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Guidance principles for the sustainable management of secondary metals

*Principes directeurs pour la gestion durable des métaux de seconde
fusion*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

International Workshop Agreement IWA 19 was approved at a workshop hosted by the World Resources Forum (WRF), in association with the Swiss Association for Standardization (SNV), held in Davos, Switzerland, in October 2015.

The idea to develop guidance principles for the sustainable management of secondary metals was proposed by the Sustainable Recycling Industries (SRI) Roundtable¹⁾, which is an initiative of the World Resources Forum (WRF) and the Swiss Federal Laboratories for Materials Science and Technology (EMPA). The development process was assisted by the Swiss Association for Standardization (SNV) and funded by the Swiss State Secretariat for Economic Affairs (SECO). The guidance principles draw on existing key research and sustainability standards, e.g. from the Responsible Jewellery Council (RJC, 2012^[41]; RJC, 2013^[42]), the Aluminium Stewardship Initiative (ASI, 2014),^[10] and the European Committee for Electrotechnical Standardization (via the CENELEC standards).

This document was developed between July 2015 and December 2016, and was reviewed and agreed through a public and transparent process encompassing in-country consultations, and involving the private sector, governments, inter-governmental organizations, practitioners, civil society organizations and researchers working in the field of secondary metals. The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance Codes of Good Practice ^{[28][30][31]} were also used in the process of developing the guidance principles.

1) www.sustainable-recycling.org

Introduction

0.1 Metal recycling and impacts

Recycling metals such as aluminium, copper and gold found in waste, e.g. resulting from electronic and electrical equipment, cars, ships, packaging materials or construction activities, is a rapidly growing economic activity worldwide. In Latin America alone, the amount of electronic waste generated annually is expected to grow from 2,84 million tons in 2009 to 4,79 million tons in 2018 (Magalini et al., 2015[34]).

In developing and emerging economies recycling is mainly done through the informal sector (e.g. in India this sector recycles more than 90 % of all generated e-waste), which plays a critical role in the recycling of secondary metals.

These uncontrolled metals recovery activities release pollutants into the air, soil and water, which, combined with poor working conditions and poor health and safety practices, create significant negative impacts on workers, communities and the environment (Robinson, 2009[43]; International Labour Office, 2012[24]; SRI, 2015[44]). Most critical are the impacts on vulnerable workers in the informal sector.

While formal stakeholders handle metallurgical processing more efficiently than the informal sector, the latter has proven to be more efficient at collecting and preparing waste that contain metals (e.g. through manual processing). Thus, the informal sector plays a critical role in recycling.

Furthermore, a growing number of formal recyclers want to tap into the potential of increasing secondary metals recovery, both in volume and quality. As a consequence, competition on waste streams is emerging between the informal and formal sectors. More and more waste is flowing from the informal sector to formal recyclers. However, this does not happen in a structured and organized way due to a lack of guidance and authoritative supporting frameworks.

0.2 Vision

The vision behind the guidance principles is to leverage the circular economy approach to ensure social equity, environmental justice and optimal recovery in metal recycling worldwide, for present and future generations.

Key pathways for the implementation of the guidance principles will be through:

- compliance with the guidance principles by economic operators involved in secondary metal value chains;
- integration of the guidance principles into government policy, sustainability standards systems and other organizations that would put in place supporting mechanisms.

0.3 Aims

The aim of the guidance principles is to provide a credible global framework for the sustainable management of secondary metals.

More specifically, the guidance principles aim to:

- improve practices of economic operators (see [Figure 4](#)) by complying with sustainability requirements based on principles and objectives (see [Clause 6](#));
- ensure a credible traceability of recovered metals by complying with traceability requirements for those who wish to demonstrate so (see [Clause 7](#));
- promote the formalization of economic operators involved in subsistence activities (SA) and unofficial business activities (UBA) by constituting themselves as legal entities or joining existing ones.

The overarching values that inform the development and implementation of the guidance principles are shared responsibility, transparency, engagement, continuous improvement and equity.

It is envisaged that there will be a number of beneficiaries of improved practices resulting from the compliance with the principles and objectives and implementation of traceability schemes by economic operators. The guidance principles aim to primarily benefit economic operators involved in SA in developing and emerging economies, who are highly vulnerable to environmental and socio-economic impacts, including child labour and occupational hazards due to uncontrolled practices (see [Annex A](#)) and poor working conditions.

Anticipated benefits for economic operators involved in collection, manual and mechanical processing, metallurgical processing, as well as transportation/trade and storage, are:

- improved safety at work and improved health outcomes for workers and their families;
- improved access to funding and credit from financial institutions willing to mitigate risks by requiring compliance with the guidance principles;
- reduced risk of non-compliance with legal requirements; applicable laws and regulations may require that recycled metals fulfil environmental and social criteria in line with the guidance principles.

Potential benefits for economic operators involved in official business activities (OBA), such as product manufacturers and other purchasers of secondary metals, include:

- increased revenue through improved market access and securing longer-term contracts “business to business” and “business to consumer”, who may give preferential treatment to enterprises providing materials and products that are compliant with the guidance principles;
- improved and more transparent management systems;
- secured access to secondary metal resources;
- demonstrated commitment to sustainability along their value chains.

0.4 Structure

[Figure 1](#) illustrates the structure of this document. [Clause 5](#) describes the elements that fall within the sphere of application. [Clause 6](#) introduces the sustainability requirements based on five principles and 17 objectives. Each objective is accompanied by a set of explanatory notes, steps and timeframe. It also has recommendations for supporting mechanisms to be adopted by governments and civil society organizations, as well as the private sector or in public-private partnerships. [Clause 7](#) describes the traceability requirements. [Clause 8](#) the path towards a robust assurance system. [Clause 9](#) provides guidance for an efficient and credible implementation of the guidance principles. [Annex A](#) identifies a set of worst practices in metals recovery and good practices as options, wherever feasible. [Annex B](#) introduces an example of a monitoring and evaluation (M&E) plan.

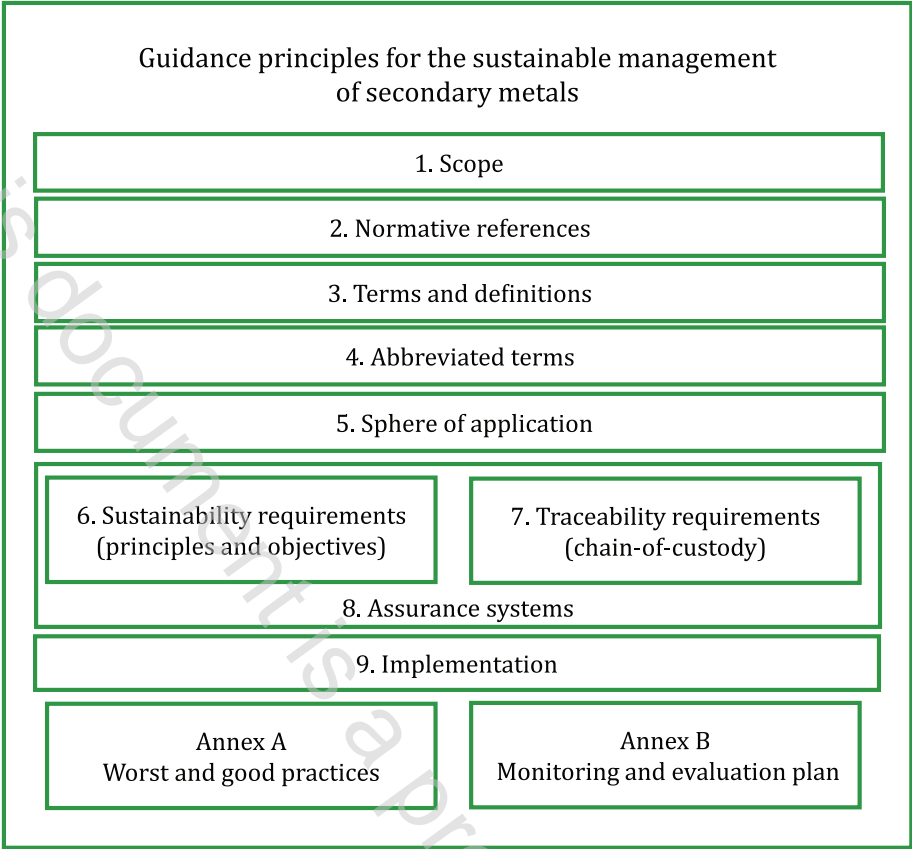


Figure 1 — Structure of this document

In this document, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation.

Guidance principles for the sustainable management of secondary metals

1 Scope

This document provides a global framework for the sustainable management of secondary metals. The framework includes sustainability and traceability requirements for metals recovered.

This document guides economic operators of secondary metals value chains, including those engaged in the informal sector, in the efficient and credible implementation of improved recycling practices, in particular in emerging and developing economies.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

affected community

community that is directly impacted by the consequences of activities related to metal *collection* (3.6), manual and mechanical processing, *metallurgical processing* (3.24), *disposal* (3.7) and/or use of residues

Note 1 to entry: These communities are usually located near operations and may be impacted either positively (e.g. through job creation, infrastructure development and enhanced livelihoods) or negatively (e.g. through pollution, noise disturbance and human rights violations).

[SOURCE: Prospectors and Developers Association of Canada, 2009, [40] modified]

3.2

assurance system

combination of verification mechanisms used to demonstrate compliance with a set of requirements and that are based on regular and systematic monitoring of the performance of *economic operators* (3.9)

Note 1 to entry: Monitoring results can be used for external communication via *claims* (3.5).

3.3

chain-of-custody

CoC

chain of responsibility for or control of materials as they pass from one *economic operator* (3.9) to another through each step of the process or product system under assessment

[SOURCE: ISO 13065:2015, 3.7, modified]