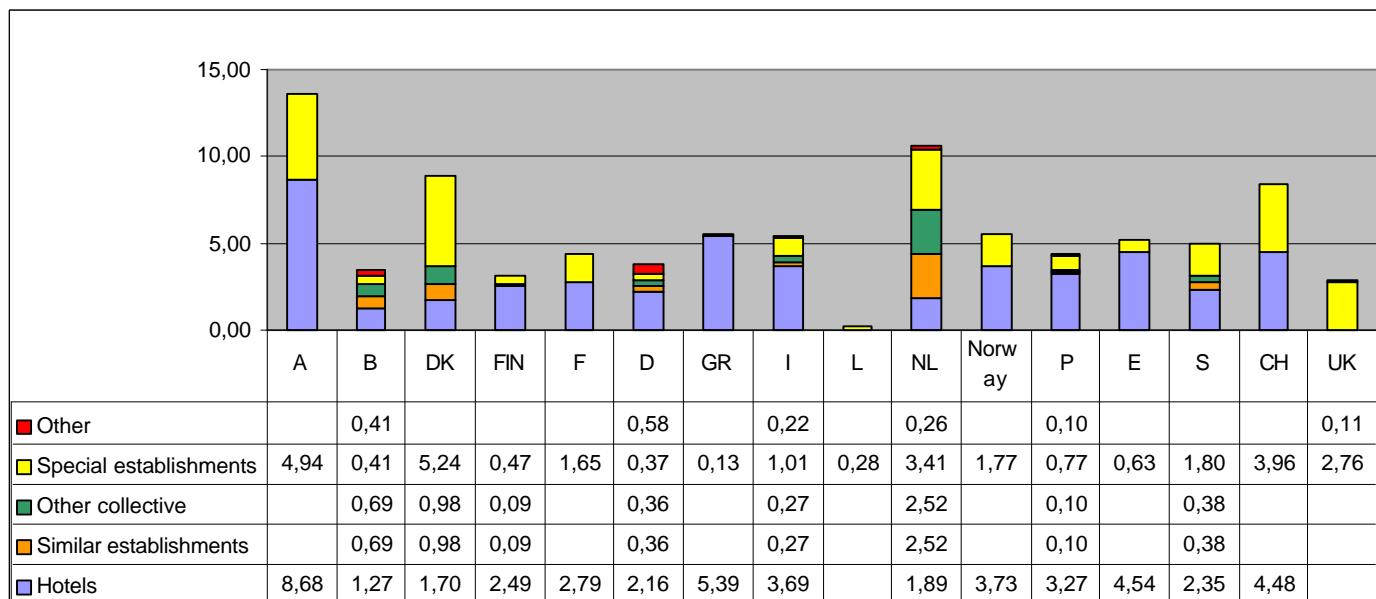
In Germany the main concentration of overnight is in the special establishments,

The Netherlands have a generally uniform distribution of the overnight stays among all the types of accommodation

Switzerland the overnight stays are distributed equally between hotels and special establishments.



Graph 2.26 Overnight stays per 1000 inhabitants, 1998



Source: Elaboration ACTA on Eurostat data

2.2.3 Long to medium time span trend

As follows the trends of the tourist overnight stays in the different accommodation structures in the period from 1985 to 1998. For each accommodation structure the % variation of the total overnight stays known for each country was found in the time span considered.

In detail for each type of tourist accommodation the trends are as follows:

Hotels and similar establishments:

Except Ireland which has had no change, all other countries have had a great increase in overnight stays: in six countries (France, Germany, Finland, Sweden, Norway and The Netherlands) the number of overnight stays has doubled. The other countries have experienced an increase going from the 21,7% of Austria to the 72, 7% of Italy.

Campsites:

In Europe in general the overnight stays in campsites have diminishes around 4,5%. The variations are different from country to country:

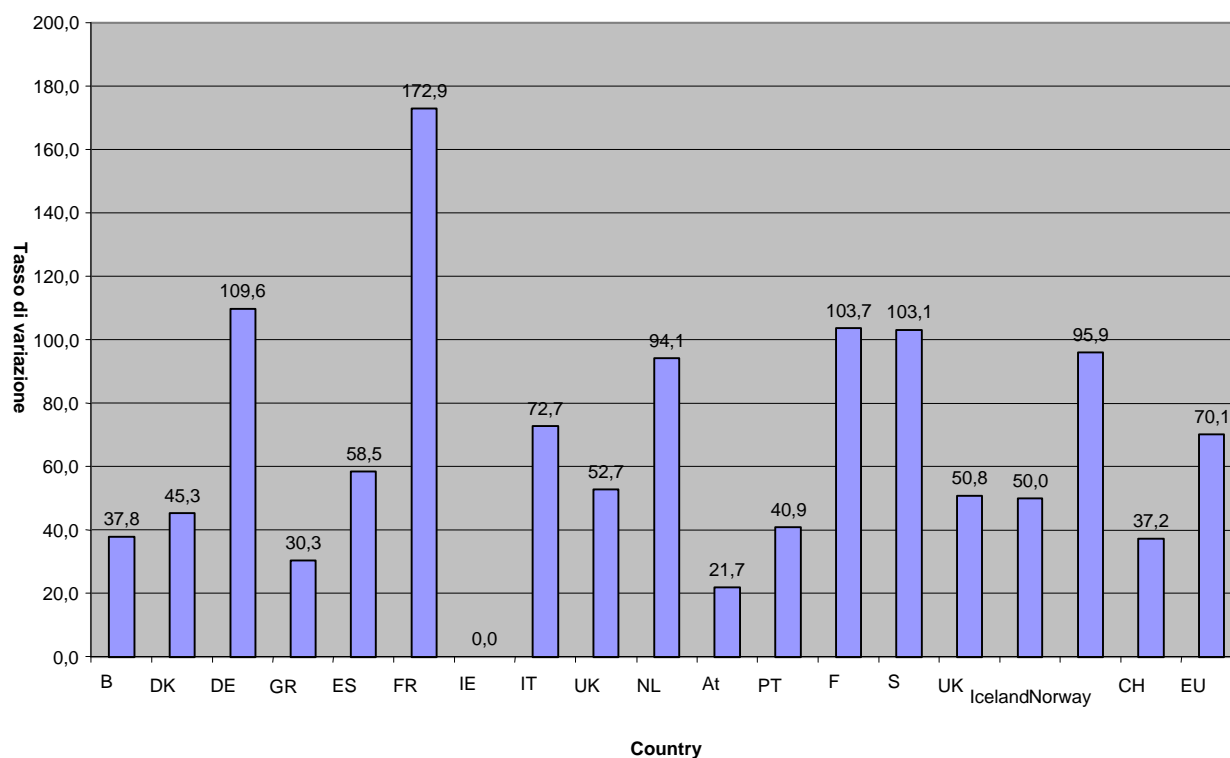
Belgium, Greece, France and Austria have experienced a decrease from 30-60%, the overnight stays in campsites in Spain have increased by one and a half time, in Italy the overnight stays have also increased, of a 50%; the overnight stays in Germany have increased of 12%

In the other countries they have remained practically invaried.

Holiday dwellings:

Only five countries have provided data: Belgium, Germany, Italy, Spain and Switzerland.
The trend in these countries is different: the only country which has experienced an great increase is Germany. There the overnight stays have increased for an 88,6%. Italy, Belgium and Switzerland have experienced a decrease. This decrease has been especially significant in Italy, where the decrease in overnight stays has been of the 77%. Belgium has experienced a 38,6 % decrease, and Switzerland 11,4%.

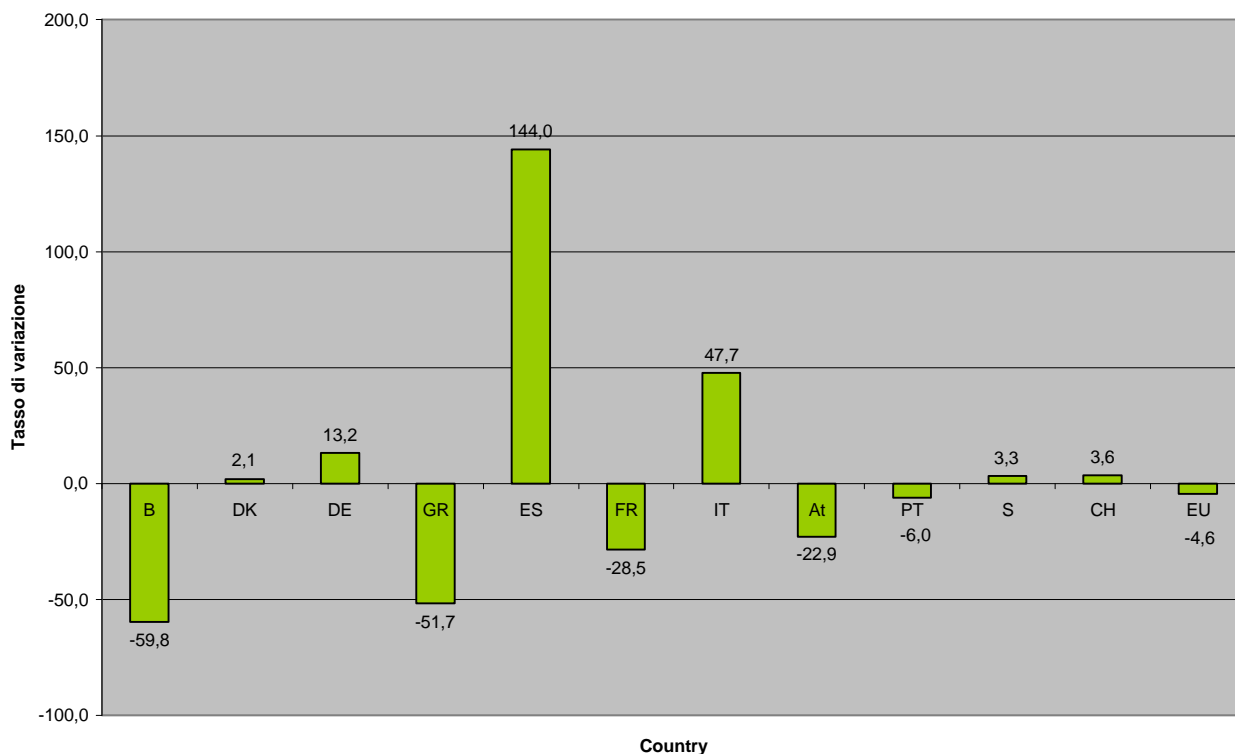
Graph 2.27 Variation of the number of overnight stays in hotels and similar establishments from 1985 to 1998



Source: Elaboration ACTA on Eurostat data

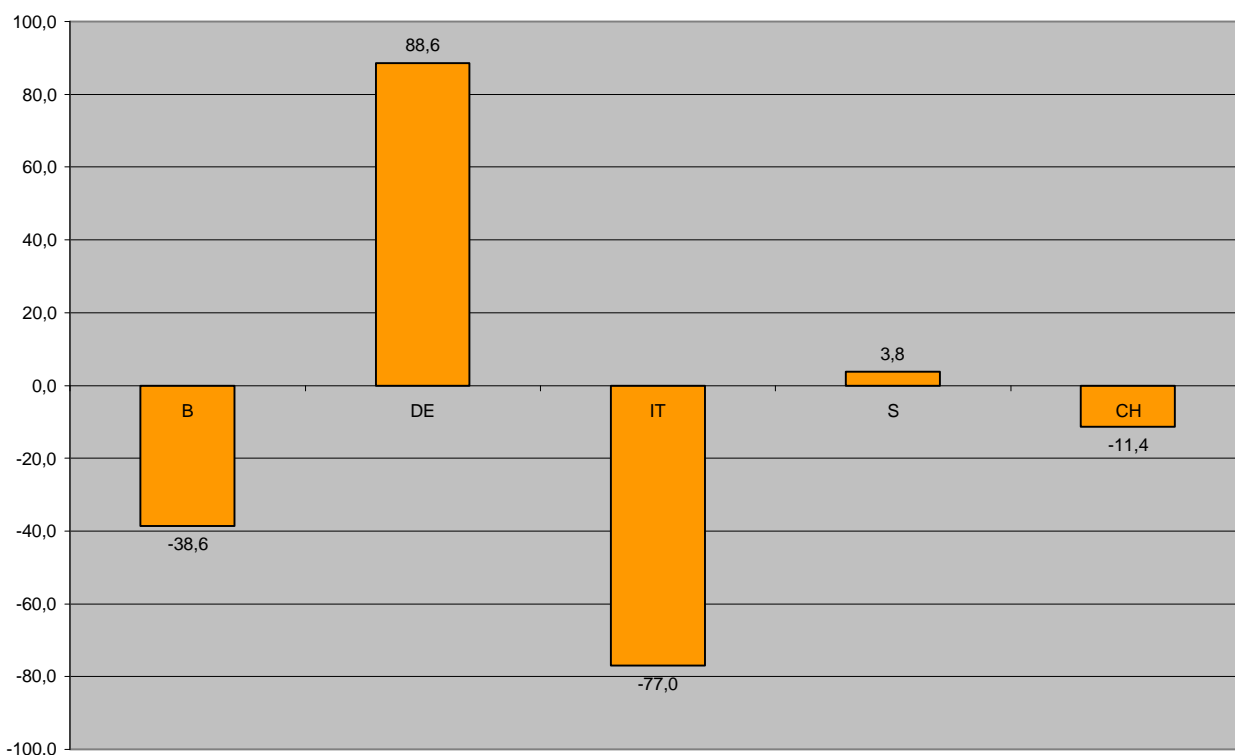


Graph 2.28 Variation of the number of overnight stays in campsites from 1985 to 1998



Source: Elaboration ACTA on Eurostat data

Graph 2.29 Variation of the number of overnight stays in holiday dwellings from 1985 to 1998



Source: Elaboration ACTA on Eurostat data



ANPA

Italian Environment Protection Agency

2.3 Final conclusions

2.3.1 From the analysis the following points have been observed:

1. There is a segmentation of the accommodation offer. This heterogeneity has increased in the years, making the picture of tourist demand more complex.
2. Within the complexity of tourist accommodation offer, hotels keep a major role: still today they are the main accommodation type, both in terms of establishments and in terms of the number of beds.
3. The demand also seems oriented toward hotels, which register the highest number of overnight stays.



3 METHODOLOGY AND RESEARCH FOR CRITERIA DEVELOPMENT

As was pointed out in Chapter 2, in the last period of time the European market has undergone a gradual increase in heterogeneity of the offer and demand: the types of structures offering accommodation have increased. From the initial hotels and campsites, the types which have increased are holiday dwellings, other kinds of similar establishments (called often serviced accommodation), hostels, self catering (private accommodation), and the chosen accommodation type depends on the origin of the tourist: resident or not resident.. The methodology of the analysis of the tourist accommodation offer and tourist demand is explained directly at the beginning of Chapter 2.

In order to evaluate the coherence of lodging as product group, our definition has been evaluated with respect to the legislation determining identity and quality standards of accommodation (chapter 4). Since legislation does not consider every possible service, the tourist accommodation service has also been evaluated with respect to the promoted offered services (chapter 5). Lastly, the tourist accommodation services provided found from these analyses have been evaluated with respect to the environmental impacts as identified in the different phases of the life cycle of this service (chapters 6 and 7).

3.1 Choosing the hotel system for the development of criteria

Due to the complexity of the service provided by tourist accommodation, and according to suggestions coming from different Competent Bodies and stakeholders, the hotel system was considered as starting point for research, as the most complete and more advanced in terms of information and data available.

It was believed that the path followed to define criteria for the hotel system could be successively easily applied to all other tourist accommodation structures in order to develop criteria for them specifically.

3.2 From the legislation framework

The aim of the analysis of the legislation framework in the hotel system was to verify the coherence of our definition of product group in relation to the quality standard schemes regulating the services and facilities which must be provided in Europe by hotels.

Of each nation the following elements were investigated and analysed:

1. the actors present in the tourist system, especially those involved in the development of classification schemes,
2. the classification schemes, their mandatory/voluntary character, the objective/subjective nature of their criteria,
3. the quantitative distribution of the different categories.



This research had the intent of identifying the elements required as essential to accommodation by national legislation and quality standard schemes, to verify whether they were part of “lodging”, as we had defined it, and to establish the coherence between the product group definition and national regulation of classification and quality schemes.

The analysis of classification regulations also enabled us to acquire knowledge on elements present in hotels even if not promoted. This was important in order to identify with the greatest thoroughness all the elements which are part of the product group and define its system boundaries. The quantitative representation of the elements present in the different hotel categories was reached through the computation of index numbers on the basis of the number of times the regulations expressed requirements for each element. The computation was done first nation by nation then by calculating the overall average; in this way, a general index number was obtained. This number represents the expression of the weight of lodging at EU level.

The calculation of the index numbers through which the analysis of coherence was conducted will be explained in greater detail in Chapter 4, dealing specifically with this matter.

It must be said that not all European nations have an official quality standard scheme, thus not for all nations was it possible to conduct this analysis. In particular the nations which do not have an official classification are:

- Sweden
- Finland
- Norway
- Iceland

It is interesting to notice that these very nations have grouped themselves into a quality standard setting common regulation which is the Nordic Swan Eco-label.

This supports the observation which matured during the course of the research, that it seems imperative for hoteliers to mark themselves with a quality mark of some kind, and communicate their award to the customer.

A limitation of this analysis is that even in those countries with official regulations, only those services and facilities listed in the quality schemes could be taken into consideration, and not all the other possible services and facilities offered by hotels in addition to the standard requirements. For this reason, another analysis was conducted on the Services Offered, as will be explained in the next paragraph.

3.3 Service analysis

In order to be exhaustive in the consideration of the services offered by hotels in addition to the regulation requirements, an analysis of the offered services as promoted on the market was conducted.

This study had the aim of completing the picture of the offered services drawn from the study of the official classification schemes, in order to include services offered by those nations which do not have classification schemes and to include services which are not generally required by classification schemes but are nonetheless offered by hotels.



In order to have a representative picture of the services offered in the various hotels in Europe, a sample of over 2500 hotels was chosen from official national hotel guides of the European countries.

The criteria used for selection of the sample:

- All countries need to be represented
- The hotels needs to be of different regions of the country
- The sample needs to be proportional to the hotel number and to the number of bed places of the country

With these criteria:

- The sample was layered , proportional and non probabilistic
- The number of hotels to be analysed = 2.602

After a study of the different hotel guides the services reported in each guide were divided into categories, in order to unify services similar in nature (recreational, transport, food services...) and with similar environmental impacts. The environmental impacts were analysed in the successive chapter, Chapter 6.

The frequency of presence of each service was noted and the services were first generally grouped into “lodging” services and “services outside lodging” (or “other” services). This had the specific aim to verify the importance which lodging has relative to the services promoted.

The combination of the information obtained by the study of the classification requirements and of the promoted offered services enabled us to identify the services independently from their promotion (study of the regulations), and to identify those services not required but offered and promoted (study of the offered services in the hotel guides). This allowed the most thorough definition of the system boundaries of the product group.

In addition, this allowed to examine the services different from lodging which are not reported in classification schemes but which may constitute an important part of the hotel offer. It was in fact noted that these services are many.

As a result of the awareness acquired of the objective situation of the different services constituting the “service tourist accommodation”, and in order to maintain a close link between the EU-criteria for tourist accommodation and the real situation, a way of including the services extra to lodging within the considerations of environmental impacts and the consequent development of criteria was evaluated.

A modular scheme of classification of hotels according to the offered services was organised in such a way as to not create a gap between the environmental impacts due to lodging and those due to the other offered services. A scheme of classes of offered services was proposed which included those services falling outside the system boundaries of the product group lodging.

The classes of offered services will be explained in Chapter 5, dealing specifically with this matter, while the influence of the criteria in the components of the different class modules will be discussed below and in Chapter 8.



3.4 Life cycle considerations

According to the Regulation, it has been sought to identify the potential environmental impacts in all three phases of the life cycle, (purchasing the goods to provide the service”, “providing of the service” and “managing waste”).

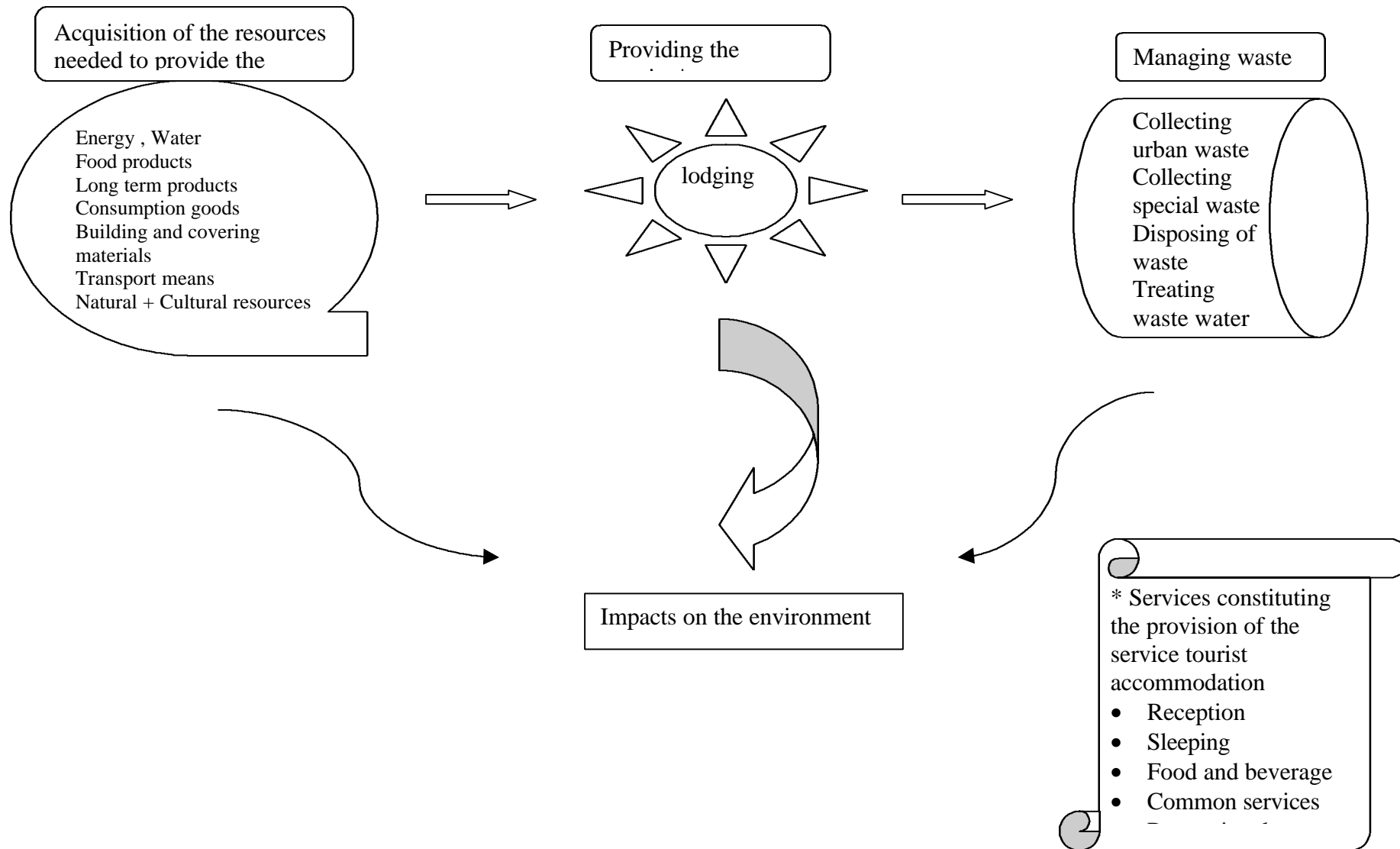
Due to the lack of exhaustive direct data on the environmental impacts of tourist accommodation services, an inductive approach was adopted to identify significant environmental impacts in the three phases of the life cycle. The criteria adopted by three major eco-label schemes were studied and from these criteria the backward path to the environmental impact was traced. This entailed studying and analysing some hundreds of criteria, allocating them according to their influence on the different phases of the life cycle of tourist accommodation service. In this way a matrix was constructed for the purpose of cross analysing criteria, services and environmental impacts, deriving some qualitative and quantitative considerations.

For the quantitative considerations, the number of criteria addressing a certain service was considered as an index of the significance of that service and its relative environmental impact. Quantitative and qualitative considerations were made with respect to the product group, and with respect to the other offered services with the intent to define the system boundaries of lodging service and to define the classes of offered services with respect to the requirement of the Regulation to reduce the most significant environmental impacts.

Table 3.1 shows a diagram of the life cycle considerations which will be discussed in Chapter 6.



Table 3.1: Life cycle representation of the tourist accommodation service.





3.5 Consumption Data and Toward criteria

The evaluation of consumption data has its fulcrum in the definition of the measure units for consumption.

Subjective and objective units were identified, the first being related to the effective use of accommodation service and depending from behaviour (mainly guest behaviour); the second being related only to the technical measures of the elements which constitute the service but excluding the actual use. The second give the potential consumption.

The subjective consumption measure units are per “overnight stays,” the objective consumption units are related to

- per square meter
- per cubic meter
- per minute

They only depend on the technical features of the goods.

Due to the lack of reliable and thorough data on the effective consumption, one results of this study is to support the adoption of potential consumption for the setting of limits. This is very closely related to criteria setting because potential consumption is regulated by limit criteria , which, in this case, is regulated by limit criteria (which are specific measure criteria) setting technical standards on consumption per sq meter, or per minute.

Criteria

As mentioned in the First Activity Report, the kinds of criteria which are applied to a service are mainly

- management criteria
- measure criteria
- limit criteria.

Whereas in the production of a good the procedure is standard and carried out always in the same way, a service in general and the tourist accommodation service in particular, is never the same.

Where one can measure precisely good limit performances in machines and industrial procedures, in services it is possible to measure mainly good behaviour and management, conscience and satisfaction. The limit criteria asked by the eco-label must be interpreted and adapted to the nature of this product group, as explained above.

A particular trait of the EU Eco-label could be to device a system to provide data collection in order to start building a data base for successive assessment of quantitative improvements, and in order to help other branches of environmental management systems to acquire quantitative data to link to specific management criteria, in order to assess the effectiveness of each measure in a less inductive way.

The criteria discussed are derived, as we have stated, from an analysis of the hotel system. They are divided into two main sections: that on general criteria and on specific criteria. The specific criteria refer to hotels but can be adapted to other similar establishments after thought about the specificities of the differences and peculiarities.



From the results of the analyses of the environmental impacts of the product group lodging and the other services, a structure for the EU Eco-label scheme has been proposed, based on the following factors:

- the criteria need to be effective,
- they must be applicable in the entire European territory,
- they must not be discriminating,
- they must give measurable and comparable results,
- they should be easy to understand and apply.

Three eco-labels from three different European macro regions were analysed and the criteria studied. A proposed scheme of criteria was identified which would take into account the above mentioned points.

The analysis of the environmental impacts brought to the conclusion that criteria should include the elements of our product group lodging service but also consider the other offered services, as defined in the classes of offered services.

It was also realised that not all criteria have the same degree on influence on the potential reduction of environmental impacts therefore they should be weighed. This leads to a scoring system where each criterion has a certain number of points, according to its importance and effectiveness. Lastly, the application in such a vast and diverse area as Europe, and such a diverse product group as lodging in tourist accommodation, requires that not all the criteria be mandatory, because not all could be applicable to any region or any enterprise. The scheme should therefore include mandatory and optional criteria.



ANPA

Italian Environment Protection Agency



4 A first in depth analysis: the hotel system

As was said in Chapter 3 the hotel system was taken as the object of our study in as much as the hotel system as a structure is the backbone to guest hosting, and as such has developed into a complex multi-faceted system. The aim of this chapter is to briefly present the classification schemes of hotels in the different European countries, with the intent to identify the elements common and essential to hotels in their different categories, according to official legislation and grading schemes, to verify the coherence of lodging as the core of accommodation. The actors and reasons which underlie classification have also been looked into.

4.1 Sources

Hotels involve a set of elements which make the hotel system complex and multi-faceted both on the qualitative and on the quantitative point of view. Hotels address different kinds of enterprise: the Small-medium enterprise (SME) characterised by few employees all year round and a conspicuous number of both year-round and season workers, characterised also by the variation of national features of what are considered essential services and characterised by the independent touch to the concept of hospitality and the degree of formality as to how the services are dispensed. Classification schemes and legislations have been analysed and a brief overview of the analysis is reported below.

The institutions which were asked to provide information in order to draw the picture of hotel classification in Europe were at national and international levels. At the national levels the Ministries related to the tourist sector, where present, the national and regional tourist offices, the statistical offices and the associations of hoteliers were addressed; on an international level, Eurostat and Hotrec were contacted.

4.2 Legislation: quality requirements in hotels through classification

In almost every country in Europe there is a classification system for hotels. Often it is mandatory and regulated by law, other times it is regulated by laws recognised by institutions but it is voluntary, other times yet it is voluntary and “private” in the sense that there are no laws emitted by the national government but the classification scheme comes from associations of hoteliers and consumers.

4.2.1 Actors involved in classification

It is possible to draw a certain picture within the European states concerning the approach to hotel classification. Moving from North to South classification goes from not existing at all (Finland, Norway, Sweden, Iceland) to being voluntary and proposed by hotel and consumer associations



linked with and supported by the National Tourist Boards (Denmark, UK, Ireland, Germany) to being voluntary and supported with national dispositions and controls (France, Austria), to being compulsory and inserted as requirement for opening the business (Spain, Italy, Greece, Portugal).

The actors involved in hotel classification are usually two: the national tourist departments, usually in accordance with the Ministries where present, and the associations (of hoteliers and consumers). The classification schemes are of two major types: the first type is the scheme where a minimum number of requirements must be integrated with a list of optional weighted requirements which must be fulfilled in order to achieve a set score, the second is type a plain “minimum standards system”, where only the minimum requirements are listed and all else is not coded. Whichever the features of classification standards, however, the reasons for classification are quite the same in both the institutional and the private situations: in general, it may be said that classification standardises the minimum which can be expected by the tourist according to hotel category. Hotel category is closely linked to the price, whereby it can be said that regulation of hotel standards of services available and quality of each service guarantees customer satisfaction according to expectations from the price paid. Therefore this concept can be expressed as “guaranteeing the safety of consumers’ expectations” which, as is well known, is essential to final consumer tourist experience and to business turnover.

The close link between service standard and price has been seen in Sweden, where in the absence of classification the hotel fee alone, in addition to the services reported in the hotel guide, is the measure of what to expect.

4.2.2. Regulation schemes and purposes

In general it has been seen that classification has the purpose of setting quality standards for the hotel and communicating them to the customers. Evidently this is necessary for the recognition and distinction of a hotel with respect to the others.

Recognisable quality marks are in fact felt important even in those countries where classification is not required by law, and even where there is no official classification. IN Finland, for example, where no official classification exists, a hotel chain was interviewed with respect to classification and it was found that the members of that hotel chain were required to undergo an internal classification (based on the international 5 star scale and standards which the chain has in the other European Countries where classification exists).

The starting point of the two situations is different, however: whereas mandatory classification does not have marketing in mind as the main advantage of regulating and classifying facilities and services, the voluntary classification rises exactly for marketing purposes. In England, for example, the classification scheme comes from the need to convey the message of safety and quality to the customer. The classified hotels want to stand out from the non classified so that the customer feels that he knows how he will be sheltered for the night. Where classification is voluntary one of the main reasons that bring hoteliers to apply for evaluation is marketing, as the Regulation requires also of the EU flower.

In Table 4.1 are reported some classification schemes of the northern European countries. These schemes are all voluntary with respect to the national legislation.



Table 4.1. Some classification schemes of northern Europe

Nation	Classifying bodies	Nature of classification	Nature of criteria and of scheme	Emphasis	Aim of classification	Relationship with existing eco-labels
Germany	DEHOGA	voluntary	Objective Scheme by points	Number of facilities	Marketing Satisfaction of customer expectation	Via Bono
Scotland	Scottish Tourist Board	voluntary	Subjective Scheme by grades	Excellent intrinsic quality of material and maintenance, setting and spaciousness. Welcome and management efficiency.	Marketing Customer experience and comfort	Ecolabel GTBS
Ireland	Irish Tourist Board (Board Fáil Ite)	Voluntary	Mainly objective with reference made to “good quality” of goods Scheme by quality assessment on mandatory criteria	Amount of objects in the rooms and the bathrooms, staff training	Marketing	
England	ETC	voluntary	Mainly objective, reference to “quality” of the goods	Customer service, low star hotels still have many things on request (breakfast, hairdryer, writing material). Food quality stressed. Accessibility to disabled will be always more required.	Marketing, gaining consumer confidence Customer confidence	An ETC ecolabel under study
Benelux	Dutch Board for HORECA, consumer association ANWB	Mandatory in order to be called a hotel	Objective, minimum standards system	Toiletries, services in common rooms. 5* is a little village, with shops and secretarial services	Marketing, quality assurance, standing out	
Denmark	HORECA	Mandatory for Horeca members		Swimming pool mandatory in 5*, many toiletries to be provided	Complying to association standards, and image Customer comfort	Green Keys
Finland	Private chains have own classification: Best Western	Mandatory for Best Western	Standards found in the other hotels of the Best Western Chains.	Maintaining expected standard	Maintaining image and continuity with chain hotels elsewhere in the world	WWF environmental scheme

Elaboration ACTA



Germany

In Germany, the Dehoga classification scheme, in addition to a minimum required for each category, has a set of weighted requirements which may give a touch of excellence even to low star hotels. Great emphasis is put on the strictness and objectivity of the requirements. The additional requirements are distributed according to a scheme which is very similar to that of the regulations. It comprises Building/rooms, Equipment and furnishing, Service, Leisure, Arrangement of offer, and conference facilities in house. A total of 237 criteria, each weighing from 1 to 10, concur in the fulfilment of the score roof which hotels must reach in addition to their minimum criteria.

England

The English grading system is considered to be objective in that it lists a number of services and facilities to be provided in increasing number as the hotel moves from 1 to 5 stars, however there are references to qualitative standards of the facilities which are expressed in quite a subjective way. For example, the size of a room must be “sufficient to allow freedom of movement” in a 1* hotel and “particularly spacious” in a 5* hotel. Lighting is described in much the same way: the room goes from being a “well lit room” to “an exceptionally well lit room”. As another example, in the English scheme reference is often made to furniture and assets being of “acceptable”, “good”, “very good” or “exceptional” quality the lighting being “exceptional” and the heating “adequate”. There seems to be high cooperation between the classification scheme and environmental activities in that the English classification scheme allows for a hotel to change the sheets on a less frequent basis if the hotels participates to some eco-labelling which asks to cut on the linen cleaning. An example of staff requirements: well dressed and knowledgeable

Scotland

Quite a different standpoint is adopted by the Scottish scheme of hotel classification, which is the one most emphasizing “quality” of the service, instead of “quantity” of services. This scheme divides the different accommodations into a greater number of accommodation types than the other grading schemes and for each type lists the requirements and whether they are compulsory or optional. Within these requirement lists, what makes the accommodation category is the quality of the provided service, so, a 5* hotel or a 5* small hotel will differ from a 1* hotel and small hotel by the quality of the provided services, which should be the same in number (except for the optional services). In this case the customer knows the number and nature of services provided by the accommodation type, and the quality of the provided services by the rating.

A 5* accommodation must score “excellent” on practically everything, gaining 93-100 points, a 1* accommodation must score at least 60, less than that the accommodation cannot be graded.

An example of requirements of staff: courtesy

The criteria on which it is based and according to which it establishes its marks are “subjective” criteria, which means they measure the experience which the consumer can derive from the services provided, instead of measuring the number of services provided. This puts great emphasis on comfort, friendliness and training of staff, communication and, at the same time, simplicity. The rationale behind the Scottish grading system, derived from a close survey of consumers, is that the number of services and facilities provided can be well shown by pictograms on brochures, whereas the customer wants to know how those services will be communicated to him. In fact, no penalty is given for lack of a service.



In the northern European countries assessment is usually made by an evaluation team (usually composed of trained members from the tourist boards, professionals of the field and consumer associations), whereas in the southern schemes such elements of subjectivity are not so visible, rather, the elements will be listed and no reference made to their appearance.

Benelux

The Benelux classification system embraces now three countries: Netherlands, Belgium and Luxembourg. It is an objective “minimum standard system” classification. The most impressive feature is the amount of services provided by the 5* hotels: hair dressing parlor, shops, laundry, as compared with the other hotel categories.

Denmark

In Scandinavia, there is no institutional classification scheme, only in Denmark Horeca requires of its associates the adhesion to its classification. It is the only scheme where the swimming pool and fitness equipment is mandatory.

Finland

In Finland some chains, such as Best Western, apply their classification ratings such as to reflect the standards of that chain in the rest of the world.

Breakfast is almost always a requirement. No data on the specific requirements was collected, however it is true that standards tend to be very high for Scandinavian hotels regardless of their being classified.

In general it is noted that in the northern countries there is increasing cooperation between environmental quality certifications and classification schemes

Table 4.2. reports some classification data concerning the central and southern European countries.



Table 4.2. Classification schemes of southern European Regulations.

Nation	Classifying bodies	Nature of classification	Nature of criteria	Emphasis	Aim of classification	Relations with existing eco-labels
Austria	Chamber of Commerce and hotelier assoc. of experts, the Landeskommission/Fuenfstyern eKommission	voluntary,	objective,	Cleanliness, quiet, quality of service linked to staff training, presence of recreational services, consumer satisfaction	Customer safety and satisfaction of expectations.	
Switz.	Switz. Hotel Association	voluntary	Objective, by points	Safety Bath toiletries, spaciousness of rooms, review of criteria every 5 years, self certification.	Customer safety	
France	Federation of Hoteliers (UMIH), consumer association, and tourist direction of the "Ministere de l'Equipement, Logement et Transport."	voluntary ,	Objective, minimum standard system	Privacy. Importance given to telephones in rooms and cabins in the common areas, and sound proof rooms, accessible to the handicapped	Giving clear indication on the level of comfort in hotels	
Italy	Regional tourist department drafts a regional law	mandatory	Objective	Providing facilities for the personal hygiene and physical comfort, nothing said about friendliness of staff, but languages required more than other nations.	Safety and setting minimum standards.	
Spain	Regional tourist department drafts a regional law	mandatory	Objective	The structure of the hotel is described in great detail. All rooms have a WC, big or small, even in 1*.	Safety and setting minimum standards	
Portugal	National	mandatory	Objective	The structure of the hotel is described in great detail, as for an architect. Concerning facilities, very common is air conditioning.	Safety and setting minimum standards	
Greece	national	mandatory	Objective,	So far emphasis on objective and structural criteria, now reformed to include also services.	Safety and setting minimum standards	

Elaboration ACTA



In the Mediterranean area the classification schemes are always mandatory and required by law. They are not only based on objective criteria but actually set very precise measures and technical architectural requirements which are not mentioned in the northern schemes. More than in the number of services provided by the structure the regulations concentrate on the structure itself.

It is important to see how the elements defined by the regulations are reflected by the definition of the product group “lodging in tourist accommodation” as has been defined after the first AHWG meeting.

The following paragraph shows the analysis made of the 12 European regulations analysed. The Finnish system has not been taken into consideration in the calculations, since it is not an official grading scheme.

4.2.3. Coherence of the definition of lodging with the European Regulations analysed

In order to check the coherence of our definition of lodging as product group, the main elements from the European regulations were identified and reported. In Spain and Italy where the legislation calls for regional classification norms, the regions of Catalunya and Tuscany were chosen, respectively, for the importance of these regions in national tourism.

It was impossible to read the Greek regulation which is only in Greek. Hopefully an English summary will be obtained. The head of the National Greek Tourist Board was interviewed, however, and stated that soon the Greek classification would change from the actual A-E categories to the international 5 star system. Concretely, the inclusion of services as requirements for classification would be introduced and added to the current purely technical criteria.

The aim of this analysis was to verify the importance of the definition of the product group lodging according to national legislation.

It was seen that the European hotel regulations divide their elements in very much the same way as we have done for the first identification of the lodging services, in the following categories:

- structure
- room
- reception
- food services
- common services
- communication, training and promotion

The elements present in these categories were reported and counted in order to obtain an index number of presence.

As follows the steps are reported in greater detail.

In general, it is sufficient to know that the results of this analysis has brought to a first broad identification of the elements constituting the system boundaries. In particular, the analysis showed that breakfast should not be included in the essential core of lodging, but rather be included in the services offered extra to lodging.

Graph 4.1 shows the importance of the lodging service in all categories of hotels.

**Steps of the analysis in greater detail**

As follows is the code book for the matrixes which were compiled in order to conduct the study of the presence in Europe of the elements pertaining to lodging, according to the official regulations.

CODE BOOK of the matrix used to study the services, sub-services and elements required by national official standard setting regulations

Variabile	Part of Lodging	Type of Variable	Modality
Structure			
Number of rooms minimum	yes	number	
Size of single room (m2)	yes		
Size of double room (m2)	yes		
Separate breakfast room	no	dichotomous	1=yes / 0=NO
Separate restaurant room	no	dichotomous	1=yes / 0=NO
Separate bar room	no	dichotomous	1=yes / 0=NO
Separate leisure room	yes	dichotomous	1=yes / 0=NO
Reception area	yes	dichotomous	1=yes / 0=NO
Offices floor	yes	dichotomous	1=yes / 0=NO
Lift	yes		
Soundproofing room	yes	dichotomous	1=yes / 0=NO
Storage facilities	yes	dichotomous	1=yes / 0=NO
Access for disabled	yes	dichotomous	1=yes / 0=NO
Parking	no	dichotomous	1=yes / 0=NO
Reception			
Safekeeping	yes	dichotomous	1=yes / 0=NO
Hours of service	yes		
Room			
% private WC	yes		
Washing towels	yes		
Washing sheets	yes		
Cleaning rooms	yes		
Lavabo, mirror	yes	dichotomous	1=yes / 0=NO
Shampoo, shower farm	yes	dichotomous	1=yes / 0=NO
Soap	yes	dichotomous	1=yes / 0=NO
Shower cap	yes	dichotomous	1=yes / 0=NO
Haidryer	yes		
Shower or bath	yes		
Hot water	yes	dichotomous	1=yes / 0=NO
Bed, mattresses, seat, wardrobe, lamp	yes		
Table,, reading lamp	yes	dichotomous	1=yes / 0=NO
Desk, guest items	yes	dichotomous	1=yes / 0=NO



Rug	yes	dichotomous	1=yes / 0=NO
Additional illumination	yes	dichotomous	1=yes / 0=NO
Air conditioning	yes	dichotomous	1=yes / 0=NO
Air conditioning switch	yes	dichotomous	1=yes / 0=NO
Variable (room, continued)	Part of Lodging	Type of Variable	Modality
Adjustable heating	yes		
Television	yes		
Telephone	yes	dichotomous	1=yes / 0=NO
Minibar/ hot or cold	yes	dichotomous	1=yes / 0=NO
Safekeeping	yes	dichotomous	1=yes / 0=NO
Soundproofing of room	yes	dichotomous	1=yes / 0=NO

Variable	Part of Lodging	Type of Variable	Modality
Common service			
Heating of public areas	yes	dichotomous	1=yes / 0=NO
Laundry and ironing service	yes	dichotomous	1=yes / 0=NO
Bathroom	yes		
Bath or shower in common	yes		
Air conditioning	yes	dichotomous	1=yes / 0=NO
Television	yes	dichotomous	1=yes / 0=NO
Breakfast	no	dichotomous	1=yes / 0=NO
Bar	no		
Restaurant	no	dichotomous	1=yes / 0=NO
Telephone	yes	dichotomous	1=yes / 0=NO
Telefax	yes	dichotomous	1=yes / 0=NO
Swimming pool	no	dichotomous	1=yes / 0=NO
Communication / training / promotion			
Trained staff	yes	dichotomous	1=yes / 0=NO
Trained staff environment	yes		
Communication material in room	yes	dichotomous	1=yes / 0=NO

The elements included in lodging (sleeping, reception, breakfast, common services and communication) have been grouped together and the frequency with which classification schemes referred to them and set requirements concerning them was noted. The other elements of tourist accommodation not included in lodging were also counted in the same way. The frequency of presence has been reported as an “index number” which is an average of counts of presence. In order to obtain the index number of presence of the “lodging” services, the index average has been calculated a few times: a first time when making the average of the various frequencies of each activity reported in the 12 classification schemes, per star, to obtain a “European” result of frequency per activity. The activities were then grouped according to the life cycle of the tourist accommodation service. For example, the activities which are part of the “using room by



customers” phase of the life cycle are many: “minimum size of rooms” , “Percentage of rooms with private bathrooms” and many others; the European averages of all elements were averaged together to give a synthetic “Using room by customers” average. This phase was then averaged with the other phases constitution the lodging and the cumulative results was the third average : the index of presence of Lodging, with respect to the other phases: “transport activities” , “preparing and providing meals” and “recreational activities.”

Tables 4.3-4.4 report the final frequency and indexes of presence of the separate elements referred to by the classification schemes. Graph 4.1 reports the last synthetic index of presence of the main classes of services: Lodging, Preparing and providing meals, Transport, Recreational Activities.

The index numbers of all the classes of services were calculated by hotel categories (1-2*, 3*, 4-5*) and as a whole.

Graph 4.1 reports the index numbers. The lodging is represented in dark blue, the recreational activities are shown in violet, transport activities in yellow and food services different from breakfast in light blue. As said before, the index number shows the number of times the services pertaining to that class of service were reported in the regulations.

Graph 4.1 also shows the relative importance of each class of element in the whole set of services reported by the regulations.

The relative scale of all the services is reported to one hundred.

A few important considerations can be made, looking at the tables.

Table 4.3 Index number of the frequencies of elements due to the different services in a hotel as required by national official regulations in Europe.

	All stars	1-2 stars	3 stars	4-5 stars
LODGING	51	47	51	56
RECREATION ACTIVITIES	2	0	0	8
TRANSPORT ACTIVITIES	12	8	8	17
PREPARING AND PROVIDING MEALS	32	23	30	42

These numbers represent how many elements were listed as necessary in lodging, recreation activities, transport activities and preparing and providing meals. Although these numbers are index numbers and are a result of some calculations, they may be considered as representing an “absolute value”.

It can be seen that lodging is the main class of services in all cases but especially in the low stars. This is true because low star categories have usually less activities other than the basic lodging service (the restaurant is not required, the reception may be together with the common room, transport activities are minimal if at all present). The index number 47 gives an indication as to the number of elements required pertaining to lodging by the 1-2*.

In 3* hotels lodging has a bigger part, 51, but the food services are growing, from 23 to 30.

In 4-5* hotels the lodging is most articulate and consists of elements which, translated into an index number, have a value of 56.

The European average of all stars of the minimum elements required by national legislations and classification schemes is reported in column 2: 51 elements pertaining to lodging, 2 pertaining to recreational activities, 12 to transport activities and 32 to food and beverage activities.



In Table 4.4 the relative weight of the elements pertaining to the different activities is reported. This number can be considered a percent value of each service with respect to the total

Table 4.4. Relative weight of each service per star as reported by official regulation and classification schemes in Europe. Percent value.

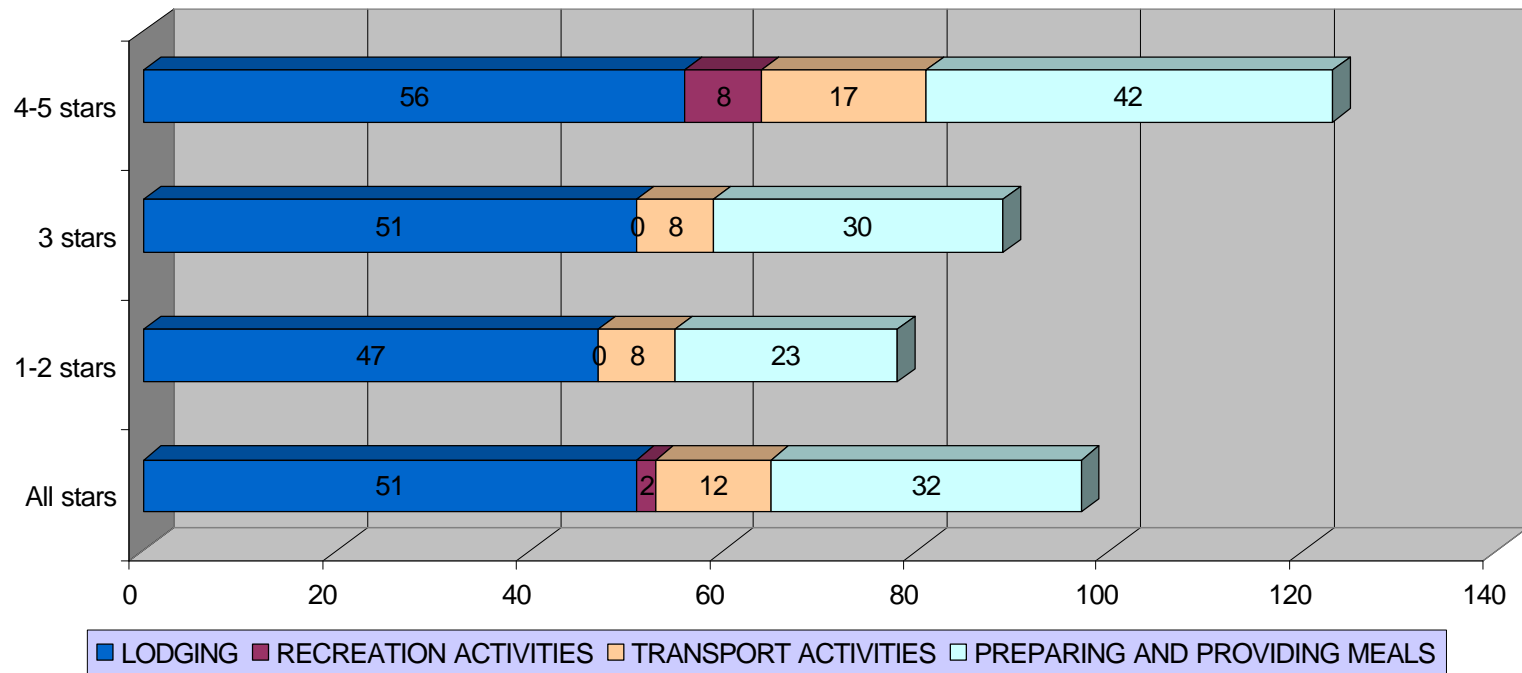
	All stars	1-2 stars	3 stars	4-5 stars
LODGING	53	60	57	46
RECREATION ACTIVITIES	2	-	-	7
TRANSPORT ACTIVITIES	12	10	9	14
PREPARING AND PROVIDING MEALS	33	29	34	34

It can be seen that in 4-5* hotels the lodging has a relatively smaller share of all the services , 46%, provided because recreational and transport activities grow, and food services grow quite a lot. In 1-2* the share is higher, 60%, because they offer less services in all. It can be seen in fact that only 4-5 * have recreational requirements. This is due to the Danish classification scheme (voluntary) which requires the 5* hotels to have a swimming pool and fitness equipment.



GRAPH 4.1. Distribution of minimum services required by the main 12 European classification schemes according to stars. The services have been grouped into four main classes of services.

Index numbers of the absolute and relative values of lodging with respect to other services offered in hotels, divided by stars, according to 12 European Regulations





As we have said above, it is important, to keep the value of the index number in mind. In fact, whereas the length of the colour in graph 4.1 shows the relative importance of a class of services with respect tot the total number of services offered by the hotel, according to regulations, the value of the index number represents the number of services provided as a minimum by the classification scheme.

With this in mind it can be well seen that in the lower categories, even if the lodging is the main class of services, there is a smaller amount of activities offered than in the higher stars, where the number of activities linked to lodging are more. In the 1-2* section the index number for lodging is 47, in the 4-5* it is 56.

Parallel it can be seen that food services increase from 23 to 42 moving toward the higher categories.

Table 4.5 – 4.9 report the main elements contained by the 12 European regulations relative to “sleeping” as reported in the life cycle of the tourist accommodation service. The table shows the frequency index numbers.

The services represented have been considered in the life cycle phase pertaining to the provision of the service (use phase), according to the scheme introduced in the First Activity report, in the divisions “sleeping” (cleaning sheets and towels, cleaning rooms, using room by customer...). The use phase is the only phase which is considered by classification schemes.

The activities outside of the lodging service are reported according to the same scheme and include “food services”, “Common Services”, “Recreational activities” and “Transport Services”.



ANPA

Italian Environment Protection Agency

Table 4.5 The services reported by 12 European classifying schemes constituting the service sleeping as reported in the life cycle of tourist accommodation

A22 SLEEPING						
A222 Washing sheets and towels			A221 Cleaning rooms			
	washing towels	washing sheets				Cleaning rooms
UE					UE	
1*	5	7			1*	4
2*	5	7			2*	4
3*	5	7			3*	4
4*	6	7			4*	4
5*	6	7			5*	4
	washing towels	washing sheets				Cleaning rooms
UE					UE	
1*	42%	58%			1*	33%
2*	42%	58%			2*	33%
3*	42%	58%			3*	33%
4*	50%	58%			4*	33%
5*	50%	58%			5*	33%
	45%	58%		52%		33%



Table 4.6. (a) The services reported by 12 European classifying schemes constituting the service sleeping

A22 SLEEPING																
A223 Using rooms by customers																
	Size of single rooms	Size of double rooms	Lift	Soundproofing of room	Access for disabled	% of private WC	lavabo, mirror	shampoo/shower foam	soap	shower cap	hairdryer	shower or bath	hot water	bed,matress, seat, wardrobe, lamp,	table, reading lamp	desk, iguest items
UE																
1*	8	8	3	2	1	7	11	1	7	0	2	3	8	10	6	2
2*	8	8	7	2	1	11	11	2	10	0	2	5	8	10	7	2
3*	9	9	8	2	1	11	11	7	10	2	4	8	9	10	9	7
4*	9	9	8	2	1	11	11	7	10	6	8	8	9	10	9	9
5*	9	9	8	2	1	11	11	9	10	7	8	8	9	10	9	9
	Size of single rooms	Size of double rooms	Lift	Soundproofing of room	Access for disabled	% of private WC	lavabo, mirror	shampoo/shower foam	soap	shower cap	hairdryer	shower or bath	hot water	bed,matress, seat, wardrobe, lamp,	table, reading lamp	desk, iguest items
UE																
1*	67%	67%	25%	17%	8%	58%	92%	8%	58%	0%	17%	25%	67%	83%	50%	17%
2*	67%	67%	58%	17%	8%	92%	92%	17%	83%	0%	17%	42%	67%	83%	58%	17%
3*	75%	75%	67%	17%	8%	92%	92%	58%	83%	17%	33%	67%	75%	83%	75%	58%
4*	75%	75%	67%	17%	8%	92%	92%	58%	83%	50%	67%	67%	75%	83%	75%	75%
5*	75%	75%	67%	17%	8%	92%	92%	75%	83%	58%	67%	67%	75%	83%	75%	75%
	72%	72%	57%	17%	8%	85%	92%	43%	78%	25%	40%	53%	72%	83%	67%	48%



Table 4.6 (b)

A22 SLEEPING											
A223 Using rooms by customers											
	rug	additional illumination	air conditioning	air conditioning switch	adjustable heating	television	telephone	minibar /hot or cold	safekeeping	soundproofing of room	
UE											
1*	0	0	1	0	5	2	0	2	0	1	
2*	3	0	1	0	5	4	3	2	1	1	
3*	3	2	1	0	6	9	8	4	2	4	
4*	3	3	4	1	8	10	9	7	4	4	
5*	3	2	7	1	8	11	9	6	6	4	
	rug	additional illumination	air conditioning	air conditioning switch	adjustable heating	television	telephone	minibar /hot or cold	safekeeping	soundproofing of room	
UE											
1*	0%	0%	8%	0%	42%	17%	0%	17%	0%	8%	29%
2*	25%	0%	8%	0%	42%	33%	25%	17%	8%	8%	37%
3*	25%	17%	8%	0%	50%	75%	67%	33%	17%	33%	50%
4*	25%	25%	33%	8%	67%	83%	75%	58%	33%	33%	58%
5*	25%	17%	58%	8%	67%	92%	75%	50%	50%	33%	60%
	20%	12%	23%	3%	53%	60%	48%	35%	22%	23%	47%



Table 4.7 Services outside of lodging as required by the official regulations and classification schemes in Europe.

A23 FOOD SERVICES							
A231 Preparing and providing meals						A232 Having meals	
	Separate breakfast room	Separate restaurant room	Separate bar room	Bar	Restaurant		Breakfast
UE							UE
1*	2	3	0	2	2		1*
2*	2	4	0	5	2		2*
3*	3	5	1	5	4		3*
4*	3	7	2	7	6		4*
5*	3	7	2	7	6		5*
	Separate breakfast room	Separate restaurant room	Separate bar room	Bar	Restaurant		Breakfast
UE							UE
1*	58%	25%	0%	17%	17%	23%	1*
2*	17%	33%	0%	42%	17%	22%	2*
3*	25%	42%	8%	42%	33%	30%	3*
4*	25%	58%	17%	58%	50%	42%	4*
5*	25%	58%	17%	58%	50%	42%	5*
	30%	43%	8%	43%	33%	32%	82%



Table 4.8 Services outside of lodging as required by the official regulations and classification schemes in Europe.

A24 COMMON SERVICES												
A241 Using WC and common services											A251 Managing rooms for free time	
	heating of public areas	laundry and ironing service	bathroom	bath or shower in common	air conditioning	television	telephone	telefax				Separate leisure room
UE											UE	
1*	4	0	8	3	0	2	9	1			1*	1
2*	4	0	8	3	0	2	9	2			2*	2
3*	4	2	2	1	0	2	7	2			3*	1
4*	4	7	1	0	1	2	7	4			4*	2
5*	4	8	1	0	1	2	7	4			5*	2
												Separate leisure room
	heating of public areas	laundry and ironing service	bathroom	bath or shower in common	air conditioning	television	telephone	telefax			UE	
UE											1*	8%
1*	33%	0%	67%	25%	0%	17%	75%	8%	28%		2*	17%
2*	33%	0%	67%	25%	0%	17%	75%	17%	29%		3*	8%
3*	33%	17%	17%	8%	0%	17%	58%	17%	21%		4*	17%
4*	33%	58%	8%	0%	8%	17%	58%	33%	27%		5*	17%
5*	33%	67%	8%	0%	8%	17%	58%	33%	28%			
												13%
		28%	33%		3%	17%		22%	27%			



Table 4.9 Services outside of lodging as required by the official regulations and classification schemes in Europe.

A25 RECREATIONAL ACTIVITIES	
A251 Sport practice	
	Swimming pool
UE	
1*	0
2*	0
3*	0
4*	0
5*	1
	Swimming pool
UE	
1*	0%
2*	0%
3*	0%
4*	0%
5*	8%
	2%
A26 TRANSPORT ACTIVITIES	
A261 Managing parking areas	
	Parking
UE	
1*	1
2*	1
3*	1
4*	1
5*	3
	Parking
UE	
1*	8%
2*	8%
3*	8%
4*	8%
5*	25%
	12%



4.3 Conclusions

- **The results of this analysis allows us :**

- to recognise the coherence between our definition of lodging and the definitions which the different classifying regulations have elaborated on the sub-sector hotels ,
- to have clear such essential elements which up to now had not been identified by Fematour, nor by any eco-label schemes, nor in any element of the tourist literature,
- to be aware that some quality classification schemes have links, or are developing links, with their national eco-label (Germany and Denmark). It is important to notice that these classification schemes are symbols of quality.

- to identify a number of elements which are at the basis of hotel structure and of our lodging,
- to realise that there are elements which are identified by the official regulations and which are outside our lodging, and therefore
- to recognise the need to very precisely define the system boundary,
- to recognise the need that a new classification of the services into “classes of offered services” is necessary, (this classification can be defined only after a close analysis of the offered services and their environmental impacts)
- to gain awareness of some minimal environmental impacts,
- to be supported by these elements, together with the others which will be identified in the following analysis of offered services, and parallel with the study of the existing eco-labels, in the selection of criteria.

In the following chapter the analysis will be aimed at identifying the services which are communicated to the consumer through official national hotel guides. The hypothesis which supports this research path is that which aims at strengthening the idea of the lodging as an important service, even in the communication, and to give us more elements for both the definition of the system boundary and the “classes of offered services” which consider the services offered in addition to lodging.

From the present analysis the important consideration which arises concerning the product group is that breakfast, although it is mentioned very often by regulations, it is not always required, and therefore it is our opinion that, although in the present calculations it was included as part of the lodging services, in the final identification of the elements constituting the core of the product group, it should not be included. This opinion also derives from the perspective of applying the results of this analysis on hotels to other, less complex and complete accommodation types, which may not have breakfast as an important part of their lodging service.



5 IN DEPTH ANALYSIS OF THE SERVICE

5.1 Purpose of the analysis

It is self evident that the hotel is not composed of only minimum requirements, but it is more articulate. The services which are offered in addition to the minimum requirements are linked to comfort and recreational activities. Comfort is closely linked to lodging whereas recreational activities are not. It is important to see what is offered according to the different hotel categories, in order to have the necessary elements to adequately define the system boundaries of the product group and draw the lines for possible classes of offered services.

The purpose of the service analysis is to be aware of the “offered services” so as to not lose information on the following types of services:

services which are required facilities but are not promoted
services which are promoted but not necessarily required,
services which are required and are enhanced as marketing tools.

The final aim of the identification of offered services is to understand how the environmental impacts can be evaluated..

In this frame of mind in order to have a better idea of the services offered by hotels in Europe, and be able to evaluate their possible environmental impacts, it was decided to analyse a sample of 2602 hotels (1984 up to present) and to classify their offered services. The hotels were picked from official national hotel guides⁶ and their services classified according to a general scheme.

In addition to the number of presences of the offered services, the services listed in the guide itself were observed and commented. Since the EU Eco-label will be intended to have a role as a marketing tool, this analysis was conducted also with the intent to derive some information about the communication and the elements which are used as marketing tools in the different nations.

In Table A the number of hotels per nation so far analysed is reported.

In Table B the same hotels divided by stars are reported

⁶ These guides were promotional guides issued by national tourist boards of each country, who are responsible for tourist promotion of their nation abroad. These are one of the actors involved at institutional level in the national tourist systems



Table A. Number of hotels analysed , taken from official hotels guides from 11 nations in Europe

Nations		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Italy	461	23	23	23
	Germany	465	23	23	47
	France	279	14	14	61
	Spain	242	12	12	73
	Ireland	53	3	3	76
	Finland	21	1	1	77
	Portugal	60	3	3	80
	Denmark	11	1	1	80
	Belgium	29	1	1	82
	Norway	16	1	1	83
	England	347	17	17	100
	Total	1.984	100	100	

Table B. Number of hotels analysed divided according to star category.

Hotel categories		Frequency	Percent	Valid Percent	Cumulative Percent
Valid					
	1 star	199	10	10	10
	2 star	541	27	27	38
	3 star	552	28	28	66
	4 star	217	11	11	76
	5 star	23	1	1	78
	without classifiaction	441	22	22	100
	Total	1.974	99	100	
France	0 star	10	1		
Total		1.984	100		

The ten missing elements refer to 10 hotels of zero stars picked out in France, where the classification system goes from 0 to 4lux. These hotels were integrated with the 1-2 stars in the subsequent analyses.



5.2 Results of the analysis

The variables were divided into the modalities reported in the code book in the following page. All hotels were recorded by nation, stars (where present) and region, when possible. The services were grouped into categories according to the concept of lodging. The life cycle phase of the promoted services all refer to the “use phase”.

According to the lodging service definition the following elements were considered:

- Structure
- Room
- Reception
- Communication
- Common services
- Credit and exchange

As reported in the previous chapter, breakfast, which was included in the initial product group definition, has been excluded, because not always reported in the national hotel legislation or official classification. Other facilities not included in lodging were: food services, parking areas., green areas and recreation, tennis and other sports, social services and shopping and recreational areas.

The presence of each service was recorded with a dichotomous variable 1 (present) or 0 (absent). The variables are best seen in the code book of the matrix which was constructed.

CODE BOOK of the services as they were organised according to lodging and extra-lodging services

Table 5.1 shows the codes assigned to each service and sub-service of lodging.

LODGING	
1	Lodging
1.1	Structure
1.2	Room
1.3	Reception
Within the food services	Breakfast
1.5	Communication
1.6	Common services
1.7	Credit and exchange
EXTRA LODGING	
2	Parking areas
3	Green areas and recreation
4	Conference
5	Sport and recreation
6	Swimming pool
7	Social services
8	Food services



9	Services and shopping areas
---	-----------------------------

NATIONS considered so far for the analysis of the offered services according to official hotel guides

1	Italy
2	Germany
3	France
4	Spain
5	Ireland
6	Finland
7	Portugal
8	Denmark
9	Belgium/Luxembourg
10	Norway
11	England

CODE BOOK

Table 5.2 reports the services collected from the study and their codes.

Variable	Code
Nation	(see above)
Region	
STARS	1-5
handicap	7
medical service	7
lift	1.1
restaurant	8
bar	8
auto	2
garage	2
tennis and other sports	5
swimming pool	6
sauna	5
fitness	5
transport	2
beach	3
outside green area	3
animals welcome	7
congress rooms and facilities	4
simultaneous translation	4
groups accepted	7
baby facilities	7
credit cards accepted	1.7
change	1.7



bicycle rent	5
disco	5
shopping area	9
laundry	1.2
common room for free time	1.6
Variable	Code
wellness facilities	5
diet meals available	8
peaceful sleep	1.2
heating	1.1 1.6
air conditioning	1.1
suite	1.1
radio	1.2
television	1.2
telephone	1.2
video in rooms	1.2
frigo bar and hot facilities for tea/coffee	1.2
internet	1.7
fax	1.7
hairdryer	1.1
(D) business room	1.6
antiallergic room	1.2
room service	1.7
safe	1.2
extra bed	1.2

Breakfast was included in the food service, and the importance of the food services with respect to other services were assessed as a whole.

A certain diversity in the type of services promoted was noted, and often it was quite closely linked to the existence or non existence of some official classification scheme in the nation. In particular it was noticed that in nations without a classification scheme (it important to remember that classification is an index of quality) the hotel is less promoted than the surrounding area. For example Finland only advertises recreational activities, as does Denmark, who, pertaining to lodging, only advertises TV in rooms. From the Danish regulation we know that TV is required, as is telephone and, for the higher categories, mini-bar.

It is very important to make clear that although the analysis was conducted on official national guides, as distributed by the national tourist boards of each country, the material is promotional and the services which are reported by the hotels, according to a legend which changes for each nation, serve to the hotelier as a marketing tool. Their aim is to attract the customers.

The first result which we looked for was the percent representation of the lodging services and the other services, as reported in Graph 5.3.

It can be seen that lodging services account for 48% of the marketed services.



ANPA

Italian Environment Protection Agency

One can see from the graph that the lodging as recorded here in the promoted services has a lesser share than in Graph 4.1 (ch.4) which refers to services regulated by classification schemes. This phenomenon can be interpreted in the light that the tourist accommodation offer is moving toward a greater heterogeneity of both the accommodation structures and the offered services. This is pointed out in Chapter 2, in the analysis of tourist accommodation offer.

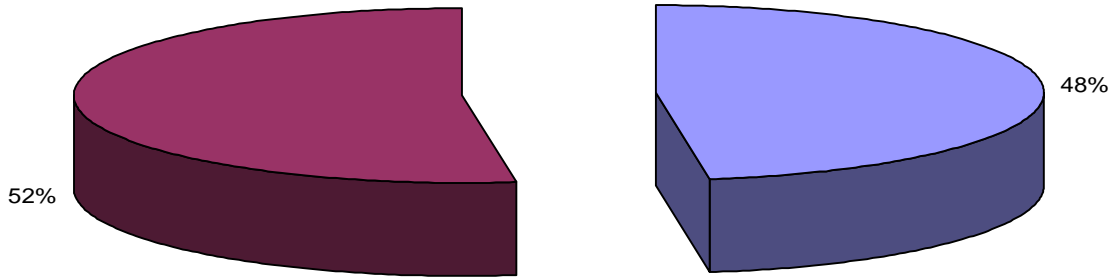
It is well evident that in promotional activities the emphasis will be put on diversity, and this diversity is represented not so much by lodging, which is the essence of accommodation, but rather by different kinds of services. Legislation, on the other hand, is slower in tackling changes and mainly refers to the elements which constitute lodging, telling us that they are always present (and telling us which in particular are present!), even if not promoted.

Graphs 5.4 and 5.5. report, respectively, the services included in the lodging and those not included. Each is reported in percentage according to their presence in the hotels studied.



Graph 5.3 Promoted lodging services with respect to other services in hotels in Europe (n=1984)

Percentage of promoted lodging and other services in a survey of 1984 hotels in Europe



□ Lodging ■ Other services

Services other than lodging
Parking
Park/garden
Pets welcome
Congress centre facilities
Bar
Baby sitting
Tennis and other sports
Restaurant
Access for the disabled
Swimming pool
diet meals available
Sauna
Groups welcome
Fitness
Private Beach
medical service
Transportation
Garage
Shopping area
Disco/night
Simultaneous translation
Bicycle rent
wellness facilities

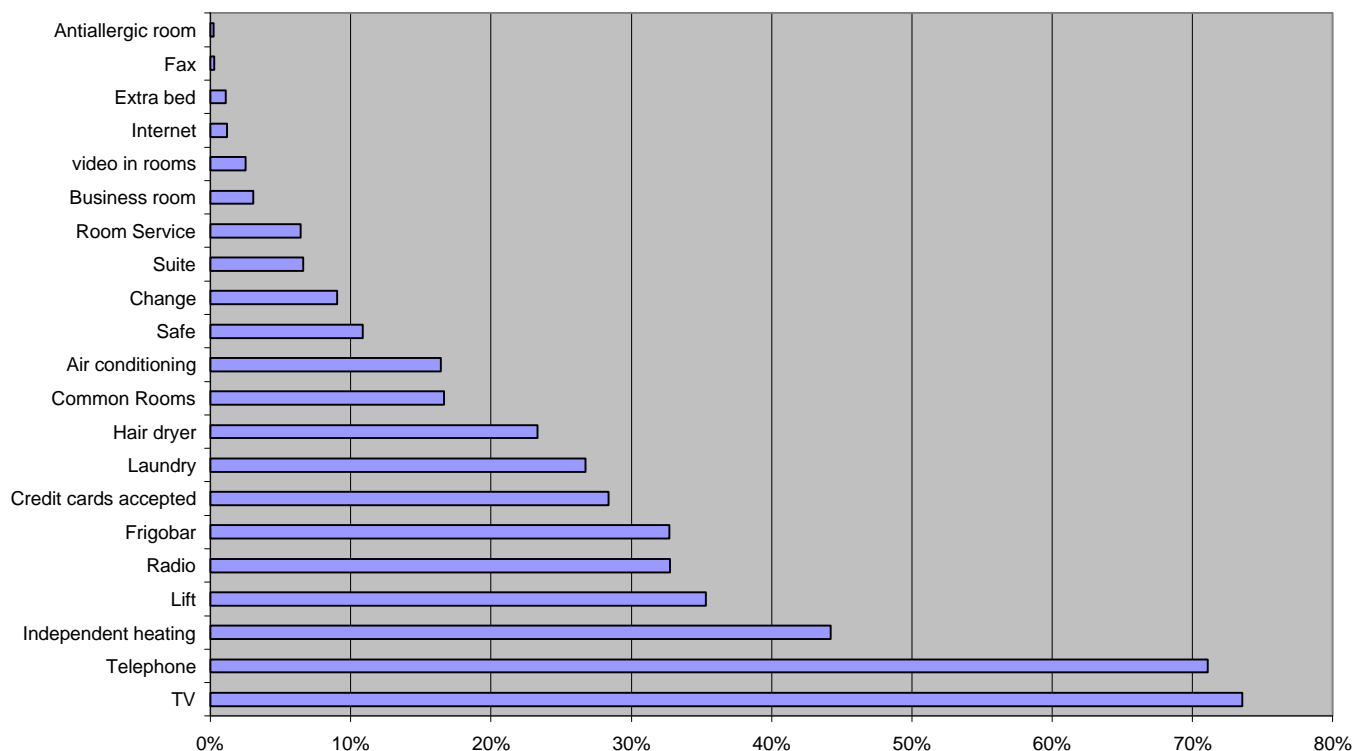
Elements and services included in the lodging service
TV
Telephone
Independent heating
Lift
Radio
Frigobar
Credit cards accepted
Laundry
Hair dryer
Common Rooms
Air conditioning
Safe
Change
Suite
Room Service
Business room
video in rooms
Internet
Extra bed
Fax
Antiallergic room



Disaggregating the data from Graph 5.3, relative to the lodging services, frequencies in Graph 5.4 indicate a strong concentration of the services which are related to the room, many of which are services required by classification standards, as reported in Chapter 4.

Graph 5.4 Presence of services related to lodging in a survey of 1984 hotels in Europe

Frequency of promotion of certain elements of lodging in a survey of 1984 hotels in Europe



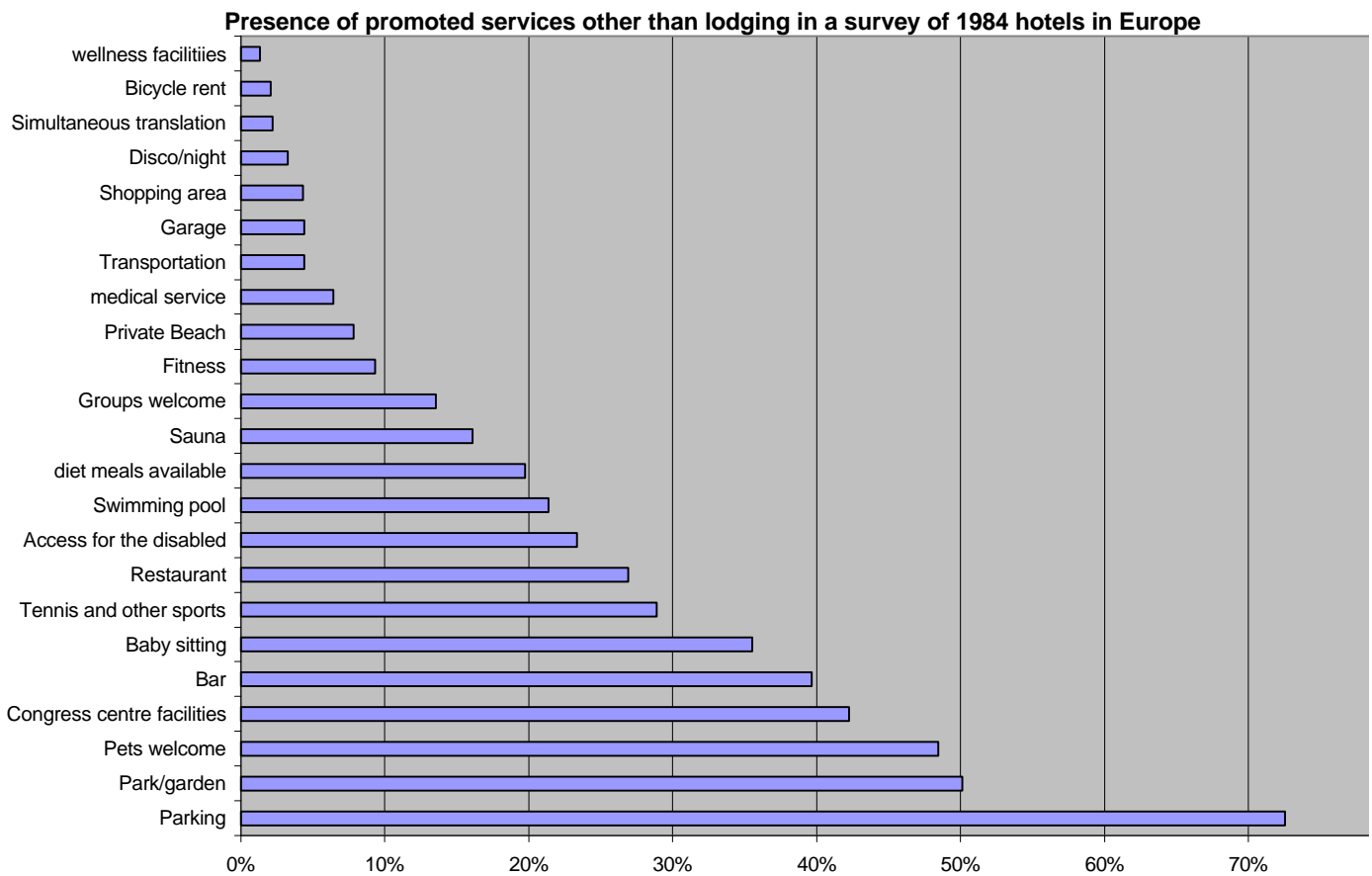
It can be seen that the main promoted services are the TV, telephone, inside the room, radio and frigo-bar, always inside the room. A little higher up is the hairdryer, all of which, as will be seen in Chapter 6, have potential environmental impacts.

Of the services promoted as part of lodging but not objects, are the heating, laundry service and air conditioning.



On Graph 5.5 are reported the services which are not included in lodging and constitute the 52% of the total services collected in our survey. The percent distribution of these services allows us to make two considerations: first of all the entity of these services should induce an evaluation of how to consider these services with respect to the product group. Their distribution within the classification categories may constitute a criterion to imagine, for example, classes of offered services. Secondly, the analogy between some services may bring to group them per type in certain categories (for example : wellness= fitness, pool, tennis, etc.). Lastly, another criterion of aggregation could be in relation to the environmental aspects.

Graph 5.5 Presence of services not relative to lodging surveyed in 1984 hotels in Europe





Graphs 5.6 and Graph 5.7 show the relation between lodging services and hotels.

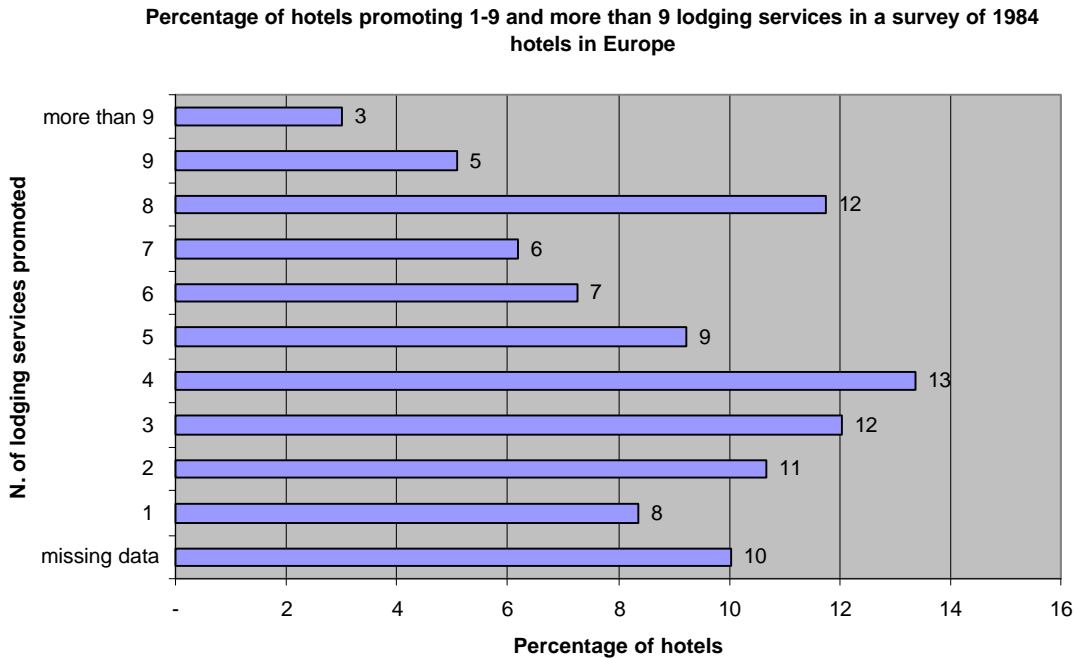
In Graph 5.6 hotels are grouped according to the number of lodging services which they promote. The hotels are reported in percentage values according to an increasing number of lodging services offered.

For a 10% of hotels no data can be collected, 8% of hotels promote one lodging service, 12% promote three services and so on.

This data can be interpreted as a measure of the role of lodging services as a promotional tool, as elements to influence customer's choice. It can be noticed that a good 13% of hotels promotes four lodging services, and 8% promotes nine or more (5% + 3%). From a cumulative point of view over 55% of hotels promote up to 5 lodging services.

This may be interpreted as the fact that, although to a lesser degree than the other services (48% vs 52%) lodging services are seen as elements of distinction in over the majority of cases.

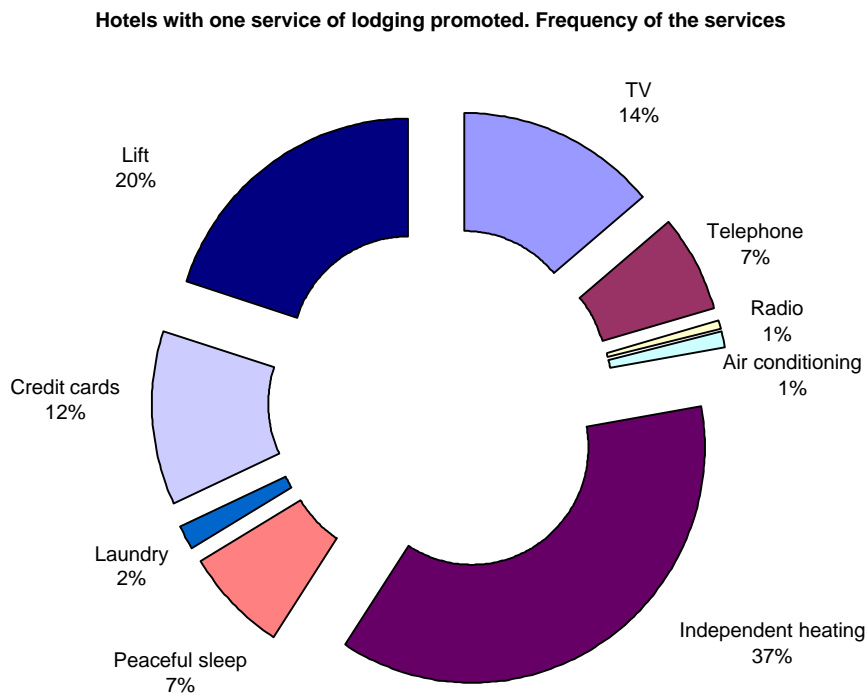
Graph 5.6 Distribution of number of lodging services promoted in a survey of 1984 hotels in Europe





Graph 5.7 reports the frequency distribution of the lodging services which are presented when only one lodging service is promoted. Individual heating switch accounts for 37% of cases where there is only one lodging service promoted. Heating is also regulated by legislation and classification schemes, and has, as will be seen in the following chapters, high environmental impacts. Air conditioning accounts for only 1%, laundry for 2%.

Graph 5.7 Frequency distribution of the one most promoted lodging service.



Graph 5.7 shows that the most promoted lodging service, where the only service to be promoted, is heating. This service has high environmental impacts, as we will see in the following chapter, in addition it is required by the national legislations.



In Table 5.8 are reported all the promoted services in percentage with respect to hotel stars and total.

They are ordered according to the most promoted services in the 3 star hotels.

Table 5.8 Frequency of promoted elements of the service lodging and of other services in a survey of 1984 hotels in Europe per category

Services	1-2 stars	3 star	4-5 star	non classified	Total
Telephone	58%	85%	87%	68%	71%
TV	59%	77%	84%	90%	74%
Parking	63%	74%	76%	85%	73%
Independent heating	54%	60%	60%	0%	44%
Park/graden	51%	58%	61%	33%	50%
Congress Hall and services	28%	54%	73%	36%	42%
Lift	18%	52%	76%	22%	35%
Pets welcome	50%	50%	35%	53%	48%
Bar	36%	46%	68%	22%	40%
Frigobar	31%	46%	63%	4%	33%
Radio	26%	39%	30%	40%	33%
Baby sitting	26%	38%	32%	50%	36%
Credit cards accepted	29%	37%	57%	3%	28%
Hair dryer	19%	36%	52%	0%	23%
Tennis and other sports	20%	33%	43%	32%	29%
Restaurant	36%	30%	20%	11%	27%
Access to the disabled	24%	28%	19%	35%	27%
Laundry	17%	28%	49%	14%	23%
Diet meals	23%	28%	13%	7%	20%
Swimming pool	12%	26%	58%	12%	21%
Common Rooms	21%	25%	13%	0%	17%
Air conditioning	9%	22%	55%	0%	16%
Groups welcome	16%	20%	13%	2%	14%
Safe	4%	15%	44%	0%	11%
Sauna	5%	14%	45%	21%	16%
Change	2%	12%	40%	0%	9%
Fitness	3%	10%	34%	5%	9%
Private Beach	4%	10%	22%	3%	8%
medical service	1%	8%	30%	0%	6%
Garage	4%	8%	5%	0%	4%
Suite	1%	7%	36%	1%	7%
Transport of customers	6%	6%	5%	0%	4%
Room Service	2%	5%	22%	8%	6%
Shopping area	1%	4%	19%	3%	4%
video in rooms	1%	3%	9%	0%	3%
Disco/night	1%	3%	10%	4%	3%
Bicycle rent	1%	2%	10%	0%	2%
Extra bed	1%	2%	1%	0%	1%



Business room	1%	1%	13%	0%	2%
Services	1-2 stars	3 star	4-5 star	non classified	Total
Simultaneous translation	0%	1%	3%	10%	3%
Internet	0%	1%	6%	0%	1%
Wellness facilities	0%	1%	2%	4%	1%
Antiallergic room	0%	0%	0%	1%	0%
Fax	0%	0%	2%	0%	0%

Table 5.9 Services ordered by decreasing order with respect to the total.

Frequency of promoted elements of the service lodging and of other services in a survey of 1984 hotels in Europe per category

Services	1-2 stars	3 star	4-5 star	non classified	Total
TV	59%	77%	84%	90%	74%
Parking	63%	74%	76%	85%	73%
Telephone	58%	85%	87%	68%	71%
Park/graden	51%	58%	61%	33%	50%
Pets welcome	50%	50%	35%	53%	48%
Independent heating	54%	60%	60%	0%	44%
Congress Hall and services	28%	54%	73%	36%	42%
Bar	36%	46%	68%	22%	40%
Baby sitting	26%	38%	32%	50%	36%
Lift	18%	52%	76%	22%	35%
Radio	26%	39%	30%	40%	33%
Frigobar	31%	46%	63%	4%	33%
Tennis and other sports	20%	33%	43%	32%	29%
Credit cards accepted	29%	37%	57%	3%	28%
Restaurant	36%	30%	20%	11%	27%
Access to the disabled	24%	28%	19%	35%	27%
Hair dryer	19%	36%	52%	0%	23%
Laundry	17%	28%	49%	14%	23%
Swimming pool	12%	26%	58%	12%	21%
Diet meals	23%	28%	13%	7%	20%
Common Rooms	21%	25%	13%	0%	17%
Air conditioning	9%	22%	55%	0%	16%
Sauna	5%	14%	45%	21%	16%
Groups welcome	16%	20%	13%	2%	14%
Safe	4%	15%	44%	0%	11%
Fitness	3%	10%	34%	5%	9%
Change	2%	12%	40%	0%	9%
Private Beach	4%	10%	22%	3%	8%
Suite	1%	7%	36%	1%	7%
Room Service	2%	5%	22%	8%	6%
medical service	1%	8%	30%	0%	6%



Transport of customers	6%	6%	5%	0%	4%
Garage	4%	8%	5%	0%	4%
Shopping area	1%	4%	19%	3%	4%
Disco/night	1%	3%	10%	4%	3%
Simultaneous translation	0%	1%	3%	10%	3%
Services	1-2 stars	3 star	4-5 star	non classified	Total
video in rooms	1%	3%	9%	0%	3%
Business room	1%	1%	13%	0%	2%
Bicycle rent	1%	2%	10%	0%	2%
Wellness facilities	0%	1%	2%	4%	1%
Internet	0%	1%	6%	0%	1%
Extra bed	1%	2%	1%	0%	1%
Fax	0%	0%	2%	0%	0%
Antiallergic room	0%	0%	0%	1%	0%

It can be seen that, in either tables, the first 16 of the 44 services promoted, 8 are pertaining to lodging (in bold cases). Of the services extra lodging, the most frequent is parking, (which surely shows the importance of private transportation as means of reaching the tourist destination), followed by Bar (and Restaurant as voice n. 16). Pet acceptance and baby sitting, considered by us as “Social services” are also well promoted. Tennis and other sports is in 15 position. However, if all the aesthetic and sport activities were to be grouped together, for example as wellness facilities, then they would reach a percentage of promotion of 46 % of the hotels. It is important to understand that such wellness facilities are not included in the “common room for free time”, which is part of lodging.

These data show that lodging is a main promoted activity of accommodation, but it is not the only one. For this reason, together with the definition of the system boundaries, it will be important to define classes of services, structured in the way described in the following paragraph.



5.3 Definition of system boundaries and identification of the classes of offered services

Having looked at the services required by the regulations and those promoted by hotels in national official guides, it is important to define the system boundaries of our concept of lodging.

First of all, as it was defined in the pages above, and as can be seen from the essence of regulations, the lodging services include all that is necessary to provide the service of accommodation.

This includes the following elements:

1. The room and everything that is inside the room: the customer will use all that is inside the room
2. the reception,
3. Administration (communication, all the back office)
4. All sanitary facilities, not only in the private room but in all common parts of the hotel
5. All other facilities which are needed to have access to the room and common areas
6. The so called “common room for free time”, such as the TV room, where all services found in the room can be found for common use.

The common services which belong to lodging do not include sport facilities, nor all those services which can be included in the “wellness facilities”.

In the definition of boundaries and of the classes of offered services the physical separation should also be considered as an element of distinction. The garden , for example, is clearly outside the room and should not be considered.

In table 5.10 are listed the physical elements included in the system boundaries of lodging. The list of all the elements to be considered is reported in chapter 6.

Table 5.10 Physical boundaries of lodging

A-1	Room premises
A-1-1	Bedroom area
A-1-2	Private Bathroom
A-2	Reception/administration area
A-3	Common Rooms: facilities to reach the lodging premises
A-3-1	Corridors/extra room



A-3-2	Common rooms (including common TV or lounge with the piano)
-------	---

It is important to point out that the product group definition requiring a bed fit for use, in fact excludes camping sites which offer only a tent space from this analysis. Other steps could be taken in further time to consider these accommodation structures.

In any case, now that we have examined the distribution of services and the kinds of services according to national official quality standard regulation and according to official promotional sources, the environmental impacts of the services pertaining both to lodging and to other typologies of services should be examined before further definition of the system boundaries.

In the next chapters this issue will be examined.

As follows we give a proposal for classes of offered services.

Since from the data it can be seen that services are provided in a very heterogeneous way, the modular system seems indeed the best way to organise the classes of offered services.

This means starting from a base class which considers only lodging, which could be Class A, then considering different categories of extra lodging services which could be integrated as suitable to the services offered by the particular accommodation.

In general, the extra –lodging services could be grouped in a Class B, with sub-numbers of B (B1, B2, B3 ...) depending on the category of service.

The starting point for our first class of offered services is that the concept of lodging which includes everything necessary to provide the service of “sheltered overnight stay”, considered the essential part of the accommodation service and common to all accommodation structures.

CLASS A:

Lodging at its minimum: all the services which all tourist accommodation SURELY will have. This will include the necessary to provide the accommodation service without breakfast. The elements will then be:

- room and everything inside
- the reception and administration activities
- all common sanitary facilities
- all facilities present and necessary to reach the room

CLASS B

The extra-lodging services have been organised in classes of the B group.

Each class corresponds to a category of services, such as food , wellness and recreation, conference services, and so on. Being this a modular pattern, there is no hierarchy of the classes: B1 is not more important than B7. Simply, the fact that the classes do not “add” the services but propose them on an equal level, enables the accommodation to consider the classes of relevance.



The following Table 5.11 illustrates the proposed pattern of classes of offered services
Table 5.11. Classes of offered services organised according to a modular system.

B1		FOOD SERVICES
	1	Kitchen
	2	Restaurant
	3	Bar
B2		WELLNESS AND RECREATION
	1	Swimming pool
	2	Tennis
	3	Golf
	4	Other sports within the hotel premises
	5	Sauna
	6	Fitness room
	7	Solarium
	8	Private Beach
	9	Disco/night club
B3		CONFERENCE SERVICES
	1	Conference hall
	2	Simultaneous translation
	3	Common Rooms to conference area
	4	Sanitary facilities of conference area
	5	Reception and Administration of conference area
B4		GREEN AREA
	1	garden
	2	park
	3	fields
B5		PARKING AREA
	1	indoor parking space
	1	outdoor parking space
	2	Transport means
	a	bicycle
	b	car



ANPA

Italian Environment Protection Agency

	c	bus
B6		SHOPPING SERVICES
	1	Supermarket
	2	Other shops
B7		OTHER



6 Life Cycle considerations

6.1 Introduction

EU Regulation 1980/2000 requires that the product group be considered in its life cycle phases and those phases with the main environmental impacts be identified and acted upon in order to reduce the most negative environmental impacts and produce the highest environmental improvements.

The life cycle of a service is constituted of three phases: the purchasing phase, where resources are acquired in order to provide the service (goods, energy, water), the provision of the service phase, where all the activities which constitute the service are carried out, each in its own specificity, and the last “waste management phase”, in which the waste material derived from the first and second is disposed of.

The elements part of our product group lodging have been identified and listed as per their physical location in Chapter 5. They will be listed entirely in this chapter, after having made some environmental considerations. The services constituting the different classes of offered services have been listed integrally at the end of Chapter 5.

6.2 Aim of the chapter

The aim of this chapter is to identify the main environmental impacts of tourist accommodation services, centred in lodging but taking in consideration the other offered services, in order to develop European criteria able to reduce those environmental impacts.

There are no data available which represent the environmental impacts of accommodation and the services offered all over Europe. No accommodation establishment is exactly the same as another establishment. The reasons are easy to understand: every element in the establishment, for example in the room, has its specific quantitative and qualitative environmental impacts by produce, by use, or consumption, by waste production at the end. The size of the room and the building have, for example, influence on the energy consumption. The quality and quantity of the services offered (food services, wellness) the location/region of the establishment (in the city, in the countryside) ; threatened carrying capacities, for example for fresh water provision, biodiversity, air/noise, climate), the behaviour of guests (environmentally friendly or not), the degree luxury, (1*-5* hotel) have direct internal and external influence on the environmental impacts.

As explained in Chapter 3, there is a lack of reliable, objective direct data on the environmental aspects of tourist activities, therefore an inductive approach was adopted through a deep analysis of the existing eco-labels.

Experience from the existing eco-labels in different European countries is an important and reliable source for analysis. This experiences and the knowledge about the countries' specific situation was taken as base for the inductive assessment of the environmental impacts: through the analysis of the environmental impacts identified and considered by most relevant existing eco-labels and expressed by their specific environmental criteria.



6.3 Analysis of Eco- labels for accommodation in Europe

There are about 40 Eco-labels for Accommodation in Europe, some of them operating since many years, some leading schemes on regional, national, international level. We assume that the leading Eco-labels on national/international level which are operating since two or more years have the main experience on this issue in Europe. Some of them are public schemes which follow their own national regulations which require (similar to the EU-Flower regulation) LC considerations, the assessment of the environmental impacts and the potential for improvements, and: performance criteria which guarantee that the certified product is better than non certified competitors in the same (type of) destination/ country.

We assume that these Eco-labels

1. developed their environmental criteria according to the specific situations in their countries without discriminating products which belong to the product group
2. proofed these criteria as relevant and feasible (operating since years, high experience with certified products, market studies)

For example, one can assume that those criteria which are similar in many countries and which are required for many types of accommodation may have a high relevance and feasibility on international / European level.

From the analysis the most relevant impacts will be identified.

Selection of most relevant Eco-labels

For the rough assessment of environmental impacts the following three Eco-labels have been analysed:

Nordic Eco-label (SE, FI, NO, DK, IC)

Austrian Eco-label (AT)

Cataluna Eco-label (ES)

These Eco-labels are following their national legislation which requires similar approaches as the European regulation for the EU-Flower. They cover three main types of regions in Europe: North, Alps, Mediterranean.

At a later state (when developing criteria in detail) the experiences of further relevant Eco-labels shall be considered:

Luxemburg Eco-label for Tourism (LU)

Green Tourism Business Scheme (UK)

Green Key (DK)

Viabono (DE)

These four Eco-labels are private/public schemes which have been operating since years, widely recognised by the product groups and other groups of interest (consumers, environmentalists), in co-operation with/ supported by national governments (LU, UK, DK, DE)

Altogether the seven schemes above have been selected for the following reasons:



ANPA

Italian Environment Protection Agency

1. Covering different countries, regions, main types of destinations in Europe (North, South; mountains, cities, coast, rural)
2. Covering all types of hotels and similar establishments (Austria, LU, UK)
3. Requiring all types of criteria (management + measures + limit: Nordic)
4. Requiring onsite verification (except Viabono/DE)

The results of the detailed analysis of these Eco-labels with their criteria and experiences lay the base for

Chapter 6: life cycle considerations

Chapter 7: consumption data

Chapter 8: towards criteria



6.3.1 The code book for analysis

The three public Eco-labels (Nordic, Austria, Cataluna) altogether require 341 individual environmental criteria (no reduction of similar criteria). These criteria have analysed with respect to the following issues:

- Countries where the Eco-label is applicable
- Types of Accommodation structures for which the Eco-label is applicable
- Relation to the life cycle phases and its service activities
- Relation to the main factors influencing the environmental impacts
- Type of criteria (management, measure, limit)
- Relation to EMAS
- Relation to eco-labelled products
- Type of requirement (mandatory, obligatory)
- Environmental impact / objective (11 environmental issues)
- Relation to Service class/es (lodging, etc.)

Table 6.1 reports the code book of the matrix which was constructed for the analysis.

CODE BOOK FOR THE MATRIX FOR THE CROSS ANALYSIS OF ECO-LABEL CRITERIA

column	variable	Modality
A	1 - n	progressive number of each criteria
B	criteria	Name of criteria
C		Name of Eco-label
	1	Austrian Eco-label
	2	Nordic Swan
	3	Catalan Eco-label
	4	Luxembourg Eco-label
	5	Den Groenne Noegle
	6	Green Tourism Business Scheme
	7	VIABONO
	8	Les Clefs Vertes
	9	Milieubarometer
	10	
D		Type of lead organisation
	1	private
	2	public
	3	priva/e/public
E		Country of origin of the eco-label
	1	Austria
	2	Catalunia
	3	France
	4	Denmark
	5	Scotland
	6	Luxembourg



	7	Sweden
	8	Germany
		Country of application of the eco-label
F		Austria
G		Belgium
H		Denmark
I		Estonia
J		Finland
K		France
L		Germany
M		Greece
N		Greenland
O		Iceland
P		Ireland
Q		Italy
R		Luxembourg
S		The Netherlands
T		Norway
U		Portugal
V		Spain
W		Sweden
X		Switzerland
Y		UK
		Type of structure
Z		All
AA		Hotels and similar establishments
AB		Farmhouse, holiday, private accommodation
AC		Holiday villages, apartments
AD		Mountain Huts
AE		Camping sites
		Phase of the Life Cycle (of the tourism accommodation service)
		Purchasing of Goods
AF		energy
AG		water
AH		food products
AI		long term products
AJ		consumption goods
AK		building and covering materials
AL		transport means
AM		natural resources
AN		cultural resources
		Providing the service
AO		customer reception
AP		management



		sleeping
AQ		cleaning the rooms
AR		washing sheets and towels
AS		using room by customers
		modality
		food services
AT		preparing and providing meals
AU		having meals
AV		cleaning kitchens and dinner areas
		common services
AW		using WC and common services
AX		cleaning WC and common services
		managing green areas
AY		
		recreational activities
AZ		sport practices
BA		managing rooms for free time
BB		managing excursions
		transport activities
BC		managing parking areas
BD		transport means maintenance
BE		managing customer transport
		communication
BF		internal communication
BG		external communication
BH		training
BI		promotion and marketing
		Managing waste
BJ		collecting urban waste
BK		collecting special waste
BL		disposing of waste
BM		treating waste water
BN		Influencing factors
	1	environmentally technical standard
	2	lead / staff working methods
	3	guests' behaviour
BO		Type of criteria
	1	measure : technical measures, use of environmentally friendly components/products
	2	management: activities to influence work of staff, behaviour of guests, to manage environmental issues
	3	limit consumption: maximum consumption levels per unit



BP		Eco-labelled products, other requirements (measure criteria)
BQ		EMAS / ISO 14001 related (management criteria)
BR		Type of requirement
	1	mandatory
	2	optional
		Specific importance given by the eco-label to the criteria
BS		% of the whole maximum weight of the environmental objective
BT		points of the whole maximum weight of the environmental objective
BU		Type of environmental objective*
	1	diminish quantity (consume less)
	2	increase quantity (availability of resources...)
	3	quality (alternative sources than resources with high env. impacts)
BV		Weight of environmental objective
		% of the total points concerning that aspect of the total possible points of the eco-label
		Environmental Impacts / Objectives*
BW		Quality of air
BX		Quality of water
BY		Soil protection
BZ		Waste reduction
CA		Energy saving
CB		Management of natural resources
CC		Prevention of global heating
CD		Protection of the ozone layer
CE		Environmental safety
CF		Noise
CG		Biodiversity
		Services
CH		Administration / Reception area
CI		room
CJ		Common areas / inside
CK		Conference services
CL		Kitchen / Food
CM		Restaurant
CN		Green areas / outside
CO		Transport / parking
CP		Swimming pool
CQ		Sports / Recreation
CR		Outside / Other



6.3.2 Environmental aspects, impacts, objectives.

It is important to explain what is meant by type of environmental objectives and subsequent Environmental Aspects/Objectives. The voices reported by Annex I of the Regulation are of different logical nature and it is necessary to clarify the way these issues have been referred to.

Annex I reports issues which are in the two categories of environmental aspects (quality of air, quality of water, environmental safety, biodiversity), and environmental objectives (soil protection, waste reduction, energy saving, prevention of global heating, protection of the ozone layer). Management of natural resources (and also waste reduction, stated above) can be considered as an action which must be undertaken in order to reduce the impacts on the environmental aspects and to reach the environmental objectives.

It will be seen in Chapter 8 and in the structure of the First Draft Criteria that these voices, in general can be regrouped as environmental objectives direct and indirect.

In order better explain and illustrate the differences of the environmental issues listed in Annex I of the Regulation, the following examples are made:

Energy.

Energy is needed to heat the room, to cook, to make some light. Energy per se is not a natural resource but it is the product of a process on natural resources. Therefore, energy saving, one of the voices listed in Annex I, is an environmental objective. It has the double result of saving the resource needed to provide energy, limiting the consequences of the process required in order to obtain energy from that natural resource and bringing the energy to the accommodation, and saving the impacts of the waste products of energy use. These impacts have influences on elements which in Annex I are listed as environmental aspects (quality of air, biodiversity) and as environmental objectives: prevention of global heating.

Water

Another example is water. Water is a natural resource and is used in many instances, such as using bathroom facilities, heating, cleaning, kitchen, swimming pool. The Management of natural resources implies saving water. The “quality of water” does not have a direct link with the saving water from the WC or the kitchen. Saving water could reduce the negative impacts on biodiversity, and could reach the objective of soil protection.

Chemicals

The use of chemicals has impact on the quality of water, on soil protection, on biodiversity.

Packaging

Packaging is also a result of use of natural resources and processes, and, its impacts on the environment are the impacts of the life cycle of the packaged product.

Waste

The use of any good and service creates waste, either material (packaging, dirty waste water...), or immaterial (energy).

6.4 General results



ANPA

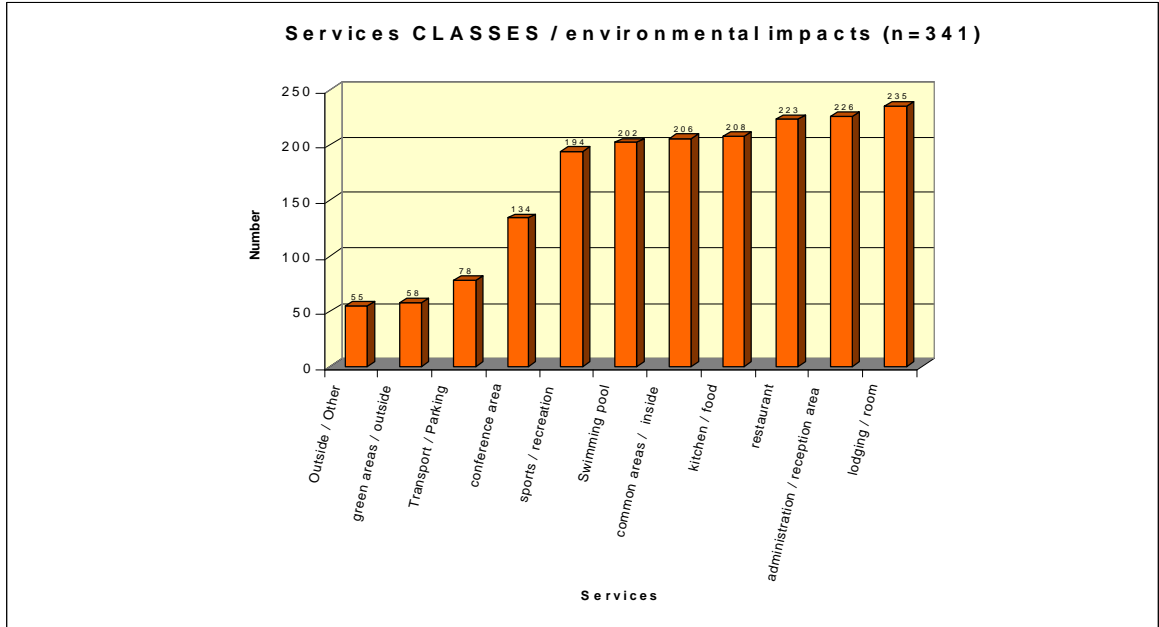
Italian Environment Protection Agency

The analysis of the environmental impacts by means of existing eco-label criteria has been conducted in order to assess the main environmental impacts of the elements constituting the product group and derive the system boundaries accordingly. The classes of services provided have also been considered

Graphs 6.1 – 6.6 report the results of the analysis.



Graph 6.1 The Environmental relevance of lodging and other service classes

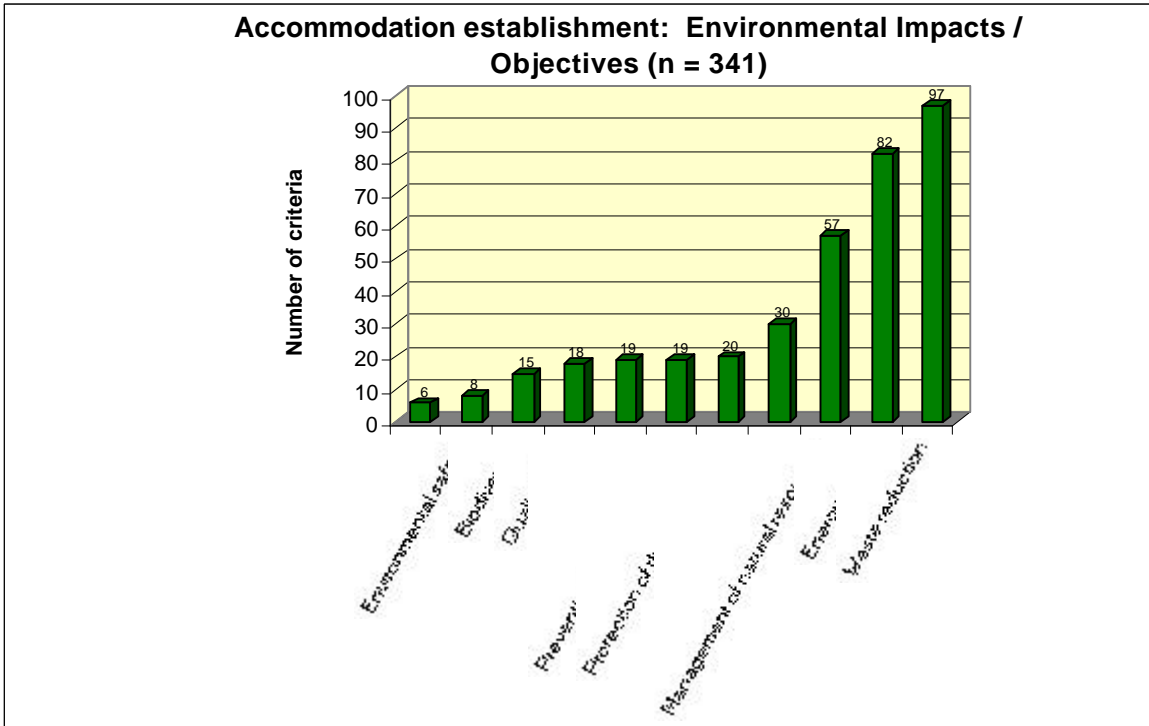


Result 1:

The lodging service is the most relevant service class. Most environmental criteria are related to „room“ and „reception/ administration“ as main components. Other services also have a high environmental relevance, especially food and wellness services.



Graph 6.2. The environmental impacts of the whole accommodation service: relation to the eleven global environmental aspects



Result 2:

The most important environmental impacts and objectives in relation to tourist accommodation service are: waste reduction, energy saving, and natural resources (above all: water). The quality of water, the protection of the ozone layer and of soil are strongly linked to the consumption of chemical substances.



6.5 Specific results

The relation between the “lodging service” components and their individual elements to the three phases of the life cycle: purchase, provision of the service, waste

	Life Cycle phases	Purchasing	Providing the service	Waste
O	Overall : Accommodation / Establishment			
0-1	Management			
0-1-1	Environmental Policy			
0-1-2	Environmental Objectives			
0-1-3	Monitoring / Measuring			
0-1-4	Action plan			
0-2	staff training			
0-3	Information to guests			
0-4	Building			
0-4-1	environmentally-friendly building materials			
0-4-2	insulation			
0-5	Fixed equipment			
0-5-1	heating boilers			
0-5-2	water tanks			
0-5-3	energy supply			
0-5-4	filters			
0-5-5	drains			
0-5-6	waste container			
0-6	House keeping			
0-6-1	cleaning			
0-6-2	washing			
0-6-3	heating			
0-6-4	gardening			
0-6-5	dishwashing			
A	LODGING			
A-1	Room premises			
A-1-1	Bedroom area			
A-1-1-1	Size of the room			
A-1-1-2	Fixed equipment/flooring/ walls/ceiling			



	1	Floor	09		
	2	Covering	09		
	3	Carpet / rug	09		
	4	Window	09		
	5	Doors/key system	09		
	6	Mirror	09		
	7	Skirting board	09		
	8	Floor heating	09	e	e
	9	Heating devices	09	e	e
	10	Ventilation	09	e	e
	11	Wallpaper/painting	09		
A-1-1-3		Furniture			
	1	Bed	09		
	2	Pictures/paintings	09		
	3	Mattress	09		
	4	Pillows	09		
	5	Lamp	09		
	6	Chair	09		
	7	Wardrobe	09		
	8	Armchair	09		
	9	Rack	09		
	10	Cupboard	09		
	11	Door mats/porch	09		
	12	Cloths hangers	09		
	13	Table	09		
	14	Desk	09		
	15	Paper	09		
	16	Waste basket	09		
	17	Safe	09		
A-1-1-4		Electric devices			
	1	Hair dryer	09	e	e
	2	Frigo-bar	09	e	e
	3	Coffee/team machine	09	e, w	e, w
	4	Show polish	09	e	e
	5	Sewing kit	09	c	c
	6	Radiators	09	e	e
	7	Radio	09	e	e
	8	TV	09	e	e
	9	Phone	09	e	e
	10	Internet access	09	e	e
	11	Satellite	09		
	12	stereo	09	e	e
A-1-1-5		Information material - Paper			
	1	Brochures	09	c	e
	2	Maps	09	c	e



	3	Ideas box	sg	c	e
	4	Info paper on the walls	sg	c	e
	5	Note paper	sg	c	e
	6	General info paper	sg	c	e
A-1-1-6		Textiles			
	1	Sheets	sg	w, e	w, e
	2	Curtains	sg	w, e	w, e
	3	Table cloths	sg	w, e	w, e
	4	covers	sg	w, e	w, e
A-1-1-7		Consumption articles			
	1	Give-aways/ disposables	sg	c	c
	2	Stationery	sg	c	c
A-1-1-8		Lighting			
	1	Bulbs	sg	c, e	c, e
	2	Lamps	sg		
A-1-1-9		Chemical products			
	1	Cleaning	sg	c	c
	2	Washing	sg	c	c
	3	Dishwashing	sg	c	c
	4	Impregnation	sg	c	c
	5	Insects spray	sg	c	c
A-1-1-10		House keeping equipment			
	1	Vacuum cleaner	sg	e	e
	2	Cleaning textiles	sg	w	w
	3	Broom	sg		
A-1-1-11		Other			
	1	Plants	sg	w	w
	2	Flowers	sg	w	w
A-1-2		Private bathroom			
A-1-2-1		Size of the bathroom			
A-1-2-2		Fixed sanitay equipment			
	1	WC	sg	w	w
	2	Chemical toilet	sg	e, w	e, w
	3	Bath	sg		
	4	Shower	sg		
	5	Bidet	sg		
	6	Wash basin	sg		
	7	Tap	sg	e, w	e, w
	8	Mirror	sg		
A-1-2-3		Textiles			
	1	Towels	sg	w, e	w, e
	2	Shower curtain	sg	w, e	w, e
A-1-2-4		Consumption articles			
	1	Shampoo	sg	c	c
	2	Shower creme	sg	c	c
	3	Foam baths	sg	c	c



	4	Shower cap	09	c	c
	5	Toilet paper	09	c	c
	6	Soap	09	c	c
	7	Conditioner	09	c	c
	8	Sprays	09	c	c
	9	Chemical air conditioner	09	c	c
	10	Urinal blocks	09	c	c
	11	Serviettes	09	c	c
	12	Paper sleeves	09	c	c
A-1-2-5		Lighting			
	1	Bulbs	09	c, w	c, w
	2	Lamp	09		
A-1-2-6		Chemical products			
	1	Cleaning	09	c	c
	2	Washing	09	c	c
	3	Dishwashing	09	c	c
	4	Impregnation	09	c	c
	5	Insects sprays	09	c	c
A-1-2-7		Fixed equipment / flooring / walls / ceiling			
	1	Floor	09		
	2	Covering	09		
	3	Carpet/rugs	09		
	4	Window	09		
	5	Doors	09		
	6	Mirror	09		
	7	Wallpaper/painting	09		
	8	Skirting boards	09		
	9	Ventilation	09	e	e
	10	Floor heating	09	e	e
	11	Heating devices	09	e	e
A-1-2-8		Electric devices			
	1	Hair dryer	09	e	e
	2	Hand-dryer	09	e	e
	3	Radiators	09	e	e
A-1-2-9		All information paper inside the bathromm			
	1	Info paper on the walls	09		
A-1-2-10		Furniture			
	1	Pictures/painting	09		
	2	Waste basket	09		
	3	Tooth-glasses	09		
A-1-2-11		House-keeping / equipment			
	1	Vacuum cleaner	09	e	e
	2	Cleaning textiles	09	w	w
	3	Broom	09		



A-1-2-12		Other			
	1	Flowers	sg	w	w
	2	Plants	sg	w	w
A-2		Reception / administration areas			
A-2-1	1	furniture			
	2	desk	sg		
	3	chair	sg		
	4	pictures/paintings	sg		
	5	cloths hangers	sg		
	6	door mats, porch	sg		
	7	cupboard	sg		
	8	rack	sg		
	9	table	sg		
	10	waste basket	sg		
A-2-2		electric devices			
	1	fax	sg	e	e
	2	Xerox copy machine	sg	e	e
	3	personal computer	sg	e	e
	4	printing machine	sg	e	e
	5	overhead projector	sg	e	e
	6	video	sg	e	e
	7	beamer	sg	e	e
	8	screen	sg	e	e
A-2-3		Lighting			
	1	Bulbs	sg	c, e	c, e
	2	Lamp	sg		
A-2-4		Chemical products			
	1	Cleaning	sg	c	c
	2	Washing	sg	c	c
	3	Dishwashing	sg	c	c
	4	Impregnation	sg	c	c
	5	Insects sprays	sg	c	c
A-2-5		textiles			
	1	table cloths	sg	w, e	w, e
	2	curtains	sg	w, e	w, e
	3	work cloths	sg	w, e	w, e
	4	towels	sg	w, e	w, e
A-2-6		consumption articles			
	1	paper	sg	c	c
	2	stationery	sg	c	c
	3	slides	sg	c	c
	4	ink container	sg	c	c
	5	chemical air conditioner	sg	c	c
	6	urinal blocks	sg	c	c
	7	paper sleeves	sg	c	c



	8	toilet paper	09	c	c
	9	Soap	09	c	c
	10	serviettes	09	c	c
A-2-7		house keeping equipment			
	1	Cleaning textiles	09	w	w
	2	Broom	09		
	3	Vacuum cleaner	09	e	e
A-2-8		Other			
	1	Plants	09	w	w
	2	flowers	09	w	w
A-2-9		all information material - Paper			
	1	Brochures	09	c	c
	2	Maps	09	c	c
	3	Ideas box	09	c	c
	4	Info paper on the walls	09	c	c
	5	Note paper	09	c	c
	6	General info paper (tourism/environment/labelling)	09	c	c
A-2-10		Textiles			
	1	Sheets	09	w, e	w, e
	2	Curtains	09	w, e	w, e
	3	Table cloths	09	w, e	w, e
	4	covers	09	w, e	w, e
A-2-11		electric devices			
	1	fridges	09	e	e
	2	radiators	09	e	e
	3	radio	09	e	e
	4	stereo/background music	09	e	e
	5	hand-dryer	09	e	e
A-2-12		fixed equipment / flooring / walls / ceiling			
	1	wash basin	09		
	2	tap	09	e, w	e, w
	3	WC	09	w	w
	4	ventilation	09	e	e
	5	wallpaper/painting	09		
	6	heating devices	09	e	e
	7	floor heating	09	e	e
	8	skirting boards	09		
	9	mirror	09		
	10	rugs	09		
	11	windows	09		
	12	carpet	09		



	13	floor covering	sg		
A-3		COMMON ROOMS- Facilities to reach the lodging premises			
A-3-1		Corridors / extra room			
A-3-1-1		Lighting			
	1	Bulbs	sg	c, e	c, e
	2	Lamp	sg		
A-3-1-2		Chemical products			
	1	Cleaning	sg	c	c
	2	Washing	sg	c	c
	3	Dishwashing	sg	c	c
	4	Impregnation	sg	c	c
	5	Insects spray	sg	c	c
A-3-1-3		Textiles			
	1	Table cloths	sg	w, e	w, e
	2	Curtains	sg	w, e	w, e
A-3-1-4		fixed equipment / flooring / walls / ceiling			
	1	wallpaper/painting	sg		
	2	floor	sg		
	3	skirting boards	sg		
	4	ventilation	sg	e	e
	5	floor heating	sg	e	e
	6	heating devices	sg	e	e
	7	windows	sg		
	8	mirror	sg		
	9	rugs	sg		
	10	covering	sg		
	11	carpet	sg		
A-3-1-5		furniture			
	1	pictures/paintings	sg		
	2	waste basket	sg		
	3	table	sg		
	4	cupboard	sg		
	5	rack	sg		
	6	door mats, porch	sg		
A-3-1-6		electric devices			
	1	elevator	sg	e	e
	2	stereo/background music	sg	e	e
A-3-1-7		house keeping equipment			
	1	Cleaning textiles	sg	w	w
	2	Vacuum cleaner	sg	e	e
	3	broom	sg		
A-3-1-8		Other			
	1	Plants	sg	w	w



	2	Flowers	09	w	w
A-3-2		common rooms (including the common TV room or the lounge with the piano)			
A-3-2-1		Lighting			
	1	Bulbs	09	c, w	c, w
	2	Lamp	09		
A-3-2-2		Chemical products			
	1	Cleaning	09	c	c
	2	Dishwashing	09	c	c
	3	Washing	09	c	c
	4	Impregnation	09	c	c
	5	Insects spray	09	c	c
A-3-2-3		textiles			
	1	curtains	09	w, e	w, e
	2	towels	09	w, e	w, e
	3	table cloths,	09	w, e	w, e
A-3-2-4		consumption articles			
	1	chemical air conditioner	09	c	c
	2	toilet paper	09	c	c
	3	urinal blocks	09	c	c
	4	soap	09	c	c
	5	serviettes	09	c	c
	6	paper table sets	09	c	c
	7	paper sleeves	09	c	c
	8	give-aways	09	c	c
A-3-2-5		fixed equipment / flooring / walls / ceiling			
	1	floor	09		
	2	covering	09		
	3	mirror wash basin	09		
	4	Carpet / rugs	09		
	5	windows	09		
	6	skirting boards	09		
	7	doors	09		
	8	floor heating	09	e	e
	9	heating devices	09	e	e
	10	wallpaper/painting	09		
	11	ventilation	09	e	e
	12	WC	09	w	w
	13	chemical toilet	09	e, w	e, w
	14	tap	09	e, w	e, w
A-3-2-6		Furniture			
	1	table	09		
	2	door mats, porch	09		



	3	pictures/paintings	g		
	4	cupboard	g		
	5	rack	g		
	6	waste basket	g		
	7	cloths hangers	g		
A-3-2-7		electric devices			
	1	fridges	g	e	e
	2	radiators	g	e	e
	3	radio	g	e	e
	4	stereo/background music	g	e	e
	5	TV	g	e	e
A-3-2-8		all information paper inside the common rooms			
	1	Brochures	g	c	c
	2	Maps	g	c	c
	3	Ideas box	g	c	c
	4	Info paper on the walls	g	c	c
	5	Note paper	g	c	c
	6	General info paper (tourism/environment/labelling)	g	c	c
A-3-2-10		house keeping equipment			
	1	Cleaning textiles	g	w	w
	2	Vacuum cleaner	g	e	e
	3	broom	g		
A-3-2-11		Other			
	1	Plants	g	w	w
	2	Flowers	g	w	w

Legend

g = related to purchasing

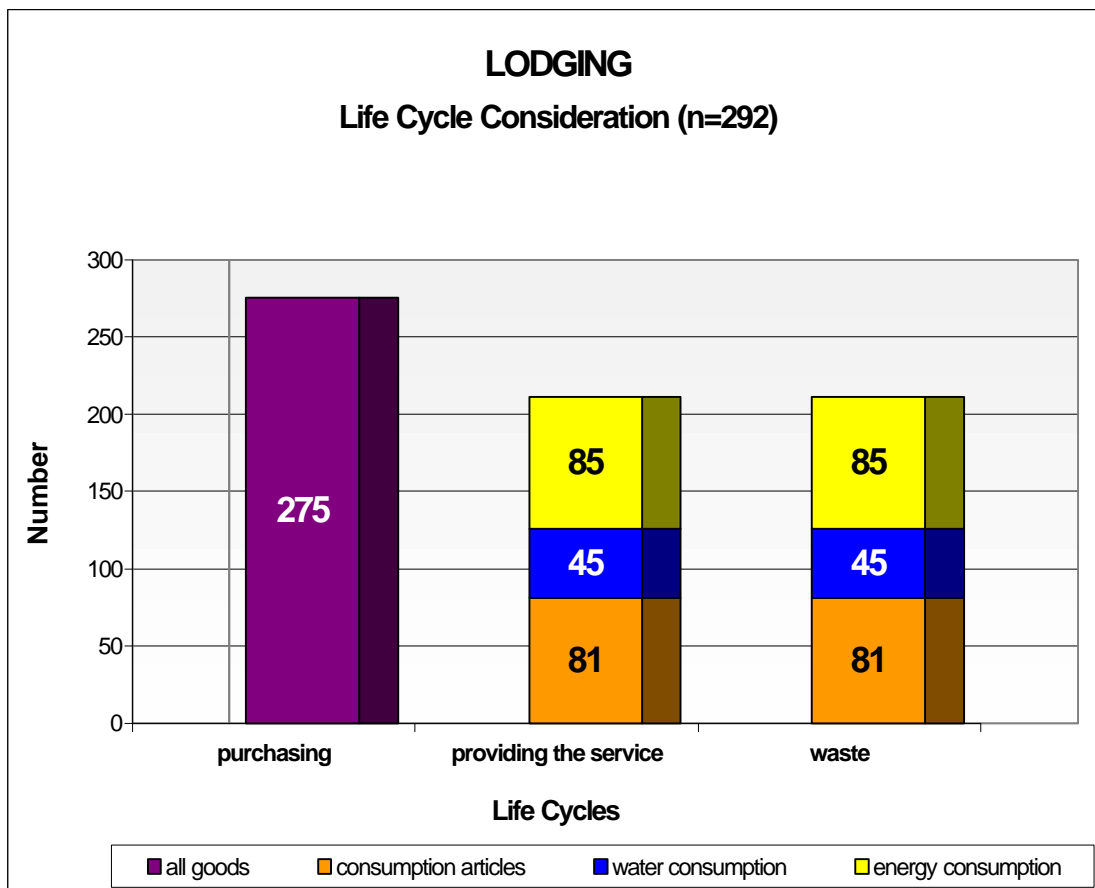
w = water consumption, waste water

e = energy consumption, emissions

c = consumption articles (incl. chemical substances)



Graph 6.4.



Result:

275 of 292 environmental issues for lodging are physical goods, and as such relevant in the purchasing phase (17 of 292 are specific management activities).

81 goods are consumed themselves as short term goods (toilet paper, give aways, washing powder for textile cleaning, etc.). The use of 45 goods causes the consumption of water, 85 goods consume energy. In consequence they end as waste, produces waste water and emissions.

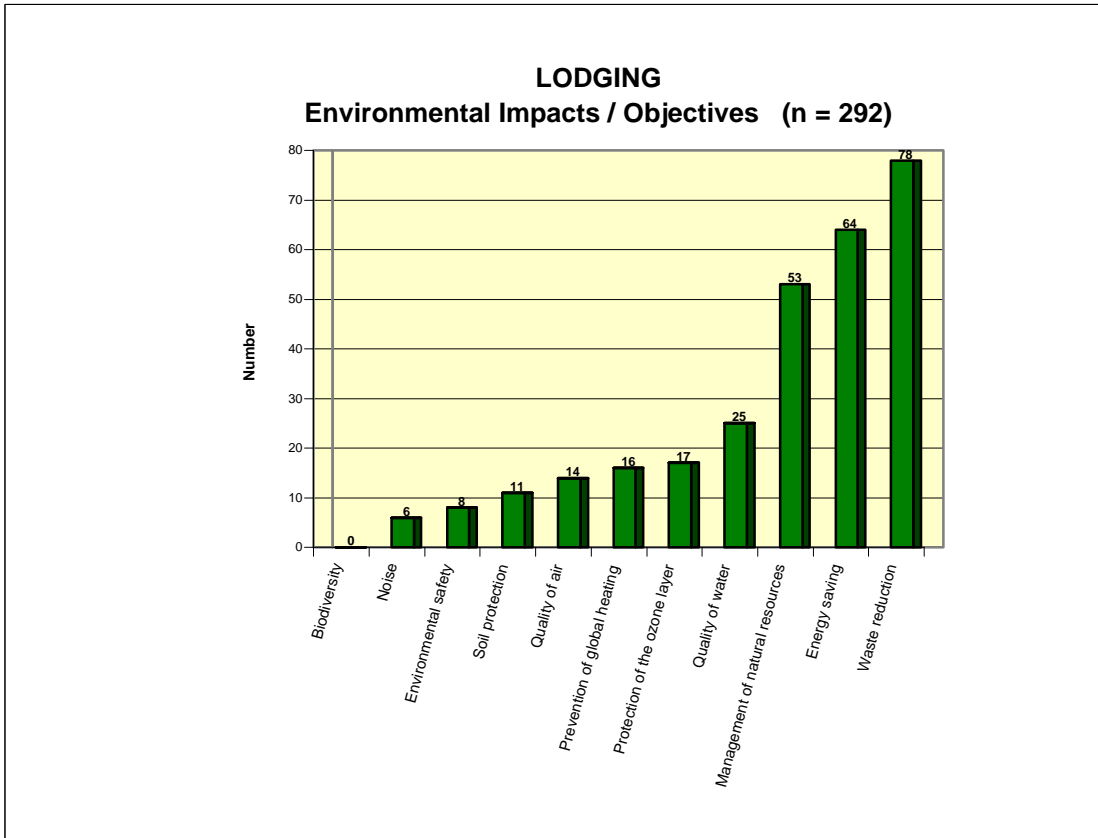
Or in other words:

3/4 of all goods used for the lodging service are consumption articles or are consuming water and/or energy. 30 % end as waste, 30 % produce emissions and contribute to the global heating, 15-20 % produce waste water including chemical waste and threaten the ozone layer, the quality of soil and the biodiversity.



Graph 6.5. Environmental impacts of the lodging service in relation to the eleven global environmental aspects

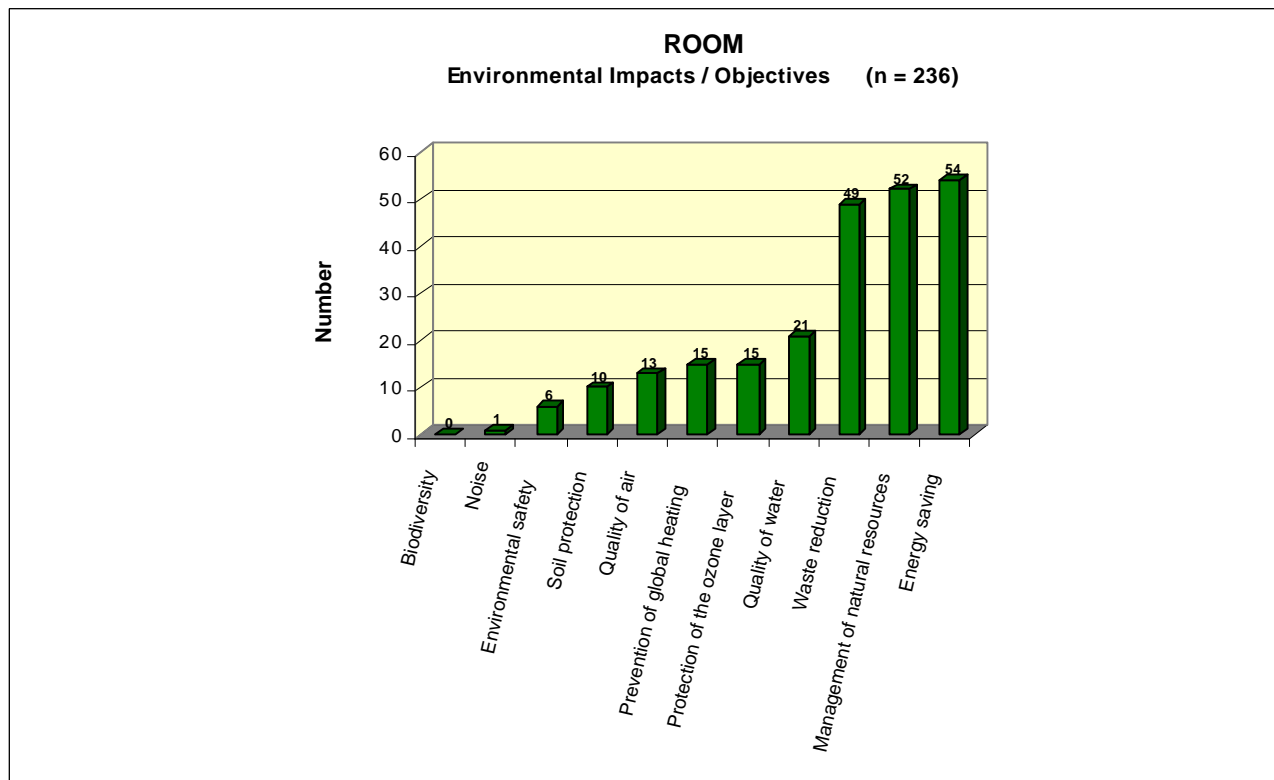
Lodging as a whole



Result:

The most important environmental impacts and objectives of the lodging service are: waste reduction, energy saving, and natural resources (above all: water). The quality of water, the protection of the ozone layer and of soil are strongly linked to the consumption of chemical substances.

Graph 6.6. room as lodging component

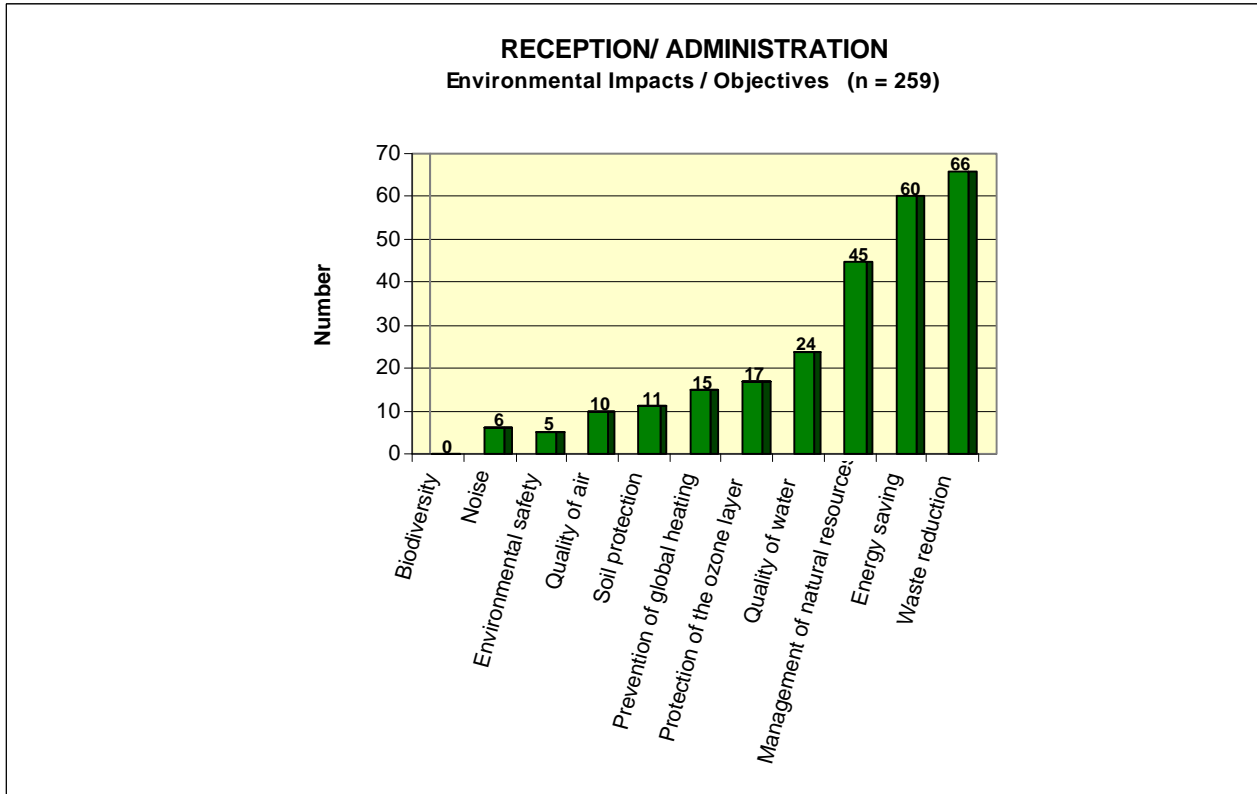


Result:

2/3 of all environmental impacts in the “room” are linked to the consumption of energy and water and the produce of waste.



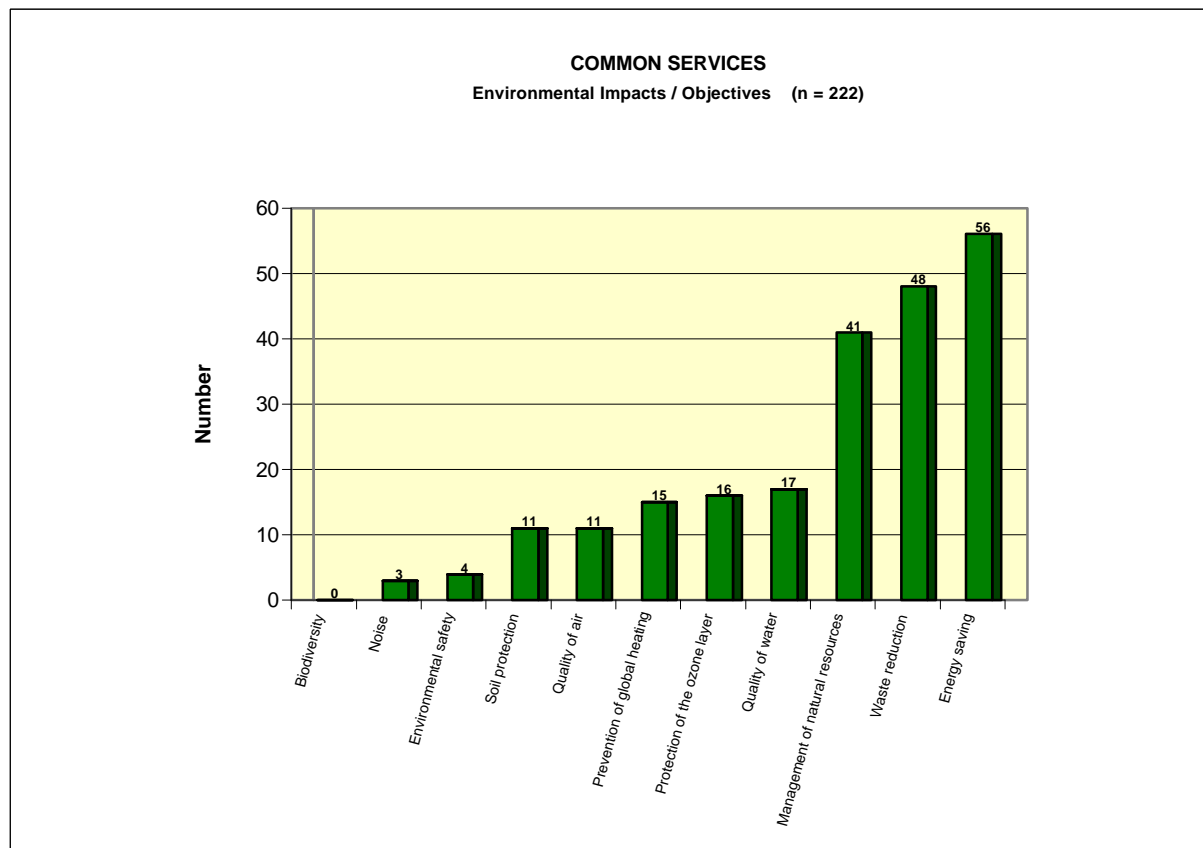
Graph 6.7. reception/administration as lodging component



Result:

2/3 of all environmental impacts in the “reception/administration” are linked to the consumption of energy and water and the produce of waste.

Graph 6.8. common services as lodging component



Result:

2/3 of all environmental impacts in the “common services” are linked to the consumption of energy and water and the produce of waste.



6.6 Conclusions

From the in depth study of the above stated national eco-labels the following points can be made:

The analysis of the environmental impacts of tourist accommodation services confirmed that the lodging service has most of the environmental impacts. These are concentrated in the three main components “room”, “reception/administration” and “common services”, and they are very similar among them.

Three quarters of the environmental impacts of all the lodging services with all their elements are linked to:

- consumption of short term consumption goods (and their end as waste)
- consumption of energy
- consumption of water

These results show that lodging is a suitable product group not only from the standpoint of legislation and standard setting initiatives, but also, from an environmental point of view.

Having set the system boundaries of the lodging service, the criteria will relate in great detail to those elements, as the way to achieve the best environmental improvements.

Three quarters of the impacts come from the consumption goods, energy and water consumption related to the other accommodation services not included in lodging. In particular, the food services and the wellness services are the two most impacting services outside the product group. The analysis of the offered services conducted and illustrated in Chapter 5 has proved itself fundamental to the identification of these services, and the determination of classes of offered services to be considered beside the lodging service has proved itself important.

The life cycle phase which most influences potential impacts is the purchase phase, as will be seen in greater detail in the next chapter. Nevertheless, the use and the waste management phases have their importance as well.

In fact the following observations can be made:

- **The quantity of the environmental impacts directly depends on the quantity of goods, of their environmental quality and their specific consumption of water and waste by use.**
- **In consequence the European Flower shall aim**
 - to the reduction of the consumption of articles which end in urban and/or hazardous waste
 - to the reduction of the consumption of water and energy when providing the services and when using the provided services



ANPA

Italian Environment Protection Agency

This shall be considered in the discussion of Chapter 7 (consumption limits) and Chapter 8 (towards criteria).



7 CONSUMPTION DATA

7.1 Introduction

The definition of the context of environmental impact assessment is such that there is no uniformly collected data which would allow a just comparison of consumption levels of the different main variables of the lodging service (energy and water consumption, and waste production) in the entire European territory.

It is important to point out that consumption is the result of the use of a good. This is in fact no less than the very fruition of the service: using resources and producing waste.

The factors influencing consumption are the quantity of resources used per minute and the time of use.

In accommodation, the main aspects of consumption are due to the following:

consumption of “consumption articles” , including disposable toiletries found in the bathroom or pens, paper and food.

- consumption of energy, water
- consumption of furniture, equipment ... and the building in general.

The first two elements are short term use, the last is a long term use.

From the analysis of the environmental impacts shown in Chapter 6 (Life Cycle considerations) and the study of the environmental issues listed in Annex I as explained in Chapter 6⁷, reducing consumption will lead to the reduction of use of resources and to the reduction of waste.

Since consumption happens in the purchase and the use phases, limiting consumption entails:

limiting the waste production from use of consumption goods

limiting the purchase of goods with high impacts on the environment (production, transport, waste)

limiting the consumption of energy and water when using and maintaining (cleaning, repairing, etc.)

the goods

The aim of this chapter is to illustrate the sources of consumption, the factors which influence the consumption levels and to justify accordingly the adoption of the most suitable measure units for consumption levels. These will influence the type of criteria which will be developed to tackle the environmental impacts due to consumption

⁷ See chapter 6 page 84, 85



7.2 Consumption of goods, water, energy

In this paragraph the consumption of goods, water and energy will be illustrated with respect to each of the life cycle phases of the lodging service, as will be illustrated in the following tables.

7.2.1 Consumption of disposal goods

As stated above, there are elements which contribute to the consumption of themselves, and their use will bring to their replacement. This means buying new elements of the same kind.

Table 7.1 lists those elements included in the system boundaries of the lodging service which are consumed by use and the activities which are responsible for their consumption. The use of some of these elements implies not only consumption of the article but also consumption of water and energy. This aspect has been included in Table 7.1.

Legend of Table 7.1.

The first and second columns report the classification number according to the table defining the system boundaries illustrated in Chapter 6. The third column reports the name of the element. The fourth column, "Purchase" refers to the fact that the element is used and must be purchased. The fifth column "Providing the service" indicates what is consumed in providing the service.

C = consumption of the good itself

E = energy

The sixth column, "Waste", indicates what is the waste product from the use of the service.

C = the good itself, which must be thrown away and disposed of

E = energy

The influencing factors are those factors which are most responsible for the consumption level of the element.

1 = physical features of the element (what material it is made of, where it comes from)

2 = lead/ staff behaviour

3 = guest behaviour

The influencing factors will be explained in further detail in the following paragraph.

The waste product of consumption goods is the element itself, which must be disposed of.



Table 7.1 Goods included in the system boundaries of the lodging service which are consumed in the use of the service

Consumption goods					
	Elements of the system boundary of the lodging service	Purchasing	Providing the service	Waste	influencing factors
A	LODGING				
A-1	Room premises				
A-1-1	Bedroom area				
A-1-1-4	Electric devices				
	1 Sewing kit	x	c	c	1
A-1-1-5	Information material - Paper				
	1 Brochures	x	c	c	3
	2 Maps	x	c	c	3
	3 Ideas box	x	c	c	3
	4 Info paper on the walls	x	c	c	3
	5 Note paper	x	c	c	3
	6 General info paper	x	c	c	3
A-1-1-7	Consumption articles				
	1 Give-aways/ disposables	x	c	c	1
	2 Stationery	x	c	c	1
A-1-1-8	Lighting				
	1 Bulbs	x	c, e	c, e	1
A-1-1-9	Chemical products				
	1 Cleaning	x	c	c	2
	2 Washing	x	c	c	2
	3 Dishwashing	x	c	c	2
	4 Impregnation	x	c	c	2
	5 Insects spray	x	c	c	2
A-1-2	Private bathroom				
A-1-2-4	Consumption articles				
	1 Shampoo	x	c	c	1
	2 Shower creme	x	c	c	1
	3 Foam baths	x	c	c	1
	4 Shower cap	x	c	c	1
	5 Toilet paper	x	c	c	1
	6 Soap	x	c	c	1
	7 Conditioner	x	c	c	1
	8 Sprays	x	c	c	1
	9 Chemical air conditioner	x	c	c	1
	10 Urinal blocks	x	c	c	1
	11 Serviettes	x	c	c	1
	12 Paper sleeves	x	c	c	1
A-1-2-5	Lighting				
	1 Bulbs	x	c, e	c, e	1



Table 7.1 Goods included in the system boundaries of the lodging service which are consumed in the use of the service, continued

		Elements of the system boundary of the lodging service	Purchasing	Providing the service	Waste	influencing factors
A-2		Reception / administration areas				
A-2-3		Lighting				
	1	Bulbs	x	c, e	c, e	1
A-2-4		Chemical products				
	1	Cleaning	x	c	c	2
	2	Washing	x	c	c	2
	3	Dishwashing	x	c	c	2
	4	Impregnation	x	c	c	2
	5	Insects sprays	x	c	c	2
A-2-6		Consumption articles				
	1	paper	x	c	c	1
	2	stationery	x	c	c	1
	3	slides	x	c	c	1
	4	ink container	x	c	c	1
	5	chemical air conditioner	x	c	c	1
	6	urinal blocks	x	c	c	1
	7	paper sleeves	x	c	c	1
	8	toilet paper	x	c	c	1
	9	Soap	x	c	c	1
	10	serviettes	x	c	c	1
A-2-9		All information material - Paper				
	1	Brochures	x	c	c	3
	2	Maps	x	c	c	3
	3	Ideas box	x	c	c	3
	4	Info paper on the walls	x	c	c	3
	5	Note paper	x	c	c	3
	6	General info paper (tourism/environment/labelling)	x	c	c	3



Table 7.1 Goods included in the system boundaries of the lodging service which are consumed in the use of the service, continued

		Elements of the system boundary of the lodging service	Purchasing	Providing the service	Waste	influencing factors
A-3		COMMON ROOMS- Facilities to reach the lodging premises				
A-3-1		Corridors / extra room				
A-3-1-1		Lighting				
	1	Bulbs	x	c, e	c, e	1
A-3-1-2		Chemical products				
	1	Cleaning	x	c	c	2
	2	Washing	x	c	c	2
	3	Dishwashing	x	c	c	2
	4	Impregnation	x	c	c	2
	5	Insects spray	x	c	c	2
A-3-2		common rooms (including the common TV room or the lounge with the piano)				
A-3-2-1		Lighting				
	1	Bulbs	x	c, e	c, e	1
A-3-2-2		Chemical products				
	1	Cleaning	x	c	c	2
	2	Dishwashing	x	c	c	2
	3	Washing	x	c	c	2
	4	Impregnation	x	c	c	2
	5	Insects spray	x	c	c	2
A-3-2-4		Consumption articles				
	1	chemical air conditioner	x	c	c	1
	2	toilet paper	x	c	c	1
	3	urinal blocks	x	c	c	1
	4	soap	x	c	c	1
	5	serviettes	x	c	c	1
	6	paper table sets	x	c	c	1
	7	paper sleeves	x	c	c	1
	8	give-aways	x	c	c	1
A-3-2-8		All information paper inside the common rooms				
	1	Brochures	x	c	c	3
	2	Maps	x	c	c	3
	3	Ideas box	x	c	c	3
	4	Info paper on the walls	x	c	c	3
	5	Note paper	x	c	c	3
	6	General info paper (tourism/environment/labelling)	x	c	c	3



7.2.2 Consumption of energy by using the goods (TV, hot shower, washing machine/laundry)

There are elements of the lodging service the use of which, in the short term, mainly implies a consumption of energy rather than the consumption of the element itself.

For example, a hair dryer consumes energy as the main short term effect. The hair dryer itself is also used, and one day will need to be replaced, but this use is a long term effect. We can compare this to the consumption of toiletries, for example the disposable shampoo (and to the elements listed in Table 7.1) : there the main short term consumption is of the element itself.

The elements responsible mainly for energy consumption are listed in Table 7.2.

The first and second columns of Table 7.2 report the classification number according to the table defining the system boundaries illustrated in Chapter 6. The third column reports the name of the element. The fourth column, "Purchase" refers to the fact that the element is used and must be purchased. The fifth column "Providing the service" indicates what is consumed in providing the service.

C = consumption of the good itself

E = energy

W = consumption of water

The sixth column, "Waste", indicates what is the waste product from the use of the service.

C = the good itself, which must be thrown away and disposed of

E = energy

W = water

The influencing factors are those factors which are most responsible for the consumption level of the element.

1 = physical features of the element (what material it is made of, where it comes from)

2 = lead/ staff behaviour

3 = guest behaviour

The waste product of energy are emissions.



TABLE 7.2 Elements in the system boundary of the lodging service responsible for energy consumption

Consumption of energy						
		Elements included in the system boundaries of the lodging service	Purchasing	Providing the service	Waste	influencing factors
		indirect objectives				
A		LODGING				
A-1		Room premises				
A-1-1		Bedroom area				
A-1-1-1		<i>Size of the room</i>				
A-1-1-2		Fixed equipment/flooring/walls/ceiling				
	1	Floor heating	x	e	e	1
	2	Heating devices	x	e	e	1
	3	Ventilation	x	e	e	1
A-1-1-4		<i>Electric devices</i>				
	1	Hair dryer	x	e	e	1
	2	Frigo-bar	x	e	e	1
	3	Coffee/tea machine	x	e, w	e,w	1
	4	Show polish	x	e	e	1
	5	Radiators	x	e	e	1
	6	Radio	x	e	e	1
	7	TV	x	e	e	1
	8	Phone	x	e	e	1
	9	Internet access	x	e	e	1
	10	stereo	x	e	e	1
A-1-1-6		<i>Textiles</i>				
	1	Sheets	x	e, w	e, w	2
	2	Curtains	x	e, w	e, w	2
	3	Table cloths	x	e, w	e, w	2
	4	covers	x	e, w	e, w	2
A-1-1-8		<i>Lighting</i>				
	1	Bulbs	x	c, e	c, e	1
A-1-1-10		<i>House keeping equipment</i>				
	1	Vacuum cleaner	x	e	e	2
	2	Cleaning textiles	x	e, w	e, w	2



TABLE 7.2 Elements in the system boundary of the lodging service responsible for energy consumption, continued

		Elements included in the system boundaries of the lodging service	Purchasing	Providing the service	Waste	influencing factors
A-1-2		Private bathroom				
A-1-2-1		<i>Size of the bathroom</i>				
A-1-2-2		<i>Fixed sanitay equipment</i>				
	1	Chemical toilet	x	e,w	e, w	1
	2	Tap	x	e, w	e, w	1
A-1-2-3		<i>Textiles</i>				
	1	Towels	x	e, w	e, w	2
	2	Shower curtain	x	e, w	e, w	2
A-1-2-5		<i>Lighting</i>				
	1	Bulbs	x	c, e	c, e	1
A-1-2-7		<i>Fixed equipment / flooring / walls / ceiling</i>				
	1	Ventilation	x	e	e	1
	2	Floor heating	x	e	e	1
	3	Heating devices	x	e	e	1
A-1-2-8		<i>Electric devices</i>				
	1	Hair dryer	x	e	e	1
	2	Hand-dryer	x	e	e	1
	3	Radiators	x	e	e	1
A-1-2-11		<i>House-keeping equipment</i>				
	1	Vacuum cleaner	x	e	e	2
	2	Cleaning textiles	x	e, w	e, w	2
A-2		Reception / administration areas				
A-2-2		<i>Electric devices</i>				
	1	fax	x	e	e	1
	2	Xerox copy machine	x	e	e	1
	3	personal computer	x	e	e	1
	4	printing machine	x	e	e	1
	5	overhead projector	x	e	e	1
	6	video	x	e	e	1
	7	beamer	x	e	e	1
	8	screen	x	e	e	1
A-2-3		<i>Lighting</i>				
	1	Bulbs	x	c, e	c, e	1
A-2-5		<i>Textiles</i>				
	1	table cloths	x	e, w	e, w	2
	2	curtains	x	e, w	e, w	2
	3	work cloths	x	e, w	e, w	2
	4	towels	x	e, w	e, w	2
A-2-7		<i>House keeping equipment</i>				
	1	Cleaning textiles	x	e, w	e, w	2
	3	Vacuum cleaner	x	e	e	2



TABLE 7.2 Elements in the system boundary of the lodging service responsible for energy consumption,						
		Elements included in the system boundaries of the lodging service	Purchasing	Providing the service	Waste	influencing factors
A-2-10		<i>Electric devices</i>				
	1	fridges	x	e	e	1
	2	radiators	x	e	e	1
	3	radio	x	e	e	1
	4	stereo/background music	x	e	e	1
	5	hand-dryer	x	e	e	1
A-2-11		<i>Fixed equipment / flooring / walls / ceiling</i>				
	1	tap	x	e, w	e, w	1
	2	ventilation	x	e	e	1
	3	heating devices	x	e	e	1
	4	floor heating	x	e	e	1
A-3		COMMON ROOMS- Facilities to reach the lodging premises				
A-3-1		Corridors / extra room				
A-3-1-1		<i>Lighting</i>				
	1	Bulbs	x	c, e	c, e	1
A-3-1-3		<i>Textiles</i>				
	1	Table cloths	x	e, w	e, w	2
	2	Curtains	x	e, w	e, w	2
A-3-1-4		<i>Fixed equipment / flooring / walls / ceiling</i>				
	3	ventilation	x	e	e	1
	4	floor heating	x	e	e	1
	5	heating devices	x	e	e	1
A-3-1-6		<i>Electric devices</i>				
	1	elevator	x	e	e	1
	2	stereo/background music	x	e	e	1
A-3-1-7		<i>House keeping equipment</i>				
	1	Cleaning textiles	x	e, w	e, w	2
	2	Vacuum cleaner	x	e	e	2
	3	broom	x			2
A-3-2		Common rooms (including the common TV room or the lounge with the piano)				
A-3-2-1		<i>Lighting</i>				
	1	Bulbs	x	c, e	c, e	1
A-3-2-3		<i>Textiles</i>				
	1	curtains	x	e, w	e, w	2
	2	towels	x	e, w	e, w	2
	3	table cloths	x	e, w	e, w	2
A-3-2-5		<i>Fixed equipment / flooring / walls / ceiling</i>				
	1	floor heating	x	e	e	1
	2	heating devices	x	e	e	1
	3	ventilation	x	e	e	1
	4	chemical toilet	x	e, w	e, w	1
	5	tap	x	e, w	e, w	1
A-3-2-7		<i>Electric devices</i>				
	1	fridges	x	e	e	1
	2	radiators	x	e	e	1
	3	radio	x	e	e	1
	4	stereo/background music	x	e	e	1
	5	TV	x	e	e	1
A-3-2-9		<i>House keeping equipment</i>				
	1	Cleaning textiles	x	e, w	e, w	2
	2	Vacuum cleaner	x	e	e	2



7.2.3 Consumption of water by using the goods (shower, toilet, washing machine/laundry)

Table 7.3 lists the elements of the lodging service the use of which requires water. When energy is also consumed it is reported. In fact, water and energy often are used together.

As in the tables above, in Table 7.3, the first and second columns report the classification number according to the table defining the system boundaries illustrated in Chapter 6. The third column reports the name of the element. The fourth column, “Purchase” refers to the fact that the element is used and must be purchased. The fifth column “Providing the service” indicates what is consumed in providing the service.

C = consumption of the good itself

E = energy

W= consumption of water

The sixth column, “Waste”, indicates what is the waste product from the use of the service.

C = the good itself, which must be thrown away and disposed of

E = energy

W = water

The influencing factors are those factors which are most responsible for the consumption level of the element.

1 = physical features of the element (what material it is made of, where it comes from)

2 = lead/ staff behaviour

3 = guest behaviour

The waste product of elements using water is waste water.



7.3 Influencing factors for consumption

As was introduced above, consumption depends upon factors in all three phases of the life cycle. In the tables 7.1-7.3 were reported the three main factors influencing consumption during the use phase.

Following are listed briefly the factors influencing consumption in all three phases of the life cycle.

In the **PURCHASING** phase consumption of material goods depends on how much material is bought and of which kind; the consumption of resources depends on use.

The influencing factors are of either are :

- 1. services offered, level of luxury (type of accommodation)**
- 2. size of building (nr. of rooms > energy), size of rooms (>energy, chemicals for cleaning)**
- 3. technical standard of building (e.g. insulation material)**
- 4. climatic conditions (e.g. altitude > energy)**
- 5. environmental quality of the goods (consumption, use)**
6. national, regional legislation (>waste management, taxes, regulation for minimum qualities and consumption)
7. local/regional availability of goods: offer, cost
8. expectations of guests (fit for use)
9. direct competitiveness in the destination (fit for use)

In bold are reported the influencing factors having more influence.

In **PROVIDING THE SERVICE**, consumption of both material goods and resources depends on :

- 1. behaviour of guests**
- 2. working methods of lead/staff**
3. climatic conditions
- 4. technical standard of building (e.g. insulation material)**
5. season (summer, winter)
6. occupancy rate
7. national, regional legislation (>waste management, taxes, regulation for minimum qualities and consumption)
8. size of accommodation, size of rooms
- 9. services offered, level of luxury (type of accommodation)**
10. direct competitors (fit for use)

The amount and the kind of waste produced depends on the two phases above; this waste can undergo a different **WASTE MANAGEMENT**, depending of the following factors:

- 1. working methods of lead/staff**
- 2. behaviour of guests**
- 3. local/regional waste management**
4. climatic conditions



5. national, regional legislation (>waste management, taxes, regulation for minimum qualities and consumption)
6. services offered (type of accommodation)

7.4 Availability of Consumption data

There is a lack of thorough, reliable and comparable data which cannot be filled until consumption collection becomes habitual rather than exceptional and left to positive cases as it is now.

Since the factors influencing consumption are many and diverse, data should be such as to allow an analysis of the influence of all these factors, even from a statistical point of view.

In order for data based on effective consumption to be reliable and in order to make truthful considerations on them, there would be the need of the following type of data:

Consumption data of accommodation establishments which represent the overall quantities of consumption in dependence on main influencing factors.

No consumption data are available which

- represent all types of accommodation which offer the “lodging service”
- represent only the lodging service and its degrees of luxury
- represent all types of climatic zones in Europe

Individual data for specific accommodation establishments are available, but they do not represent a specific type of accommodation, country, size, service class, level of environmental friendliness, level of luxury, the local waste collection system, national environmental legislations, etc.

Some data are available which

- illustrate/ represent the diversity of consumption of energy and water in relation to some influencing factors for a special type of accommodation in a given region or country, e.g. comparing consumption data in hotels in Germany.

Consumption data of accommodation establishments which represent the specific quantities of consumption of each individual consumption good or element consuming energy or water when using the service.

No consumption data are available at accommodation establishments which represent the time per day/night which guest in hotels in Europe use for showering or for watching TV.

NOTE: there may be data available which represent the “average consumption” of energy of all TV used in Europe per hour or of all showers used in Europe per minute. Such data may be available at existing Eco-labels for goods (including the European Flower)

The result of such a research may give an idea for the definition of limit consumption units and criteria (Chapter 8).



Example for overall consumption data (per overnight)

The following example of available data shall illustrate the difficulty to set limit consumption data from a technical point of view (other reasons for not defining “overnight stay” as consumption limit unit are shown above).



Table 7.4 : Consumption of energy and water in Hotels in Germany (1996)

Consumption	Energy average kwh	Energy min	Energy max	Water average litre	Water min.	Water max.
Type of hotel						
All hotels (101; 107)	66,9	10,1	206,4	337	112	876
City hotels (77)	57,3	10,1	157,9	309	112	876
Number of rooms						
1-50 rooms (3)	59,3	38,9	71,8	534	273	876
51-100 rooms (11; 15)	47,9	30,5	99,8	282	112	595
101-150 rooms (25; 23)	47,8	14,8	106,7	275	125	584
151- 200 rooms (18; 19)	59,5	31,3	107,5	271	134	513
201-300 rooms (8; 10)	81,5	47,1	157,9	330	180	705
> 300 rooms (3)	63,9	10,1	150,3	389	180	595
Services: wellness						
Normal services (24)	40,1	10,1	93,4	254	140	584
Advanced services (34; 33)	52,5	22,4	99,8	282	125	876
First class services (20; 26)	86,0	36,1	157,9	393	112	705
Holiday & Spa hotels (24)	97,6	15,8	206,4	435	188	727
Number of rooms						
51-100 rooms (11)	84,1	39,8	173,3	428	188	682
101-150 rooms (7)	104,8	15,8	166,5	428	215	533
Services: wellness						
Normal services (4)	66,9	15,8	149,7	355	250	479
Advanced services (13; 12)	91,7	24,1	166,5	475	188	727
First class services (7;8)	126,1	36,0	206,4	415	215	682

(Source: Bundesweiter umweltorientierter Hotelbetriebsvergleich (Dröscher, 1997), table composed by ECOTRANS)

The sub-groups were chosen in relation to two main influencing factors:

- Size of the accommodation, represented by the number of rooms
- Existence of services: wellness
- Existence of sub-services within wellness: fitness, solarium, sauna, swimming pool (indoor), swimming pool (outdoor), whirl pool

Further factors were assessed but not shown in the table:

- existence of energy management techniques
- existence of environmental activities and management

Use of these data:



- They allow to say that the overall consumption per overnight in hotels is higher than the average consumption in households in Germany (ca. 130 – 150 l)
- They give an idea of the diversity of overall consumption of energy and water within sub-groups and their dependence on the services offered and the individual goods/sub-services offered (e.g. within “city hotels with 51-100 rooms”: water consumption/ overnight stay differs between 112 l – 595 l, the average consumption is 282 l).
- These comparison data (Germany) do not specify regional differences (climatic zones).
- They do not include the produce of waste or the consumption of chemical substances.

7.5 Consumption units

It is well understandable how the factors influencing consumption make the choice of the measure unit for consumption a very important matter.

There are two types of consumption units “subjective” and “objective” units. The subjective units represent the effective consumption, the objective units represent potential consumption.

Effective consumption depends on both the technical features of the elements and on their use. For example: the consumption of energy due to the use of a hair dryer depends on the power of the hair dryer and on the number of minutes which the hair dryer is used.

It is subjective because the number of minutes which the hair dryer is used depends on customer behaviour. Adopting as measure unit energy per overnight takes customer use into account. It is clear that customer use is subjective.

Objective measure units are those which, on the other hand, exclude behaviour, and take into account only the technical features of the elements. Objective measure units guide potential consumption, the consumption which depends on technical features of the good and not on its use. These units are energy per minute, water per minute, waste per volume or area.

Summarizing:

- *effective consumption = per overnight stay = subjective consumption*
- *potential consumption = per time, m² or weight = objective consumption*

Consumption units are not practicable when mainly influenced by external objective factors and/or by the behaviour of guests.

These are the units such as:

- per overnight stay (influenced by behaviour of guest, climatic conditions, legislation, size, etc.)
- quantity of goods purchased and used by guests (level of luxury, services offered)



Consumption units are practicable when mainly influenced by internal factors:

- quality of goods (life time, environmental quality for production, transportation, waste) as far as the goods are available and the purchase does not strongly endanger the competition (difference between higher long termed cost and long termed savings/raise of image competitiveness), e.g. % of recycled paper
- potential quantity of consumption of energy and water, e.g. flow of water/ minute/ shower head, % of the energy saving bulbs installed)

Adopting objective consumption units seems the best way to establish objective measurements in order to assess the “being better than”. This will be also important for the successive phase of verification of compliance to the EU eco-label criteria scheme.

Therefore, in order to develop objective requirements and make objective assessments on consumption, it is necessary to adopt objective measure units. As has been illustrated, this means considering potential consumption.

Table 7.5 reports the potential objective units for the elements of the lodging service identified within the system boundaries.



Table 7.5 Objective measure units for consumption.

ACCOMMODATION / ESTABLISHMENT

		Elements included in the system boundaries of the lodging service	Consumption Units Examples
		COMPONENTS LODGING	
		Accommodation / Establishment	
		Building	
0-4			
0-4-2	1	insulation	square meters (of insulation)
		Fixed equipment	
0-5-1	1	heating boilers	joules emitted per cubic meter of gas
0-5-3	2	energy supply	joules emitted per energy source
		House keeping	
0-6-2	1	washing	grams of washing detergent / kg of laundry
0-6-3	2	heating	cubic meters of gas / square meter of accommodation
		CONSUMPTION GOODS	
		LODGING	
		Room premises	
		Bedroom area	
A-1-1-8		Lighting	
	1	Bulbs	Kw / hour
A-1-1-9		Chemical products	
	1	Cleaning	grams / kg
		Private bathroom	
A-1-2-4		Consumption articles	
	1	Shampoo	number of articles / room
	2	Soap	number of articles / room
	3	Conditioner	Kw / hour
	4	Chemical air conditioner	grams of impacting agent
		Elements included in the system boundaries of the lodging service	Consumption Units Examples
		CONSUMING ENERGY	
		LODGING	
		Room premises	
		Bedroom area	
	1	Ventilation	Kw / hour
	2	Hair dryer	dB (A)
	3	Frigo-bar	Kw / hour
A-1-1-8		Lighting	
	1	Bulbs	Kw / hour
		Private bathroom	
A-1-2-2		Fixed sanitay equipment	
	2	Tap	liters / minute
		Reception / administration areas	
A-2-2		electric devices	
	1	Xerox copy machine	dB (A) of exceeding noise appliances (noise level)
A-2-10		electric devices	
	1	fridges	grams / fridge
		CONSUMING WATER	
		LODGING	
		Room premises	
		Bedroom area	
		Private bathroom	
A-1-2-2		Fixed sanitay equipment	
	1	WC	liters / flush



7.6 Conclusions

It has been seen in this Chapter that consumption depends on both objective parameters and on subjective behaviour.

The Regulation 1980/2000 requires that requirements set by the criteria be measurable and quantifiable, in order to establish a condition which is “better than” others.

The lack of reliable and comparable data on effective consumption of tourist accommodation does not allow fair and realistic effective consumption limits to be set.

The only way now to set limits which may be evaluated and quantified are those based on potential consumption.

The main areas of consumption having environmental impacts have been identified in the use of natural resources, of water, of energy and in the production of waste.

Following the identification of the system boundaries of the product group lodging, the elements included have been identified in relation to their impact on consumption in each of the above mentioned main areas, as can be seen from Tables 7.1 – 7.3.

In particular, our analysis of the existing eco-labels allows us to identify :

- In relation to which goods the consumption of energy and water is relevant
- for which consumption goods environmental qualities shall be considered
- which kind of technical standard these goods shall (not) have

or in other words, the analysis allows us to know for which goods and use of the goods (provision of service) specific limit consumption criteria can or shall be developed.



ANPA

Italian Environment Protection Agency



8 Towards criteria

8.1 Introduction

In this chapter the characteristics of the criteria for the EU Eco-label will be discussed, their purpose and the steps through which they will be developed.

In the past chapters the analysis of the environmental criteria served to identify, of the accommodation service as a whole and of the lodging service in particular the following points :

1. the main environmental impacts, objectives and potential for improvement (Chapter 6.3.2; Ch 6.4)
2. the relation of these impacts to the phases of the life cycle (Ch. 6.4)
3. the importance of the lodging service and of the other services offered in accommodation ((Ch. 4.3)
4. the main components of the lodging service : room, reception/administration, common services (Ch. 5.3; Ch 6.5)
5. the variety and long list of the of goods consumed and services offered and used in the lodging service (Ch 7.2)
6. the relation between energy, water, chemical substance and resource consumption and waste production and consumption goods and the use of services (Ch. 7.2)
7. the main direct influencing factors for these environmental impacts (Ch.7.3)
8. the potential consumption units to be used for criteria (Chapter 7.5)
9. the types of criteria to be directed to the main actors (lead, staff, guests) (Chapter 8)
10. the potential of existing criteria in becoming European criteria (Chapter 8)

These last two points will be further discussed in this chapter which will lead us Toward Criteria.

8.2 Factors influencing criteria development

In developing criteria for a European eco-label the following points need to be kept in mind:

1. the aims of the criteria and the requirements which they have to fulfil,
2. the environmental improvements to be achieved by these criteria,
3. the specific requirements for criteria which can be proposed at a European level,
4. the types of criteria which are required to achieve specific environmental improvements.

The development of criteria for tourist accommodation requires a reliable overview of the environmental impacts on a European level of the product group, considering the life cycle of the elements constitution the product group.

Compared to industrial products services are highly dependent on regional, cultural or other influences and conditions. The services offered in an accommodation enterprise are not “delivered to the consumer”, the consumer is consuming the service directly on the place of “production”. For



this reason the factors influencing the place of production and use of the service also influence the accreditation scheme of the Eco-label.

8.3 Conception frame

In this chapter the conceptual framework of the EU Eco-label criteria will be described. The methodology of analysis of the criteria from the three main European eco-labels was described in Chapter 3. This analysis gave the results obtained in Chapters 6 and 7 on environmental impacts of the lodging service and modelled the approach to the issue of consumption.

8.3.1 Aims of the EU criteria

In Chapter 6 the sources for the main environmental impacts of tourist accommodation, and in particular of the lodging service were identified in:

1. energy consumption
2. water consumption
3. use of chemical substances
4. waste production

The criteria for the EU Eco-label shall aim at reducing the impacts deriving from these main sources. Taking into account the results from Chapter 5, the criteria will not only consider the environmental impacts due to the product group lodging service but also, although with a different degree of detail, consider the other services offered (see Chapter 5), in order to positively influence the environmental performance of the entire accommodation service.

8.3.2 Environmental improvements to be achieved by the criteria

The Regulation 1980/2000 reports 11 environmental issues which should be tackled by the criteria as objectives for the reduction of negative environmental impacts of the EU Eco-label product group. These issues have been discussed in Chapter 6. In terms of criteria development, these issues become environmental objectives.

These objectives can be identified as “direct” or “indirect”, according to whether they are a direct or indirect consequence of compliance to criteria.

Table 8.1 lists the direct and indirect environmental objectives from the 11 environmental issues listed in Annex I of the Regulation 1980/2000.

Table 8.1 The environmental issues listed in Annex I of the Regulation 1980/2000 seen as direct and indirect environmental objectives for the EU criteria

Direct Environmental Objective	Indirect Environmental Objective
Quality of air	Soil protection



Quality of water	Prevention of global heating
Energy saving	Ozone layer protection
Waste reduction	Environmental safety
Management of resources	
Biodiversity	
Noise	

8.3.3 Specific requirements for criteria which can be proposed at a European level

In order to achieve environmental improvements, the criteria for the EU Eco-label will need to satisfy a few conditions which can be identified as follows: they must

- be effective from an environmental point of view
- be applicable in all countries in Europe
- not limit consumer comfort (fit for use)
- not discriminate any applicant

Moreover, since the assessment of compliance and verification of the results is necessary to the EU Eco-label scheme, the criteria shall

- lead to measurable and comparable results,
- allow a low cost verification of the compliance with the scheme,
- allow a good combination between on-site verification and self-assessment.

(the verification system shall be defined later in detail)



8.4 Criteria Structure

8.4.1 Types of criteria

The criteria shall achieve the highest possible environmental improvement of the lodging service constituted by its elements (goods and services) in all the phases of their life cycle (for example, the criteria shall lead to the “non-purchase” of goods which have high negative environmental impacts or shall increase an environmentally friendly behaviour at guests in their use of any service having environmental impacts).

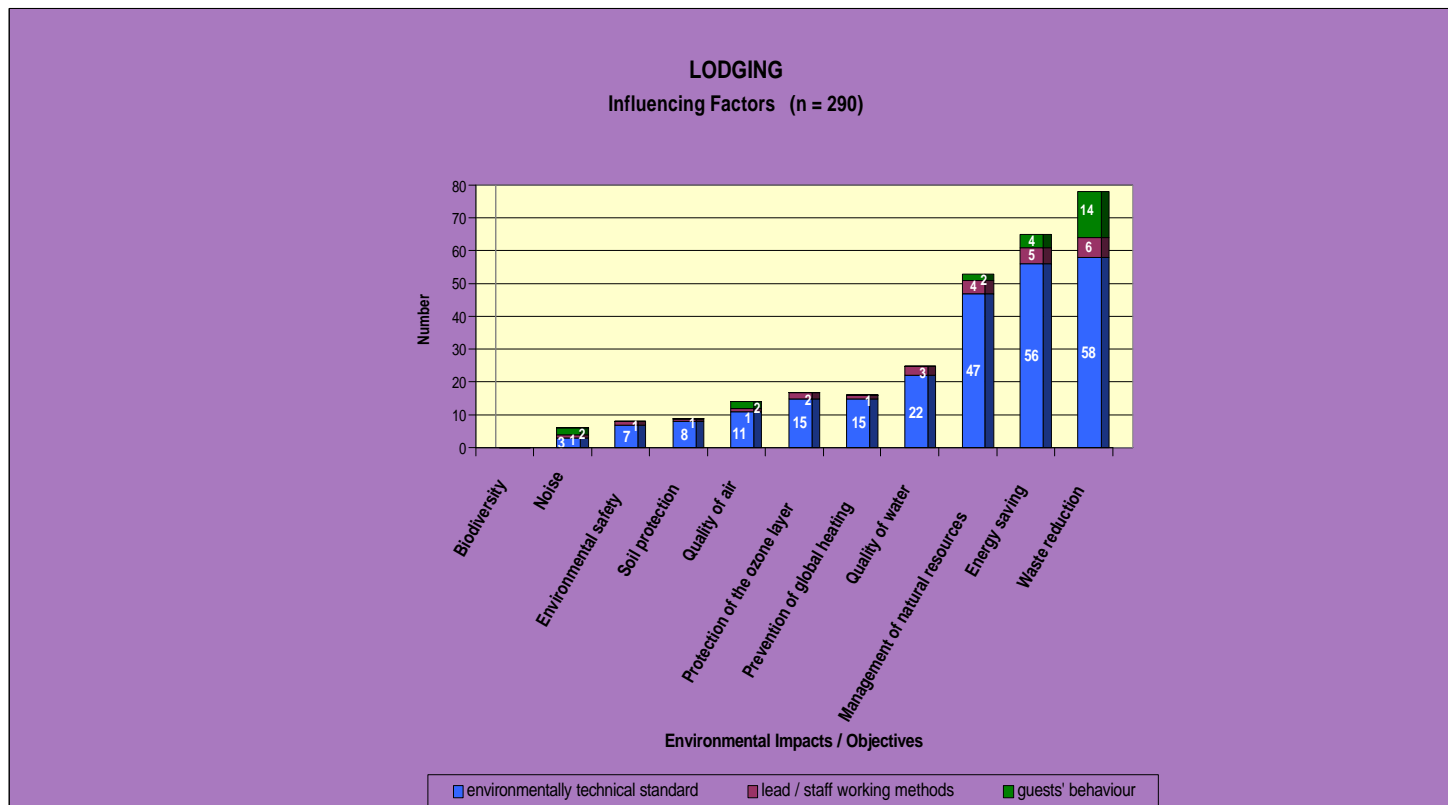
In order to achieve these specific objectives the criteria shall directly be addressed to the influencing factors for environmental impacts (see chapter 7).

Looking at the fields of action of the potential criteria for the Eco-label, the technical performances of the goods, the behaviour of lead, staff and guests, they can be grouped into three types:

- **Management criteria**
- **Measure criteria**
- **Limit criteria**

These different types of criteria will be necessary to influence their relative factors responsible for environmental impacts. The criteria may be general or specific in nature, depending on whether they are applied to the whole accommodation service or to a specific service.

Graph 8.1 reports the main influencing factors of the lodging service on the different environmental objectives of the Regulation.



Graph 8.1 The main influencing factors of the product group lodging service on the main environmental issues reported by Annex I of the Regulation

Result: The technical standard is represented in the colour blue, lead and staff behaviour in red and guest behaviour in green. From the analysis of 290 criteria from the three main European eco-labels, it can be seen that the technical standard can be considered the most important factor influencing the consumption of energy, of water and the production of waste. It may be useful to remind that the consumption of water is reported as “management of natural resources”.

About 3/4 of the relevant criteria are directed to a high technical standard, about 1/3 of the criteria are directed to staff work and guest behaviour.



8.4.2 Distribution of the types of criteria in the different elements of the lodging service

Even taking the elements of the lodging service more specifically, the same result is obtained: the technical measures are those criteria which most could influence the environmental impacts.

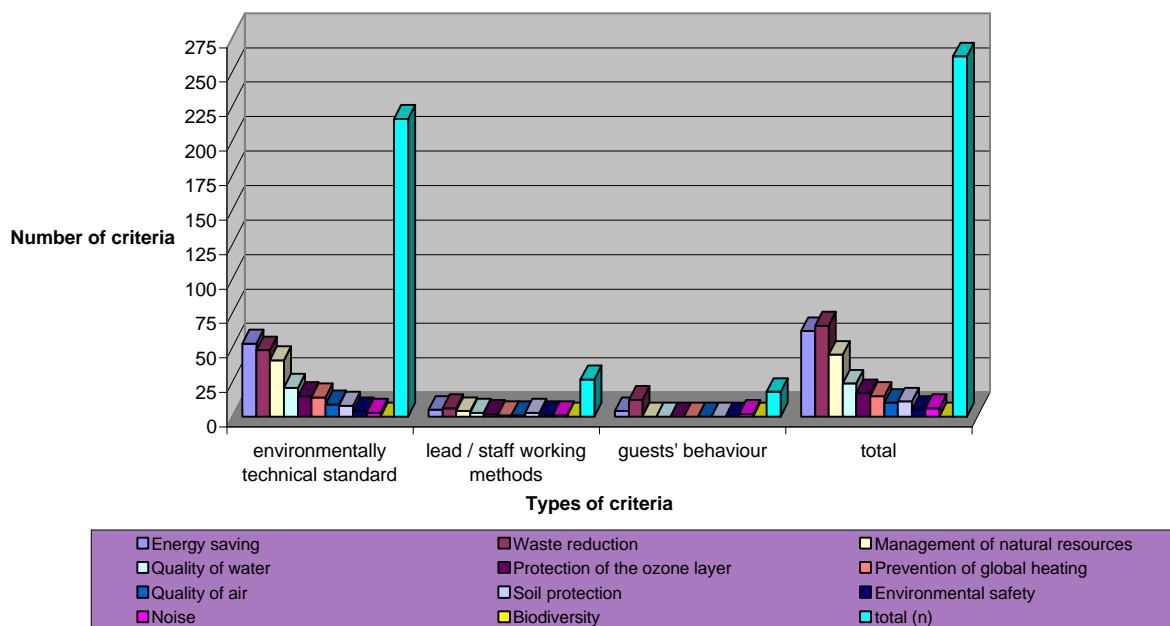
In the **administration** the main impacts are on waste production and management of natural resources. According to the analysis carried out, the measure criteria are 82% of total relevant criteria. The impacts are mainly due to technical measures and are mainly addressed to energy saving. The staff behaviour has influence on all environmental objectives and guests participate mainly in waste production.

Graph 8.2 reports the influencing factors of the administration area, Graph 8.3 reports the number of measure, management and limit criteria relative to the administration. 216 out of 260 criteria regulation administration impacts are measure criteria.

The impacts are reported with respect to the environmental issues listed in Annex I of the Regulation 1980/2000

Graph 8.2 reports factors influencing the administration area: the environmentally technical standard of the goods, the lead and guest behaviour.

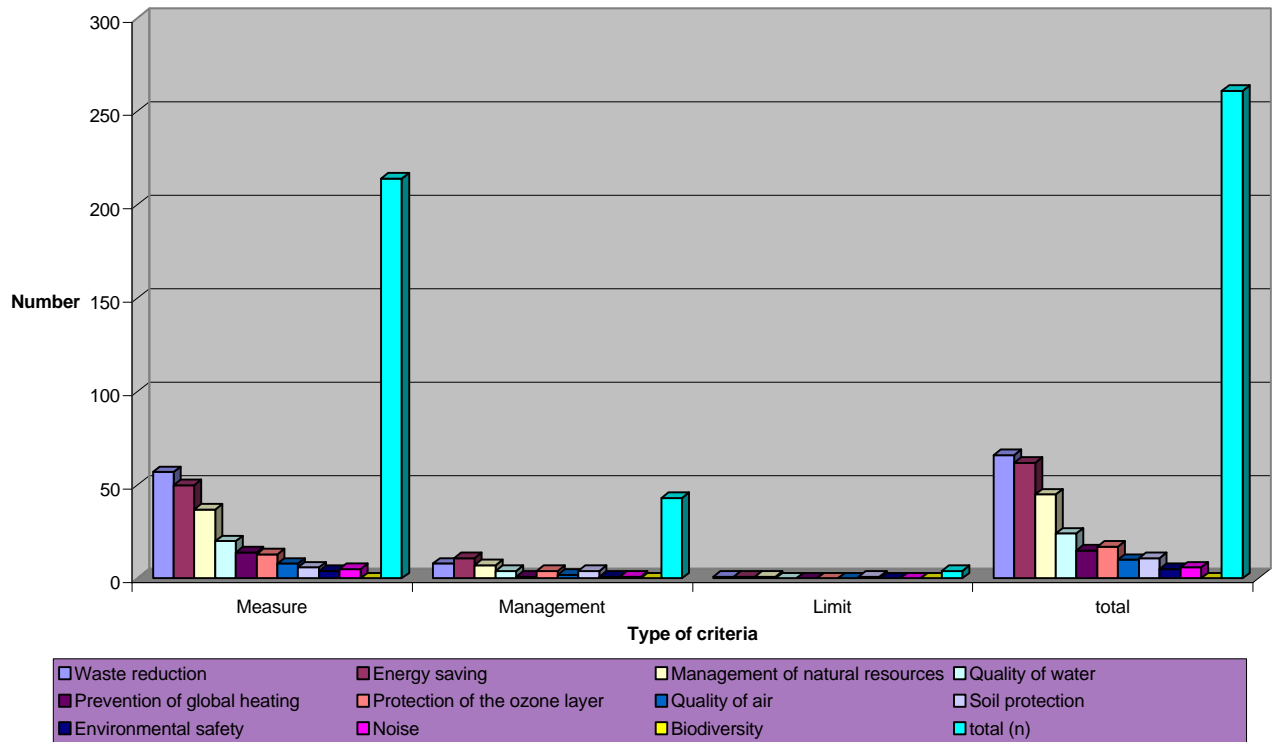
The influencing factors of the environmental impacts in the administration from the analysis of three national eco-labels (n= 260)





Graph 8.3 reports the main types of criteria: measure, limit and management criteria in the administration area.

Types of criteria regulating the administration area from three national eco-labels (n= 261)

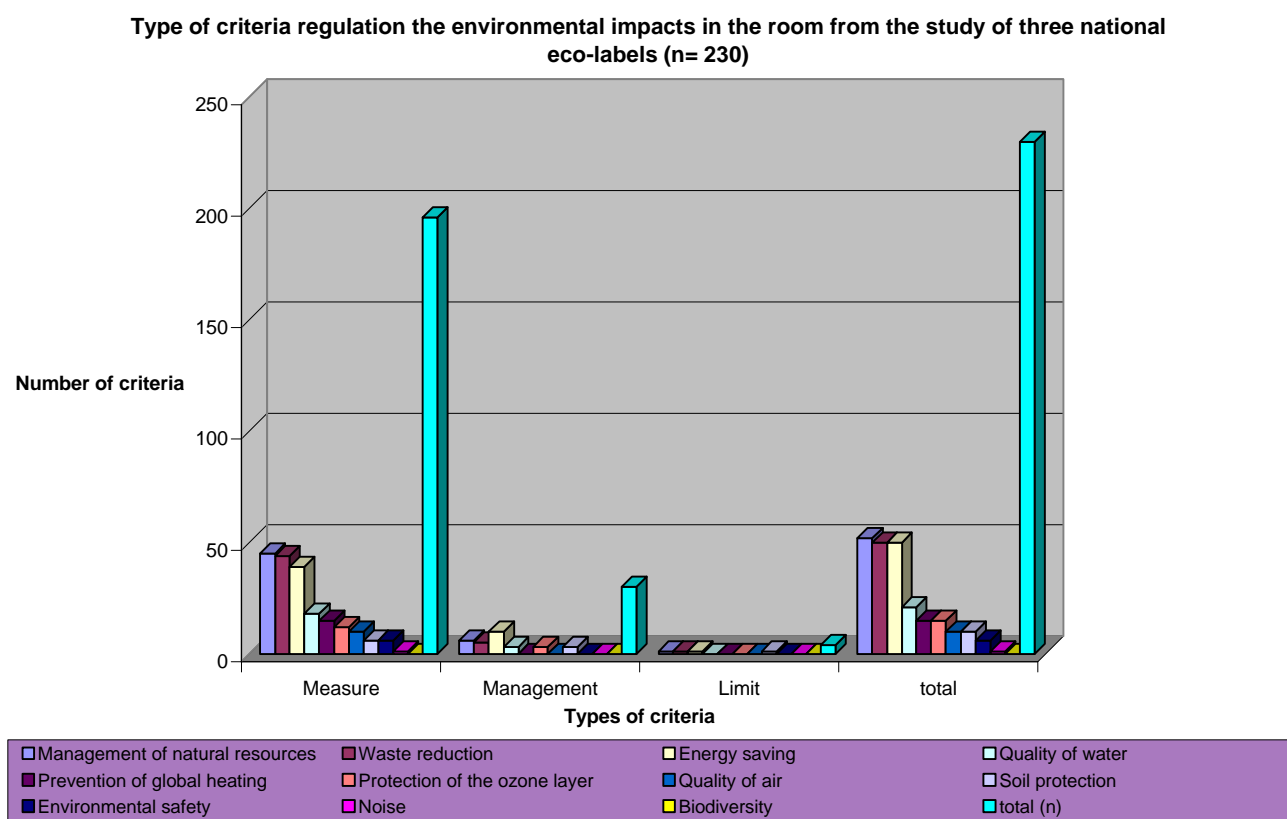




In the **room**, again, measure criteria are most influent for the potential reduction of the environmental impacts, which are mainly due to energy saving, waste reduction and management of natural resources. Guest behaviour is mainly involved in energy and water saving, waste production and noise. Working methods of the staff influence all 11 objectives to a moderate degree, influence energy saving and waste production to a higher degree. Management criteria account for 18% of relevant criteria.

Graph 8.4 report the influencing factors in the room, if technical standards of the goods (regulated by measure and limit criteria), or lead/staff behaviour (regulated by management criteria).

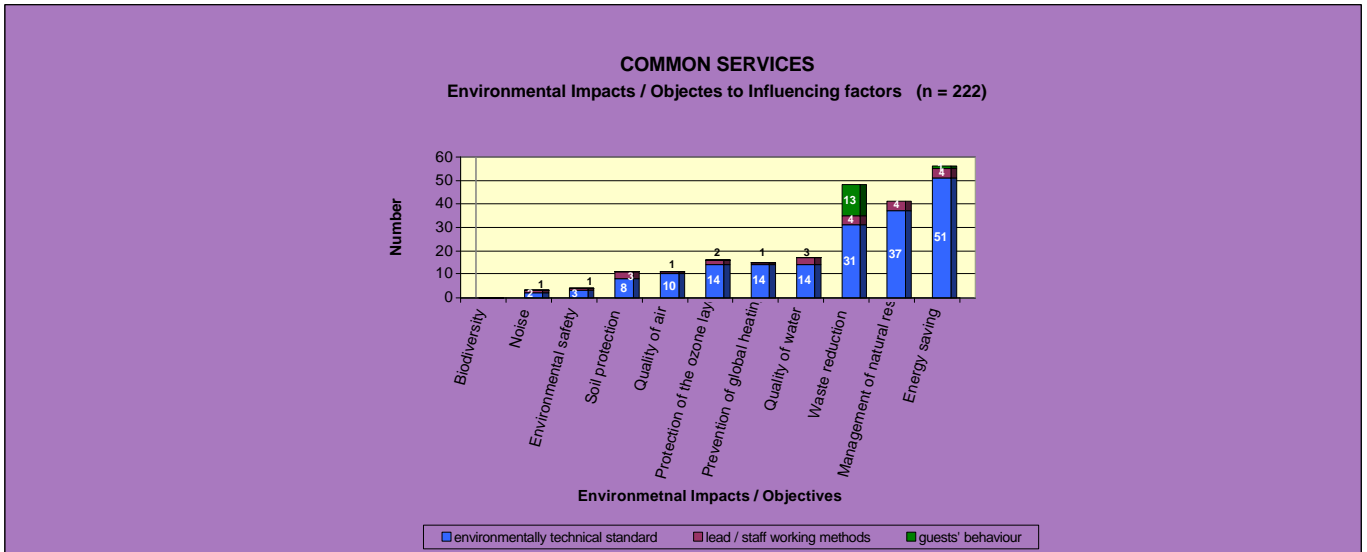
Graph 8.4 Types of criteria regulation the impacts in the room



In the **common rooms**, guest behaviour is mainly responsible for waste production. Here too, the technical measures are those which most could bring to higher environmental friendliness. In this graph, differently from the others, the environmental impacts have been reported in the x axis.



Graph 8.4 The criteria regulation of the common rooms



It can be seen that most criteria are measure criteria, in all of the areas included in our product group definition lodging service.

Considering these results, however, it must be remembered that management criteria usually have a general application, whereas measure criteria, or limit measure criteria as defined in Chapter 7, often have a specific application; therefore, the number of criteria should be weighed always with the breath of the consequences of the criteria.

In order to take the different weight of each criteria into consideration, a scoring system should be developed for the Eco-label scheme (see further).

8.4.3 Spheres of Influence of the criteria

8.4.3.1 Direction of the criteria: whom they address.

“Management criteria” shall be directed to the whole management of the structure and the lodging service. Such management criteria may include recommendations for purchase policy, training staff, control of environmental impacts, etc. They may include special management criteria for “lodging”.

“Measure criteria”: shall be directed to the environmentally friendly use of specific goods, including special information to guests, working methods for staff. They shall concentrate and go into detail for the “lodging service” as product group.

“Limit criteria”: shall be directed to the limit consumption of energy and resources at (offered) consumption articles and when providing and using the services (e.g. limit the maximum flow of water per toilet flush, the energy consumption for lighting, etc.). They shall concentrate on the lodging service. They may also consider other service classes (Class B: Food services, wellness, etc.), e.g. by setting limits to the consumption of chemicals for water disinfection in the swimming pool, or limiting waste at breakfast).



8.4.3.2 *Influence of the criteria on the three phases of the life cycle*

The criteria shall have their effects in the three phases of the life cycle:

Purchasing (“goods”, long living and short living, food and non-food): management criteria concerning how to buy the goods (where from, from whom, purchase policy and contracts, etc.), measure criteria concerning what / what not to buy, limit criteria concerning specific features of the goods bought.

Provision of service (“Use”): management criteria concerning e.g. staff training, working methods for staff; measure criteria include e.g. the use of energy saving bulbs in common areas,

Waste (as the result of the use of the physical goods): management criteria concerning e.g. the control of waste separation, measure criteria include e.g. the provision of 3 types of containers in common areas for paper, plastic, other.

(for details see: chapter 6 and 7)

8.4.3.3 *Synergies with EMAS and other Eco-labelled products*

Management criteria shall be compatible with the EMAS regulation in order to facilitate those applicants who already have the EMAS certificate.

Measure and limit criteria shall include the purchase/use eco-labelled products and thus support the efforts of the international and national Eco-labels for goods (EU Flower, Nordic Eco-labelling, Blauer Engel , etc.)

(the relation of potential criteria to EMAS and Eco-labels for products shall be defined later in detail).



8.5 Possible Criteria Scheme

8.5.1 General and Specific Criteria

The system of the criteria shall be set up relating to classes of services provided
The services provided are divided in two main classes, according to a modular scheme:

CLASS A: lodging

CLASS B: extra lodging services, in particular

B1: food service

B2: wellness and recreation

B3: Conference services

B4: Green Area

B5: Parking Area

B6: Shopping Facilities

B7: Other

8.5.2 Requirement levels of criteria

Due to the fact that the environmental impacts and potential for environmental improvement partly depend on regional and structural peculiarities there shall be two levels of requirement at the criteria:

mandatory and optional. This will allow the necessary flexibility to account for issues whose importance depends on climate, availability of resources, location in general.

Mandatory criteria shall be independent from the type of establishment, its size or type of guests. They may be e.g. general management criteria or measure or limit criteria which are applicable everywhere (e.g. environmental quality of toilet paper)

Optional criteria can depend on the type of establishment, its size, the existence of goods and the provision of specific services. They can become mandatory if applicable (“if ... then...”) or at least a number of the list of applicable optional criteria has to be fulfilled.

The criteria shall concentrate on the product group “lodging”, but nevertheless consider the entire services offered “under the roof”.

In consequence the criteria structure shall include

- (few) criteria for overall accommodation establishment
 1. management
 2. building
- (many) criteria for the product group lodging (service class A)
 1. management
 2. components with all goods and services related to lodging



ANPA

Italian Environment Protection Agency

- (few) criteria for other services offered (Service Class B: modules)

All criteria shall comply with the product group definition for “lodging” (general criteria). In addition the criteria may include some specific criteria which are only applicable for a special type of structure offering a lodging service, e.g. alpine huts. Such criteria shall be developed in collaboration with the parties involved (special criteria).



8.6 Towards criteria: Results of the Eco-labels' analysis

Types of criteria

The analysis of the existing Eco-labels for Accommodation show that in total the three main European eco-labels require 140 different criteria for the lodging service, of which:

7 are management criteria
47 are limit criteria
86 are measure criteria

By different criteria we mean that the requirements address a different action or element of the product group. This is a smaller number than the ones appearing in the elaborations of the graphs in this Second Activity report, because in the other graphs, similar criteria have been taken into consideration in order to assess their importance due to repetition.

This result can give us an idea of the potential areas of conduct and of elements which the criteria could influence and could help us give weight to the criteria, and develop a scoring system for criteria.

8.7 Scoring system for criteria

As recommended before there shall be two levels of requirement: mandatory and optional.

Both mandatory and optional criteria shall be scored.

The applicant then shall meet a certain percentage of the total scoring points applicable to the service provided.

The scheme will be organised according to a set score system, whereby weights will be given to criteria according to their importance in reducing environmental negative impacts.

The applicant will receive the EU-flower for tourist accommodation when complying with a certain percentage of the applicable criteria (e.g. 60 %) and reaching a certain score of points (e.g. 65 %). It may be considered to group the criteria (e.g. along environmental objectives (water, energy, waste, chemical substances) and/or service classes (lodging) and/or components of service classes (room, reception/administration, common areas) and to require for each group the compliance with a certain number of applicable criteria or percentage of scoring points.

8.8 DRAFT CRITERIA

The final aim of the present research is to develop criteria for the product group lodging which can be applied Europe-wide. The EU eco-label for tourist accommodation should also promote the adoption of other EU eco-labelled products and other nationally eco-labelled products.



In the draft criteria, criteria have been indicated in relation to the different elements of the product group lodging service (those included in the system boundaries) and to the offered services, which could be the starting base for the development of European criteria.

Table 8.1 Types of criteria relative to the elements of the system boundaries of lodging.
Underlined are the management criteria, in bold the measure criteria, in italic are the limit criteria.

Environment direct objectives	saving energy	saving water	avoid chemical substances	reduce waste	air, noise	biodiversity	general
indirect objectives	prevention of global heating	Indirect objective (natural resources)	prevention of the ozone layer, soil protection	soil protection, natural resources		natural resources	see: direct objectives
Accommodation / Establishment (general)							
Management							
Environmental Policy	<u>mg</u>	<u>mg</u>	<u>mg</u>	<u>mg</u>			<u>mg</u> <u>mg</u>
Environmental Objectives			<u>mg</u>	<u>mg</u>			
Monitoring / Measuring	<u>mg</u>	<u>mg</u>	<u>mg</u>	<u>mg</u>			
Action plan		<u>mg</u>	<u>mg</u>	<u>mv</u>			<u>mg</u>
staff training			<u>mg</u>	ms	ms ms <i>lt</i>		<u>mg</u> <u>mg</u>
Information to guests				ms			<u>mg</u> ms
Building							
environmentally-friendly building materials	ms				<i>lt</i>		ms
insulation	ms <i>lt</i>				ms		
Fixed equipment							
heating boilers	ms ms						
water tanks	ms	ms ms					
energy supply	ms <i>lt</i>						ms <i>lt</i>
filters	ms						
drains							
waste container				ms ms			ms
House keeping							
cleaning			ms ms ms				
washing		ms ms	ms <i>lt</i>				



Environment direct objectives	saving energy	saving water	avoid chemical substances	reduce waste	air, noise	biodiversity	general
indirect objectives	prevention of global heating	Indirect objective (natural resources)	prevention of the ozone layer, soil protection	soil protection, natural resources		natural resources	see: direct objectives
heating	ms <i>lt</i>						
gardening		ms					
dishwashing	ms	ms	<u>mg</u> ms lt				
LODGING							
Room premises					<i>lt</i>		
Bedroom area							
Fixed equipment/flooring/walls/ceiling							
Floor			ms				ms
Carpet / rug			ms				
Window	<i>lt</i>						
Doors/key system	ms						
Skirting board			ms				
Floor heating	<i>lt</i>						
Heating devices	<i>lt</i>						
Ventilation	ms ms						
Wallpaper/painting			ms ms				
Furniture							
Bed						ms	
Door mats/porch							ms
Cloths hangers				ms		ms	
Waste basket							ms
Safe							ms
Electric devices							
Frigo-bar	<i>lt</i>						
Coffee/team machine	ms	ms					
Radiators	<i>lt</i>						
TV	<i>lt</i>						
Information material - Paper							
Brochures				ms <i>lt</i>			
Maps							ms
Ideas box							ms
Info paper on the walls	ms						
Note paper				ms			



Environment direct objectives	saving energy	saving water	avoid chemical substances	reduce waste	air, noise	biodiversity	general
indirect objectives	prevention of global heating	Indirect objective (natural resources)	prevention of the ozone layer, soil protection	soil protection, natural resources		natural resources	see: direct objectives
General info paper				ms			
Textiles							
Sheets		lt	ms <i>lt</i>			ms	
Table cloths			ms	<i>lt</i> <i>lt</i>			
Consumption articles							
Give-aways/ disposables				ms			
Stationery				ms			
Lighting							
Bulbs	ms						
Chemical products							
Cleaning			<i>lt</i>				
Impregnation			<i>lt</i>				
Private bathroom							
Fixed sanitay equipment							
WC		ms <i>lt</i> ms	<i>lt</i>				
Bath			<i>lt</i>				
Shower	<i>lt</i> <i>lt</i>		<i>lt</i>				
Bidet			<i>lt</i>				
Wash basin			<i>lt</i>				
Tap		ms					
Textiles							
Towels	ms	ms					
Shower curtain							ms
Consumption articles							
Shampoo			<i>lt</i>	<i>lt</i>			
Shower creme			<i>lt</i>				
Shower cap							ms
Toilet paper				<i>lt</i>			
Soap			<i>lt</i>	<i>lt</i>			
Conditioner			<i>lt</i>				
Sprays			<i>lt</i>				
Chemical air conditioner			ms				
Urinal blocks			<i>lt</i>				
Serviettes				ms			
Paper sleeves				ms			
Lighting							
Bulbs	ms <i>lt</i>						



Environment direct objectives	saving energy	saving water	avoid chemical substances	reduce waste	air, noise	biodiversity	general
indirect objectives	prevention of global heating	Indirect objective (natural resources)	prevention of the ozone layer, soil protection	soil protection, natural resources		natural resources	see: direct objectives
Chemical products							
Cleaning			ms				
Fixed equipment / flooring / walls / ceiling							
Ventilation	ms <i>lt</i>						
Heating devices	ms						
Furniture							
Waste basket				ms			
Tooth-glasses				ms			
Reception / administration areas							
electric devices							
printing machine	ms			ms			
Chemical products							
Cleaning			ms <i>lt</i>				
textiles							
work cloths			ms				<i>lt</i>
consumption articles							
paper				ms			ms <i>lt</i>
stationery				ms			
slides			<i>lt</i>				
ink container				ms ms ms			
toilet paper				<i>lt</i> <i>lt</i>			
all information material - Paper							
Brochures				ms			
electric devices							
fridges			ms <i>lt</i>				mg
stereo/background music	<i>lt</i>				<i>lt</i>		
fixed equipment / flooring / walls / ceiling							
heating devices	<i>lt</i>						
common rooms- Facilities to reach the lodging premises							
stereo/background music	<i>lt</i>				<i>lt</i>		



Environment direct objectives	saving energy	saving water	avoid chemical substances	reduce waste	air, noise	biodiversity	general
indirect objectives	prevention of global heating	Indirect objective (natural resources)	prevention of the ozone layer, soil protection	soil protection, natural resources		natural resources	see: direct objectives
common rooms (including the common TV room or the lounge with the piano)							
Textiles							
Sheets			ms				
Food Services							
Kitchen	ms ms	ms	ms	ms lt lt lt		ms	
Restaurant	ms		lt	lt		ms	ms
Bar				ms	lt		
Wellness and recreation							
Swimming pool	ms ms	lt ms	lt ms				
Sauna	ms						
Conference Services							
Conference hall	lt		mg				
Common Rooms to conference area				ms			
Sanitary facilities of conference area			ms lt				
Reception and Administration of conference area				ms	lt		
Green Area							
garden	ms	ms	lt lt	ms		ms	
park	ms	ms	lt			ms	
fields			lt				
Parking Area/ Transport							
indoor parking space	lt				lt		
outdoor parking space			lt			ms	
Transport means	ms						mg
bicycle	ms						
bus	ms						
Shopping facilities							
Supermarket				ms lt			lt



8.9 Other accommodation establishments

The analysis conducted so far had as its focus the hotel system, because of the availability of data and its complexity. Such as the scheme has been devised, the criteria developed from this analysis should be well applicable to the other accommodation structures. For the development of criteria very specific to one particular accommodation structure, such as mountain refuges, for example, a close interaction with the directed stakeholders should be able to easily bring to the specific criteria.

8.10 Conclusions

From the analysis conducted since the First Activity Report, the deep analysis of the hotel system and three main eco-labels distributed in three different areas of Europe have allowed to do the following fundamental steps:

1. confirm the coherence of our product group definition with national regulation and quality setting schemes
2. define the system boundaries of the product group lodging service
3. define the set of other services offered in addition to lodging and arrange them into classes of offered services
4. identify the main areas of environmental impacts of both the lodging service and the others
5. identify the types of criteria which best could influence the source of the environmental impacts
6. identify a structure for the development of EU Eco-label criteria.

8.11 Further steps

The next AHWG meeting shall have the task of discussing and deciding on the following main issues

- 1- the proposed scheme for the criteria having management, measure and limit criteria
- 2- the mix of criteria in their mandatory and optional nature
- 3- the quantity of criteria.



ANPA

Italian Environment Protection Agency



9 Bibliography

9.1 Classification Normatives

1. Austria: Wirtschaftskammer Österreich, *Österreichische Hotelklassifizierung*, Wien, 2001
2. Belgium: Moniteur Belge, *Belgisch Staatblad*, Bruxelles, 2000
3. Denmark: Horesta, *Classification Criteria for Horesta Member Hotels* (3rd edition valid from July 2000), Laid down by the classification Board, 1999
4. France: Ministère du Commerce de l'Artisanat et du Tourisme, *Les Normes et les procédures de classement des hôtels et des résidences de tourisme*, Paris, 1986
5. France: Préfecture de Paris et Préfecture de Police, *Règlement Sanitaire du Département de Paris*, Paris, 1992
6. France: *Principaux groupes hôteliers en France*, 2000
7. France: Union des Métiers et des Industries de l'Hôtellerie, *L'Industrie Hôtelier en France 2000*, Paris, 2000
8. Germany: DEHOGA, *Deutsche Hotelklassifizierung*, 1999
9. Germany: DEHOGA, *Enterprises*
10. UK: Queen Elizabeth II, *Development of Tourism act 1969 Chapter 51*, London, 1969
11. UK: English Tourism Council, *A Framework for action*, London,
12. UK: English Tourism Council, *Focus on the English Tourism Council*, London, 1999
13. UK: English Tourism Council, *Hotel, Townhouse and Travel Accomodation*, London, 2000
14. Ireland: Bord Fáilte, *Classification System for Hotels in Ireland*, Dublin,
15. Ireland: Bord Fáilte, *Hotel Registration and Renewal of Registrations Regulations*, Dublin, 1988
16. Italy: Parlamento Italiano, *Riforma della legislazione nazionale del turismo*, Roma, 2001
17. Italy: Regione Calabria, *Disciplina della Classificazione Alberghiera*, Catanzaro, 1985
18. North Ireland: Northern Ireland Tourist Board, *Classification of Hotels*, Belfast, 1992
19. Portugal: Ministério da Economia, *Decreto Regulamentar n° 16/99 Altera o Decreto Regulamentar n° 37/97 que decreta os requisitos das instalações e do funcionamento dos estabelecimentos hoteleiros*, Lisboa, 1999
20. Portugal: Ministério da Economia, *Decreto Regulamentar n° 36/97 Regula o estabelecimentos hoteleiros*, Lisboa, 1997
21. Spain: Junta de Extremadura Consejería de Turismo, Transportes y Comunicaciones, *Decreto 16/1990 por el que se modifica Decreto 78/1986*, Merida, 1990
22. Spain: Junta de Extremadura Dirección General de Turismo, *Guía Profesional de Turismo de Extremadura*, Merida
23. Spain: Junta de Extremadura Dirección General de Turismo, *Ley de Turismo en Extremadura*, Merida, 1997
24. Spain: Junta de Extremadura Consejería de Turismo, Transportes y Comunicaciones, *Decreto 78/1986 por el que se establece Ordenación Turística de Establecimientos Hoteleros en el ámbito de la Comunidad Autónoma Extremeña*, Merida, 1986
25. Spain: Navarra, *Ordenación hoteleros de Navarra*, 1994
26. Spain: Región de Murcia Consejería de Turismo, *Ley 11/1997 de Turismo de la Región de Murcia*, Murcia, 1997
27. Spain: Región de Murcia - Consejería de Turismo, *Ordenación de Establecimientos Hoteleros de la Región de Murcia Ordenación de los Alojamientos Turísticos Especiales en Zona de Interior*, Murcia, 1995
28. Spain: Región de Catalunya, *Decreto 176/1987, pel qual s'estableixen normes sobre l'ordenació i la classificació dels establiments d'allotjament turístic sotmesos al règim d'hoteleria*, Barcelona, 1987



29. Spain: Regiòn de Catalunya, *Ordre de 6/10/1987, per la qual s'estableixen els requisits tècnics i els serveis mìnims exigibles als establiments hotelers en els seus diferents grups, modalitats, categories i especialitats (Correcciò d'errades en el DOGC num.1000, pag 2376, de 3.6.1988)*, Barcellona, 1988
30. Spain: Consejeria de Industria, Comercio y Turismo de Castilla y Leon, *Ley de Turismo 10/1997*, Leon, 1997
31. Spain: Consejeria de Industria, Comercio, Turismo y Trabajo de Navarra, *Orden Foral 90/2000 por la que se suprime la obligaciòn de sellado des la listas de precios de cafeterias, restaurantes y establecimientos asimilados*, Navarra, 2000
32. Spain: Junta de Extremadura, *Decreto 54/2000, por el que se regulan los establecimientos turisticos denominados Albergues, Centros, Colonias Escolares y similares*, Merida, 2000
33. Spain: Consejo de Gobierno Basco, *Decreto 102/2000, por el que se establece la ordenacion de los establecimientos hoteleros*, Vitoria-Gasteiz, 2001

9.2 Official Hotel Guides

1. Belgium: Wallonie Bruxelles Office de Promotion du Tourisme, *Hotels Wallonie 2001*, Bruxelles, 2001
2. Germany: DEHOGA, *Deutscher Hotelführer*, Stoccarda, 2002
3. Grecia: Hellenica Chamber of Hotels, *Greek Hotels 2001*, Atene, 2001
4. UK: English Tourism Council, *Official Guide to Hotels - 2002*, London, 2001
5. Ireland: Irish Hotels Federation, *Be Our Guest Hotels & Guesthouses Guide Ireland 2002*, Dublin, 2002
6. Ireland: Town & Country Homes Association LTD, *Bed and Breakfast Ireland 2002*, Ballyshannon, 2002
7. Italy: ENIT, *Annuario Alberghi d'Italia 2000*, Roma, 2000
8. Norway: Ente Norvegese per il Turismo, *Norway Guida Pratica 2002*, Oslo, 2002
9. Norway: Euro Hotels As, *Euro Hotels*, Oslo, 2001
10. Norway: Norsk Reiseinformasjon As, *NRI Guide Transport and Accomodation 2001*, Oslo, 2001
11. Norway: The Norwegian Hospitality Association, *Hotels in Norway 2000 2001*, Oslo, 2000
12. Portugal: Direcçao Geral do Turismo, *Alojamento Turistico Guia Oficial Portugal 2001*, Lisboa, 2001
13. Portugal: Direcçao Geral do Turismo, *Alojamento Turistico Guia Oficial Portugal 2000*, Lisboa, 2000
14. Portugal: Direcçao Geral do Turismo, *O Turismo em 2000*, Lisboa, 2001
15. Portugal: Direcçao Geral do Turismo, *Os numeros do Turismo em Portugal 2000*, Lisboa, 2001
16. Portugal: Maisturismo, *Portugal Hotel Guide 2001*, Lisboa, 2001
17. Portugal: Pousadas de Portugal, *Guia de Vendas*, Lisboa
18. Scandimavia: De Historiske Hotel, *The Historical al Hotels of Scandinavia*, Bergen
19. Spain: Departamento de Cultura y Turismo, *Guìa de servicios turìsticos de Aragón Alojamentos hoteleros*, Saragozza 2001
20. Spain: Departamento de Cultura y Turismo, *Guìa de servicios turìsticos de Aragón Apartamentos, Balnearios, Centros de vacaciones, Estaciones de esquì, Albergues, Refugios de montana*, Saragozza, 2001
21. Spain: Departamento de Cultura y Turismo, *Guìa de servicios turìsticos de Aragón Viviendas de turimo rural, Campings, Areas de acampada*, Saragozza, 2001
22. Spain: Departamento de Cultura y Turismo, *Guìa de servicios turìsticos de Aragón Viviendas de turimo rural, Apartamentos, Alojamentos hoteleros, Albergues, Refugios de montana, Campings, Areas de Acampada, Estaciones de esquì, Balnearios, Centros de vacaciones*, Saragozza, 2001
23. Spain: Directorio Turìstico de Extremadura, *Guìa Profesional de Turismo de Extremadura*, Merida, 2000
24. Spain: Ministerio de Economia, *Hotels Guia Oficial Espana 2001*, Madrid, 2001
25. Spain: Region de Murcia, *El turismo en la Region de Murcia Resultados 2000*, Murcia,, 2001



9.3 Eco-labels

1. Europe: European Commission Directorate General Environment, *Fematour*,
2. Germany: ECOTRANS, *Chapter 12: Ecolabels for Tourism in Europe The European Ecolabel for Tourism?*, Monaco, 1997
3. Italy: ACTA, *I marchi di qualità ambientale nel settore turistico ricettivo: le esperienze in Italia*, Milano, 1999
4. Italy: ACTA, *I marchi di qualità in Europa (Studio nazionale per l'applicazione del marchio di qualità ambientale nel settore turismo)*, Milano, 2000
5. Italy: ANPA, *Studio nazionale per l'applicazione del marchio di qualità ambientale nel settore del turismo*, Roma, 2000
6. Italy: ANPA, *Studio nazionale per l'applicazione del marchio europeo di qualità ambientale nel settore turismo*, Roma, 2000
7. Italy: Compagnie dei Parchi, *Turismo Ambiente Comunicazione delle aree protette Italiane*, Pescara, 2000
8. Italy: CTS ACTA, *Manuale pratico di ecologia in albergo*, Roma, 1999
9. Italy: ZAO Turismo e Habitat, *Ecologia in albergo Manuale per il recupero ambientale nei luoghi dell'ospitalità*, Milano, 1993
10. Luxembourg: Eco - Label Ministère du Tourisme du Grand Duchè de Luxembourg, *Eco Label pour les Établissement du secteur touristique au Grand Duchè de Luxembourg, Luxembourg*
11. Sweden: Nordic Ecolabelling, *Ecolabelling of Hotels*, 2000
12. UK: International Hotels Environment Initiative, *Green Innovations Worldwide directory of environmental resources for hotels*, London

9.4 Environmental Issues

1. Austria: Austrian Ecolabel, *Criteria Document Ectb Tourism*, Vienna, 1998
2. Canada: Commission for Environmental Cooperation, Supporting Green Markets *Environmental Labeling, Certification and Procurement Schemes in Canada, Mexico and the United States*, Montreal, 1999
3. Canada: Organisation Mondiale du Tourisme, *Guide Pratique pour l'élaboration et l'emploi d'indicateurs du tourisme durable*, Ottawa, 1995
4. Denmark Data received from the Danish CB, Sand Bay to the Swan 2
5. Europe: ADEME, ARCS, CRES, IACAEN, IER, SOFTECH, *Green Flag For Greener Hotels*, 2001
6. Europe: ADEME, ARCS, CRES, IACAEN, IER, SOFTECH, *Summary Report for dissemination, Green Flag for Greener Hotels*, 2001
7. France: Accor, Direction de l'Environnement, 2001
8. Germany: DEHOGA, *Greener management for hotels and restaurants*, Bonn, 1997
9. Germany: Viabono, *Antragsunterlagen für Hotels und Gastronomie*, Bergisch Gladbach
10. Germany: Viabono, *Antragsunterlagen für Kommunen*, Bergisch Gladbach,
11. Germany: WTO ETAG Joint Seminary, *Tourism and Environmental Protection*, Heidelberg, 1996
12. Germany: Federal German Government, Oko-Institut, Environment and Tourism - *Material for a report by the Federal German Government*, December 2001
13. UK: Rebecca Hawkins and Stuart Jauncey, *Developing a Sustainable Tourism Accreditation Programme for England Options and recommendations to the ETC*,
14. Ireland: Institute of Technology, *Tralee for a Tourism and the Environment Pilot Initiative, A Natural Shade of Green*, Tralee, 2000



ANPA

Italian Environment Protection Agency

15. Israel: CEU – ETC Joint Seminary, Rural Tourism, *A Solution for Employment, Local Development and Environnement*, Kibbutz, 1996
16. Italy: ACTA, Cultural and Policy determinants of sustainable tourism development – *A comparative study of Two Locations in three Mediterranean Countries (Greece, Italy, Spain)*, Milano
17. Italy: ANIEST, *Lo Sviluppo del Turismo e la Protezione dell'Ambiente*, Roma, 1985
18. Italy: ANIEST, *Rassegna di studi turistici*, Roma, 1982
19. Italy: Parco Nazionale dei Monti Sibillini, *La Carta Europea del Turismo Durevole nelle aree Protette*, Visso,
20. Italy: Ecobilancio – Analysis of consumption data on a sample of 42 hotels in Rimini.
21. Italy: ENEA -Luca Andriola, *Ecolabel europeo per il Turismo, Tavolo di lavoro nazionale*, Consultazione dati sui consumi di 40 alberghi a 4 stelle in Italia, Roma 2000
22. Nordic Countries: Nordic Ecolabelling, *Ecolabelling of Hotels – Criteria Document*, 2000
23. Spain: Autonomous Government of Catalonia, *The Emblem of guarantee of environmental quality*, Barcellona, 1998
24. Sustainable Tourism Development
25. Thailand: Canadian Universities Consortium and the United Nations Environment Program, Pathumthani
26. USA: Cornell University, *Best Hotel Environmental Practices*, 1999
27. Uzbekistan: World Tourism Organization, *Tourism and Culture*, Samarkand/Khiva, 1999
28. IHEI – International Hotels – David Kirk – *Environmental Management for Hotels*.
29. IHEI – International Hotels, *Purchasing guidelines – Energy-efficient lighting*.
30. IHEI – International Hotels, *Purchasing guidelines – Environmentally-preferable flooring*
31. IHEI – International Hotels, *Purchasing guidelines – Cleaning chemicals*.
32. IHEI – International Hotels, *Purchasing guidelines – Fridges and minibars*.