Recycling Information Sharing System (RISS): Towards safe and efficient recycling of electronic products through improved products information management

Introduction

Waste Electrical and Electronic Equipment (WEEE) contains both hazardous chemicals and valuable metals, and its combination is a challenge for the recycling process due to the potential risks to human health and the environment and value of resources. Safe and efficient resource recovery requires, in turn, that improved information on embedded substances and proper treatment is available to recycling companies and waste treatment facilities, tailored to the specific needs and circumstances of each actor. The project aims at making policy recommendations on how a system for improved information exchange can be designed and implemented.

Hypothesis

The project assumes that an improved system which provides information on hazardous chemicals and valuable metals embedded in electronic products at the post-consumer stages could have the following benefits.

- Safer recycling and waste treatment operations
- Higher recycling ratio
- Higher use value of recycled materials

Material Flow from Product Life-cycle perspective

Information Sharing Schemes in selected countries

Information Sharing Schemes in Japan

First Year Research

Information Sharing Schemes in selected countries

Major Findings

i. Gap between the EPR principle and its implementation

The EPR principle identifies the provision of information as a fundamental responsibility of producers but in most countries it has been seldom required or enforced.

However, the hazardousness and high resource value of WEEE makes the provision of information highly desirable from society’s point of view.

ii. Regime approach in EU and Governance approach in US

EU regulates producer’s provision of information through the WEEE directive, while in the US, market-based labelling schemes contain similar requirements.

The EU’s regime approach has had worldwide impact inspiring countries such as Korea and China to introduce regulations corresponding to the EU REACH, WEEE and RoHS legislations.

iii. Soft and Hard infrastructure as a precondition for the information sharing

Information sharing activities are affected by the institutional arrangement and the actors involved.

In Korea, the resource circulation law gives an economic incentive for producers to disclose information on valuable substances in products, while, in Japan, the information sharing scheme has only been developed for hazardous chemicals as a result of chemicals-related regulations.

The study hypothesizes that the applicability of an information sharing scheme would require a combination of soft infrastructure (institutional tools such as regulations, laws, and rules) and hard infrastructure (formal collection and recycling process, technology, and know-how) as a precondition.

iv. Factors affecting the value of information

Through a survey in Japan, the project found that the usefulness of information depends on a number of factors, and these factors vary with each stakeholder. The factors include, for example, technology, market price and the amounts of WEEE collected.

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