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Quantification of E-Waste: A Case Study in Federal University of Espírito Santo, Brazil

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Abstract : The segregation of waste of electrical and electronic equipment (WEEE) in the generating source, its characterization (quali-quantitative) and identification of origin, besides being integral parts of classification reports, are crucial steps to the success of its integrated management. The aim of this paper was to count WEEE generation at the Federal University of Espírito Santo (UFES), Brazil, as well as to define sources, temporary storage sites, main transportations routes and destinations, the most generated WEEE and its recycling potential. Quantification of WEEE generated at the University in the years between 2010 and 2015 was performed using data analysis provided by UFES’s sector of assets management. EEE and WEEE flow in the campuses information were obtained through questionnaires applied to the University workers. It was recorded 6028 WEEEs units of data processing equipment disposed by the university between 2010 and 2015. Among these waste, the most generated were CRT screens, desktops, keyboards and printers. Furthermore, it was observed that these WEEEs are temporarily stored in inappropriate places at the University campuses. In general, these WEEE units are donated to NGOs of the city, or sold through auctions (2010 and 2013). As for recycling potential, from the primary processing and further sale of printed circuit boards (PCB) from the computers, the amount collected could reach U$ 27,839.23. The results highlight the importance of a WEEE management policy at the University.

Keywords : solid waste, waste of electrical and electronic equipment, waste management, institutional solid waste generation
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