Appendix IV

Certification Schemes

Basel
Convention

I. Introduction

1. In recent years, voluntary standards that set out environmental performance criteria, often developed by private sector stakeholders, NGOs and standardization bodies, that may include government involvement, have become a tool in which industry can demonstrate their commitment to best industry practices to policymakers, regulators, customers and the general public. Sometimes governments may choose to make such standards mandatory through legislation.

2. Certification is a means to determine conformity with a standard and to recognize and reward those that adhere to such standards. Certification programmes typically rely on independent, third-party auditing – e.g. by an accreditation body – to verify conformity to a standard. Under the Basel Convention, such certification schemes have been recognized as a potentially valuable tool for promoting or facilitating the implementation of environmentally sound management (ESM) at the facility level.[1]

3. This manual provides guidance to policymakers, regulators, facility managers, consumers and the general public on how standards and certifications can help implement ESM globally. The topics of the manual include:

(a) How to use standards and certification to support the implementation of ESM;

(b) Environmental performance standards for waste management and for the support of ESM;

(c) Quality assurance of standards associated with waste management and for the support of ESM;

(d) Examples of standards that could address waste management and support/promote ESM.

II. Standards and certification for the support and promotion of ESM implementation

A. How to use standards and certification to support the implementation of ESM

1. At facility level

4. Voluntary schemes provide a tool for facilities and services to demonstrate their commitment to best industry practices to customers and thereby provide market advantages to the facility. Such schemes can allow for the gradual adoption by the sector, allowing the system to develop and improve over time. There may be a financial advantage or benefit for companies that decide to implement the standard before being required to do so. A clear example is in the United States (US) electronics recycling market where certification for companies is not required but customer demand, among other reasons, has promoted rapid growth in the use of voluntary standards (or environmental performance standards). Since 2010, over 530 US electronics recycling facilities have been certified to accredited standards, which covers, by volume, the vast majority of the US market.[2]

5. Facilities and services are required to comply with all applicable legal requirements for waste management, including national, regional and state requirements. Some governments may allow companies to use standards and certifications as an option or tool to demonstrate regulatory compliance.

6. Auditors can determine and verify a facility's conformance to the environmental performance or waste management standard in support of ESM. Thorough audits are typically performed periodically (i.e. every three years). Unannounced, annual spot checks can also help to improve conformity.

7. In general, standards and certification schemes benefit the environment and public health, but they also give rise to benefits for corporations which implement them. These include, but are not limited to:

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[1] Framework for the environmentally sound management of hazardous wastes and other waste (ESM Framework) (available in document UNEP/CHW.11/3/Add.1/Rev.1 (annex)).

[2] Data provided by the Institute of Scrap Recycling Industries Inc. (ISRI).

(a) Enhanced compliance with legal requirements:

 (i) Certification provides mechanisms and management systems to ensure compliance with all relevant legal requirements;

 (ii) Enhanced compliance with international, regional and national requirements on transboundary movements of waste, can reduce cases of illegal traffic;

(b) Reduction of liabilities:

 (i) Certification and audits can help to bring market players into compliance with standards and thereby promote ESM;

 (ii) Reduced chemical exposure, less risk of spills and releases, and reduced environmental and public health risks associated with waste management may reduce insurance premiums;

(c) Economic benefits derived from increased plant efficiency:

Raw material savings; reduction in chemical use; prevention and minimization in waste stream generation; prevention and minimization in waste disposal costs; reduction in costs associated with hazardous waste disposal liability, including banking and insurance charges; more efficient and streamlined waste reporting and tracking, and raw material and waste handling. Some facilities and services reference an operational cost reduction of 10% on average after implementing a quality and environmental management system;[3]

(d) Trade benefits:

Enhanced communication throughout the supply chain and amongst governments facilitates a more efficient and profitable flow of materials;

(e) Improved safety:

Improved employee safety leading to better morale and productivity and improved community safety through reduced environmental and public health risks in a facility's local setting;

(f) Improved relationships with regulators and the public:

Recognition by regulators and the public of a facility's commitment to conducting its business in a manner exceeding regulatory requirements in its main area of focus as well as in worker safety, and protecting human health and the environment through its day-to-day business activities;

(g) Improved business relationships:

Recognition by partners in the supply chain of the facility's commitment to ESM of materials and wastes, and its reliability as a high quality source of services and supplies;

(h) Protection of stockholders and stakeholder interests:

Protection of facility investments and ongoing business value from reduced/eliminated costs of upsets (non-compliance fines and/or costs from clean-up from accidents or emergencies) and liabilities;

(i) Competitive advantage in the market place:

Certified companies attract more market share as customers seek responsible actors.

2. At governmental level

8. Environmental performance standards and certification schemes that address waste management and/or which promote ESM can be used in a number of ways. Governments may choose to utilize voluntary certification and auditing schemes in support of certain standards as a compliance tool at the facility level.[4] Environmental performance standards addressing waste management or other specific key elements of ESM can be implemented voluntarily, allowing the private sector to provide oversight with accreditation and certification bodies and independent auditors. Governments

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[3] Data provided by the Institute of Scrap Recycling Industries Inc. (ISRI).

[4] ESM Framework (available in document UNEP/CHW.11/3/Add.1/Rev.1 (annex)).

may choose to utilize certification schemes as a compliance tool but need to ensure that their requirements are consistent with existing legal obligations international trade and waste management related regulations. However, many governments, particularly in industrialized countries, still rely on prescriptive legislation to ensure ESM at the facility level and, to date, do not require voluntary standards or certification. Depending of the nature of the sector, governments can choose to wait until such standards are sufficiently embraced in a specific sector before legally requiring them.

9. There is no "one size fits all" solution. Policymakers need to weigh the use of standards and certification with the needs of their particular country and region. In addition, policymakers may need to consider the individual needs of small and medium-sized enterprises (SMEs) with regard to the use of standards and certifications because of cost or feasibility. Governments may consider subsidizing the costs of certification in order for SMEs to achieve ESM at a low cost or may consider making certain allowances for SMEs to be able to confirm their adherence to certain elements of ESM without going through a potentially costly certification.

10. Appropriate hazardous waste and other waste management laws, emergency response capabilities, and general infrastructure may need to be considered to evaluate overall ESM in a country.

B. Environmental performance standards for waste management and for the support of ESM

11. Facility based standards that seek to confirm compliance with waste management requirements can demonstrate ESM and should include the following key performance elements:

(a) Top management commitment to a systematic approach:

Demonstrate commitment of top management to integrate a systematic approach to achieve ESM in all aspects of facility operations, which often includes an environmental health and safety management system;

(b) Environmental health and safety management system:

Utilize an environmental health and safety management system to plan and monitor the facility's environmental, health, and safety practices. Facilities and services may choose to have the system separately certified to an accredited management system standard;[5]

(c) Adherence to waste management hierarchy (prevention, minimization, reuse, recycling, other recovery including energy recovery, and final disposal):

Written policies and procedures to manage waste based on the waste management hierarchy should be included;

(d) Confirm compliance with legal requirements associated with waste management:

Identify, assess and confirm fulfillment of applicable legal requirements, including but not limited to: legislation and regulations; decrees and directives; permits, licenses, or other forms of authorization, as for example certificates of approval; orders issued by regulatory agencies; and/or judgments of courts or administrative tribunals, including discharges and emissions to air;

(e) Implementation of non-waste related policies and/or technical guidance:

Facilities and services should also take into consideration other applicable policies, such as customary or indigenous law and treaties, protocols, Basel Convention technical guidelines, and BAT/BEP;[6]

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[5] In the event that domestic environmental management systems (EMS) are employed as part of a national approach to ESM, special consideration should be given to provide specifically tailored EMS systems for SMEs. Whichever EMS system will be selected, it is recommended that the government or large companies have a programme in place to provide support for SMEs in terms of information and know-how sharing.

[6] For example, BAT and BEP guidance available on the Stockholm Convention website at: http://chm.pops.int/Implementation/BATBEP/Guidelines/tabid/187/Default.aspx; and EU reference documents available at: http://eippcb.jrc.ec.europa.eu/reference/. See also OECD Guidance Manual on Environmentally Sound Management of Wastes providing further information and available at: http://www.oecd.org/env/waste/39559085.pdf.

(f) On-site environment, health and safety controls:

Contain facility practices and controls to protect worker and public health and safety and the environment under both normal and reasonably foreseeable circumstances (including accidents or emergency response);

(g) Risk assessment, prevention and minimization:

Address whether the facility has identified all actual and/or potential hazards and risks to public and worker health and safety, and the environment, that are associated with activities, products and services. Eliminate risks where possible, and in all cases strive to prevent and minimize actual and/or potential hazards and risks to public and worker health and safety, and the environment, that are associated with activities, products and services;

(h) Monitoring, recording and reporting programme:

Confirm that facility maintains records, monitors, tracks and evaluates its performance as appropriate for waste types and quantities managed;

(i) Insurance, closure plan and financial responsibility:

Confirm that the facility has adequate insurance provisions to cover the potential risks and liabilities associated with the nature and size of the facility's operations, as well as adequate legal and financial assurances for the proper closure of the facility;

(j) Awareness, competency and training:

Ensure employees have an appropriate level of awareness, competency and training with respect to the effective management of occupational risks;

(k) Corrective action:

Take appropriate action to address significant actual and/or potential risks to public and worker health and safety, and the environment and correct identified deficiencies in achieving ESM;

(l) Transparency and verification:

Provisions to support transparency and verification throughout each of the above building blocks, subject to appropriate protection for confidential business information, which can help facilities and services to provide public assurances that operations and activities are compatible with ESM. Such provisions may include for example participating in third-party audits and inspections;

(m) Downstream due diligence:

A demonstrated commitment, that a facility takes all practicable steps to avoid harm to other persons or their property within their downstream material flow should be provided. This can include, to the extent feasible, assurances that transboundary movements of hazardous waste and other waste are limited to facilities and services that are authorized to dispose of such waste in an environmental sound manner.

C. Quality assurance of standards associated with waste management and for the support of ESM

1. Evaluation/Verification

12. Standards are only as good as their evaluation. Standards can be *first-party verified* (self-certified), *second-party verified*, where the certified company hires an audit firm to verify conformity with the standard, or *third-party verified*, by independent certification bodies that are accredited to certify to a standard by formal accreditation bodies. Although self-certification can be a beneficial approach, third-party verification may be better at ensuring conformity with the standard and send a stronger message of assurance to all stakeholders.

2. Accreditation, certification and auditing

13. Conformance with standards meant to support ESM can be verified or formally accredited by accreditation bodies. Accreditation is the independent evaluation of conformity assessment bodies

(certification bodies) against standards to ensure their impartiality and competence. Accreditation bodies provide necessary oversight and quality assurance over certification bodies.[7]

14.   Certification bodies should operate in a non-discriminatory manner so as not to impede or inhibit access by applicants. They utilize trained auditors to ensure conformity to the standard and are responsible for granting certifications and provide a publically available list of certified organizations.

15.   A third-party, independent audit can be critical to ensure conformity with the selected standard throughout a facility. Performance standards addressing waste management that rely on continual improvement in the facility's practice allow auditors to work with facilities to conform to the requirements of the standard, especially if there is an issue of non-conformity that needs to be addressed. Thorough facility audits are typically performed every three years. Unannounced, annual spot checks can also help to ensure conformity.

3.   General elements supporting ESM

16.   Although all standards are not identical, standards utilized to help facilitate, promote or otherwise support facility level implementation of ESM should contain similar key elements. As there are unique differences between waste streams, standards designed to manage specific waste streams should account for any unique detail not covered in a general environmental performance standard. Therefore, it may be important to include specific waste management elements, norms, or any other factors for guiding the appropriate management of these specific wastes.

D.   Examples of standards that could address waste management and support/promote ESM

17.   The following examples are not specifically applicable to waste management but include elements that can be adapted to ensure the environmentally sound management of wastes.

1.   Management system standards[8]

(a)   ISO 14001

18.   ISO 14001, first released in 1996 and last revised in 2015, is a generic environmental management system (EMS) standard developed for any type of organization, large or small, and within any business sector.[9] The standard is based on a continual improvement and regulatory compliance model designed to help organizations: (1) minimize how their operations (processes, etc.) negatively affect the environment (i.e. adverse effects to air, water, or land); (2) comply with applicable laws, regulations, and other environmentally-oriented requirements, and (3) continually improve on the above.

19.   ISO 14001 may be used for third-party certification. As of 2013, at least 301,647 certificates in 171 countries have been issued, with an increase of 6% with respect to the previous year.[10]

20.   This international standard has been revised in 2015 to be aligned to a high level structure for all management systems standards. The new version of 2015 incorporates some updated concepts to the previous standard such as life-cycle thinking, community involvement, risk assessment and will give greater importance to the governance and interested parties of the organization, among others.

(b)   EU Eco-Management and Audit Scheme (EMAS)

21.   EMAS is a management instrument developed by the European Commission for companies and other organizations to evaluate, report, and improve their environmental performance.[11] EMAS is open to every type of organization eager to improve its environmental performance. It spans all economic and service sectors and is applicable worldwide. The requirements of ISO 14001 are an integral part of EMAS. EMAS's requirements are more demanding than ISO 14001 concerning performance improvement, legal compliance and reporting duties.

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[7] Lists of International Accreditation Forum members are available at: www.iaf.nu/

[8] The ESM framework sets out guiding principles (part IV and annex I) and strategies to implement ESM (part V, section C). The framework further contains references to a number of standards and certification schemes (annex II) (available in document UNEP/CHW.11/3/Add.1/Rev.1).

[9] Further information on the ISO 14001 standard is available at:
http://www.iso.org/iso/home/standards/management-standards/iso14000/iso14001_revision.htm?= ; and
https://committee.iso.org/sites/tc207sc1/home/projects/published/iso-14001---environmental-manage.html.

[10] ISO Survey of Management System Standard Certification of 2014 available at:
http://www.iso.org/iso/iso_survey_executive-summary.pdf.

[11] Further information on EMAS is available at: http://ec.europa.eu/environment/emas/index_en.htm.

22.   Currently, more than 4,500 organizations and approximately 8,150 sites are EMAS-registered worldwide. Among them are many multinational enterprises and smaller companies as well as public authorities.

(c)   Recycling Industry Operating Standard (RIOS™)

23.   RIOS is the recycling industry's management system standard for quality, environment and health and safety. Specifically designed for the recycling industry, RIOS integrates the key operational elements found in other standards, such as ISO 9001 (quality), ISO 14001 (environment), and OHSAS 18001 (health and safety), bringing them together into one streamlined management system. There are currently 101 facilities certified to RIOS. RIOS is accredited by ANAB (ANSI-ASQ National Accreditation Board) and requires an independent, third-party audit in order to obtain certification.

2.   Voluntary accredited environmental performance standards addressing specific waste/material streams

24.   Below are several examples of accredited standards that incorporate the key elements of ESM for the target waste stream. These standards can help a facility, located anywhere in the world, to demonstrate conformity to key elements of ESM.

(a)   R2:2013, Responsible Recycling (R2)™

25.   The Responsible Recycling (R2) Standard for Electronics Recyclers is a set of specifically designed guidelines for use by electronics recyclers to promote better environmental, health and safety, and security practices when recycling waste electronics. There are currently 521 facilities in 14 countries that are certified to R2. This standard is accredited by ANAB (ANSI-ASQ National Accreditation Board) and requires an independent, third-party audit to demonstrate conformity in order to be granted a certification.

(b)   Electronics Product Stewardship Canada (EPSC) Recycling Standard

26.   All electronics recyclers seeking to operate under the industry-funded Electronics Product Recycling Association (EPRA) programmes in Canada must be audited and approved by the Recycler Qualification Office to meet the requirements of the EPSC Electronics Recycling Standard (ERS). Certification to the internationally recognized Sustainable Electronics Recycling International (SERI) Responsible Recycling (R2) Standard for electronics recyclers is a prerequisite to the EPSC Electronic Recycling Standard, in addition to compliance with other Canadian-specific requirements. SERI's R2 Standard ensures accreditation through a third party certification body. EPRA's Recycler Qualification Office (www.rqp.ca) maintains a list of approved recyclers that are permitted to receive EPRA material. Electronic Products Recycling Association is the industry-led, not-for-profit organization that operates regulated recycling programmes across Canada to ensure that waste electronics are disposed of in a safe, secure and environmentally sound manner.

(c)   e-Stewards®

27.   The e-Stewards standard is for use by organizations that perform electronics recycling, processing, asset management, and refurbishment operations. The standard incorporates Basel Convention definitions and requirements, including the Basel Ban Amendment and also requires companies to be certified to ISO 14001. The e-Stewards standard requires an entire company and all of its facilities to be certified, and not just individual facilities.

28.   This standard is an example of where NGOs and non-state actors support the use of voluntary environmental performance standards by participating in or contributing to their development and helping to maintain the quality through assistance with implementation at the facility level.

(d)   WEEELABEX

29.   WEEELABEX (Waste Electrical and Electronic Label of Excellence) standards were developed by the WEEE Forum in cooperation with stakeholders from the producers' community and processing industry and were introduced in April 2011. They include standards on collection, logistics and treatment of WEEE and monitoring procedures to guarantee harmonized conformity verification in EU and European Free Trade Association (EFTA) member states. They are in line with the legislative requirements of the EU directive on WEEE.[12]

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[12] Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) available at : http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012L0019.

30.   The standards require a management system to be in place for environment, health and safety purposes and which addresses the requirements for all treatment operations, including preparing for reuse, handling, sorting, storage and treatment of WEEE (including the full treatment of hazardous fractions). In the development of the standards, the BAT for waste treatment and recycling developed in Best Available Techniques Reference (BREFs) documents have been taken into consideration. The standards further include requirements concerning specific types of WEEE such as temperature exchange equipment, cathode ray tubes (CRTs) display appliances, flat panel displays, lamps and others.

31.   The audits of "conformity verification" are conducted by auditors trained by the WEEELABEX Organization which was created to help with the implementation of these standards across Europe. The WEEELABEX Organization requires third-party verification of conformity (and not certification). Second-party verification is also allowed but only for a transition period. Facilities verified under the standard are identifiable through a visual identifier (or mark or quality label) issued by the WEEELABEX Organization.

(e)   European standards for the treatment of WEEE

32.   In application of the EU directive on WEEE (2012/19/EU), the European Commission mandated the European Standardisation Organizations (ESO), to develop standards for the treatment (including recovery, recycling and preparing for reuse) of WEEE.[13] These standards are being developed by the European Committee for Electrotechnical Standardization (CENELEC), within its Committee CLC/TC111X (Environment) Working Group 6.

33.   In executing this mandate, in March 2014 CENELEC published the standard EN 50625-1 (Collection, logistics and treatment requirements for WEEE - Part 1: General treatment requirements). This standard contains general requirements applicable to the treatment of all types WEEE. These general requirements will be supported by other standards covering particular treatment requirements for lamps, flat panel displays, CRTs, photovoltaic panels and other equipment containing volatile fluorocarbons or volatile hydrocarbons. In particular the standards to be developed are the following:

        (a)   EN 50625-2-1: Collection, logistics & treatment requirements for WEEE - Part 2-1: Treatment requirements for lamps;

        (b)   EN 50625-2-2: Collection, logistics & treatment requirements for WEEE - Part 2-2: Treatment requirements for WEEE containing CRTs and flat panel displays;

        (c)   EN 50625-2-3: Collection, logistics & treatment requirements for WEEE - Part 2-3: Treatment requirements for WEEE containing volatile fluorocarbons or volatile hydrocarbons;

        (d)   EN 50625-2-4: Collection, logistics & treatment requirements for WEEE - Part 2-4: Treatment requirements for photovoltaic panels.

34.   Under the standards, treatment facilities have to be certified by an accredited conformity assessment body following an audit. The conformity assessment body shall be accredited by a European accreditation body in accordance with EU Regulation (EC) No 765/2008. Certified facilities hold a certificate of conformity to specific standard(s).

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[13] EC DG ENV, Mandate to the European Standardisation Organisations for standardisation in the field of WEEE (Directive 2012/19/EU (WEEE)), 24 January 2013, Ref. M/518 EN, available at: http://ec.europa.eu/environment/waste/weee/pdf/m518%20EN.pdf.

III. Additional information/References

Accredited management system standards:

ISO Standards
www.iso.org/iso/home.html

ISO 14001 standard
http://www.iso.org/iso/iso_catalogue/management_and_leadership_standards/environmental_manage
ment/iso14000

British Standards Institution, OHSAS 18001 Occupational Health and Safety Management
http://www.bsigroup.com/en-GB/ohsas-18001-occupational-health-and-safety/

European Union Eco-Management and Audit Scheme (EMAS)
http://ec.europa.eu/environment/emas/index_en.htm

Recycling Industry Operating Standard (RIOS)
http://www.certifymerecycling.org

Accredited ESM certification schemes:

Certification Programs for Electronics Recyclers
http://www.epa.gov/wastes/conserve/materials/ecycling/certification.htm

"R2" Responsible Recycling Practices for use in Accredited Certification Programs, an accredited
standard governed by R2Solutions
www.r2solutions.org/

Electronic Product Stewardship Canada Recycling Standard
http://www.epsc.ca/index.php?option=com_content&view=article&id=14&Itemid=24&lang=en

e-Stewards standard for responsible recycling and reuse of electronic equipment
http://e-stewards.org/certification-overview/

WEEELABEX
http://ec.europa.eu/environment/waste/weee/data_en.htm, and http://www.weeelabex.org/

Mandate to the European standardisation Organizations (ESO) for standardization in the field of Waste
Electrical and Electronic Equipment (WEEE) (Directive 2012/19/EU (WEEE)), 24 January 2013, Ref.
M/518 EN
http://ec.europa.eu/environment/waste/weee/pdf/m518%20EN.pdf