For Teachers 1

The Rare Earth Elements Wheel

Module 1

Objective: Preparation of the 7 Cards of the toolkit

Necessities

List of materials/tools

- 4 Papers
- 1 Scissor
- 1 Glue

Procedure

- This package is composed of four sheets (***Cards_to be printed***) containing examples of application of the Rare Earth Elements being part of the wheel.
- Each page, on the left side has cards with the Rare Earth Element, while on the right side has cards showing the electrical appliance containing that element.
- Teachers have to prepare the cards, cutting them and gluing the element with the corresponding picture, in advance, in order not to disclose the solution of the game to their students.
- Cards, in total, are seven, one for each element of the wheel.
- For example, as shown in Figure 1, related to praseodymium, we have a front side of the card showing a photo of a digital watch, while on the back side is written that praseodymium is found in this electronic device.
- Sometimes, a description explaining the reason of the application of that specific element is also provided.

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Figure 1: Examples of elements' cards to be cut and glued.

Conclusions

With this toolkit students will develop:

- the concept of WEEE (Waste Electrical and Electronic Equipment) and the correct disposal;
- the main concepts of linear and circular economy;
- the main aspects related to Critical Raw Materials (what they are, where they come from, and the differences between virgin raw materials and secondary raw materials) and Rare Earth Elements;
- the process of recovery of the CRMs and the Rare Earth Elements contained in WEEE.