VERENIGING NVMP

POSITION PAPER
MATERIALS ROUNDABOUT

SUMMARY

The NVMP Association strives to recover the greatest possible quantities of raw materials from the e-waste processed by the collection system. At present, 80% of all e-waste is recycled. Through improvement of the separation techniques and innovation in recycling processes this recycling result can be increased further. Gains are particularly feasible for the most valuable and most critical raw materials. The NVMP Association stimulates the recovery of critical raw materials, provided that a business model can be developed.

The NVMP Association strives to recover the greatest possible quantities of raw materials from the e-waste processed by the collection system. At present, 80% of all e-waste is recycled. The recycling yield ranges from 75% for large white goods to 93% for the low-energy bulbs. Of the substances that cannot be reused, the vast majority – 14% across the line – is incinerated for the generation of energy. Ultimately 5% is left as residual waste.
The NVMP Association stimulates further improvement of the recycling rate through improvement of separation techniques and innovation in recycling processes.

Critical raw materials

Gains are particularly feasible for the most valuable and most critical raw materials, which are scarce and expensive or are only put on the market by a limited number of mines or countries. The European Union has established a list of these critical raw materials.[1]
The NVMP Association stimulates the recovery of critical raw materials, provided that a business model can be developed.
The NVMP Association has commissioned an exploratory study into the presence of the various critical substances, the quantities contained in various types of e waste streams/products and the quantities of these substances collected and processed in the Netherlands by Wecycle/NVMP.[2] It appears that recoverable quantities of the critical raw materials are only present in a portion of the e waste, mainly in low-energy light bulbs, batteries, cathode ray tubes, LCD screens, mobile telephones and printed circuit boards.

The potential for recovery of the critical raw materials from e-waste, which are often only present in extremely small quantities, is determined by the utilised processing route (disassembly, shredding and sorting and the selected final processing technology).
A complicating factor is that the manufacture of some products involves combining materials that are then difficult or impossible to separate again during the metallurgical recycling process. As a consequence, the degree of recoverability and material losses (per product) can differ.

Materials Roundabout

Dutch MP Van Veldhoven (D66) launched the idea of the Materials Roundabout in 2011. She believes transforming the Netherlands into a materials roundabout will go towards meeting several challenges. “First of all, many important raw materials are becoming depleted, and this approach is a means of working on the scarcity problem. Secondly, it is good for the environment. Smarter separation and reuse of waste reduces CO2 emissions. Thirdly, it is good for the economy. The Netherlands has the right infrastructure for importing, recycling and exporting wastes, giving our country a competitive edge. Moreover, it is a step toward reducing social inequality. In a number of countries waste is processed under dubious working conditions. In the Netherlands it can be done in a responsible manner.”[3]

1. *List of critical raw materials at EU level*
   - *antimony, beryllium, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, tungsten*
   - *platinum group metals: ruthenium, rhodium, palladium, osmium, iridium, platinum*
   - *rare earth metals: scandium, yttrium, lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, lutetium*
2. *Quantification of critical materials and raw materials in e-waste products], MARAS, 2011*
3. *Source: website stientjevanveldhoven.nl*

About the NVMP Association

The NVMP Association was established in 1999 and represents 1500 manufacturers and importers of electrical equipment and low-energy lighting in the Netherlands. These manufacturers and importers have established the first national system in the world for the responsible collection and sustainable processing of electrical appliances and low-energy lighting. The implementation thereof has been entrusted to the non-profit organisation Wecycle.

For more information

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