LA HOJA DE RUTA DEL I+D+i DE VFUs Y RAEEs: resultado del proyecto New-Innonet hacia "cero residuos", más allá de la tecnología.





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New inno Net

The Near-Zero European Waste Innovation Network

White Network Network

White Network Network

White Network Netwo

resultado del proyecto New-Innonet hacia"cero residuos", más allá de la tecnología.

- 1.- Situación de partida.
- 2.- VFU y RAEEs
- 3.- NEWInnoNet
- 4.- SRIA
- 5.- Conclusiones



1. Situación de partida

VFU



12M

passenger cars were taken into use within the EU in 2013 (Eurostat, 2015)



6M

passenger cars were scrapped in 2013 (Eurostat, 2016a)



Material composition of passenger cars

non-metals 25%



iron & steel >50%

non-ferrous metals <25% The material content in passenger cars varies depending on type of car, age, propulsion system etc. Today's vehicles consist of about 75% of metals with steel and iron contributing to the greatest share followed by non-ferrous metals such as aluminium, copper, zinc and magnesium (ARN, 2015). The non-metals are mainly plastics, rubber, fluids and glass. Growing use of electronics has led to increased use of precious and rare earth metals such as gold, neodymium and dysprosium.

85 - 95%



Of the discarded passenger cars, the material recycling and reuse rate amounts to 85-95% for most countries within the EU (Eurostat, 2016b).

TARGET The reuse and recovery rate of discarded vehicles (ELVs) shall amount to at least 95% of weight, of which at least 85% shall be reused or material

recycled according to the ELV Directive 2000/53/EC.

Losses

Due to their net economic value an unknown but significant number of ELVs are not sent to an authorised treatment facility but to non-compliant actors as an unregulated and illegal export.



1. Situación de partida

RAEEs



~9Mt

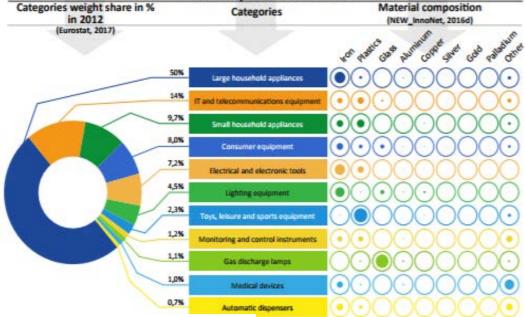
of electrical and electronic equipment (EEE) was put on the market in the EU in 2012 (Eurostat, 2016c)



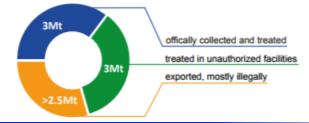
~ 9Mt

of WEEE was discarded by consumers, businesses and governmental agencies across Europe in 2012 (European Commission, 2014)

Products put on the market



What happens to the 9Mt WEEE scrapped? (CWIT, 2015)



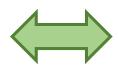


2. VFUs y RAEEs







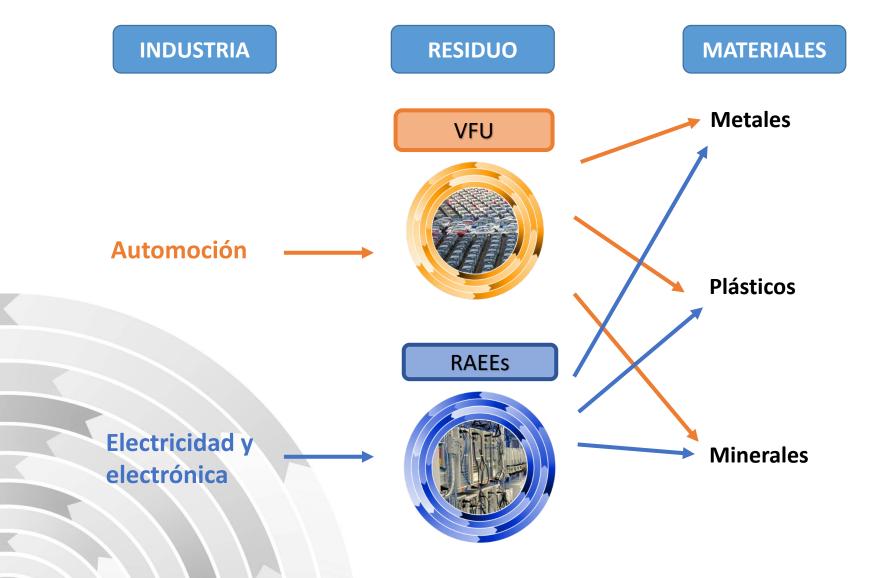






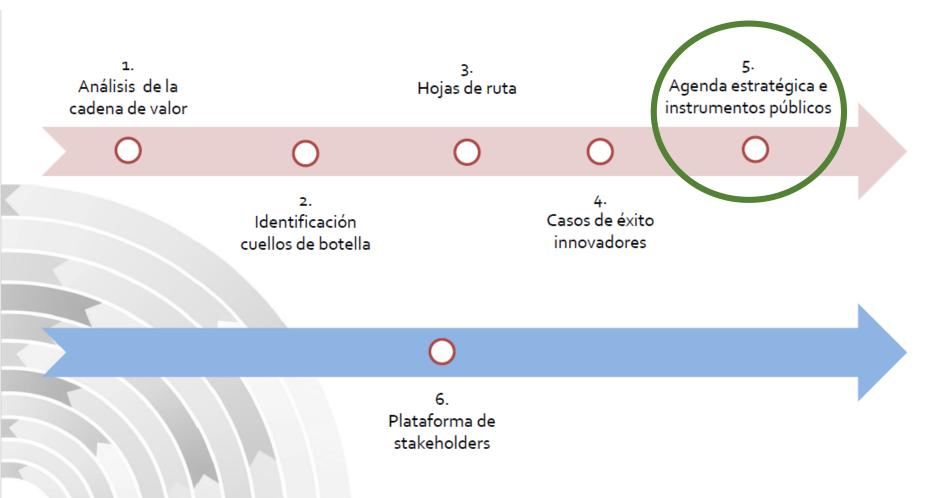


2. VFUs y RAEEs





3. NewinnoNet





4. SRIA

Newinn**o**Net



OBJETIVO

Proporcionar orientación a los responsables de diseño de políticas de la UE, para apoyar el reciclaje de materiales hacia la economía circular.

ALCANCE

Reciclado VFU, RAEEs y PPW.

- > Tecnología.
- Mercado de materias secundarias.
- > Instrumentos políticos.





OPTIMIZED SORTING AND RECYCLING

WELL-FUNCTIONING MARKET

SUPPORTING POLICIES AND LEGISLATION





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4. SRIA

Newinnt Net

By the year 2030 high level material recycling from ELV, WEEE and plastic packaging waste has been achieved and it is used as input material for high grade applications in a circular Europe Electric and electronic equipment Plastic packaging Automotive industry PPW WEEE streams Research and Innovation actions Improved reverse logistics of WEEE · Investigation and design for collection Improved reversed logistics of ELV improved collection systems for components components PPW · Investigation and design of improved collection systems for WEEE Development of biological plastic upcycling methods Development of innovative product assemblies with traceable material characteristics, integrated with recycling methods Optimization of high capacity sensor-based sorting of mixed plastics Use of robotics in sorting valuable and hazardous materials Development of methods for detection and separation of scarce metals Optimised sorting System analysis (and piloting) of integrated treatment strategies for improved and recycling recovery of selected precious and critical raw materials Development of information systems Development of recycling methods for composites and multi-layered materials Recycling of smart packaging Recycling of smart packaging Development of cost effective and low volume lithium battery reuse and recycling methods Application of fibrous and mineral residues from ELV's



4. SRIA

Newinnt Net

Well-functioning secondaruy raw Research and inn market for

- Investigate material ownership by the producer
- Establishing an intra-sector and cross-sector knowledge community supporting a market for secondary materials
- Standardization of analytical methods for quality assurance of recyclates
- Analysis of new technology impact on raw material consumption and recycling
- Developing material specifications for secondary materials

Supporting policies and legislation

Increase the demand for recycled plastics

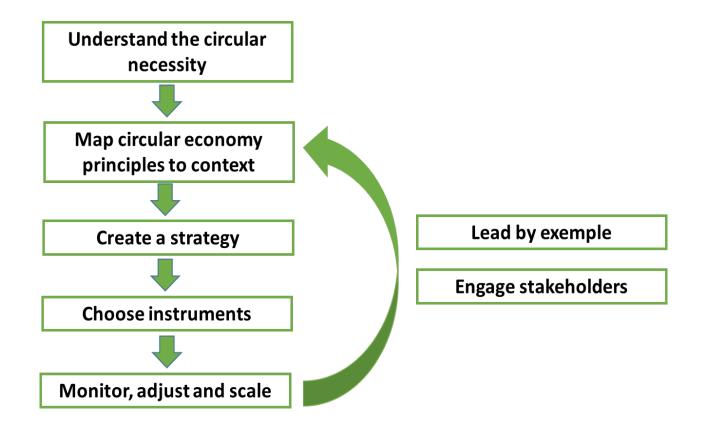
- Improve EPR to encourage the production of recyclable products
- Development of rebate systems for collection of waste fractions
- Development of systems for efficient monitoring
- Evaluating the impacts of different policy mixes targeting effective material recycling
- · Assessment of benefits of recycling and phase-out regimes for potentially hazardous substances
 - Development of quality standards for ELV recycling
 - · European matching of vehicle registration, re-registration and deregistration systems
 - Development of Export Control systems for WEEE

Design for circularity

- Investigating the consequences of introducing degradable materials in the loop
- · Collaborative design for circularity
- · Understanding consumer behaviour and drivers for recycling, reuse and reparability
- · Product design indicators including impacts of recycling
- Design of consumer electronics for circularity
- Design of vehicle components for circularity
- · Design of packaging for effective recycling



5. CONCLUSIONES





5. CONCLUSIONES

Understand the circular necessity Map circular economy principles to context **Create a strategy Choose instruments** Monitor, adjust and scale Instrumentos con mejor costeefectividad.

Combinar un conjunto de instrumentos.

Adaptar a cada región.

Lead by exemple

Engage stakeholders



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