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Business reactions to the new Circular Economy Package –  
To what extent does it address the key challenges of businesses  
in the transition to a resource efficient circular economy?

# The common goals of the circular economy: Environmental protection, securing of raw materials, economic benefit, and growth



Source: EU Commission, 2 December 2015

Which means in business terms:

effectiveness + efficiency

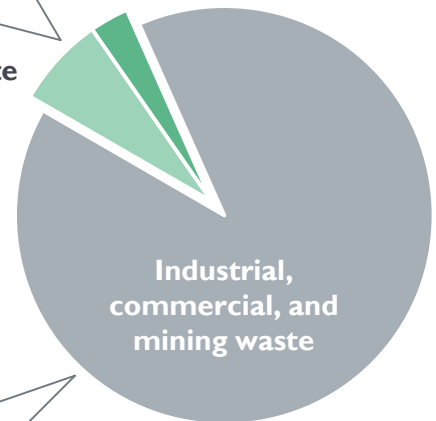
# EU Commission's proposal COM(2015)595 *et al.* still addresses only 7–10% of total waste arisings

- ✓ Increasing **resource efficiency** (see 7th EAP)
- ✓ Full implementation of the **waste hierarchy** in all Member States
- ❓ Reducing **per-capita waste arisings**
- ✓ Combating unnecessary **food waste**
- ✓ Ensuring high-quality **recycling** as a major and reliable source of raw materials:
  - ❓ Raising the targets for preparing for re-use and **recycling of municipal waste to 65 % by 2030**
  - ❓ Raising the targets for the re-use and recycling of packaging waste
  - ❓ Limiting energy recovery to non-recyclable waste
  - ✓ **Limiting landfilling to 10 % by 2030**
  - ✓ Introduction of an early warning mechanism to monitor compliance with targets
- ✓ Special rules for Member States facing the biggest implementation challenges;
- ✓ Aligning **definitions and calculation methods**, simplifying reporting obligations
- ✓ Support cooperation between Member States
- ✓ Laying down **general requirements** for ERP schemes
- ✓ Encouraging the use of economic instruments

To be amended:

- Waste Framework Directive 2008/98/EC
- Packaging Directive 94/62/EC
- Landfill Directive 1999/31/EC
- WEEE Directive 2012/91/EU
- Batteries Directive 2006/66/EC

Municipal waste



Industrial,  
commercial, and  
mining waste

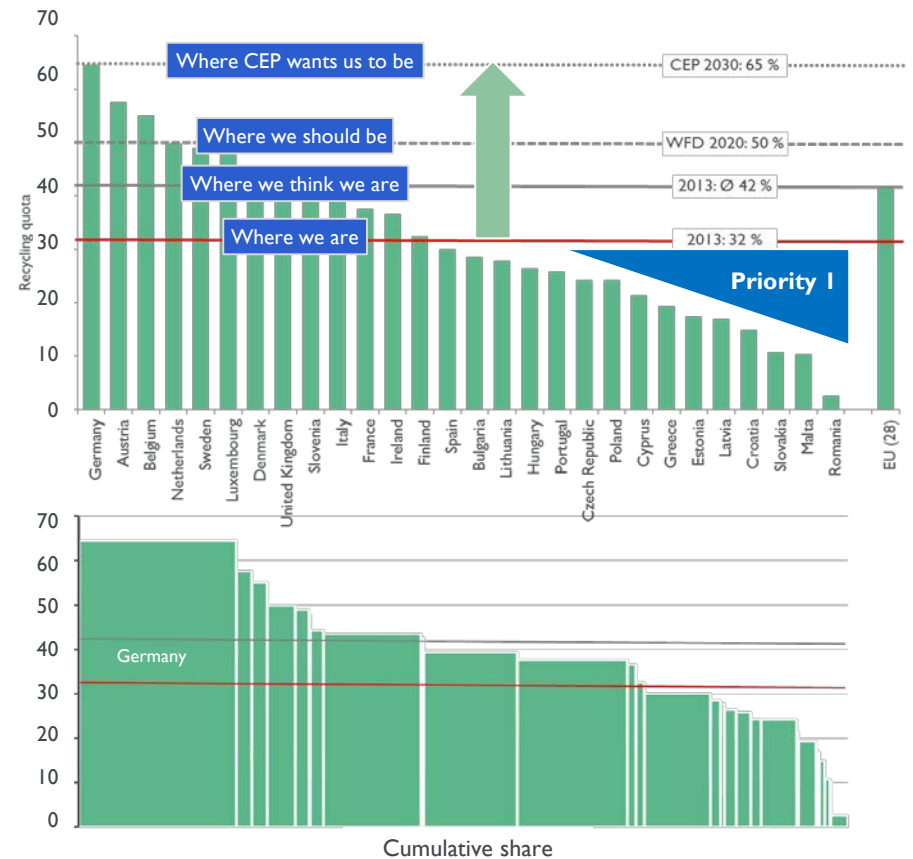
To be amended:

- ELV Directive 2000/53/EC

*BAT reference documents (BAT: Best Available Technology) for “extremely diversified” industrial, commercial, and mining waste*

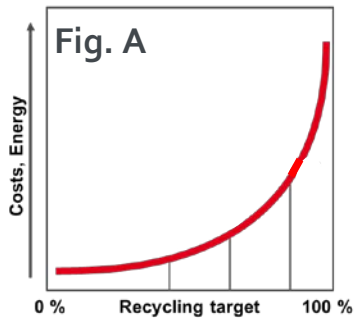
# Distorted starting point: Recycling of municipal waste is at a mere 32 % on average in the Member States

- The recycling target for municipal waste as specified in the Waste Framework Directive (WFD) is set at 50 % by 2020 for all **Member States**.
- The Commission’s data suggest that the recycling rate was **42 %** on average in the **EU-28** in 2013.
- This value is distorted by Germany’s extraordinarily high recycling rate and high waste arisings.
- The actual reference value for the Member States’ **individual targets** is markedly lower at **32 % on average**.
- It is unlikely that all Member States will be able to reach the WFD target of 50 % by 2020.<sup>1)</sup>
- It is even more unlikely that Member States with low recycling rates will be able to reach the circular economy goal of 65 % by 2030.
- Large differences between national recycling rates create an unwanted differential and an incentive for (illegal) waste exports.
- Therefore, **eliminating the differences between recycling rates** across the EU should have **top priority**, with Member States with low recycling rates achieving first the EU average and then the WFD target.

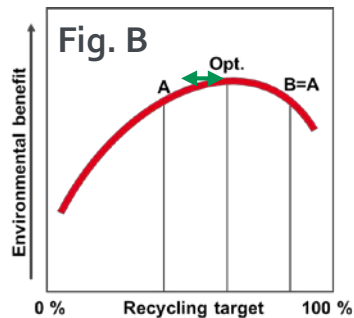


<sup>1)</sup> Estonia, Greece, Croatia, Latvia, Malta, Romania and Slovakia may obtain five additional years for the attainment of the 2025 and 2030 targets.

# The important difference between maximum and optimum recycling targets



**Recycling rates close to 100%** lead to overshooting expenses (e.g. costs, energy; fig. A) and result in **declining environmental benefits** (fig. B) due to high energy and resource demand, pseudo-recycling, etc. Recycling targets A and B are significantly different but produce the same environmental benefit (fig. B). The expenses to realise target B are much higher than for A ( $B' \gg A'$ ). The **optimal area** for a political recycling target is close to the left of the optimum ( $\leftrightarrow$ ).

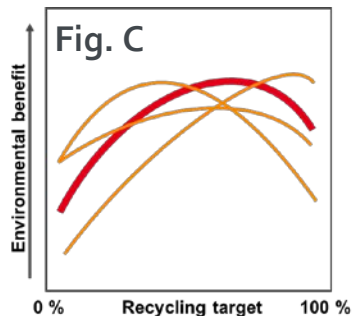


The **optimal recycling target** is a function of

- the type of waste (fig. C)
- the state of the art of the recycling technology
- the state of the art of the primary technology
- commodity prices

Therefore:

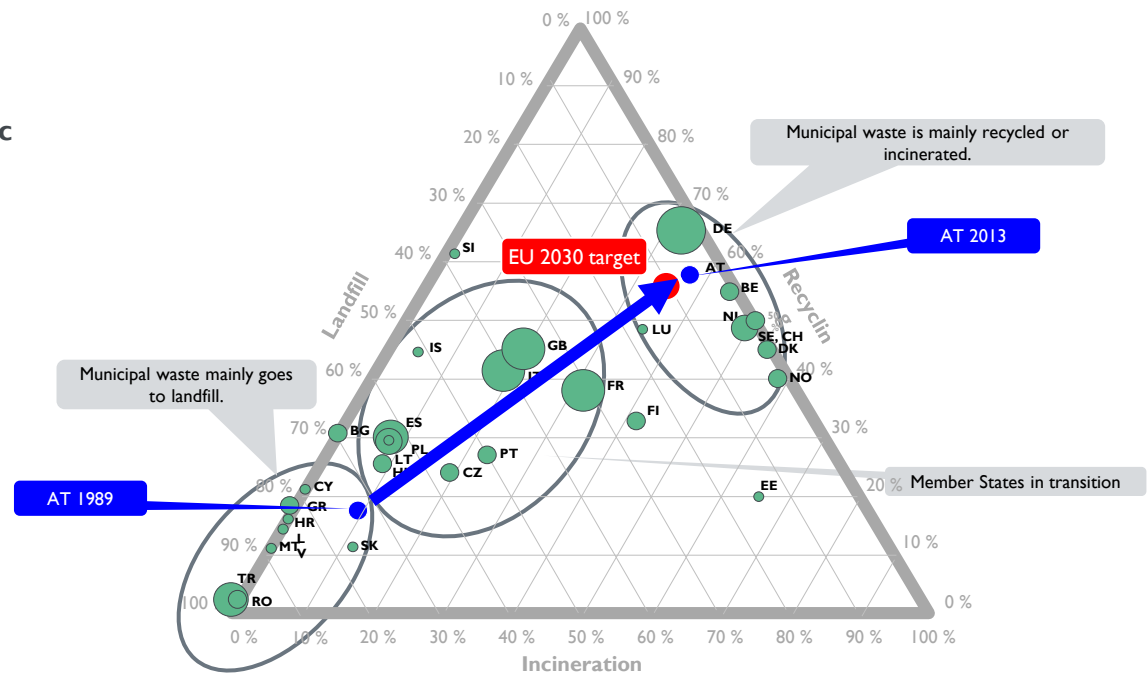
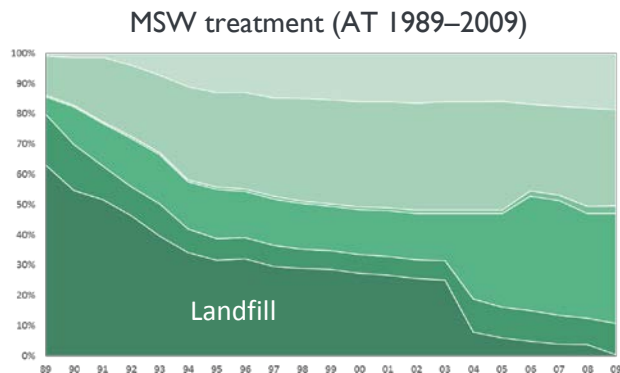
- Optimum recycling rates are – unfortunately - moving targets, influenced by varying factors.
- It is important to carefully determine the optimum recycling target (Opt.; fig. B) for each type of waste. <sup>1)</sup>
- The political recycling targets can then be set close to the left of the optimum target ( $\leftrightarrow$ ), thereby **avoiding ecologically and economically suboptimal results**.
- The recycling targets set have to be **routinely checked**.



<sup>1)</sup> This is a scientifically complex task. Laner and Rechberger show how to approach it in their study on cooling appliances (LANER, D. AND H. RECHBERGER, Treatment of cooling appliances: Interrelations between environmental protection, resource conservation, and recovery rates. Resources, Conservation and Recycling, 2007, vol. 52, no. 1, 136–155).

# The shift from landfilling to recycling and thermal recovery takes time, even in wealthy countries

- The share of municipal waste going to **landfill** varies widely across Member States.
  - In 6 Member States, it is less than 3%.
  - In 18 Member States, it is more than 50% (and in some cases even > 90%).
- In Austria, it took **20 years amid favourable economic conditions** to reduce the share of municipal waste going to landfill from more than 60% to less than 1%.



- Landfilling will continue to be necessary as a means of **removing pollutants from material cycles**.
- Landfills offer a **potential for later use** of secondary raw materials and substitute fuels (landfill mining).

# More than amendments of existing regulation: An EU action plan for the Circular Economy COM(2015)614

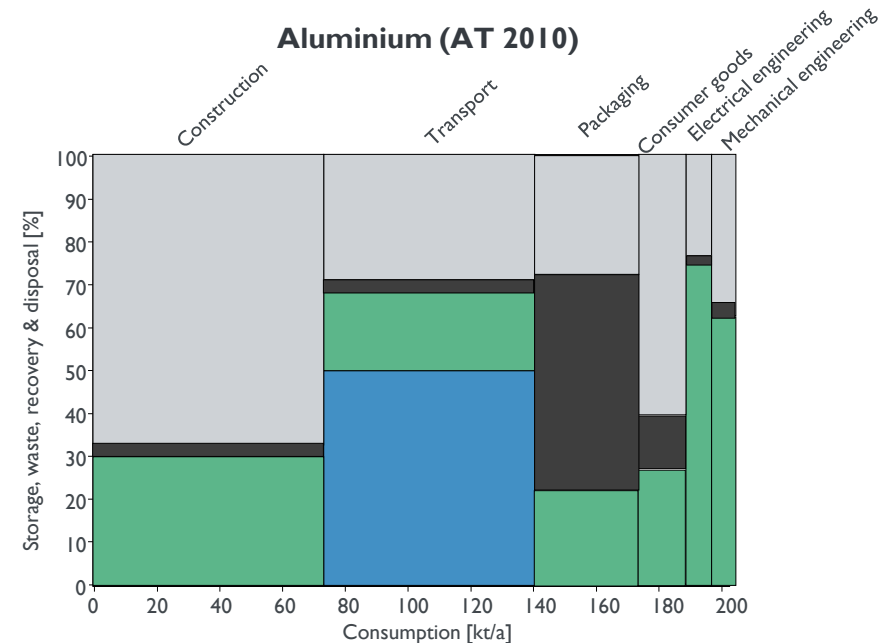
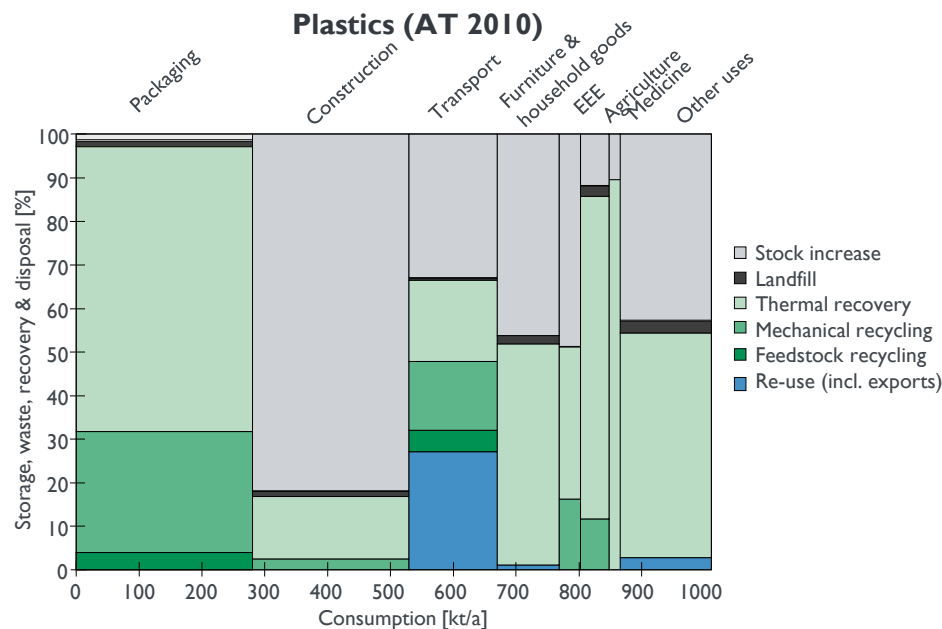
Production	Consumption	Waste management	Markets for secondary raw materials	Sectorial action	Innovation and investments	
<ul style="list-style-type: none"> <li>– Ecodesign directive</li> <li>– Material efficiency</li> <li>– Regulation on TVs and displays</li> <li>– Implementation of CEP and BAT</li> <li>– Best practices for mining waste</li> <li>– Advanced manufacturing technologies für SME</li> <li>– EMAS and environmental technology verification</li> <li>– Knowledge base for substitution of hazardous substances</li> </ul>	<ul style="list-style-type: none"> <li>– Enforcement of guarantees</li> <li>– Fitness check of legislation</li> <li>– Repair information</li> <li>– REFIT of Ecolabel</li> <li>– Independent testing programme on planned obsolescence</li> <li>– Evaluation of Product Environmental Footprint (PEF)</li> <li>– Green procurement: Integration of CEP, training schemes, EU funds</li> </ul>	<ul style="list-style-type: none"> <li>– Revised legislative proposal on waste December 2015</li> <li>– Improved cooperation / better implementation of EU waste legislation</li> <li>– Combat illicit shipment of ELV</li> <li>– Enforcement of revised Waste Shipment regulation</li> <li>– Industry-led voluntary certification of treatment facilities for key waste/ recyclate streams</li> <li>– Initiative on waste to energy in the framework of the Energy Union</li> <li>– Dissemination of good practices in waste collection systems</li> </ul>	<ul style="list-style-type: none"> <li>– Quality standards for secondary raw materials (in particular plastics )</li> <li>– Revised fertilisers regulation</li> <li>– Minimum requirements for reused water</li> <li>– Safe and cost-effective water reuse</li> <li>– Inclusion of best practices in relevant BREFs</li> <li>– Support to innovation (through EIP and Horizon 2020) and investments</li> <li>– Interface between chemicals, products and waste legislation</li> <li>– Facilitate waste shipment across the EU, including electronic data exchange</li> <li>– EU raw materials information system</li> </ul>	<p><b>Plastics:</b></p> <ul style="list-style-type: none"> <li>– CEP Strategy</li> <li>– Reduction of marine litter (2030 SDG)</li> </ul> <p><b>Food waste:</b></p> <ul style="list-style-type: none"> <li>– Common methodology and indicators</li> <li>– Best practice</li> <li>– Food donation and utilisation</li> <li>– Date marking use</li> </ul> <p><b>Critical raw materials</b></p> <ul style="list-style-type: none"> <li>– Exchange of information between manufacturers and recyclers on electronic products</li> <li>– European standards for material-efficient recycling</li> <li>– Recovery from mining waste and landfills</li> </ul>	<p><b>Construction and demolition</b></p> <ul style="list-style-type: none"> <li>– Pre-demolition assessment guidelines</li> <li>– Voluntary recycling protocol</li> <li>– Environmental performance of buildings</li> </ul> <p><b>Biomass and bio-based materials</b></p> <ul style="list-style-type: none"> <li>– Best practices on the cascading use of biomass</li> <li>– Support through Horizon 2020</li> <li>– Sustainability of bioenergy under the Energy Union: coherence and synergies with CEP</li> <li>– Contribution of the 2012 Bioeconomy Strategy to CEP</li> </ul>	<ul style="list-style-type: none"> <li>– "Industry 2020 and the circular economy" under Horizon 2020</li> <li>– Pilot project to address possible regulatory obstacles for innovators</li> <li>– Encourage applications for funding under EFSI</li> <li>– Cohesion Policy funds for the circular economy</li> <li>– Strengthen innovation by smart specialization</li> <li>– Possible platform together with EIB and national banks</li> <li>– Stakeholders involvement through existing fora in key sectors</li> <li>– Public-private partnerships, cooperation platforms, support to voluntary business approaches, and exchanges of best practices</li> </ul>

## Development of a monitoring framework

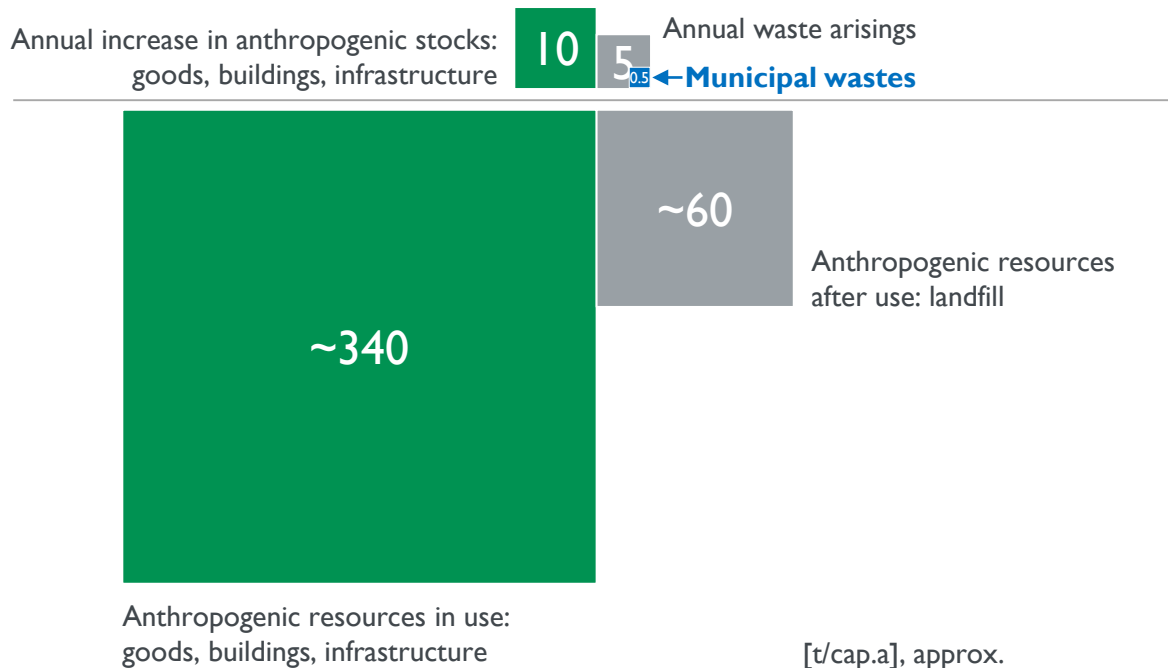


# The greatest potential of secondary raw materials is not municipal waste but anthropogenic stocks (buildings, infrastructure) as well as industrial and mining waste

- Municipal waste is often at the centre of political discussion, but there is usually very little room for improvement in its use.
- Studies show that the greatest **potential** of secondary raw materials can be found elsewhere, but because the materials are still being used, they are not even considered in waste management.
- **These potentials are not visible in waste management data. Anthropogenic stocks must be included in the data base.**
- Setting recycling rates as high as 90 % in some areas (e.g. packaging) but neglecting other promising areas altogether is simply not **efficient**.



# The annual increase in anthropogenic stocks is markedly higher than annual waste arisings: A constantly growing potential for recycling and resource recovery



- At approx. 10 tonnes per capita, the annual increase in **anthropogenic stocks** is markedly higher than annual waste arisings of around 5 tonnes per capita.
- So far, the proposed amendments of EU directives in the CEP address only municipal waste which makes up only 7–10% of total waste.
- Anthropogenic stocks are estimated at 400 tonnes per capita, with the bulk **still in use**.
- This is the **most relevant and constantly growing potential** for recycling and resource recovery.
- At present, the **data base** we have on this future potential of secondary raw materials is still **fragmentary**: sources, stocks, quality, uncertainty, pollutants as well as technologies for, and cost of, retrieval.
- It needs to be improved: Taking far-reaching economic and environmental policy decisions with an insufficient data basis would be speculative and not in line with the CEP objectives.

# The strategic portfolio of the CEP must be evidence based: Raw material needs – potential – efficiency – effectiveness

- A **systematic analysis** of future raw material needs and all relevant secondary raw material sources/potentials is needed so we can achieve the goals of the circular economy (environmental protection, securing of raw materials, economic benefit and growth) in an effective and efficient manner.
- The EU Commission’s survey of **critical raw materials** provides an excellent starting point.
- A comprehensive **knowledge base** on this topic – which is rather sketchy in most Member States and therefore also in the EU as a whole – must be created using material flow analysis.
- The **strategic portfolio on raw material sources and demand** allows us to
  - prioritise by the economy’s medium-term **raw material needs** as well as the **future raw material potentials** of individual waste streams and anthropogenic stocks over time
  - evaluate the **data available** and **uncertainty**
  - consider **economic benefits**
  - consider the **relevance of pollutants, energy and climate protection aspects**
  - evaluate **dissipative loss**
  - develop **sector-specific targets and measures, based on scientific evidence**

	Mineral resources			Metals			Organic resources			Phosphorus	Secondary fuels	Hazardous substances	...
	Industrial minerals	Glass	...	Steel	Non-ferrous metals	High-tech metals	Paper, cardboard	Plastic	Wood				
<b>Consumer goods</b>													
Durables													
Food													
Packaging													
Electrical/electronic equipment													
...													
<b>Commercial and industrial sources</b>													
Durables													
Packaging													
Food													
Electric/electronic equipment													
...													
<b>Construction, infrastructure</b>													
Building construction													
Civil engineering													
Public service networks													
...													
<b>Transport, mobility</b>													
Cars, commercial vehicles													
Railway, aviation													
...													
<b>Secondary wastes</b>													
Sorting residues													
Slag/flue-gas cleaning													
Sewage sludge													
...													

# How can we achieve the common goals of the circular economy - environmental protection, securing of raw materials, economic benefit, and growth - in an effective and efficient manner?

## Regulation

- (1) Resource management instead of focussing on municipal waste: bringing the Action Plan to life
- (2) Get to know our starting point: harmonization of definitions, statistics, and calculation methods
- (3) Harmonising recycling levels between Member States instead of isolated increase in quotas
- (4) Optimum instead of maximum recycling targets, based on cost-benefit analysis
- (5) Binding minimum requirements for EPR schemes

## Action plan

- (6) Modelling of the future raw material demand in terms of quantity and quality
- (7) Systematic exploration of anthropogenic resource stocks in goods, buildings and infrastructure
- (8) Prioritization of materials and (primary and secondary) sources
- (9) Appropriate policies and instruments to support holistic resource efficiency.
- (10) Evidence-based approach instead of insufficient data basis

# Thank you for your kind attention.

“The EU Commission’s new Circular Economy Package of December 2015 is a big step forward.

Still, a systematic analysis of our future raw material needs and all relevant secondary raw material sources is needed so we can achieve the common goals of the circular economy in an effective and efficient manner, based on scientific evidence.

Taking far-reaching economic and environmental policy decisions with an insufficient data basis would be speculative and not in line with the CEP objectives.”

CEC4Europe, December 2015