

Fast-tracking a Circular Economy in the EU

Vasileios Rizos, Head of Sustainable Resources and Circular Economy, CEPS

European Parliament, 19 March 2019

Structure of the presentation

1. Introduction of CEPS
2. What has been achieved
3. Key challenges
4. Reduce the EU's dependence on critical raw materials
5. Priorities for the coming five-year policy cycle





- Independent European think tank based in Brussels, founded in 1983
- Objectives:
 - Policy-oriented research
 - Forum for discussion
- Strong in-house research capacity and an extensive network of partner institutes throughout the world
- Extensive portfolio of work in the circular economy field:
 - CIRC4Life: Circular economy business models in the electronics and food value chains
 - CICERONE: Platform for circular economy funding and programming in the EU
 - CEPS is a Knowledge Partner of the Green Growth Knowledge Platform

What has been achieved

Narrative has changed

- **Thematic Strategy on the prevention and recycling of waste (2005):** “The long-term goal is for the EU to become a recycling society, that seeks to avoid waste and uses waste as a resource. With high environmental reference standards in place the internal market will facilitate recycling and recovery activities”
- **EU action plan for the Circular Economy (2015):** “An economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised, is an essential contribution to the EU's efforts to develop a sustainable, low carbon, resource efficient and competitive economy”



What has been achieved

Policy action at the EU level

- A revised legislative framework on waste
- EU Strategy for Plastics in the Circular Economy
- Progress on eco-design requirements for energy-related products
- Monitoring framework for the circular economy
- Financing of projects: 1.4 billion from Horizon 2020 until 2018



Various member states have also adopted strategies and government-wide programmes for a circular economy

What has been achieved

Momentum at global level

- “The circular economy is now an irreversible, global mega trend” (European Commission, 2019)
- Large number of business initiatives on the circular economy worldwide
- Link between circularity and climate change: half of all greenhouse gas (GHG) emissions are related to materials management activities (OECD, 2018)
- Significant interest in the academic community: over 100 academic articles on the topic were published only in 2016 (Kirchherr et al., 2017).



The Role of Business in the Circular Economy

Markets, Processes and Enabling Policies

Report of a CEPS Task Force



Co-chairmen: Martin R. Stuchtey & Stef Kranendijk

Rapporteurs: Vasileios Rizos

Arno Behrens

Eleanor Drabik

David Rinaldi

& KatjaTuokko

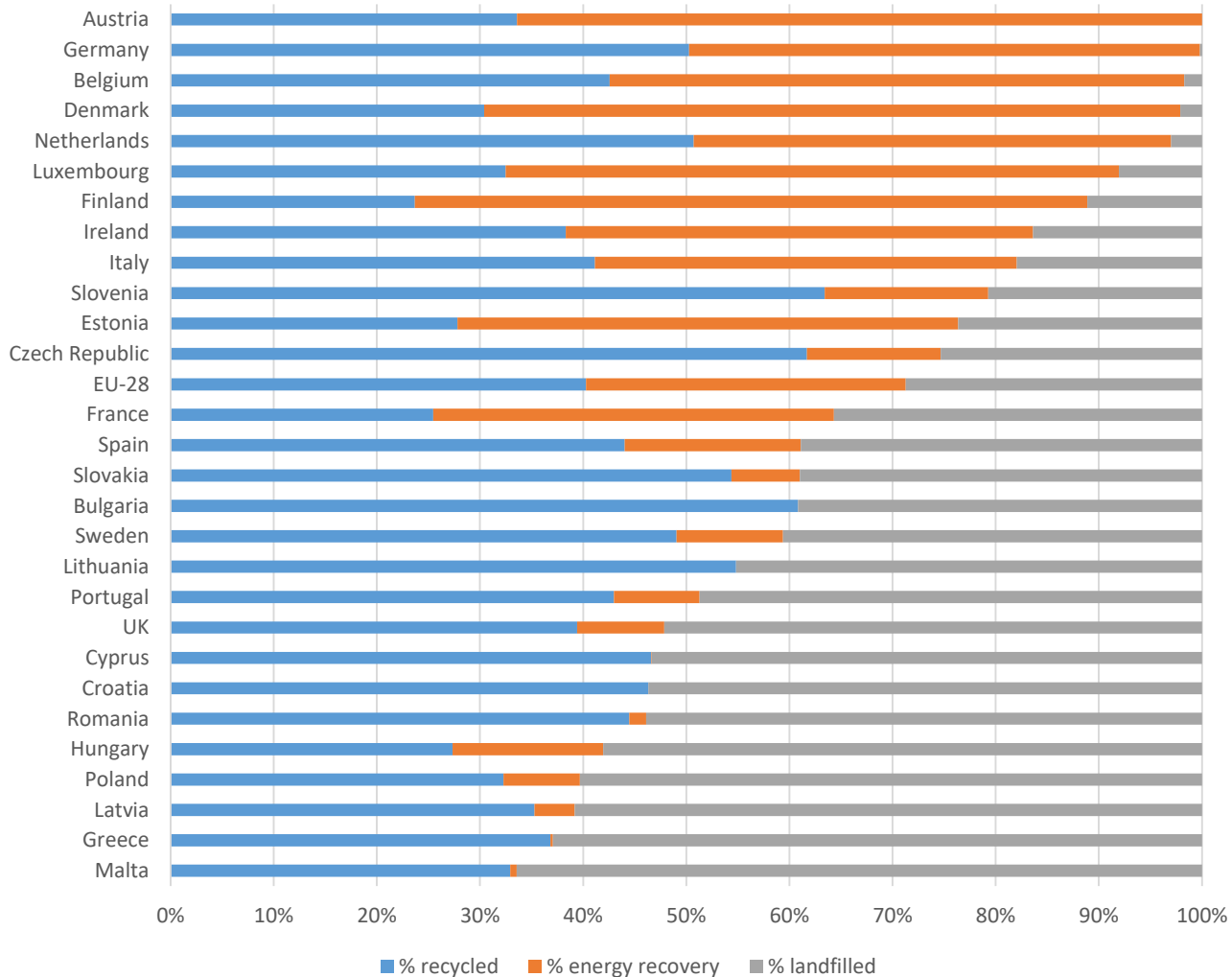


Key challenges

- The shipment of waste for materials' recovery within the EU is a complex process entailing a high administrative burden and costs
- EU legislation on hazardous substances: i) Difficulties in remanufacturing products, ii) uncertainty about substances included in products
- Low progress in setting eco-design requirements for non energy related-products
- Need for more evidence on the merits and de-merits of different circular options
- Wide differences in waste management performance across member states; a lack of waste collection and processing infrastructure is an issue in several countries

Key challenges

Recycling, energy recovery and landfilling rates of plastic packaging waste in the EU, 2015

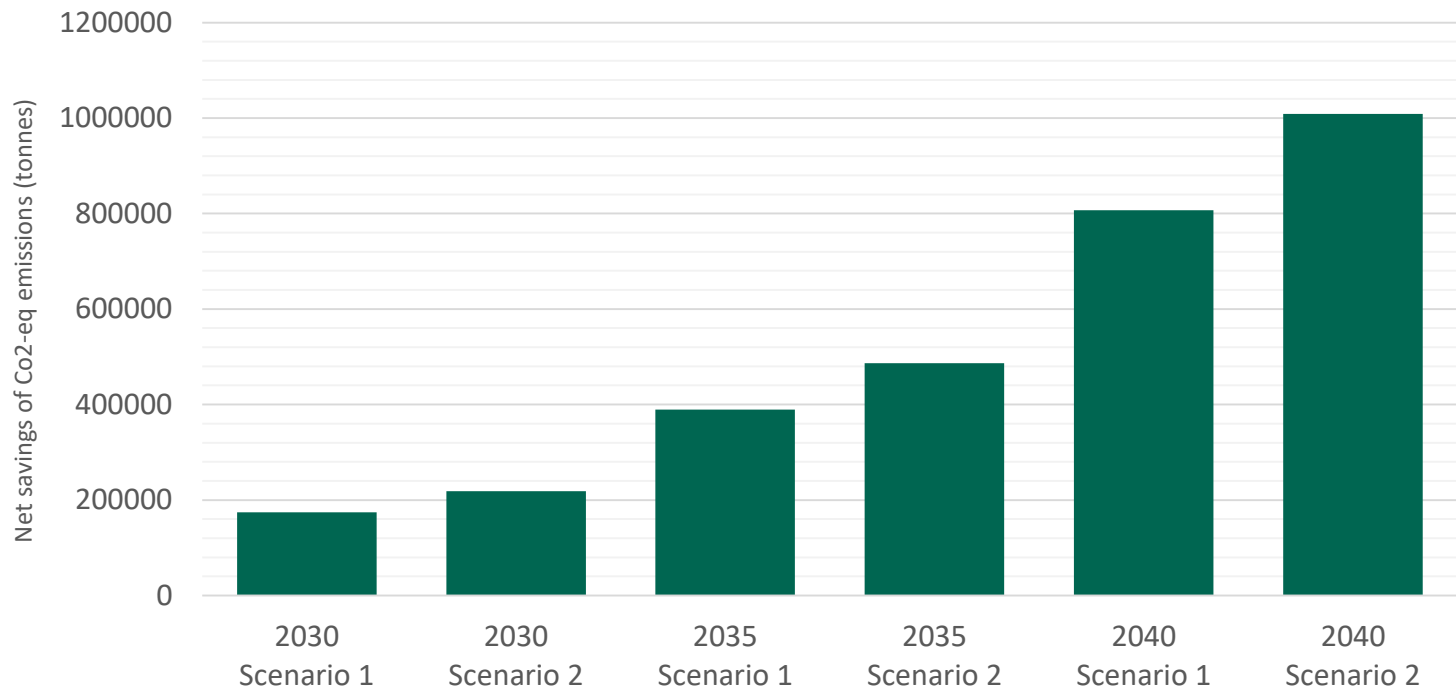


Reduce the EU's dependence on critical raw materials: the case of electric vehicle batteries

	Scenario 1		Scenario 2		Scenario 1		Scenario 2	
	2030		2035		2040		2040	
Amount of recovered material (tonnes)								
Cobalt	2,922	4,058	6,519	9,054	13,509	18,763	18,763	18,763
Nickel	10,604	13,535	23,662	30,200	49,035	62,584	62,584	62,584
Aluminium	31,826	39,783	71,013	88,766	147,163	183,954	183,954	183,954
Lithium	1,162	2,421	2,593	5,401	5,373	11,193	11,193	11,193
Value of recovered material (million €)								
Cobalt	213	295	475	659	983	1,366	1,366	1,366
Nickel	123	157	274	350	569	726	726	726
Aluminium	57	71	126	158	262	328	328	328
Lithium	15	32	34	71	71	148	148	148
Total	408	555	909	1,238	1,885	2,568	2,568	2,568

 In 2030 over 41% of all cobalt imports could be covered by recycling EV batteries

Net savings of CO2-eq emissions through recycling electric vehicle batteries



The net savings of over 1 million tonnes of CO2-eq in 2040 (Scenario 2) are comparable to the annual production of two primary aluminium smelters

Priorities for the coming five-year policy cycle

- Assess ways to facilitate the movement of waste for safe recovery of resources within the EU
- Expand the ecodesign rules to non-energy-related products
- Facilitate the trade and sale of remanufactured/refurbished goods in a global market
- Boost demand for circular products and services (i.e. public procurement)
- Need for evidence base/scientific knowledge on the advantages and disadvantages of different circular options
- Focus on the implementation of new waste rules

- THANK YOU! -

Vasileios Rizos

vasileios.rizos@ceps.eu

Key research publications:

<https://www.ceps.eu/publications/prospects-end-life-electric-vehicle-batteries-circular-economy>

<https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

<https://www.ceps.eu/publications/circular-economy-review-definitions-processes-and-impacts>

Full list of CEPS publications and events on resources & circular economy:

<https://www.ceps.eu/topics/resources>

