



Product Stewardship

GUIDING PRINCIPLES

Purpose

Neither zinc operations nor products should present unacceptable risks to people or the environment. Product stewardship refers to activities undertaken to ensure that when minerals and metals are utilised in product systems, it is done in a way that optimises the application of the material, minimises environmental, health and safety risks and ensures recovery, reuse or recycling as appropriate¹. The key elements of Product Stewardship contribute to sustainable development, and are therefore consistent with the objectives of building a sustainable zinc industry.

Guiding Principles

Principle 8 of ICMM's Sustainable Development Framework -- "*Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products*" -- implies that as companies move toward best practice, they should consider adopting a Product Stewardship strategy and program. Principles underlying product stewardship strategies include:

- Understanding the social, environmental and economic impacts of material as it moves through its life-cycle from mining to use and through to the end of its life.
- Taking action to ensure that, for the part of the life-cycle under direct control, appropriate stewardship activities are undertaken, and for the areas where there is no direct control but influence, work with other stake-holders in the life-cycle to ensure they also do their part (e.g., encouraging/ facilitating collection and recycling of Zn containing products).
- Developing relationships with other stake-holders along the life-cycle who can help ensure beneficial and appropriate use of your material or who can minimise or eliminate risks to human health and the environment².

Product stewardship compliments many existing concepts and tools that support industrial activities toward sustainable development (e.g., eco-efficiency, life-cycle management, environmental management systems).



¹ Definition taken from ICMM's Maximising Value: Guidance on implementing materials stewardship in the minerals and metals value chain (*publication forthcoming*) www.icmm.com/index.php

² Key Elements taken from ICMM's Maximising Value: Guidance on implementing materials stewardship in the minerals and metals value chain (*publication forthcoming*) www.icmm.com/index.php



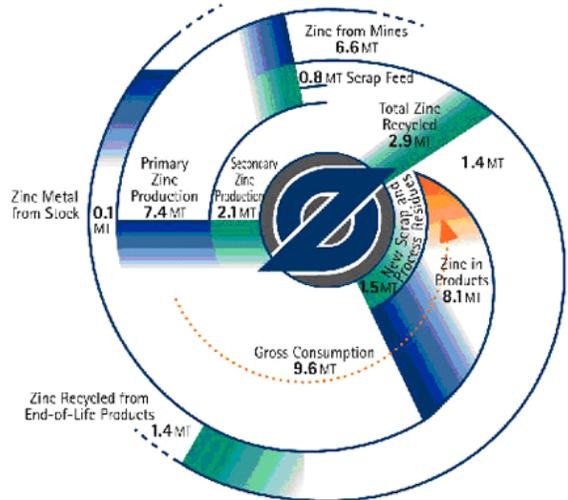
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Benefits

Member companies who adopt product stewardship strategies and programs will realize business value through:

- Early identification of risks;
- Securing and growing markets through development of deeper relationships and a better understanding of the needs of users of Zinc;
- Ensuring public and customer acceptance of Zinc as a material of choice;
- Enhancing recovery of Zinc which may result in cheaper sources with reduced impacts.



Zinc Recycling Circuit - Implementing a product stewardship strategy can help an organisation to better understand both the impacts and benefits of its products across their life cycles.

Member Success Stories

Teck Cominco: Enhancing metals recovery through electronics recycling

Teck Cominco's Trail Operations are utilizing existing facilities to enter the electronic waste recycling business. Although modest in comparison to the overall need for recycling, this new business will expand the range of services offered to their customers, create a potential new source of recycled "urban" ore for the Trail smelter, and reduce the volume of metals being lost to landfills throughout North America. For more information visit:

www.teckcominco.com/sustainability/reports.htm

Korea Zinc: Developing innovative environmental technology

Korea Zinc developed innovative technology to recover valuable metals such as zinc, lead and silver from the by-products of the zinc refining process and reprocess residues into environmentally stable slag. This recovery process, which created added-value for the company from by-products while creating a more environmentally stable slag, was designated as an innovative environmental technology by the Ministry of Environment for South Korea.

Helpful Resources

- ICMC's Maximising Value: Guidance on implementing materials stewardship in the minerals and metals value chain, www.icmm.com/index.php
- Responsible Care Program®, International Council of Chemical Associations www.responsiblecare.org/