



Contribution to resource conservation by reuse of electrical and electronic household appliances

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Abstract

Extending the product life of electric and electronic equipment by reuse is considered as an effective means to contribute to the goal of resource conservation (materials and energy) since less appliances have to be produced to cover consumer demand. On the other hand, new products tend to consume less energy during use. Reuse of older products delays the launch of such efficient products onto the market. Hence, there is a trade-off between resource conservation in the production phase and energy consumption during the use phase making reuse not a priori a goal-oriented option. The paper focuses on eight relevant electric and electronic products such as refrigerators, washing machines, PCs, monitors and the like. The contribution to resource conservation is determined by materials and energy balances. Two extreme scenarios are compared: one scenario with no reuse of products (normal product life) and another scenario assuming that all selected products are reused resulting in product life extensions between 50 and 100%. The result is that even intensive product reuse of electric and electronic equipment reduces total resource consumption (materials and energy) of a highly developed industrial economy by less than 1%. It is shown, that efficient recycling is crucial for saving primary materials.

Keywords

MFA; Product life extension; Recycling efficiency; Resource conservation; Reuse; WEEE

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