



Recovery of waste electrical and electronic equipment

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Abstract

The use of electronic products continues to increase worldwide, and the life spans become shorter and shorter due to the rapid advances in technology, leading to an increasing generation of waste electric and electronic equipment (WEEE). Therefore, it is urgently to do great efforts in the recovery of WEEE to dispose the concomitant problems of environment, economic and resource. This paper presents the current situation of WEEE recovery at home and broad, especially for current Chinese WEEE recovery. The common technologies of WEEE recovery are also reviewed. It is indicated that the WEEE recovery is only beginning, however, lots of obstacles would be in the way of WEEE recovery. Furthermore, innovation of recovery technology, establishment of formal recycling facilities, introduction of legislation dealing specifically with WEEE and the control of secondhand electrical and electronic equipments importation should strongly recommended to promote the WEEE management.

Key words: *Waste electrical and electrical equipment (WEEE), Recovery, Incineration, Mechanical and physical treatment technology, Pyrolysis gasification technology*

1. Introduction

Waste electric and electronic equipment (WEEE), or electronic waste (e-waste), has been taken into consideration not only by the government but also by the public due to their hazardous material contents (EC, 2000; Cui and Forsberg, 2003; EPCEU, 2003; SVTC, 2007; Niu and Li, 2007). WEEE refers to end-of-life electronic products including computers, printers, photocopy

machines, television sets, mobile phones, and toys, which are made of sophisticated blends of plastics, metals, among other materials.

The definition and categories of WEEE vary in different countries. As key components in electronic equipment, large amounts of waste printed circuit boards (PCBs) or printed wiring boards (PWBs) are generated by all this consumption of electronic appliances, which account for approximately 30% of the total electronic scrap generated. Non-metals such as epoxy, glass fibers