Deliverable 1.1 Industrial Waste Residues Evaluation

An evaluation of the main REE-containing industrial waste residues was performed as a first activity in WP1 in order to identify the most promising waste streams for further study in the REMAGHIC project. Two were the tools used for that purpose: (1) characterization of the waste materials by analyzing the main chemical composition, with focus on the REE, and (2) a decision-weighted Matrix for the final selection.

The outcome was a waste classification according to the concentration of the most interesting REE for the project (Y, Ce, La), taking into account the information about the presence of other REE and chemical elements and compounds. The most interesting REE-containing waste streams which were selected were:

- Fluorescent powder from spent lamps
- CRTs phosphors
- Spent NiMH batteries.

The selected materials were collected and sent to the research partners for evaluation of different recovery techniques within the other WP1 tasks.

Manual sorting of the input material (left) and fluorescent lamp processing plant (right)
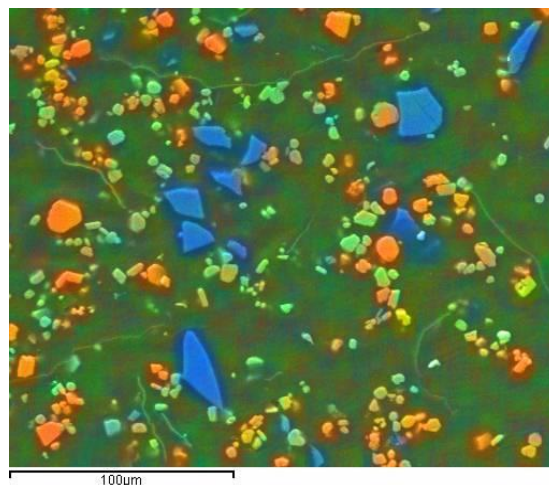
Mapping of particles in CRTs phosphors by SEM/EDX analysis