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ISO 14000: Harmonizing Environmental Standards and Certification Procedures Worldwide

Genevieve Mullett

Worldwide interest in protecting the environment has driven the rapid development of a vast array of environmental laws, regulations, and practices. Environmental laws and regulatory requirements exist at international, national, and domestic levels; consequently, they are often either redundant or in conflict with one another.¹ This proliferation of environmental regulation has made compliance increasingly difficult for companies doing business in more than one country.²

As trade barriers between countries are eliminated, conflicting environmental laws and standards are becoming more apparent. Environmental protection itself often appears to directly conflict with the goal of free trade.³ Trade agreements, such as the General Agreement on Tariffs and Trade (GATT), generally prohibit countries from unilaterally implementing environmental regulations that have the effect of unjustifiably discriminating against other countries.⁴ As a result, many countries have implemented voluntary certification programs, which aim to accomplish the same end through the use of mar-

1. See Kenneth A. Freeling, *Implementing an Environmental Management System in Accordance with the ISO's Draft Standards Is Not Necessarily Costly and Could Yield Benefits as Well*, NAT'L L.J., July 24, 1995, at B5 (noting that environmental laws, regulations and practices vary not only by country, but also by locality); see also GLENN K. NESTEL, THE ROAD TO ISO 14000: AN ORIENTATION GUIDE TO THE ENVIRONMENTAL MANAGEMENT STANDARDS (1996) (ISO 14000 will address the issue of conflicting and redundant regulatory requirements).

2. See Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1240 (1995).

3. See Daniel C. Esty, *Unpacking the "Trade and Environment" Conflict*, 25 LAW & POL'Y INT'L BUS. 1259 (1994) (detailed discussion of the various conflicts between environmental protection and free trade).

4. General Agreement on Tariffs and Trade, opened for signature Oct. 30, 1947, 61 Stat. A-3, T.I.A.S. 1700, 55 U.N.T.S. 188 [hereinafter GATT]. See GATT arts. I, III:1 and XI:1, 55 U.N.T.S. at 196, 204, 224.

ket forces rather than direct regulation.⁵ However, these programs use slightly different standards and processes, once again making compliance difficult and expensive for companies conducting business in more than one market.⁶

The International Standards Organization (ISO) is currently working toward harmonizing these various voluntary certification programs. ISO is developing a basic set of environmental standards from which individual countries or regions may base their certification programs. The goal is to encourage countries to adopt the same environmental standards and certification procedures.

This Note analyzes current ISO efforts and assesses the likely impact of its proposed environmental standards. Section I reviews the history and status of current national and regional environmental certification programs. Section II describes the ISO's efforts, through development of the ISO 14000 Series, to standardize the various aspects of these voluntary programs. Section III analyzes ISO 14000 and its potential impact. This Note concludes that while ISO 14000 is likely to reduce costs and complications for some companies doing business internationally, the standards are not likely to have a major impact on the overall trade versus the environment dispute.

I. CURRENT CERTIFICATION PROGRAMS

The goal of environmental certification programs is to "supplement the information available to consumers, thereby raising consumers' awareness of environmental issues, educating them about the role of green consumerism, and directing their buying power toward the most environmentally benign products."⁷ In doing so, certification programs attempt to compel environmentally beneficial changes within industry by harnessing market

5. Although the issue is still open for debate, voluntary environmental standards and certification programs probably will not conflict with the GATT since they are voluntarily undertaken to enhance consumer awareness rather than to deny an imported product's entry into the domestic country. ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, ENVIRONMENTAL LABELING IN OECD COUNTRIES 67 (1991).

6. See *supra* notes 1-3 and accompanying text; see also AMERICAN NATIONAL STANDARDS INSTITUTE, ROAD MAP - ISO 14000 SERIES OF DOCUMENTS 5 (1994) (on file with author) [hereinafter ROAD MAP] (noting that certification programs use a number of different methods and criteria and that products could end up subject to conflicting or overlapping labeling rules).

7. Roger D. Wynne, *The Emperor's New Eco-Logos?: A Critical Review of the Scientific Certification Systems Environmental Report Card and the Green Seal Certification Mark Programs*, 14 VA. ENVT'L. L.J. 51, 55 (1994).

forces rather than by placing direct restrictions on trade.⁸ While voluntary certification programs are expanding, and many hail them as an appropriate way to balance free trade and environmental concerns,⁹ others view the programs themselves as elitist or protectionist non-tariff trade barriers.¹⁰

Certification programs exist at both national and international levels. Over twenty countries currently operate voluntary certification programs.¹¹ These programs range from private initiatives to wholly government run schemes.¹² While most of the current programs focus on evaluating and certifying individual

8. Orts, *supra* note 2, at 1271 ("Naturally, the success of this kind of regulation depends in part on whether the governmental or private organizations that set up the system employ trustworthy processes to judge accurately the environmental soundness of products. . . . In addition, the success of labels depends on the degree of market demand for the products, which derives in part from how much consumers understand, trust, and believe in the importance of environmental labels and what they represent.").

9. See Jennifer Schultz, *The GATT/WTO Committee on Trade and the Environment—Toward Environmental Reform*, 89 AM. J. INT'L L. 423, 435 (1995) (noting that eco-labeling may reduce the use of product regulations as trade barriers); Rob Tucker, *Industry Chief Decries Eco-Label*, THE NEWS TRIBUNE (Tacoma, WA), June 20, 1995, at E1 (quoting an EU spokeswoman as saying that EU eco-labels are not protectionist and are nondiscriminatory).

10. See *Ecological Labeling in China*, NTIS Update, U.S. Dep't of Commerce, Foreign Technology (June 15, 1995) (eco-labels may be thinly-veiled attempts to set up non-tariff trade barriers); *GATT: Malaysian Trade Policies Subject to Government 'Guidance,' GATT Report Says*, 10 Int'l Trade Rep. (BNA) 1217 (July 21, 1993) (Malaysian government views eco-labeling as a "dangerous trend"); *Latin America: EC Eco-Label Program Raises Concerns for Brazilian Pulp, Furniture Industries*, 10 Int'l Trade Rep. (BNA) 127 (Jan. 27, 1993) [hereinafter *Latin America*] (eco-labels are protectionist measures under the guise of environmental concern).

11. Countries with certification programs include Germany, Canada, Japan, Sweden, Norway, Finland, Iceland, New Zealand, India, Korea, Singapore, The Netherlands, France, and Australia. OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, STATUS REPORT ON THE USE OF ENVIRONMENTAL LABELS WORLDWIDE 41 (1993) (EPA 742-R-9-93-001) [hereinafter EPA REPORT].

Although most product certification programs are voluntary, a few programs are mandatory in nature. For example, the United States' Environmental Protection Agency (EPA) has set standards with mandatory registration and labeling requirements for pesticides. Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 (1994) [hereinafter FIFRA]. Any pesticide marketed in the United States that is designated an environmental hazard under the EPA standards must be labeled "This Pesticide Is Toxic To Wildlife" or "This Pesticide Is Toxic To Fish." Labeling Requirements for Pesticides and Devices, 40 C.F.R. § 156.10 (1988). Mandatory environmental labeling programs usually involve "negative" labels, which warn consumers of negative environmental attributes, rather than "positive" labels, which inform consumers of positive environmental attributes.

12. EPA REPORT, *supra* note 11.

products as environmentally sound, an emerging trend is to certify the companies themselves as having environmentally sound operations.¹³

A. NATIONAL PROGRAMS

1. Product Certification

Germany and Japan developed the two major types of national product certification programs. Other countries generally base their programs on one of these models. Unlike most of the developed world, however, the United States does not have an official certification program.¹⁴ Instead, private entities operate product certification programs within the country.

Germany's Blue Angel Program was the first national environmental certification program.¹⁵ The Federal Ministry of the Interior introduced this program in 1977 and awarded its first labels in 1979.¹⁶ To date, the program has certified over 3500 different products.¹⁷

Germany's program uses "life-cycle analysis" to determine which products are certified.¹⁸ A life-cycle analysis is an accounting of every environmental impact of a product's development, use, and disposal.¹⁹ Products that are more environ-

13. See Orts, *supra* note 2, at 1287-1313 (discussing the European Eco-Management & Audit Scheme (EMAS) and similar programs which focus on companies' environmental practices).

14. Although the United States does not have a national program whereby products or companies may become certified as environmentally superior, the Federal Trade Commission (FTC) has established Guides for the Use of Environmental Marketing Claims. 16 C.F.R. § 260 (1996). This Guide provides basic standards for the use of terms such as "recycled," "recyclable," "degradable," and "ozone friendly" for purposes of compliance with Section 5 of the FTC Act, 15 U.S.C. § 45, which makes deceptive commercial acts and practices unlawful. *Id.*

15. EPA REPORT, *supra* note 11, at 44.

16. *Id.*

17. David J. Hayes et al., *Domestic Legislation with Potential Cross-Border Implications: Take-Backs and Eco-Labeling*, C990 A.L.I.-A.B.A. 219, 232 (May 4, 1995).

18. George Richards, *Environmental Labeling of Consumer Products: The Need for Harmonization of Standards Governing Third-Party Certification Programs*, 7 GEO. INT'L ENVTL. L. REV. 235, 241 (1994).

19. See Wynne, *supra* note 7 (detailed discussion of LCA methodology.) True life-cycle analyses are as yet merely conceptual. The term and its corresponding processes are not currently well defined because of developing and evolving technologies in the area of environmental impact assessment. MARY H. SAUNDERS, ISO ENVIRONMENTAL MANAGEMENT STANDARDIZATION EFFORTS 6 (1995) (National Institute of Standards and Technology, U.S. Department of Commerce). See also Richards, *supra* note 18, at 249 (noting that there is no

mentally acceptable when compared to similar products receive the label.²⁰

Unfortunately, true life-cycle analyses are both difficult and expensive.²¹ Some experts argue that the state of science in the area of impact assessment is not sufficiently advanced to permit the development of acceptable standards.²² Although many of the programs profess to use a life-cycle analysis, these analyses differ widely among the programs depending on the country's technology and resources. Critics charge that most programs, including Germany's, examine only a few isolated environmental impacts to determine which products obtain certification.²³

Austria's program is similar to Germany's. Austria initiated its Eco-label program in 1991 under the supervision of its Federal Ministry of Environment, Youth and Family.²⁴ Austria's program professes to use a life-cycle analysis that includes examination of both the product and its packaging, and takes marketing and transportation into account in determining whether the product will receive certification.²⁵

In 1992, Austria initiated a mandatory labeling law for tropical wood.²⁶ Shortly after this law took effect, Malaysia lodged a formal complaint with the GATT's Committee on Technical Barriers to Trade, charging unfair discrimination and citing the labeling law as a non-tariff barrier to trade.²⁷ The GATT never formally addressed the complaint, however, because Malaysia agreed to withdraw it when Austria rescinded an import tax on tropical wood products.²⁸ Thus, the GATT's response to such charges remains unknown.

generally accepted technique for conducting a life-cycle analysis and that data derived from such analyses may lack accuracy). Generally, the term "life-cycle analysis," as used today, refers to an analysis of the environmental impact of a product at two or more stages in the product's development, use or disposal.

20. Hayes et al., *supra* note 17, at 232.

21. See *supra* note 19 and accompanying text.

22. See 16 C.F.R. § 260.7, n.2 ("[Life-cycle] analyses are still in their infancy and thus the [Federal Trade] commission lacks sufficient information on which to base guidance at this time."); see also *supra* note 19 and accompanying text.

23. Richards, *supra* note 18, at 241.

24. Hayes et al., *supra* note 17, at 230.

25. *Id.*

26. Brian F. Chase, *Tropical Forests and Trade Policy: The Legality of Unilateral Attempts to Promote Sustainable Development Under the GATT*, 17 HASTINGS INT'L & COMP. L. REV. 349, 374 (1994).

27. *Id.* at 376.

28. *Id.* at 378-79.

Japan has taken a slightly different approach to product certification. Japan's EcoMark program, initiated in February 1989, is the second major type of certification program.²⁹ The Japan Environment Association of the Environment Agency administers this program and has awarded labels to over 2300 products.³⁰

Rather than attempting to evaluate the impact of each product throughout its entire life, the Environment Association will issue an EcoMark to products that are "inherently" environmental; that is, products that improve the environment, contribute to environmental preservation, or have a minimal burden on the environment during use or disposal.³¹ While Japan's program does not currently include product life-cycle analysis, the Environment Association is considering its inclusion in the future.³²

In the United States, product certification programs are operated by private entities.³³ The Green Seal Certification Mark resembles Germany's program in that it evaluates the impact of the development, use, and disposal of a product to determine which will receive the Mark.³⁴ The Scientific Certification System (SCS) program, on the other hand, issues an Environmental Report Card.³⁵ This program is unique in that it seeks to quantify the environmental attributes of each product throughout its lifetime.³⁶ It then provides this information to consumers on a label similar to the nutrition labels on food products.³⁷ Since all products have some effect on the environment, this approach enables consumers to make their own decisions about which products are environmentally superior.³⁸

2. Company Certification

The British Standards Institute developed the first national Environmental Management System (EMS) standards, BS 7750, in 1992.³⁹ BS 7750 was developed to encourage companies

29. EPA REPORT, *supra* note 11, at 56.

30. *Id.*; see also Hayes et al., *supra* note 17, at 232.

31. Hayes et al., *supra* note 17, at 232; Richards, *supra* note 18, at 242.

32. Richards, *supra* note 18, at 242.

33. See Wynne, *supra* note 7 (detailed discussion of product certification programs in the United States).

34. *Id.* at 63.

35. *Id.* SCS was formerly known as Green Cross. Orts, *supra* note 2, at 1248.

36. Wynne, *supra* note 7, at 63.

37. *Id.*

38. *Id.*

39. RICHARD B. CLEMENTS, COMPLETE GUIDE TO ISO 14000 35 (1996).

to minimize their environmental impacts and use of resources through implementation of a single management system designed to address all environmental concerns.⁴⁰ Companies found that such integrated systems minimized the time, money and personnel required to deal with the vast array of environmental requirements imposed upon them.⁴¹

The United States and other countries had begun work on their own national EMS standards when efforts to develop international standards through ISO began.⁴² In January, 1996, the United States approved adoption of the ISO EMS standards verbatim as the country's national EMS standards.⁴³ Other countries are expected to do the same.

B. REGIONAL PROGRAMS

1. Product Certification

The Council of the European Communities (Council) established a uniform environmental certification system in 1992.⁴⁴ The program seeks to "promote the design, production, marketing, and use of products which have a reduced environmental impact during their entire life-cycle, and to provide consumers with better information on the environmental impact of products."⁴⁵ The program makes individual states responsible for evaluating the environmental performance of products and awarding labels in accordance with uniform principles and product-specific criteria.⁴⁶ Each member state is assigned responsibility for developing the evaluation criteria for certain products or product groups.⁴⁷ The regulation specifically provides that a consultation forum composed of industry, commerce, consumer, and environmental groups, should assist the states with developing product criteria.⁴⁸ Once the criteria are approved by the European Commission, they become the established program

40. *Id.* at 37.

41. *Id.* at 38.

42. THE ISO HANDBOOK 14 (Joseph Cascio ed., 1996).

43. *Id.*

44. Council Regulation 880/92, 1992 O.J. (L 99) 1 (Community Eco-Label Award Scheme) [hereinafter Council Reg. 880/92].

45. *Id.* at art. 1.

46. *Id.* at art. 10.

47. For example, Denmark is responsible for developing evaluation criteria for paper products, building insulation and textiles; France is responsible for varnishes, shampoos and batteries; Germany - cleaning agents and detergents; Italy - packaging, refrigerators and ceramic tiles; Netherlands - shoes and cat litter; etc. Hayes et al., *supra* note 17, at 230.

48. Council Reg. 880/92, *supra* note 44, art. 6(2).

criteria to be used by all member states in evaluating that particular product or product group.⁴⁹

The European certification system supplements rather than replaces member states' individual certification programs, but its ultimate goal is to make uniform the evaluation criteria behind the various labels.⁵⁰ However, critics of the program charge that the regulations do not provide enough guidance on product evaluation procedures, do not adequately define many of the concepts upon which it is based, and merely add another eco-label to the marketplace with potential for confusion and conflict with member States' programs.⁵¹

2. Company Certification

The Council also adopted an Eco-Management and Audit Scheme (EMAS) in 1993 to encourage companies to voluntarily institute sound environmental management policies and programs.⁵² EMAS was modelled after the British program, BS 7750.⁵³ EMAS encourages sound environmental management practices through the use of environmental auditing and public disclosure statements.⁵⁴ Participating companies are rewarded with an official listing as a participant in the EMAS and acquire the right to use an emblem indicating the extent of their participation.⁵⁵ The EMAS program, like the certification programs discussed above, seeks to achieve its goals by harnessing market forces rather than through direct government regulation.

II. ISO'S STANDARDIZATION EFFORTS

The growing number of national and regional environmental certification and management programs has resulted in an

49. *Id.* art. 7(3).

50. Ray V. Hartwell III & Lucas Bergkamp, *Eco-Labeling in Europe, New Market-Related Environmental Risks?*, 15 Int'l Envtl. Rep. (BNA) 623 (Sept. 23, 1992).

51. *Id.* at 624.

52. Council Regulation 1836/93, 1993 O.J. (L 168) 1 (Community Eco-Management and Audit Scheme) [hereinafter Council Reg. 1836/93].

53. SAUNDERS, *supra* note 19, at 3; see *supra* notes 39-41 and accompanying text.

54. Council Reg. 1836/93, *supra* note 52. Audits may be conducted by company employees or by external persons or organizations and the findings and conclusions must be written up in a formal report. The audit must address a number of issues including energy use, raw materials management, waste reduction and recycling, environmental performance of suppliers, noise pollution, and others. *Id.*

55. *Id.*

increase in costs, complications, potential liabilities, and outright barriers for organizations operating internationally.⁵⁶ Hence these organizations called for harmonization of the national and regional programs to promote consistency and predictability between processes and standards. The International Standards Organization (ISO) answered this call in 1993 when it began work on developing an internationally accepted set of environmental standards known as the ISO 14000 series.⁵⁷

ISO is a consortium of national standards bodies from over 100 different countries.⁵⁸ The organization was established "to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services and to developing cooperation in the sphere of intellectual, scientific, technological, and economic activity."⁵⁹ ISO has developed and published thousands of international standards relating to manufacturing, trade, and communication.⁶⁰

In 1987, ISO published a series of international quality assurance and management standards known as the ISO 9000 series.⁶¹ ISO 9000 defines the elements necessary for companies to establish and maintain quality management systems.⁶² It provides generic standards from which customers can evaluate the effectiveness of their suppliers' quality controls.⁶³ The series was developed to "harmonize international trade by supplying a

56. NESTEL, *supra* note 1, at 6 ("Concern that the current international patchwork of environmental compliance requirements will impede trade between nations was one of the primary drivers behind the development of ISO 14000.").

57. Freeling, *supra* note 1, at B5. In 1991, ISO formed the Strategic Advisory Group on the Environment (SAGE) to study the need for international environmental standards. NESTEL, *supra* note 1, at v. In March, 1993, ISO formed Technical Committee 207 and began developing the ISO 14000 series of environmental standards. *Id.* "ISO . . . developers also hope that a single, internationally accepted standard will eliminate a proliferation of country-specific environmental management standards such as British Standards Institute's 7750." *Id.* at 7.

58. THE ISO HANDBOOK, *supra* note 42, at 7. The American National Standards Institute (ANSI) is the U.S. member of ISO. *Id.*

59. *Id.* at 4.

60. THE ISO 9000 HANDBOOK 2-3 (Robert W. Peach ed., 2nd ed. 1994). ISO develops international standards in all areas except those relating to electrical and electronic engineering. Standards in these areas are developed by the International Electrotechnical Commission. *Id.*

61. *Id.* at 2. ISO 9000 was first issued in 1987 but was revised in 1994. SAUNDERS, *supra* note 19, at 2.

62. BRIAN ROTHERY, ISO 14000 AND ISO 9000 10 (1995).

63. THE ISO 9000 HANDBOOK, *supra* note 60, at 10.

set of standards with worldwide credibility and acceptance."⁶⁴ Today, ISO 9000 registration is an internationally recognized symbol of quality assurance.⁶⁵ "[R]egistration has become a condition of business. It is something that you *have to do* in order to stay in business—in other words to survive."⁶⁶

ISO 14000 is the environmental counterpart to ISO 9000. The 14000 series was developed to provide companies with uniform environmental standards and procedures while recognizing that each organization is unique in its environmental situation, regulatory pressures, and current level of environmental management.⁶⁷ Like ISO 9000, the 14000 series does not impose any specific measures or direct requirements on organizations. Rather it provides a generic set of standards and guidelines that organizations can use to establish and maintain sound environmental operations and procedures, and that customers can use to evaluate their suppliers.⁶⁸

ISO 14000 encourages companies to adopt environmental management systems that will bring them in line with existing regulations and voluntary codes of practice while promoting continual improvement in their environmental practices.⁶⁹ It is intended as a generic set of standards which may be applied to the operations of all types and sizes of businesses from developed or developing countries.⁷⁰ Like the 9000 series, ISO 14000 was developed to facilitate international trade by supplying a set of standards with worldwide credibility. Experts have predicted that the ISO 14000 standards will soon surpass the ISO 9000 standards as the most important standards for manufacturers and processors.⁷¹

Approximately sixty ISO member countries are involved in developing the ISO 14000 standards.⁷² In June of 1993, the ISO

64. *Id.*

65. Freeling, *supra* note 1, at B8.

66. GREG HUTCHINS, ISO 9000 IMPLEMENTATION MANUAL: TEN STEPS TO ISO 9000 IMPLEMENTATION ix (1994).

67. ROAD MAP, *supra* note 6, at 1.

68. Freeling, *supra* note 1, at B5.

69. Michael D. Flanagan, *ISO 14000: A New Environmental Standard with Ramifications for Wisconsin and the World*, CORPORATE REPORT WISCONSIN, Sept. 1995, at 35.

70. Freeling, *supra* note 1, at B5.

71. DON MACKAY, ISO 14000 STANDARDS FOR ENVIRONMENTAL MANAGEMENT SYSTEMS (1995) (Air-Conditioning & Refrigeration Institute).

72. David J. Freeman & Gregory R. Belcamino, *Protecting the Confidentiality of ISO 14000 Audit Reports*, N.Y. L.J., June 12, 1995, at S4; see also SAUNDERS, *supra* note 19, at 1 (noting that forty-three member countries actively

Technical Committee on Environmental Management (TC 207) established six subcommittees and one working group to prepare draft standards.⁷³ Together, the subcommittees and working group have initiated over fourteen different draft documents to date,⁷⁴ covering both product and company evaluation. The standards pertaining to company evaluation have developed more quickly than the product standards and are closer to adoption.

A. ISO 14000

1. Company Standards

The standards for evaluating individual companies address environmental management systems, environmental auditing, and environmental performance evaluation. The core of the 14000 series is a document entitled ISO 14004 "Environmental Management Systems - General Guidelines on Principles and Supporting Techniques."⁷⁵ ISO 14004 is a guide containing step-by-step instructions and practical help for organizations setting up or improving existing environmental management systems (EMS).⁷⁶ The corresponding document, ISO 14001 "Environmental Management Systems - Specification with Guidance for Use," provides for registration of organizations whose

participate in developing the standards while fifteen countries have observer status.

73. The subcommittees are known as SC 1 "Environmental Management Systems," SC 2 "Environmental Auditing and Related Environmental Investigations," SC 3 "Environmental Labeling," SC 4 "Environmental Performance Evaluation," SC 5 "Life-Cycle Assessment," SC 6 "Terms and Definitions" and working group (WG) 1 "Environmental Aspects of Product Standards. MACKAY, *supra* note 71, at 2.

74. Members of working groups within each subcommittee draft an initial document. When this initial document is completed it becomes known as a Committee Draft (CD) and is circulated among the subcommittee for consideration and comment before a vote is taken. If a CD is approved, it becomes known as a Draft International Standard (DIS). DIS's are circulated among members and undergo a final vote before becoming published International Standards. *Id.*

75. ISO 14004 was previously entitled ISO 14000 but was renumbered to eliminate confusion between the general ISO 14000 series and this specific document. Telephone Interview with Donald Theissen, Co-Chair of ISO 14000 Subcommittee 3 (Oct. 20, 1995) [hereinafter Theissen Interview]. See also STEVEN P. CORNISH, REPORT ON THE JUNE 1995 MEETINGS OF ISO/TC 207 IN OSLO, NORWAY AND ON NEAR-TERM WORK OF ISO/TC 207 (1995) (on file with author).

76. See Road Map, *supra* note 6, at 1.

EMS's meet the core requirements.⁷⁷ Thus, by requiring conformity to common standards for registration purposes, ISO 14001 complements ISO 14004, which is more flexible because it was designed to accommodate the varying positions of individual organizations.⁷⁸

ISO 14010, 14011, and 14012 provide guidelines for environmental auditing. ISO 14010 lays out the basic principles of environmental auditing, ISO 14011/1 gives procedures for conducting an EMS audit, and ISO 14012 lists specific qualifications for environmental auditors and ways to ensure a consistent approach to the certification of auditors in order to foster increased confidence in the reliability of the information gathered.⁷⁹

In June of 1995, ISO 14004, 14001, 14010, 14011/1, and 14012 were elevated to Draft International Standard (DIS) status.⁸⁰ These five documents should be approved as International Standards by the end of 1996, after one more round of voting.⁸¹ The remaining ISO 14000 documents are currently either in committee draft or working group form.⁸²

2. Product Standards

The product standards deal with environmental labeling, life-cycle assessment, environmental aspects in product standards, and terms and definitions. ISO 14021, 14024, and 14025 relate to environmental labeling and aim to provide a consistent approach to environmental labeling across national and regional boundaries.⁸³ ISO 14021 establishes requirements for organizations making self-declarations regarding the environmental aspects of a product or service.⁸⁴ These requirements resemble the

77. *Id.* Registration refers to the process whereby an external party audits a company's environmental management system to determine whether it meets the requirements of ISO 14001. TOM TIBOR, ISO 14000: A GUIDE TO THE NEW ENVIRONMENTAL MANAGEMENT STANDARDS XV (1996). Registration is one way to implement the ISO 14000 standards, but it is not required. *Id.* A company can implement ISO 14000 without seeking registration. See Section III(B) *infra* for further discussion on implementation.

78. See ROAD MAP, *supra* note 6, at 2.

79. *Id.*; see also MACKAY, *supra* note 71, at 10. While the EU strongly advocated requiring auditing by parties external to the organization, the final document is likely to allow either internal or external auditing.

80. See *supra* note 74 and accompanying text.

81. Theissen Interview, *supra* note 75.

82. See *supra* note 73.

83. ROAD MAP, *supra* note 6, at 5.

84. SAUNDERS, *supra* note 19, at 5.

U.S. Federal Trade Commission's guidelines on environmental marketing claims.⁸⁵ ISO 14024 provides evaluation criteria for environmental labeling programs and will serve as a guide for the national and regional programs discussed above.⁸⁶ ISO 14020 establishes basic goals and principles for environmental labeling.⁸⁷

Four ISO documents under development deal with life-cycle assessment in an attempt to standardize the process.⁸⁸ ISO 14040 establishes general principles and procedures for compiling and examining the environmental effects of a product or service throughout its lifetime.⁸⁹ ISO 14041 provides specific guidelines and requirements for developing the scope of a life-cycle assessment.⁹⁰ ISO 14042 proposes three major categories for consideration in an impact assessment: resource depletion, human health, and ecological impacts.⁹¹ Finally, ISO 14043 provides guidelines for assessing improvement through continuous monitoring.⁹²

The other draft documents include ISO 14031, "Evaluation of the Environmental Performance of the Management System and its Relationship to the Environment," and ISO 14060, "Guide for Inclusion of Environmental Aspects in Product Standards."⁹³

III. IMPACT OF ISO 14000

While the effectiveness of ISO 14000's harmonization of environmental standards remains to be seen, most organizations and commentators agree that it is a step in the right direction. International harmonization will provide advantages over individual national or regional programs by facilitating trade, reducing the burden on individual companies, reducing complications and confusion, setting a consistent standard of care, and promoting environmental innovation. Of course, harmonization also has potential disadvantages such as actually creating additional trade barriers or "watering-down" current national or regional standards.

85. See *supra* note 14.

86. Saunders, *supra* note 19, at 5.

87. *Id.* at 11.

88. See *supra* notes 19-23 and accompanying text.

89. MACKAY, *supra* note 71, at 11.

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.*

ISO 14000 is likely to have a tremendous impact on organizations of all types and sizes throughout the world. Many of these organizations will find it necessary to seek registration. However, the advantages and disadvantages of registration will vary with the size, current level of environmental management, and field of business of each organization.

A. "VOLUNTARY" STANDARDS

Like the national and regional programs discussed above, ISO 14000 compliance is voluntary.⁹⁴ "Voluntary," however, means only that compliance is not required by law.⁹⁵ Although the standards are not binding on any organization, compliance is likely to become a necessity for organizations wishing to remain competitive in the international marketplace.⁹⁶ Moreover, ISO 14000 will not only have a significant impact upon multinational companies, but will also affect many businesses operating exclusively within a single country.

1. Customer and Market Demands

As environmental concern and awareness grows, purchasers are demanding a new level of accountability and leadership from suppliers.⁹⁷ Environmentally aware purchasers do not want to deal with environmentally irresponsible suppliers. However, purchasers often view suppliers' self-declarations with skepticism and are increasingly requiring proof of environmental performance. If one buyer demands high standards from its immediate supplier, that supplier in turn passes on the demand to its suppliers, and the demand continues through the supply chain.⁹⁸

ISO 14000 compliance is likely to become the baseline standard for meeting customers' environmental performance requirements. The U.S. government is already considering ISO 14000 certification as a requirement for federal purchasing,⁹⁹ and other countries have indicated ISO compliance will be a re-

94. All standards developed by the International Standards Organization are voluntary. THE ISO 9000 HANDBOOK, *supra* note 60, at 5.

95. *Id.*

96. Mark J. Bennett, *ISO 14000: New Standard for Environmental Integrity*, PROB. & PROP., July/Aug. 1995, at 30; see also Stephen L. Kass & Jean M. McCarroll, *ISO 14000: Standards Present New Challenges*, N.Y. L.J., May 15, 1995, at S1.

97. See TIBOR, *supra* note 77, at 7.

98. ROTHERY, *supra* note 62, at 5.

99. Freeman & Belcamino, *supra* note 72, at S14.

quirement for doing business with them. Major firms are also likely to require compliance with ISO 14000 as a prerequisite for doing business or bidding on contracts, particularly in Europe, Asia, and the United States.¹⁰⁰

Even if a company's customers do not require ISO 14000 certification, experience with the ISO 9000 standards indicates that uncertified companies may realize a competitive disadvantage if their competitors promote themselves by marketing their compliance with the standards.¹⁰¹ Similarly, the ISO 14000 standards may allow organizations to avoid any negative publicity that could result from dealing with a less than environmentally-reliable partner.¹⁰² Thus, by demonstrating compliance with ISO 14000, companies can potentially improve their public image as well as increase their market access.

2. Improve the Bottom Line

Implementing an environmental management system can improve a company's bottom line. By reducing or eliminating environmental impacts and increasing efficiency, companies can significantly decrease the amount spent on waste handling and treatment.¹⁰³ For example, Minnesota Mining & Manufacturing (3M) implemented an environmental program in 1975 called Pollution Prevention Pays.¹⁰⁴ The Company currently estimates its savings from this program at over \$1 billion.¹⁰⁵

Similarly, after receiving criticism for the amount of packaging used in its restaurants, McDonalds redesigned its packaging and reduced the amount of solid waste it generated by over 10 million pounds per year.¹⁰⁶ This effort not only substantially reduced McDonalds' waste disposal costs but also helped to create a positive environmental image for the company.¹⁰⁷ Likewise, the laundry detergent industry improved its bottom line by switching to non-phosphate-based detergents, more concentrated formulations, new packaging designs, and low-tempera-

100. *Id.*

101. Flanagan, *supra* note 69, at 35.

102. Leyla Boulton, *Vote on 'Green Passport' - Environmental Issues, Draft Standards from ISO Set the Tone/The Draft Standards Are Now Circulating Among the 111 Countries Which Are Supposed to Vote on Them Over the Next Few Months*, FINANCIAL TIMES, Oct. 13, 1995, at 3 (Survey of International Standards Section).

103. NESTEL, *supra* note 1, at 23.

104. *Id.* at 51-52.

105. *Id.*

106. *Id.* at 8.

107. *Id.*

ture formulations.¹⁰⁸ Since implementing an EMS can potentially save a company a substantial amount of money while increasing customer good-will, companies who ignore this trend may find themselves at a competitive disadvantage.

3. Limiting Liability

Companies may also be able to limit the costs of environmental liability by demonstrating compliance with ISO 14000. EPA officials have indicated that the agency may treat certified companies with greater leniency since such companies have already achieved many of the standards that the agency is incorporating into administrative orders and consent decrees.¹⁰⁹ Compliance could be rewarded by the EPA in a variety of other situations as well, such as in assessing penalties for environmental violations, speeding up permit procedures, and reducing inspections.¹¹⁰

The elements of ISO 14001 are also consistent with the Department of Justice's Draft Sentencing Guidelines and similar state enforcement policies that establish mitigating factors for reducing penalties and sanctions in cases of environmental liability.¹¹¹ Furthermore, compliance could become the required standard of care in a variety of environmental matters if the majority of an industry becomes ISO 14000 certified. Since compliance could potentially reduce a company's risk and costs of liability, lenders and insurers are likely to incorporate the standards into their own investment and regulatory requirements.¹¹² Thus, although compliance with ISO 14000 is termed "voluntary," many companies are likely to find that the standards have become mandatory in practice.

B. THIRD-PARTY VS. SELF-CERTIFICATION

One of the major disagreements which arose in drafting the audit standards centered on whether companies could "self-certify" or whether they should be required to use external auditors to verify compliance with ISO 14000.¹¹³ Audits often turn up shortcomings or reveal other information that companies prefer not to have disclosed to government agencies, competitors, or

108. *Id.* at 23.

109. *Id.* at 24.

110. Kass & McCarroll, *supra* note 96, at S1.

111. NESTEL, *supra* note 1, at 24.

112. Kass & McCarroll, *supra* note 96, at S1.

113. Freeman & Belcamino, *supra* note 72, at S4.

the public. Many European countries pushed for a requirement that companies be externally audited with reports of those audits provided to the public as is required under EMAS.¹¹⁴ Companies from the United States, on the other hand, argued that the standards should not require disclosure of audit results.¹¹⁵

U.S. companies feared that a required disclosure "could be used against them within the more aggressive [U.S.] legal and regulatory system."¹¹⁶ U.S. companies argued that if they could not protect against disclosure, they may be forced to abandon implementation of ISO 14000 altogether rather than risk opening up their environmental shortcomings to outsiders' scrutiny. While some participants argued that self-certification and non-disclosure would reduce the credibility of the program, the United States' position has technically prevailed.¹¹⁷ Companies can perform their ISO 14000 audits internally and simply declare that they are in compliance.¹¹⁸ Unless otherwise required by law, audit information and documents need not be disclosed.¹¹⁹

Compliance, however, does not necessarily mean registration.¹²⁰ A company can develop an EMS using ISO 14004 standards and self-declare compliance, or it may have its EMS audited by a customer as part of a contractual arrangement (second-party audit). The customer may then declare the company to be in compliance. Although these self-certifications and second-party certifications are not precluded under ISO standards, whether or not they will be accepted as sufficient in the marketplace remains to be seen.¹²¹

In order to become "registered," on the other hand, a company must acquire an independent third-party audit of its environmental management system.¹²² While ISO 14000 itself does not require registration or disclosure, customers or regulatory agencies may impose such a requirement. Before ruling out a third party registration, companies should assess customer and public acceptance of an internal audit, internal resources and

114. See *supra* notes 52-55 and accompanying text.

115. Boulton, *supra* note 102, at 3.

116. *Id.*

117. Freeman & Belcamino, *supra* note 72, at 54.

118. THE ISO HANDBOOK, *supra* note 42, at 303.

119. *Id.* at 310.

120. See *supra* note 77.

121. THE ISO HANDBOOK, *supra* note 42, at 310.

122. TIBOR, *supra* note 77, at xv.

technical expertise available to perform an audit, and their ability to establish the independence of the audit.¹²³

C. COSTS OF CERTIFICATION

While many companies will benefit from demonstrating compliance with ISO 14000, implementing the standards involves a substantial commitment of time and resources. Depending on a company's current level of environmental management, the estimated costs of preparing for and receiving certification can range as high as \$100,000 to \$1 million per plant for large multinational companies.¹²⁴ Likewise, small to medium sized facilities seeking certification should expect to incur costs between \$10,000 and \$100,000 depending upon their current level of environmental management.¹²⁵ Companies with ISO 9000 programs in place may find ISO 14000 certification less expensive.¹²⁶

Because of the substantial costs involved, many companies will do better to wait on actual registration until they are sure it is necessary. However, organizations of all types and sizes will benefit from familiarizing themselves with the standards as soon as possible. Companies should begin to assess their operations in light of the ISO 14000 principles, whether or not they intend to seek registration.

D. IMPACT ON TRADE

A primary argument for international harmonization of environmental standards is that it will reduce the burden on trade by producing a "level playing field" in which all organizations are subject to the same environmental standards.¹²⁷ Many developing countries currently feel that industrialized countries use local or regional environmental standards as trade barriers.¹²⁸ Developing countries argue that environmental standards are often elitist or protectionist barriers designed to increase manufacturing costs in order to preclude outsider access to the industrialized markets.¹²⁹ On the other hand, envi-

123. THE ISO HANDBOOK, *supra* note 42, at 315.

124. Flanagan, *supra* note 69, at 35.

125. *Id.*

126. *Id.*

127. Richards, *supra* note 18, at 258.

128. See *supra* note 10 and accompanying text; see also *After Free Trade Euphoria, Now Comes the Hard Part*, 13 Daily Rep. for Executives (BNA) (Supp. No. 14) D10 (Jan. 20, 1995) (noting developing countries' concerns that environmental standards could be protectionist trade measures).

129. *After Free Trade Euphoria, Now Comes the Hard Part*, *supra* note 128.

ronmentalists and developed countries' firms often argue that firms in developing countries obtain an unfair cost advantage in the global marketplace due their generally lower environmental standards.¹³⁰ International harmonization of environmental standards, it is argued, will level the playing field by allowing companies in highly regulated markets to achieve more efficient compliance and by forcing companies in less regulated markets to commit more resources to effective environmental management.

Theoretically, a single set of global environmental standards will eliminate discrimination and correct any trade imbalances that result from differing local standards. Realistically, however, harmonization will not create such a level playing field. If the global environmental standards are set too low, countries with high local standards will continue to adhere to their own standards and countries with lower standards will continue to claim discrimination. If the global environmental standards are set too high, firms in developing countries may lack the resources to comply with the standards and therefore the program itself may amount to a non-tariff trade barrier.¹³¹ Yet a major justification for designing the standards was to eliminate the non-tariff trade barriers that can result from divergent environmental standards.¹³²

While the harmonization of standards under ISO 14000 will not produce a level playing field in the global trade context, it will reduce conflicts between national and regional environmental programs thereby allowing organizations to avoid duplication of effort and save time and money. Harmonized international standards can help promote trade by mitigating the varying effects of national environmental standards.¹³³ Countries are more apt to accept a product or company with a foreign certification if they previously agreed to the procedures for awarding the label. An organization doing business in several countries should not have to go through numerous certification and auditing procedures in order to obtain separate certification from each country. Thus, harmonization is not likely to eliminate the trade imbalances that result from the vast and varied environmental regulations throughout the

130. See Esty, *supra* note 3, at 2.

131. See *supra* note 3 and accompanying text.

132. John Nagel, *Standards: Some Exporters Look to ISO 14000, but Smaller Firms' Interest May Lag*, 12 Int'l Trade Rep. (BNA) 37 (Sept. 20, 1995).

133. See Boulton, *supra* note 102, at 3.

world. Harmonization is likely, however, to reduce the amount of time and money organizations must spend to do business in many different countries.

E. DEVELOPMENT PROCESS

ISO's efforts are significant in that the development process is "open" and theoretically any interested party can provide input into development of the standards. The national and regional certification programs, on the other hand, were often developed "behind closed doors" making it difficult, if not impossible, for affected organizations to gain access to the documents or to enter the discussions.¹³⁴ For example, Brazilian industries, concerned about the impact of the European Community's eco-labeling program, were not able to take part in discussions or even obtain documents regarding the program before it was near completion.¹³⁵

Furthermore, since natural resources and environmental conditions vary considerably from country to country, unilateral development of standards will likely overlook important differences.¹³⁶ For example, a country may base its emissions criteria on electricity consumption from coal sources, the standard in that country, without considering the impact on organizations from countries that primarily use hydro-power. While hydro-power may require more electricity consumption than coal, it produces considerably less airborne pollution.¹³⁷ Such unilateral standards effectively discriminate against "outsider" countries. Ideally, since ISO 14000's development process is open to any and all interested parties, the final standards should not weigh unduly hard upon any particular country or industry.

Unfortunately, ISO's development process is not truly "open" since participation in the process takes considerable time and money. Developing countries and small firms, for example, have not taken an overly active role in creating the standards.¹³⁸ Of the developing countries who are involved in the standards' development, many are involved as observers rather than as active participants. Mexico has taken a largely passive

134. See *Latin America*, *supra* note 10.

135. *Id.*

136. *Id.* ("The conditions vary a lot from country to country; when you have only Europeans involved in the discussion, it is not possible that these people will think of all conditions prevailing in other countries around the world.").

137. *Id.*

138. See Kass & McCarroll, *supra* note 96, at S11; Nagel, *supra* note 132, at 37.

stance on ISO 14000 because government resources are scarce.¹³⁹ Developing countries and small firms most likely feel that their time and resources are better spent on other pursuits.¹⁴⁰

The lack of participation by developing countries could effectively preclude them from the markets of developed countries.¹⁴¹ Broad participation by both developed and developing countries is necessary to avoid diluting environmental protection for the public in developed countries and creating excessive environmental burdens for competing firms in developing countries.¹⁴² Unfortunately, as is true in other large international undertakings, the largest pocketbook ultimately carries the most weight. Developed countries and large industries, which have the time and money to commit to the process, ultimately determine the direction and content of the international standards.

Another potential problem with ISO's open development process is the difficulty in reaching consensus. The more participants and differing viewpoints the process must accommodate, the more time and resources are needed to develop the standards. Development of some of the ISO 14000 standards has been surprisingly swift. The five documents that recently reached DIS status were developed in just under two years, no doubt due to the fact that they drew heavily on the pre-existing BS 7750, EMAS, and ISO 9000 systems.¹⁴³

Development of the remaining documents, however, is proving more time consuming. Since many countries already have established product certification programs based on different processes and criteria,¹⁴⁴ reaching consensus in this area is more difficult. The ISO subcommittee on labeling is currently considering documents on three types of labeling including self-declarations by manufacturers,¹⁴⁵ criteria based certification programs such as Green Seal and Germany's Blue Angel,¹⁴⁶ and report card type labels similar to SCS's program.¹⁴⁷ Moreover, development of uniform life-cycle assessment standards has

139. Nagel, *supra* note 132, at 37.

140. Kass & McCarroll, *supra* note 96, at S11.

141. *Id.*

142. *Id.*

143. See *supra* notes 39-41, 52-55, & 61-66 and accompanying text.

144. See *supra* Section I (Current Certification Programs).

145. These standards will resemble the FTC's Guide for the Use of Environmental Marketing Claims. See *supra* note 14.

146. See notes 15-23 & 34 and accompanying text.

147. See *supra* text accompanying notes 35-38.

stalled due to the lack of generally acceptable techniques for performing them.¹⁴⁸ Some critics doubt whether a consensus in some of these remaining areas can ever be reached.

While it is likely that ISO will eventually publish standards in the areas of labeling and LCA, environmentalists fear that the standards will end up being set at the lowest common denominator. Developing countries are unlikely to endorse standards that are beyond the reach of their firms, and developed countries often disagree upon optimal standards. Thus, there is the risk that higher standards will be compromised in an effort to reach consensus.

On the other hand, developed countries such as the United States and Germany are unlikely to agree to any provisions which will reduce their current environmental standards or preclude them from setting their own standards above the international ones. Therefore the possibility exists that a consensus will never be reached. Even if international standards are promulgated, countries may continue to adhere to their own higher standards. Thus, while ISO's open development process has the potential to provide less discriminatory standards, it remains to be seen whether that will in fact happen.

CONCLUSION

In a world where environmental concerns continue to increase and trade barriers continue to fall, the harmonization of environmental management and certification standards has great appeal to those who operate internationally. The International Standards Organization has taken a great step toward this goal of harmonization; however, actual harmonization is not likely to occur in the near future. Development of the remaining standards is likely to be slow and difficult, and it is possible that, even if consensus is reached and the standards are published, they will not be effective in practice. While the ISO standards may alleviate some of the costs and difficulties faced by organizations doing business multinationally, organizations should be cautious. Implementing the standards will be costly and it is not yet clear how widely accepted the standards will be. Given the potential costs and benefits of ISO 14000, organizations may find certification a necessity or they may find it a waste of time and resources. While ISO 14000 is likely to have great impact in certain industries, it is not likely to have a major impact on the overall trade versus the environment dispute.

148. See *supra* notes 19-23 and accompanying text.