



Making post-consumer plastics fit for circular economy.

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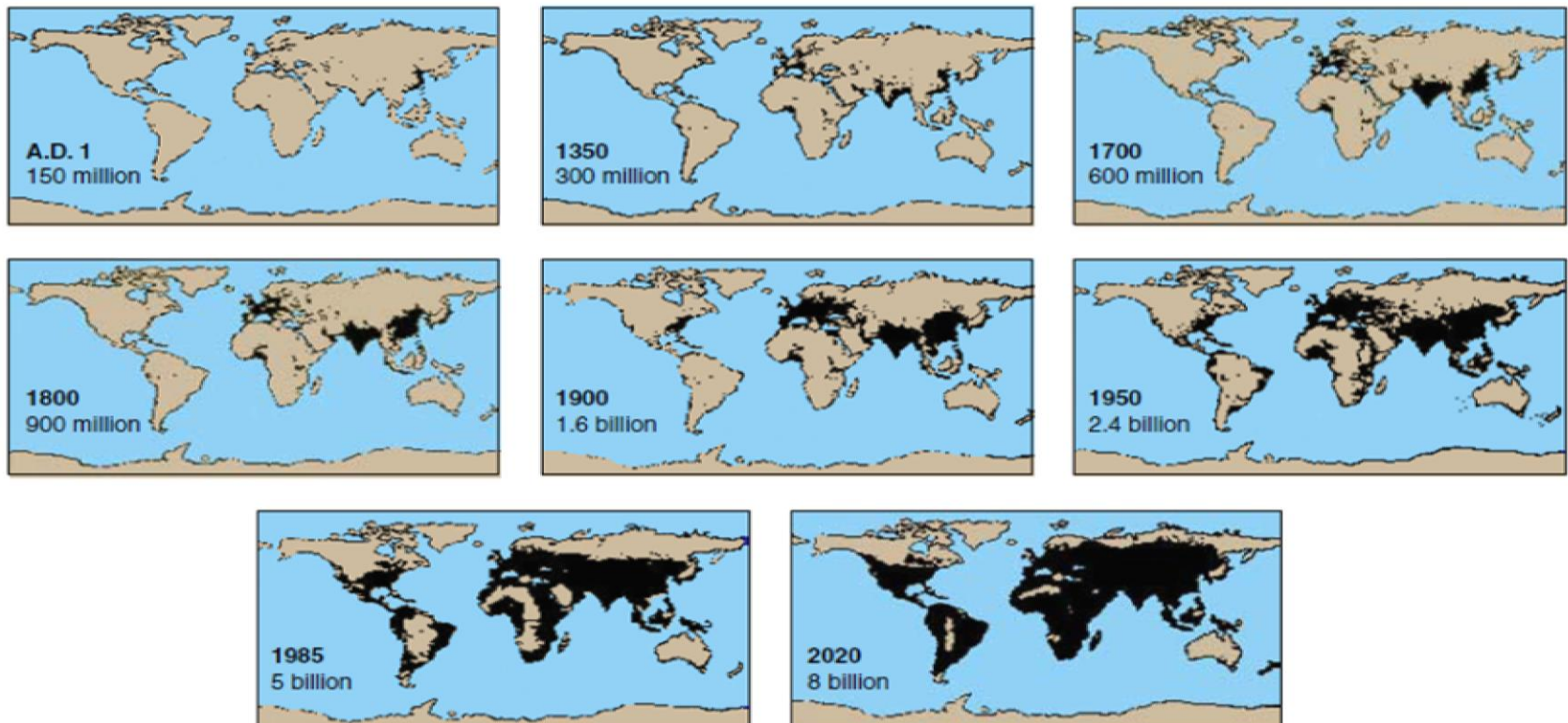
European Commission, DG ENV, Brussels, DSD/ACR+, 29-9-15



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"demography and exponential growth" 1950-1985 2%p.a.

Figure 1
Human Population Throughout History, A.D. 1 to 2020

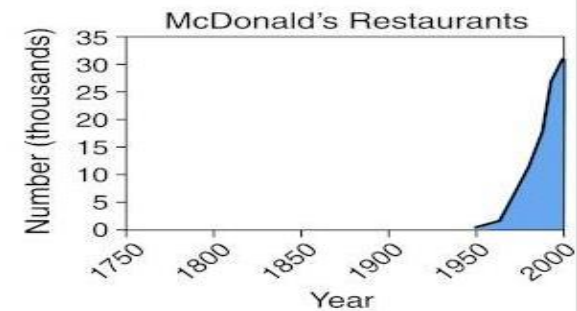
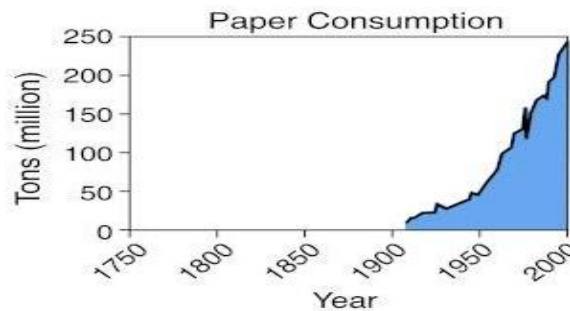
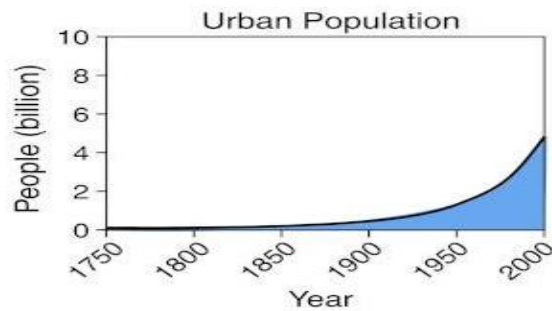
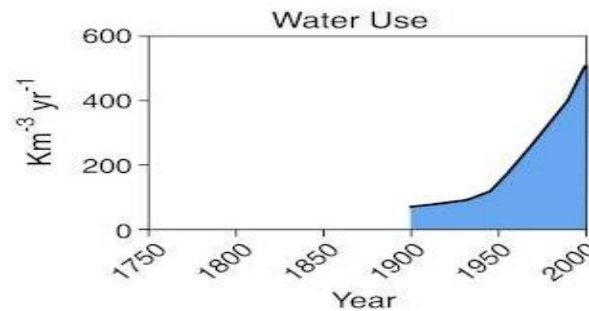
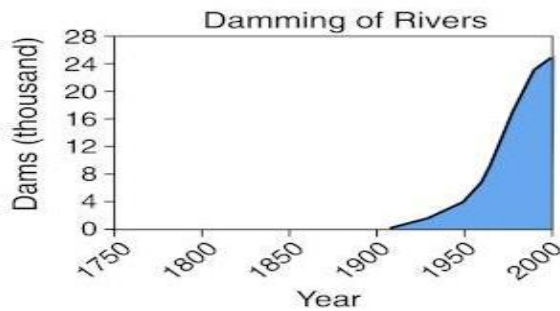
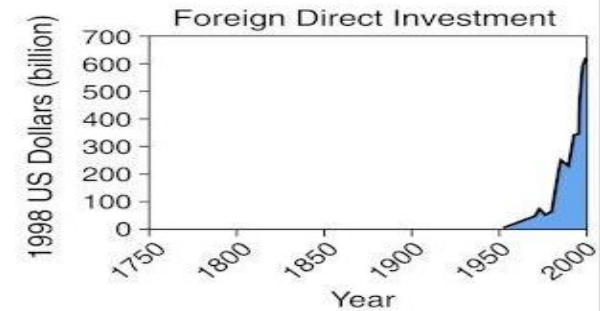
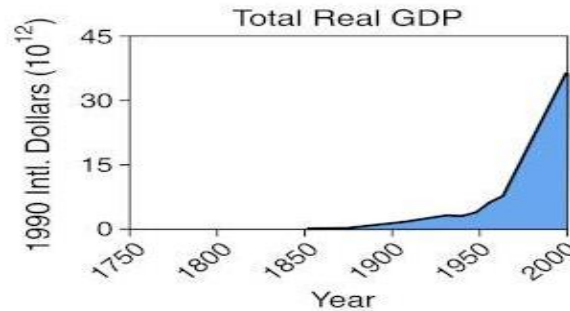
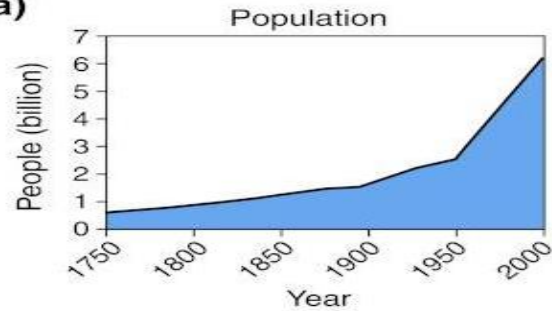




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Exponential growth in all parameters

(a)

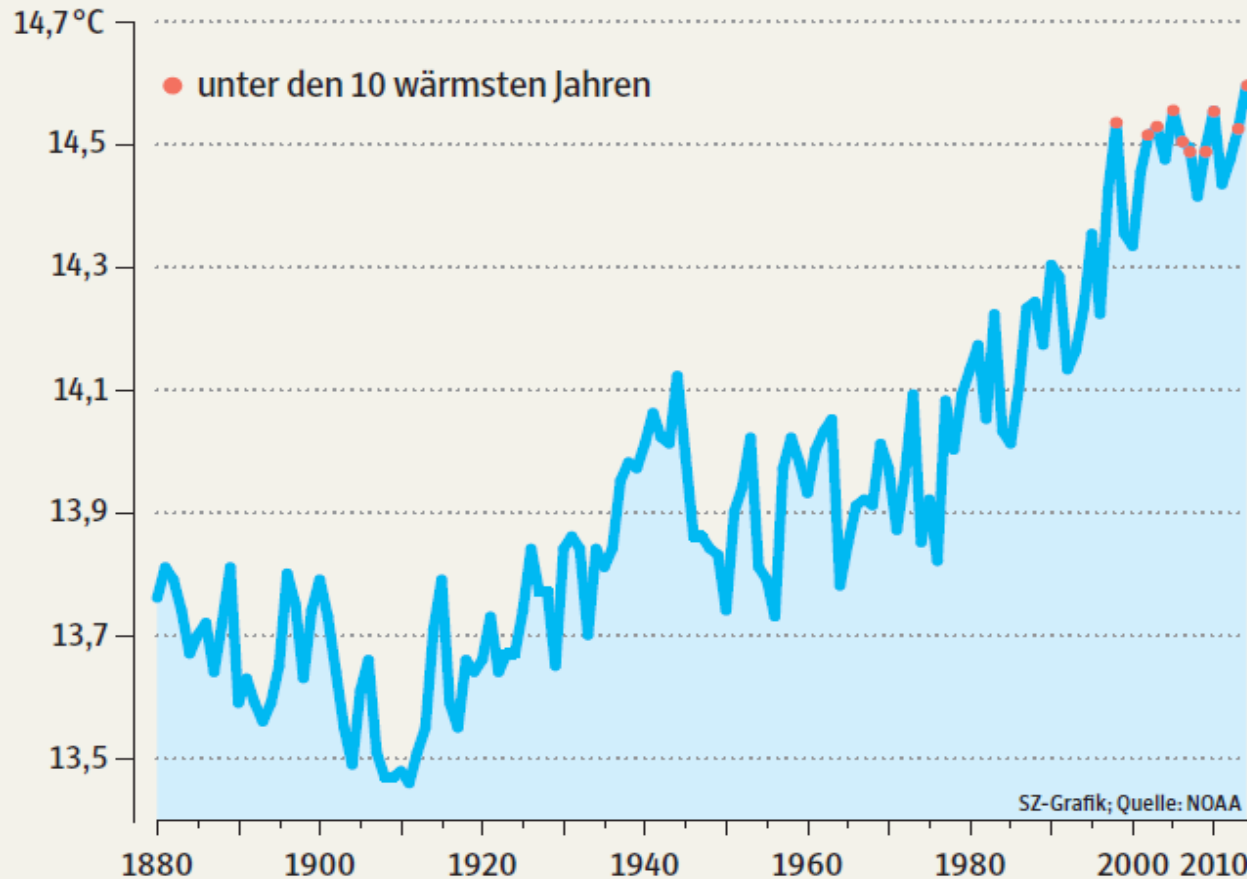


1° C average increase in last 100 years



Wärmerekord

Seit 1880 sind die jährlichen Durchschnittstemperaturen auf der Erde gestiegen



Die 10 wärmsten Jahre

1	2014	14,59°C
2	2005	14,55°C
2	2010	14,55°C
4	1998	14,53°C
5	2003	14,52°C
5	2013	14,52°C
7	2002	14,51°C
8	2006	14,50°C
9	2007	14,49°C
9	2009	14,49°C


Unsustainable growth of plastic production

Linear increase of 5% p.a. production
sustainable ?



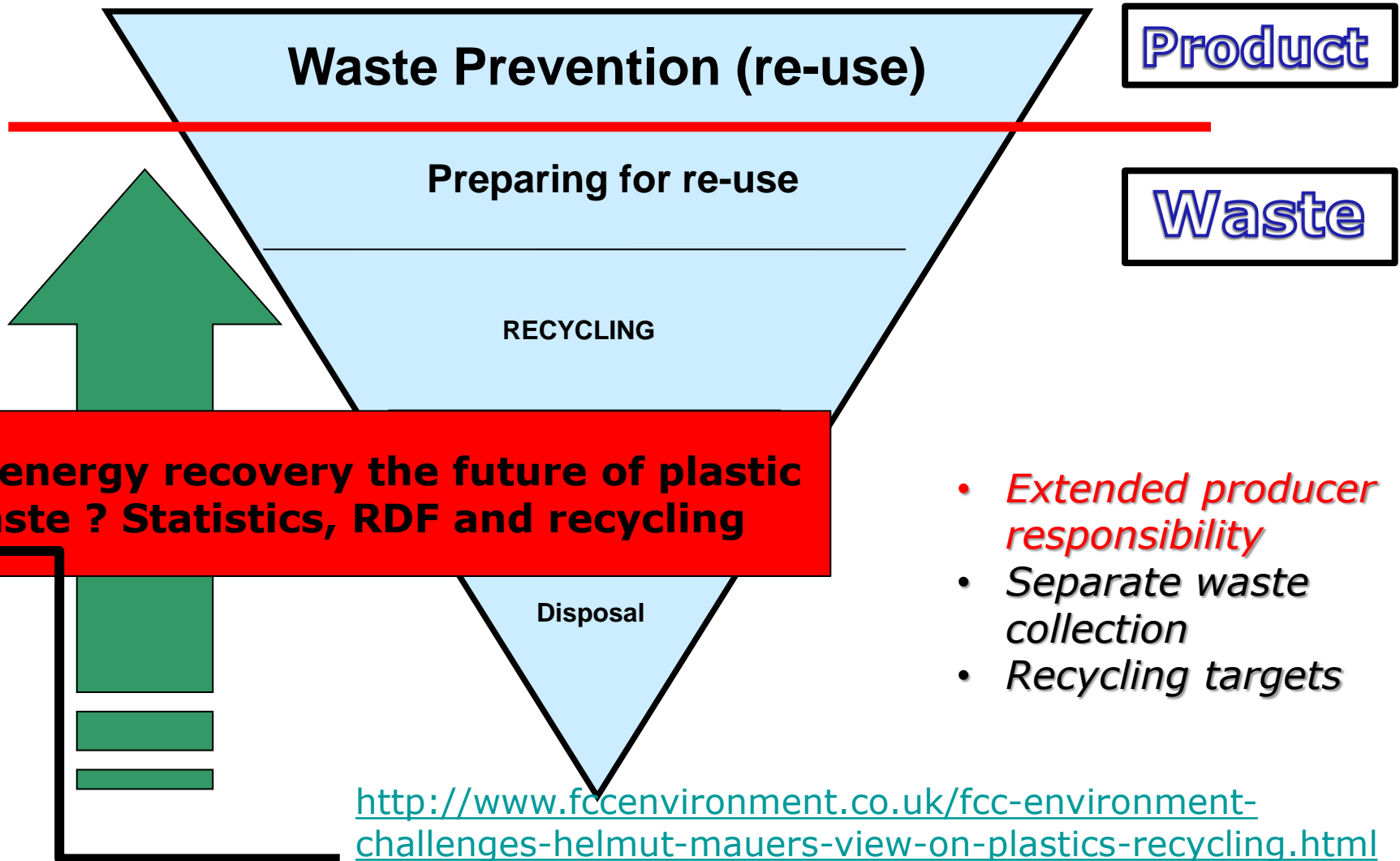
Doubling every 14 years



300 Megatonnes today  **600** Mt in 2029 and
1200 Mt in 2043? This is 4 times of
what is produced today

Plastic in a circular economy:

- **Does not end up in the oceans**
- **Every gram is collected**
- **Is traceable from production to EoL**
- **Is fully recyclable**
- **Is non-toxic**
- **Is not a facilitator for planned obsolescence**



Extended producer responsibility Indulgence or more?

- "Pay your fee and go ?"
- **Art. 8 WFD** much ignored: "MS may"
 - **Accept returned products and waste**
 - **Design out environmental impact in production and subsequent use**
 - Multiple use (includes repair)
 - Technical durability
 - Fit for proper and safe recovery (non-toxic)

EoW – the golden path or cul de sac ?

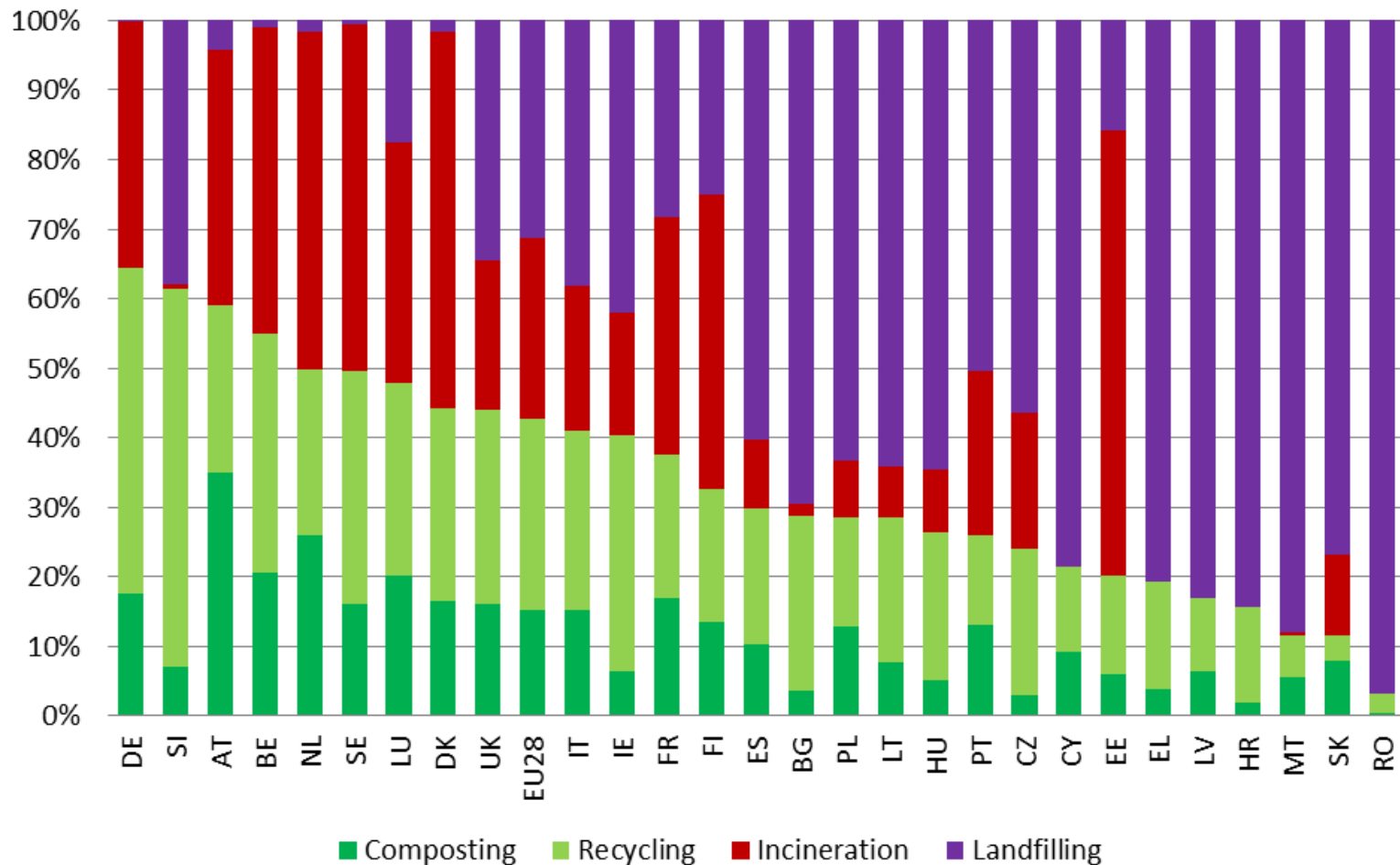
- *Already adopted EoW Regulations, in particular on metal scrap, seem not having had real impact*
- *Removing market barriers through EoW ?*
- *Plastic EoW Regulation still on the table for discussion*
 - **No clarity yet, if real added value (Chemistry/impurities)**
 - **Recyclers and MS work on the basis of case by case decisions and seem comfortable**

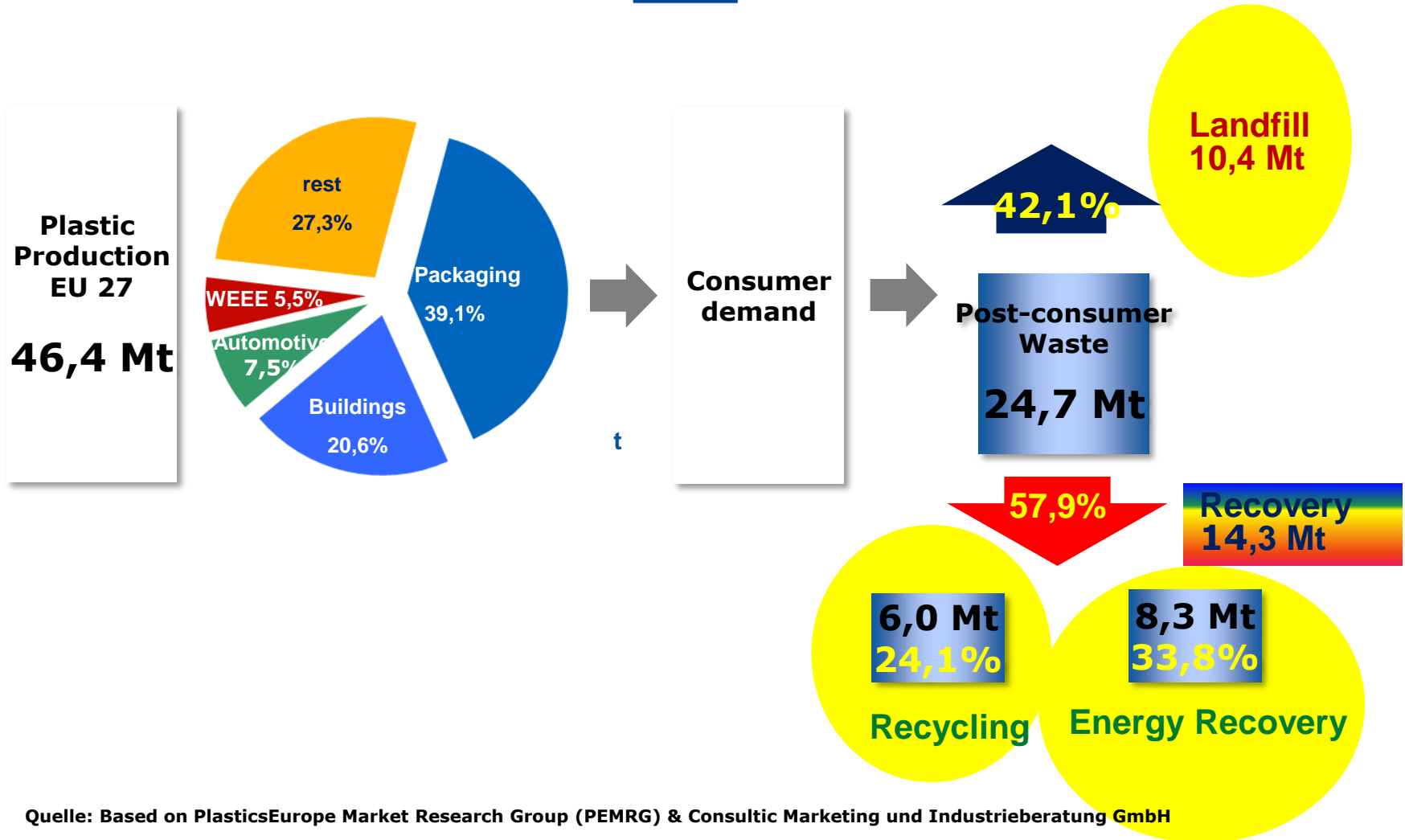


A sense of realism

Where are we now?

Municipal waste per treatment 2013





Quelle: Based on PlasticsEurope Market Research Group (PEMRG) & Consultic Marketing und Industrieberatung GmbH



Green Paper on plastic waste

**outcome of the on-
line consultation in
2013**

Green Paper ~~Paper~~ Plastic Waste – consultation results

- Transit to circular economy,
Resource efficiency, new economic models
- **End landfilling Plastic waste**
- Design allowing full, simple and economic
recycling, make producers responsible
- **Thermal treatment must remain an exception**
- Enhanced international co-operation (ESM)
Internalisation of costs (*polluter pays*), give
plastic a value
- Full implementation and control

two priorities to develop markets for high quality plastic recycling

(1) WORK ON MATERIAL SUPPLY

(2) WORK ON INFORMATION FLOW



stop landfilling valuable resources

**enhance separate collection
and recycling**

Separate collection of waste a key enabler for recycling

- **Art. 11 Waste Framework Directive**
 - separate collection at least of paper, metal, **plastic**, glass **by 2015**
 - **Separate collection versus co-mingled collection**
 - **Question of efficiency**
 - **higher yield, better quality**



**Design products
to be repairable,
durable and
modular**



**Enhance information
flow across the
whole value chain**

**and change
economic model
based on of transfer
of ownership**

Resource conservation

- Leasing, not selling
- Revolution in WEEE and ELV plastic recycling through an electronically readable tracking system ??
- Enable dismantlers to know how to sort
- Recycler needs to know the chemistry of what he recycles



EU Policy on the way to more ambition

**Have MS sufficient political
will of implementation ?**

Economic opportunities through **plastics recycling alone** *(BIOIS study 2013)*

Scenario: recycling increase from **26% to 62%**

- > 4,5, Billion € savings p.a. for EU industry
- Significant GHG savings according to WRAP report 2010: Mechanical recycling is the best option in terms of GHG potential
- 120.000 new **direct jobs**. **Indirect jobs** are estimated at a rate of **32.174 jobs per million tonne of recyclate**.

Thank you for your attention !

Additional sources of information:

DG ENV "waste" website: <http://ec.europa.eu/environment//waste/index.htm>

Green paper on Plastic Waste:

http://ec.europa.eu/environment/waste/pdf/green_paper/green_paper_en.pdf

Fitness Check 2014:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0209&from=EN>

Waste Review: http://ec.europa.eu/environment/waste/target_review.htm

Resource Efficiency: http://ec.europa.eu/resource-efficient-europe/index_en.htm

Study on Economic Instruments: <http://ec.europa.eu/environment/waste/use.htm>

Eurostat Databases:

<http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/introduction>

EEA: <http://www.eea.europa.eu/themes/waste>