

## **Enhanced information sharing on hazardous substances in electronics: Connecting the production and end-of-life stages**

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Hazards related with waste electrical and electronic equipment (WEEE) are receiving increasing attention worldwide and various policies have been introduced in response to these problems. This response includes policies based on the principle of Extended Producer Responsibility, such as the WEEE Directive and the Japanese Household Appliances Recycling Law, substance restrictions, such as the RoHS Directive, and requirements for increased chemicals testing and information disclosure, such as REACH.

The current study focuses on how information on substances in electrical and electronic products can be provided to actors involved in end-of-life treatment. The working hypothesis is that improved knowledge on embedded substances (including both hazardous chemicals and rare metals) can have a number of benefits: it can make recycling and waste treatment operations safer, less polluting and more efficient (larger number of materials recycled, higher recovery ratio and higher quality of recycled materials). However, this requires that the information is available on a suitable format, tailored to the specific needs and circumstances of each actor or group of actors.

The research questions of the study are of a practical character: What information would be needed for the actors at the different stages of the recycling chain (including operations such as disassembly, shredding, sorting, melting and refining) to achieve a safe and efficient resource recovery? What is the most convenient and efficient way to convey this information? What factors influence manufacturers' willingness to share detailed product information with the end-of-life community, and how can they be motivated to increase the information exchange?

In its empirical part, the study investigates how WEEE recycling is currently carried out and what actors are involved, focusing mainly on Japan. The study also reviews some existing schemes for sharing information on substances embedded in products with recyclers. The reasons why these schemes have been initiated, how they have been introduced and promoted, and what effects they have had is analysed.