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Environmental Labeling: International Standardization and Trade Issues

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INTRODUCTION

The third general meeting of the Environmental Management Technical Committee (TC207), which was held in June 1995 in Oslo, resolved to adopt, as part of the Draft International Standards (DIS), two standards for environmental management systems and three standards for environmental auditing. Having been put to a final ratification vote, these are now ready to be put into effect in the autumn of 1996. The fourth TC207, subsequently convened in June 1996 in Rio de Janeiro, further deliberated on the standardization of environmental labeling, environmental performance evaluation, life-cycle assessment, and other related matters. This paper deals with the ongoing development of international standardization of environmental labeling and its effects on such related issues as international trade, and especially its effects on developing countries.

1. INTERNATIONAL STANDARDIZATION OF ENVIRONMENTAL LABELING

The Board of Directors of the International Organization for Standardization (ISO) decided in 1993 to establish the TC207 with a standards system as shown in Figure 1. The draft standards to be worked out by each of the subcommittees (SCs) and their code numbers, as well as the interrelationships among the SCs are shown in Figure 2. The task of the TC207 is to deliberate on the draft standards for environmental management worked out by the SCs and formulate them into international standards. It should be kept in mind, however, that the TC207 is not charged with the task of defining standards for emission control, testing methods, levels for environmental performance, or environmental criteria for products and services.

1.1 Subcommittee 3: Environmental Labeling (SC3)

As its name suggests, this SC is responsible for working out draft standards for environmental labeling. Unlike standards for environmental management, which concern environmen-

Figure 1 Road Map ISO 14000 Environmental Management Standards

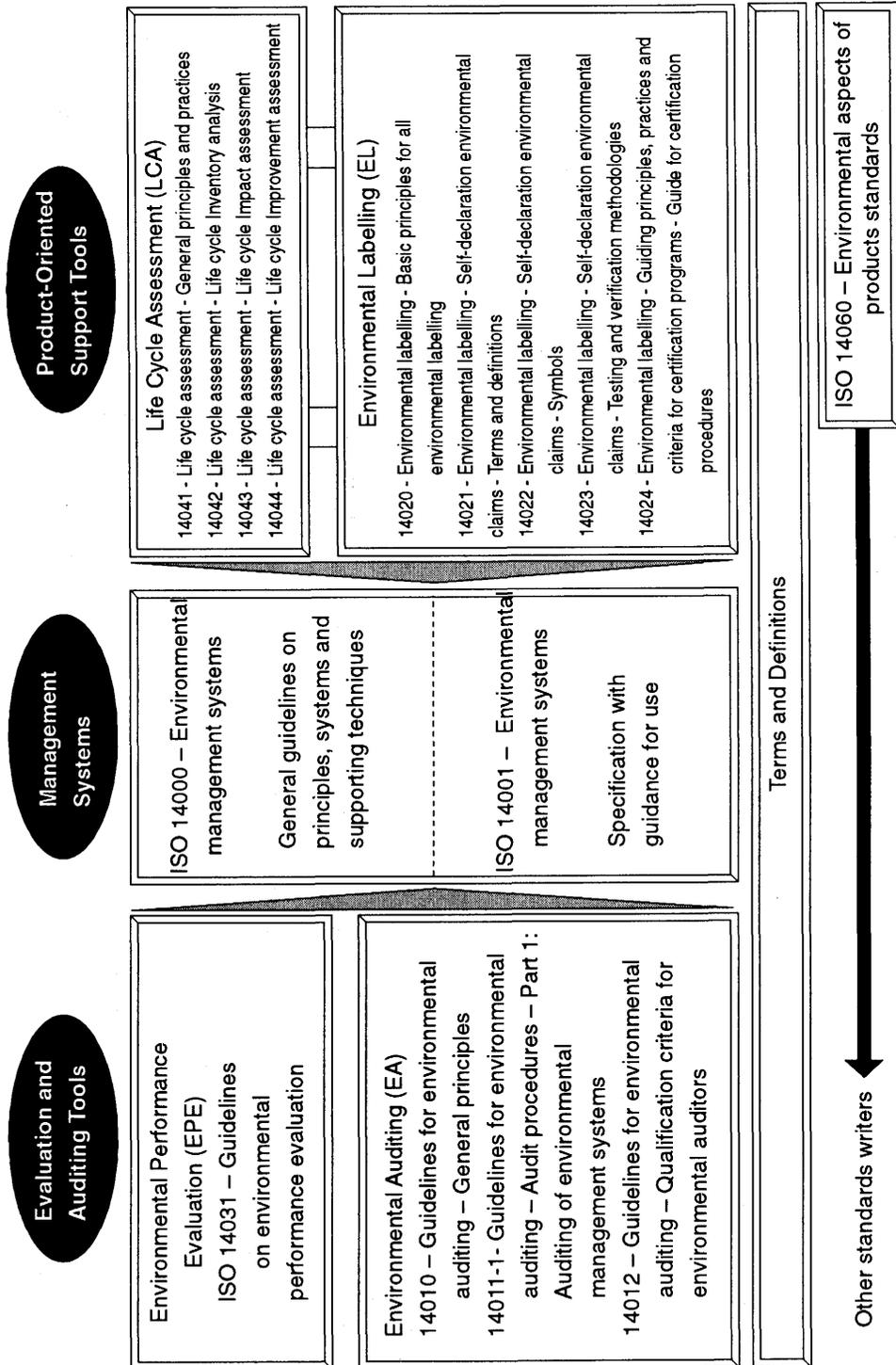
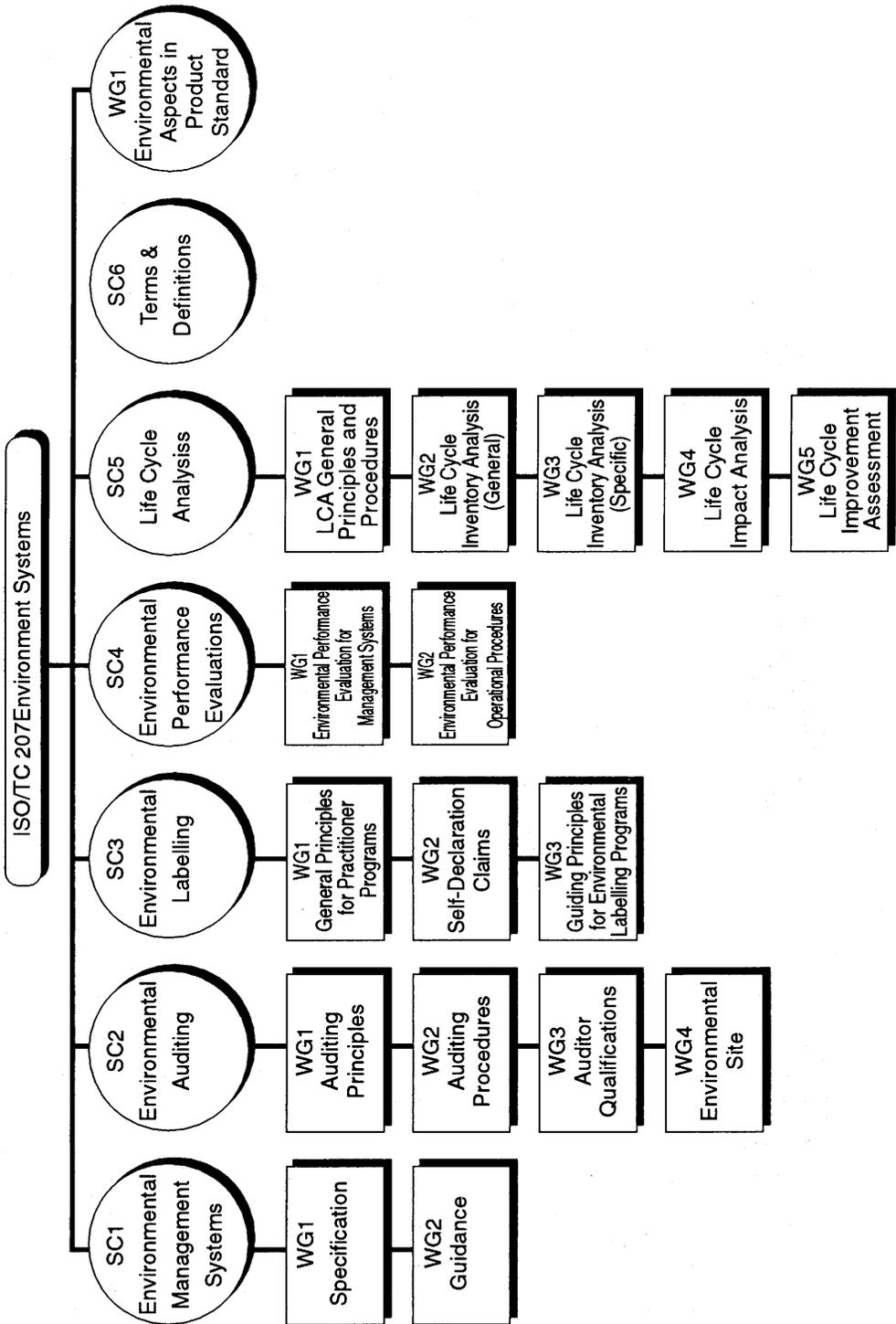


Figure 2 ISO/TC 207 Subcommittees and Working Groups



tally appropriate management systems of enterprises, standards for environmental labeling concern environmental information on products and services produced by enterprises. In other words, the SC3 is responsible for deliberating on all forms of declarations about any and all pieces of environmental information concerning products and services. The ISO classifies these declarations into the following three types of labeling and defines the standards for each type of labeling, as well as those for general principles commonly applicable to all the three types.

Environmental Labeling Type I: Voluntary, multiple criteria-based, practitioner programs that award labels claiming overall environmental preference of a product within a particular product category based on life-cycle considerations.

Environmental Labeling Type II: An environmental claim that is made, without independent third-party certification, by manufacturers, importers, distributors, retailers, or anyone else likely to benefit from such a claim.

Environmental Labeling Type III: Quantified product information label based upon independent verification using indices.

The SC3 consists of three working groups (WGs), respectively responsible for working out the draft standards for Environmental Labeling Types I and III, Environmental Labeling Type II, and General Principles.

1.2 WG1

WG1 deliberates on international standardization of Environmental Labeling Types I and III. Type I labels are already in use by more than 25 countries, including the Blue Angel label in Germany and the Eco Mark in Japan, and there is an urgent need to standardize these labels internationally. The draft international standards for Type I labels now under deliberation by the WG1 envisage setting up guidelines for the implementation of an environmental labeling program and deciding on the basic requirements for approval standards for labeling. But they are not meant to specify exactly how product categories should be defined or exactly what sort of approval standards for labeling should be adopted. As regards life-cycle considerations, labeling by means of the criteria selection matrix that is employed by the European Union (EU) is being suggested as one possibility.

WG1 began to work on the standardization of Type I labels in 1994, and at its two meetings in June and September 1996, it deliberated on ISO/CD14024.2. The Working Group is scheduled to prepare its third draft standard by the beginning of 1997. When completed, the third draft will be put to a CD (committee draft) vote, and, if approved, it will be written into the DIS at the fifth general meeting of the TC207 to be convened in April 1997.

Deliberation work on Type III labels were temporarily shelved, partly because the number of countries adopting them was still small, and partly because of the need to give priority to the standardization of Type I labels; however, the deliberation work was resumed following the decision reached at the 1995 general meeting in Oslo. At a meeting of the task group held in June 1996, case studies on Type III labels were presented to develop a common understanding among its members, and to begin deliberation on the standardization of these labels.

1.3 WG2

The standards for Type II labels are to be prepared as a three-part set consisting of those on "Terms and Definitions," "Symbols," and "Testing and Verification Methodologies." The standard on "Terms and Definitions" means specific items of environmental claims and the terms to be employed, and defines these terms and the conditions for their usage. The standard on "Symbols" is to set up the types of symbols to be used for environmental claims and the conditions for their usages. The standard on "Testing and Verification Methodologies" is to prescribe the methodologies for testing and verifying the environmental claims made under the chosen terms; as such, it is meant to standardize the methodologies for testing and verifying whether or not specific environmental claims are well founded and objectively appropriate.

At present, a committee draft on "Terms and Definitions" has been almost completed, and WG2 is preparing a draft standard on "Symbols." Given the fact, however, that the three standards together are to form one complete set, and that the contents of the three are closely interrelated with each other, their inclusion in the DIS will be proposed only when the drafting of all the three sub-standards is complete, even though each CD is drafted separately. The drafting of all the three CDs is estimated to be completed sometime in 1997.

1.4 WG3

WG3 is charged with the task of deliberating on a standard for "Environmental Labels/Declarations General Principles," namely, a standard for general principles that govern all the environmental labels and declarations. Although there has been some debate over whether this standard should be established as an international standard or treated as a technical report or an internal document, at present, it is scheduled to be established as an international standard.

The WG3 completed its deliberation on its draft standard at its meeting in Rio de Janeiro in June 1996, and the draft is ready for a CD vote. If approved by the vote, it is scheduled to be put into the DIS at the TC207s general meeting in Kyoto in April 1997.

2. ENVIRONMENTAL LABELS

The standards for environmental labels/declarations are to be the only provisions governing declarations about environmental information on products and services under the ISO 14000-series environmental management standards. The standards for environmental labels/declarations will cover all the environmental declarations/descriptions about products and services, ranging from third-party certification labels, such as those used by the Eco Mark program, to declarations/descriptions about products offered by their producers in the form of labels or notices attached to the products or in the form of advertisements.

2.1 General Principles on Environmental Labels/Declarations

The general principles commonly applicable to all environmental labels/declarations stipulate that they meet the following requirements:

- Principle 1: Environmental labels/declarations shall be accurate, verifiable, relevant, and non-deceptive.
- Principle 2: Procedures and requirements for environmental labels/declarations shall not be prepared, adopted, or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade.
- Principle 3: Environmental labels/declarations shall be based on scientific methodology that is sufficiently thorough and comprehensive to support the claim and that produces results that are accurate and reproducible.
- Principle 4: The development of environmental labels/declarations should, wherever appropriate, take into consideration the life cycle of the product or service.
- Principle 5: Environmental labels/declarations shall not inhibit innovation which maintains or has the potential to improve environmental performance.
- Principle 6: Any administrative requirements or information demands related to environmental labels/declarations shall be limited to those necessary to establish conformance with applicable criteria and standards of the labels/declarations.
- Principle 7: The process of developing environmental labels/declarations should include an open, participatory consultation with interested parties. Reasonable efforts should be made to achieve a consensus throughout the process.
- Principle 8: Information on the environmental aspects of products and services relevant to an environmental labels/declarations shall be available to purchasers from the party making the label/declaration.
- Principle 9: Information concerning the procedures, methodology, and any criteria used to support environmental labels/declarations shall be available and provided upon request to all interested parties.

2.2 Type I Environmental Labels

Type I environmental labels are in use in more than 25 countries around the world. Standardization of these labels is meant to establish common guidelines governing the implementation of labeling programs by individual countries. In other words, international standardization is not meant to set up environmental levels to be satisfied by products or services, or to set up internationally standardized requirements for labeling. Set forth in the draft standard for Type I labels are the general principles and procedures for labeling program implementation, what the requirements for labeling should be and the procedures for setting up the requirements, and the procedures for approval of labeling. The contents of ISO/CD14024.2 are as follows.

2.2.1 *The Objectives of Type I Environmental Labels*

The purpose of Type I environmental labeling is to promote the demand for and supply of products and services with less environmental impact through the market mechanism, and to provide consumers with accurate, verifiable, and appropriate information on products and services.

2.2.2 Securing Transparency and Credibility

In order for an environmental labeling program to get the support of both consumers and producers, it is imperative that the program remain trustworthy. Throughout the processes of developing the labeling program, selecting product categories for application of the program, establishing the requirements for approval, and granting approvals to products, all the interested parties with different views must be assured of opportunities to take part in the deliberation and discussions. Moreover, in ensuring the programs trustworthiness, the following two requirements must be satisfied:

Transparency. Each of the processes, including the selection of product categories for application of the labeling program, and establishment of the requirements for approval, can be accomplished successfully by supplying the parties concerned with pertinent information and asking for their comments and input. The requirements for approval and the testing method established should also be made public.

Credibility. Approval of the labeling of a product ought to be given based on scientific testing and on unbiased judgment. The operation of the labeling program must also be financially independent of the interested parties.

2.2.3 Considerations of International Trade

Because of their function of assessing the environmental impact of products through their presence or absence, Type I labels can potentially create obstacles to international trade, and the wisdom of using these labels despite such negative effects on trade was subjected to much discussion. On this problem, ISO/CD14024.2 stipulates the following on the ground that the ISO, which is not an arena for making decisions on trade issues, should follow decisions made by the World Trade Organization (WTO): "Procedures and requirements for environmental labels shall not create unnecessary obstacles to international trade. These shall take into consideration the regulations and interpretations of the WTO."

2.2.4 Selection of Product Categories for Labeling

In selecting product categories for labeling, feasibility studies should be carried out in order to clarify the expected improvements of the products environmental performance, the effects on the products performance in the market, and the feasibility of establishing proper requirements for labeling. These feasibility studies, too, should be carried out in consultation with the interested parties, and in a transparent, credible, and unbiased manner.

2.2.5 Establishment of Requirements for Labeling

The requirements for labeling consist of product environment criteria and product function characteristics. With regard to the setting up of product environmental criteria, in particular, ISO/CD14024.2 stipulates that the environmental impact of the product or service throughout its entire life cycle, from the extraction of raw materials until its final disposal, should be duly taken into account. As a means of taking into account the life cycle of a product or service, the draft standard recommends the use of the criteria selection matrix in use in the EU and elsewhere (Figure 3).

Figure 3 Product Environmental Criteria Selection Matrix

| Stage of the Life Cycle | Environmental Input/Output Indicators | | | | | |
|-------------------------|---------------------------------------|-----------------------------|-------------|-----|------|--------|
| | Energy | Resources | Emission to | | | Others |
| | Renewable/ Non-Renewable | Renewable/ Non-Renewable | Water | Air | Soil | |
| Resource Extraction | | | | | | |
| Production | | | | | | |
| Distribution | | | | | | |
| Use | | | | | | |
| Disposal | | | | | | |

Product function characteristics, on the other hand, should be formulated in such a way as to give consumers assurance about the quality and safety of the product during its use.

2.2.6 Approval Procedures

ISO/CD14024.2 lists documents and forms which the implementing organization of the environmental labeling program should be equipped with, and defines basic clauses concerning the obtaining of certificates for and the use of environmental labels. The concrete approval procedures are to be determined in accordance with the codes of operation established by each implementing organization of the program concerned.

2.3 Type II Environmental Labels

Standards for Type II environmental labels, which are concerned with self-declarations of environmental claims, consist of three standards for "Terms and Definitions," "Symbols," and "Testing and Verification Methodologies," as mentioned earlier. Subject to these standards are all the environmental claims made by enterprises or other business entities about their business activities and their products and services that is to say, all the environmental claims made in advertisements on corporate activities, and in advertisements and/or manuals for products. The ISO standards expressly prohibit the use of such vague terms as "environmentally friendly" and "non-polluting" because these can deceive or mislead consumers. The ISO standards also pick out a total of 12 terms which are used especially frequently in environmental claims, such as "recycled content/material," "recyclable," and "energy-saving/energy-efficient/energy conserving," and prescribe the definitions and the conditions under which these may be used.

With regard to self-declarations of environmental claims, it is stipulated that their contents ought to be scientifically verifiable. With regard to specific environmental claims, testing and verification procedures for supporting their contents are scheduled to be established. Any claims that fail to satisfy such procedures are to be prohibited. Also under discussion is a plan to adopt internationally standardized symbols for environmental claims.

2.4 Type III Environmental Labels

The main characteristic of Type III environmental labels is that, as they are designed to quantitatively express the environmental impact of products in accordance with the predetermined environmental indices, they can be applicable to individual products without regard to product categories. The ordinary consumer without background knowledge, when looking at the contents of these labels which consist solely of quantified measurements of various environmental impacts of the product concerned, will find it extremely difficult to evaluate the significance of each quantified index and its relationship with other indices. Nonetheless, for experts in enterprises and for officials of governmental institutions in charge of procurement and who have sufficient background knowledge, the information on the labels will prove valuable.

Given that these environmental labels are not accompanied by requirements for the approval of the product concerned, they may not become much of an obstacle to international trade. Nevertheless, the fact that the environmental indices are expressed in absolute terms should be taken into account. If the environmental standards adopted by developed and developing countries are different, the products of developing countries, even if they are produced in accordance with the production methods complying with the environmental standards of these countries, may be compared with products of developed countries manufactured in accordance with different standards.

2.5 Type I Environmental Labels in Use in Different Countries

The Blue Angel adopted in then West Germany in 1978 was the first Type I label put into effect. By the end of the 1980s, Japan, Canada, and Scandinavian countries had adopted similar labeling programs. Since the beginning of the 1990s, the number of countries adopting these labeling programs has grown to over 25, including not only developed countries but also developing countries.

The features of Type I labels now in use in various countries of the world may be summed up as follows:

- Many of the Type I environmental labeling programs now in effect are operated either by institutions of the state or closely affiliated with the state.
- Even though the environmental impact of products is often assessed by taking into account their life cycles, life-cycle assessment (LCA) in the strict sense of the term is rarely undertaken.
- The selection of product categories for application of the labels, and the setting up of the requirements for the approval of labeling are often carried out in accordance with the environmental conditions of each country. Consequently, it is quite difficult at present to strive for international harmonization of the labeling standards, such as through the harmonization of criteria and mutual recognition.
- Once certified, labels are effective for two to three years.

- The application for and the awarding of labels for products are left to the free will of their suppliers.
- A majority of the product categories under application of the labeling programs are either made of recycled materials or those destined for use by ordinary households.

2.6 Global Eco-labeling Network (GEN)

Type I environmental labels have already been adopted by a number of countries and show a trend of coming into wider use. In November 1994, the Global Eco-labeling Network was established as an association of the implementing organizations of these labels in different countries. Its aim is to help member organizations exchange information on the working of their labeling programs, the product categories for labeling, and the requirements for various categories, and to draw together their opinions for presentation at international conferences on environmental labeling.

GEN's membership covers 14 countries, including Japan. As a means of information exchange, it has a home page on the host computer of the University of British Columbia in Canada and makes information on the environmental labeling programs of its member countries accessible through the Internet and World Wide Web. The information provided by GEN can be of help to countries that are planning to launch their own labeling programs. Countries already equipped with labeling programs may also find the information useful in improving their own systems and in preventing labeling programs from creating unnecessary obstacles to international trade.

In addition to disseminating information, GEN has also been active in international meetings sponsored by such international organizations as the WTO, United Nations Conference on Trade and Development (UNCTAD), and ISO, and in conducting experimental studies in preparation for the adoption of mutual recognition and for the harmonization of standards. It is also planning to offer technical assistance to developing countries which are interested in adopting Type I labels.

3. ENVIRONMENTAL LABELS AND TRADE ISSUES

3.1 Effects of Environmental Labels on International Trade

Environmental labels can impinge on international trade because of the following two functions:

- They work to the advantage of products of enterprises equipped with properly functioning environmental management and auditing systems.
- By offering information on the environmental impact of various products, they affect consumer choice of products.

These labels are an effective economic means for realizing environmental protection and sustainable development. Nonetheless, Type I labels are especially prone to serve as trade barriers, partly because they are already in use by more than 25 countries in advance of the establishment of ISO standards, and partly because their presence or absence expressly reveals the environmental impact of products, thereby affecting consumer choices. Type I labels adopted by different countries differ from each other in terms of both the items

included in the labels and the approval criteria for these items, reflecting the varying degrees of environmental concern and varying environmental situations from one country to the other. Wary of the possibility that these differences would give rise to new forms of trade barriers built on the pretext of environmental concerns, such international organizations as the WTO and UNCTAD are holding discussions on the relationship between "environmental labels and trade issues."

Problems central to the relationship between environmental labels and trade issues, as identified by these discussions, are as follows:

- If a labeling program allows only domestic enterprises to apply for and obtain environmental labels or if it discriminates against imported products in the application for and the granting of these labels, it can have trade-barrier effects.
- If the requirements and the approval procedures for the use of the labels are not transparent enough, the labeling program can have trade-barrier effects.
- In cases where processes and production methods (PPMs) are included as part of the requirements for the certification of the labels, it should be seen to it that the program does not place demands for excessive environmental protection measures on producer countries nor give excessive protection to the technologies of domestic producers.
- In order to minimize the trade-barrier effects of environmental labels due to the differences in standards among various countries, it is imperative that countries work toward harmonizing their labeling standards, and toward closer international coordination by working out, for instance, a multilateral agreement on the mutual recognition and acceptance of labels of different countries.

3.2 Discussions in International Organizations

The intensification of environmental problems on a global scale and growing concern around the world have given rise to legal regulations, as well as non-legal means of regulations like labels, aimed at reducing the environmental impact of economic activities and environmental conservation. There is, however, a growing concern that the emergence of these legal and non-legal regulative measures will hinder free trade. This concern has resulted in heated discussions on the relationship between "environment and trade" in such international arenas as the WTO and UNCTAD. The ISO, too, is working toward establishing international standards for environmental labels to ensure that they will not affect international trade. In particular, it is undertaking a survey on the use of environmental labels in various countries, and another on the effect of labels for specific product categories on international trade.

Disputes over the question of inclusion of PPMs as part of the approval requirements have already given rise to trade conflicts among the United States, Brazil, and the EU with its Eco Label. It has been pointed out that if a country includes PPMs as part of the approval requirements for its labels, and if it specifies PPMs in ways favorable to its domestic producers, it cannot always claim to have done away with trade barriers by simply assuring that imported products will be given equal treatment with domestic products.

3.3 Problems in Developing Countries

Among the problems environmental labels pose in developing countries, potentially the most serious is the problem of how to readjust the discrepancies that may emerge between the

approval requirements for labels specified by developing countries and those maintained by developed countries. One factor of importance is that a majority of manufactured exports of developing countries to developed countries are the products of medium- and small-scale enterprises, which will find the approval requirements for labels excessively severe. It may also be necessary to give consideration to the cost burdens that these manufacturers will have to bear in order to obtain permits to use the labels. The demand for products with less environmental impact is on the rise, even though their prices are marked up by the costs of obtaining the permits to use environmental labels, and by the costs to meet new regulations on packaging materials. Some of these new regulations, such as the German regulations on packaging materials and the post-use recycling of products, may be viewed by developing countries as heightened barriers to their exports.

3.4 Green Purchasing

Recently, what is called the movement for "green purchasing" has been gaining momentum. It advocates the promotion of environmental conservation by encouraging purchasers to give priority to products with less environmental impact over those with more impact. In particular, there is a strong trend among large purchasers, such as governmental organizations and big enterprises, to prefer less environmental impact products to more environmental impact products in their procurement activities. In Japan, a June 1995 Cabinet Meeting adopted an action plan on green procurement, and a number of environmentally conscious local governments have put this action plan into effect by preparing procurement lists of smaller environmental impact products. In the United States, Canada, and Germany, guidebooks have been compiled for use by governmental organizations in their procurement activities. The United Nations Development Program (UNDP) and Britain have also established guidelines for procurement of products, which give priority to the purchase of less environmental impact products rather than more environmental impact products.

In February 1996, the Green Purchasing Network (GPN) was established with the purpose of encouraging consumers, enterprises and governmental organizations to purchase and use less environmental impact products, and thereby contribute to the reduction of environmental damage. Composed of approximately 500 institutional members, such as consumer groups, enterprises, and governmental organizations, the GPN purports to facilitate information exchange among its members, to establish general principles in order to encourage its members to become more active in green purchasing, to establish guidelines for product procurement, and to prepare guidebooks giving concrete environmental information on products. There is good reason to expect that a more active commitment of such large purchasers as big enterprises and governmental organizations to the promotion of green purchasing will help enlarge the market for smaller environmental impact products, stimulate the development of such products, and reduce their prices.

CONCLUSION

With growing environmental awareness, the number of countries adopting environmental labeling programs as well as the number of products covered by such programs are rapidly on the rise. Given that the environmental labeling programs and the approval requirements for the use of labels have been developed primarily by developed countries, it is becoming

increasingly urgent to seek ways of allowing developing countries easy access to pertinent information on the administration of these labels and encouraging their participation in the growing trend. In doing so, several factors must be kept in mind. As regards the question of including PPMs as part of the approval requirements for labeling, it should be remembered that the requirements adopted by developed countries in their present form cannot be applied to developing countries, which have radically different environmental, economic, and social conditions from those of developed countries. Types I and III labels should be developed in such a way as to take into account the environmental impact of products throughout their life cycles. Environmental performance evaluation of products involves questions of how to assess the differences between developed and developing countries in the severity of environmental regulations imposed on the manufacturing of products, and in the efficiency of energy and raw materials consumption of their manufacturing operations (namely, per-unit energy and raw materials consumption). With regard to the relationship between environmental problems and international trade, some consensus on how to deal with non-tariff trade barriers caused by environmental labels and environmental regulations will emerge from discussions now underway in the arenas of international organizations. The ISOs endeavor to establish international standards for environmental labels is scheduled to be brought to completion within a 2-to-3 year period, and the international standards, once established, will be written into national standards of its member countries and put into effect. The adoption of the standardized principles and guidelines on the implementation of Type I labels will help narrow the gap between developed and developing countries. It is also expected that the activities of GEN and related activities will help remove the unnecessary differentiation caused by environmental labels, thus promoting progress toward international harmonization of approval requirements and toward the establishment of a multilateral agreement on the mutual recognition of labels of different countries. As for Type II labels, self-declarations of environmental claims, which have been free from regulation, will be required to be worded in accordance with the ISO standards and with supporting evidence. Thus, the ISO standards for the labels will make environmental information on products more transparent and reliable.