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COMMITTEE ON ENVIRONMENTAL POLICY

RECOMMENDATIONS TO ECE GOVERNMENTS ON ENVIRONMENTALLY  
SOUND TECHNOLOGY AND PRODUCTS AND ON  
ENVIRONMENTAL PRODUCT PROFILES

as adopted by the Committee on Environmental Policy  
at its first session (1994)

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I. RECOMMENDATIONS TO ECE GOVERNMENTS ON LOW-WASTE TECHNOLOGY AND ENVIRONMENTALLY SOUND PRODUCTS

The ECE region is witnessing not only the greatest technological revolution, but also the largest generation of waste from both production and consumption. During the last decades, growing environmental awareness has spurred ECE Governments to action to solve this problem focusing on production technology itself. Strategies were developed to promote the application of low-waste technology and other waste minimization measures. But it became apparent that, however efficient, such efforts would never affect the quantity and quality of waste resulting from the use of the products themselves. Indeed, manufacturing products with low-waste technology (LWT) is not sufficient to prevent adverse environmental impact. To be effective, this approach should be complemented by environmentally sound products (ESPs). With a view to providing guidance in the elaboration and implementation of strategies, policies and tools aimed at fostering the development of these mutually complementary and supportive policy options, and in order to strengthen international cooperation, it is recommended that:

1. Every possible effort should be undertaken to put into operation the concept of sustainable material cycles in accordance with which every product generates the least possible emissions and wastes and consumes the least possible amount of energy and non-renewable resources during its production and consumption cycle. National sustainability strategies based on credible criteria and indicators should aim, inter alia, at:

- Minimizing and substituting inputs (e.g. saving energy and raw materials, replacing scarce non-renewable resources and hazardous materials);
- Increasing product use intensity;
- Optimizing the durability of products;
- Multiplying the uses of products and their interchangeability;
- Maximizing production efficiency;
- Avoiding emissions and wastes by applying the 5R principles.

2. Guidelines for minimal environmental performance standards by industrial sectors should be developed to achieve sustainable material cycles. Long-term environmental targets should be set by competent authorities through covenants with industry at the level of industrial sectors and specific priority product groups. The main responsibility for determining ways and means to meet these targets should be left to the manufacturers, who would then develop and implement sustainability strategies for industrial branches, for instance. Institutional arrangements, such as environmental care programmes and the product stewardship approach, should be promoted between manufacturers vertically in product chains (integrated chain management). Voluntary actions of manufacturers should be complemented, where necessary, by relevant regulatory, economic and other measures.

3. Environmental care programmes and the product stewardship approach should fully consider all environmental impacts of a product and ensure shared responsibilities and teamwork (environmental co-makership) between material suppliers, producers, wholesalers, retailers, consumers, recyclers, waste managers and public authorities. These programmes should address aspects of designing and producing ESPs, diverting the produced and consumed goods from disposal and utilizing post-use materials in new products.

4. The development should be encouraged of methods and tools for the assessment of the eco-compatibility of individual products and processes, from design to processing, distribution, consumption and waste management, and alternatives should be evaluated including the potential for replacement, recycling, reutilization and recovery. The credibility of assessment tools should be enhanced by internationally harmonizing relevant methods and procedures, including life-cycle assessments (LCAs), environmental product profiles (EPPs) and environmental technology profiles (ETPs).

5. Existing single environmental media-oriented legislation and regulations should be reviewed with respect to their consistency with the concept of sustainable material cycles. Attempts should be made to evolve towards integrated environmental legislation through, inter alia, the introduction of a system of integrated permits and the implementation of integral environmental inspections of industrial plants and facilities by the competent authorities.

6. Waste-management strategies should always aim at reducing the amount of waste and restricting the quantity of waste to be landfilled through, inter alia:

(a) The development of long-term targets and the implementation of measures to reduce the waste streams;

(b) The application of stringent waste standards;

(c) Requiring companies to prove that their materials cannot be recycled when allowing final disposal as waste;

(d) Banning or phasing out specific hazardous substances or products, preferably through internationally agreed approaches;

(e) The introduction of take-back systems and deposit-refund systems for specific products or product groups;

(f) Establishing separate waste-collection systems for households together with appropriate recycling schemes;

(g) Introducing a pricing system for households reflecting the volume of residual waste disposal.

7. Economic instruments should be extensively used to promote the application of LWT and ESPs in a cost-effective and efficient manner and to change prevailing production and consumption patterns. A clear understanding of the real purpose (to change behaviour or to generate revenue) or intent of

the economic instrument under consideration should be developed. Issues concerning the optimal level of charges should be addressed if the instrument is to meet the intended purpose. If designed primarily to generate revenue, then considerations related to their use as "dedicated funds" for specific environmental purposes or general revenue applications should be considered. The advantages and disadvantages of dedicating revenues from economic instruments to specific environmental endeavours should be investigated to show how the tax revenue is being spent.

8. Using cost-benefit analysis (including assessment of administrative costs), case-studies should be undertaken of the implementation of selected economic instruments in combination with regulations as against stand-alone regulations, taking into account the potential effect on behaviour and on the development of LWT and ESPs. Criteria and methodologies should be developed or adapted to evaluate the effectiveness of economic instruments, particularly product charges, fines and investment grants, to promote LWT compared with add-on control technologies.

9. Success stories relating to the application of economic instruments (i.e. Government-induced taxes, user charges, product charges, subsidies, etc.) and market-based instruments (i.e. instruments used by the private sector to enhance environmental credibility: self-imposed industry tax levies, advance disposal fees, green marketing, etc.) to the development of LWT and ESP should be closely examined with respect to their efficiency and assessed for their potential applicability to environmental policies in countries in transition.

10. Responsibility and liability with regard to waste disposal should play a forceful role in initiating preventive action through the wider application of environmentally sound and efficient industrial processes and products. Anticipating and recognizing potential future liability costs for waste disposal should be used as a leveraging mechanism to bring about responsible action by industry. Lending institutions should be encouraged to use this mechanism more ubiquitously.

11. In order to prevent the export of products, substances and technologies from countries where their use is banned or restricted to other countries, particularly countries in transition, the exchange of relevant information between competent authorities in importing and exporting countries should be promoted.

12. The transfer of know-how on LWT and ESPs should be promoted, in particular, through information exchange, training, technical or financial assistance (investments and joint ventures). Databases should be developed or improved to provide transparent information on environmentally sound technologies (e.g. the best LWT) including information on investment and operating costs. Since existing databases mostly deal with control (end-of-pipe) and remediation technologies, technology databases should be updated, reassessed and classified according to their pollution-prevention orientation.

13. Programmes aimed at providing information to consumers about environment-related aspects of individual products and at changing prevailing

consumption patterns should be promoted. The activities of consumer associations and environmental non-governmental organizations should be supported by, inter alia, launching joint environmental awareness programmes and monitoring industry's "green product" claims.

14. In order to increase the involvement of employees in environmental care programmes, Governments should induce companies to pay attention to the development of in-house training and educational programmes and to the introduction of rewards for environmental improvement proposed by employees.

15. In developing and promoting eco-labelling programmes, consideration should be given, inter alia, to the following aspects:

(a) A gamut of eco-labels based on private considerations and criteria should be avoided: nationally recognized eco-labelling schemes should be preferred;

(b) Test criteria should encompass the whole life cycle of a product or product group, integrating environmental aspects in product quality standards. Particular attention should be paid to high-quality products which have a significantly reduced adverse environmental impact during their manufacture, distribution, consumption and use as well as during disposal after use;

(c) Product categories and test criteria should be periodically updated to reflect technological developments, new knowledge about environmental impacts and changing markets;

(d) Labelling schemes should be run by recognized institutions that are independent from industrial and commercial interests and have the relevant scientific and technical expertise;

(e) Procedures set up to grant eco-labels should guarantee the objectivity of the label and its attribution. Consumers and environmental organizations should be involved in the process;

(f) Eco-labels should be easy to understand by consumers;

(g) As eco-labels should not turn into non-tariff barriers to international trade, the systems of attribution should be harmonized at the regional level, through the elaboration of an appropriate international instrument, if necessary.

## II. RECOMMENDATIONS TO ECE GOVERNMENTS ON ENVIRONMENTAL PRODUCT PROFILES

It is widely recognized in the ECE region that the exchange of relevant environmental information on a product and aspects of its life cycle should be improved, especially among producers and professional users. Such an information exchange, based on harmonized principles, criteria and guidelines, could, inter alia, promote environmental responsibility on the part of producers, improve environmentally sound product design, encourage the rational use of natural resources and recycling, enhance materials and energy efficiency, and bring about product and production process innovations and other measures with a view to sustainable development. Therefore, it is recommended that:

1. The development of environmental product profiles (EPPs) should be promoted for all steps in the product chain, including the extraction of natural resources, the transformation of raw materials into primary materials, the production of basic chemicals and intermediates; each manufacturer within the product chain should develop the EPP for his link of the chain. Also, each EPP should build upon its predecessors: the EPP of the production of an intermediate product should include a summary of the EPPs of earlier links of the product chain; the extraction of natural resources, the transformation of raw materials into primary materials and the production of basic chemicals. Each step in the product chain should be described in a similar way and every EPP along one product chain should enclose a description of the whole product chain and a list of the EPPs developed, as well as the relevant addresses/contact persons.

2. Because product chains may vary widely with respect to both the type of relevant information and the diversity of the manufacturers involved, the EPP should be tailored to the particular product chain.

3. In order to build up experience with EPPs, this information exchange system should be introduced step by step beginning with a simple system of information exchange and gradually extending the system based on the experiences gained in the course of time. The simple system could include the following information:

(a) Description of the product:

- (i) A list of types of materials and substances composing the product;
- (ii) Quantities per product unit of hazardous substances for which, according to international regulations (e.g. EEC list of dangerous substances and preparations annexed to Directive 67/548/EEC and Directive 76/464/EEC), it is imperative to supply a material safety data sheet;
- (iii) General history/origin of the product and packaging;
- (iv) Life cycle stage (raw materials, manufacturing, use, waste management);

(b) Environmental data:

- (i) Relevant data about the environmental policy of the manufacturer (e.g. data about standards, regulations and licences applied to the product and about the company's environmental management system);
- (ii) Relevant (preferably quantitative) information and guidance for interpretation of the most important environmental aspects of the product and its life cycle;

(c) Process-technology data: A simple description and flow sheet of the technology used in preparing the product.

4. In the long run the content of an EPP should contain, in principle, the following information:

(a) Description of the product:

- (i) Quantities (e.g. materials, compounds and substances) per product unit;
- (ii) Specifications (e.g. physical/chemical properties) of the product, preferably in quantity;
- (iii) History/origin of the product and packaging in general (e.g. percentage of recycled material content);
- (iv) Life cycle stage (raw materials, manufacturing, use, waste management);

(b) Environmental data:

- (i) General data (e.g. data about standards, regulations and licences applied to the product and about the company's environmental management system);
- (ii) Company-specific data based on a sector-specific, user-friendly check-list similar to those used in simplified life cycle assessment (LCA) (e.g. the use of energy and resources, significant releases (air, water and solid waste) from the product's manufacture, use and disposal and significant hazardous substances);

(c) Process-technology data: A simple description and flow sheets of the technology used in preparing the product;

(d) Guidelines for, *inter alia*:

- (i) Using the product (including the life span);
- (ii) Repairing the product;

- (iii) Recycling and reusing the product and packaging;
- (iv) Final disposal of the product and packaging;
- (v) Packaging the product.

5. The EPP system should be established as a voluntary system. The development and implementation of EPP should be done primarily by manufacturers supported by Governments and research institutes. EPP should not be considered a legal instrument in its own right, but one of the instruments in the process of self-regulation in industry. With time, an assessment should be made of whether a voluntary system is effective, especially with respect to:

- (a) EPP as an environmental management tool;
- (b) The degree of participation of industry in the implementation of EPP.

6. After the initial implementation of EPP, it is recommended to improve its application through a review and assessment of its use in a variety of product chains and sectors. It is advised to involve the manufacturers and their organizations in this process. Based on the results of the review and assessment, it can be decided in what way and sequence additional information can be included in EPPs.

7. The credibility and success of EPPs should be enhanced by harmonizing this procedure at the international level. In this process the possible effects of harmonization on international trade should be taken into account.

8. Following the review and assessment of the implementation of EPPs, appropriate measures should be taken to support small and medium-sized firms and countries in transition.

9. Governments, international organizations (e.g. the United Nations Environment Programme (UNEP), the Organisation for Economic Co-operation and Development (OECD), the International Organization for Standardization (ISO)) and industrial trade organizations should be actively involved in developing the appropriate EPP system and evaluating the progress made in the course of time.