

## Key CRM Equipment for the Development of the CEWASTE Requirements

The table below was initially developed as a result of research at the beginning of the project which identified Key CRM containing equipment. It has been updated numerous times as the CEWASTE certification scheme has been developed and then tested through pilot audits of WEEE management sites. This version is considered the final version. More results on the baseline and gap/obstacle analysis of standards and regulations are available in Deliverable 1.1 in the Library section of the CEWASTE website.

	WASTE TYPE	Valuable and Critical Raw Materials	Required/Viable Input for End-processing	Current Business Practice
PCBs Desktop computers, professional IT Laptops Mobile phones Tablets External CDDs/ODDs, devices with internal CDDs/ODDs	WEEE	Au <sup>79</sup> Ag <sup>47</sup> Bi <sup>83</sup> Pd <sup>46</sup> Sb <sup>51</sup>	PCBs (shredded and unshredded), CuPM granulates, mobile phones w/o. batteries	
Li-ion BATTERIES Laptops Mobile phones Tablets Li-ion batteries in other WEEE (battery packs from e-bikes, tools,)	WEEE ELV	Co <sup>27</sup> Li <sup>3</sup>	Batteries	*
BEV, (P)HEV				
LEAD-ACID BATTERIES Uninterruptable Power Supplies Other WEEE (e-scooters without seats, ride-on toys,)	WEEE	Sb <sup>51</sup> **	Batteries	
Cars containing LABs, other vehicles (e-scooters with seats,)	ELV			
FLUORESCENT POWDERS Fluorescent lamps CRT monitors and TVs	WEEE	Eu <sup>33</sup> Tb <sup>55</sup> Y <sup>39</sup> Ce <sup>58</sup> La <sup>57</sup> Y <sup>39</sup> Tb <sup>55</sup> Eu <sup>33</sup> Gd <sup>64</sup> La <sup>57</sup> Ce <sup>58</sup>	Fluorescent Powder	×
Nd-MAGNETS Laptops (HDD) Desktop computers, professional IT (HDD) E-bikes	WEEE	Nd +	Magnets	×
BEV, (P)HEV (electro engine)	ELV	Dy Gd Pr Tb		

BEV - Battery Electric Vehicle **CDDs** - Compact Disk Drives CuPM – Copper Precious Metal HDD - Hard Disk Drive **ODDs** - Optical Disk Drives PCB - Printed Circuit Boards (P)HEV - (Plug-in) Hybrid Electric Vehicle

The current business practice of recycling CRMs from the Key CRM Equipment is deemed to be achievable with current or foreseeable technologies if the economic and/or legal framework conditions for collection, sorting and treatment are adapted.

<sup>\*</sup>Current business practice does not (yet) include recycling of Li \*\*Current feasibility refers to recycling with lead (Pb)