Danish WEEE management in the light of the WEEE and RoHS Directives: a quantitative analysis of critical issues

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Abstract:
Waste from Electrical and Electronic Equipment (WEEE) is the fastest growing waste fraction in Europe and is classified as hazardous as it may include substances that have adverse effects on human health or cause damage to the environment (UNEP, 2009). The European Community Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE Directive), together with the European Community Directive 2002/95/EC on the Restriction of Hazardous Substances (RoHS Directive) were established respectively to set collection, recycling and recovery targets, and to restrict the use of six hazardous substances in EEE (Ongondo, 2011). The present study analyses and describes the structure and the actors in the WEEE management system in Denmark. Furthermore, the two directives are considered by looking at critical aspects related to their implementation. Two problematic issues are individuated. First, there is a gap between the reporting of produced and collected amounts of WEEE. This is attributable to three factors: unclear reporting obligation for business to business WEEE producers, attic effect, and improper disposal of WEEE from the consumers. Secondly, despite the restrictions introduced by the RoHS directive, flows of toxic compounds are still significant in WEEE, as can be demonstrated by performing a Substance Flow Analysis (SFA) (Brunner, 2004) on a Danish WEEE treatment facility. This is due to the presence, in the WEEE, of devices constituting an exception to the RoHS directive and of other substances potentially toxic but not included in the RoHS directive. The study presents a quantitative analysis of such shortcomings and provides recommendations for improved WEEE management.

References:
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