CHARACTERISTICS OF WASTES FROM ELECTRIC AND ELECTRONIC EQUIPMENT IN GREECE: RESULTS OF A FIELD SURVEY

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EXTENDED ABSTRACT

The lifespan of electric and electronic equipment (EEE) is becoming shorter and the amounts of wastes from EEE (WEEE) rise with increasing tendencies. Common items of WEEE range from large household appliances to small batteries and many of these components contain substances that are considered dangerous to the environment and the human health, it they are disposed in an inappropriate way. This paper aims to contribute at the knowledge on the qualitative and quantitative characteristcs of WEEE in Greece. It initially addresses the approaches adopted worldwide for WEEE management. The current status concerning their management is then discussed on the basis of secondary data gathered from various sources. In the main part, some results are presented from a field survey on WEEE, which took place in the city of Thessaloniki, Greece, within the year 2002, in the frame of the HELCARE network. The survey was conducted with suitable questionnaires in the following two groups of stakeholders:

- EEE department stores. The main aim here was to determine aspects of their role in the WEEE chain and waste-related characteristics of their products (e.g. lifespan).
- Households of various municipalities. The main aim was to determine their profile as WEEE-producers and provide first-hand, raw data. 126 households were interviewed.

Household appliances were grouped as follows: (A) *Large* (refrigerator, freezer, washing machine, cloth dryer, electric cooker, microwave oven, electric heater), (B) *Small* (vacuum cleaner, electric iron, hair dryer), (C) *Information Technology and Telecommunication Equipment* (PC, laptop, printer, phone) and (D) *Consumer Equipment* (radio, TV, video, DVD, console). The analysis indicated that the lifespan of all new EEE goods is gradually reducing (apart from refrigerators, whose lifespan was suprisingly found to increase) and provided linearized functions of predicting the lifespan, according to the year of manufacture, for certain large appliances. Owing percentiles of the households for different EEE-appliances were also calculated, as well as reasons for replacement. Concerning group A, at the end-of-life, 40% are disposed, 30% are given away or sold to third parties, 20% are stored and 10% are given to scrap dealers. Referring to group B, disposal percentiles were up to 80%. Concerning group C, the percentiles of end-of-life PCs and mobile phones that are finally disposed are both slightly over 20%, with a considerable percentile (~40%) given away or re-sold by consumers for re-use and another 40% stored by the owners. On the contrary, although within the same category (C), end-of-life wire- and wireless-phones yielded disposal percentiles of around 50%. Finally, small percentiles of end-of-life appliances in group D were reported to be disposed at landfills (~35%), which indicates that these too are not discharged easily as wastes at their end of life by their owners (as is the case with mobile phones and PCs).

Key words: Electric and Electronic Waste, Recycling, Re-Use, Questionnaire, Consumption Paterns, WEEE/RoHS Directives.