Environmental Product Declarations in market communication- the ABB experience

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Abstract

This paper describes experiences from implementation of environmental product declarations in ABBs organization and then especially its' use in market communication. ABB's sustainability management program is first discussed since this corporate program serves as an essential basis and 'infra-structure' for all sustainability activities conducted within ABB. Then, the process related to implementation of environmental product declarations in ABBs organization and experiences from this process is discussed. Finally conclusions are made and some suggestions for developments in this area are given.

Introduction

Society's increasing demand for a sustainable development has expanded the scope of corporate responsibility to include sustainability issues at all levels of operation. Industrial organizations have, as one example, responded to this demand by taking several kinds of sustainability management actions within their organizations (Welford, 1998). A number of different sustainability management tools and procedures have been implemented in companies to support this process, such as environmental management systems, life cycle assessment, design for environment tools and communication tools (cf e.g. Schaltegger et al, 2000, Gray et al, 1993 and Dewulf et al, 2001). Communication tools and then especially environmental product declarations are in focus in this paper.

The aim of this paper is to describe how environmental product declarations have been implemented in ABBs organization how this tool have been used in market communication and to give some experiences from this process.

Sustainability management in ABB

ABB is a global leader in power and automation technologies that enable utility and industry to improve their performance while lowering environmental impact. ABB has approximately 135,000 employees in more than 100 countries. ABB serves customers in the utilities, industries and oil, gas and petrochemicals sectors.

Sustainable development is integrated to all aspects of ABB's business. It involves working in three dimensions: environmental, economic and social. The corporate main priorities are (ABB Group Sustainability Report 2002):

- To improve economic performance.
- To extend environmental management to all employees.
- To continuously improve the eco-efficiency of all products.
- To implement the social policy worldwide.
- To implement latest occupational health and safety standards
- Help reduce poverty through the 'Access to Electricity' program.
- To raise awareness within ABB that sustainability matters.

The development of ABBs environmental/ sustainability management program has passed three phases, se below.

Phase 1

After signing the International Chamber of Commerce' Business Charter for Sustainable Development in 1991, ABB launched its formal environmental management program. The first phase, completed in 1994, included establishing an environmental organization and a general environmental strategy. Additionally ABB completed an initial review of ABB's overall environmental performance through environmental audits of ABB manufacturing processes in about 500 facilities in 35 countries. ABB also started to develop LCA, (Life Cycle Assessment) into an operational tool in cooperation with leading scientific organizations and other industries. Product development was then identified as a key application for the LCA tool. Another activity was to develop a handbook that included concrete design advices and material selection guidelines to be used for environmentally conscious design in ABB's product development departments.

Phase 2

The second phase, beginning in 1994, was the full-scale, group wide implementation of site-specific, formal environmental management systems at ABB's manufacturing and service sites. Additionally, a LCA software tool and the handbook for environmentally conscious design were introduced in ABB's product development departments on a global basis along with education and training programs. More than 100 LCA studies have been conducted since then and some 1000 persons have participated in LCA related education programs within ABB. At the end of 2001, ABB came close to implementing Environmental Management System at 98% of all its sites, worldwide, corresponding to more than 530 facilities.

Phase 3

The focus of work in the two first phases was mainly on internal processes and then especially on product development. It was however already then a broad understanding among management that this is not enough and that marketing must be involved in the process. A key activity started during this phase was to implement tools (environmental product declarations) aimed to communicate product related information to customers and other stakeholders. The third phase, started in 1998 and still ongoing, puts an even sharper focus on the environmental performance of the product over its life cycle. The environmental organization was broadened by the appointment of Business Area Sustainability Controllers with the responsibility for sustainability issues and the products' performance. This includes identifying market requirements, setting up product specifications, goals and programs and of special interest in this paper to develop environmental product declarations.

Environmental product declarations provide comprehensive information of environmental properties by describing and quantifying the environmental performance of the products over their complete life cycles. The declarations

- provide customers with objective, credible and third party verified LCA based data of ABB products
- enable ABB designers to assess and improve the environmental performance of a product
- facilitate the comparison of the environmental performance of alternative products

Today, more than 60 environmental product declarations have been made for ABB's products, and more will come. Six of these have been certified according to the system managed by the Swedish Environmental Management Council.

Within the Corporate Research organization, there is a unit supporting ABB's organization with WEB based sustainability tools and knowledge to be used to support the development of environmental product declarations.

Implementation of environmental product declaration in ABBs organization

The demand for quantified and verified information about the environmental performance of products and services is constantly increasing worldwide. This is a result of the strategic value of environmental issues in companies and organizations.

In ABBs sustainability management program marketing has been identified as a critical activity and ABB decided to develop environmental product declarations for several reasons. Customers more and more frequently ask for information about the products sustainability performance.

ABB's strategy described in Sustainability Report 2002 is "To continuously improve the eco-efficiency of all our products, systems and services, and publish this information in environmental product declarations". This is now a routine part of the Business Areas' activities driven by Group Function for Sustainability Affairs (GF-SA).

The aim of the strategy is to develop LCA based environmental product declarations for "core products" in all ABBs business areas. The LCA experiences built up under several years constitute a solid foundation in the implementation process.

EPD, Environmental Product Declaration
Swedish industry has initiated and established an official environmental declaration program called the EPD system (Environmental Product Declaration) based on ISO TR 14025 - a pre-standard in the ISO 14000 series. The EPD system is applicable worldwide for all interested companies and organizations.

EPD characteristics
A certified environmental product declaration, EPD is based on information from a life cycle assessment (LCA) according to the ISO-standards for LCA. A declaration may include information about raw material acquisition, energy use and efficiency, content of materials and chemical substances, pollutant emissions to air, soil and water, waste generation and the environmental impact associated with the product or service in question.

An EPD has beside the mandatory parts also the potential to declare additional information. Since an EPD is a way of communicating with customers, other relevant information that normally is not part of an LCA, such as risk assessments, or whether the company has an environmental management system, is seen as very useful. Also information regarding end-of-life scenarios such as recycling or re-use options can be necessary for decision-making and should be part of an EPD.

Product Specific Requirements, PSR
One of the most important features of EPDs is that they shall enable comparisons between declarations. The collection and calculation of the underlying data must be done in a similar way using the rules to accomplish comparability. These rules are prepared and established in so-called Product Specific Requirements, PSR, for selected product groups and service types. Companies and organizations in collaboration with each other can prepare proposals for product-specific requirements. This makes it also possible to add up information in the supply chain. Within the EPD system a PSR Guide is developed to facilitate the work with PSR/EPD.

A growing number of countries are currently collaborating to prepare common PSR-documents and to get them internationally accepted.

EPD procedure
The procedure for working out an EPD for a product or service is:
- Contact the Swedish Environmental Management Council to announce the interest to introduce a product or service into the system.
- Decide system boundaries, functional unit and allocation procedures.
- Check whether a PSR, Product Specific Requirement is available.
- If not, carry out Product Specific Requirements to enable comparisons between declarations.
- The Technical Committee at the Swedish Environmental Management Council must then approve the PSR.
- Collect LCI data (Life Cycle Inventory).
- Carry out the LCA according to the PSR.
- Develop an EPD based on the LCA study.
- Contact a certification body to verify the LCA based data and information on the product or service in question.
- Send an application form to the Swedish Environmental Management Council for registration of the certified environmental product declaration.
- The EPD is then published on the Swedish Environmental Management Councils homepage (www.environdec.com).

LCI data
When carrying out a LCA for development of an EPD specific data should be used, e.g. plant-specific data from manufacturing processes or transportation.

Generic data will be used when they are more representative or in the case there is a lack of specific data and the generic data has a negligible influence on the final result. As a general rule, the sum of the contribution to all parts of the life cycle to the separate impact categories from the use of generic data, instead of product-specific data, must not exceed 10% of the total contribution to the impact categories. In the PSR Guide the generic data sources for the European market are stipulated. Other sources of generic data should be listed if being more valid for other regions of the world, e.g. for SouthEast Asia or North America.

Site-specific data and generic data from the generic data table in the PSR contribute to the amount of data that have to be considered for complying with the 10 % rule.

Interpretation keys

With the purpose of helping purchasers to understand and evaluate the information contained in an EPD a project is now carried out at CPM, Competence Centre for Environmental Assessment of Product and Material Systems, at Chalmers University of Technology, Gothenburg, Sweden. ABB is a participant.

The project includes potential ways of improving the methodologies for producing EPDs and labelling so that they focus on the basic data needed for an interpretation in practical terms. A set of web-based interpretation keys to EPDs is developed.

ABB experiences of EPD

EPDs are used by ABB in marketing communication to provide customers with quantified and verified information about the products' environmental impacts. EPDs are however not, and will not be developed for all products since ABBs product mix is very large and this would be an unrealistic task from an economic point of view. Instead the strategy is to develop EPDs for high volume products and/or identified "core products" of special interest for other reasons. This is a drawback for the EPD system since it is desirable to have access to equal and comparable information for all products. Additionally there are not many EPDs from ABBs competitors' accessible yet. Objective evaluation of the environmental performance of tenders from different suppliers

is therefore a difficult task for a customer depending on this information asymmetry.

Customers generally do not ask for EPDs, but they however value the information positively when they receive it. Some customers perceive the information in an EPD as being complex to understand and use. It is normally a package of various types of information materials that is given away by ABB and EPDs is one part of this package.

Line managers in ABB often mention the cost of developing EPDs as a barrier for an efficient EPD implementation process. The benefits from developing an EPD must then be weighted against its' economic and other benefits, and that is not always easy to estimate in beforehand. It is a substantial investment to prepare the requested documentation and to go through the process of achieving an EPD. The dominating part of the cost is made up by the LCA study. Another barrier is the need for a relatively high level of environmental competence that most persons in ABBs line organization lack today.

Access to supporting guidelines and tools as well as to personal support has therefore been identified a critical issue for cost-efficient implementation of EPDs in ABBs organization. During year 2000, ABB therefore launched a web-based 'Sustainability Tool Site' on ABB's Intranet as a supporting tool to facilitate development and implementation of e.g. EPDs in ABBs organization. Guidelines and tools to support the concrete LCA and EPD work can be found on this site. ABB Corporate Research in Sweden is responsible for coordinating the development and maintenance of this site. This tool and implementation work is coordinated with the project Dantes supported by EUs Life Environment Program where ABB is one partner

Even if the EPD concept is a very useful and promising approach a general opinion in ABB is that there is a need to develop more cost-efficient marketing tools as complement to EPDs. This could also be relevant as a "first step" for actors who do not manage to take the relatively large step to develop an EPD, as e.g. SMEs. An inventory of sustainability marketing tools has been conducted by ABB and an alternative or complement to EPD has been drafted, but not yet tested. In the draft all information is structured according to the

different life cycle phases and information that is not common in an EPD, like working environment issues, structured information about end-of-life, packaging materials and operational directions is included. A further step will be to evaluate this alternative from the perspective of easy to use and easy to understand. This work is however only done as one company example of what could be done since other organizations must of course drive the work on a global perspective.

Conclusions

It is important not to underestimate the time perspective of the EPD implementation process, since there is also a need for access to LCA specialist competence. It is therefore essential to develop a long-term strategy for market communication of sustainability information and take a step-by-step approach. To describe and communicate the sustainability performance of a product over its life cycle is a complex task.

Access to easy-to-use and cost-efficient tools, procedures and personal competence is critical.

EPD is a very promising approach but even if positive results can be identified from using EPDs in the marketing communication process, there is a lot more to do. The cost-efficiency in developing EPDs should be improved and supporting tools to interpret and facilitate the use of EPDs should be developed. Additionally it is important to get a wider use of the system to make it useful in business communication on a global level.

One way to reduce the cost for compiling and using an EPD could be environmental declarations in electronic form making it possible to use some type of software tool for direct calculating environmental impact for different scenarios like electrical losses, transports and recycling rates.

EPDs are certainly here to stay but more have to be done to make this tool useful on a broader scale.

All comments about EPDs in this paper must however be seen in the perspective that EPD is a very new concept.

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