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Country report

An evaluation of legislative measures on electrical and electronic waste in the People's Republic of China

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ABSTRACT

With the increasing number of recycling mishaps in connection with waste electronic and electrical equipment (WEEE) in the People's Republic of China, it is imperative that the handling and recycling of WEEE be sufficiently regulated in China. Regulations covering three major issues, namely, take-back issues, controls on hazardous substances in WEEE and the assurance of good environmental management in WEEE plants, were promulgated between 2006 and 2008. The evaluation in this country report shows that few of these regulatory measures have performed satisfactorily in terms of enforcement, of public acceptance and of environmental concerns. In brief, the take-back requirements and the associated financial responsibilities are only vaguely defined; the control on hazardous substances and the so-called "environmental expiry date" requirements cannot be properly enforced, and the resources needed to ensure the satisfactory enforcement of the environmental abatement and pollution control requirements in WEEE plants are overwhelming. In addition, the use of a "multiple enforcement body" approach to the control of hazardous substances in WEEE is an indication that the Chinese government lacks the determination to properly enforce the relevant legal requirements.

1. Introduction

The environmental effects of waste electrical and electronic equipment (WEEE) have been attracting the world's attention for some time. Since the European Union (EU) made the first consolidated regional effort to impose regulatory control on WEEE, the level of awareness about the implications of this type of waste has risen at an unprecedented pace throughout the world. However, the readiness of authorities in the developing world to impose effective control on the generation and flow of WEEE has been limited. For this reason, the United Nations Environment Programme (UNEP) published two WEEE management manuals in 2007 to assist, in particular, the developing world to implement effective controls on WEEE (UNEP, 2007a,b). One of the manuals discussed methodological approaches to WEEE inventorisation (UNEP, 2007b) and the other was a management manual which also included a review of WEEE practices in different countries (UNEP, 2007a). China, along with Malaysia and Thailand, were judged by the UNEP to have a relatively good level of awareness of WEEE issues. These three are the leading developing countries in terms of their national WEEE legal frameworks, in spite of shortcomings in their legislative control (2007a). Specifically, the WEEE legal framework in China is described as possessing elements of "enforcement, but the legal framework is not well conducted" (UNEP, 2007a). What are the specific laws and measures that China has promulgated and enforced that have placed her at the forefront in the handling of WEEE problems in the developing world? What progress has been made in the enforcement of such laws so far?

Since China is one of the countries most known for suffering from unscrupulous WEEE recycling practices, an evaluation of its specific regulatory controls serves two purposes. First, other countries currently or potentially suffering from the same problem can learn from China's experience and prevent similar mistakes from occurring in their own countries. This applies in particular to some African countries more than others. Second, much of the material presented is indicative of the law making processes and style of Mainland China in general. Thus, it is a useful source of information for planning and improving international collaboration to resolve WEEE issues for the international community as a whole.

The laws discussed here rank low in the legal hierarchy and, therefore, no official English versions have been published. However, English translations are available in the fee-paying academic database Lawinfochina. Since the Western world's awareness of these new laws is limited, there have been few non-Chinese analyses of China's current WEEE legal controls. Ongondo et al. (2011) and Chi et al. (2011) both briefly discuss the major national-level legislative instruments for the control of WEEE in China but stop short of making critical evaluations. While Wang et al. (2010)

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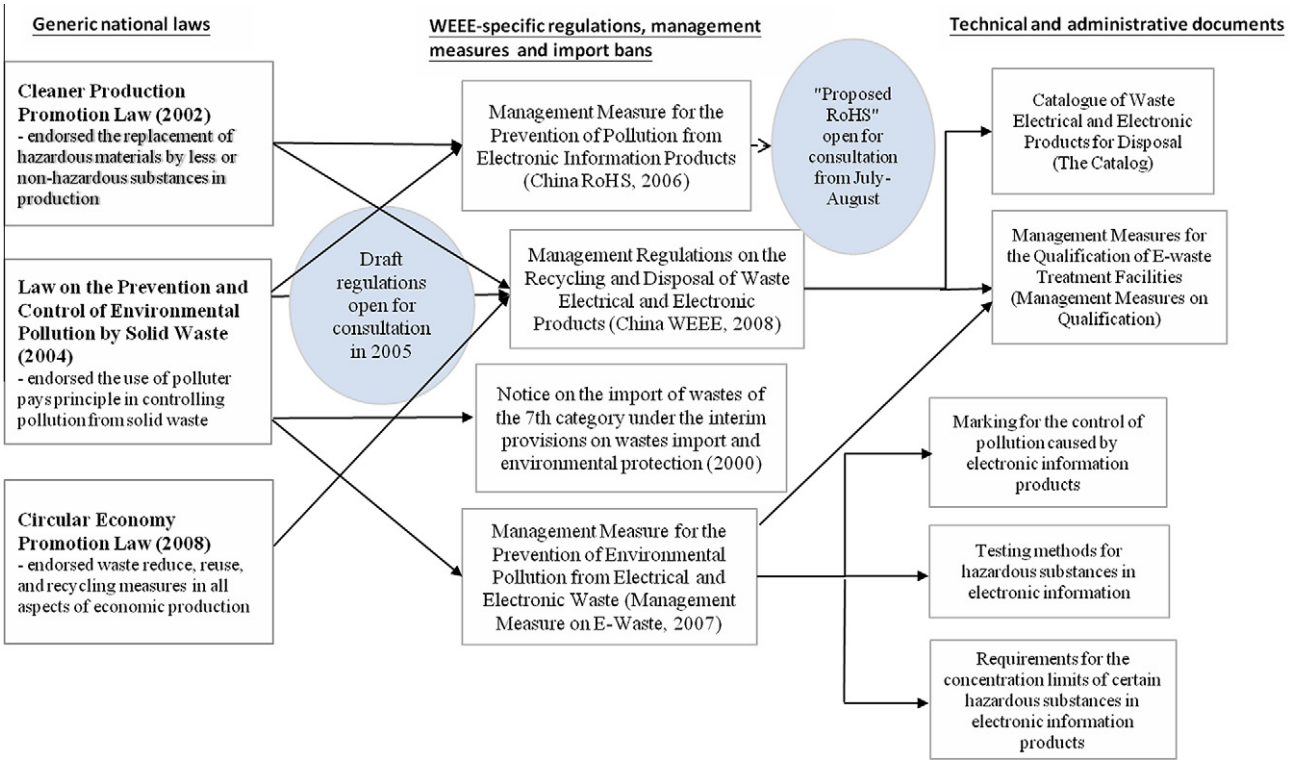

Fig. 1. WEEE regulatory framework in China.

discuss three specific WEEE laws, they do not mention the legislative control imposed on hazardous substances in their discussion. Shinkuma and Huong (2009) mention the protracted development process of one of the WEEE specific laws that is evaluated in detail later in this country report. Building on the basis of the existing knowledge, this paper provides a detailed and systematic evaluation of the three national-level laws mentioned in Ongondo et al. (2011) and of the most recent legislative documents and standards on WEEE issued and published in Mainland China. In the light of this comprehensive evaluation, it is argued in this paper that in fact China has not yet instituted an effective legal control regime for WEEE. The paper ends with recommendations for and expectations of appropriate WEEE policy measures for China.

2. Legislative and policy control on WEEE in China

Fig. 1 shows all relevant generic and specific laws and legislative documents on WEEE control. Although the three generic national laws are the highest in legal status among all legal documents mentioned in Fig. 1, they cannot be used to control environmental impacts of WEEE effectively owing to lack of specific control details. Thus, specific regulations and management measures pertaining to WEEE control were promulgated subsequently. The first one is the import ban order.

2.1. Import ban

As early as the 1990s, the Ministry of Environmental Protection of China [MEP, formerly known as State Environmental Protection Administration (SEPA)] ascertained from surveys that WEEE recycling was polluting many coastal areas in China (China Economic Times, 1995; Tong and Wang, 2004). Recent studies have also demonstrated that elevated levels of PBDEs, PCDD/Fs and toxic metals, such as lead, cadmium and mercury are found in surface soil samples and waterways in Guiyu, a city in Guangdong notorious for substandard WEEE recycling activities (Leung et al., 2007; Wong et al., 2007). As a result, China has banned importation of WEEE, including scrap computers, panel displays, kinescopes and other electronic equipment since 2000 (Li and Duan, 2008; Tong and Wang, 2004). The ban originated from a "Notice on the import of wastes of the seventh category under the interim provisions on wastes import and environmental protection" issued on January 26th 2000 by SEPA, Ministry of Foreign Trade and Economic Cooperation, State Administration for Entry–Exit Inspections and Quarantine and the China Customs (CC).[1] At present, some 40 types of WEEE (based on the codification scheme) including television (TV) sets, refrigerators, monitors, microwave ovens, air-conditioners and waste medical electronic appliances are prohibited from being imported into Mainland China (MEP, Ministry of Commerce [MCom], National Development and Reform Commission [NDRC], CC and General Administration of Quality Supervision, Inspection and Quarantine [QSIQ], 2009). In addition, MEP selected 460 companies in 1995 as certified importers and processors of WEEE. This number was subsequently expanded to 509 in 2002 and most of them were located along the coast (Tong and Wang, 2004). It is noteworthy that although the ban on importation was imposed at the turn of the century, environmentally undesirable recycling of WEEE has continued even after the ban.

2.2. Regulations and management measures for WEEE

A commonly recognized policy measure to deal with the WEEE problem is to adopt the extended producer responsibility (EPR) principle that extends responsibilities of manufacturers to the product's life cycle, with particular reference to an environmentally sound reverse logistics that stretch to end of life of products, i.e. the take-back, recovery and final disposal of the product (King and Burgess, 2005; Lindhqvist, 2000). At the forefront of applying EPR on WEEE, EU requires its member states to transpose the Directive on Waste Electrical and Electronic Equipment into their

[1] However, according to Li and Duan (2008), the ban was imposed in 2001.