



Quality Waste Management

Ingo Sartorius

SLO/CRO Joint Conference

Ljubljana, 2 October 2012

PlasticsEurope
Association of Plastics Manufacturers

1. **Statistics**, by independent consultant (Consultic)

- **in DE:** detailed study, jointly with BKV, IK und bvse (new edition Sept. 2012)
- **in EU-27 +CH/NO:** detailed waste study of Consultic
- **Data survey of market researchers:** production + demand + waste

2. **New strategy of plastics waste management**, considering the different stages of the waste value chain

- **Brochure and video:** „too valuable to throw away" in 7 languages
- **Vision "zero waste to landfill by 2020“:** joint project of european plastics industry and flagship initiative of ECI (european chemical industries)

3. **Knowledge Transfer Project**, to help landfill countries

- **Key countries:** France, Poland, Spain, UK
- Annual international conference **IdentiPlast:** 6.-7. November 2012 in Warsaw

4. **Marine Litter Initiatives**

- **Global Declaration:** of 56 industry organisation in plastics value chain (production, conversion, chemical industry) from 34 countries
- **Gesamp-Project:** joint expert group to investigate scientific aspects of the marine environment, UN contribution
- **Operation Clean Sweep:** programme to reduce pellet losses
- **BKV-Project:** literature survey of Ökoinstitute to reduce impact from land

1. **Statistics**, by independent consultant (Consultic)

- in **DE**: detailed study, jointly with BKV, IK und bvse (new edition Sept. 2012)
- in **EU-27 +CH/NO**: detailed waste study of Consultic
- **Data survey of market researchers**: production + demand + waste

2. **New strategy of plastics waste management**, considering the different stages of the waste value chain

- Brochure and video: „too valuable to throw away" in 7 languages
- Vision "zero waste to landfill by 2020": joint project of european plastics industry and flagship initiative of ECI (european chemical industries)

3. **Knowledge Transfer Project**, to help landfill countries

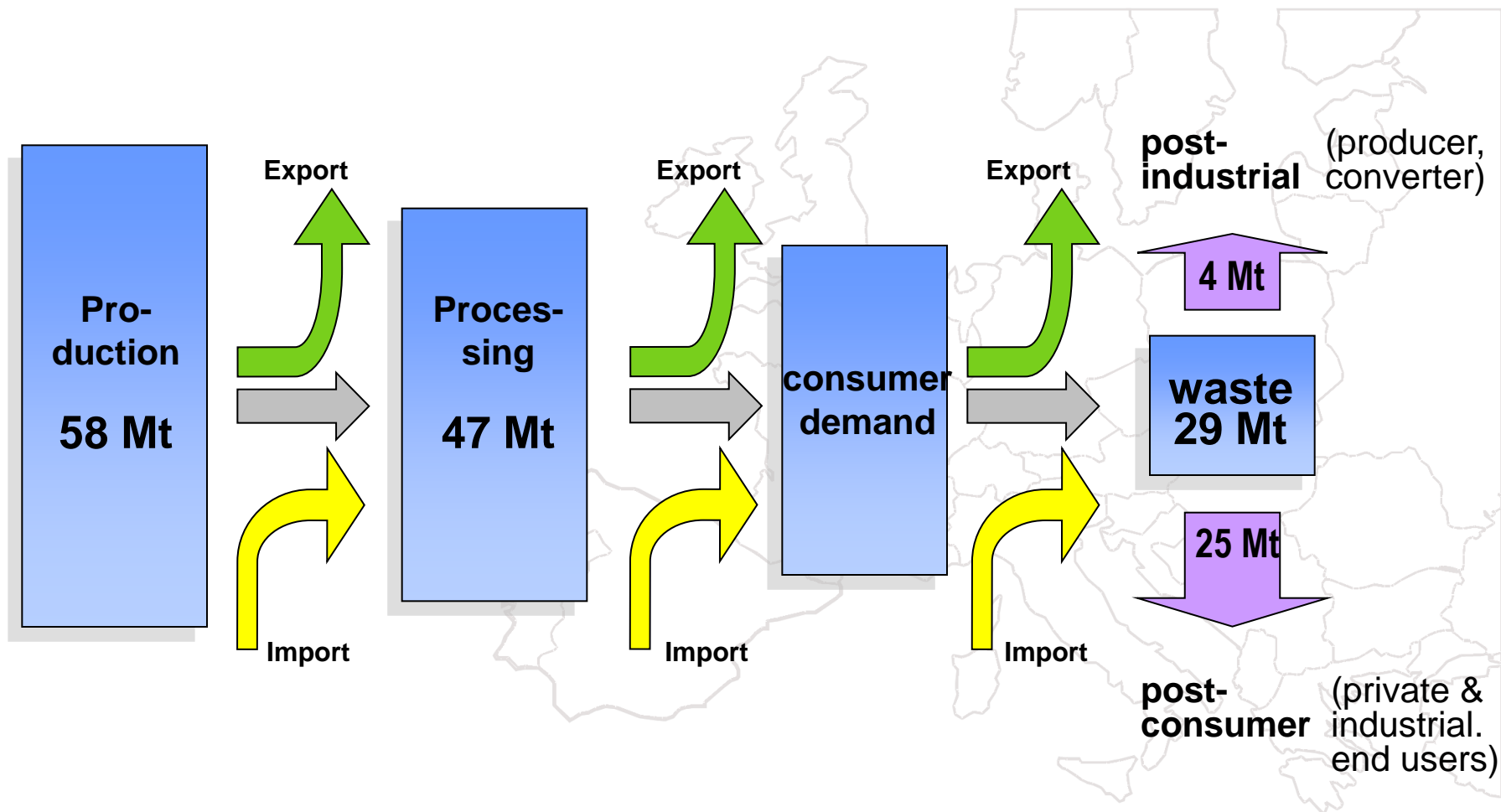
- Key countries: France, Poland, Spain, UK
- Annual international conference IdentiPlast: 6.-7. November 2012 in Warsaw

4. **Marine Litter Initiatives**

- Global Declaration: of 56 industry organisation in plastics value chain (production, conversion, chemical industry) from 34 countries
- Gesamp-Project: joint expert group to investigate scientific aspects of the marine environment, UN contribution
- Operation Clean Sweep: programme to reduce pellet losses
- BKV-Project: literature survey of Ökoinstitute to reduce impact from land

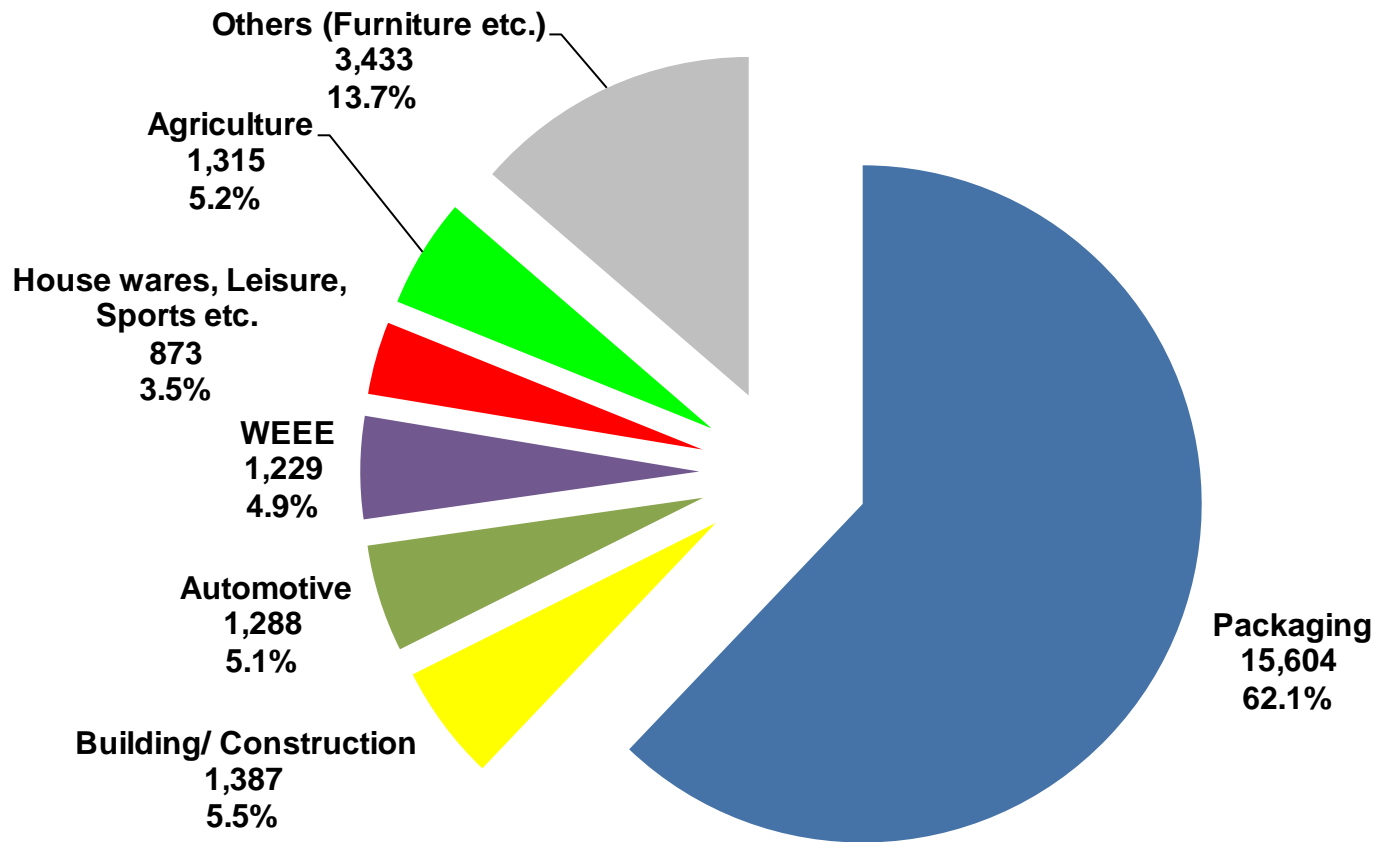
Plastics Value Chain

2011 data in EU-27+CH/NO



Post-consumer plastics waste management in Europe (EU-27+CH/NO) 2011 – by sector

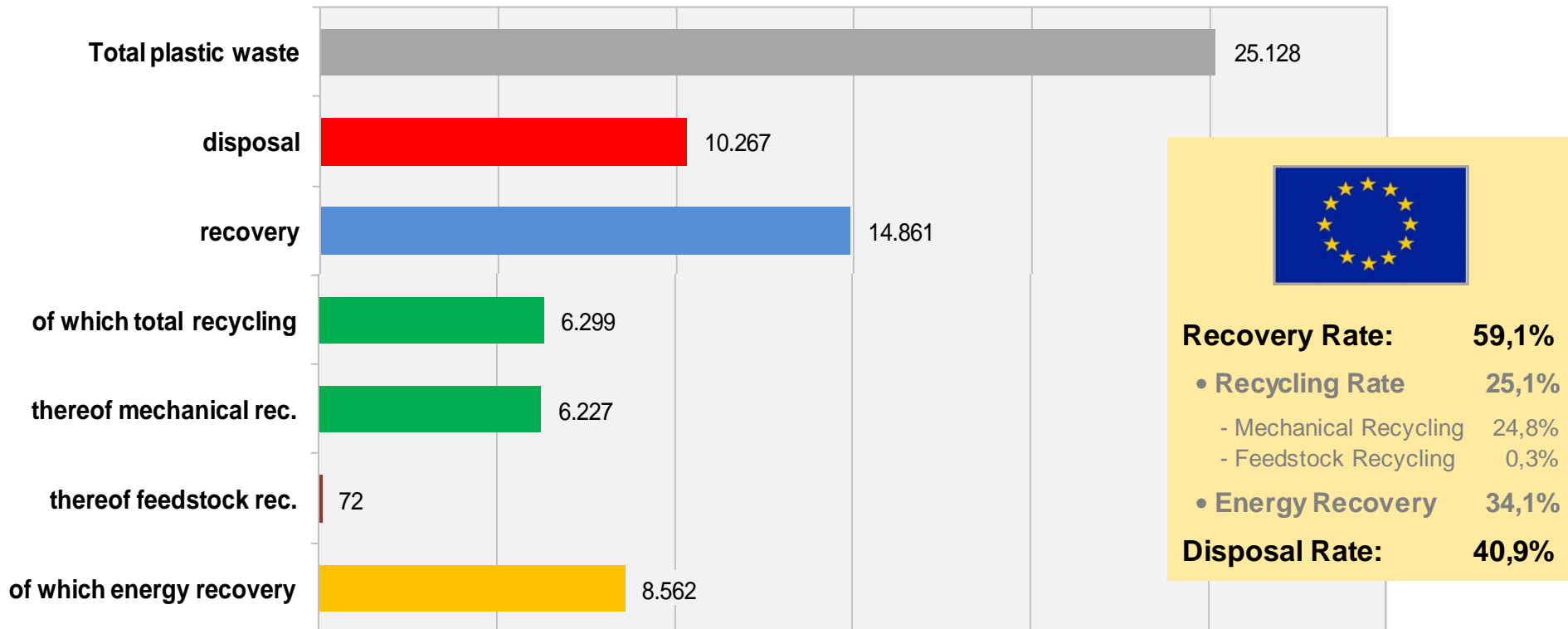
Total post-consumer plastic waste by application
EU27 + 2 2011



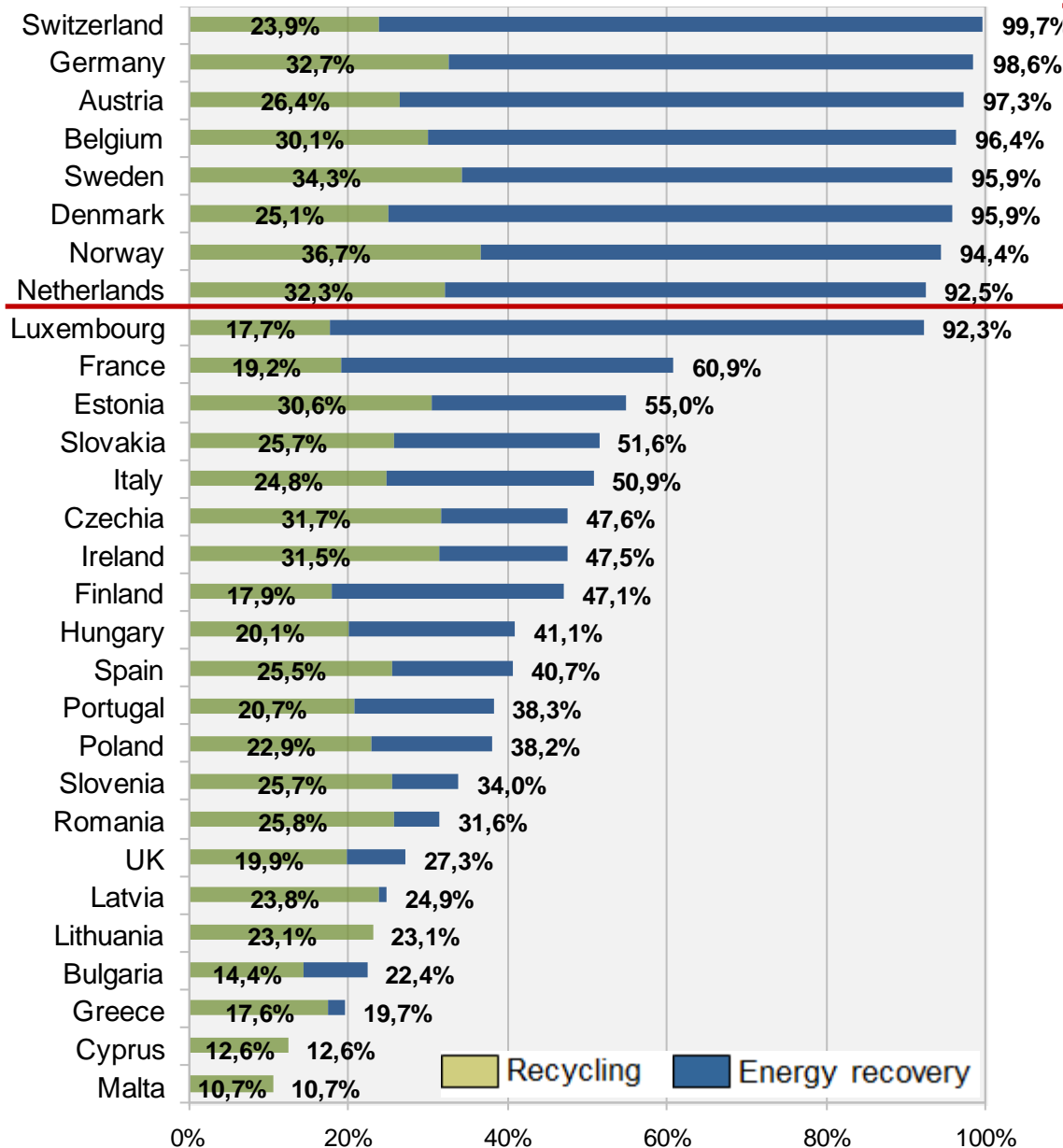
- The total volume of available post-consumer waste arising in 2011 was about **25,1 million tons**
- In terms of waste generation **packaging with a share of ~62 %** is by far still the largest plastics waste fraction in the European countries
- Longer living applications in Building and Construction, Automotive, WEEE and Agriculture show shares between 5-6%.

Post-consumer plastics waste management in Europe (EU-27+CH/NO) 2011 – by treatment

European average data in kilo tons



Post-consumer plastics waste management in Europe (EU-27+CH/NO) 2011 – by sector



9 countries in Europe recover more than 90%.

These countries have an absolute or “shortened” landfill ban.

Also 6 of these countries are amongst the 10 countries with the highest recycling rates.



Therefore „**divert from landfill**“ boosts higher **recovery** and **recycling**, also of those waste streams, which have not been recovered so far.

Key Step	Action
1 Prevention	Prevention to be core to vision and strategy – build the case and engage to steer prevention policies
2 Collection	Advocate local extension of collection of all recoverable waste
3 Material Recovery (= <i>Recycling</i>)	Drive quality recycling – qualitative and value driven more than quantitative
4 Energy Recovery	Support efficient recovery as important complement to quality recycling and support modern plants
5 Landfill	Advocate restriction on landfilling. Support (local) legal means to boost recovery routes

- The strategy covering the waste value chain, orients towards **definitions according to legislative rules**
- The waste value chain **consists of the following key steps:**
1 prevention **2** collection **3** material and **4** energy recovery **5** landfill
- There is **no hierarchy** among these key steps, i.e. none of them must be singled out or promoted against an other.
- The **steps are interlinked** with each other e.g. prevention touches recycling, landfill affects energy recovery etc.
- At each step of the waste value chain there are **different responsible stakeholders**, which play a key role for effective waste management
- It is the ultimate goal to **divert plastics waste from landfill** by utilizing material and energy recovery; *vision*: zero landfill
- **Market orientation**, within the frame conditions of administration and local infrastructures, is the key factor for success

arabic,
english,
french,
german,
polish,
portugese,
spanish



- EU countries with landfill restrictions achieve high recycling & recovery

Ecological Needs:

- Long years of experience in waste management
- Landfill ban by national authorities, supported by EU directives
- Management of waste infrastructure under economically competitive conditions

Environment (soil, water, air)

Resources (raw material, energy)

Climate (green house gas)

- Quality – raw materials, products, recovery
- Quality – recycling chain and infrastructure

Economical Needs:

- Quality recycling infrastructure can be utilized for other purposes
- Markets must exist for all products from waste management

Availability of waste services

Level playing field (competition)

Employment

Investments

160	Waste-Incineration Plants (incl. 70 MWI)
633	Waste-to-Energy Plants
550	CP-Treatment Plants
2047	Biological Treatment Plants (Comp./Digestion etc.)
55	MBT
996	Sorting Plants
1321	ELV-Dismantling Plants
304	WEEE-Dismantling Plants
120	Soil Treatment Plants
2055	C&D-Recovery Plants

14 958 Plants
3000 Companies
402 Municipalities

The quality of waste streams (data in DE)



**Post-industrial
waste**

total: 1.01 Mio t



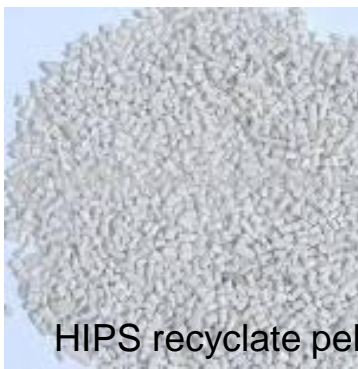
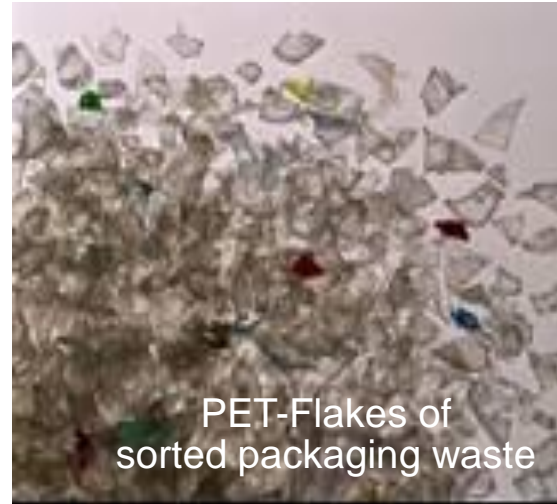
**Post-consumer
waste**

total: 4.44 Mio t

Quality recycling

Recycling is the preferred option, if ...

- ... waste streams are clean and pure grade
- ... quality of products is comparable to new ones
- ... technical specifications are fulfilled for recyclates
- ... a markets exist to these



- If recycling is performed quantitatively, but with poor quality: the disposal of waste as product places products with poor environmental footprint and poor health conditions on the market
- Continued raise of quantitative recycling targets means: cost burden for the value chain and the society; even with high subsidies hardly to achieve
- Waste management must be market oriented
- Legal requirements, execution and control on all organisational steps
- Product law has to be applied for recyclates, especially for food contact → see study of the Federal Environmental Authority (REACH and Recycling)
- Quality standards for all steps of the waste value chain:
 - Quality management of collection, sorting/treatment, recycling, ... permit law for energy recovery plants
 - Infrastructure for waste streams between these steps
 - Certification under market conditions
 - Adjustment according to technical development (BAT – process)

- Waste is a raw material
 - utilise both its material and energy content via material recovery (=recycling) and energy recovery
 - plastics is too valuable to be thrown away
- Follow the strategy vision “zero waste to landfill” for calorific wastes as key target
- Balance recycling and energy recovery ecologically and economically; energy recovery of mixed plastics waste helps recycling
- Integration of all steps in waste value chain, each under market conditions
- Dialogue and network
 - e.g. consumers, authorities, government, industries, academia, NGOs

Identiplast® 2012

6-7th November 2012
Poland, Warsaw, Sheraton



INVITATION FOR THE CONFERENCE



'ZERO PLASTICS TO LANDFILL - HOW TO REACH THE GOAL'



Plastics

The Material for the 21st Century