European Commission

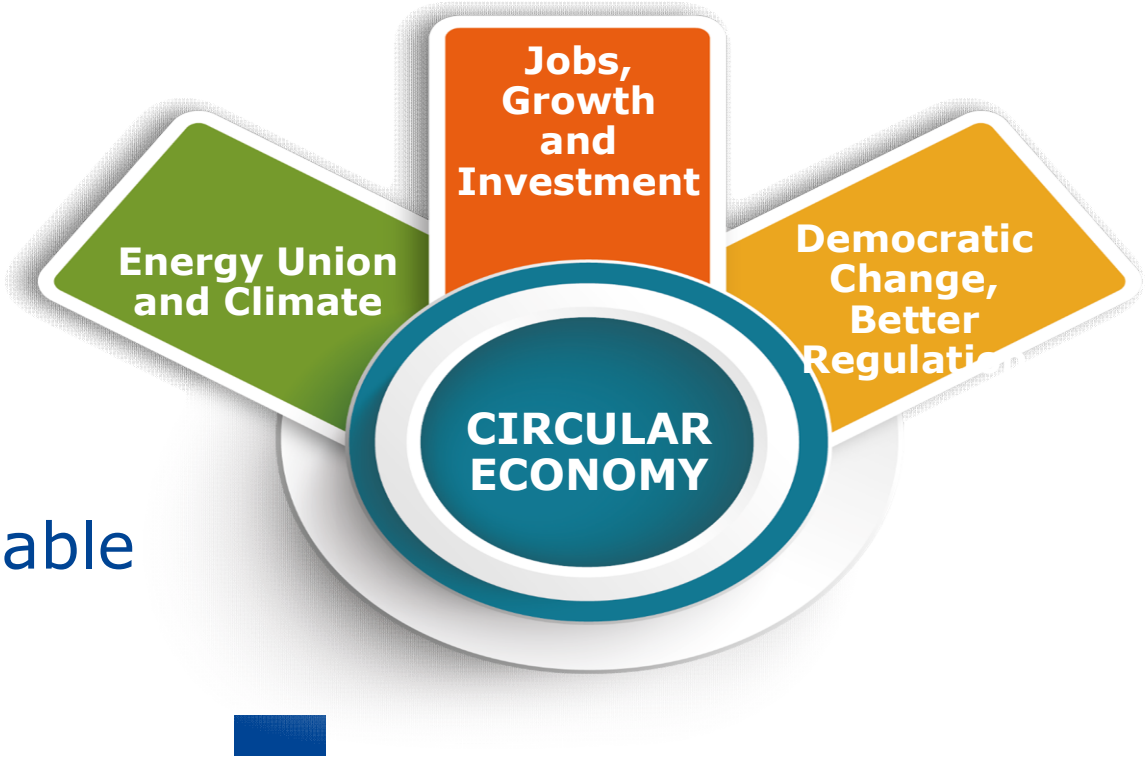
Circular Economy

Why product design is key

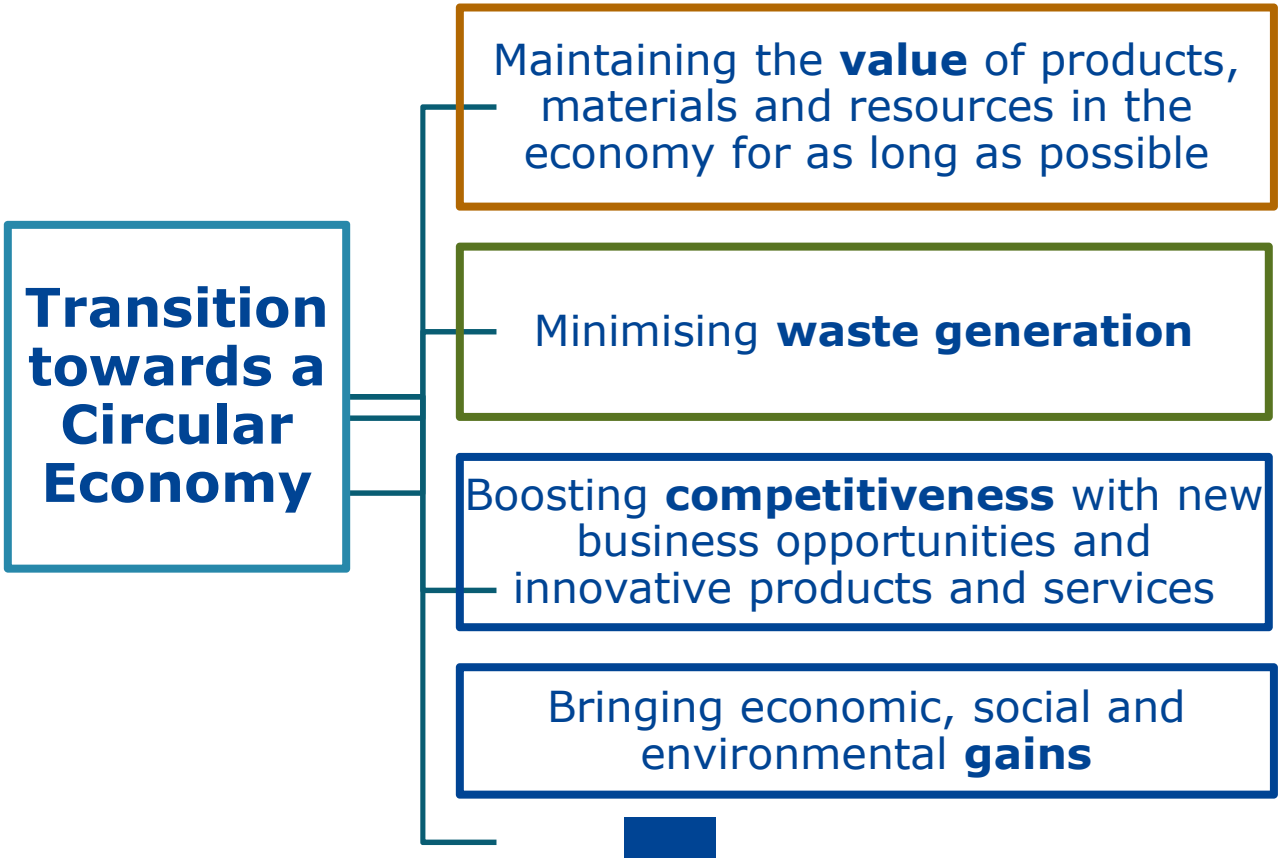
Hugo Maria Schally
DG Environment
European Commission

Circular Economy: an EU priority

Protecting the environment and boosting competitiveness go hand-in-hand: both are about building a sustainable future.




1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
THE GLOBAL GOALS
For Sustainable Development
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE AND JUSTICE STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS


Transition towards a Circular Economy
Maintaining the **value** of products, materials and resources in the economy for as long as possible
Minimising **waste generation**
Boosting **competitiveness** with new business opportunities and innovative products and services
Bringing economic, social and environmental **gains**

4 Key areas of action

5 Priority sectors

Production and Products

Embed circularity in the design of new products and the materials they are made of

Deal with current and future materials which are not circular

Product design in CEAP

- More emphasis on circular economy aspects in product requirements
- Ecodesign directive working plan
- Standards on material efficiency
- Implementing measures on televisions and displays
- Options and actions for a more coherent framework on product policy

Consumption

Helping consumers and public authorities choose sustainable products and services

Providing reliable, standardised and comparable information to enable optimisation of policy and investment decisions

Waste Management

Guided by SDG 12, stipulating that by 2020 we should :

- achieve the environmentally sound management of chemicals and all wastes throughout their life cycle
- significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Revised legislative proposals on waste

65% target recycling **municipal waste** by 2030

10% target to reduce **landfill** of municipal waste by 2030

‹aging waste by 2030

- **One calculation method**
- **Prevention**
- **Simplification**

Secondary Raw Materials

- *Better understanding of the uses of recycled materials*
- *Clearer definition of the requirements they have to meet in order to be reprocessed into secondary raw materials that are*
  - *of comparable quality to virgin materials and*
  - *can replace them at a reasonable cost and with the lowest possible use of resources (energy, water, etc.).*

Implementation so far

Main outputs for 2016 :

- Establishment of a Circular Economy Finance Support Platform with the European Investment Bank (EIB) bringing together investors and innovators

- Guidance to Member States on converting waste to energy: Communication on the role of waste-to-energy

- Proposal for legislation on certain hazardous substances in electrical and electronic equipment

2017- What's coming?

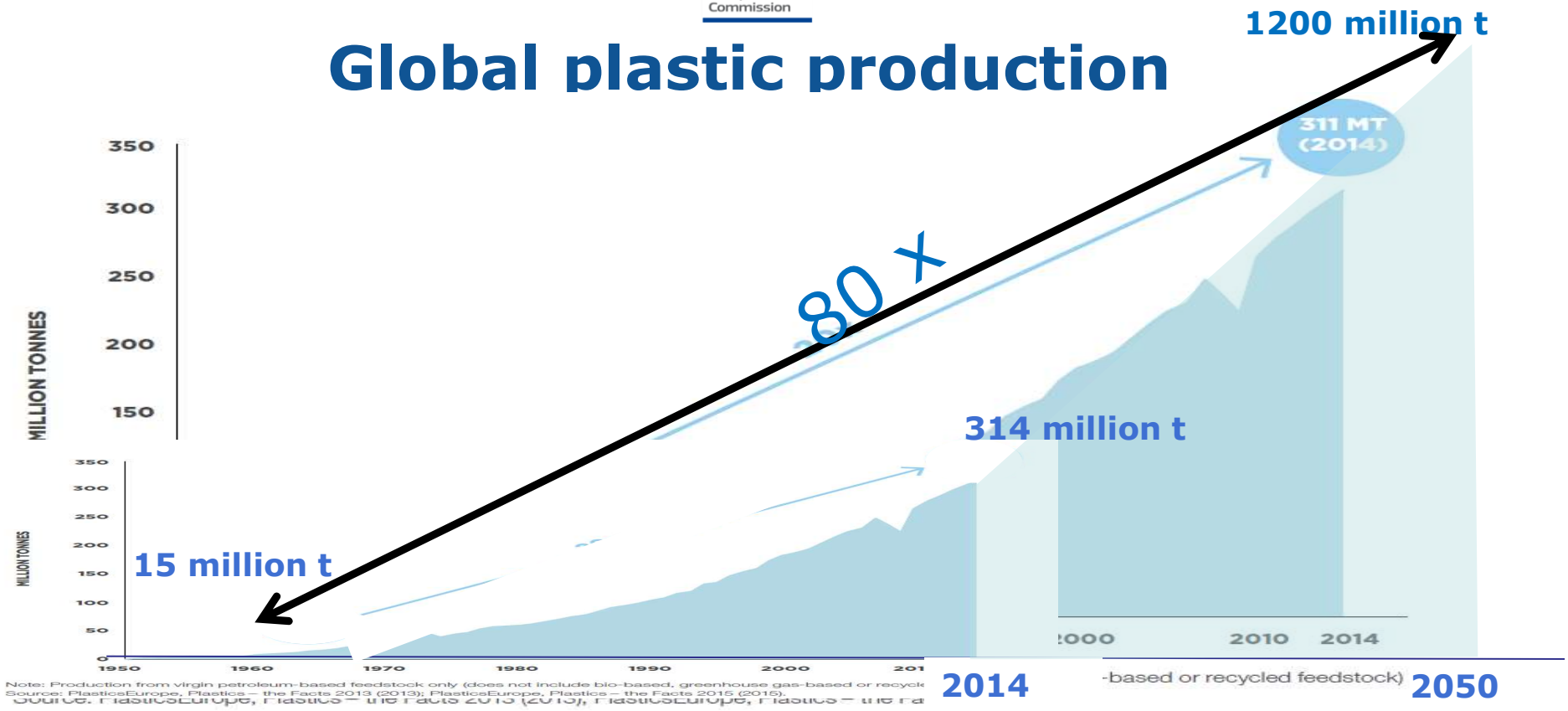
Monitoring Framework
Legislative proposal to promote water reuse

Plastics Strategy

Interface product-chemical-waste legislation

More plastic than fish in our oceans by 2050 ?

Global plastic production



A EU plastics strategy for a new plastic industry

Objectives

- **Decouple plastic production from virgin raw materials**
- **Exploit the full potential** of plastics **reuse, recycling, and uptake of recyclates**
- **Reduce the plastic leakage** in the environment

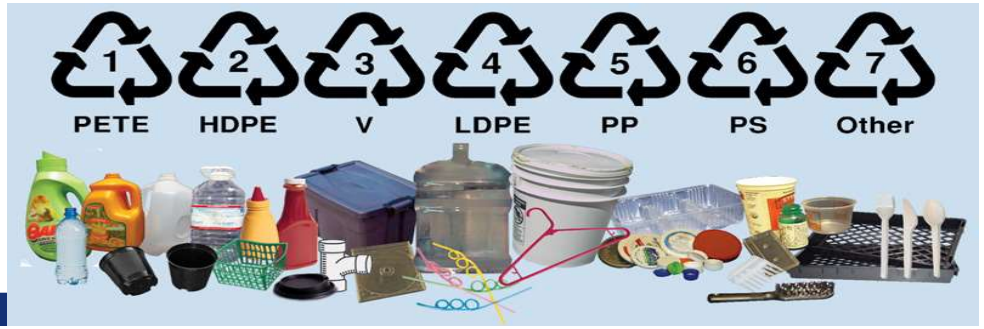
Options

Alternative feedstock: mechanical & chemical recycling, biomass, CO_2

2. Low reuse and recycling of plastics

- 25 mln T of plastic waste (2014, EU)
  - 30% recycled
  - 39% incinerated
  - 31% landfilled
- Plastic packaging: 40%
- Virgin ⇔ secondary

=> too valuable to be burned or landfilled



Options

- **DESIGN** for durability & recyclability

  ⇒ **Reuse, recycling**

  ⇒ **Product policies**

  REUSE => fostering other business models

- Substances of concern?

  ⇒ **Traceability**

- Funding

  ⇒ **Research & innovation for reuse, sorting & recycling**

Options

- Better implementation by MS of existing waste legislation
- Resource-efficient solutions: Waste to energy COM

  ⇒ Separate collection of plastics,

  ⇒ Targets for recycling packaging: 55% in 2025

  ⇒ EPR – fee modulation

Options

- Promote market for recycled plastics

⇒ **Standards: recycled plastics (quality) & recycled content**

⇒ **Support industrial fora & platforms**

⇒ **Product policy**


(45 bottles)


Jeep® Wrangler Unlimited
(45 bottles)


Jeep® All-Weather Baby Carri
(16 bottles)

3. Leakage into the environment

- Cheap and disposable material
- Microplastics (<5 mm) = threat to animal & human health

Options

- Marine litter: aspirational 30% reduction target in CEAP / SDGs

⇒ **Monitoring and action**

⇒ **Action on single use plastics? Substitution?**

- Reduce microplastics

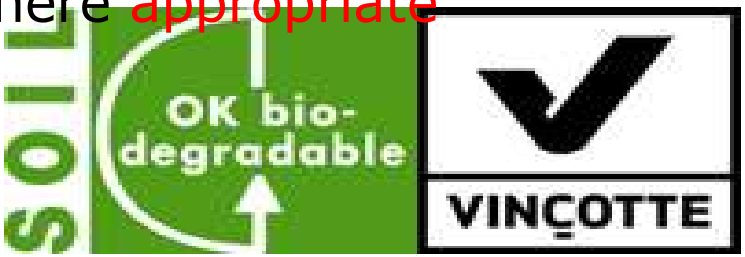
1. **Intentionally added to products**
2. **Generated during the life cycle of products**

Options

- Sustainability criteria for biodegradable plastics

  ⇒ Study: develop EU-harmonised criteria / standards for biodegradability (composting) where appropriate

  ⇒ Assessing the use of oxo-degradable plastics



- Consumers' awareness

Interface between chemicals, waste and product policy

Materials should be safe and designed for long life and recyclability.

Materials, and the products made thereof, should be designed and manufactured so that they can be reused, recycled and eventually disposed of in a manner which

- maximises the materials' utility to society and
- maintains a high level of human health and environmental protection.

Issues to tackle

Insufficient information about substances of concern in products and waste

Uncertainties about how materials can cease to be waste

Difficulties in the application of EU waste classification methodologies and impacts on the recyclability of materials (secondary raw materials)

Ecodesign in CEAP

- More emphasis on circular economy aspects in product requirements
- Ecodesign working plan
- Standards on material efficiency
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Material efficiency of products

- Durability, reparability, modularity, easy recycling, etc.
- Several projects/initiatives to develop verifiable criteria:
  - **Socio-economic impacts of increased reparability**
  - **Product durability:** methodology for fridges and domestic electric ovens
  - **Material efficiency in product policies, Ecodesign4Circularity** (JRC)
- Request to CEN/CENELEC to develop standards on material efficiency – M/543 *adopted in Dec. 2015, standards to be delivered by 2019*
- Analysis of possible horizontal requirements on repair information provision – *by 2018*

Ecodesign Working Plan

- Adopted in Autumn 2016
- **Circular economy related** criteria in a **more systematic** way
- **Ongoing work** (e.g. compressors, electronic displays)
- **Revision** of existing measures (e.g. lighting, wet appliances)
- **New product groups**: energy and resource saving potential
- **Product specific and/or horizontal measures**

Ecodesign Working Plan 2016-2019

New product groups:

- Building Automation and Control Systems
- Electric kettles
- Hand dryers
- Lifts
- Solar panels and inverters
- Refrigerated containers
- High-pressure cleaners (energy labelling only)

Ecodesign Working Plan 2016-2019

Commission to explore the possibility of product-specific and/or horizontal requirements in areas such as:

- Durability
- Reparability
- Design for disassembly
- Information / marking
- Ease of reuse and recycling
- Greenhouse gas and other emissions

For new product groups and upcoming reviews.

Other developments on the Ecodesign and Energy Labelling

- Horizontal study on ICT products
- Economic study to support Ecodesign measures to improve the reparability of products
- (new) study on the feasibility of a scoring of reparability and serviceability of products under energy labelling

More to come in 2018 ?

Options for a more sustainable Product Policy Framework

Follow up to the Product/Organisational Environmental Footprint

Linear is out - Circular is IN

- ✓ **Design is k*ey for***
  - ✓ **Improving durability and recyclability;**
  - ✓ **Addressing toxicity and microplastics**
- ✓ **Design will provide key enablers for collection, sorting & recycling of *all* product related wastes**
- ✓ **Design will help developing markets for secondary raw materials**

Learn more about the Circular Economy

hugo-maria.schally@ec.europa.eu

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