

MANAGEMENT TOOLS FOR MONITORING ENVIRONMENTAL PROGRESS

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The drive to continuously improve the environment and environmental safety practices is a strategic initiative that requires the active support of leadership, as well as, tough measures, from the top down, to all management levels. I, therefore, advocate measuring the performance and contribution of individuals in reaching environmental and safety targets and including such contributions in the management by objectives and compensation schemes.

In the general context of this discussion, I would like to mention the critical issue of measuring environmental performance. We have made progress in identifying specific items connected with the manufacturing processes and we dispose of segregated data to assess risk impacts. Furthermore, we assign related environmental costs to the specific cost centres or products as they are being incurred at the source. However, we do not yet have an integrated eco-accounting system. The full integration of environmental issues in the strategic planning process requires the development of a practical "green accounting" and a link to the classical controlling instruments. We should be able to analyse the value-adding process in connection with the associated, real or opportunity, costs in order to minimise the impact of environmentally undesirable and economically non-competitive activities. Nevertheless, we have started to classify the business portfolio with the methodology of an eco-efficiency matrix, including both economic and environmental criteria. This effort is essential in order to find remedies for problem areas and to forcefully promote the "green" stars.

The chemical industry is a major contributor to global welfare and is intrinsically linked to the fabric of everyday life. Nevertheless, many polls found that the public believes that this sector is responsible for many environmental problems. This is so, despite substantial progress over the last decade. Therefore, for chemical industry participants, improved performance and transparency as well as a better interaction with authorities and the public continue to be priority items in their agendas.

The rationale for environmental and economic compatibility is based on a simple holistic view. Better environmental management helps to contain, through more efficient utilisation of resources, a major element of production cost (as you recall the remedial action to the price surge of primary energy was fast and very effective). The growing demand for environmentally compatible products provides significant growth opportunities. Improved environmental performance is mandatory for retaining public acceptance. It is interesting to mention that our major customers increasingly request that we meet their own environmental standards as an additional condition for awarding us business. But beyond these obvious influencing factors, there is also a mounting attention from the financial sector. Financial analysts now include the environmental profile of companies in their assessment criteria. As all major chemical companies are regularly issuing environmental reports, bench marking has started in this area too. The message is clear: "Either you fix your system or, in the long term, you will have competitive problems."

The chemical industry is convinced that environmental progress is best served in the context of a market economy and, by way of, a collective learning process. This implies consistent rules and objectives, with cost effective and rational solutions, as well as international harmonisation. Furthermore, we are firmly convinced that an innovative offensive is the best way of attaining environmental progress. For the individual company, innovation is the most effective environmental measure and specifically means:

- a consistent orientation towards products and technologies which offer the greatest promise for the future
- improving process yields and energy efficiencies
- reducing waste at the source instead of at the "end-of-the-pipe"
- integration of environmental protection considerations into products and processes as early as in the development phase
- a close co-operation with suppliers and customers with the aim to streamline their respective activities through a rational, cost-effective and environmentally efficient repartition of tasks

The chemical industry's response to the environmental challenge has been to adopt a world-wide voluntary programme called Responsible Care, an initiative designed to fully integrate safety and environment into management practices. It is a programme that addresses issues beyond regulatory compliance. Forty countries, with the company members of their respective associations, have adopted the programme. The companies are committed, through their Boards, to adhere to all aspects of safety, health and protection of the environment, to seek continuous improvement in performance, to educate all staff members and to work with customers and communities regarding product use and operations. This initiative is being systematically implemented, via six codes of practice, with full documentary procedures. These codes cover:

- community awareness and emergency response
- distribution and transportation
- employee health and safety
- pollution prevention
- process safety
- product stewardship

The last mentioned code (product stewardship) requires companies to consider possible health, safety and environmental effects of new and existing products and to promote sound development, manufacturing, transport, use and disposal of chemical products. This code involves nearly every segment of the company from R&D to materials management, to manufacturing, to marketing. In order to implement this code, it is important to assign responsibility and authority for product stewardship to individual managers for each product group category.

The gradual implementation of the Responsible Care codes constitutes the main part of a company's advanced environmental management practice. At first sight, it looks like a complex, time-consuming and expensive programme. Nevertheless, we have to acknowledge that such a system entails the associated cost of "doing business."

Implementing the codes of management practices continues to be a major task. Leadership has the responsibility to ensure, not only with appropriate policy statements, but also, with follow-up actions. Only through serious commitment to both, the spirit and the details of Responsible Care, are we going to survive as a company and as an industry. In the endeavour to protect the environment, we do not only spend sizeable amounts of money. In the case of LONZA Ltd, with sales of US\$1.8 billion and 10% pre-tax profit, we annually record US\$50 million of related environmental expenditures. More important, however, is to ensure through a conscientious "mind-set" the necessary innovative environmental business climate. In this spirit, we also find another guiding principle of Responsible Care: stipulating the sharing of know-how with other companies and offering mutual assistance. Co-ordination takes place at all hierarchical levels but, most important, is the interaction of environmental staff members, plant managers, as well as the specialised practitioners of the different codes.

The regular auditing process is the most effective way to monitor environmental progress and to assure that we live up to our own standards. Audits, conducted by experts, involve gathering information, analysing facts, making judgements and reporting the results to the top management. In order to be successful the audit approach requires:

- a positive and open attitude of all concerned
- detailed procedures including implementation of recommendations
- a follow-up of results

Beyond this internal audit method to control the effectiveness of a company's environmental management, companies must now prepare themselves in one way or another for compulsory or voluntary independent reviews. From the current discussions, at European and international levels, it is evident that self-evaluations would not be sufficient and that some type of third-party verification would ultimately be needed to satisfy public accountability requirements. Conceptually, there are various approaches to management systems verification. The envisaged "ISO norm 14000," expected to be issued soon, can provide the necessary platform for uniformity. Companies would have to go through similar certification procedures as they have done with the ISO norm of the 9000 series for total quality assurance. Such certification could also be compatible with EMAS (Eco-Management and Audit Scheme) developed by the European Union. Such evolution will force companies to accelerate their efforts. Indeed it will be a great improvement if companies, wishing to do business in the international market, would ultimately have to demonstrate that they are certified for safety and environment systems according to ISO norms. What follows is a summary of LONZA Ltd standards:

- LONZA's mission statement, giving equal emphasis on economic and environmental goals, reflects our culture.
- The internal regulations, procedures and manuals define the framework and actions.
- The responsibility to implement the environmental policy and the accountability is decentralised and is the task of local and line management.
- Environment-related research programmes must be visible as they constitute a prerequisite for the future.
- Training, controls and reporting ensure a high level of awareness and are conducive to positive changes.
- Last but not least, let me re-state that environmental management is not a "policing" function. It is an integrated module of the whole management process.

From my experience, as chief executive officer of a multinational chemical company, I am strongly convinced that we have entered an era characterised by eco-smartness. The programmes in various companies are powerful agents of change. Business leadership can, and should, contribute with practical solutions to any policy debates. We must, however, accept the fact that innovation, so essential for environmental progress, requires a good level of public education and considerable private resources which can only be financed by healthy profitability.

Dr. **Peter Kalantzis** holds a Ph.D. in Economics from the University of Basle. After working for the Institute of Applied Economics at the University of Basle, he joined LONZA Ltd, a Swiss multinational chemical company. Since 1991 he has been Executive Vice - President and member of the Executive Committee of Alusuisse - Lonza Holding Ltd, Zurich, a multinational aluminum, packaging and chemicals corporation. He is President of the Chemical Division (LONZA Group), a member of the Board of the Swiss Chemical Industries Association, and also company delegate to CEFIC.