

Greening events: waste reduction through the integration of Life Cycle Management into event organisation at ESCi

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Abstract This paper explains the strategy and procedures followed by the 'Greening Events' project to spread green practices in the event organisation at ESCi. The academic years 2008-2009, 2009-2010 and 2010-2011 have been analysed in order to establish a relationship between the kg of waste type produced by person per day. The outcomes will serve as a basis to identify the areas to focus on and the greening principles that need to be implemented before, during and after each event, following a life cycle perspective.

Keywords Green event, life cycle perspective, greening principles, environmental impact, waste, ESCi.

1 Introduction

The organisation of conferences, small and medium-size meetings, workshops and other types of events, has become an increasingly important contributor to environmental impact. Universities are no exception, being responsible for holding conferences, lectures, graduation ceremonies and other tutorial activities addressed at both the students and the academic community.

In 1993, ESCi was created as a joint initiative between the Generalitat (Government) of Catalonia and Universitat Pompeu Fabra. The founding objective was to prepare students, from within the university environment, for the necessary internationalisation of the Catalan economic and productive fabric. The School is now hosting more than 400 national and international students each year that are

coursing studies on International business and marketing studies, and four different kinds of master degrees. The internalisation of the School has also been achieved by hosting the Environmental Management Research Group (GiGa) which has recently been awarded with a UNESCO Chair in Life Cycle and Climate Change, and by hosting different activities organised by private and public companies and organisations.

ESCi is currently working towards implementing greening principles in the organisation of all its events, following a life cycle perspective. Specifically, this paper presents and discusses the first phase of the 'Greening Events' project, which ESCi is undertaking in collaboration with the UNESCO Chair in Life Cycle and Climate Change.

2 Project description (aim and scope)

The 'Greening Events' project, funded by the Catalan Recycling Centre of the Catalan Waste Agency (ARC), aims at implementing a waste prevention strategy during the preparation and celebration of all the events that take place at ESCi's premises, focusing in all those areas that have a potential impact on waste generation (documentation, publicity, registration, catering, exhibitions and lecturing among others). It is an ongoing project that started in September 2010 and will finish in June 2011.

To develop the waste prevention strategy for event organisation, different activities have been carried out with the aim of identifying the critical areas that produce an environmental impact (and therefore the generation of waste), and that will need to have the greening principles implemented. The following sections present in detail the different activities.

2.1 Data collection

A data inventory of all the events held at ESCi between 2008 and 2011 has been analysed. Data compilation has been done using questionnaires that have been developed and adapted according to the type of event, the number of participants attending each event and the type and amount of waste that can be generated at each event type. The final aim of the project is to establish a relationship between the kg of waste type produced by person per day.

The outcomes of this first analysis are key to classifying the different events held, and establishing the areas to focus on and the greening principles that need to be implemented before, during and after each event, following a life cycle perspective.

2.2 Methodology

To achieve the objectives of the project, a case study approach was used. The study is structured in three phases: (1) a case study analysis of the 'FENIX: 1st International Conference on Life Cycle Thinking' held in September 2011 with 208 participants, the results of which were used as a basis to extrapolate and calculate the amount of waste that can be produced in the different event types; (2) a cross-case analysis, selecting the most relevant variables, in order to attain general rules and better understand the relation between event type, event participants and type of waste generated; (3) a compilation of the barriers encountered during the preparation of the cases and the way ESCi has tried to overcome them with the aim extracting some greening recommendations that will be included in the final guide. The main event types held at ESCi may be categorized as follows:

- **Meeting:** small- to medium-sized meeting of 2-25 people that can last from 1 hour to one full day. Depending on the duration of the meeting, this can include a coffee break.
- **Conference:** one full-day event of more than 80 participants including a coffee break and a catering.
- **Seminars:** short event of 2-3 hours addressed at either a small or a large group (more than 80 people), but which does not include any coffee break and is usually held in a conference hall or large room.
- **Classes:** bachelor degree classes and master classes.
- **Exams:** short event of 1-2 hours where paper waste is produced.

In order to calculate the amount of waste produced per person in each one of the event categories (waste generation indicator), empirical data obtained from the FENIX conference were used and combined with suitable assumptions in order to extrapolate the results and obtain a participant's 'waste fingerprint' for each event.

3 Preliminary results

The detailed analysis of all the events held at ESCi since 2008 shows that events are organised both by the school itself, and by external actors (mainly private companies and public and private organisations) that hire ESCi's premises for a specific amount of time. Figure 1 presents a breakdown of the different types of events held at ESCi during the academic years 2008-2009, 2009-2010 and 2010-2011.

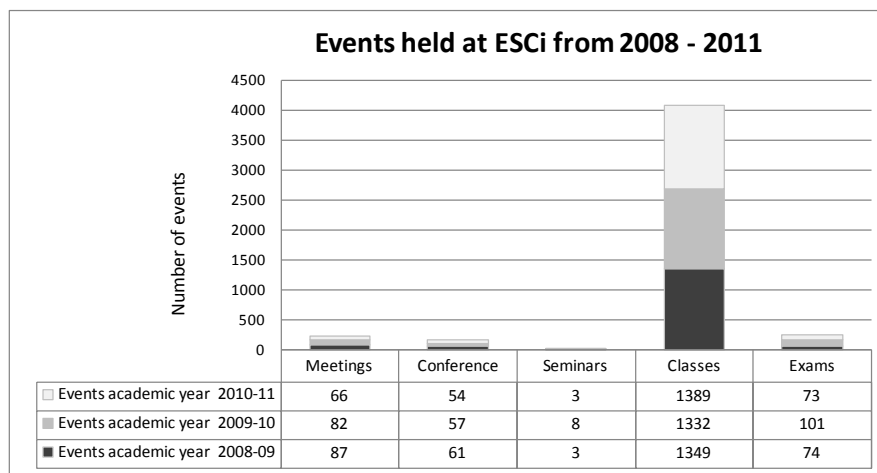


Fig.1: Number and type of one-day events held at ESCi during the academic years 2008-2009, 2009-2010 and 2010-2011

Table 1 presents the assumptions and empirical data used to calculate the waste generation indicator for each event type.

Table 1: Assumptions and empirical data collected per event type

	ASSUMPTIONS	g waste/ (pers.*day)
Regular meetings	It is assumed that one persons uses two sheets of paper per meeting of A4 format, considering that one A4 sheet weighs 4.98 g.	$4.98*2 = 9.96$
Exams	It is assumed that an average of 5 A4 sheets are used in each exam.	$4.98*5 = 24.9$
Bachelor degree class	Classes are mainly given with electronic material, and information is exchanged online. It is therefore assumed that only one A4 sheet is used per person	$4.98*1 = 4.98$

	per class.				
Master class	Master classes produce a bigger amount of paper waste and it is assumed that ten A4 sheets are used per person per class.				$4.98 \times 10 = 49.8$
Coffee break 1	g paper/pers.	g glass/pers.	g plastic/pers.	g organic waste/pers.	g general waste/pers.
	0.962	9.96	8.65	2.40	9.62
Catering 2	g paper/pers.	g glass/pers.	g plastic/pers.	g organic waste/pers.	g general waste/pers.
	10.1	37.0	5.80	21.2	34.62

On the basis of the data in Table 1, the waste generation indicator [kg/(person*day)] was calculated for each type of event. Figure 2 presents such results:

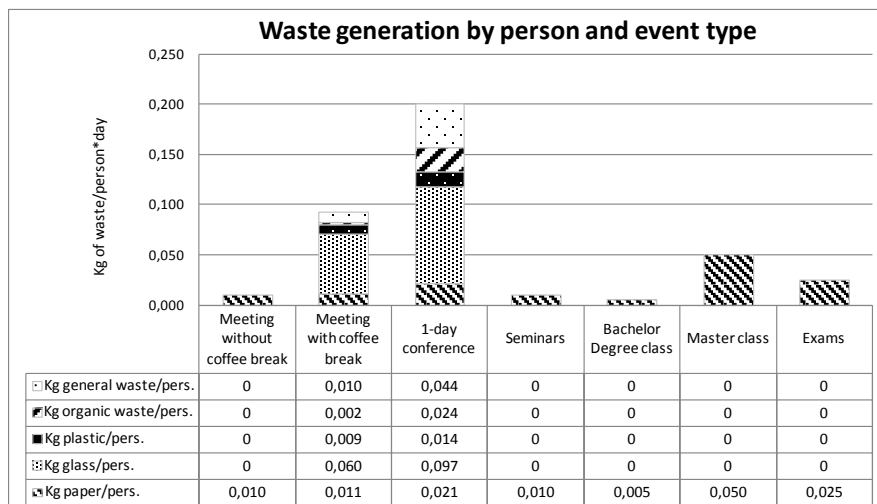


Fig.2: Waste generation by person and event type

Figure 2 shows how the different events have as a common denominator, namely the generation of paper waste as the most relevant waste type. Other kinds of waste are mainly produced during the coffee breaks and luncheons organised in

1, 2 Based on the results obtained in the case study of the FENIX: 1st International Conference on Life Cycle Thinking held at ESCi in September 2010.

larger meetings such as seminars and conferences. As a result, actions must be taken towards:

- Minimizing the paper waste produced per person in those events that do not include either a coffee break nor a catering (meetings without coffee breaks, seminars, bachelor degree classes, master classes and exams), and
- Minimizing the generated waste in the coffee breaks and caterings (meetings with coffee break and 1-day conference), with a special focus on reducing the amount of glass and general waste produced per person.

There is a significant difference between the paper waste generated in the Bachelor degree class and the Master class, where the amount of paper is ten times bigger. This is because the material used in the Bachelor degree classes is mainly given in electronic format in comparison to the master classes. It is therefore important to change practices and walk towards the teaching methods used in the Bachelor degree classes.

Regarding the glass waste generated as part of the coffee break and catering, it is mainly caused because of the use of single 330 mL bottles for juices and soft drinks. The use of draft drinks served in pitchers or larger bottles are to be recommended, as a prevention method to minimize waste generation.

4 Next steps

The next steps to be undertaken before the project ends are the integration of the life cycle perspective into event organisation, with the aim of minimizing waste generation. The life cycle approach seeks to identify possible improvements to goods and services in the form of lower environmental impacts and reduced use of resources across all life cycle stages.

The life cycle approach will serve as a decision tool to establish the most suitable solution to reduce waste generation according to the event type, type of participant and type of service offered. A life cycle analysis will be performed during the second phase of the project, with the GaBi software package (GaBi 2007a), and the bundled professional database (GaBi 2007b) as the principal source of background data. This analysis will help the event organisers decide which is the best option to be used during the catering for and communication of the event, in

order to minimize amount of waste generated. For example, the use of biodegradable cups and reusable cups for the catering will be compared.

4.1 Expected results

The conclusions of the project will be presented in the form of a practical guide with recommendations and examples of best practice cases studies to help reduce the environmental impacts that are generated during the celebration of an event at ESCi. These recommendations, applicable for all the event types described here, will focus on minimizing the main environmental impacts caused by the generation of waste. The guide will give practical guidance on which products should be purchased to reduce the impact, and which practices should be followed before, during and after the organisation of an event. Other small-scale events, such as teaching classes, will also be addressed specifically, as these are seldom treated in the available literature on greening events.

To complement this practical guide, communication and training activities on how to introduce the Life Cycle Perspective into event organisation are also foreseen in the project. These activities will be specifically addressed at ESCi's staff and the school alumni.

5 Conclusions

According to the results obtained in this first part of the study it cannot be said that a waste prevention strategy in event organisation exists yet at ESCi. However, actions will be implemented in the second phase of this project to develop and implement greening event principles, according to the event types held at ESCi.

In order to succeed in minimizing the generation of waste, detailed actions will need to be implemented. Some examples are the printing practices in the Master classes, and the minimization of packaging waste used during the coffee breaks and the catering serced.

6 References

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