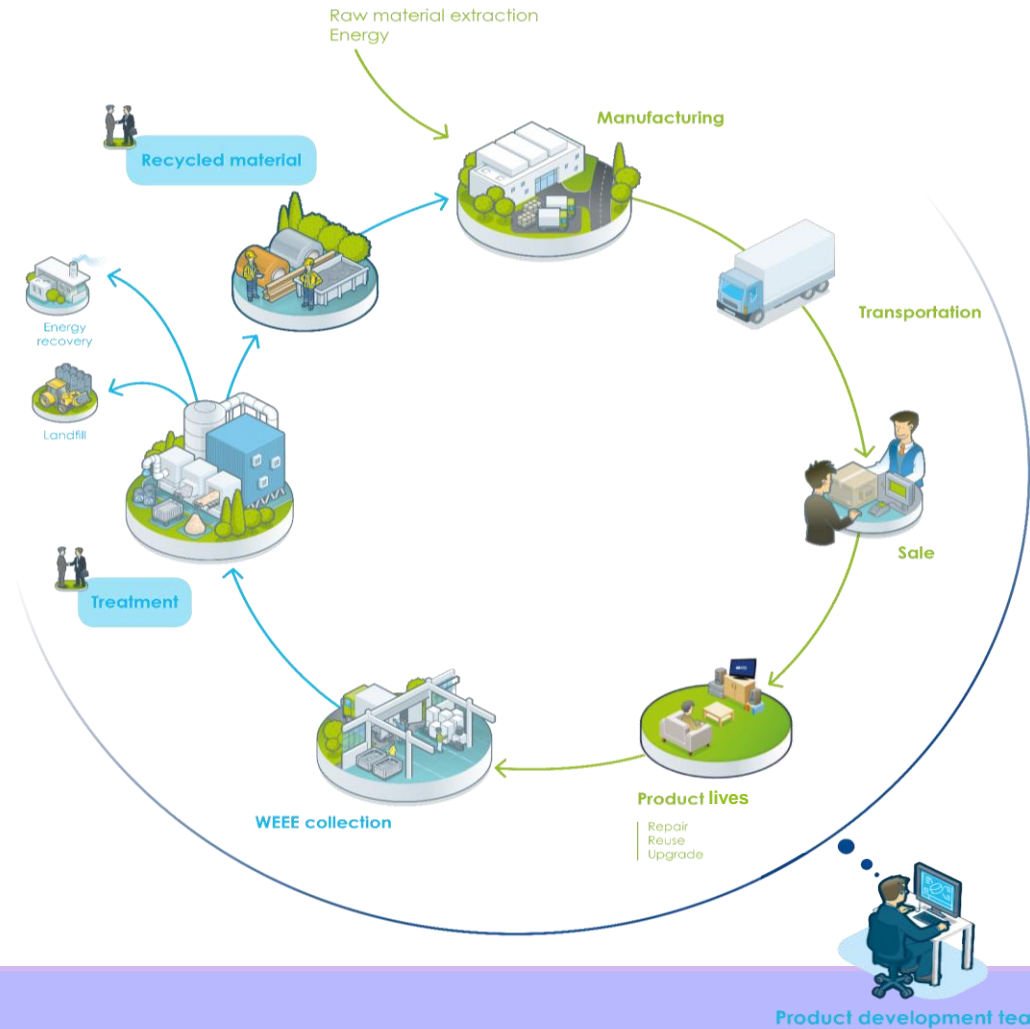


LCI OF THE PRODUCTION OF RECYCLED PLASTICS FROM WEEE

ecosystem
recycler c'est protéger



ecosystem's support for ecodesign



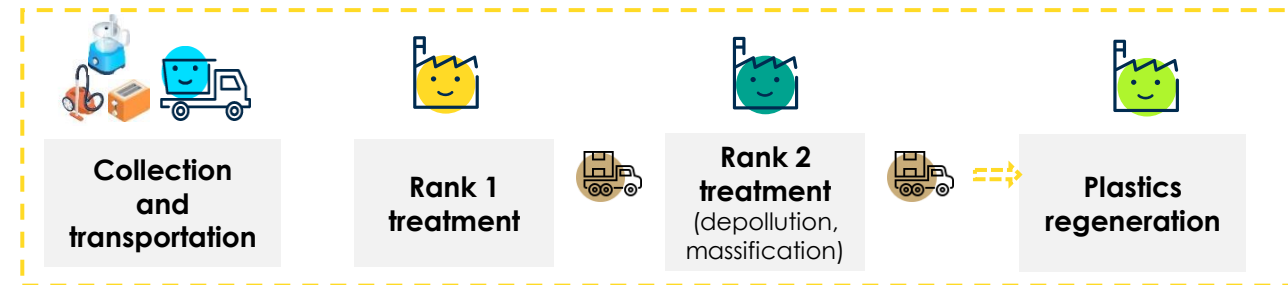
Development of LCI on recycled plastics from WEEE

- Aim of the work : Establish Life Cycle Inventories (LCI) of the production of recycled plastics **ready for use** for the manufacture of new equipment, in the form of **granulates and with high purity level**

- Perimeter

- ❖ **The whole recycling chain considered :**

from WEEE collection (LHA cold and non cold, SHA and screens) to recycled granulates



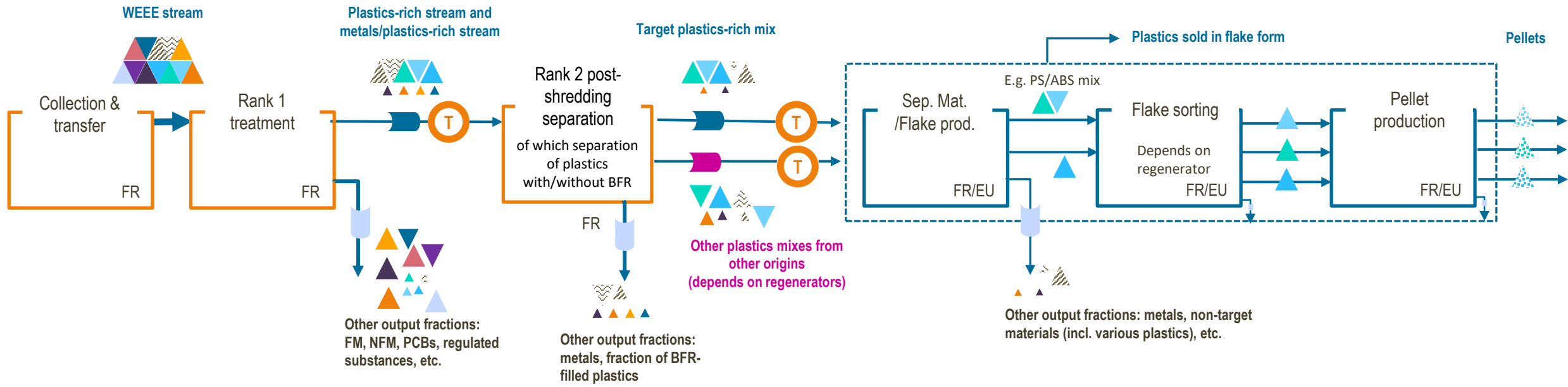
- ❖ **3 main plastics studied :** rPP, rPS, rABS

- ❖ **Geographical perimeter :**

- Recycled plastics from WEEE collected in France
 - Plastics regenerated in Europe



Development of LCI on recycled plastics from WEEE



Key:

- | | | | | | | | |
|--|------------|--|---------------------|--|--------------------|--|-------------------|
| | Target PS | | Other plastics | | Ferrous metals | | Refrigerant gases |
| | Target ABS | | BFR-filled plastics | | Non-ferrous metals | | Glass |
| | Target PP | | Elastomers | | PCBs | | Cables |





LCI on recycled plastics from WEEE

❖ Critical review panel: main conclusions

“This study is significant in the understanding of impacts of WEEE plastics regeneration. It is important to note that this study presents points which differ from previous studies and bring genuine value to the current best available knowledge:

- the scope of the study of waste collection to the production of ready-to-use pellets,
- the contribution of representative regenerators with appropriate exhaustiveness,
- the methodology applied to allocate charges to the target plastics treatment processes,
- the non-use of process blocks (details of all production steps from shredded material to ready-to-use pellets)”

❖ Some impact results – indicative data

Impact categories - PEF method recommendations	Recycled PP (for 1 t)	Recycled ABS (for 1 t)	Recycled PS (for 1 t)	Units
 Climate change	436	560	617	kg CO ₂ eq
 Resource use, energy carriers	9,467	11,009	12,295	MJ
 Photochemical ozone formation, HH	1.33	1.61	1.68	kg NMVOC eq
 Terrestrial and freshwater acidification	2.04	2.80	3.13	mol H ⁺ eq

Thank you for your attention !