



# Circular economy and the policy framework on recycling: Some challenges

**1st Regional Civil Society. Industry Dialogue**  
**Stimulating a joint debate on sustainable raw material use**  
**Sustainable raw materials management and circular economy in the**  
**Iberian Peninsula:**  
The role of industry and consumers in optimizing the raw materials value chain

**Ministry of Agriculture, Food and Environment**  
(June 12th 2014, Madrid)



## Policy on Circular Economy

- To respect planetary boundaries both production and consumption systems need to shift towards more sustainable processes, products and services.
- From a **production** perspective, products need to become
  - less material intense and environmentally damaging
  - more durable
  - easier to dismantle and **recycle**.
- From a **consumption** perspective, **public and private** consumers need to change towards more sustainable consumption choices and lifestyle.





## Policy on Circular Economy: EU basic framework

- ▶ **The European policy framework on raw materials and resource efficiency**
  - The Europe 2020 "Resource Efficiency Flagship Initiatives", "Raw Materials Initiative"
  - The "Roadmap to a Resource-Efficient Europe"
  
- ▶ **Resource-efficiency and sustainable raw material supply:**
  - securing growth and jobs
  - provide economic opportunity to
    - improve productivity
    - boost competitiveness
  
- by
  - developing new products
  - minimizing waste,
  - changing consumption patterns
  - optimizing production processes.



## Participation in European Innovation Partnership (EIP) on raw materials

► Spain participates in European Innovation Partnership (EIP) on raw materials (EU EIP on Raw materials) within the framework of the Europe 2020 Flagship Initiative “Innovation Union” as well as the Raw Materials Initiative to foster research and innovation

- non-energy,
- non-agricultural raw materials (i.e. including metallic minerals, industrial minerals, construction materials, wood, natural rubber).

In order to streamline, simplify and better coordinate existing instruments, initiatives and complement them with new actions where possible, and reduce the import dependency on raw materials by 2020, and ensure secure, sustainable supplies of both primary and **secondary raw materials** or prevent wastage of key raw materials during **all their life cycle**.



## Participation in EU SHERPA GROUP

► Spain participates in the processes of assessment carried out by the group of high level representatives (SHERPA Group) related to the Strategic Implementation Plan (SIP, adopted in September 2013), EIP objectives and targets, as well as methodology and action for achieving its targets.

The criteria selected for evaluating the actions comprise:

- economic benefits
- innovation and implementation readiness
- sustainability aspects (i.e. economic, environmental and social sustainability).

Action areas:

- technological (e.g. developing environmentally friendly and resource efficient technologies for raw material production),
- non-technological aspects (e.g. improving public trust, communication and transparency for exploration, mining and after-mining activities)
- international aspects (e.g. global raw materials governance; health, safety and environmental issues).



## Some results

### Strategic implementation plan for the European Innovation Partnership on raw materials, FINAL VERSION September 2013.

- ▶ The EU as a whole is self-sufficient in the production of construction minerals, including aggregates (sand, gravel, and crushed natural stone), various brick clays, gypsum and natural ornamental or dimension stone.
- ▶ The EU has a large production of industrial minerals supplying a very wide range of industries. For some minerals, such as magnesite or kaolin and potash, Europe is an important global producer. The EU however is a net importer for many of these industrial minerals.
- ▶ The European economy is highly dependent on ores and metals imports. Only a small number of metal ores are extracted within the EU, which is still a relatively important producer for some, such as chromium, copper, lead, silver and zinc.
- ▶ Wood-based raw materials, the EU is, to a large extent, self-sufficient. However, there is a growing necessity to secure its sustainable supply, partly due to increasing demand from other EU end-users, notably bio-energy, and also demand from outside the EU. EU industry relies completely on imports of natural rubber.



## Substitution as a key tool to promote Resource Efficiency

► One key aspect of resource efficiency is substitution.

Substituting an existing material by finding or developing alternative materials.

It can involve:

- the development of new materials:
  - with better qualities. “Smart” substitution reduces the demand for rare materials, or materials with particularly life-cycle impacts to more attractive, or common materials.
  - that can go hand in hand with the development of new products, which in themselves can reduce other forms of material use.
- the development of new chemicals for use in industrial processes, that significantly reduce energy and material use in production processes.





## SECURITY OF SUPPLY

### ► Security of supply approach:

From various different angles along different stages of the raw material value chain (i.e. exploration, extraction, processing, refining, **re-use, recycling**, and substitution).

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## Legal Instruments: (Law 22/2011, on Waste, transposing Directive 98/2008/EC). Waste Hierarchy in Spain

1. Prevention
2. Preparing for re-use
3. Recycling
4. Other recovery, e.g. energy recovery
5. Disposal





## Law 22/2011, on Waste

### Collection, preparing for re-use, recycling and other recovery

- Measures to implement systems that promote product re-use and waste preparing for re-use and recycling
- Several waste streams separate collection by the end of 2014

### Specific objectives. Preparing for re-use, recycling, other recovery (2020)

- 50% domestic waste preparing for re-use and recycling
- 70% construction and demolition waste preparing for re-use, recycling and other material recovery



## Law 22/2011, on Waste

### Extended producer responsibility

- an acceptance of returned products and of the waste that remains after those products have been used
- the subsequent management of the waste
- the financial responsibility for such activities
- to encourage the eco-design of products in order to reduce their environmental impacts and the generation of waste in the course of the production and subsequent use of products
- to encourage the development, production and marketing of products that are, after having become a waste, suitable for proper and safe recovery





## Planning Instruments:

- National Plan on Waste 2008-2015) (being reviewed)
- Waste Prevention Programme (2014-2020)





## SOME CHALLENGES ALONG THE VALUE CHAIN (I)

The whole cycle and chain of supply and demand of the raw material comprises exploration, extraction, processing or refining, final consumption and recycling.

Regarding **recycling**:

- the increasing complexity of products, in particular those containing technological and critical metals
- the recycling industry lacks information on the presence of critical raw materials in products or on how they may be recovered.
- final consumption is an important aspect considering the whole life-cycle of a product or its embedded materials:
  - some low collection rates for end-of-life consumer products represent a major challenge due to low incentives to recycle critical materials in small amounts (WEEE)
  - the design of some products ought to improve: their life-time is short and repairing or dismantling difficult or uneconomic.



## SOME CHALLENGES ALONG THE VALUE CHAIN (II)

### Resources sector:

- Increasing the security of supply through improving efficient use of waste resources
- Reducing import dependencies and impacts of price volatilities through efficient use of waste resources

### Manufacturing:

- Increasing the security of supply and reducing import dependencies through a more efficient use of waste resources
- Contributing to technological innovation towards sustainable raw materials from waste management and a green economy

### Recycling sector:

- Improving eco-design for recyclability
- Promoting circular economy through enlarging life products, recycling, ...



## SOME CHALLENGES ALONG THE VALUE CHAIN (III)

- Developing innovative, cleaner and more efficient technologies as BAT for resource recycling
- Identifying substitution potential of hazardous and critical materials
- Reducing the consumption of virgin raw materials and promoting a circular economy
- Reducing the consumption of materials in general through an efficient use of waste material and energy contents
- Promoting sustainable consumption (e.g. final consumption in the sense of product purchasing and use and disposal)
- Strengthening the economic value of waste in market
- The recovery of waste and the use of recovered materials should be encouraged, as a key instrument to promote decent job



# THANK YOU

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