



THE ALLIANCE FOR
BEVERAGE CARTONS
AND THE ENVIRONMENT

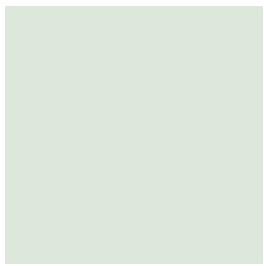
Evaluation of Environmental Management Systems and their Role with Respect to Product Related Environmental Information

Final Report



A project carried out by the **Alliance for Beverage Cartons and the Environment (ACE)** in cooperation with the **Directorate General for Enterprise & Industry of the European Commission**

BRUSSELS, MARCH 2005



Acknowledgements

The Alliance for Beverage Cartons and the Environment (ACE) wishes to acknowledge the support given by the European Commission to the project whose contents and conclusions are set out in this report.

In particular, thanks go to Mr. Michel Catinat and Mr. Julio Cardoso of DG Enterprise and Industry*, whose contribution in both time and advice was invaluable in seeing the project through to a successful conclusion.

The success of the project's closing seminar, held on 30 November 2004, would not have been possible without the contributions of an expert panel whose stimulating presentations led to active discussions with key stakeholders, whom we also wish to acknowledge for their cooperation and support.

Environmental Resources Management (ERM), our consultants, deserve special mention. They coordinated and implemented the project, in particular the evaluation of stakeholder views on product-related environmental information, and the specific site reviews of environmental management systems at ACE member companies.

Finally, a word of thanks to all of the ACE member companies' staff who contributed either through their participation in the project steering group or by ensuring that the site reviews of the EMSs proceeded smoothly and efficiently.

* The views and conclusions expressed in this report should not be interpreted as necessarily being those of the European Commission or the individual member companies of the Alliance for Beverage Cartons and the Environment (ACE)

Foreword

Environmental Management Systems are an instrument for reconciling environment with competitiveness. Environmental information schemes have been developed with a view to meeting an ever-increasing demand for information on the product's environmental performance. Whether or not, and to what extent these two instruments dovetail with each other and make possible the use of the same data for different purposes, are issues that have been addressed by practitioners, in particular within the enterprises.

This report is the result of an industry-led project undertaken by the Alliance for Beverage Cartons and the Environment (ACE) and carried out in close co-operation with DG Enterprise and Industry of the European Commission, and involved value-chain stakeholders. The main goal of the project was to examine how site-specific Environmental Management Systems (EMS) within two parts of the beverage carton value chain could be used to generate and manage product-related environmental information.

The report evaluated the perceived information needs of various stakeholders and their attitudes towards environmental management systems. It reviews the way in which EMSs are used by manufacturers of liquid packaging board and beverage cartons to generate and verify product-related environmental data that could be used to report and communicate the environmental characteristics of products manufactured by the beverage carton industry. The report highlights the fact that further processing might be required to convert data gathered by the Environmental Management Systems before it could be used in reporting on the beverage carton's environmental performance.

DG Enterprise & Industry are pleased that this voluntary initiative has enabled the various participants as well as other stakeholders to develop a better understanding of the opportunities and difficulties for using EMSs to generate and verify product-related environmental information in product value chains. I would like to thank all those stakeholders who willingly contributed their time and views to this project which I see as having given a significant contribution to identifying ways in which current environment and environment-related information management practices could be improved.



Michel Catinat
European Commission
DG Enterprise and Industry, Environment Unit

Executive Summary

In 2003 and 2004, the Directorate General for Enterprise of the European Commission (DG ENT) together with the Alliance for Beverage Carton and the Environment (ACE) carried out a joint project to test the potential of Environmental Management Systems (EMS) as a tool for generating sectoral environmental product information.

The partners examined the pros and cons of using the EMS tool based on:

- ✦ Interviews with EU level stakeholders,
- ✦ A review of the EMS within six ACE member companies regarding their potential to generate verifiable product information, and
- ✦ An assessment of EMS in managing product-related information along the beverage carton value-chain.

On a general level, stakeholders see a need for environmental product information for the beverage carton to be related to climate change and to the recycling of used beverage cartons. Third party data review is seen as essential for data and information used in external communications. The most important requirements mentioned were transparency, harmonisation and standardisation of reporting environmental product information. The tool used to generate the data seemed to be of less relevance for the persons interviewed.

A review of the environmental management systems of liquid packaging board suppliers and beverage carton manufacturers at six manufacturing sites revealed that:

- ✦ Existing EMSs are not set up to deliver product-related environmental information in a systematic and harmonised way covering the whole sector- even if they are certified according to the same standard;
- ✦ The companies do not systematically use their site EMS to generate their product-related environmental information. A range of other tools are also used such as design for the environment (DfE) and life cycle assessment (LCA);
- ✦ With some modifications and standardisation, EMS could be used to deliver product related environmental information from parts of the beverage carton value-chain, for example, the paper board production;
- ✦ In the case of the beverage carton, it is not practicable to use EMS to cover the entire life cycle from raw material to recycling as a tool to generate meaningful product-related environmental information.

The concept of using EMS for reporting product-related environmental information on beverage carton packaging is limited for the following three reasons:

- ✦ A full life cycle report by means of EMS is not possible since the use and post use phases would have to be excluded;
- ✦ The nature of the data needed reaches far beyond the scope of an EMS. Amongst other things, commercial information would be required. The requirement of commercial information would increase complexity and reduce a system's effectiveness. In addition, incompatibilities of data and reference systems between companies were detected.
- ✦ There would be a need for standardisation and guidelines across the value chain. This cannot be solved by a small sector such as the beverage carton sector.

Notwithstanding the results of this project, ACE members have gained a deeper insight into the technical and administrative challenges associated with the generation of product-related environmental data for its value chain as a whole. ACE members also found this project extremely helpful in understanding the challenges of communicating sector specific product-related environmental information.



The beverage carton sector believes that the outcomes of this project will be significant as a contribution to future EU environmental policy with regard to reporting and communicating the environmental impacts of industry sectors and products.

Finally, it should be noted that these conclusions should be seen only with reference to the beverage carton sector and they are not necessarily valid for the use of EMSs for communicating product-related environmental information for other products or sectors.

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1 Background

Stakeholder discussions concerning current EU initiatives on sustainable consumption and production as well as the thematic strategies on prevention and recycling of waste and on sustainable use of natural resources indicate an increasing demand for product-related environmental information in the future.

In this context, the beverage carton* industry is prepared to share environmental product information with EU Institutions and other key stakeholders on a voluntary basis. Various means exist to provide such information on a sectoral basis including Eco-profiles, Environmental Product Declarations, eco-labels, environmental management systems. Since Environmental Management Systems (EMSs) represent the most commonly used tool to measure the environmental performance of industrial operations, the beverage carton industry decided to investigate the potential use of EMS to deliver externally certified product-related environmental information.

The Directorate General for Enterprise and Industry of the European Commission, (DG ENT&IND) together with the Alliance for Beverage Carton and the Environment (ACE) agreed to carry out a joint project to test the potential of environmental management systems as a tool for generating environmental product information on beverage carton packaging. ACE and its member companies very much appreciated this opportunity to cooperate with DG ENT&IND in gaining practical experience of this type of sectoral level evaluation in this field.

The project was carried out over a 12 month period in 2003 and 2004 with the assistance of the international consulting firm Environmental Resources Management (ERM).

The results of this project are based on a survey of selected EU stakeholders regarding the demand for product-related environmental information on beverage cartons as well as a review of EMSs used at sites of liquid packaging board producers and beverage carton producers.



* Beverage carton packaging systems are used to distribute liquid food such as milk, fruit juices, non-carbonated drinks, water and soups. Beverage cartons are laminated multi-material packaging containing in average 75% liquid packaging board and thin layers of polyethylene. Packaging that are used for ambient or non-chilled distribution (e.g. UHT milk and most juices) also contain up to 5% aluminium foil.

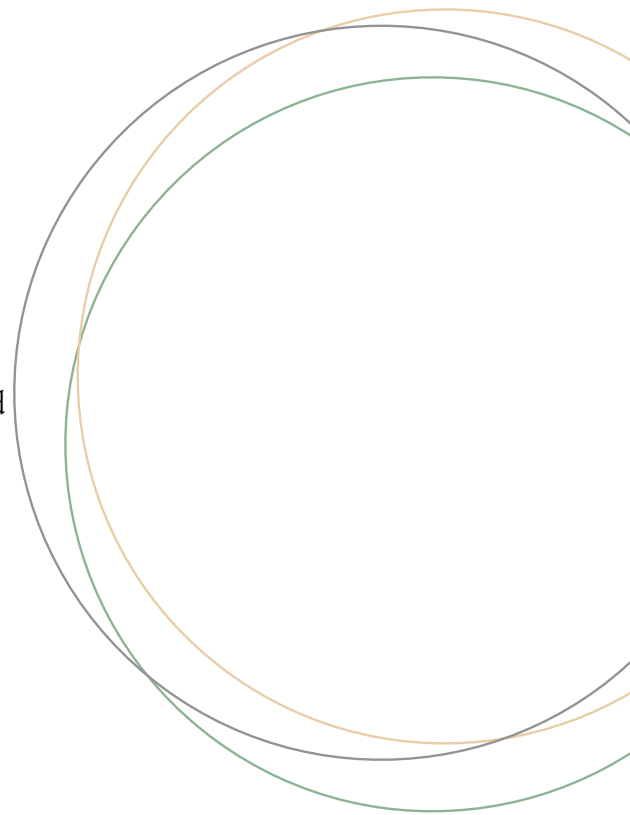
2 Project Objectives

The overall objective of the project was to evaluate the use of EMS as a basis for the management and verification of product-related environmental information for beverage carton packaging at a sectoral level.

ACE member companies apply environmental management systems according to both the ISO 14001 Standard and the European Environmental Management and Audit Scheme (EMAS) in their production sites. Although neither the ISO 14001 nor the EMAS standard is specifically designed to generate environmental product information, the project sought to explore the possibility of their delivering it.

By undertaking this project ACE wanted to:

- ✚ Contribute practical experiences to the discussion regarding environmental product information,
- ✚ Evaluate the possibilities and limitations of extending the application of an existing tool, used presently for managing continuous environmental improvement in company operations, to generate product- related information; and to
- ✚ Understand the practical implications of EMS-based reporting environmental product information for individual companies and for the sector as a whole



3 Working Method

In order to keep the project manageable only two parts of the beverage carton value-chain were selected for participation in this project: Scandinavian liquid packaging board suppliers - representing close to 100 % of the board input and more then 60 % of the raw material input in European beverage carton production - and beverage carton manufacturers. Since liquid packaging board suppliers and beverage carton manufacturers constitute the membership of ACE, this enabled it to oversee the coordination and implementation of the project.

A Steering Committee consisting of representatives of DG Enterprise and the ACE Executive Board oversaw the project developments. A Technical Working Group comprising of experts from the participating ACE member companies managed the project execution.

ACE contracted the international consultancy Environmental Resources Management (ERM) as the consultant to the project. ERM conducted the stakeholder interviews as well as the environmental management system reviews. They also assisted in moderating the discussions with stakeholders on the project results.

The three main tasks based on the objectives outlined above included:

Task 1: Stakeholder consultation

As a first step, interviews were undertaken with selected EU level stakeholders. The aim was to identify their specific product-related environmental information requirements as well as their level of acceptance of information verified via ACE members' management systems according to ISO 14001 and/or EMAS.

Interviews were conducted by the consultants with members of the European Parliament, officials within DG Environment, officials within the United Nations Environment Programme (UNEP), representatives of the European Dairy Association (EDA), the European Soft Drink Association (UNESDA), the European Environmental Bureau (EEB) and the European Consumers' Organisation (BEUC).



Task 2: Review of company environmental management systems in place

Based on the stakeholder demands identified, existing environmental management systems of beverage carton producers and their European board suppliers were reviewed regarding their possibilities to generate the environmental product information requested by stakeholders.

The six EMS reviews carried out by ERM included three liquid packaging board production mills of StoraEnso (Skogal, Sweden), AssiDomän Frövi (Frövi, Sweden), and Korsnäs (Korsnäs, Sweden) as well as three beverage carton manufacturing sites of Tetra Pak (Wrexham, United Kingdom), SIG Combibloc (Linnich, Germany), and Elopak (Terneuzen, Netherlands). Based on the results of these site EMS reviews, requirements and criteria for sector reporting of environmental information on beverage cartons were identified for consideration.

Task 3: Evaluation of work results

The project partners discussed the outcome of the stakeholder interviews as well as of the site EMS reviews to identify the possibilities and limitations of using EMS for product-related environmental information

Dissemination of project findings and conclusions

The project findings were presented and discussed in a public seminar held on the 30 November 2004 in Brussels during European Paper Week.

4 Results

4.1 Stakeholder Consultation

With regard to beverage carton packaging systems, most of the stakeholders interviewed saw a need for environmental product information relating to climate change and recycling of used beverage cartons. It seems, however, rather difficult for stakeholders to formulate very specific requirements for product information. The information requirements tend to reflect key environmental concerns of society and the political priorities. They may, therefore, change over time. The key findings were:

- ✦ As information requirements tend to change over time, any system for reporting environmental information needs to have a degree of flexibility;
- ✦ As not all stakeholders may have detailed knowledge concerning specific tools such as environmental management systems, any reporting of product-related environmental information would have to be transparent. They need to be informed about data generation, verification and certification;
- ✦ Any product-related information of the beverage carton derived from an environmental management system and reported publicly would have to be based on procedures that are standardised among the companies contributing information and data;
- ✦ Key information to consumers or the general public would need to be subject to third party verification. Most stakeholders also stressed their support for non-bureaucratic procedures.



In summary, a third party data review is seen as essential for data and information used in external communications. The most important requirements mentioned were transparency, harmonisation and standardisation of reporting environmental product information. The tool used to generate the data seemed to be of less relevance for the persons interviewed.

4.2 Review of Company Environmental Management Systems in Place

The EMS review revealed that ACE member companies use EMSs at site level to manage continuous improvement of environmental performance of company operations. EMSs have been developed according to specific corporate needs.

Consequently, the existing EMSs are not set up to deliver product-related environmental information in a systematic and harmonised way even if they are certified according to the same standard. Today, the ACE member companies reviewed make only limited use of the certified site EMS to control their information management.

The environmental product information available for beverage cartons is mainly compiled by using other tools such as 'Design for the Environment' (DfE), during product development or by means of life cycle-assessments (LCA). The key findings of the review include:

- ✦ The EMSs vary widely between ACE member companies but sometimes even between different production sites within companies reflecting different national circumstances;
- ✦ Corporate environmental data collection and reporting practices in place differ as well among ACE members;
- ✦ At site level environmental data management at both board manufacturers and beverage carton manufacturers is heterogeneous and based on individual site history and/or company internal reporting requirements;
- ✦ The interface between site and corporate environmental data management is mainly outside the scope of the formal site EMS. While the site EMS is subject to third party certification, the combined reporting structure (site and corporate EMS) is not.

4.2.1 SPECIFIC ISSUES FOR SUPPLIERS OF LIQUID PACKAGING BOARD

In the case of the European board suppliers, 'standardised' data reporting is well established because of rather strict national legislation as well as the implementation of the EU Directive on Integrated Pollutions Prevention Control (IPPC). IPPC defines Best Available Techniques (BAT) for the paper industry. Here the main challenge is to allocate environmental performance data to an individual paper grade and to aggregate the data over the different board suppliers.

However, this process of allocating data – relating to externally verified environmental performance of paper mills or of individual paper machines - to a specific product such as liquid packaging board is not subject to EMS compliance and system audits according to ISO 14001 or EMAS. These data allocation processes have, nevertheless, been verified by external experts as part of critical reviews of beverage carton life cycle assessments according to the ISO 14040 standard.

Liquid packaging board suppliers could consider the inclusion of the environmental information on liquid packaging board within their EMSs if this were possible for all their major paper products – not just for one. In order to do so, the ISO 14001 and EMAS systems could be revised. However, without the revision of these respective standards, the human and financial resources required for an integration of product related environmental data just for one product might far outweigh the benefits. For the time being, therefore, it is preferable to use data on liquid packaging board verified by LCA reviewers.

One practical outcome of this project is that European liquid packaging board suppliers are currently updating their 1995 environmental data sets on the production of liquid packaging board for the base year 2000 including trends/forecasts to 2010.



4.2.2 SPECIFIC ISSUES FOR BEVERAGE CARTON PRODUCERS

Beverage carton producers also show a broad variation in how companies manage environmental information and on what they report. Companies have developed their EMS at site level and carry out site certifications according to ISO 14001 (in some cases also EMAS verifications). The environmental data reporting is mostly coordinated at corporate level as add-on to the site EMSs.

Thus, currently none of the reviewed sites include product-related environmental data reporting in their EMSs certified under ISO/EMAS even though such data is generated and submitted to corporate headquarters. External verification of environmental data management exists in some cases but is not comparable in scope and depth. Even though the corporate environmental information management systems make limited use of the site EMSs, beverage carton producers have been collecting life cycle inventory data for many years that are partly externally reviewed whenever used in life cycle assessments according to ISO 14040.

In practice, beverage carton producers have been developing two parallel environmental information management systems:

- ✦ Environmental performance data of manufacturing sites certified according to ISO (and in some cases EMAS). These data from manufacturing operations are in most cases, aggregated at a corporate level, but not subject to third party EMS certification.
- ✦ Product-related environmental data including environmental performance data of their own manufacturing sites, plus data provided by suppliers of board, aluminium foils and polyethylene, environmental data of filling lines at customer sites, transport and distribution, as well as data regarding recycling, recovery and disposal of used packaging.

For the individual companies it could be feasible to integrate their corporate data reporting, based on operational performance of individual sites into site EMSs. For instance, one possibility could be to develop respective corporate guidelines that could be included into the ISO (or EMAS) certification. Such data could qualify for business-to-business communication between a beverage carton producer and its customers. This would only cover those parts of the beverage carton life cycle

under the control of ACE's member companies. Such data would not be suitable for communicating product-related environmental information to a wider group of stakeholders.

In addition, today's product-related environmental data management systems could not be subject to EMS certification at beverage carton manufacturing sites, since most of the data required is provided by external sources including scientific and commercial publications.

The reviews of the company EMSs lead to the overall conclusion that individual companies along a beverage carton value-chain could only deliver certified product-related environmental data if all of the steps within the value chain contribute data that can be converted into meaningful and credible information. Currently, the collection of environmental information for the beverage carton system at a sector level is limited to individual initiatives (e.g. LCA studies) and is either based on illustrative data or covers only parts of the value-chain.

4.3 Evaluation of EMS as a Tool for Product Life Cycle Reporting for Beverage Cartons

Having regard to the outcomes of the stakeholder consultation and the EMS reviews, ACE members evaluated the possibility of establishing an EMS-based information management system for generating product-related environmental information for beverage cartons at a sectoral level.

Any such product information management system supported by companies along the beverage carton life cycle would have to fulfil the following criteria:

- ✚ Be based on standardised and transparent data generation and aggregation (including all steps in the life cycle, not only those represented by ACE members);
- ✚ Be compatible and consistent (e.g. regarding the reference unit of product output);
- ✚ Build on existing EMSs;
- ✚ Be dynamic and open to address up-coming issues and changes to the life cycle chain.

Based on these criteria, ACE member companies examined the pros and cons of such a scenario.

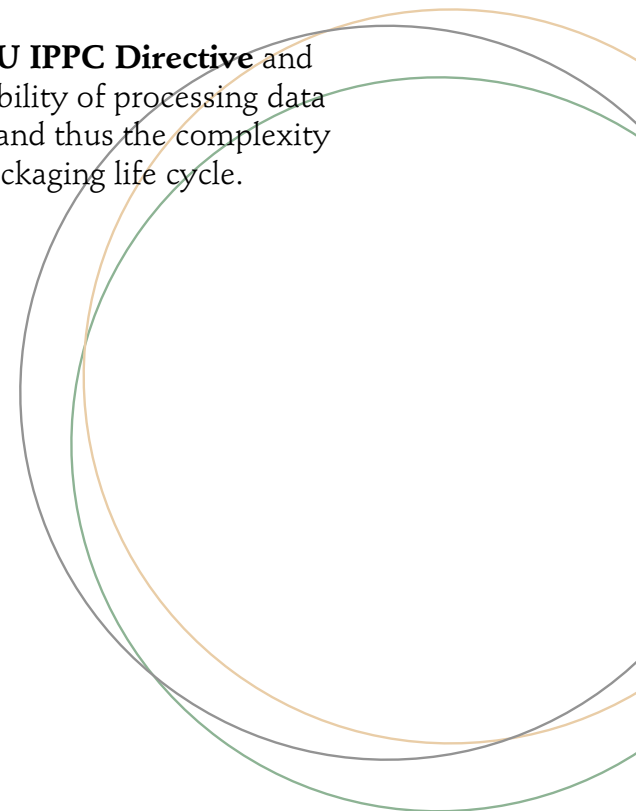


4.3.1 ARGUMENTS IN FAVOUR OF USING EMS TO GENERATE PRODUCT-RELATED ENVIRONMENTAL INFORMATION

Environmental management systems are standard tools in the beverage carton industry. With some modifications and standardisation, existing EMS could be used to deliver product-related environmental information regarding parts of the beverage carton life cycle, such as board production.

Environmental performance data of the beverage carton filling processes are **already in the public domain**. Beverage carton producers also supply the filling equipment to their customers and are in the process of developing Environmental Product Declarations for these systems.

Larger dairy and juice processing lines are subject to the **EU IPPC Directive** and thus represent best available techniques (BAT). The availability of processing data would reduce the number of companies to be considered and thus the complexity of any EMS-based reporting system covering the entire packaging life cycle.



4.3.2 ARGUMENTS AGAINST USING EMS TO GENERATE PRODUCT-RELATED ENVIRONMENTAL INFORMATION

The **distribution, use and post use phases** (recycling, recovery, and disposal) form key parts of a beverage carton's environmental profile that could **not** be **covered by EMSs** and, hence, would have to be evaluated on the basis of other information and research.

The nature of the **data** needed reaches far **beyond the scope of a beverage carton producer's EMS**. In several areas commercial information would be required to determine valid product-related environmental information. For instance, with respect to distribution in the context of climate change, environmental impacts depend on transport distances. A company EMS would most likely consider environmental requirements related to transport set by a company for its own operations, but exclude transport distances to different customers. Linking an EMS to commercial information would increase the complexity of the system and reduce its effectiveness.



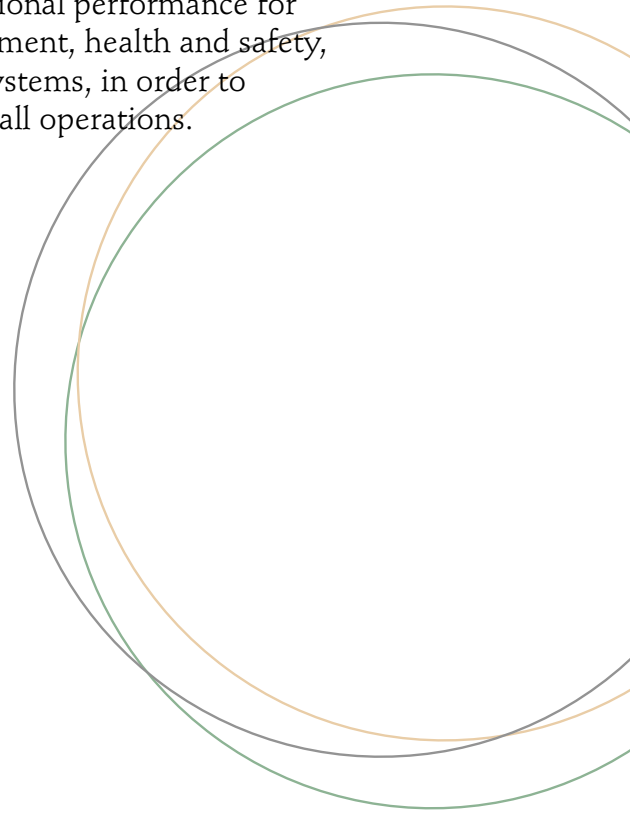
There would be a **need for sector specific standardisation and guidelines** across the life cycle.

This would imply that our industry would have to develop a reporting standard for the entire life cycle. The feasibility of such an approach must be challenged in the light of the size of our industry sector. At company level environmental reporting standards have already been developed as an integral part of overall company communications systems, reflecting different specific internal circumstances and stakeholder requirements. The added value of EMS based life cycle reporting would first have to be proven.

There is an **incompatibility of data** and reference systems **between companies**. The practical development of a sectoral reporting standard is therefore quite challenging. Today, the company environmental reports of ACE members already include product-related environmental information relative to the production process such as the use of raw materials, and water and energy

per unit of product output as indicators to measure operational efficiency. For full life cycle reporting, such data would have to be generated based on the same reference units. Only then could data of different companies be aggregated into an environmental performance indicator for the final product.

Today some beverage carton producers determine operational performance indicators in the fields of environment, quality, costs etc. per “million standard packs” produced; others use “square meter of packaging material” produced as a reference unit. Both units (and ‘indicator systems’) are meaningful within the context of the respective company management systems. At a first glance it might appear a rather trivial exercise to change a reference unit. But in reality it would mean changing the reference units used to measure operational performance for all management systems in a company - including environment, health and safety, quality and even, to some extent, financial management systems, in order to maintain consistent operational performance indicators in all operations.



5 Conclusions

The reporting of product-related environmental information via EMSs for the beverage carton sector is not practicable, as it could not cover the entire value-chain nor could it represent its complete environmental profile as requested by stakeholders. Therefore, its benefits would be very limited. EMSs might nevertheless be instrumental in providing product-related environmental information for business-to-business communications between actors in the beverage carton value-chain. Similarly, for products with a shorter or less complex value-chain (e.g. paper products) EMSs could be used as a basis for wider stakeholder communications on product-related environmental information.

Notwithstanding the results of this project, ACE members have gained a deeper insight into the technical and administrative challenges associated with the generation of product-related environmental data for its value-chain as a whole. ACE members also found this project extremely helpful in understanding the challenges of communicating sector specific product-related environmental information.

The sector intends to apply the findings from this project to evaluate alternative tools and options with respect to reporting product-related environmental information for the beverage carton. ACE will continue sharing its findings with interested stakeholders in order to arrive at solutions that are more pragmatic in the future.

The beverage carton sector believes that the outcomes of this project will be significant as a contribution to future EU environmental policy with regard to reporting and communicating the environmental impacts of industry sectors and products.

The possibilities and limitations regarding the use of EMSs as tools to communicate product-related environmental data discussed in this report reflect only the experiences of the beverage carton sector. The project results cannot therefore be extrapolated to allow for more general conclusions on the potential use of EMSs for reporting product-related environmental information for other products or sectors.



6 Stakeholder Response to Project Outcome

On the 30th of November 2004, during European Paper Week in Brussels, a final closing seminar for the project was held to discuss the results of the project. Over 70 participants attended the seminar including representatives of the European Parliament and the Commission, as well as a range of industry, ENGO and other interested stakeholders.

The findings of the project were presented along with contributions and comments from the Commission's DG Environment and DG Enterprise and the European Environmental Bureau (EEB). Copies of the presentations made are included in the annex to this report.

The presentations and subsequent panel discussion allowed for a number of key conclusions to be drawn:

Firstly, while environmental management systems can play a certain role in reporting product-related information, a value-chain reporting system for the beverage carton sector based solely on such systems presents certain limitations.

Secondly, the generation of product-related environmental reporting is not a goal in itself. Information for different target groups (e.g. expert audiences, consumers, and business partners) has to be based on an assessment of their respective needs and the level of assurance requested. On the basis of such an assessment, industry could then decide on how to best to meet these requirements.

Finally, independently of which tools are chosen to collect and manage product-related environmental information, a harmonised effort would have to take place, possibly including the establishment of standards and guidelines, to ensure consistency in data gathering and reporting procedures within a sector.



ANNEX

**Presentations
Project Closing Seminar**

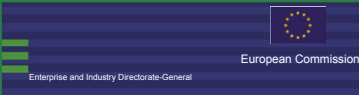


BRUSSELS, 30 NOVEMBER 2004

THE ACE PROJECT IN CONTEXT

ACE SEMINAR 2004 – BRUSSELS, 30 NOVEMBER 2004

Michel Catinat – European Commission – DG Enterprise and Industry



European Commission
Enterprise and Industry Directorate-General

THE ACE PROJECT IN CONTEXT

ACE SEMINAR 2004
Brussels, 30 November 2004

Michel Catinat
European Commission
DG Enterprise and Industry

Content

- Project context and motivation
- Implementing EMS and EIS
- Likely developments
- Conclusions



Context

- Lisbon strategy and EU sustainable development strategy
- Better Regulation
- WSSD partnerships and voluntary initiatives
- Commission's Communication on IPP
- Environmental Policy changing
- Enterprises' attitude changing

Motivation

- Pressures to disclose environmental information
- Real life experiment
- Understanding barriers and opportunities for sustainable products and production patterns
- Demonstrating effectiveness of voluntary approaches to implement policy objectives
- Working with and motivating stakeholders

Implementation – the objectives

- Finding ways to
 - Exploit complementarities between EMS and EIS, (being encouraged by:
 - IPP Communication, ENV Council conclusions, EP Resolution
 - Reduce costs of data gathering and verifying/validating
- Identify opportunities to
 - Eliminate redundancies and reduce administrative burden
 - Encourage and reward efforts / progress

Implementation – the practice

- Variety of information tools targeted at different needs and audiences
- Information requirements heterogeneous and not always clear
- Conversion is required before using EMS-generated data in reporting/labeling (e.g. EPD)

THE ACE PROJECT IN CONTEXT

ACE SEMINAR 2004 – BRUSSELS, 30 NOVEMBER 2004

Michel Catinat – European Commission – DG Enterprise and Industry

Likely developments

- EMAS and EU eco-label revision
 - Extend regulatory flexibility
 - Eliminate unnecessary submission of documents
- Standardization of data conversion

Conclusions

- Enterprises are already acting
 - Using EMS to generate validated data to communicate product-related environmental information (e.g. EPD)
- Public Authorities should encourage this trend, by
 - Streamlining and simplifying requirements with reporting, verification, certification
 - Encouraging stakeholders' dialogue, partnerships and voluntary initiatives

PROJECT RESULTS & CONCLUSIONS

Erika Mink – ACE - DG ENT Workshop – Brussels, 30 November 2004

Reporting Product-Related Environmental Information – Can Environmental Management Systems help?

Project Results & Conclusions

Erika Mink
ACE – DG ENT Workshop
Brussels, 30 November 2004



ACE cooperation with DG Enterprise



Project Objective

Evaluate the use of Environmental Management Systems (EMS) to

- Generate,
- Manage, and
- Verify

product-related environmental information related to the beverage carton.



ACE cooperation with DG Enterprise

What is the product?

Different product definitions along the value chain



Paper mill: LPB

Customer, retailer, consumer: milk



Beverage carton manufacturer



ACE cooperation with DG Enterprise

Scope of Work

• Stakeholder Interviews

Expectations of Brussels stakeholder regarding product-related environmental information.

• EMS Review

Analyse if existing EMSs could be adapted to generate and manage product-related information;

Case studies at six sites: AssiDomän, Korsnäs, StoraEnso; Combibloc, Elopak, Tetra Pak.

• Evaluation & Conclusions



ACE cooperation with DG Enterprise

Findings - Stakeholder Interviews

Transparency more important than tool used

- **Information related to key policy areas**
e.g. climate impact, recycling, forestry
- **Transparency & communication**
 - EMS seems to be acceptable as tool
 - Limited understanding of EMS
 - Information adapted to target groups
 - 3rd party verification
- **Potential use**
 - Demonstrate continuous improvement,
 - Compare data between packaging systems,
 - As reference for product development.



ACE cooperation with DG Enterprise

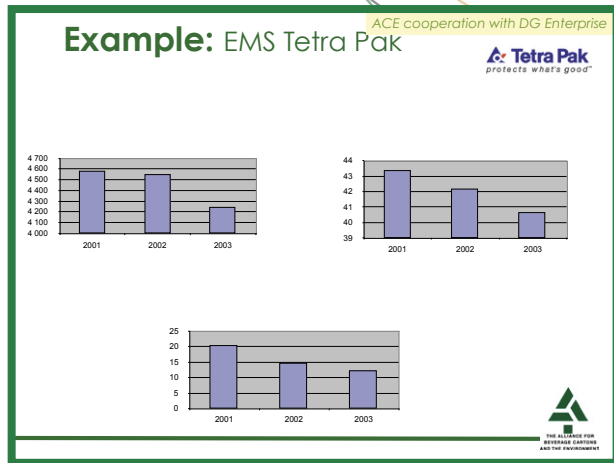
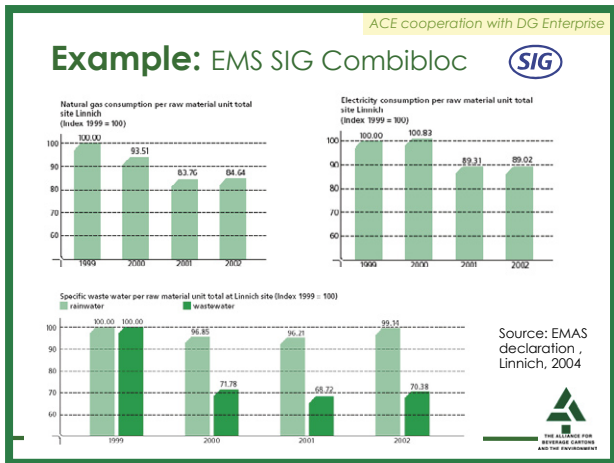
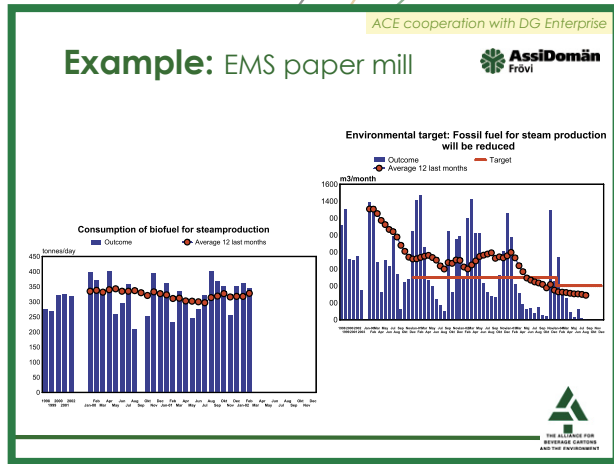
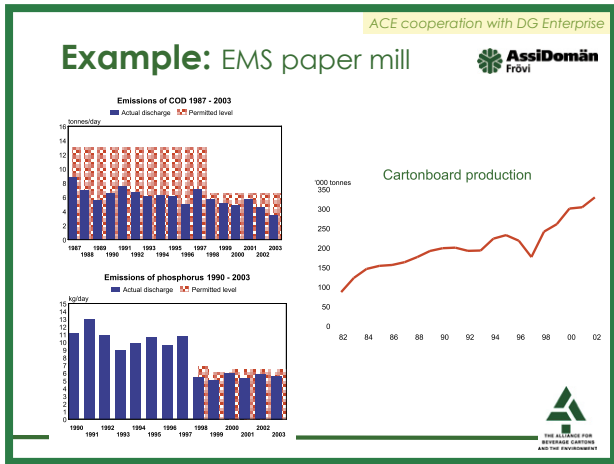
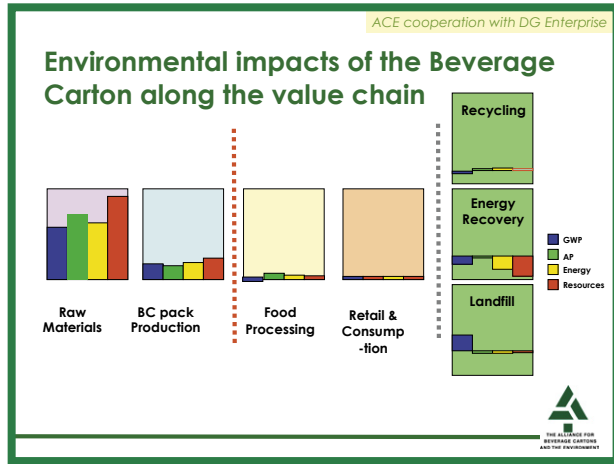
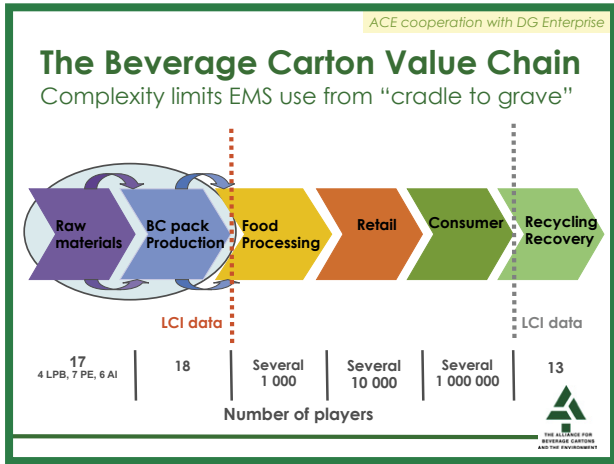
Findings – EMS Reviews

- Sector level
 - ACE members only part of the value chain;
 - No environmental information management system;
 - Singular projects of sector reporting (e.g. LCA studies).
- Company level
 - Site EMSs certified under ISO/EMAS;
 - Environmental data management differ in scope & depth;
 - EMS not designed to deliver product-related or LCI data;
 - Corporate environmental data management mainly outside scope of certified EMS;
 - Key data outside of EMS scope (product specifications, sales).



PROJECT RESULTS & CONCLUSIONS

Erika Mink – ACE - DG ENT Workshop – Brussels, 30 November 2004




PROJECT RESULTS & CONCLUSIONS


Erika Mink – ACE - DG ENT Workshop – Brussels, 30 November 2004

ACE cooperation with DG Enterprise

What we can do with EMS



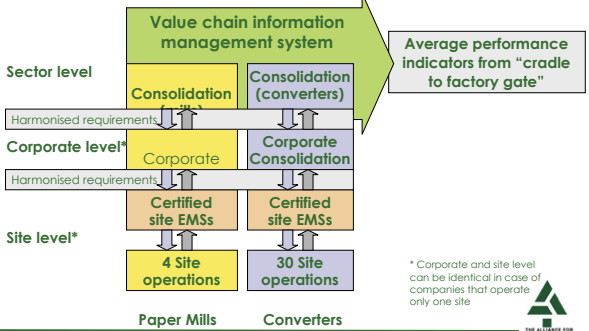
- **Generate LCI data “cradle to gate” for**
 - liquid packaging board
 - beverage carton material supplied to customers
- **Implications to be considered**
 - **Significant changes of existing EMS**
 - Sector guidelines on data collection, allocation, consolidation
 - Modifications of corporate environmental policies
 - Development of information management within the EMS
 - Harmonise EMS standards with non-environmental corporate management systems
 - **Commit to EMS certification of all sites**




ACE cooperation with DG Enterprise

What we could do with EMS

System for LCI data management




* Corporate and site level can be identical in case of companies that operate only one site




ACE cooperation with DG Enterprise

What we cannot do with EMS



- **Generate product-related environmental information for the entire value chain (“cradle to grave”)**
- Use EMS to **respond to stakeholder requirements** for environmental information on the package.
- **Set product-related environmental objectives and targets at site level (converter).**
- **Enlarge system boundaries to include off-site activities** (e.g. transportation, recycling)




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Conclusions

- EMS not suitable for beverage carton value chain reporting
- EMS can only deliver “cradle-to-gate” LCI data
- Stakeholders demand information for packaging as sold to consumers

Q: What would be the additional benefits of producing LCI data via EMS compared to just peer review?



Thank you




AN ENGO PERSPECTIVE ON PRODUCT RELATED ENVIRONMENTAL INFORMATION

Kim Christiansen, EEB

An ENGO Perspective on Product Related Environmental Information

Kim Christiansen, EEB



Reporting Product Related Environmental Information – Can Environmental Management Systems help?

- ISO 14001 EMS can include products and services
- EMAS II EMS do include products and services
- Quality of data and quality of calculations equally important
- Many organisations are used to work with economic key figures – and can equally work with environmental (and other SC indicators)

14001:2004 – what are the major changes?

- Indirect environmental aspects (influence)
- Independent internal audit
- Non-conformance –system requirements and performance requirements
- Legal and other requirements
- External communication
- Management review

Policy/Strategy	End-of-pipe	Cleaner Production	Integrated Product Policy	Sustainable Development
Management	Licensing	(Q)(E)(OHS)MS	LCM	ISMS
Economy	Unproductive costs	EMA/TCA	LCC	LC environmental aspects
Environment	Outputs to nature	CPA	LCA	LC economic aspects LC social aspects

Quality, Environmental, Occupational Health and Safety Management System; Environmental Management Accounting, Total Cost Accounting; Cleaner Production Assessment
Life Cycle Management, Life Cycle Costing, Life Cycle Assessment
Integrated Sustainability Management System

Importance

What contributes to reduction of human life quality

- Poverty and governance related disease (50)
- Diseases due to misuse of food and drugs
- Accidents (14)
- Human toxicity (8)
- Occupational health (7)
- Air pollution (particulates) (2,7)
- Climate change (2,3)
- Noise (2)
- Diseases due to food contamination (0,28)
- Skin cancer by increased radiation (0,22)

(Disability Adjusted Life Years pr. 1000 capita)

AN ENGO PERSPECTIVE ON PRODUCT RELATED ENVIRONMENTAL INFORMATION

Kim Christiansen, EEB

What are the business drivers?

- Can we reduce our costs pr. unit/product?
- Do we pay too much in environmental charges?
- Will we get more customers/sales?
- Is it illegal?
- What says the investors and shareholders?
- What says society? (Stakeholders/Interested Parties)

EU EPD Study 2002

- EPDs are not a used tool by the market – only used by few - or by standards – but ISO 14025 is closed to be finished
- Except for building products – in France and the Netherlands due to the threat of regulation
- Declarations are not a goal in themselves – they must foster prevention of environmental impacts
- Average LCA data (from a common database will not support comparisons between products
- EPDs does not show factual environmental impacts – and neither do LCA – but potential – do we need factual impacts to be able to compare...
- We recommend information – not propaganda – on paper!
- Obviously they will create information overload to most "normal" consumers.

Environmental information on products – info from Stockholm September 2003

- EPI not only EPD
- Integrated approach not only environment e.g. include social aspects
- Economic incentives to give EPI e.g. reduced VAT
- High cost for environmental declarations – and little use

ECOS: NO to 14025

- The changes made in Argentina in September 2004 are detrimental to the credibility and comparability of the resulting EPDs
- Suppliers of EPDs are not obliged to give information on the use and disposal stages
- No use of EPDs if they are not comparable
- Third party (critical) review panel likely to be watered down
- Requirement for 3. Party review of B2C placed on NOTE – and therefore not a requirement?



AN ENGO PERSPECTIVE ON PRODUCT RELATED ENVIRONMENTAL INFORMATION

Kim Christiansen, EEB

Other reservations

- Do the LCA used for the EPD include the important environmental impacts?
- How can you compare EPDs from single company programmes?
- How can you compare EPDs based on a random selection of "modules"?
- How can 1 person be a panel? (Verification of LCA data and EPD)
- EPDs are by definition "comparative assertions" and no disclaimer can take this fact away!

We are positive to the use of product oriented environmental information

- It can help to identify improvement options in the value chain – B2B
- It can supply data for information to consumers – B2C – e.g. use of ecolabelling
- It can inspire to application of other tools for sustainability management
- It can give more knowledge and awareness to business customers and society at large e.g. on improvement options
- Quality of information must be assured by independent party (e.g. certification) – in balance with resource needs for other types of communication

But voluntary initiatives alone are not enough...

- ISO 14001 and EMAS is still used by less than 1% of the companies
- Ecolabelling is still covering only a fraction of the product groups and the products
- Market is not asking for environmental improvement – so other actors must
- State must ask for environmental improvements by regulation including e.g. taxes on use of non-renewable resources and green public procurement targets
- And where is the Commission on EPDs?

PRODUCT-RELATED ENVIRONMENTAL INFORMATION: WHY IS IT IMPORTANT?

Robert Goodchild – DG Environment – European Commission

Product-related Environmental Information: why is it important?

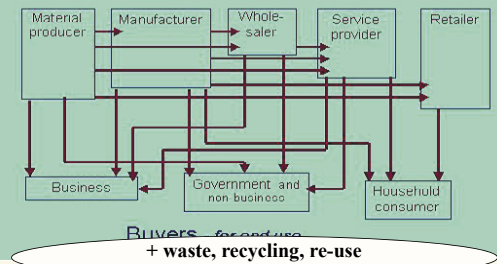
Robert Goodchild
DG Environment
European Commission

Content

- The importance of information
- The key principles
- What could this mean in practice?
- What is going on?

'Transactions' where information can be used

'Sellers' - adding value



Source: Ryder et al (2004)

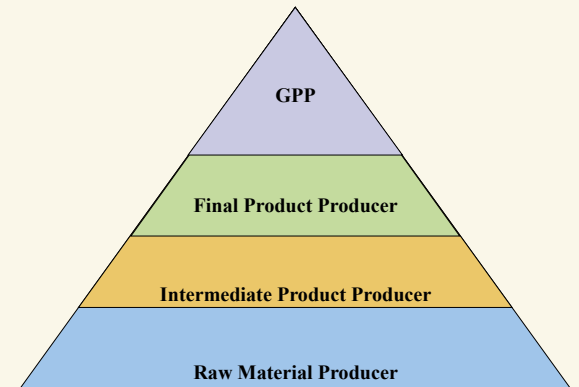


Can we have
life-cycle
thinking
without good
information?



Key principles for information to be useful to the user

- **Simple** – Can I understand it quickly?
- **Relevant** – Does this help me?
- **Reliable** – Can I trust it?
- **Comparable** – Which is better for me?
- Need to start at the end and work backwards



PRODUCT-RELATED ENVIRONMENTAL INFORMATION: WHY IS IT IMPORTANT?

Robert Goodchild – DG Environment – European Commission

Key principles for information to be produced by producer

- Demand from consumers
- Least cost (e.g. make use of EMS)
- Simple
- Confidentiality respected

Are current needs met?

- | | |
|----------------|---------------------|
| • Purchasers | • Producers |
| – simple X | – demand ✓ |
| – relevant X | – least cost ± |
| – reliable X | – simple ✓ |
| – comparable X | – confidentiality ✓ |

Future direction

- re-balancing towards end user needed
- need harmonisation of some sort
- need verification of some sort
- can't expect perfection

Some ongoing activities

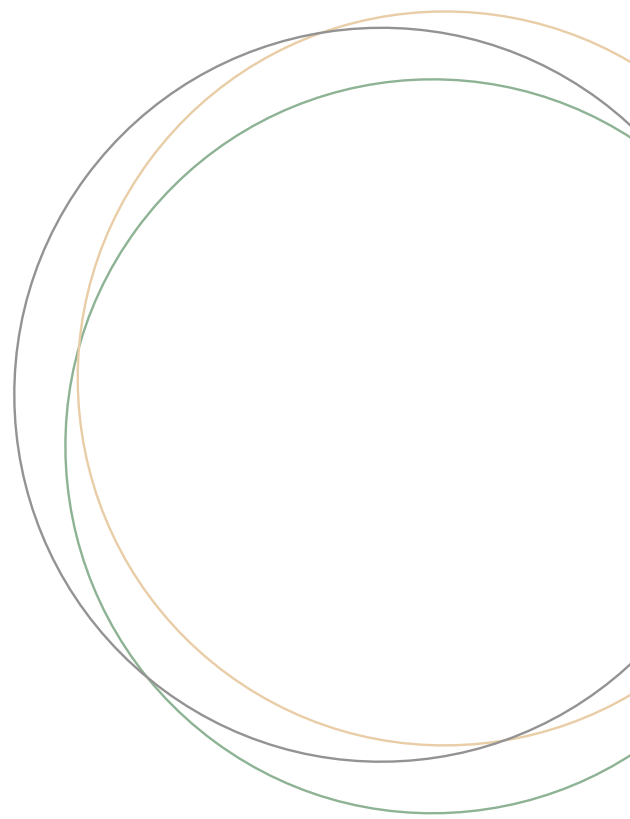
- LCA handbook
- LCA database
- EPD decision
- Also:
 - assessment of EU Eco-label /EMAS
 - harmonisation in construction area for EPDs

Why is information important?

It is key because:

- shows where environmental impacts are
- allows producers to improve on their own initiative
- allows comparison of products by purchasers – allowing choice







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AND THE ENVIRONMENT

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