



Numéro de projet LIFE  
**LIFE ENV/ 00038/FR**

## **RAPPORT FINAL**

Date du rapport  
**31/01/2001**

NOM DU PROJET LIFE

# **Green Flag For Greener Hotels**

### Données relatives au projet

<b>Lieu</b>	
<b>Date de début du projet:</b>	1/10/1998
<b>Date de fin du projet:</b>	31/05/2000 - <b>date de prolongation:</b> 30/11/2000
<b>Durée totale du projet (en mois)</b>	26 mois - <b>mois couverts par une prolongation</b> 6 mois
<b>budget total</b>	677 600 Euros
<b>Contribution communautaire:</b>	338 800 Euros
<b>(%) des coûts totaux</b>	50%
<b>(%) des coûts éligibles</b>	50%

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## Index

I)	List of Tables & Graphs .....	3
II)	Foreword .....	4
III)	Executive Summary .....	5
IV)	Introduction.....	6
V)	State of the Art .....	6
	a) General environmental problem in the tourism industry.....	6
	b) Labelling initiatives in EU .....	6
	c) List of initiatives .....	7
	d) Most important aspects.....	12
VI)	the Green Flag Proposal.....	13
	a) Requirements.....	13
	i) Principles and Structure .....	15
	ii) Mandatory, Optional Requirements & Threshold values .....	17
	iii) Scoring system: from methodology to selected scores .....	21
	b) Procedure.....	25
	i) Existing initiatives .....	25
	existing framework.....	26
	iii) Present proposed scheme .....	26
VII)	Evaluation & Results .....	30
	a) Test audits.....	30
	i) General method.....	30
	ii) Country reports .....	30
	b) Professional feed back.....	38
	i) National Concertation Teams (NCTs) .....	38
	ii) Hotel Survey .....	41
	c) Analysis of environmental indicators.....	45
	d) Economical Aspects.....	49
	i) Fees and economical benefit of label.....	49
	ii) Investments and economical benefits from measures .....	50
VIII)	Conclusions and perspectives .....	52
	a) Conclusion.....	52
	b) Dissemination.....	53
	c) Recommendations .....	55
	Recommendations for dissemination .....	56
	Recommendations for complementary work .....	57
VIII)	References .....	58
IX)	Appendix .....	59
	List of requirements.....	59
	Material Volume Contents .....	76
	Previous documents .....	76
	State of the Art.....	76
	Test Audits .....	76
	Survey in French hotels .....	76
	Dissemination .....	76

## I) List of Tables & Graphs

Table 1 - Summary of EU initiatives in the field of Hotels Ecolabelling.....	8
Table 2 - Summary of existing EU initiatives (continued) .....	9
Table 3 - Mandatory criteria proposed in Green Flag .....	17
Table 4 - Summary of Green Flag Requirements .....	19
Table 5 - French NCT membership .....	38
Table 6 - Ranking of domains according to survey responses .....	44
Table 7 - Consented payment for label fees according to survey responses .....	44
Table 8 - Regression results for primary energy consumption per overnight stay.....	47
Table 9 - Regression results for water consumption of hotels per overnight stay .....	48
Table 10 - Indicative costs and benefits of actions .....	51
Figure 1 - Label awarding conditions .....	16
Figure 2 - Possible evolution of label awarding conditions .....	17
Figure 3 - Water consumption per overnight stay for a sample of 160 German hotels .....	21
Figure 4 - Comparaison of two scoring systems.....	
Figure 5 - Proposed administrative structure for the Green Flag.....	
Figure 6 - Percentage of (applicable) requirements met by hotel.....	
Figure 7 - Schematic presentation of the survey questionnaire structure.....	42
Figure 8 – Significant environmental domains in terms of environmental impacts in the hotel running	43

## II) Foreword

III) The work reported here would not have been conducted without the support of the DG IX from the European Commission. It has also required numerous efforts from professional that have accepted to participate the National Concertation Teams and review and comment the on going documents.

IV) Be they all thanked here for their contributions of many kinds.

V) This final report is constituted of several documents:

VI) The technical report volume

VII) the technical annexes

VIII) The material volume that collects all the documents (either draft or final) elaborated in the course of this project. As such, the interim report and its annexes, the addendum to the interim report and the corresponding appendix are part of this material volume

IX) The opinion and positions reported in the present document represent solely those of the participants of the Consortium when a consensus was reached and those of the coordinator in the opposite situation. Neither themselves and their respective organisations nor the Commission itself can be held responsible for any damage that would occur consequently to any use of the present work.

### III) Executive Summary

The present document reports the work and results accomplished in the execution of contract N° LIFE 00038/FR which aimed at demonstrating the feasibility of an ecological label common to several EU countries.

The various tasks listed in the initial workplan entailed:

definition of a common methodology to assess environmental quality (or friendliness ) of hotel services

Test casing of a draft method on a number (10-15) of hotels in each country

Improvement of the methodology according to the results of the test audits

Definition of a procedure to implement such an ecological label on a voluntary basis

Survey of a large hotel sample to appreciate the receptivity and acceptability of the hotel managers regarding the proposed tools and procedure

Constitution of a national Concertation Team of professionals from the hotel sector in each country to review, report and feedback the position from the hotel professionals

In this document the first section reviews the situation of the various already existing initiatives, both in participating countries and non participating countries and tries to understand the components that are responsible for failure or success of each label.

On the basis of this knowledge the following section describes the Green Flag proposal and delivers information on how and why the list of requirements has been elaborated as well as some specific administrative procedure been developed.

The different tests and analysis conducted afterwards to evaluate the feasibility, consistency and acceptability of the above mentioned work - test audits, hotel survey and the feedback of NCTs - are presented to give the reader the possibility to understand the choices and decisions and be able to appropriate the work for further use.

The present and future dissemination of the project results and acquired know how together with the consortium recommendations are presented in a manner of conclusion, by the following persons, of this 2 year project initiated in November 1998.

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## IV) Introduction

The present project does not aim at defining a European Environmental Label.

It simply assesses the feasibility of an ecological label in hotels, common to several countries largely differing in terms of environmental awareness or nature and economical importance of the tourism sector as an instrument to foster better environmental concern by hotel managers. It is the logical prolongation of a THERMIE study on RUE and RES in the Tourism sector<sup>1</sup> which had proposed such an instrument to support energy conservation implementation in hotel premises

As such it is a complementary work to other projects led or incited by the Commission, like the FEMATOUR study, and should thus constitute a valuable input for these.

It has been conducted over a 2 year period

## V) State of the Art

### **a) General environmental problem in the tourism industry**

Environmental aspects still play a minor role today in the selection of a destination or tourist accommodations. Under pressure of environmentalists and the growing concern among the public on environmental questions, this situation is bound to evolve towards some uniform evaluation of the tourism sector activities.

This project concentrates on hotel accommodations and thus is developing an environmental label that focuses during the services and exploitation phase because:

existing life cycle analysis tend to show that the siting and construction phase represent less than 10% of the total flows over a 50 year period

most hotels are already built and the core of the market is constituted by establishments that would like to qualify their exploitation

### **b) Labelling initiatives in EU**

Numerous initiatives are on going in Europe and one must decide the dissemination level to consider. Initiatives can operate at National level, at Regional level (Hotel Emblem in Catalonia, experimental operation project for recyclable waste management in Bayonne) or at the hotel level (charter of quality in an hotel)

In this report we concentrate on schemes that are available at National or Regional level. In the interim report, existing initiatives had already been reviewed in order to document the various evaluation methods used and particularly the requirements lists and environmental domains that were selected.

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<sup>1</sup> THERMIE project STR/0489/95/HE "A strategy for the Energy Efficiency and Renewable Energy Sources Use in Mediterranean Hotel Sector".

We want now to have a global vision of the procedure operation as well as the administrative structure and organisation. These aspects are thus shortly described in the following section. All detailed documents are attached in the material volume

### **c) List of initiatives**

Most advanced initiatives as recorded to date are the following:

- DEHOGA scheme in Germany
- Hotel Label in Austria
- Tourist accomodation ecolabel in Luxembourg
- Green Keys in Denmark
- Nordic Ecolabelling in Scandinavian countries
- Catalan Emblem in Catalunya.

In the following tables, requirements for each procedure are presented with the following features in each domain:

- Mandatory requirements (number of)
- Optional requirements (number of)
- Benchmarking values
- Other specificity for the initiative
- Particular comments for the domain

All these labels cover different product groups but Hotel accomodation are concerned in each either alone or together with camp sites or youth hotels or...

A very common feature is the starting date: they all became fully operational more or less between 1998 and 2000 which means that the level of dissemination may still be low. They are largely based in Northern Europe (except for the Catalan initiative) .

Some important features in tems of procedure are also indicated, more detailed documents are available in the Material Volume (either because they were already in the interim reports or as additional documents).

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Table 1 - Summary of EU initiatives in the field of Hotels Ecolabelling

	DEHOGA initiative	Austrian Ecolabel for Tourism	Catalan Emblem
<i>Environment Control</i>			
<i>Staff involvement</i>		Mandatory: 2 Optional: 1	Mandatory: 1 Optional: 1
<i>Information of guests</i>		Mandatory: 1 Optional: 1	Mandatory: 5 Optional:
<i>Water</i>	Mandatory: 3 Optional: 9	Mandatory: 6 Optional: 5	Mandatory: 2 Optional: 6
<i>Laundry, Cleaning and Chemic.</i>		Mandatory: 12 Optional: 4	
<i>Waste</i>	Mandatory: 2 Optional: 8	Mandatory: 5 Optional: 4	Mandatory: 2 Optional: 2
<i>Energy</i>	Mandatory: 2 Optional: 7	Mandatory: 11 Optional: 27	Mandatory: 10 Optional: 29
<i>Food Stuffs, Purchasing</i>	Mandatory: 1 Optional: 2	Mandatory: 17 Optional: 13	Mandatory: 1 Optional: 4
<i>Fixtures, fittings and inventory</i>		Mandatory: 1 Optional: 1	Mandatory: 1 Optional: 1
<i>Indoor climate</i>	Mandatory: Optional: 1 (air pollution)	Mandatory: 4 Optional: 2	
<i>Parks and outside areas</i>		Mandatory: 5 Optional: 3	
<i>Transport</i>		Mandatory: 2 Optional: 4	Mandatory: 1 Optional:
<i>General</i>	Mandatory: 2 Optional: 4	Mandatory: 1 Optional: 2	Mandatory: 2 Optional: 1
<i>Pools</i>			Mandatory: 4 Optional: 7

<b>Label awarding conditions</b>	All the mustmandatory must be met, + 80% of the optional requirements points	All the mandatory must be met, + 60% of the total score of all the optional requirements	All the basic (mandatory criteria) + obtain a minimum of 60 points in the total calculated for optional criteria (establishments not having an indoor pool or not having air-conditioned must obtain a minimum of 52 points; establishments having neither indoor pool nor air-conditioning must obtain a minimum of 44 points; establishments built after the publication date of the criteria must obtain a minimum of 70 points)
<b>Comments (ex: importance of one domain, cost of measures...)</b>	The label is focuses on criteria which are easy to fulfil even by small hotels. For large hotels these criteria are partly business standart so the environmental improvement to be expected is limited. On the other hand the application and processing costs for the label are very cheap	<b>Energy</b> and <b>purchasing</b> domain are very important against all the others	Specific domain for <b>pools</b> with 11 requirements. <b>Energy</b> domain is very important against all the others
<b>Fees for hotel</b>	150 €	Use of the label = 327 € for 3 years Participation to verification cost = 145 € to 218 € for 3 years	360 € for the label + verification cost
<b>Label starting date</b>	1991	1997	2000
<b>Number of hotels awarded</b>	140	87	2
<b>Date of criteria, date of next revision</b>	1999, 2002	1997,	2000, 2003
<b>Validity</b>	3 years	3 years	3 years

**Table 2 - Summary of existing EU initiatives (continued)**

<b>Environmental domains</b>	<b>Green Key</b>	<b>Nordic Ecolabelling</b>	<b>Luxembourg Ecolabelling</b>
<b>Environment Control</b>	Mandatory: 4		
<b>Staff involvement</b>	Mandatory: 3		
<b>Information of guests</b>	Mandatory: 3		Mandatory: 12 Optional: 6
<b>Water</b>	Mandatory: 18 Recommendative: 1	mandatory : 5 Optional: 13 (valued 26 points)	Mandatory: 14 Optional items: 8

		Benchmarking: 200-300 l/ovn stay (depending on a range of parameters)	
<b>Laundry, Cleaning and Chemic.</b>		mandatory : 12 Optional: 9 (valued 21 points) Benchmarking: 25-35 g/ovn stay (depending on a range of parameters)	
<b>Waste</b>	Mandatory: 4 Recommendative: 3	mandatory : 8 Optional: 9 (valued 16 points) Benchmarking: 0,5-1,5 kg unsorted waste/ovn stay (depending on a range of parameters)	Mandatory: 9 Optional: 9
<b>Energy</b>	Mandatory: 10 Recommendative: 4 Benchmarking: 1	mandatory : 8 Optional: 15 (valued 25 points) Benchmarking: 250-300 kWh/m2 (depending on a range of parameters)	Mandatory : 14 Optional 14
<b>Food Stuffs, Purchasing</b>	Mandatory: 4 Recommendative: 3	mandatory : 3 Optional: 16 (valued 25 points)	Mandatory: 8 Optional: 6
<b>Fixtures, fittings and inventory</b>		mandatory : 8 Optional: 10 (valued 19 points)	
<b>Indoor climate</b>	Mandatory: 3 Recommendative: 2		
<b>Parks and outside areas</b>	Mandatory: 3 Recommendative: 4		
<b>Transport</b>		mandatory : 2 Optional: 7 (valued 8 points)	
<b>General</b>	Recommendative: 2		
<b>Label awarding conditions</b>	All obligatory requirements must be met (some within a 3-6 month delay)	65% of the total possible points with a minimum of 45% in the four mains areas + threshold values (no more than 2 out of the 4 may be outpassed)	All mandatory
<b>Comments (ex: importance of one domain, cost of measures...)</b>	The domain of "water" including sewage is extremely detailed compared to the others where most criteria are of the organisational type	Follows the ISO 14024	
<b>Fees for hotel</b>	4000 DKK + 40 DKK/room	depending on turnover	Free of charge
<b>Label starting date</b>	1994	October 1999	1999
<b>Number of hotels awarded</b>			16
<b>Date of criteria, date of next revision</b>	June 1999, June 2001	Nov 1999, revision September 2002	Updated every 2 years

<b>Validity</b>	12 month		2 years
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#### **d) Most important aspects**

For the various documented procedures, the following elements are underlined:

All schemes are purely voluntary schemes but the initiative can come from the market (hotel sector and or hotel organisations as scheme managers) or from the Public Bodies (Government, Department of Environment...)

Requirement scoring: few method use complex scoring for requirements and when they do, in general there is no methodological support to the scoring which has been established by expert saying.

The question of fees is important:

- High fees are dissuasive
- Low fees are not sufficient for success

In general fees are not very high (Dehoga, Austria, Luxembourg...) but, as the schemes are at the beginning, they may not reflect the actual costs.

There are different ways for hotel evaluation and label awarding. Most cases see self assessment by hoteliers but the label can be either:

- awarded by a jury decision. Checking is conducted afterwards on a random basis with on site visits.
- Or awarded following the on-site inspection by a referenced organisation

Success is very limited everywhere (<0,01% of hotel stock) but the reasons for this very low penetration rate are not easy to assess. One can suggest that:

there is too little direct economic benefit for the hotel

the fees are not a real problem but a good excuse

implementation of measures may be rather difficult technically speaking or be inadequate with the normal operation of hotel (need a long period of closure...)

The administrative procedure seem too complex

There are many different, apparently competing, initiatives that make the topic difficult to understand.

## VI) the Green Flag Proposal

### a) Requirements

The current and last requirements list ( attached in Annex) is the result of a three steps approach. These steps are referenced to the test audits phase.

#### (1) Before the test audits phase

At this stage, the objective of the group was to attempt to build up a questionnaire, based on a common structure and common requirements. This task started resting on the previous project steps.

A list was built up with the six participant countries contribution. They intended to get the list as large as possible because it seemed preferable to remove later requirements that do not really fit with some objectives, than to miss requirements.

At this stage, the group agreed on a first common approach based on a hotel services structure . This theoretical approach was linked to the previous method for the selection of environmental domains (Interim Report) where each service is the place of specific exchanges (material inputs and outputs).

All the hotel services and impacted environmental domains have been taken into account (Initial Interim Report).

All the available data and information were selected from existing schemes, environmental studies, and specialists' expertise.

Finally, a list that contained a very large number of possible requirements and should adapt to various types of hotels (annexed in Addition to Interim Report) was drawn.

Nevertheless, as mentioned in the «Addition to Interim Report» it was not possible to reach an agreement and the situation was as follows:

- The German NCT initially had problems with the feasibility of the proposed questionnaire because the questionnaire was too long. It was suggested to rewrite the detailed questions into one question with multiple choice answers or open answers with max. scoring. Furthermore, it was considered that the answers proposed were not detailed enough. Also the classification by hotel services was found to be not very practical given that some questions appeared repeatedly.
- Catalonia and Greece both used a questionnaire structured by hotel service and reformulated some questions.

#### (2) Test audits phase

This step allowed to improve the different lists and increase the acceptability of the list for practitioners. Especially the following points were scrutinised during the test audits:

the number of questions,

the use of benchmarking values,  
the possibilities for checking the proposed requirements,  
the acceptability of the requirements for hotels,  
the formulation of the requirements.

### (3) After the test audits phase

The team could use the test audits experience and build a list of requirements closer from the field needs on the form as well as on the content point of view.

A procedure for a consensual questionnaire has been decided ("Addition to Interim Report", annex C) and a consistency framework document has been written for the development and synthesis of the set of requirements.

The ecological label criteria should fulfil the following :

- substantial improvement of the environment
- transparency and comprehensibility
- easy to check
- high incentive
- collection of all existing suggestions (Athens Minutes)

#### Consistency framework for mandatory criteria : (Athens minutes)

Mandatory requirements should fall into the following types:

1. metering and registering activities,
2. training and information,
3. technical measures when straightforward (easy to implement).

No mandatory requirement is based on key energy, water and waste figures ; only a "warning" information based on what is available to date is delivered.

If a requirement is requested as mandatory but doesn't fall into one of these types, it has to be clearly argued the reason why it is a mandatory one.

#### Consistency framework for a consensual set of requirements (Athens minutes)

The set of requirements will contain the following data :

- QUESTION and the answer(s): Y/N type, multiple choice, units if quantitative, etc...
- mandatory requirements plus justification: 1 to 4/domain is possible
- scoring value or system for each requirement
- proof or evidence that is connected to the requirement and would be needed when a checking is carried out.

#### Consistency framework for a common design of the set of requirements

should be presented in the same way the "General Requirements" initial list was designed.

## i) Principles and Structure

### (1) Principles

The main purpose of an Eco-label is to help ecologically oriented customers to find a hotel which offers ecologically friendly services. Another related purpose is to create an incentive for the hotels to improve their environmental performance.

Consequently the design of the Eco-label has to fulfil the following criteria:

- induction of substantial improvements of the environment,
- transparency and comprehensibility,
- easy to check,
- providing strong incentive.

Two alternative approaches are in principle possible for the label: the *first* focuses on the environmental performance of the hotel as measured through a small *set of benchmarking values*, e. g. energy consumption per overnight stay or water consumption per overnight stay. This is the basic approach of the Blue Flag scheme. The *second* uses a *list of environmental measures* of which a certain percentage (e. g. 60 % or 100 %) has to be undertaken by the hotel in order to get the label. Most operating hotel environmental labels to date use this approach. Of course also combinations of these two basic approaches are feasible.

The advantage of the first approach is that it provides in theory a small set of environmental indicators, which are objectively measurable and easily checked. In practice, however three interlinked problems arise:

- 1) data to define adequate threshold values are hardly available,
- 2) hotels are different by location, comfort level, size of restaurant and many other factors, so the definition of a uniform threshold value is debatable
- 3) environmental issues are complex and it is questionable whether for a complex service company like a hotel they can be reduced to the performance in a few indicators.

Problem 1) has been found to be insurmountable in the present research – for some countries databases on hotel energy and water consumption exist, but not for all.

Therefore, it is proposed to adopt in a first step an eco-label which follows the second approach. The approach has been refined as discussed in the following subsection.

At a later stage, when enough data are available from the early applicants to the label or/and from further research, the eco-label may be modified to include also the use of environmental performance indicators as sketched in the subsequent subsection.

### (2) Proposed Label Structure

***To get the Eco-Label the hotel has to fulfil 8 to 10 mandatory requirements, track major indicators of environmental performance and obtain 80 % of the possible score on the relevant requirements (cf. figure xx).***

The *mandatory requirements* correspond to ecological minimum standards. By that irreversible damage e.g. through the disposal of hazardous waste should be avoided (cf. section VI.B.2). Certain mandatory requirements are only applicable to hotels in specific locations (cf. below), therefore, the number of mandatory requirements varies between 8 to 10.

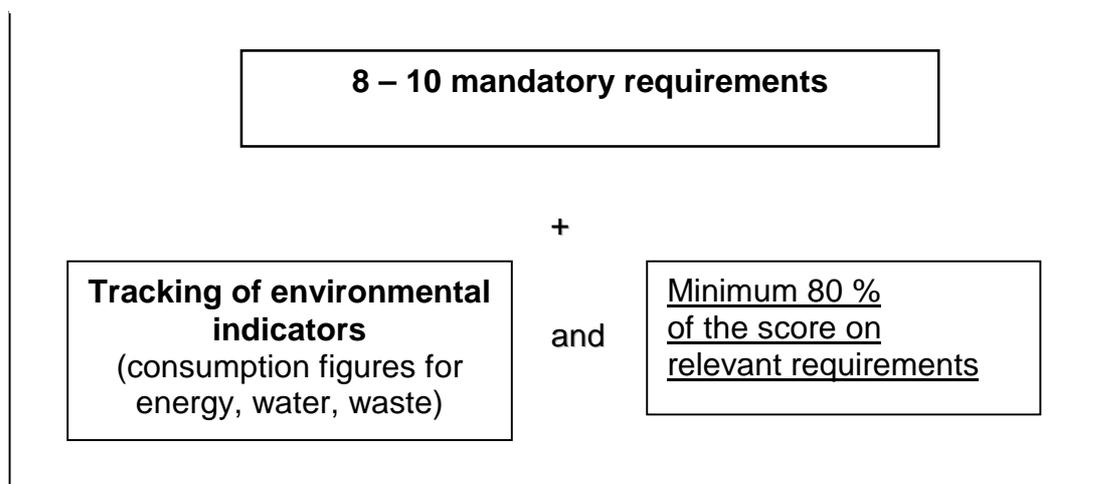
An additional mandatory requirement is the *tracking of environmental indicators*, namely

energy consumption, water consumption and waste production. This makes at a later stage the use of benchmarking values possible (cf. b) below).

The other *requirements* correspond to the implementation of environmentally sound measures, e. g. the use of recycled paper or renewable energies. Here, only those requirements, which are *relevant* for the hotel considered, are accounted for in the evaluation. E. g. measures related to swimming pools are only looked at in hotels with Swimming pools. Their maximum score is correspondingly increased (see section VI.B.3).

The three proposed elements (mandatory criteria, tracking of environmental indicators and criteria list) make the label a valid compromise between transparency and ease of

**Figure 3 - Label awarding conditions**



application. The use of benchmarking values would be in principle desirable as an additional element, but these are unfortunately not available for the time being.

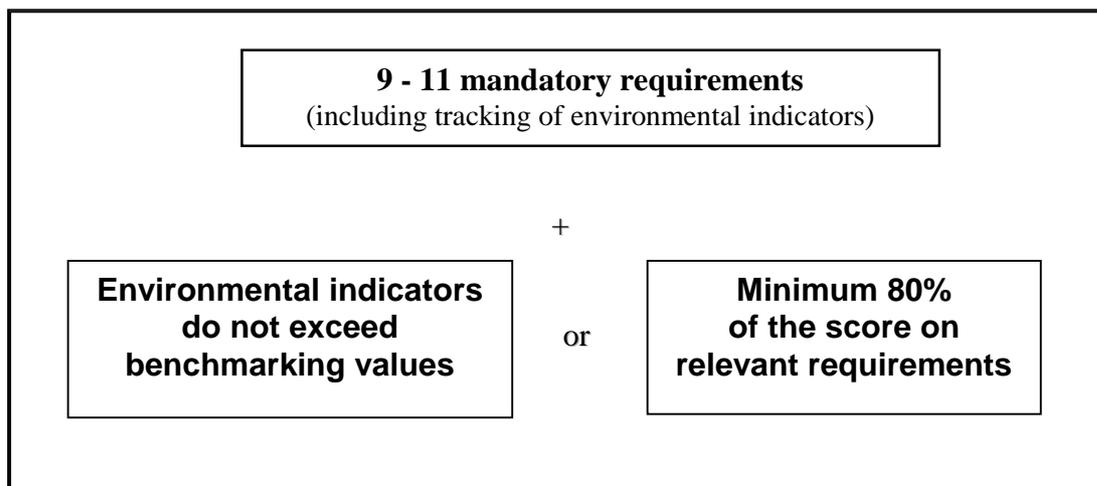
### (3) Possible future évolution of the label structure

Since the tracking of environmental indicators would be a general mandatory criteria in the label, after one to three years, international values for environmental indicators are available. These could then be used to define benchmarking values. Then, the choice should be given to the applicants either to meet specific benchmarks or to fulfil 80 % of score on the relevant requirements.

The structure of the label would then be as depicted in figure 2. The hotels still have to fulfil the mandatory requirements (including now the tracking of the environmental indicators), but then they might chose either to fulfil the benchmark values or the relevant criteria. By giving this choice to the applicants the scheme would be more flexible.

In particular, the benchmarking values can be checked rather rapidly. This would also favour the application of smaller, low standard hotels, who otherwise might refrain from application due to the necessary "paper work".

**Figure 4 - Possible evolution of label awarding conditions**



**ii) Mandatory, Optional Requirements & Threshold values**

**(1) Mandatory Requirements**

The mandatory criteria have to be fulfilled in any case for obtaining the Eco-Label. They cover the sectors waste, water/sewage, energy and purchasing/usage. The general guidelines for mandatory criteria are feasibility, easy implementation and cost-effectiveness. It is not necessary to fix many mandatory requirements; a maximum of three for each environmental sector, similar to other existing labels, seems advisable. The proposed choice is presented in the table below.

**Table 3 - Mandatory criteria proposed in Green Flag**

<b>WASTE</b>
Which of the following waste categories do you collect and dispose separately (considering / referring national regulations) ? paper / cardboard, glass; food residuals, other organic substances, plastic, aluminium, metal (mandatory for those categories, where separate collection is done at the local level)
Do you give all fat and oil backlogs to special re-utilising companies ?
Do you rest and dispose (record) the hazardous materials that occurs during the operation of your hotel technically correct? Chemical detergents, Motor and machine oil, Paints and organic diluters, Pesticides, Fungicides, Cfc's products
<b>WATER</b>
Do you check (monthly) taps, showers and water cisterns for leaks?
<b>SEWAGE</b>
If the hotel is not connected to the public sewage grid, does the hotel have on site sewage treatment system according to the European Standards (91/271/EEC) ?
<b>NOISE</b>
If you face noise pollution problems, which are caused from external or internal sources, have you metered potential indoor and outdoor sources of noise pollution such as nearby road with heavy traffic, noisy electric appliances, other sources?

<b>ENERGY</b>
Lighting energy saving: Where do you preponderantly use energy-saving lighting techniques (more than 50%)? Stair case/corridor, entrance/lobby, restaurant, outside, toilets in the guest area, guest rooms, other (mandatory minimum 2 areas)
<b>PURCHASING / USE OF PRODUCTS</b>
At least one European Union or National Ecolabel product is MANDATORY among: consumables, appliances, tools, furniture, building finish products
<b>GENERAL REQUIREMENTS</b>
Do you record and report your water and energy consumption (by energy carrier) and your waste production? If yes, what are their values for the last past year?
<b>Coastal hotel only:</b> Is the community in compliance with the "Blue Flag" or has the beach been granted the "Blue Flag" award ? Or: If there is a private beach, is the beach cleaning from waste (garbage, plastics, papers, aluminium and glass) an everyday practice of the hotel ? Or: Do you provide beach furniture (deck chairs, umbrellas, bar stools,...) of recyclable or natural material (wood,...)?
<b>Conservation areas (biotope, archaeological or historical,...) only:</b> Are the hotel premises correctly integrated in the surrounding environment? <ul style="list-style-type: none"> <li>• <b>Is there any official document from local authority proving compliance with specific requirement regarding architectural integration of the building(s)?</b></li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• <b>Is the building maximum height less than twice the average of surrounding buildings (within 500 m)?</b></li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• <b>Are the hotel premises built with the same features as the local traditional buildings (shape, building materials, roofing, wall coatings, colours) ?</b></li> </ul>

## (2) Further requirements

Besides the fulfilment of the mandatory requirements, the hotels have to obtain 80 % of the score on the *relevant* other requirements (cf. the full questionnaire in Annex xx).

The restriction to relevant requirements means that requirements, which are not applicable to the particular hotel, are not accounted for, neither when determining the maximum feasible score for the hotel nor when determining the actual score for the hotel. E. g. for a hotel with swimming pool the maximum feasible score is six points higher than for hotels without swimming pool due to question 21 in the water domain and the point on swimming pools within the question on heat recovery (question 47).

The requirements have been arranged by environmental domains in order to show to the hotel manager filling out the questionnaire, which is the potential main impact on the environment. This ordering seems preferable to the ordering by hotel services, which had been –envisaged first, but which leads to numerous repetitions in the questionnaire (cf. also the remarks of the German NCT in section VI.A.a)). Some requirements, which touch several environmental domains, e. g. guest information, have been grouped in a general section.

The scores attributed to the different questions have been derived from a common analysis on the relevance of the different environmental domains (cf. intermediate report) and

estimates on the environmental effects of the various measures. The overall distribution of the scoring is shown in table xx. Clearly, water and energy are the environmental domains with the highest scoring. This corresponds very closely to the rating by hotel managers in the evaluation survey (cf. section VII.B.2). Waste has a low scoring but a high number of mandatory requirements, which shows that here environmental minimum standards play an important role. Additional measures for waste avoidance have often to be taken at the moment of purchasing – these two domains together are ranked third in total scoring, again in accordance with the results of the hotel survey.

**Table 4 - Summary of Green Flag Requirements**

Environmental Domain	Total scoring	Number of mandatory requirements
W a t e r	40	3
E n e r g y	40	1
W a s t e	10	4
P u r c h a s i n g	19	0
A i r	15	0
N o i s e	7	1
G e n e r a l m e a s u r e s	26	1+metering

### (3) Benchmarking values

Although in the first proposal for a hotel eco-label, the use of benchmarking values has not been retained due to a lack of adequate data (cf. section VI.B.b)), already now their use in a possible future version of the label (cf. section VI.B.c)) has to be discussed.

The annual consumption of energy and water/sewage is usually metered by the hotels. The waste volume can be determined by the volume of the waste bins and the frequency of their emptying.

These data have to be collected from the applicants to the first version of the eco-label, together with data on overnight stays and warm meals served, in order to build up a database for the subsequent calculation of the benchmarking values.

The benchmarking values should be expressed as ratios, where the denominator should reflect the service provided by the hotel. Since the main service provided by a hotel is the overnight accommodation, it seems logical to express the benchmark as energy (or water or waste) per overnight stay.

However, when determining the benchmarking values, it is crucial to account for climatic differences and for differences in the proportion of restaurant guests.

Restaurant guests cause additional energy and water consumption as well as waste production, but not in the same proportion than overnight guests. Therefore, the use of a “weighted number of guests” as denominator is preferable to just using “overnight stays”. The weighting is needed to make allowances for the different energy (water, waste) consumption of an accommodation guest vs. a catering guest. It is proposed to determine the weighted number of guests as follows:

$\text{weighted number of guests} = \text{overnight stays} + 0,25 * \text{warm meals}$
--

The factor 0,25 has been derived from scarce German data and should be checked thoroughly using the data of the new data base.

The energy use figures should also be corrected depending on heating and cooling tributary to heating resp. cooling degree days. Thereby, some reference climate has to be defined

and only the proportion of heating (cooling) energy use in the reference climate has to be corrected with the degree days.

Finally, the issue of aggregation over various sources of energy, water and waste has to be solved when defining the benchmarks.

For energy, it is proposed to take primary energy equivalents for summation. Hence the proposed environmental indicator in the field of energy is:

$$\text{Energy consumption indicator} = \frac{\sum_{\text{energycarriers}} \text{Primary Energy Conv. Factor} \times \text{Energy Consumption}}{\text{Weighted number of guests}}$$

Primary energy equivalents are only a rough measure of the environmental effects induced through energy supply and use, but they seem more adequate than the use of final energy figures.

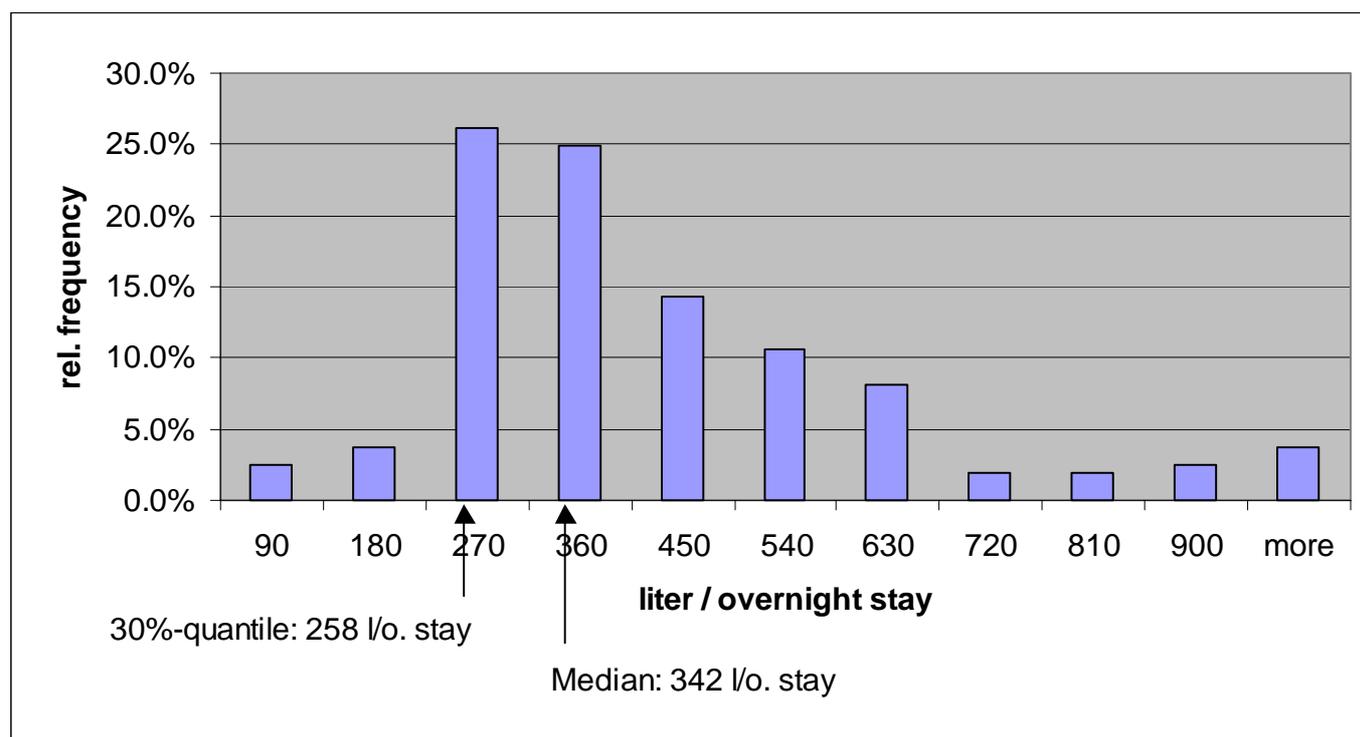
For water, only fresh water from the grid and from own wells should be counted:

$$\text{Water consumption indicator} = \frac{\text{Consumption of water from the grid and own wells}}{\text{Weighted number of guests}}$$

For waste, an adequate value would be the non-recycled annual waste volume – the waste weight would be more adequate but is hardly available.

$$\text{Waste production indicator} = \frac{\sum_{\text{non-recycled waste categories}} \text{Waste volume}}{\text{Weighted number of guests}}$$

Finally it requires a normative decision, which level of the empirically observed distribution of the environmental indicators is chosen as threshold, i. e. as benchmarking value. It is expected, that the observed distribution is right-skewed (cf. the example below). An appropriate threshold could then be the 30 % quantile – i. e. the value which is not exceeded by 30 % of all hotels.

**Figure 5 - Water consumption per overnight stay for a sample of 160 German hotels**

If the benchmarking value is derived from the applications for the eco-label, it might be more adequate to choose the median (50 % quantile) as threshold, because the distribution is probably biased towards lower indicator values (supposed that mostly environmental performant hotels apply for the label).

At this stage no mandatory requirement is based on key energy, water and waste figures. So metering and registering should be made mandatory and only a "warning " information based on what is available to date should be delivered.

### iii) Scoring system: from methodology to selected scores

The method proposal for the measures weighting and ranking aims at being able to rank the proposed improvement measures by importance level according to their weight and their number.

It consists first in giving a weight for each proposed measure.

The proposed and used weighting evaluation criteria are those pointed by the project team during the meetings:

- Environmental domain importance
- Hotel service importance
- Environmental improvement
- Feasibility
- Return on investment

- Marketing significance

Others criteria were suggested but not used yet because of the difficulty in evaluating them.

The evaluation criteria have a value from either 1 to 5 or 1 to 4.

Environmental domain importance - hotel service importance criteria:

Stemmed from the initial analysis, **environmental domains and hotel services identification**, of which results are in the intermediate report p.61-62.

**4** is assigned when the importance is high (means that all the team members scored it as very important)

**1** is assigned when the importance is low depending on the team members very low scoring.

Feasibility - Return on investment - Marketing significance criteria:

The evaluation system for these criteria is based on the fact that we want to **reward effort**. That means that the higher weight (5) for each of these criteria is attributed when a large effort is necessary to implement the measure.

**Feasibility criteria** weighting is a compromise between different matters which include:

- Financial matter (cost)
- Technical topics (depends on the hotel activity)
- Management concerns

The more feasible is the measure, the less important is the hotel effort to provide; level 1 is assigned.

The less feasible is the measure, the more important is the hotel effort to provide; level 5 is assigned.

**Return on investment criteria** weighting is as follow:

The shorter is the return on investment for the considered measure, the less important is the hotel effort to provide; level 1 is assigned.

The longer is the return on investment for the considered measure, the more important is the hotel effort to provide; level 5 is assigned.

**Marketing significance criteria:** if the improvement measure is supposed to lead to a high marketing effect, the effort to provide by the hotel is considered as low and the level 1 is assigned. In the contrary, an improvement measure which will result in a negligible marketing effect will require from the hotel a large effort to fit the measure and the level 5 is assigned.

**Environmental improvement:**

A high environmental improvement is weighted 5 whilst a negligible environment improvement is weighed 1.

**Measures weighting evaluation criteria**

<u>Environmental improvment</u>	
Very high	5
High	4

Medium	3
Low	2
Negligible	1

<u>Return on investment</u>		
Very high	<u>After a very long time : not economical within 10 years</u>	5
High	After a long time: economical within 5 till 10 years	4
Medium	After a medium time: economical within 3 till 5 years	3
Low	After a short time: economical within 3 years	2
Immediate	immediately economical	1

<u>Marketing effect</u>		
Negligible		5
Low		4
Medium		3
High		2
Very high		1

<u>Feasibility</u> (technical, financial, management effort)		
Very difficult		5
Medium		4
Easy		3
Very easy		2
		1

<u>Environmental aspects weighting</u>		
Energy consumption		4
Water consumption		4
Air emission		4
Ressources consumption		3
Inside noise		3
Waste		3
Sewage		3
Environmental education		2

Indoor air quality	2
All others	1

Hotel services weighting	
Cleaning central facility	4
Hotel building	4
Washing textiles	4
Cooking	4
Preparing and running the swimming pool	4
Ventilating heating	3
Hotel building finishing - furnishing	3
Using vehicles	3
Air conditioning	2
Dish washing	2
All others	1

### Importance of scoring

The scoring system can induce large differences in the appreciation of hotels as illustrated by where a similar set of 14 hotels have been applied both the Catalan Emblem and the Green Flag scores. To show results in a comparative manner, they are presented with different scales .

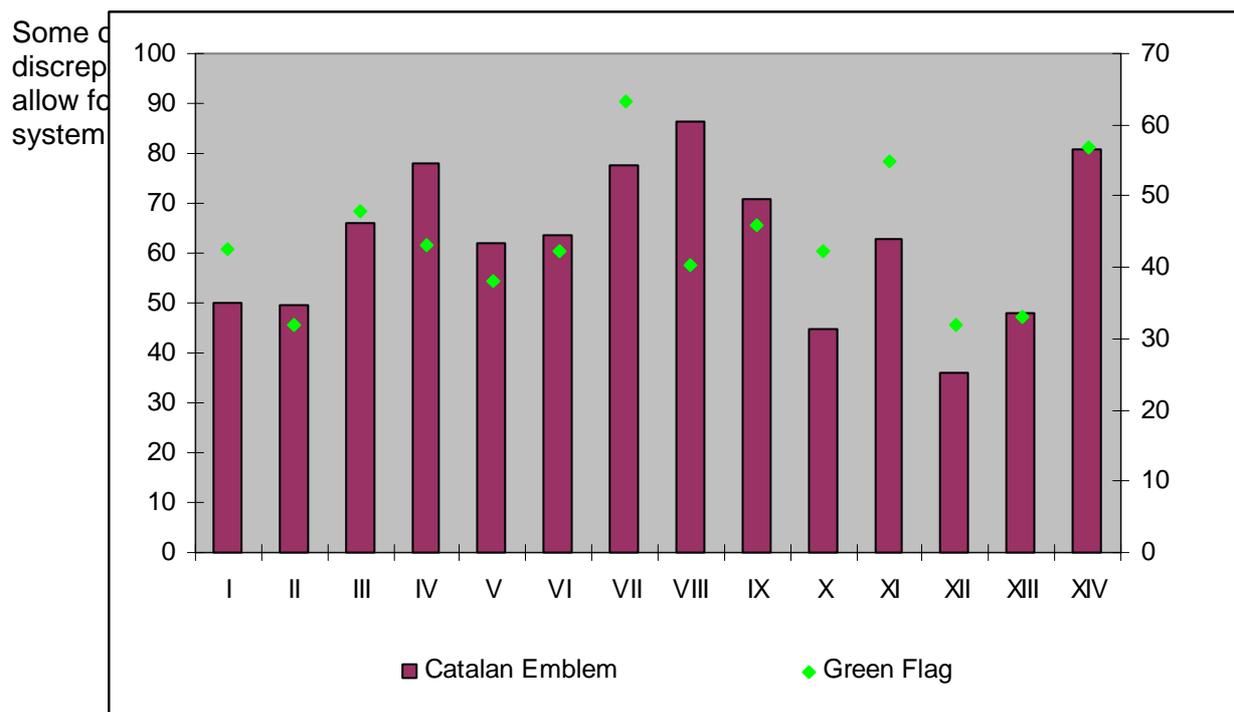


Figure 6 - Comparison of two scoring systems

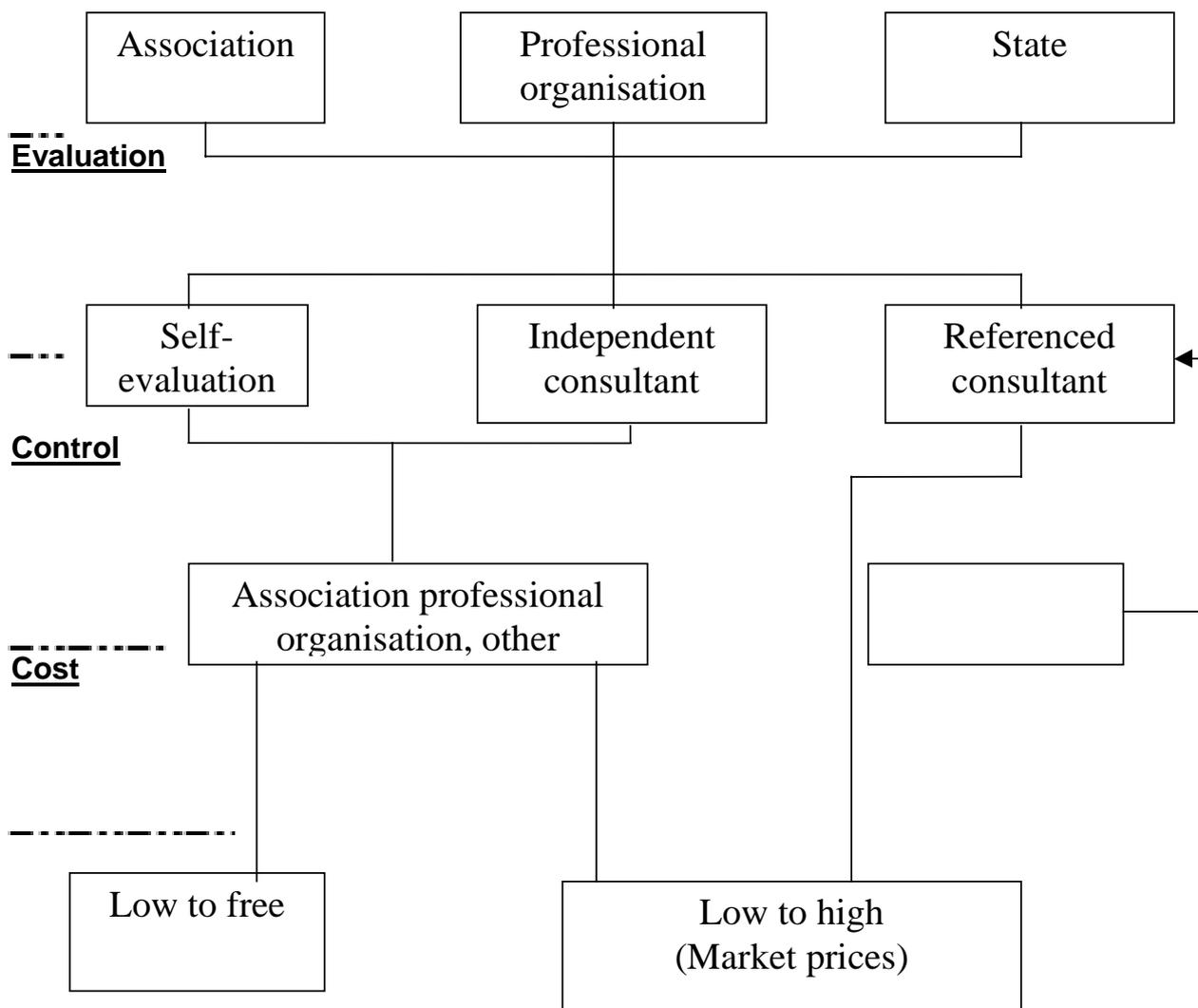
In many cases the scoring system results from an agreement between the experts (this is also the case for Green Flag). Because many actions can not be evaluated in a quantitative way on their environmental benefits, it is difficult to ascertain the respective interest of proposals.

**b) Procedure**

**i) Existing initiatives**

They are all based on a structure more or less similar to the one presented hereafter. Although the selected options may differ and imply various routes in the chart, all initiatives vary essentially from the technical aspects point of view: different requirements, fees, durations... but similar organisational structures.

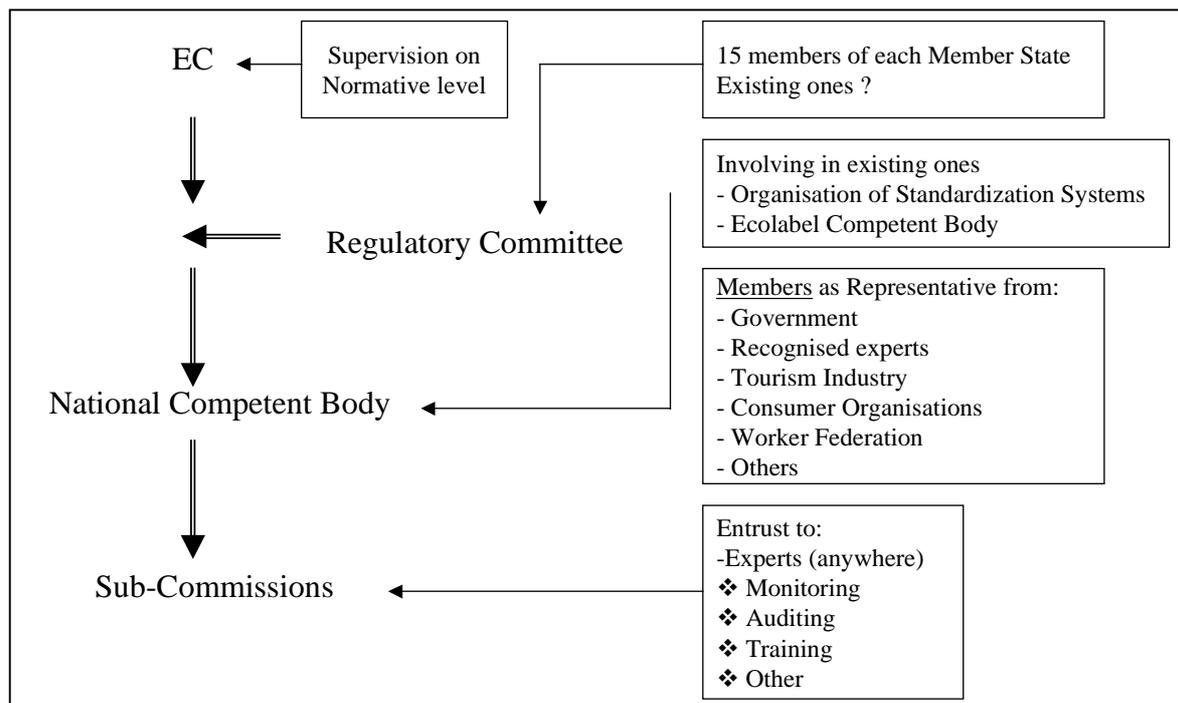
**Administration**



**ii) existing framework**

The proposed scheme for the implementation of Green Flags could be operated in the existing infrastructure (latest Ecolabel Regulation, CEN framework, ect) of each member state.

This structure has numerous advantages:



- Its operation, activities and structure in compliance with each National Legislation Infrastructure
- NCB activates parallel and/or as part of the existing ones
- Independent role only get a dynamic presence in national market
- National Competent Body (NCB) is a non-profit organization
- Self-financed in a way to cover its operational cost

The members of the NCB come from stakeholders of the Tourism Industry and Environment protection. Its own rule is to coordinate the success and effective operation of the Green Flags award. The administrative work (monitoring, auditing, training, ect) is carried out by sub- commissions that entrust to private enterprises or NGO.

**iii) Present proposed scheme**

Voluntary scheme allowing to promote the most environmentally friendly products or services, the ecological label must certify that specific effective efforts have been carried out to reduce and/or minimise environmental impacts of hotel activities. It has thus 2 main goals:

Protection of environment (including people, and in this case, staff and guests)

Promoting the most respectful enterprises and the efforts they have realised to make them benefit of a marketing edge.

This label should allow the hotel manager to:

- Identify critical aspects regarding environment in its activity and equipment
- Implement efficient solutions to improve the situation
- Implement management activities to record environmental progresses
- Reduce use of primary resources such as water or energy
- Cut down running costs
- Be identified, throughout Europe, for his efforts for environment protection

The proposed label applying and awarding system includes:

- A list of requirements in several environmental domains composed of mandatory requirements and optional ones.
- A scoring system: to each met requirement is attributed a number of points
- Awarding conditions such as described in section VI)a)i)(2) Proposed Label Structure
- A technical document explaining to hotel managers what they can do, how to do it, and why it is valuable both for them and the environment.
- An administrative organisation to run the label awarding system, such as the one presented on the following figure.

#### Cost of the label

The following expenses have to be incorporated in the label awarding system:

- Initial inspection and control (assessment costs)
- Marketing and information on the label
- Technical assistance

As costs (and potential benefits) are proportional to the hotel size and activity, it is sensible to link the fees to the hotel size, category and/or turnover.

As discussed in other sections I)d)-Most important aspects and VII)d)-Economical Aspects, it is also essential to have limited fees to raise the attractiveness of the procedure. It is suggested to have a total fee of :

- 100 Euros+20 Euros/room for 0, 1 and 2 stars hotels,
- 200 Euros+30 Euros/room for other categories.

This amount includes the expenses for qualification and the "marketing" costs.

#### Logo to represent this ecological label

The most sensible and recognisable logo would be one similar to the EU "flower" . yet its use being reserved to EU based eco labels, the following pictograms were suggested to represent the present initiative.

*Symbolised hotel in white on green*



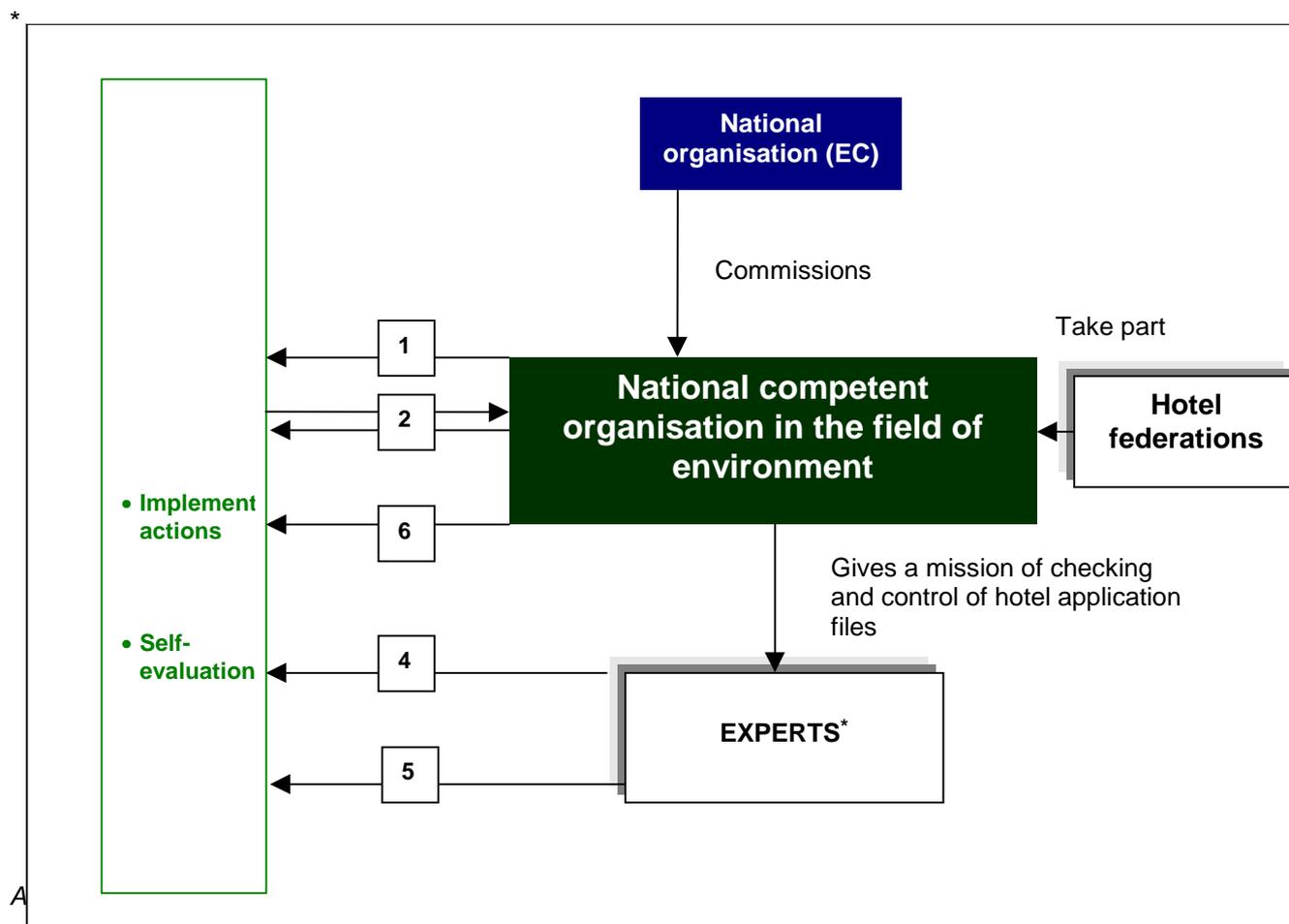
Green star on white



Administrative structure and step by step organisation

4. The national competent organisation, on behalf of the EC, is in charge of marketing the label
5. The hotel manager applies for the label. He implements a number of actions, according to the technical document and the list of requirements. The national competent body provides technical assistance (documents, advising,..)
6. Self evaluation: The List of requirements is complemented by the hotel
7. Experts check the responses and validate the answers
8. An on site control is conducted in order to cross check the application form.
9. The label is delivered which means the hotel is authorized to use the logo for a period

**Figure 7 - Proposed administrative structure for the Green Flag**



The National organisation is in charge of dissemination of the results by publishing lists of rewarded hotels. It could be a non profit organisation like the one which is in charge of the Blue Flag scheme for beaches.

Label duration

The validity of the label should not exceed 2 years, to the term of which the hotel should apply again.

Updating of requirements

Every 2 to 3 years the list of requirements should be reviewed and updated to strengthen the specifications and to include improved knowledge. The dates for next reviewing must be announced at the time of each new release.

## VII) Evaluation & Results

### a) Test audits

After the first list of requirements has been adopted by the Group (and in some cases submitted to National Concertation teams) it has been resolved to practice a number of field case studies in order to qualify the method .

#### i) General method

Each country had the responsibility of contacting a few hotels and was supposed to apply the same set of requirements (designated as general list of requirements). In practice, depending on local feed back (NCTs, other contacts) or due to parallel on going work, each organisation could be led to use a different document. Finally:

- Austria, France and Italy used the same original list
- Germany used a slightly modified list
- ICAEN modified it to have sufficient overlapping with the Catalan Emble which was prepared at that time
- Grece used a completely different structure (by environmental domain) with many specific questions

As a whole, this allowed to have appreciations and feed back on more requirements than those listed in the original document.

#### ii) Country reports

##### Ademe

In France, 20 audits have been carried, the four initial ones being only "warming up" the audit procedure. The contacts with hotels were arranged through courtesy of some NCT members (ACCOR, CESR Aquitaine, Lycée Hotelier de Nice) and the hotel managers had environmental awareness levels above the average (which means they were quite interested, willing to cooperate but not necessarily with hotels "greener" than the average, although...). They are mainly based in Aquitaine and Cote d'Azur and represent a large variety of size, categories, locations and type of businesses.

Each interview took on the average 1.30 to 2.00 hours plus one hour to tour the premises. Many difficulties were identified and reported to the group: insatisfaction with the structure, redundancy of questions, wording complex or not adapted to the professional habits, some requirements not applicable due to French regulation,...

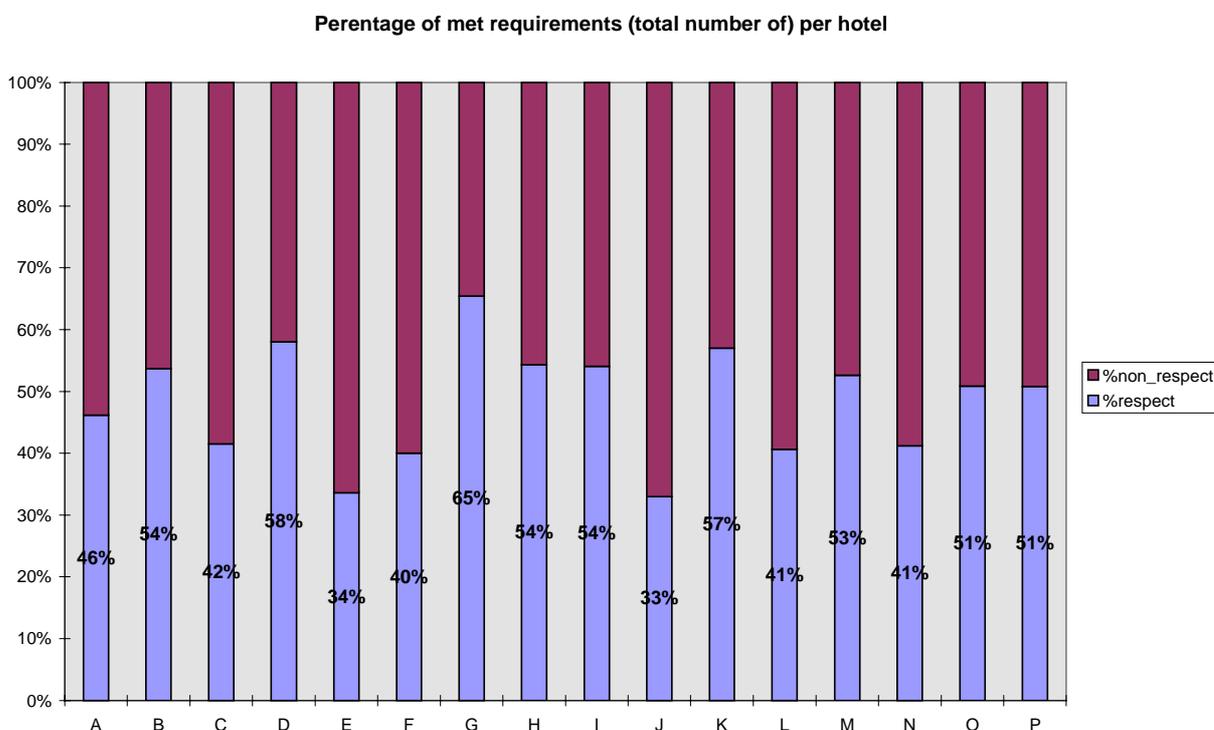
We had also to revise our opinion on the capacity of the hotel manager to answer correctly the questions without any external help, considering his difficulties in gathering the requested (technical) information.

A common opinion is that foreign travelers are more environmentally conscious than French

ones.

The hotel will be addressed a customized document on their own "environmental " status as assessed by the support document together with a general synthesis in order they can situate their abilities compared to the other in the sample.

One major learning from the audits results is the importance of the label awarding conditions. As illustrated underneath, depending on the required level, the dissemination of the label can be very different.



**Figure 8 - Percentage of (applicable) requirements met by hotel**

- with a minimum of 40% almost 90% of hotels could be labelled
- if up to 50 % no more than half of the hotels would pass the gate
- if 60 % are required, one hotel only would be labelled.

## Austria

In Austria, 16 test audits have been carried out in hotels of different categories (between three and five stars). It was a laborious procedure to find out those hotels and respective hotel managers / owners that were ready to take their time for some hours answering questions and discussions with test auditors. In small and medium hotels, usually the hotel owner was the main person for inquiries while in larger hotels, mainly technicians, responsible for heating, waste, water etc. answered the questions. It was evident that most of the persons interviewed were not pleased to spend too much time for audits and could not provide all the necessary data (e.g. energy and water consumption figures). Thus it was necessary either to visit these hotel a second time or to request several times for relevant figures.

During interviews it showed that for a number of technical questions, e.g concerning energy systems or eco labelling, several interviewees could not give satisfying answers immediately. The impression was that environmental concerns did not have main priority for a number of hotel managers / owners. As a result, most of the hotels had only realised those measures

which had been imposed to them by law (e.g. separated waste collection, connection to the public waste water system etc.) or where local standards (e.g. building code) required certain actions.

It was surprising that those hotels which already had received the national eco label were not enthusiastic to give another interview or complete another questionnaire since they had frequently been involved in different survey campaigns and individual questioning by journalists, checking their environmental performance.

The main problem for the implementation of any labelling system, as seen by hotel managers / owners, is their assumption that additional investments for meeting the set criteria would not pay back in a reasonable time period. Most of them suppose that nowadays only a small percentage of guests would be (sufficiently) environmentally conscious to pay a considerably higher price for room and services at an eco-labelled hotel. It also came out that most of the interviewed persons were not informed on the actual Austrian requirements, in order to obtain the eco-label. Consequently their assumptions on necessary, additional investments for the label were more or less vague and were not adjusted to develop serious calculations.

As a result of discussions with hotel owners / managers it became evident that not only economic considerations were decisive for the application for the eco-label but, more substantial, the attitudes and personal preferences / motives of decision makers towards environmental questions.

## **CRES**

A substantial number of hotels was audited as reported in the interim report. A list and the global results - with a distinction between island hotels and other - are incorporated in the Material volume. A starting result was that the EMAS or ISO 14000 hotels were not behaving really better than others as regards the label obtention.

## **ICAEN**

*ICAEN drew up a method for application in a pilot scheme for the green flag project. Fourteen hotels in Catalonia took part in the project, eight in the Costa Brava and Girona and five in the city of Barcelona. The pilot scheme includes establishments of different types and characteristics (mountain, coastal, interior, city, large, small, luxury), at which a survey was carried out to ascertain the opinion of the sector regarding the environmental and energy criteria considered, as well as the position of the different participating establishments. The study was presented to tourist enterprises in Girona and Barcelona in co-operation with the Costa-Brava Tourist Trust and the Barcelona Hoteliers' Union.*

The idea was to determinate and evaluate the validity of the proposed criteria whilst providing the establishments with a report on their state. The following hotels in Girona province took part in the pilot programme: Columbus, in Platja d'Aro; Carlemany, in Girona; Samba, in Lloret; Aiguablava, in Begur; Terraza, in Roses; Vall de Núria, in Núria; Prado, in Llívia; and Calitxó, in Molló. The Barcelona hotels taking part were the Princesa Sofia, City Park, Avenida Plalace, Ambassador and Alimara.

Some conclusion were taken from the realisation of the pilot audits in the 14 Catalan hotels.

### **Conclusions**

The results analysis and evaluation obtained through the application of the European questionnaire to Catalan hotels included in this pilot project allows to obtain the following

conclusions regarding the correct development and application of this questionnaire. In this regard, the trial has been used to identify the adequate questions to be included in the European environmental quality label from those that are not, as well as selecting the questions with should be weighted as mandatory, from those that can be optional. In this chapter we present the conclusions reached.

In the first part are some general conclusions, regarding the questionnaire as a whole. Following are other specific conclusions for each aspect considered, in relation to the different environmental management aspects at the hotels considered in this research. In some cases the conclusions are clear enough to incorporate a modification proposal, or even a substantial re-writing, of the text and/or the questionnaire structure. In some very specific cases a possible alternative is presented.

### General considerations

None of the Catalan hotels included in this study reaches, at the present moment, all the mandatory criteria considered in the European questionnaire. Considering that one of the hotels holds the ISO 14001 and the EMAS certificates, and that some others are in the implementation process for one of these environmental management systems, it has to be stated that the requirement level to reach the European distinction is quite high. In this sense, it would be adequate to consider a decrease to the level of exigency for some entries in the questionnaire reached by almost no hotel in this pilot project. These entries are shown individually in the following sections.

There is some degree of overlap between the requirements considered in different entries within the same area, which may cause a doubling in the evaluation of one single practise, either positive or negative. These cases are shown in each specific area when the case.

For some required aspects there is no clear relation to the environmental performance of the hotel. In these cases we call for an analysis of the convenience to maintain or discard the entry in the questionnaire. Specific cases are presented in each area.

Some aspects are both proposed as mandatory criteria, and marked as optional criteria, causing an overlap of concepts. It would be adequate to prevent this instance and to set clear limits between mandatory and optional criteria. Specific cases are also presented in each area.

The European distinction needs to be open to a wide range of hotels. This means the proposal should include a hotel classification mechanism based on their capacity, services offered to customers (swimming-pool, laundry, air conditioning...), and geographical location (seascape / mountain area, North / South, urban / rural). Also environmental priorities may vary (water saving in the South or the coastal areas, energy saving in the North or the mountain areas). The classification will allow to decide how is the distinctive applied (which aspects are considered).

### Waste Area

Entry 3 (Separate waste collection). The compulsory separate waste collection for those waste types already in separate collection within the township is considered adequate. However there are other types of waste that can be collected separately, which are not included either in this entry or in entry number 8, hazardous waste. Among these are batteries, fluorescent lights, printer toners and others. Therefore a recommendation is made to assess in which entry these materials could be included.

Entry 4 (Container availability for different materials). It can be expected that a hotel practising separate collection (Entry 3) has the appropriate containers for them. In this sense the question seems to be directed towards identifying if separate collection is an internal staff practise or it also considers the customer. In this sense a more clear question is

recommended, like: «Separate waste collection is an internal staff practise or it also considers the customer, and therefore waste containers for different materials are available for the customers?»

Entry 6 (Return of containers and packaging to suppliers). There is some overlap with Entry 9 (Purchasing practices for different drinks) as one of the models considered are supplier returnable containers. In this sense, the ranking is doubled. On the other hand it needs to be specified the reference measure for the percentages (weight, volume or units).

Entry 8 (Separation and register of hazardous waste). In some cases it regards to materials that some hotels cannot use (pesticides, fungicides, etc.) which makes it more difficult for them to reach the mandatory minimum in comparison to other hotels. This calls for an adaptation of these entries to the characteristics of the different hotels.

As an indication only one of the Catalan hotels in the pilot project has given an affirmative answer to the mandatory requirement for this aspect, and that is with a minimum completion, which makes to consider that 3 positive answers are a very high requirement level.

Entry 9 (Purchasing practices for different drinks). See Entry 6.

#### Energy Area.

Entry 36 (Energy Audit). A proposal is made for this entry to become mandatory.

Entry 40 (Centralised water and heating systems). Its is unclear whether this aspect has to be considered as an environmental criterion. An explanation should be included for questionnaire users.

Entry 49 (Energy saving light points). Some hotels visited have stated that the use of energy saving lights is not appropriate for customer rooms, as they are repeatedly turned on and off . It could be the case that positive ranking is given to a negative environmental practise. This aspect should be analysed, and if appropriate, the question could be adapted only to public areas of the hotel (restaurant, bar, reception, kitchen, store areas, etc.).

#### Product purchase and use Area

Entry 55 (Purchase of food and drinks for organic agriculture or similar). The question is considered correct in its terms but some Catalan hotels in the pilot project have indicated the nearby absence of enough offer to cover their needs of products. There might be important differences between EU States regarding this aspect.

#### General requirements Area

Entry 60 (Degree of hotel environmental involvement) In relation to subentry 1 (Involvement of staff in environmental activities) it is difficult to know the answer and value it objectively. In any case it has a low relationship to the appropriate environmental management of the hotel.

Entry 61 (Application of Environmental management system). The results of the Catalan hotels show that those businesses holding an EMS, or are underway of obtaining an EMS, have much higher scores than the rest. Therefore a proposal is made to increase the ranking of this criterion.

Entry 65 (Considerations for hotels in seaside areas). A recommendation is made for important modifications on this entry according to the following considerations:

Subentry 1 (Blue flag beach identification). A proposal is made to exclude it from the questionnaire as it has no direct relationship with the correct environmental practise in the hotel.

Subentry 2 (Daily beach cleaning by the hotel). It is difficult to apply considering that beaches are not, in principle, property of the hotel, but Public Dominion Zones. In any case, if what is asked is whether the hotel collaborates with the public administration for the beach cleaning tasks the question should be set in a more clear way.

Subentry 3 (Recyclable or natural beach furniture). This aspect is of low importance considering that the questionnaire does not take into consideration the hotel furniture. Therefore a proposal is made to either exclude this aspect from the questionnaire or extend it to all hotel furniture.

Entry 66 (Hotel integration in the surrounding environment). This question is presented in an appropriate manner, but in some landscapes it is difficult to apply some of the proposed criteria (as an example, what can be considered an architecture integration in a landscape that has been under uncontrolled and excessive growth during the previous years?). On the other hand it has to be considered that a hotel may have an excellent environmental performance but do not reach the quality distinction for not having an appropriate integration to its surroundings. This is an aspect that might not be under the control of the hotel management if this was built by another owner and bought later to run as a hotel. For this reason a proposal is made for this not to be a mandatory criterion, but an optional one with a high score if accomplished.

Entry 68 (Landscape and Gardening). This is an appropriate criterion but does not apply to all hotels, which causes differences when rating.

### **IER**

In Germany, IER undertook 10 audits in hotels of different categories (between two and five stars) in February 2000.

Most of these hotels were interested in environmental and energy issues and had already participated in previous inquiries by IER. Sensible differences in hotel management procedures were found between small owner-run hotels and larger, often chain-owned hotels.

In the former, the environmental concern and willingness to act strongly depends on the hotel owner himself. If he or she is interested in ecological matters, they may go rather far in implementing all type of environmentally friendly measures.

On the other hand, hotel owners not interested in environmental protection can hardly be addressed through an labelling initiative.

For larger hotel chains, the environmental management is an issue which receives some, albeit limited attention from the central group management. These have partly, in their aim of thorough optimisation of all hotel operations, started to develop also benchmarking initiatives for energy and water consumption, and are trying to circulate information on energy, water and waste saving among the technical managers of the different hotel locations.

However, the focus is clearly on cost-effective measures. The on-site technical staff in larger hotels is mostly rather highly qualified and partly also shows own-interest in efficient operation of the existing equipment and energy-efficient investments.

The primary concern of the audited hotels was that the questionnaire should not be too long and that the measures required to obtain the label should be not too costly.

### **SOFTECH**

The test audit was planned on a group of hotels, representative of the Italian hotel stock:

- Hotels size:
  - 2 stars 15-35 rooms
  - 3 stars 25-50 rooms

- 4 stars 50-80 rooms
- Hotels:
  - Climatic area C (South Italy): 3 Hotels (2 stars seasonal, 3stars seasonal, 4 stars);
  - Climatic area E (North Italy< 300 m altitude): 3 seaside hotels (2 stars seasonal, 3stars seasonal, 4 stars);
  - Climatic area F (North Italy, mountains): 2 hotels (2 stars seasonal, 3stars seasonal).

The total n. of hotels finally audited was 8.

#### Description of the tested hotels

The 3 hotels in Climatic area C, are located on the coast of 3 provinces of Calabria Region: Catanzaro, Cosenza and Vibo Valentia. They represent the most diffused hotel typology in the Southern Region. 2 of them are tourist villages. If opened all year round, is because the restaurant is attracting people at local level. They are managed as “company” and not as “family business”, that’s the reason they have most of data about hotel’s operation costs and consumption. (But the detailed data about energy and water consumption and waste production, depend on the “assessment by thumb” and not on measurements).

At the same, the 3 hotels in Climatic area E, seaside, represent the typical situation of the North coasts (Emilia Romagna, Veneto, Friuli, Liguria etc.). They are seasonal hotel, the 2 and the 3 stars have no heating and cooling system.

All of them is located in Bibione Area, the first area in Italy to enter **EMAS**. The results of the test audit, reinforce the idea that eco-label give more effectiveness to EMAS and should be adopted wherever EMAS is applied.

The 2 stars one is ran as a “family business”. The owner don’t know even the n. of guest per year and the amount of energy and water consumption (the bill were to the book-keeper). The 3 stars manager, notwithstanding some concern for energy and environment, knows the hotel consumption as expenditure only.

The hotel manager of the 4 stars hotels seems very aware about energy saving and environmental problems ( the hotel use solar collectors for SHW) and have all data ready to show.

The two hotels tested in Climatic area F are located in an area of the “Altipiano di Asigo”, on the North side of Veneto Region. The area has a medium/high concern for environmental problem, respect the average of the national mountains areas. Both the 2 and the 3 stars hotels tested are representative of their category (mountain tourism hotels, mainly run on familiar bases).

Notwithstanding their assertion about the concern for energy and environment, the hotel consumption is known as expenditure only, as well as there is no information about waste volume (but they sort rubbish in all category provided by the municipality).

The 2 stars is a seasonal hotel, opened during winter and summer season ( 8 month in a year), with a restaurant working manly for non hotel guests (40.000 restaurant guests against 5.700 hotel guest).

The 3 stars hotel is opened all year round (month of closure: November) with the restaurant working mainly for the hotel guest.

#### Italian hotels sitation with respect to the questionnaire and the labelling

1. All the hotels answered positively to about 1/3 of the questions, independently of the hotel size, location, category and manager cultural level and awareness. **In many cases, the difference in the answer is due to different point of view on the meaning of the question.**

2. Only the hotels managed as “company” (and not as “family business”) have most of data about hotel’s operation costs and consumption.

In any case, the detailed data about energy and water consumption and waste production, depend on the “assessment by thumb” and not on measurements.

**3. None of the measures they implemented is really driven by an environmental concern (even if everybody declares to be aware about environment).**

4. They believe that:

- they are acting actively for protect the environment if they respect the national and local laws and rules;
- the concept of efficiency matches with the one of “new”: an efficient appliance is a new appliance.
- the “eco-labelled” products and appliances are the ones with a “bio” and “eco” manufacturers self-statement, printed on the packaging or on the advertising brochure. (e.g.: washing products are “eco-labelled” if declared “environmentally friendly” by the manufacturer because Phosphate free).

5. Different measures are not allowed by national or local laws. e.g.:

- "Do you ask guests for changing towels at demand ?" the 4 stars hotel in Veneto have to change towels daily;
- "Do you forego on chemical disinfection ?": national law 626 requires an ants and rats disinfestation - with toxical products – twice in a year, even if not necessary;
- "Do you buy food and beverage in bulk instead of wrapped portions ?": several local sanitary department consider “wrapped portions” the only system in line with HACCP rules;
- "Do you forego on chemical disinfection" and ". Do you use soft and environmentally compatible detergents (e. g. vinegar or citron acid) ? ": many managers doubt to respect HACCP rules using natural product – they feel more weak, in front of a judgement, in case of customers hillness.

6. In many case, the purchasing of properly eco-labelled products is not easy (especially in South Italy) and their price, as well as the price of biological foods, could represent a relevant investment for the hotel.

#### Notes on the questionnaire (feed back)

1. There are several measures where the fulfilment is not 100% (e.g.: 10. *Do you use lighting control systems?: yes, in the outside lighting;* 71. *Are windows fitted with double or triple glazing for reduction of heat losses and acoustic comfort ?: yes, the restaurant and the street-façade windows; etc.*). How to evaluate (score) them ?

2. How to evaluate, during the survey, the value to give in case of positive answer to non-quantitative question like “118. *Do you buy recycled paper ?*”, “120. *Do you buy food and beverage in bulk instead of wrapped portions ?*”, “121. *Do you buy food from ecological farming ?*” “125. *Does the purchased products contain recycled materials ?*” ? A non wrapped food or a food from eco-farming, etc. have the same value than 10 non wrapped foods or foods from eco-farming, etc. ? Is it a percentage on the total food cost for the hotel ?

If the wrapped portion avoid a relevant waste of food, what is the greener choice ?

2. More measures than expected are “IF” measures (e.g.: 78. *Do you use minibars with low*

energy consumption ? we don't have minibars; 110. Do you operate heat recovery from the swimming pool ? our pool is not heated; 132. Do you buy biodegradable weed-killer ? we don't use them; etc.)

How to evaluate the value of the measures that could be profitable for some hotels but not for others ? (e.g.: "13. Do use the opportunity of heat recovery ?", "15. Do you use a cogeneration unit ?", "71. Are windows fitted with double or triple glazing for reduction of heat losses and acoustic comfort ?", etc.)

3. How to evaluate the questions about "staff comprehensive and ongoing training" or "are staff encouraged to save, use, etc." What kind of proofs are needed, manager declaration apart ?

4. How to evaluate, during a daily survey, the "where necessary" cases ? (how to prove the "necessity" of a measure ?)

5. How to evaluate, during the survey, the performance of the devices not labelled or certified ? (e.g.: 8. Do you have high efficient luminaries (i.e. well designed reflectors)?;

6. How to evaluate, during the survey, the fulfilment of operation mode not connected with specific devices or design features ? (e.g.; 20. Reduction of solar gain (ventilation and free cooling techniques during summer); 23. Do you shut off heating, cooling, lighting in unoccupied rooms ?; 80. Do you avoid stand-by operation of TVs ?)

7. The global positive effect of some measure, depends on the implementation of other measures too (e.g.: 72. Windows and door frame sealing for reduction of heat losses ? : if not connected with a ventilation system, it could affect the indoor air quality. The ventilation system, without heat recovery system or connection to air solar collector, affects energy consumption...)

## **b) Professional feed back**

### **i) National Concertation Teams (NCTs)**

#### **Ademe - France**

NCT members have been gathered on one occasion but frequent bi-lateral contacts between ADEME' staff and the participants have been used to keep them informed and collect their opinion on the on-going activity. The participants are the following:

**Table 5 - French NCT membership**

<b>Professional organisation</b>	<b>Representative(s)</b>
Ministère de l'Aménagement du Territoire et de l'Environnement	<ul style="list-style-type: none"> <li>• <b>Monsieur Vincent Hussenot, Direction Nature et Paysage,</b> Chargé du développement économique et de l'emploi</li> <li>• <b>Madame Michèle Meyrat, Direction de la Prévention de la Pollution et des Risques,</b> Bureau de la Qualité écologique des produits</li> </ul>

Professional organisation	Representative(s)
Ministère de l'équipement, des transports et du logement, Secrétariat d'Etat au Tourisme	<ul style="list-style-type: none"> <li>• <b>Madame Jacqueline Arnoult, Agence Française de l'Ingénierie Touristique</b>, Direction technique hébergement</li> <li>• <b>Madame Marie-Claude Gaudriault, Agence Française de l'Ingénierie Touristique</b>, Direction technique Tourisme Environnement</li> <li>• <b>Monsieur Dominique SALOMON, Délégation Régionale au Tourisme</b>, délégué "Riviera-Côte d'Azur"</li> </ul>
Conseil Economique et Social Régional Aquitaine	<ul style="list-style-type: none"> <li>• <b>Monsieur Jean-Claude GUICHENEY</b>, Secrétaire Général</li> </ul>
Fédération Nationale de l'Industrie Hôtelière	<ul style="list-style-type: none"> <li>• <b>Monsieur André Gausset</b>, Secrétaire Général</li> <li>• <b>Monsieur Rémi Malétras</b>, Chargé des affaires économiques et des nouvelles technologies</li> </ul>
Fédération des Parcs Naturels Régionaux de France	<ul style="list-style-type: none"> <li>• <b>Mademoiselle Laure Sagaert</b></li> </ul>
Office du Tourisme de Nice	<ul style="list-style-type: none"> <li>• <b>Madame Isabelle Bonnet-Pierron</b>, Chef de marchés / Office du Tourisme et des Congrès de Nice</li> </ul>
Chaîne Hôtelière, Groupe ACCOR	<ul style="list-style-type: none"> <li>• <b>Monsieur Thierry Mueth</b>, Direction Environnement</li> </ul>
Enseignement hôtelier	<ul style="list-style-type: none"> <li>• <b>Monsieur Bernard Quirin</b>, enseignant LYCEE Hôtelier Paul Augier NICE</li> <li>• <b>Monsieur Henry Franck</b>, enseignant LYCEE Hôtelier Paul Augier NICE</li> </ul>
Bureau d'études techniques	<ul style="list-style-type: none"> <li>• <b>Monsieur Richard GUEZ</b>, GUEZ Ingénierie</li> <li>• <b>Monsieur Philippe HENNEGRAVE</b>, IPH Bureau d'études techniques</li> </ul>
Institut de Gestion de l'Environnement	<ul style="list-style-type: none"> <li>• <b>Melle Ariane Martens, Institut Bruxellois Gestion Environnement</b> BRUXELLES</li> </ul>

Since the beginning of contacts, the group has evolved towards a larger involvement of Aquitaine hotels and local Professional Federation representatives with less involvement of the original participants.

The Aquitaine Region has provided - on a Regional basis - the necessary feed back that was expected with the NCT. Although no formal RCT (Regional Concertation Team) was build, it worked with the representatives of the Regional entities involved in this subject..

### ARCS - Austria

NCT members were informed regularly, either directly or on the occasion of tourism-specific events in Austria. Their main concern was that Austria had already introduced a labelling system for tourism and it was hard work to agree on the actual labelling scheme. In the mean time consulting of Austrian experts, involved in the national eco-labelling campaign, with experts in other European countries was started, aiming at the development of a respective system in these countries, supported by the Austrian know-how in eco-labelling.

Nevertheless, members of the NCT were/ are interested in the Green Flag Project, especially in the results. This interest is a rather passive one, observing the project from a distance, due to reasons as mentioned above.

NCTs will be addressed again as soon as the final list of requirements has been finalised to ask for comments. In addition, also the Austrian Hotel Association, which is not involved in the eco-labelling process, will be contacted again to get also their comments.

## **ICAEN - Catalunya**

At the beginning of the project, several meetings were organised between ICAEN and the regional Department for Environment (the organism awarded for the definition of eco-labels in Catalonia) in order to discuss and fill the impacts matrix.

The regional Department for Tourism and the several hotel federations and associations in Catalonia were informed about the initiative, but we decided not to show them the matrix. We decided to discuss concrete points with them once we had a list of criteria.

In October, once we had a first draft of the list of criteria, we send a letter to the members of the NCT asking for their opinion about the criteria and about the developing of the project. The letter was sent to:

Mr. Josep Cerveró. Cerveró Group (consultancy).

Mr. Lluís Bellido. Directorate General of Tourism.

Mr. Salvador Samitier. Directorate General of Environmental Quality (Department of the Environment).

Mr. Roberto Torregrosa. Director of the Hotel Alimara.

Mr. Albert Bramona. Barcelona Hotelers' Union.

Mr. Francesc López. Costa Brava-Girona Tourist Trust.

Mr. Josep Carreras. Girona Hotels Federation.

We just received the answer from one of the members of the NCT giving some remarks to the list of criteria. The list of criteria sent to the NCT was the one used to make the audits on the Catalan hotels.

## **IER - Germany**

The NCT included representatives from the German Federal Environmental Agency (Umweltbundesamt), the regional energy agency of Baden-Württemberg, consultants on waste management, hotel chains, hotel advisers and last but not least of the DEHOGA, the German hotel association.

The NCT members were informed regularly, either directly or on the occasion of tourism-specific events. Their main concern was that DEHOGA had already introduced a labelling system for hotels and restaurants.

Also, the first version of the questionnaire was judged to be too long by the NCT. However, the doubts of the NCT could be dissipated by the shortening of the questionnaire.

The NCT members were keen on having the DEHOGA requirement list being implemented also in the European questionnaire. They expressed the wish that the planned European label should not be less demanding than the DEHOGA label. On the other hand, it should focus on cost-effective measures since the current economic situation is difficult for German hotel operators and they are not willing to spend many additional resources on environmental issues. Yet, the NCT was receptive for suggestions concerning benchmark values and additional questions to complement the existing DEHOGA questionnaire.

The NCT members present at the last meeting in January 2001 were rather satisfied with the (almost) final version of the requirement list. Their final suggestions have mostly been accepted by the research consortium and are hence included in the final version of the requirement list given in Annex.

In order to attain a fast implementation of a European label the NCT suggested to internationalise the national label. So in case of fulfilling the national label the international

label should be awarded simultaneously.

## ii) Hotel Survey

The hotel survey aimed at testing the feasibility and acceptability of an ecological label in the hotel sector. It has been designed and performed in France. In Germany, Austria and Catalonia where a National or Regional ecological label already exists, such a survey didn't seem to be a pertinent investment. Concerning Greece and Italy, they had many and fruitful consultations with their NCT, leading to a good acquaintance of the hotel professional point of view.

### Objective

The main objective of this survey is to test the feasibility and the acceptability of a European environmental label for hotels from the point of view of hotel managers themselves.

This main objective has been divided down into three parts:

The hotel manager sensibility and receptivity towards the protection of environment in the hotel exploitation as well as regarding voluntary methods aiming at the environmental protection,

The hotel manager sensibility and receptivity towards a European ecological label application scheme

The hotel manager sensibility and receptivity towards a set of recommendations as well as technical and organisational requirements aiming at the environmental protection.

### Method

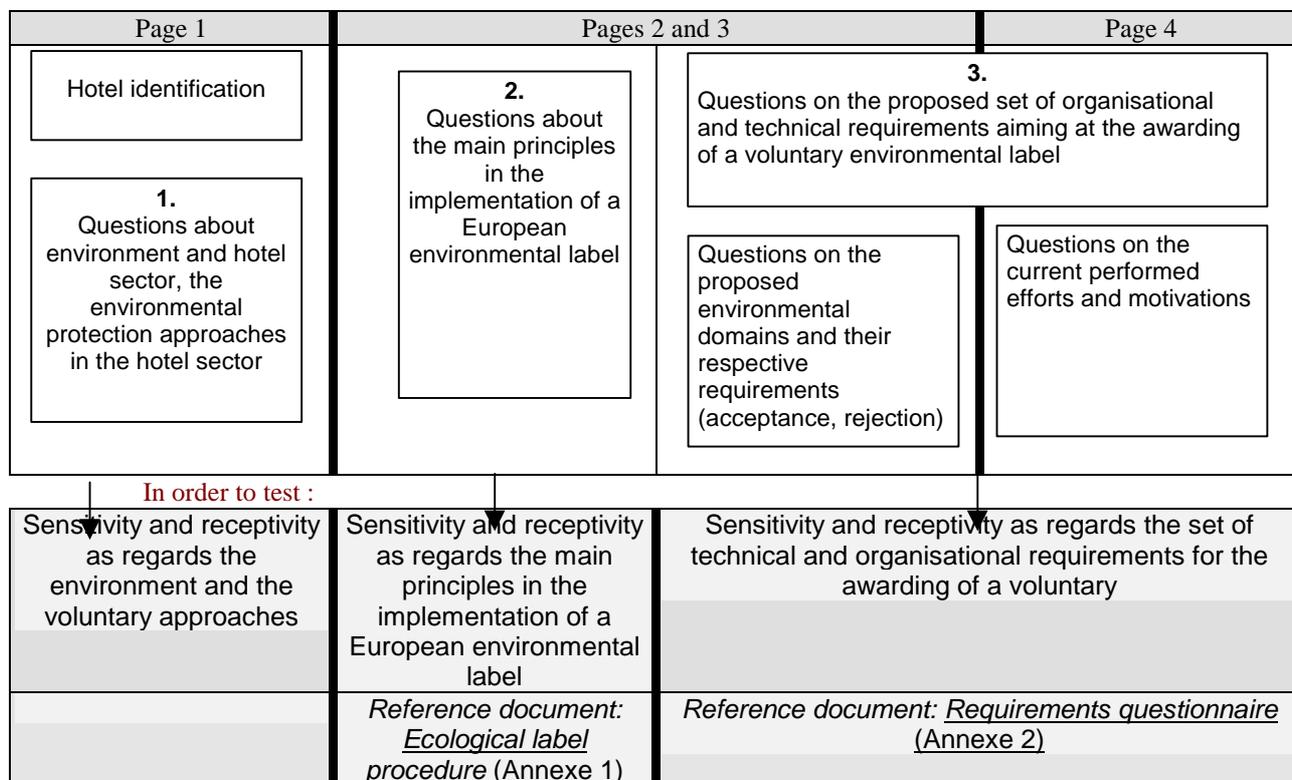
The survey contents were based on two main documents:

The ecological label procedure proposal. It describes the main principles in the implementation of a European environmental label.

The requirements proposal. It draws up a set of technical and organisational requirements for the awarding of a voluntary environmental label.

Based on these documents and on the described objectives, the survey questionnaire has been designed as presented on Figure 9

**Figure 9 - Schematic presentation of the survey questionnaire structure**



The survey total sending comprises: the survey questionnaire, the ecological label procedure proposal, the requirements questionnaire proposal and the accompanying letter (annex XX)

A French hotel park representative panel has been drawn up in terms of hotel category and geographical situation (at department level). The set of documents has been sent to 1000 hotels in France matching this panel.

The same mailing has been sent to hotel professional organisations at national level.

## Results

### Only 10 questionnaires returned out of 1000

Some facts require to be underlined:

Hotel keepers had 3 weeks just before Christmas period to answer to the survey;

The inquiry requested an important investment from the hotelkeepers. The acquainting of the 2 main important documents in order to be able to answer parts 2 and 3 of the questionnaire requires a long time;

However, the 1% return rate is very low, despite the above information. Most of the hotelkeepers have not been interested at all in this survey. They have been motivated neither for the environmental aspects nor for the label subject;

The 10 returned questionnaires come from highly motivated hotelkeepers;

The main warning as regards the results is that they are biased considering the above information.

Survey questionnaire results

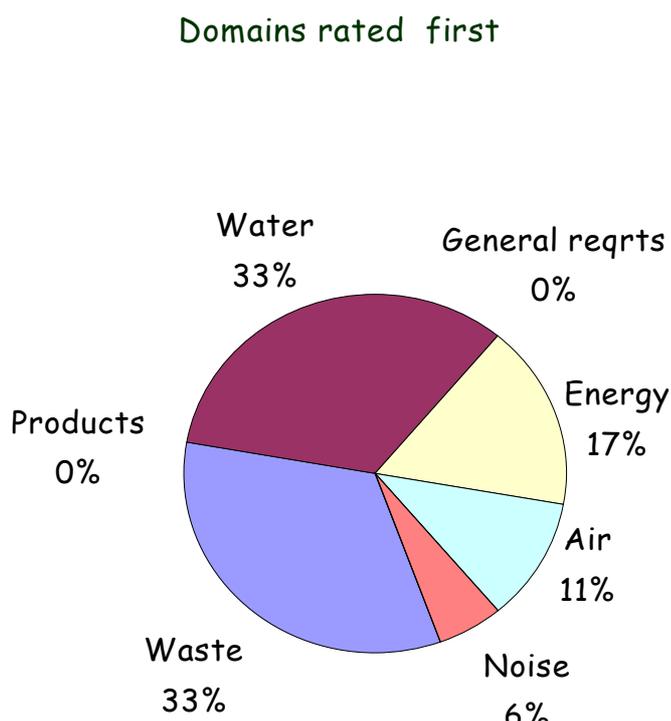
For all these reasons, it is not possible to deduct any formal conclusion from the obtained results. So, except the questionnaire third part results, the others results are not commented there but inserted in annex XX).

**Environmental domains results** Concerning the third part of the questionnaire, the question number 13 involves rather the hotel running impacts than the personal hotelkeepers personal opinions:

«Which of the approached and listed environmental domains (waste, water, noise, air, air quality, energy, purchasing, general measures) would you consider as being the more significant in terms of environmental impact in the frame of the hotel running (ranging them)?

As expected the three more affected domains for hotelkeepers are WASTE, WATER, and ENERGY.

**Figure 10 – Significant environmental domains in terms of environmental impacts in the hotel running**



If you consider the detailed ranking, the result is quite similar as shown on Table 6, which confirms that, to-date, Hotel managers are making the link between flows and environmental protection but tend to disregard other matters which are yet to be regarded in a global approach.

Domain	Percentage of time the domain is ranked first, second or third
Water	23%
Energy	23%
General requirements	0
Waste	30%
Noise	4%
Purchase and products	8%
Air	12%

**Table 6 - Ranking of domains according to survey responses**

**Consented investment for label fees results** (Question 10): What amount are you ready to pay for an environmental label (label fees) in order to get an official recognition? Table ?? shows that more than half of hotel managers (55%) doesn't want to pay anything as label fees for any environmental recognition. This subject will be more developed in chapter VII.D.

Proposed fees scale		Number of responses	Percentage
		9	90%
◇ 0 F	(0 €)	5	55%
◇ 1 à 1000 F	(1 to 152 €)	0	0,0
◇ 1000 à 2000 F	(153 to 305 €)	2	22%
◇ 2000 à 3000 F	(305 to 457 €)	0	0,0
◇ 3000 à 5000 F	(457 to 762 €)	1	11%
◇ 5000 à 10000 F	(762 to 1524 €)	0	0,0
◇ 10000 à 20000 F	(1524 to 3049 €)	0	0,0
◇ Other		1	11%

**Table 7 - Consented payment for label fees according to survey responses**

#### Hotel professional organisation feed back

As mentioned above, the hotel professional organisations at national level have been informed of the survey. Only but one (the «Fédération nationale des Logis de France», a voluntary hotel chain) has sent an answer giving a critical point of view on the survey approach and contents (Annex XX). On one hand, this federation appreciated very much the quality and clarity of the set of sent documents. On the other hand they mainly formulated observations concerning:

- the too short answering deadline for hotel managers,
- the too high level of complexity in the second part of the survey questionnaire.

The absence of answer of the other organisations lets think that they are not convinced of

the importance of the environmental consideration in the hotel management.

The UMIH (Union des Métiers de l'Industrie Hôtelière), a very large French hotel professional organisation didn't answer to the survey information letter. According to the last meeting in December 2000 in Bordeaux with hotel managers and hotel organisations representatives, (Minutes in working Material), the UMIH thinks that the hotel profession is not ready yet to involve in an environmental approach for hotel such as the ecolabel one. Furthermore, they think that the label cost will be too heavy to support for hotel managers who will not be motivated.

### **c) Analysis of environmental indicators**

Within the test audit, values for the environmental indicators discussed in section VI.B.4 have been collected for a limited number of hotels. For these data sets, a statistical analysis has been performed in order to identify the key factors influencing the value of the environmental indicators.

A total of 80 data sets has been available, unfortunately 14 of them only had values for the waste production. Therefore, the following discussion is restrained to energy and water consumption.

The basic idea of the following analysis is to develop a model for the energy (or water) consumption of hotels, which should ideally be theoretically convincing, empirically applicable and statistically significant. In order to build such a theoretically convincing model we start by identifying the main energy consuming activities in a hotel. Basically these are:

- Heating rooms
- Cooling rooms
- Lighting
- Hot water use and other energy consuming activities by guests
- Preparing meals (especially warm ones)
- Swimming pool
- Others

A simple but rather logical way to build from these influencing factors a model of hotel energy consumption is to make a linear regression model:

$$E = \alpha_0 + \alpha_H A_{Heating} D_{Heating} + \alpha_C A_{Cooling} D_{Cooling} + \alpha_L A_{Lighting} + \alpha_{OS} N_{OvernightStays} + \alpha_{WM} N_{WarmMeals} + \alpha_{HSw} V_{HeatedSwimmingPool} + \varepsilon \quad (\text{Eq 1})$$

with:

- $E$  - Energy consumption in kWh
- $A$  - Floor area
- $D$  - Degree days
- $N$  - Number of ...
- $V$  - Volume
- $\varepsilon$  - Error term capturing unobserved phenomena and effects
- $\alpha_x$  - Regression parameter for activity x, i. e. specific energy consumption per unit of activity

This model does not capture the full detail of bottom-up calculations of hotel energy use, e. g. the building type is neglected, but still it accounts for major effects. The other effects are lumped together in the error term.

In order to obtain a sound stochastic specification, both sides of the equation are divided by the number of overnight stays (cf. the detailed description in the Material Volume) and the resulting error term is supposed to be identically distributed.

In this model then also further influencing factors may be included: The comfort level, the fact of belonging to a hotel chain and the awareness of management, staff and clients are such further factors which have been observed and can be included in the linear model formulation<sup>2</sup>. This yields the model:

$$e = N_{OvernightStays}^{-1} \left( \alpha_0 + \alpha_H A_{Heating} D_{Heating} + \alpha_C A_{Cooling} D_{Cooling} + \alpha_L A_{Lighting} + \alpha_{OS} N_{OvernightStays} + \alpha_{WM} N_{WarmMeals} + \alpha_{Hsw} X_{HeatedSwimming} \right) + \alpha_{conf} L_{Comfort} + \alpha_{chain} X_{ChainHotel} + \alpha_{awareness} L_{awareness} + \varepsilon \quad (\text{Eq 2})$$

with:  $e$  - specific Energy consumption in kWh per overnight stay

$X$  - Dummy-(0/1)-Variable for yes/no  $L$  - Level of ...

Since degree day values were not available for all locations, for heating degree days. the national average values from Eichhammer, Schlomann (1997) have been taken, applying a regional correction in the case of France. As a proxy for the cooling degree days, the average temperatures for the months June, July and August have been considered. Also the volume of the heated swimming pool was not available for most hotels.

For water consumption a similar model can be applied. Yet, the watered green area should be taken as influencing factor and also non-heated swimming pools have to be accounted for. On the other hand lighting, heating and air conditioning are not relevant.

$$w = N_{OvernightStays}^{-1} \left( \alpha_0 + \alpha_{OS} N_{OvernightStays} + \alpha_{Mod.Clim.} X_{ModClim} + \alpha_{Cleaning} A_{NetFloorArea} + \alpha_{Watering} A_{WateredGreenArea} + \alpha_{WM} N_{WarmMeals} + \alpha_{Sw} X_{Swimming} \right) + \alpha_{conf} L_{Comfort} + \alpha_{chain} X_{ChainHotel} + \alpha_{awareness} L_{awareness} + \varepsilon \quad (\text{Eq 3})$$

with:  $w$  - specific water consumption in l per overnight stay

The model developed above has been applied to the sample of 80 hotels from 6 countries (Germany, Austria, France, Italy, Spain and Greece) audited within the "Green Flag" project. Unfortunately, part of the variables have not been recorded for all hotels. Only 32 hotels had complete data sets available. In order to restrict not too much the sample size, the missing values in the sample have been replaced by the average of the observations. This procedure yields in principle unbiased estimation results, however, significance tests are not exact anymore for this approximation. Nevertheless they provide first insights in the relevance of various factors.

Since degree days values were not available for all hotel location, the national average values from Eichhammer, Schlomann (1997) have been taken for heating degree days, applying a regional correction in the case of France. As a proxy for the cooling degree days, the average temperatures for the summer months (June, July & August) have been considered. The volume of the heated swimming pool being not known generally, only a dummy (yes / no) variable has been used.

The regression results for primary energy consumption are summarised in Table 8. The developed regression model explains about 63 % of the variance in the primary energy consumption per overnight stay (cf.  $R^2$ ).

For cross-section data, like those used here, this is a very satisfying value, especially under the given data restrictions. Out of the ten explaining variables included, four are clearly significant. These are the *constant*, which measures the fixed consumption, independent of the capacity utilisation, the *heated swimming pool* variable and the variables including

<sup>2</sup> In principle also a non-linear model formulation is possible, e. g. with multiplicative effects, yet this considerably complicates the analysis without providing necessarily better results, since the linear model can be considered as a first-order approximation to any kind of model.

*heating degree days* resp. the *appartenance to a chain hotel*. According to these results the hotels in the sample have a fixed base consumption of about 299 MWh. A heated swimming pool leads to an additional consumption of 840 MWh and the consumption increases by 0.117 kWh per heating degree day and m<sup>2</sup> net floor area. The variable on comfort level is borderline significant. Correspondingly the consumption per overnight stay increases by about 12 kWh for each additional star.

In the specification used here, no significant impact of cooling requirements, floor area for lighting, warm meals or environmental awareness could be identified. This may be due to lack of adequate data (particularly in the case of cooling), but can also be interpreted as a lack of substantial influence – especially in the case of environmental awareness the interpretation is, that environmental awareness (of management, staff and guests) does not in itself lead to lower energy consumption. It is perhaps a prerequisite for taking corresponding measures, but not sufficient in itself.

**Table 8 - Regression results for primary energy consumption per overnight stay**

	Coefficients	Standard error	Significance
<b>Absolute values in kWh per ...</b>			
<i>Constant</i>	<i>299039</i>	<i>110342</i>	<i>.009</i>
Warm meals	-.544	4.049	.893
Floor area (for lighting)	108.3	120.1	.371
<i>Floor area*heating degree day</i>	<i>.117</i>	<i>.032</i>	<i>.001</i>
Floor area*cooling requirements*climatisation	-8.585	5.939	.153
<i>Heated Swimming pool</i>	<i>840194</i>	<i>395156</i>	<i>.037</i>
<b>Values in kWh per overnight stay and ...</b>			
(constant)	-38.980	33.156	.244
Comfort level	12.086	7.361	.105
<i>Chain hotels</i>	<i>-25.308</i>	<i>13.302</i>	<i>.061</i>
Environmental awareness	3.790	8.064	.640
<b>Overall model fit R<sup>2</sup></b>			<b>.626</b>
Significant variables at the 10 % level are marked in <i>italics</i>			

For water consumption, the regression results shown in Table 9 have been obtained.

Clearly, the explanatory power of the model is lower than for energy use.

This may be related to the fact, that for many of the explanatory variables missing values were frequently included in the data.

The number of warm meals served turns out to be fully statistically significant, with an average value of 4 l per warm meal.

The constant part of the water consumption turns out to be **235 l per overnight stay** which is lowered in moderate climate by 90 l. Also, these two values are significant at a 10 % level.

For water consumption on the contrary no significant impacts of the comfort level or the environmental awareness are observed.

**Table 9 - Regression results for water consumption of hotels per overnight stay**

	<b>Coefficients</b>	<b>Standard error</b>	<b>Significance</b>
<b>Absolute values in l per ...</b>			
Constant	392.490	510.584	.445
<i>Warm meals</i>	<i>4.270E-02</i>	<i>.018</i>	<i>.022</i>
Floor area	-.109	.126	.390
Swimming	288.437	513.242	.576
Watered green area	-1.411E-02	.045	.754
<b>Values in m<sup>3</sup> per overnight stay and ...</b>			
<i>(constant)</i>	<i>.235</i>	<i>.139</i>	<i>.094</i>
<i>Moderate climate</i>	<i>-8.953E-02</i>	<i>.052</i>	<i>.090</i>
Comfort level	2.978E-02	.030	.322
Chain hotels	4.470E-02	.056	.430
Environmental awareness	8.349E-03	.033	.799
<b>Overall model fit R<sup>2</sup></b>			<b>.125</b>
Significant variables at the 10 % level are marked in <i>italics</i>			

From these empirical results, we can conclude that uniform benchmarking values could be applied to hotel water consumption, if these account for differences in the proportion of warm meals. All other influencing variables are not significant except for the moderate climate – and this could well be the consequence of the more widespread use of water-saving equipment in the corresponding countries.

On the other hand, the benchmarking values for energy use have to be differentiated by climatic zones. Further analyses with more and better data are required to determine the appropriate correction factors, but at least for heating degree days the necessity of a correction has clearly been identified.

Furthermore, the results indicate that hotels with heated swimming pools will have difficulties to meet uniform benchmarking values. It is a normative decision whether the benchmark for energy use should be adapted to the existence of a swimming pool or not.

Yet, the data clearly show that energy consumption in hotels with a swimming pool is significantly higher, so that these hotels will not qualify easily for uniform benchmarking values.

A similar argument holds for the comfort level. If benchmarking values are not differentiated by hotel category, the high standard hotels will have more difficulties in satisfying the benchmarks than the more modest ones.

However in our proposal for a possible future label structure, we propose to give the choice between the satisfaction of benchmarking values or the fulfilment of the further requirements.

So the high standard hotels still would have the possibility to qualify for the label by applying the corresponding environmentally friendly measures.

But for the modest hotels, which are at the same time often small enterprises, the obtention of the label would be facilitated by just showing that they are in line with the benchmark.

## **d) Economical Aspects**

As seen in the hotel audits, (almost) no hotel would make high investments just for environmental reasons, as long as potential increases of revenues are not calculable. Hotel owners are entrepreneurs and usually the protection of the environment is not their concern. The cost effectiveness of a measure can only be calculated if, beside expenditures, also future earnings can be estimated with a realistic probability; but the correlation between a future increase of e.g. overnight stays and implemented environmental measures is not evident.

It would be costly to assess the benefits of certain, hotel specific measures for the environment, since for this purpose, separate Life Cycle Analysis would need to be carried out. Only for those measures, which are generally applicable (e.g. to avoid certain chemicals or tropical wood) and which have already been analysed regarding their environmental effects, the determination and quantification of benefits or harms are available.

It is yet necessary within this project report to give some economical elements for the correct calibration of the scheme. This question is addressed under two ways: first examination of the question of the cost of the scheme (fees) , secondly evaluation of costs and benefits of measures implementation .

### **i) Fees and economical benefit of label**

As previously mentioned, fees seem rather unavoidable in a labelling procedure to finance the assessment itself on one hand and the marketing of the label on the other.

There are different ways to establish the required amount of money depending on the point of view of the actors..

From the organisation in charge of running the label<sup>3</sup> point of view, the fees should cover:

- The cost of the audit or control by an independent consultant.
- The budget for running the organisation in charge of the label management
- The costs related to marketing the label itself in order to reach a significant dissemination of it.

These expenses are rather easily identified, although the second and third items depend highly on the number of applicants to the label awarding.

From the hotel point of view, the maximum acceptable fee is also easy to evaluate. It should be inferior to the additional benefit resulting from the augmentation in frequentation due to the label .

If admitting a 1 or 2% raise in frequentation and a 5 to 10 % margin, this conducts to a fee in a range 0.05% to 0.2% of turnover. It would also justify that there is some ratio between the present turnover and the future fee.

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<sup>3</sup> This type of approach is currently conducted in the case of voluntary chains which tend to gather a number of establishments under a common "objective" and market the participants with the money collected through adhesion to the Chain agreement

For a hotel with 50 beds, a yearly capacity utilisation of 40 % (i. e. 140 overnight stays per bed) and an average price of 40 Euros per person and night, the value of the label would under these hypotheses be between 140 Euros and 560 Euros.

Of course this is only a very first approximation, which does not cover the full diversity of hotels in the European Union, but it is consistent with the range of fees applied in existing labels. It also makes clear, that the revenue on the eco-label will in general not be sufficient to finance one day of consultancy service on the hotel (this would be roughly in the order of 700 to 1400 Euros).

**Consequently, either the administrative burden for the label application and checking has to be minimised, or/and the labelling has to be subsidised by the European Union, national governments or private organisations.**

## ii) Investments and economical benefits from measures

No general economic appraisal methodology being available, it is only intended here to illustrate the problems through examples from the test audits.

We are considering a simple labelling rule: an hotel must comply at least with 50% of applicable requirements and scoring more than 30% in each domain<sup>4</sup>.

We have chosen 2 hotels with the following "scores":

	Hotel X	Hotel Y
Global compliance	58 %	34 %
Insufficient domains	20 % for air domain (1 out of 5 applicable)	25 % in Wastes (5 out of 20) 18% in Water (4 out of 22)

Hotel X needs to comply with one additional requirement only in the air domain to cope with the label awarding rule.

Hotel Y has to conduct a number of actions (minimum 3 on water and 2 in waste + some other when possible to improve its total score)

### (1) For the hotel

Hotel X could easily implement either one or the other of the following:

- develop written operation/ maintenance manual for the responsible staff ?
- develop practices in order to reduce air pollution :

use an electricity car for short and frequent distance (ex: shuttle)

Or

Check the other vehicle(s) at least once a year for air pollution ?

For hotel Y the way is much longer to go along, it could (should)

- collect and dispose separately  
paper / cardboard

<sup>4</sup> In these examples we discarded the "Noise" domain which was not correctly assessed in the initial requirements list.

glass

- give all fat and oil backlogs to special re-utilising or disposing companies
- record the hazardous waste that occur during the operation of the hotel and dispose it separately?
- Implement insulation on pipes and ducts for domestic hot water and central heating system
- Revise windows and doors air proofing by draught caulking
- check (monthly) taps, showers and water cisterns for leaks? (in case of leak, it should be repaired)
- install low flow shower heads and tap restrictors on hand basins
- install signed water save push buttons or other water saving devices on toilets
- record and report water and energy consumption and waste production

Although some of these actions are mostly of the organisational or managerial type, some will require investments but also generate some reductions in the hotel running costs that should be profitable in the short or mid term as indicated in Table 10.

**Table 10 - Indicative costs and benefits of actions**

Hotel		Action	Cost (Euro)	Benefit
X	1	Operation/maintenance manual for staff	Zero to low if self-made, 500-2000 ? if subcontracted	No direct benefit easily accountable for, but smoother running and reduction in defaults and delays in case of absence of the person in charge. Gain when new staff hired
Y	1	Collect & dispose separately..	0	0
	2	Collection of oil backlogs by a dedicated company...	1000 ?/year	0
	3	Record hazardous waste....	0	0
	4	Pipe insulation....	5000 ?	500 ?/year
	5	Windows and doors caulking...	300 ?	250 ?/year
	6	Water leaks checking....	0	200 ?/year
	7	Low water flow devices...	5400 ?	1200 ?/year
	8	Water savers in toilets..	1100 ?	80 ?/year
	9	Record energy, water and waste...	0	0-500 ?/year

It is worth for hotel Y to invest in the listed actions, the combination of them leading to a direct pay back of 5 to 6 years. Although this example does not constitute a demonstration, it shows that an hotel with a rather poor scoring from the initial questionnaire can easily reach an acceptable one if it wants to join the scheme.

It should be kept in mind that one objective of the assessment when executed by an independent professional should be to bring in his expertise in order to help identify the most straightforward requirements that the hotel manager should implement first.

## (2) For the Community

On these 2 examples, it can also be accounted for the benefits that will occur for the community, at least on a qualitative basis.

Hotel X is not implementing an action that will benefit to the Community, but it could, had he chosen to develop practices that help reducing air pollution. One way of evaluating the benefit can be in that case to grant the practice the economical value that the Community accepts on investment to reduce the corresponding "pollution". For example, in France we consider an investment limit of 75 Euro / avoided ton of carbon as a contribution to the green house effect reduction. Accounting of avoided emissions by the considered practice can thus be evaluated and valued on a monetary basis.

Hotel Y will be implementing actions (4, 5, 9) on energy consumption which can be valued similarly.

Actions on waste reduction ( 1, 2, 9) will lead to a reduction on waste disposal burden for the community that also has a cost (depending on cities, on average, 150 €/T) . In case of hotel X, the cost of waste elimination ( 1500 €/year) is not based on the actual flow ( 70 m<sup>3</sup>/year = 7 to 15 tons) and any effort will not translate into a reduction of this waste collection tax. But this should be a way in the future to "reward" the hotel manager from his efforts.

Actions leading to water consumption reduction (6,7,8) - and water sewage by extension - or waste water load (2,3) will also be beneficial to the community by their effect on "marginal demand". When you reduce the "extra" demand (especially due to tourist activity in vacation periods!) you do not need same over sizing of equipment (water production plant, distribution network, water sewage facility..) which leads to reduced (or delayed..) investment. What is currently experienced in Demand Side Management and Least Cost Planning in the field of energy (electricity and natural gas) could be extended to the water and sewage services. The economical elements are not easily available and are again linked to local constraints.

This simple example shows qualitatively some of the economical benefits that the Community (Local, Regional or National) can harvest from the development of an environmental label in the hotel sector and how they could be more precisely evaluated. It also shows that the hotel managers that will invest in order to be awarded a label should receive some support from the Community that has a direct and profitable interest in it.

## VII) Conclusions and perspectives

### a) Conclusion

The FEMATOUR study, which was conducted totally independently from this project, made a number of recommendations for the development of an environmental label for the tourism sector. They are listed hereafter, together with the position we adopted for the development of our project..

Make optimal use of the experience of existing eco labels: at each stage we have taken profit of existing experiences and initiatives as reported in V) - State of the Art

Work in close co-operation with sector representatives: from the beginning of the project, a National Concertation Team gathering representatives from the hotel professions has provided feed back on the work

Start with one or two product groups: This project has focused on hotels and hotels with restaurants and discarded other tourism accommodation facilities.

Define the services provided by the selected product group in close relation with the appropriate stakeholders: by concentrating on the general hotel activity with its classical services, we avoided taking into account too specific situations.

Choose a phased approach: the rather low receptivity and acceptance of the hotel sector has led us to modify our initial level of requirements

Pay additional attention to a pragmatic approach to deal with regional and local differences: large efforts have been devoted to field testing in order to evaluate the many differences occurring from one country to another and within one country to various business status.

Provide enough flexibility in standards to deal with differences in business and regions : in choosing a combination of mandatory and optional requirements, it has been possible to account for different approaches and give room for many different attitudes. In integrating a wide range of requirements and a scoring principle based on the accounting of only those applicable, all test cases were potentially assessable.

Use a combination of mandatory standards and optional standards: This combination was founded the only solution to leave the hotel managers enough "flexibility" to improve their environmental behaviour and invest in acceptable options

develop quantitative standards where appropriate and feasible. Revision of the criteria may offer possibility to integrate quantitative criteria in later phase: although one of the primary intentions was to use quantitative criteria based on thresholds resulting from benchmarking, the test audits have led to a different solution. The poor quality of available information has led us to recommend that, in a first stage, such requirements are not integrated to the benefit of some of the managerial type . Indications for further enhancement of the requirements are possible when sufficient reliable data have been collected.

Provide for clear link between the eco label and existing environmental initiatives in the tourism sector: although the aim of this project was not to develop an eco label as such but to test its feasibility over a number of countries, the link between the project and a future EU based label in hotels has been permanently reminded, especially by those countries which already have on going National initiatives (Austria, Catalonia, Germany..)

Link the label to the wider process of sustainable tourism: although not a primary goal of this project which intended more to develop a tool to incite hotel managers to invest in water or energy savings, it is rapidly become evident that such link was obviously needed and some requirements have been added, upon demand of some of the NCTs, in the general section.

Choose future product groups on the basis of the results of the first product group(s): No future development of the label was forecast in this project and little attention has thus been paid to this recommendation which is out of the scope of the initial work programme. Yet it would be possible from the gained knowledge, to extend the work towards camping sites for example.

This review shows that the work that has been conducted has all features of an eco-label and what is more attractive is that it is a consensual work over several countries. As such it starts having some dissemination effects as reported in the next section.

Taking the long view, two key things have to be beard in mind:

First , partnerships involving consultation and a full participation of all key stakeholders are the most effective route through which achieve sustainable goals, all benefactors of the actions being also associated to the needed efforts,

Secondly, whether the hotel industry uses this ecological labelling or another, what is most important is to focus on continuous improvement in performance, not just on achieving a label.

## ***b) Dissemination***

In this section are reported the dissemination efforts and results that are already going on, to the exception of the dissemination of the summary report which will be prepared in the language of each participating country (+ the original English version) and that each organisation of the Consortium will send to all important stakeholders at local, Regional or National levels.

Practical dissemination of documents and results is made easier in the countries that don't have any labelling scheme for hotels running (France, Italy, Greece) than in those where such procedure are already on going (Germany, Austria and Catalunya).

### **ADEME :**

2 magazine articles (Environnement Magazine + Décision Environnement)

2 Minutes reports from Aquitaine conferences

Hydra conference presentation

Additionally the list of requirements is being used already (in its original form or with slight modifications):

In the "Departement du Var" for a survey of local hotels under solicitation of the Chamber of Commerce (the call for tender was launched in December 2000 for selection of consultants which should carry on the survey in the first semester 2001)

In the Aquitaine Region were the Regional Social and Economic Council (CESR) is fostering the development of a Green Tourism Activity by using the elements from the Green Flag project.

In the Seychelles islands were the Bureau of Economic Affairs in the French Embassy is supporting the local trend towards sustainable tourism by using the Green Flag list of requirements and requiring expertise from ADEME to help with adaptation of requirements to local specificities.

### **ARCS**

Closely connected with «NCT-participation», the dissemination activities in Austria will be confined to consultations with NCT-members, discussing recommendations as developed during the Green Flag project, especially concerning the final list of requirements. Since the Austrian Eco-label for hotel is reviewed regularly (as planned, every third year) there is a good chance that proposed requirements will be successively integrated into the Austrian eco-labelling scheme.

Active dissemination activities, aiming at the implementation of another Austrian eco-labelling scheme, parallel to the existing one, would not be reasonable, causing only confusion among hotel owners and resistance from authorities.

The «internal» dissemination of project results to authorities and groups involved in eco-labelling activities, will inform official actors on expected «European requirements», as defined in the Green Flag project, allowing the early consideration of these requirements at the Austrian level.

### **ICAEN :**

Two meetings, in collaboration with hotels organisations (the Costa Brava-Girona Tourist Trust and the Barcelona Hotelers' Union), were held on with tourist enterprises in Girona and Barcelona. The region of Girona involves more than the 30% of global foreign tourism in Catalonia and Barcelona is one of the European cities that are highly increasing the number

of tourist and, because of that, there are a lot of new hotel projects at this moment. The aim of the meetings was to present the project to the hotel enterprises at which a pilot audit was going to be carried out to ascertain the opinion of the sector regarding the environmental and energy criteria considered. Finally, 9 pilot audits in Girona and 5 in Barcelona were carried out.

Press was invited in the Girona session (7/02/2000). A document, about the LIFE project and also introducing the parallel action that was being developed by the Autonomous Govern of Catalonia in order to define an ecolabel for hotels in Catalonia, was given to press. (Marie-Jo, the document presented to press by ICAEN and Costa Brava-Girona Tourist Trust was sent to Hubert in September).

Later on, some other news appeared on the news. (Sent to Hubert in September a copy of the news).

Two of the hotels, Hotel Samba (coastal) and Vall de Núria (mountain) were interviewed by TV (Estate Girona's television) in order to explain this experience.

Others took profit of the local newspapers. (Sent to Hubert in September a copy of the new).

The official magazine of ICAEN prepared an article explaining the LIFE project and the evolution of the Ecolabel for Hotels. (An original copy of the magazine in Catalan and English given in last meeting in Sophia Antipolis).

At this moment, the Autonomous Government of Catalonia, through the Department of the Environment and ICAEN, is more focused in the dissemination of the existing ecolabel for hotels (launched in May 2000). Besides, the appearance of a new ecolabel will confuse the hotel sector and will be in detrimental of it's good dissemination and well understanding.

#### **CRES :**

Conference presentation in January 2001- Programme, summary and presentation are in the material Volume

#### **IER :**

- Article on the analysis of environmental indicators in English
- Article about the project in a German Hotel magazine
- Supply a Web site with an English and German summary – link to ADEME
- Transmit the German Summary to NCT and other interested persons and entities

### **c) Recommendations**

The diffusion of National Eco-labels for the Hotel Sector within the different European countries shows that this kind of tool is not able to penetrate into this sector, notwithstanding its theoretical acceptance reported by the feasibility studies.

Considering that hotels, as all firms in the free market, are usually ready to introduce any change or innovation that rise their profit, the low diffusion of the hotel Eco-labels could be

attributed to the absence (real or forecasted) of an economical return proportional to the investment required. This happens even in the countries where the labelling fees are very low.

It means that eco-labels are evaluated as unable to perform enough of any of the following options:

1. rising of the hotel turnover – as n. of guests and/or n. of overnight stays,
2. rising of the hotel turnover – as availability of the guests to pay highest fees,
3. reduction of the internal costs for the hotels activity,
4. reduction of the external costs for the hotels activity,

Points 1. and 2. are connected with the sensitivity of people to the environmental and health problems. At this moment, the number of tourists that give priority to these aspects when they choose a resort and an hotel (eventually paying somehow the environmental quality as higher fees or more distance from the seaside, etc. ), is rather small, and the changing of their attitude depends on years of national and international education and promotion.

The reduction of the internal costs for the hotels - Point 3. - is connected mainly with the adoption of some measures on energy and water saving. The implementation of most of the other measures, on contrary, rise their direct/indirect internal costs.

Point 4. could be divided in two macro-categories:

- 4.a. The reduction of the costs of products and services provided by private firms will be possible only when – generally - products and services with low environmental impact will cost less than the other ones, at least on the EU market.
- 4.b. The reduction of the taxes and of the fees for the services provided by public bodies, could be decided at political level because of considerations on long term effects on people and economy.

Therefore, only point 4.b. could be controlled in an acceptable time, in order to give the hotels a suitable pay-back of their investments.

### **Recommendations for dissemination**

The possibility that singles hotels could take any real advantage from eco-labels seems very limited.

To diffuse on a significant scale the European Eco-label for Hotels, it is necessary that National and local communities consider relevant for their environment, health and future development, the benefit provided by eco-labelled hotels and give them back a compensation.

The overcoming of the above mentioned impasse, needs a start-up phase, lasting some years, and involving limited areas in each country.

The start-up phase is bonded to the following condition:

- General interest by National Government, bodies and hotel organisations.
- Strong interest of local communities and authorities, willing to preserve their environmental heritage and to improve the tourist marketing of their areas.
- Strong interest of local hotel associations that consider positively for their business an improvement of the tourist marketing of their areas.

Having these conditions, it is possible to set up – in each area – a concertation table, where to discuss the possible compensation for each environmental measure (or group of measures) adopted by the hotels.

**Compensations have to be somehow related with the advantages for the communities and the pay-back time for the hotels.** Nevertheless, it is in the power of each local authority to give an economic value to measures whose economic benefit is not easy to forecast and calculate. At the same time, a wide range of compensation measures, besides fees and tax reduction, can be used by local authorities, because hotels see as money saving (or gaining)

every measure giving: time saving, personnel optimisation, etc.

Moreover, hotels prefer to invest and risk within a development plan involving the whole community than competing one against the other.

To build a strong image of the environmental quality of the area, local authorities can add other labelling and certification activities, as “area” EMAS, and projects (RES technology implementation, waste reuse/recycle programmes etc.).

**Local communities could work as pilot projects, overcoming the inertia and problems connected with the decisions taken at national level** and allowing a better adaptation to the local conditions. In case of success, the experience can be easily transferred to other areas, starting a positive competition on environmental quality.

This strategy comes from evidences provided by the work of our LIFE project team and from discussion with representative of the Italian NCT.

### Recommendations for complementary work

To keep in line with the general framework provided by the FEMATOUR study, as well as to cope with some of the findings of this study, it seems that work at EU level is still necessary on three major aspects:

**Establishing benchmarking values.** Being able to do so supposes :

- either to conduct a wide survey and statistical analysis on various parameters that can lead to quantitative thresholds. If it seems obvious for energy, water and waste, it could also be wise on other stuffs (detergents, chemicals,...) and on emissions (kitchen ventilation, sewage water,...)
- or to be able to draw a calculation model acceptable throughout EU

Conducting a thorough **study on the scoring system** which is an important element and may be the main difference between existing initiatives. Furthermore, a well designed scoring system should be very indicative of the actual environmental impacts of the hotel activities and services and thus provide the hotel manager with clear indications on the improvement to investigate and to implement.

Analysing the **marketing effect of the level of requirements**. We suggest here that when a list of requirements is stabilised and when the scoring is established and actually reflects the environmental impacts or benefits of the measures, the system is tested over a large sample of evenly distributed and randomly chosen hotels in order to assess the effect on the future dissemination rate of the procedure.

## **VIII) References**

Most references were included in the interim report (see Material Volume). Additional documents of interest are:

- David Kirk, Environmental Management for Hotels: students handbook, 1996  
[www.lhotellerie.fr/Menu.htm](http://www.lhotellerie.fr/Menu.htm)
- Les cahiers du CLIP, MDE l'éclairage en France, numéro 7, janvier 97
- Caddett Energy Efficiency, Saving energy with energy Efficiency in Hotels and Motels, 1997
- CSTB Magazines, réutiliser l'eau, l'approche berlinoise, numéro 125, p.43-45, octobre 1999.
- Green Hotelier, Issue 18, April 2000.
- INC HEBDO, Repères économiques : l'Industrie Hôtelière, numéro 1095, octobre 1999

## **IX) Appendix**

### ***List of requirements***

# REQUIREMENTS QUESTIONNAIRE

WASTE				Score proposed																																																								
<p><u>Have you developed and implemented a waste management system for your hotel, if yes does it cover :</u></p> <p><b>products purchasing</b> <span style="float: right;">YES</span></p> <p><b>waste collection inside the hotel</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>waste transporting inside the hotel</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>waste storing inside the hotel</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>final disposal in the community</b> <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : written concept and on-site inspection</p>				<b>1 to 5</b>																																																								
<p><u>Which of the following waste categories do you collect and dispose separately (considering / referring national regulations) ?</u></p> <p>(community or local selective sorting)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: center;">YES</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> <th style="width: 10%; text-align: center;">YES Hotel sorting</th> </tr> </thead> <tbody> <tr> <td><b>paper / cardboard</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><b>0,5</b></td> <td style="text-align: center;"><b>0,5</b></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>glass</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>0,5</b></td> <td></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>food residuals</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>2,0</b></td> <td></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>other organic substance</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>1</b></td> <td></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>plastic</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>0,5</b></td> <td></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>aluminium</b></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>0,5</b></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td><b>metal</b></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> <td style="text-align: center;"><b>0,5</b></td> <td></td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p>Checking principles : documentation of the local or community disposal system made available to auditors; inspection of the hotel system</p>					YES					YES Hotel sorting	<b>paper / cardboard</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>0,5</b>	<b>0,5</b>		<input type="checkbox"/>	<b>glass</b>	<input type="checkbox"/>		<b>0,5</b>			<input type="checkbox"/>	<b>food residuals</b>	<input type="checkbox"/>		<b>2,0</b>			<input type="checkbox"/>	<b>other organic substance</b>	<input type="checkbox"/>		<b>1</b>			<input type="checkbox"/>	<b>plastic</b>	<input type="checkbox"/>		<b>0,5</b>			<input type="checkbox"/>	<b>aluminium</b>		<input type="checkbox"/>		<b>0,5</b>		<input type="checkbox"/>	<b>metal</b>	<input type="checkbox"/>		<b>0,5</b>			<input type="checkbox"/>	<b>mandatory</b> when the local or community selective sorting is organised <b>Else</b> <b>0,5 to 4 max.</b> Points given to categories that needs (locally) an extra work for the hotel.
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<p><u>Are there separate buckets, distinct (with equivalent labelling, colours etc.) for the material to be recycled :</u></p> <p><b>kitchen</b> <span style="float: right;">YES</span></p> <p><b>gust rooms</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>restaurant</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>offices and reception area</b> <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : on-site inspection</p>				<b>0,5 - 2</b>																																																								
<p><u>Do you give all fat and oil backlogs to special re-utilising companies ?</u></p> <p>Checking principles : evidence with bills</p>				<b>Mandatory</b> <input type="checkbox"/>																																																								
<p><u>Do you return packaging to suppliers?</u></p> <p><b>more than 30 % (1)</b> <span style="float: right;">YES</span></p> <p><b>more than 60 % (2)</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>more than 90 % (3)</b> <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : Estimation and list of suppliers</p>				<b>1 to 3</b> <input type="checkbox"/>																																																								

## REQUIREMENTS QUESTIONNAIRE

### WASTE

<u>Do you use a compression machine for the reduction of the volume of waste?</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles : inspection		
<u>Do you record the hazardous waste that occurs during the operation of your hotel and do you dispose it separately?</u>	YES <input type="checkbox"/>	<b>Mandatory</b> <b>At least 3 positive answers</b>  <b>1 per YES ; 4 max.</b>
<b>Toxic cleaning agent</b>	<input type="checkbox"/>	
<b>motor and machine oil</b>	<input type="checkbox"/>	
<b>paints and organic diluters</b>	<input type="checkbox"/>	
<b>pesticides</b>	<input type="checkbox"/>	
<b>fungicides</b>	<input type="checkbox"/>	
<b>cfc's products</b>	<input type="checkbox"/>	
Checking principles : Inspection and evidence with bills		
<u>How do you purchase :</u>	YES	<b>1 per YES ; 4 max.</b>
<b>wine</b>		
returnable packaging barrels	<input type="checkbox"/> <input type="checkbox"/>	
<b>bier</b>		
returnable packaging large receptacles	<input type="checkbox"/> <input type="checkbox"/>	
<b>milk</b>		
returnable packaging large receptacles	<input type="checkbox"/> <input type="checkbox"/>	
<b>Fresh beverage</b>		
returnable packaging large receptacles	<input type="checkbox"/> <input type="checkbox"/>	
Checking principles : on-site inspection and evidence by bills		

### WATER

		<b>Proposed score</b>
<u>Do you check (monthly) taps, showers and water cisterns for leaks? (in case of leak, it should be repaired)</u>	YES <input type="checkbox"/>	<b>Mandatory</b>
Checking principles : there should be a register (a recording report) of the checking		
<u>In areas where water is consumed, have you installed signs that make reference to the careful use of water ?</u>	YES <input type="checkbox"/>	<b>Mandatory</b>
Checking principles : availability of signs.		
<u>Do you ask guests for changing towels on demand ?</u>	YES <input type="checkbox"/>	<b>3</b>
Checking principles : availability of signs		



# REQUIREMENTS QUESTIONNAIRE

## WATER

<p><u>Have you installed sub-meters for water consumption metering in :</u></p> <p>room <span style="float: right;">YES <input type="checkbox"/></span></p> <p>kitchen <span style="float: right;"><input type="checkbox"/></span></p> <p>laundry <span style="float: right;"><input type="checkbox"/></span></p> <p>green area <span style="float: right;"><input type="checkbox"/></span></p> <p>swimming pool <span style="float: right;"><input type="checkbox"/></span></p> <p>Other :..... <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : on site inspection of the sub-meters; recording report of the measuring</p>	<p><b>1 per sub-meter, 3 maximum</b></p>
<p><u>Have you installed low flow shower heads and tap restrictors on hand basins?</u></p> <p>more than 20 % (1) <span style="float: right;">YES <input type="checkbox"/></span></p> <p>more than 40 % (2) <span style="float: right;"><input type="checkbox"/></span></p> <p>more than 60 % (3) <span style="float: right;"><input type="checkbox"/></span></p> <p>more than 80 % (4) <span style="float: right;"><input type="checkbox"/></span></p> <p>100% (5) <span style="float: right;"><input type="checkbox"/></span></p> <p><u>see annexes and comments p.13</u></p> <p>Checking principles : inspection of guest bathrooms; consulting the manufacturers' technical specifications.</p>	<p><b>1 to 5</b></p>
<p><u>Do you have signed water save push buttons or other water saving devices on toilets?</u></p> <p>more than 20 % (1) <span style="float: right;">YES <input type="checkbox"/></span></p> <p>more than 40 % (2) <span style="float: right;"><input type="checkbox"/></span></p> <p>more than 60 % (3) <span style="float: right;"><input type="checkbox"/></span></p> <p>more than 80 % (4) <span style="float: right;"><input type="checkbox"/></span></p> <p>100% (5) <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles inspection of guest bathrooms; consulting the manufacturers' technical specifications.</p>	<p><b>1 to 5</b></p>
<p><u>Do you have a rainwater collection system, stocking tank and distribution for rainwater use ? if yes does it provide at least 20% of the total water consumption ?</u></p> <p style="text-align: right;">YES <input type="checkbox"/></p> <p>Checking principles : on site inspection of the rainwater collection system; checking of the water consumption figures.</p>	<p><b>3</b></p>
<p><u>Do you have installed a system for your grey water recycling?</u></p> <p>Checking principles : on site inspection of the grey water recycling system; checking of the water consumption figures.</p> <p style="text-align: right;">YES <input type="checkbox"/></p>	<p><b>3</b></p>

## REQUIREMENTS QUESTIONNAIRE

<b>WATER</b>		
<p><u>Other water savings. Do you use:</u></p> <p style="text-align: right;">YES</p> <p>automatic timed taps (20% of the installed shower sprinkles and taps) <span style="float: right;"><input type="checkbox"/></span></p> <p>taps and showers with a presence detector (20% of the installed shower sprinkles and taps) <span style="float: right;"><input type="checkbox"/></span></p> <p>water saving systems in swimming pools (*) <span style="float: right;"><input type="checkbox"/></span></p> <p>water saving systems in garden sprinkles (*) <span style="float: right;"><input type="checkbox"/></span></p> <p>others .....(*) <span style="float: right;"><input type="checkbox"/></span></p> <p>(*)the demonstrable saving must be in the order of at least 20% as compared with conventional installations</p> <p>Checking principles : on site inspection; consulting manufacturers' technical specifications</p>		<b>3 per system</b>
<p><u>Hardness of water</u> (indicate degree of hardness)</p> <p style="text-align: right;">YES</p> <p><b>In case of having hard water, do you use a water softener system ?</b> <span style="float: right;"><input type="checkbox"/></span></p> <p><b>Do you dispense cleaning agent according to the degree of hardness of water ?</b> <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : checking of degree of hardness of water (water supplier company), inspection of the water softener system, bills for detergent</p>		<b>2 to 5</b>  <b>3</b> <b>2</b>
<p><u>Swimming-pool :</u></p> <p style="text-align: right;">YES</p> <p><b>Is chlorinating partially replaced by some alternative with low impact (ozone, ultraviolet radiation, etc.) ?</b> Comment: the alternative must be in compliance with legal determinations. <span style="float: right;"><input type="checkbox"/></span></p> <p><b>Is there an automatic dosage system for the chemical products ?</b> <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : inspection of the swimming pool water treatment installations</p>		<b>2 to 5</b>  <b>2</b> <b>3</b>
<b>SEWAGE</b>		
<p><u>If the hotel is not connected to the public sewage grid, does the hotel have on site sewage treatment system according to the European Standards (91/271/EEC) ?</u></p> <p style="text-align: right;">YES</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>Checking principles : on site inspection of the sewage treatment system</p>		<b>Mandatory</b>
<b>NOISE</b>		
		<b>Proposed score</b>
<p><u>If you face noise pollution problems, which are caused from external or internal sources, have you metered potential indoors and outdoor sources of noise pollution such as nearby road with heavy traffic, noisy electric appliances, other sources ?</u></p> <p style="text-align: right;">YES</p> <p style="text-align: right;"><input type="checkbox"/></p> <p>Checking principles : phonic metering reports</p>		<b>Mandatory</b>

# REQUIREMENTS QUESTIONNAIRE

## NOISE

<u>Have you taken possible preventative measures and which ?</u>	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>1 to 4</b>
<p><b>Structural, operational such as noise insulation, double glazing noiseless machines other :.....</b></p> <p>See comments in annex Checking principles : on site inspection of the relevant measures and equipment</p>		
<u>If noise reduction measures have been performed yet, is there any metering report after the implementation of reduction measures ?</u>	YES <input type="checkbox"/>	<b>mandatory</b>
Checking principles : metering report		
<u>Do you regulate the intensity of unavoidable noises (e.g. telephone, radio, TV, deliveries etc) ?</u>	YES <input type="checkbox"/>	<b>2</b>
Checking principles : on site inspection to any room/restaurant, Signs of directions to the deliveries platform/place		
<u>Do you cooperate with neighboring business in reducing external land noises ?</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles : A look of the surrounding area activities and check of the peace time music level, or the existence of green walls around the fence		

## AIR

		<b>Proposed score</b>
<u>Transport : hotel practices in order to reduce air pollution :</u>		<b>2 to 5</b>
<b>Does the hotel use an electric car for short and frequent distance (ex: shuttle)</b>	YES <input type="checkbox"/>	<b>3</b>
<b>Are the other vehicle(s) checked at least once a year for air pollution ?</b>	<input type="checkbox"/>	<b>2</b>
Checking principles : vehicles on site inspection, air pollution checking reports		
<u>Do you replace Halon fire - extinguishers?</u>	YES <input type="checkbox"/>	<b>3</b>
Checking principles : on site inspection of signs of fire extinguishers		
<u>Have you installed ventilation system with a limiting system for odours in the kitchen ?</u>	YES <input type="checkbox"/>	<b>2</b>
Checking principles : on site inspection and check which the height and the place of site of the chimney in accordance with the national regulations		



# REQUIREMENTS QUESTIONNAIRE

## AIR

<u>Did you provide for non-smoking area ?</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles : signs		
<u>Have you organized the servicing and cleaning of the air filters in the rooms and common areas (dust, microbes) ?</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles : on site inspections of various filters, bill of cost for service		
<u>Do you develop written operation/ maintenance manual for the responsible staff ?</u>	YES <input type="checkbox"/>	<b>3</b>
Checking principles : directions report		

## ENERGIE

		Proposed score
<u>Energy Audit :</u>		<b>3 to 6</b>
<b>Have authorised energy experts carried out an energy audit for your hotel within the last three years ?</b>	YES <input type="checkbox"/>	<b>3</b>
<b>Have you realised and realise energy saving measures in accordance with recommendations from the energy audit?</b>	<input type="checkbox"/>	<b>2</b>
<b>Are specifications of relevant energy efficiency requirements adjusted to European standards?</b>	<input type="checkbox"/>	<b>1</b>
Checking principles : Handing over of certification or account from auditing partner / expert		
<u>Energy management :</u>		<b>2</b>
<b>Do you operate an energy management system for heating / air conditioning (outdoor temp. guided control, adjustment of operating times and modes etc.) ?</b>	YES <input type="checkbox"/>	
Checking principles : On site inspection of energy management system and functions		
<u>Peak load management :</u>		<b>3</b>
<b>Have you installed a peak load management system for electricity consumption ?</b>	YES <input type="checkbox"/>	
Checking principles : On site inspection of peak load management system		
<u>Do you utilise renewable energy sources (solar, biomass, wind, hydro) ?</u>		<b>1 to 3</b>
<b>more than 40 % of the total energy consumption</b>	YES <input type="checkbox"/>	<b>3</b>
<b>more than 20 % of the total energy consumption</b>	<input type="checkbox"/>	<b>2</b>
<b>more than 10 % of the total energy consumption</b>	<input type="checkbox"/>	<b>1</b>
Checking principles : On site inspection of renewable energy system installations; checking of planning data and total energy consumption figures		



# REQUIREMENTS QUESTIONNAIRE

<b>ENERGIE</b>		
<p><u>Central heating and warm water</u> : are the guest rooms of the hotel connected to central heating, cooling and warm water supply ?</p> <p style="text-align: right;">YES <input type="checkbox"/></p> <p>Checking principles : Inspection of guest rooms, piping and heating space</p>	<p><b>2</b></p>	
<p><u>Heating system</u>: do you use energy efficient heating / cooling technologies ?</p> <p><b>co-generation unit</b> <span style="float: right;"><input type="checkbox"/> <b>2</b></span>  <b>low emission burner / condensing boiler</b> <span style="float: right;"><input type="checkbox"/> <b>2</b></span>  <b>low temperature boiler</b> (2 points for boiler with sliding operating mode) <span style="float: right;"><input type="checkbox"/> <b>1-2</b></span>  <b>heat pump</b> (2 points for ground water or soil heat pumps) <span style="float: right;"><input type="checkbox"/> <b>1-2</b></span></p> <p>Checking principles : On site inspection of heating installations / heating space</p>	<p><b>2</b></p> <p><b>2</b></p> <p><b>1-2</b></p> <p><b>1-2</b></p>	
<p><u>Alternative heat supply</u> : Do you utilise heat (min. 50% of total consumption) from district heating ?</p> <p style="text-align: right;">YES <input type="checkbox"/></p> <p>Checking principles : Inspection of connector to district heating network, bills of cost</p>	<p><b>2</b></p>	
<p><u>Water temperatures for heating and warm water:</u></p> <p><b>Do you limit warm water temperature to max. 60 °C ?</b> <span style="float: right;"><input type="checkbox"/> <b>2</b></span>  <b>Have you installed a low temperature heating system</b> (e.g. floor heating with max. 50 °C flow temp)? <span style="float: right;"><input type="checkbox"/> <b>2</b></span></p> <p>Checking principles : On site inspection of temperature settings for warm water and adjustment of control system for heating respectively, installation plans</p>	<p><b>2</b></p> <p><b>2</b></p>	
<p><u>Temperature regulation</u></p> <p><b>Do you apply automatic temperature regulation in all rooms (e. g. via thermostats / temperature sensors)?</b> <span style="float: right;"><input type="checkbox"/> <b>2</b></span>  <input type="checkbox"/> <b>1</b></p> <p><b>Do you have a zone regulation for heating?</b></p> <p>Checking principles Inspection of guest rooms, network of pipes and control system</p>	<p><b>2</b></p> <p><b>1</b></p>	
<p><u>Control of energy consumption in guestrooms ?</u></p> <p><b>time-based control</b> <span style="float: right;"><input type="checkbox"/> <b>1</b></span>  <b>room key-card</b> <span style="float: right;"><input type="checkbox"/> <b>1</b></span>  <b>occupancy-linked control</b> <span style="float: right;"><input type="checkbox"/> <b>1</b></span>  <b>central switches</b> <span style="float: right;"><input type="checkbox"/> <b>1</b></span>  <b>window contact switches</b> <span style="float: right;"><input type="checkbox"/> <b>2</b></span></p> <p>Checking principles : Inspection of guest rooms and referring controllers / switches</p>	<p><b>3 maximum</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>2</b></p>	
<p><u>Protection against radiation from the sun</u> : Have you installed shading constructions or special glazing for windows (in case of air-conditioning of guestrooms, restaurants, etc.)?</p> <p style="text-align: right;">YES <input type="checkbox"/></p> <p>Checking principles : Inspection of shading constructions</p>	<p><b>2</b></p>	

## REQUIREMENTS QUESTIONNAIRE

### ENERGIE

<u>Heat recovery</u> : do you recover heat from the following energy sources :		
Ventilation	YES <input type="checkbox"/>	1
Central cooling systems	<input type="checkbox"/>	1
Swimming pool	<input type="checkbox"/>	1
Laundry	<input type="checkbox"/>	1
others.....	<input type="checkbox"/>	1
Checking principles : Inspection of heat recovery systems		
<u>Energy use in kitchen and laundry</u> :		
Do you use gas or induction ranges instead of electric ranges ?	YES <input type="checkbox"/>	2
Are dishwashers connected to warm water supply?	<input type="checkbox"/>	1
Are washing machines connected to warm water supply?	<input type="checkbox"/>	1
Checking principles : Inspection of kitchens, laundries and referring piping networks		
<u>Lighting energy saving</u> : Where do you preferably use energy-saving lighting techniques (more than 50%)?		<b>Mandatory minimum 2 areas</b>
stair case/corridor,	YES <input type="checkbox"/>	
entrance/lobby,	<input type="checkbox"/>	
restaurant,	<input type="checkbox"/>	
outside,	<input type="checkbox"/>	
toilets in the guest area,	<input type="checkbox"/>	
guest rooms,	<input type="checkbox"/>	
other.....	<input type="checkbox"/>	
Checking principles : Inspection of rooms / locations and lighting solutions		
<u>Insulation of walls / ceilings (in case of new hotels) : Does the hotel comply with the insulation requirements in the national building code for new buildings ?</u>		<b>Mandatory</b>
	YES <input type="checkbox"/>	2
Checking principles : Checking of architect's plan of the hotel, allowing to estimate referring heat transition coefficients		

### PURCHASING / USE OF PRODUCTS

<b>Purchasing policy</b>	<b>Proposed score</b>
<u>Do you have any written statement of your environmental friendly purchasing policy?</u>	<b>3</b>
	YES <input type="checkbox"/>
Checking principles : procedures collection	



# REQUIREMENTS QUESTIONNAIRE

## PURCHASING / USE OF PRODUCTS

	YES	YES	YES
dish washer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
washing machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kitchen refrigerators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
freezers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vacuum cleaner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
room refrigerators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
television	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
furniture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bed mattresses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
hair-dryer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ironing devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
microwaves oven	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
stove	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

0,2 per answer - 0,2 per line maximum,

(\*)Wood plantation, programmed recycling system, recycled raw materials, "energy efficient labels - categories A or B" etc.

*At least one European Union or National Ecolabel product is MANDATORY among: consumables, appliances, tools, furniture, building finish products*

### Food and Beverage

What of the listed criteria are complied by the following categories food and beverages purchased by your hotel ?	<u><b>From Biological farming or products</b></u>	From local farms or manufacturers and/or quality regional products <b>YES</b>
vegetable	YES <input type="checkbox"/>	<input type="checkbox"/>
fruits	<input type="checkbox"/>	<input type="checkbox"/>
eggs	<input type="checkbox"/>	<input type="checkbox"/>
milk and yoghurt	<input type="checkbox"/>	<input type="checkbox"/>
cheese and butter	<input type="checkbox"/>	<input type="checkbox"/>
cattle meat	<input type="checkbox"/>	<input type="checkbox"/>
pork meat	<input type="checkbox"/>	<input type="checkbox"/>
ovine and caprine meat	<input type="checkbox"/>	<input type="checkbox"/>
fish	<input type="checkbox"/>	<input type="checkbox"/>
rabbits and poultry meat	<input type="checkbox"/>	<input type="checkbox"/>
sea food	<input type="checkbox"/>	<input type="checkbox"/>
backed products	<input type="checkbox"/>	<input type="checkbox"/>
olive oil	<input type="checkbox"/>	<input type="checkbox"/>
mineral water	<input type="checkbox"/>	<input type="checkbox"/>
wine	<input type="checkbox"/>	<input type="checkbox"/>

0,2 par response - 0,2 par line maximum,

<b>Other requirements</b>		<b>Proposed score</b>
<u>Do you optimize your paper consumption by reusing paper which has already been printed on one side, using photocopy paper via actions like dual - face photocopy production, etc.?</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles :		
<u>The purchased weed-killers are: &gt;50% products labelled "allowed for biological farming"</u>	YES <input type="checkbox"/>	<b>1</b>
Checking principles :		
* in the next questionnaire updating, only weed-killer for biological farming will be allowed (100%)		



# REQUIREMENTS QUESTIONNAIRE

## PURCHASING / USE OF PRODUCTS

<p><u>Are the following food and beverage served to the customer in bulk instead of wrapped portions?</u></p> <p>Milk, honey <span style="float: right;">YES</span></p> <p>Sugar <span style="float: right;"><input type="checkbox"/></span></p> <p>Cream <span style="float: right;"><input type="checkbox"/></span></p> <p>Butter <span style="float: right;"><input type="checkbox"/></span></p> <p>Jam <span style="float: right;"><input type="checkbox"/></span></p> <p>Other : ..... <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles :</p>	<p><b>0,25 / yes</b> <b>0,25 to 1</b></p>
<p><u>Do you avoid the following products?</u></p> <p>Paper/plastic dishes <span style="float: right;">YES</span></p> <p>Plastic cutlery <span style="float: right;"><input type="checkbox"/></span></p> <p>Paper/plastic glasses <span style="float: right;"><input type="checkbox"/></span></p> <p>Paper/plastic cups <span style="float: right;"><input type="checkbox"/></span></p> <p>Paper table blankets <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles :</p>	<p><b>0,2 per question</b> <b>0,2 to 1</b></p>

## GENERAL REQUIREMENTS

### GESTION DE L'ENVIRONNEMENT

	Proposed score
<p><u>Which is the hotel level of involvement in environmental concerns?</u></p> <p>Is there staffs devoted to environmental management activities? (responsible for consumption monitoring, energy and water saving, noise avoiding, staff awareness, ...)? <span style="float: right;">YES</span></p> <p>Has the managing staffs participated to external training courses on environment management (at least 2 days course in the last 3 years)? <span style="float: right;"><input type="checkbox"/></span></p> <p>Do you train your staff in order to encourage and push it to save water, energy, resources? <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : name of environment manager, dates and diploma awards in training courses, internal procedures documentation</p>	<p><b>1 to 3</b></p>
<p><u>Do you apply any Environmental Management System?</u></p> <p>ISO 14000 standard (2) <span style="float: right;">YES</span></p> <p>EMAS (2) <span style="float: right;"><input type="checkbox"/></span></p> <p>Environmental effects study or impact study (1) <span style="float: right;"><input type="checkbox"/></span></p> <p>Checking principles : handing out of the corresponding study report</p>	<p><b>ISO + EMAS=2</b> <b>ISO +study =2</b> <b>EMAS + study = 2</b></p>



# REQUIREMENTS QUESTIONNAIRE

## GENERAL REQUIREMENTS

Do you record and report your water and energy consumption and your waste production? If yes, what are their values for the last past year?

**Water** .....m<sup>3</sup>  
**Energy**  
 - Electricity .....kWh  
 - Gas .....m<sup>3</sup>  
 - District heating system .....kWh  
 - Fuel oil .....l  
 - Other .....  
**Waste**  
 - Total annual waste volume ..... m<sup>3</sup>  
 - Non recycled annual waste volume ..... m<sup>3</sup>

Checking principles : recording reports; non recycled annual waste volume = volume of containers \* frequency of refuse collection

YES

**Mandatory  
All 3**

Do you have an environmental documentation, which aims at checking, monitoring and improving your water and energy consumption and your waste production? This environmental documentation records or contains your metering, bills, incidents and servicing for:

**Energy**  
**Water**  
**Waste**

YES

Checking principles : handing out of the corresponding documentation

**1 to 3**  
**metering and registering activities not mandatory in the transitory phase**

## INFORMATION, COMMUNICATION

Which of the following communication ways and supports for guests do you have?

leaflets or other brochures to inform guests on environmental subjects and domains (importance of saving water, energy, resources, noise ...) and hotel actions  
 Leaflets or other brochures to inform guests on special environmental conditions where the hotel is located  
 Information signs for guest implication when needed (e.g. in the bathroom for changing towels at demand or in the room for waste separation...)  
 A gold book or opinion questionnaire for guests.

YES

Checking principles : availability of leaflets or information campaign.

**Proposed score  
1 to 4**

## LOCAL SPECIAL CONDITIONS

Are there any special conditions in the region, where the hotel is located?

Biotope   
 Forest   
 Conservation area   
 Lake – River   
 Beach   
 Traditional village/ historical site   
 Archeological place

Coastal hotel only:

**Proposed score**



# REQUIREMENTS QUESTIONNAIRE

<b>GENERAL REQUIREMENTS</b>		
<p><b>Is the community in compliance with the "Blue Flag" or has the beach been granted the "Blue Flag" award ?</b></p> <p><b>If private beach:</b>  <b>is the beach cleaning from waste (garbage, plastics, papers, aluminium and glass) an everyday practice of the hotel ?</b></p> <p><b>Do you provide beach furniture (deck chairs, umbrellas, bar stools,..) of recyclable or natural material (wood,..)?</b></p> <p>Checking principles : Blue flag award documentation, affidavit drawn up by a bailiff, visual report by expert</p>	YES <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>	<b>Mandatory minimum 1 out of 3</b>
Conservation areas ( biotope , archaeological or historical , ... ) only :		
<p><u>Are the hotel premises correctly integrated in the surrounding environment?</u></p> <p><b>Is there any official document from local authority proving compliance with specific requirement regarding architectural integration of the building(s)?</b></p> <p><b>Is the building maximum height less than twice the average of surrounding buildings (within 500 m)?</b></p> <p><b>Are the hotel premises built with the same features as the local traditional buildings (shape, building materials, roofing, wall coatings, colours) ?</b></p> <p>Checking principles : local compliance documentation, visual report by expert</p>	YES <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>	<b>Mandatory minimum 1 out of 3</b>

		<b>Proposed score</b>
<p><u>Incentive to public transport and bicycle?</u></p> <p><b>Do you offer public transport bonuses to staff?</b></p> <p><b>Do you offer public transport bonuses to guests?</b></p> <p><b>Do you rent or lend bikes for guests?</b></p> <p>Checking principles : bills of transport bonuses, visual report by expert, bills for hotel owned vehicles</p>	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>1 to 3</b>

		<b>Proposed score</b>
<b>LANDSCAPING, GARDENING</b>		
<p><b>Do you use domestic plants or plants from local flora in landscaping ?</b></p> <p><b>Does the cultivation partly or fully covers the hotel's demand in vegetables, fruits, etc...?</b></p> <p><b>Do you use natural mould, peat, manure for plantations?</b></p> <p><b>Considering outdoor areas, is the percentage of waterproof areas under 30%?</b></p> <p>Checking principles: visual report by expert, bills for natural fertilising products</p>	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>1 to 4</b>

		<b>Proposed score</b>
<b>SOCIAL &amp; CULTURAL INTEGRATION</b>		
<p><u>Visits, itineraries, cuisine,</u></p> <p><b>Do you advertise or organise visits and events to favour the knowledge of local traditions or places of interest?</b></p> <p><b>Do you participate in sign posting worthy local itineraries ?</b></p> <p><b>Do you promote local cuisine through every day menu?</b></p> <p>Checking principles: information leaflets, identification of local staff, bills, menus,</p>	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>1 or 2= 1 3 = 2</b>



# REQUIREMENTS QUESTIONNAIRE

## ANNEXES, COMMENTS

**Question 14:** Have you installed low flow shower heads and tap restrictors on hand basins?

**Annex** (the figures could be different for each country):

Shower sprinkles (fixed and mobile) have a capacity of under 10 l/min for pressures of between 1 and 5 bars, or they must incorporate flow reducers which, once fitted to the sprinkles, give a flow of less than 10 l/min for the same pressure range.

Taps in washbasins, bidets and sinks have a capacity of under 8 l/min for pressures of between 1 and 5 bars, or they must incorporate flow reducers which, once fitted to the sprinkles, give a flow of less than 8 l/min for the same pressure range.

**Question 24:** Have you taken possible preventative measures and which ?

**Annex**

Comments: - Structural measures - Disco, restaurants, laundries, ect are sited in places not to challenge disturbance to guests.

Operational measures: Organized events or daily services fixed not to disturb the guests. Check by the place that are held or applied specific measures – such as partition walls (divided the external bar), turn down music after defined time, deliveries not in peace time.

**Question 31:** Have you taken possible preventative measures and which ?

**Annex**

Comments: The Halon extinguishers contain bromofluorocarbons. The Montreal Protocol (1987) required industrialized countries to completely phase out CFC such as halons in 1996 (zero production and consumption). The tighter EU regulations (3093/94/EC) require a phase out in 1995. Although I know in Greece, there are old buildings that by now use them in a way to wait for the next replacement.



# REQUIREMENTS QUESTIONNAIRE

## ANNEXES, COMMENTS

### Question 52 to 54:

#### European Union and National Ecolabel products

In order to give the users guarantees about the real environmental qualities of products, the European Union and several member States, approved specific labels, generally named “eco-labels”.

To be “eco-labelled” a product has to respect specific standards defined for its category and certified by official institutes.

Therefore, these labels don't have to be confused with the wordings: “ecological”, “environmental friendly”, “non polluting”, etc. usually printed on the packaging or on the product itself, as pure advertising.

The label that marks all the products that respect ecological standards issued by the EU, is the following one.



Other labels (and standards), usually promoted by environmental organisations together with farmers and manufacturers associations, are accepted by national public authorities. The list of these labels is alleged to the questionnaire.

Nevertheless, “eco-labels” are not yet well known and the protocols to get the EU and national “eco-label” are not yet covering all the product categories in the market (especially professional machinery and devices). For this reason, the first release of the questionnaire has the scoring kept down and the number of questions reduced.

The use of “eco-labelled” products in hotels will rise in importance in the next release of the questionnaire. It is in the interest of the hotel to increase the usage of the eco-labelled products during this time.

## REQUIREMENTS QUESTIONNAIRE

### No consensual requirements, ....

**Question 11:** In areas where water is consumed, have you installed signs that make reference to the careful use of water ?

the group agrees on the existence of this requirement but:

Firstly it doesn't agree on the domain it should own to: the Catalunian partner maintain that it should be included in the **water domain** while the German one would include it in the **general measures domain**

The **mandatory attribute** is absolutly necessary for the Catalunian partner whereas it's **optional** for the other partners.

**Question 69:** Visits, itineraries, employ, cuisine,

Have you installed low flow shower heads and tap restrictors on hand basins?

**Do you advertise or organise visits and events to favour the knowledge of local traditions or places of interest?**

**Do you participate in sign posting worthy local itineraries ?**

**Do you employ a minimum of 50 % local staff?**

**Do you promote local cuisine through every day menu?**

The local staff question is not aproved by all as for the German partners, it is not a purely environmental requirement and it should not take place in this list. This raises the question of the frontier between environmental impacts and sustainable development.

**Finally it is a possible question that could be included, but to this stage we are not ready and it's too early to make decision.**



## **Material Volume Contents**

### **Previous documents**

Interim report  
Addendum to interim report

### **State of the Art**

Green Key  
Nordic Ecolabelling  
Catalan Emblem (including application form)  
Austrian ecolabel for tourism (German original version + English summary)  
DEHOGA technical guide "Greener management for Hotels & restaurants"  
National Study for the Application of an European Environmental Quality Label on the Tourism Sector" (+English 2 pages summary)  
Blue Flag  
Charte Qualité environnement de l'Hotel du Golf à Valescure

### **Elements on label procedures**

Austria  
Catalunya  
Germany  
Luxembourg

### **Questionnaires used in audit test phase**

Questionnaires used by Ademe, IER, CRES and ICAEN

### **Test Audits**

Italian table  
German table  
CRES results  
Catalan Hotels analysis sheet  
ADEME results (Synthèse des tests in situ de la méthode d'évaluation)

### **Survey in French hotels**

Letter + questionnaire + information documents  
Summary results  
Feed back from "Logis de France"

### **Statistical analysis from audits energy and water data**

Influencing factors for energy and water use in hotels

### **Dissemination**

France  
Austria  
Catalunya  
Greece