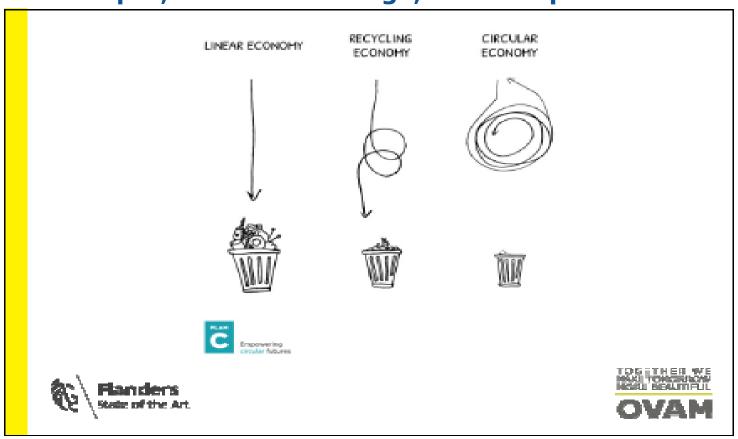




# Circular economy - Multiple drivers pointing in the same direction: reduce input, minimize leakage, close loops

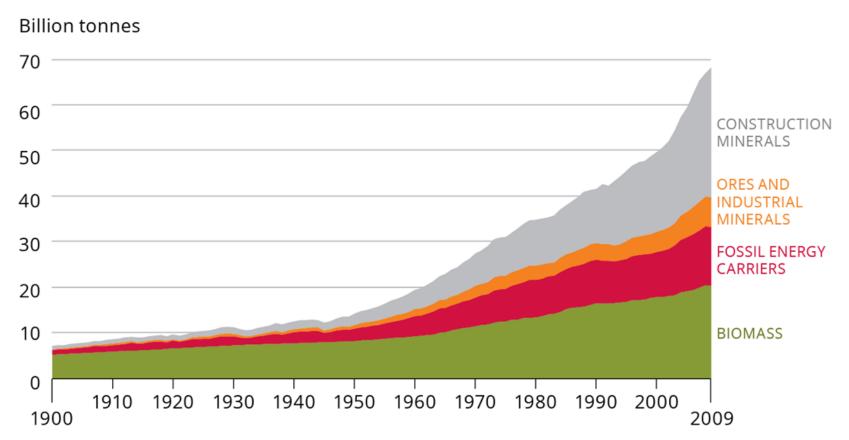




### **Global Material Use**

#### has grown 10-fold since 1900 and may double again by 2030

Global total material use by resource type, 1900-2009



Source: Krausmann et al., 2009



























# THE GLOBAL GOALS For Sustainable Development













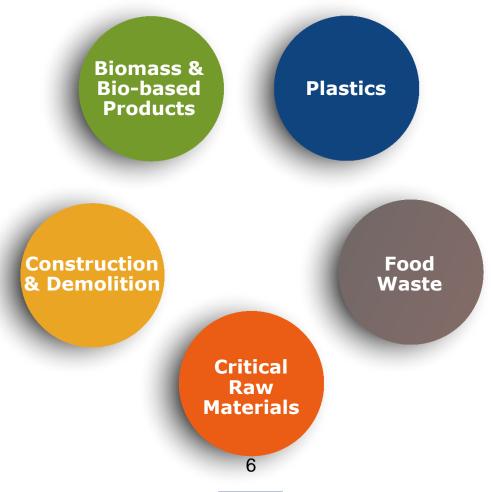


# **CE Action Plan December 2015: over 50 actions across different areas and sectors**





## **Priority sectors**



Actions	Timetable
Production	
Emphasis on circular economy aspects in future product requirements under the Eco-design directive.	2016 onwards
Eco-design work plan 2015-2017 and request to European standardisation organisations to develop standards on material efficiency for setting future Eco-design requirements or durability, reparability and recyclability of products.	December 2015
Proposal for an implementing regulation on telegraphs of olays	End 2015 or beginning 2016
Examine options and actions for a more otherent policy framework of the different strands of work of EU product policy in their contribution to the circular economy	
Include guidence on circular economy into Best Available Techniques reference documents (BREFs) for several industrial sectors	<b>30</b> 1
Guidance and promotion of best practices in the mining waste management plans	2018
Establishing an open, pan-European network of technological infrastructures for SMEs to integrate advanced manufacturing technologies into their production processes	2016
Examine how to improve the efficiency and uptake of the EU Eco- Management and Audit Scheme (EMAS) and the pilot programme on environmental technology verification (ETV)	2017
Develop an improved knowledge base and support to SMEs for the substitution of hezardous substances of very high concern	2018

Consumption				
Better enforcement of existing guarantees on tangible products, accompanied by a reflection on improvements (upcoming Commission proposal for online sales of goods, and Fitness Check of consumer legislation)	2015-2017			
Action on false green claims, including updated guidance on unfair commercial practices	2016			
Analysis of the possibility to propose horizontal requirements on repair information provision in the context of Eco-design	2018			
REFIT of Ecolabel, to be followed by actions to enhance its effectiveness	2016			
Assessment of the possibility of an independent testing programme on planned obsolescence	2018			
Subject to evaluation of the ownert ongoing plots, explore the possible uses of the Product Environmental Footprint to measure and communicate environmental information	2016 onwards			
Action on Green Public Procurement: enhanced integration of circular economy requirements, support to higher uptake including through training schemes, reinforcing its use in Commission procurement and EU funds	2016 onwards			

Waste management			
Revised legislative proposal on weste	Dec 2015		
Improved cooperation with Member States for better implementation of EU waste legislation, and combat likit shipment of end of life vehicles	2015 onwards		
Stepping up enforcement of revised Waste Shipment regulation	2016 onwards		
Promotion of industry-led voluntary certification of treatment facilities for key waste/recyclate streams	2018 onwards		
Initiative on waste to energy in the framework of the Energy Union	2016		
Identification and dissemination of good practices in waste collection systems	2016 onwards		

Market for secondary raw materials			
Development of quality standards for secondary rew materials (in particular for plastics )	2016 onwards		
Proposal for a revised fertilisers regulation	Early 2016		
Proposed legislation setting minimum requirements for reused water for inigation and groundwater recharge	2017		
Promotion of safe and cost-effective water reuse, including guidance on the integration of water reuse in water planning and management, inclusion of best practices in relevant BREFs, and support to innovation (through the European Imposition Pathership and Horizon 2020) and investments	2016-2017		

Analysis and policy options to address the interface between chemicals, products and wastelegislation, including how to reduce the presence and improve the facking of chemicals of concern in products	2017
Measures to facilitate waste shipment across the EU, including electronic data exchange (and possibly other measures)	2016 onwards
Further development of the EU raw materials information system	2016 onwards

Sectorial action			
Plastics			
Strategy on plastics in the circular economy	2017		
Specific action to reduce marine litter implementing the 2030 Sustainable Development Goals	2015 onwards		

Food waste	
De epment of a common methodology and indicators to measure food weste	2016
take of platform to examine how to achieve SDGs goals on od you be, share best practice and evaluate progress	2016
Clarify ant Electrical solution related to waste, food and feed in order to facility add donation and utilisation of former foodstuffs for animal feed	2016
Explore option for making on food	2017

Paralle materials	
Report on critical raw m Sib > e circular economy	2017
Improve exchange of information were fecturers and recyclers on electronic products	2016 onwards
European standards for meteriel-efficien cycing of e vice waste, waste batteries and other relevant company and of the company	2016 enwards
Sharing of best practice for the recovery of critical rev mining wester and landfills	2017

Pre-demoition assessment guidelines for the construction sector	
Voluntary industry-wide recycling protocol for construction and demoltion waste	2016
Core indicators for the assessment of the lifecycle environmental performance of a building, and incentives for their use	2017 onwards
Biomass and bio-based materials	
Guidance and dissemination of best practice on the cescading use of biomess and support to innovation in this domain through Horizon 2020	2018- 2019
Ensuring coherence and synergies with the circular economy when examining the sustainability of bioenergy under the Energy Union	2016
Assessment of the contribution of the 2012 Bio-economy Strategy to the circular economy and possible review	2016

Innovation and investments	
Initiative "Industry 2020 and the circular economy" under Horizon 2020	October 2015
Pilot project for "innovation deals" to address possible regulatory obstacles for innovators	2016
Targeted outreach to encourage applications for funding under EFSI, and support the development of projects and investment platforms relevant to the circular economy	2016 onwards
Targeted outreach and communication activities to exist Member States and regions for the uptake of Cohesion Policy funds for the circular economy	2016 onwards
Support to Member States and regions to strengthen innovation for the circular economy through smart specialisation	2016 onwards
Assessment of the possibity of launching a platform together with the EIB and national banks to support the financing of the circular economy	2016
Engagement with stakeholders in the implementation of this action plan through existing fore in key sectors	2016 onwards
Support to a range of stakeholders through actions on public-private partnerships, cooperation platforms, support to voluntary business approaches, and exchanges of best practices	2015 onwards
Monitoring	
Development of a monitoring framework for the circular economy	2017

# The Circular Economy Action Plan 2015









2018 Circular Economy Package

A European
Strategy
for Plastics
in the
Circular
Economy

Interface Chemicals Products Waste Legislation

Revision
of
Directive
on Port
reception
facilities

Circular Economy Monitoring Framework

Report on oxo-degradable plastics

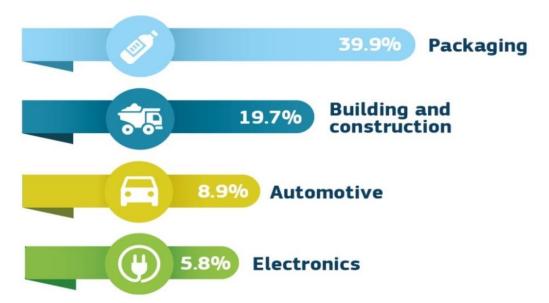
Report on critical raw materials



#### **EUROPEAN PLASTICS DEMAND IN 2015**

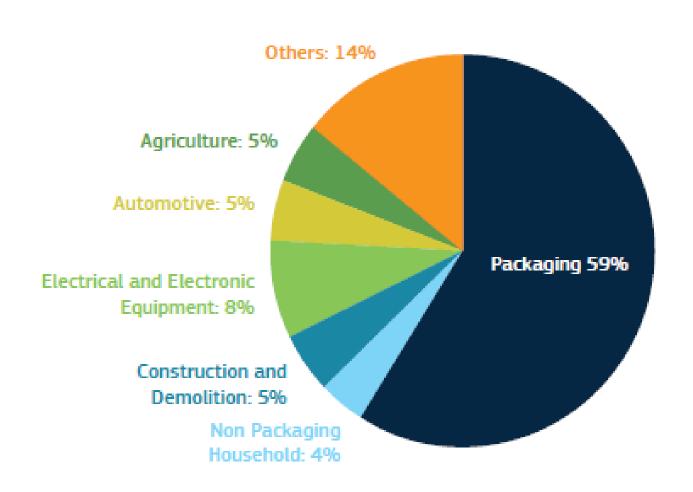
# 49 million tonnes







### **EU PLASTIC WASTE GENERATION IN 2015**



Source: Eunomia (2017)





→ Plastics Strategy (16<sup>th</sup> Jan. 2018)







- Communication & Staff Working Document
- List of EU actions (39)  $\rightarrow$  most by 2018/2019
- Measures recommended to Member States



New Waste package



#### A VISION FOR THE CIRCULAR PLASTICS ECONOMY

The Plastics Industry of the future



Smart Innovative Sustainable

- Economic incentives
- Strategy for jobs
- Investment in infrastructure and innovation
- More integrated value chain
- Design for recyclability 
   Growing market for recycled content
- Alternative feedstock & innovative & sustainable materials
- Growth decoupled from plastic waste generation
- More sustainable consumption patterns



#### A EUROPEAN STRATEGY FOR PLASTICS IN THE CIRCULAR ECONOMY

Improve
the economics
and quality
of plastics
recycling

investments
and innovation
towards circular
solutions











- Stimulate design for circularity
- Better separate waste collection
- Boosting recycled content



By 2030 all plastics packaging reusable or recyclable



- GPP: uptake recycled plastics
- Economic instruments (taxation)
  - Reuse > recycling > landfilling & incineration
  - Separate collection
- EPR / deposit
- Voluntary commitments



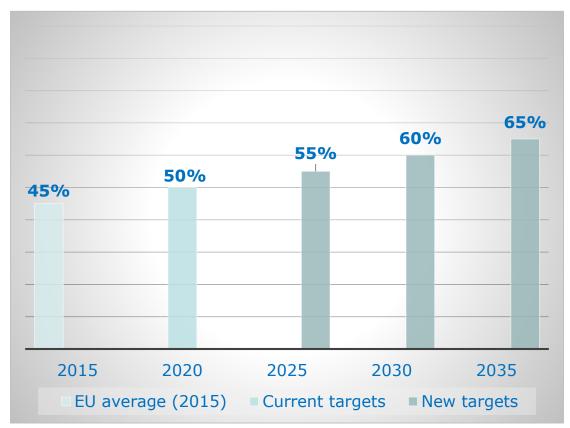
### The Circular Economy Waste Package

- December 2015: proposal by the Commission
- March 2017: EP opinion
- May 2017: Coreper mandate
- May to December 2017: informal political trilogues and technical meetings
- > December 2017: provisional agreement
- > 14 June 2018: publication OJ
- > 5 July 2018: entry into force
- > 5 July 2020: transposition into national law



# **Waste Framework Directive review- Municipal waste recycling**

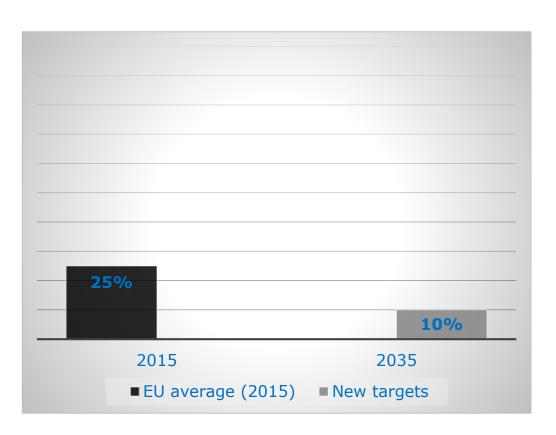
- 5-year extension for countries with a low starting point
  - 11 MS: EE, EL, HR, CY, LV, LT, HU, MT, RO, SK, BG
  - Implementation plans + interim targets
- Single calculation method
  - harmonised definition of municipal waste
  - reporting input to recycling
- High-quality recycling of biowaste
  - counting only separately collected and recycled bio-waste as of 2027





# Landfill Directive review - Municipal Waste Landfilling

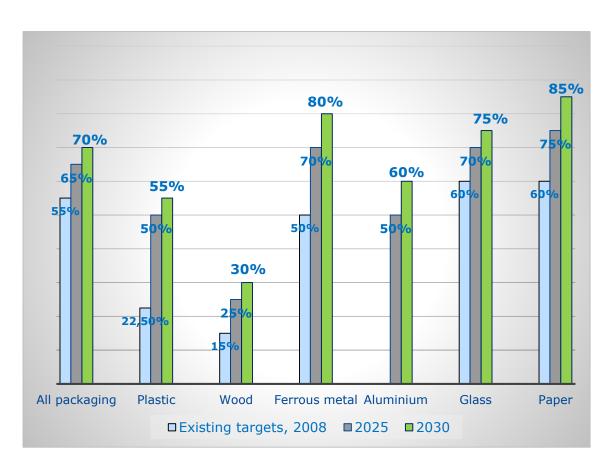
- 5-year extension for countries with high landfill rates
  - 10 MS: EL, HR, CY, LV, LT, HU, MT, RO, SK, BG
  - Implementation plan + interim targets
- Calculation rules for landfilling
- Landfill restrictions for separately collected waste
- Towards no landfilling of waste suitable for recovery by 2030





# The 'waste package'- Higher targets Packaging waste recycling

- 5-year derogations (15% on a single target or divided between two targets)
- Taking account of reuse (max. 5%)
- Harmonised reporting: input to recycling
- Ambitious targets for plastics
- New targets for aluminium
- Review of targets end 2024





# **Increasing separate collection of PPW Revised Waste Framework Directive**

- pre-condition and currently the biggest barrier for creation of viable markets for recycled plastics
- significant part of plastic packaging is not separately collected
- separately collected waste is often sent to landfills or incinerators: contamination, composite plastic packaging
- separate collection under the "old" WFD by 2015 for plastic, paper, metal and glass.
- revised WFD strengthens the separate collection requirements (derogations, prohibition of landfilling/incinerating separately collected waste, textiles, bio-waste): MS report in 2021
- Guidance on separate collection of waste
- additional impetus: higher recycling targets, mandatory EPR schemes; SUP proposal)



### Reuse

- Possible to adjust recycling targets for a given year by taking into account average share (max. 5%), in preceding 3 years of reusable sales packaging, reused as part of a system to reuse packaging
- Member States to encourage increase in share of reusable packaging, inter alia:
  - Use of deposit/return systems
  - Setting of qualitative or quantitative targets
  - Economic instruments (taxation)
  - Setting of a minimum percentage of reusable packaging placed on the market for each packaging stream



### **Economic Instruments and EPR**

#### **Current rules**

Polluter-pays principle: the costs of waste management shall be borne by the original waste producer or by the current or previous waste holders (Art. 14 WFD)

#### New rules

MS to put in place **economic instruments** to promote waste hierarchy; new Annex with an indicative list of such instruments

MS to introduce mandatory EPR schemes for all packaging by end 2024

General minimum requirements for all EPR schemes; producers to cover the majority of costs

Specific requirements in waste management plans



# Minimum requirements for EPR schemes (revised WFD)

- improved transparency and governance of the EPR schemes;
- obligation to **eco-modulate** EPR fees: durability, reparability, reusability and recyclability, presence of hazardous substances;
- **Guidelines** are being developed: end of 2019
- Incentivise good circular packaging design
- - RecyClass Platform developed by Plastic Recycler s Europe
- DIALOGUE (industry, PRO, local authorities, waste collectors, recyclers); bottom-up definition of rules



# Other important provisions

Strengthened waste prevention measures, in particular:

- Requirement to measure and prevent food waste
- Requirement to tackle litter and to halt the generation of marine litter

MS to ensure that waste is decontaminated prior/during recovery to facilitate high quality recycling

MS to ensure that **separately collected waste is not incinerated** unless incineration delivers a better environmental outcome

Waste operators to have access to information on SVHC in articles through a database to be set up by ECHA



### **Essential Requirements of PPWD**

Packaging placed on the EU market must comply with essential requirements, Art. 9 and Annex II of PPWD (first objective: prevention!)

- specific to the manufacturing and composition of packaging,
- to the reusable nature of packaging and
- the recoverable nature of packaging (either in the form of material recycling, energy recovery or composting) whether it is reusable or not.
- on the presence of noxious and other hazardous substances.

Related CEN standards: presumption of compliance

#### **Revised PPWD** asks the Commission to, by 31/12/2020:

- (1) examine the feasibility of reinforcing the ER with a view to, inter alia, improving design for re-use and promoting high quality recycling, as well as strengthening their enforcement.
- (2) submit a report to EP and the Council, accompanied, if appropriate, by a legislative proposal.

#### Study about to be launched!



### **Recycled content**

- addressing the **demand for recycled plastics**;
- only **4-6% of plastics in new products comes from recyclates**: Plastic Strategy aims to **quadruple** this figure;
- Communication on the Interface between Chemicals, Products and Waste Legislation: improve the level of information about substances of concern in products, waste and recycled plastics
- particular issue for *food contact materials*
- **EU Pledging Campaign**: call on the industry to pledge to boost the uptake of recycled plastics to 10 M tons/year by 2025;
- assessment in the upcoming **CE Implementation Report**
- need to complement by **regulatory actions**: packaging construction and electronics sectors; BUT ALSO
- essential requirements review, fees under EPR schemes, separate collection, green public procurement, Ecolabel criteria...







- Reduce macroplastics pollution: SUP & fishing gear
- Regulatory framework for biodegradable plastics
- Curb microplastics pollution:
  - Intentionally added to products → REACH
  - Unintentional release, e.g. tyres, textiles and plastic pellets
  - Report on oxo-degradable plastics → REACH/ECHA for restriction

#### Marine litter: the challenge





Health concerns



Degradation of marine ecosystems (13 billion Euros a year)



Impact on fisheries and aquaculture (1-5% of total fleet revenue) and ports/shipping



Tourism and coastal communities ( $\approx$  630 million euros)





#### The need to act



#### EU's contribution to the problem



#### Innovation race



#### Single Market



#### **Strengthening EU legislation**





#### What do Europeans think about Plastics?

Please tell me to what extent you agree or disagree with each of the following statements. (%-EU)



You are worried about the impact on your health of everyday products made of plastics



You are worried about the impact on the environment of everyday products made of plastics



70%

use fewer single-use plastic bags

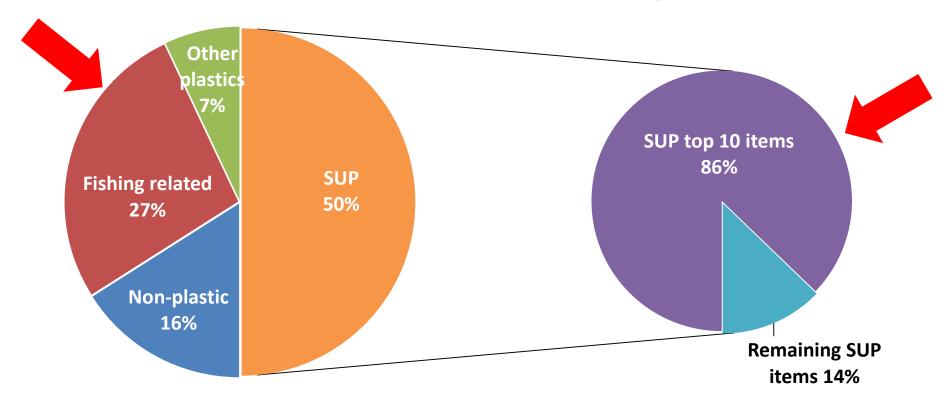


34%

avoid single-use goods like cutlery & cups



### Most found marine litter items on European beaches







Proposal for Directive on the reduction of the impact of certain plastic products on the environment

Measures to facilitate prevention, re-use, collection and recovery of:









<u>Definition of plastic</u>: Polymer as defined in REACH with the exception of natural polymers that have not been chemically modified



Ranking	Item
1	Drinks bottles, caps and lids
2	Cigarette butts
3	Cotton buds sticks
4	Crisp packets / sweet wrappers
5	Sanitary applications
6	Plastic bags
7	Cutlery, straws and stirrers
8	Drinks cups and cup lids
9	Balloons and balloon sticks
10	Food containers including fast food packaging



Market restrictions

Consumption reduction

**Design of products** 

Extended producer responsibility

**Separate collection and deposit** 

**Awareness raising measures** 

 Single use & multi use alternatives

Effects on consumers & producers

Implementation



European							
	Consumption reduction	Market restriction	Product design requirement	Marking requirements	Extended producer responsibility	Separate collection objective	Awareness raising measures
Food containers	X				X		X
Cups for beverages	Х				Х		Х
Cotton bud sticks		Х					
Cutlery, plates, stirrers, straws		Х					
Sticks for balloons		Х					
Balloons				X	X		X
Packets & wrappers					Х		Х
Beverage containers, their caps & lids			X		Х		X
- Beverage bottles			Х		Х	X	Х
Tobacco product filters					Х		Х
Sanitary items: - Wet wipes				X	X		Х
- Sanitary towels				X			Х
Plastic carrier bags					Х		X
Fishing gear					X		X





- Guidance on eco-modulation of EPR fees
- H2020 additional €100 million investments (up until 2020)
- Support the development of alternative feedstocks
   → lifecycle assessments including biomass







- Support for multilateral initiatives on plastics: Basel Convention, UNEP/UNEA, G7/G20, Regional Seas Conventions...
- Incentivising commitments: Global Plastics Platform (09/2018)
- Promote international industry standards development
- Bilateral dialogues, Development cooperation funding





http://ec.europa.eu/environment/circular-economy/index en.htm