meetingPACK 2017

3rd EDITION

¿Cómo puede afectar la nueva economía circular a la política de reciclado de Danone?

How will the new circular economy package influence Danone plastic recycling policy?

Philippe Diercxsens (DANONE)

WATER
RESOURCES
& NATURE
DEPARTMENT

HOW WILL THE NEW CIRCULAR ECONOMY PACKAGE INFLUENCE DANONE PLASTIC RECYCLING POLICY?

ainia AIMPLAS

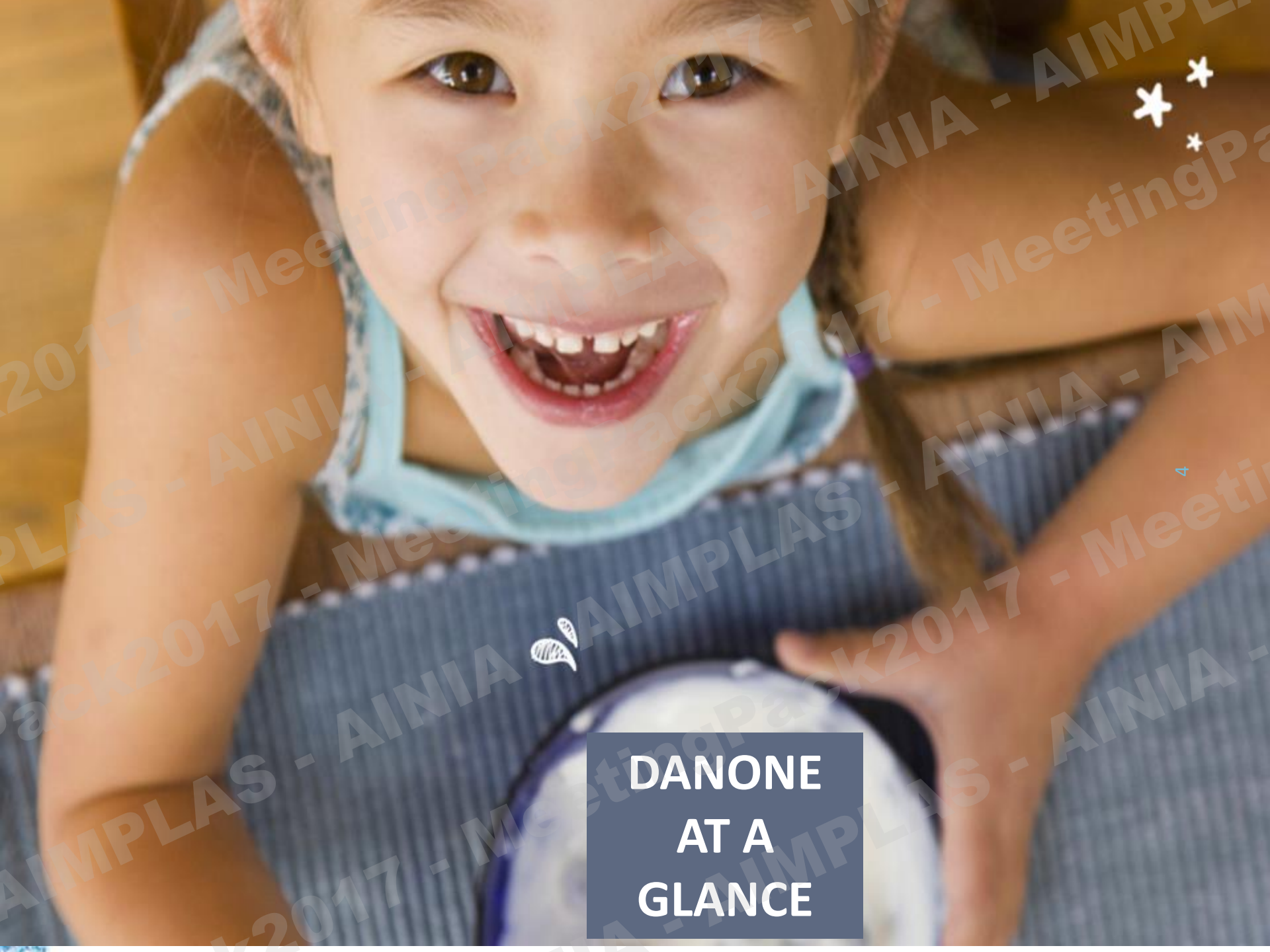
MEETINGPACK 2017

VALENCIA, MAY 31 - 2017

DANONE waters

PRESENTATION CONTENT.

- ✓ **Danone at a glance**
- ✓ **Plastic Packaging in a worldwide context**
- ✓ **Danone worldwide analysis of packaging put on the market.**
- ✓ **Packaging and packaging waste management.**
  - ❑ *UPSTREAM the product*
    - ➢ *Design for Circularity*
    - ➢ *Alternative packaging material*
    - ➢ *Bio-sourced plastic material*
  - ❑ *DOWNSTREAM the product*
    - ➢ *Organized countries*
    - ➢ *Non organized countries*
- ✓ **Danone Packaging Policy**



DANONE AT A GLANCE

OUR MISSION

VISION

A UNIQUE MISSION AND A DUAL ECONOMIC AND SOCIAL PROJECT AT THE HEART OF THE COMPANY

Our mission
Bringing health through food to as many people as possible.

Our dual economic and social project
As early as 1972, Antoine Riboud was drawing attention to the environmental and social impact of businesses on the planet.

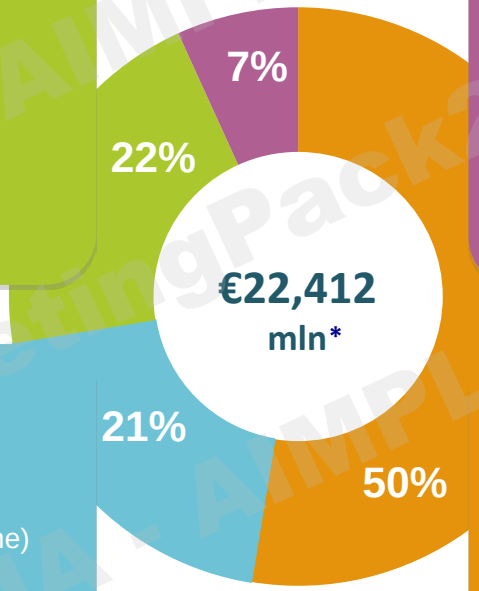
LEADERSHIP POSITION ON 4 BUSINESS ACTIVITIES

€4.994 billion

No. 2 worldwide
Early life Nutrition

€1.593 billion

No. 1 in Europe**
Medical Nutrition



€4.768 billion

No. 2 worldwide (by volume)
Waters

€11.057 billion

No. 1 worldwide
Fresh Dairy Products

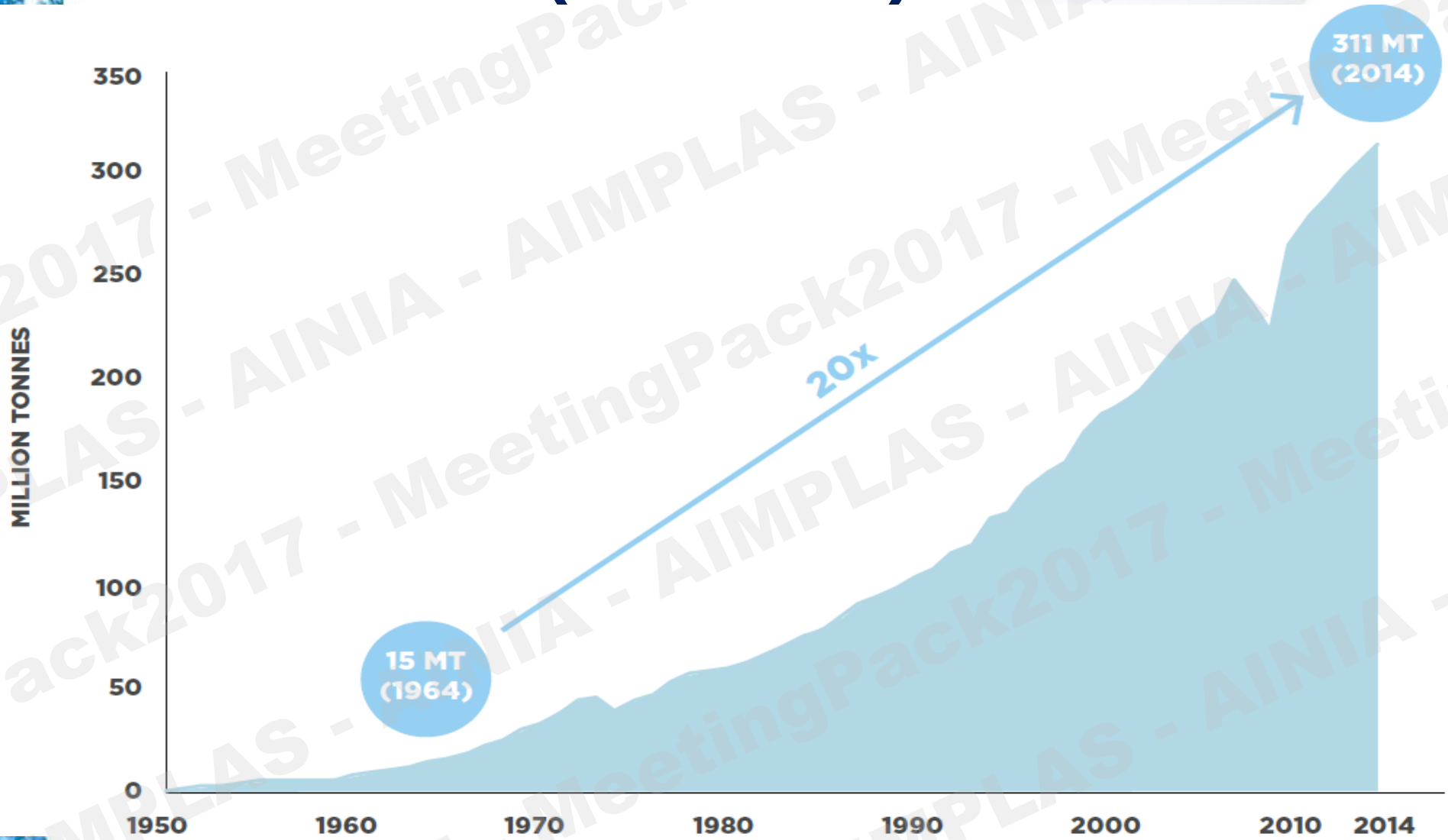
*2014 FY Sales
** West Europe

HEALTHY PORTFOLIO

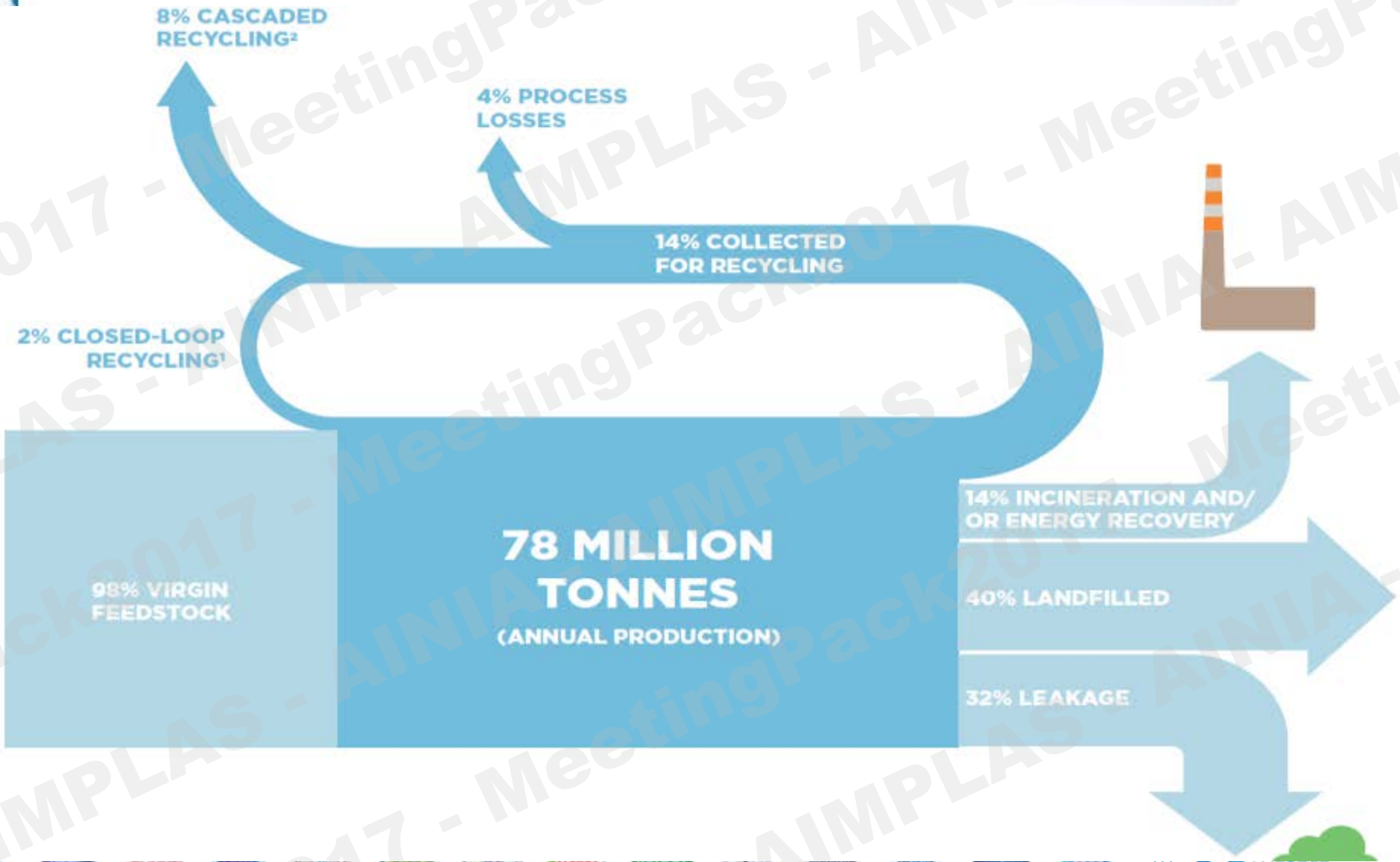
DANONE waters

PLASTIC PACKAGING CONTEXT

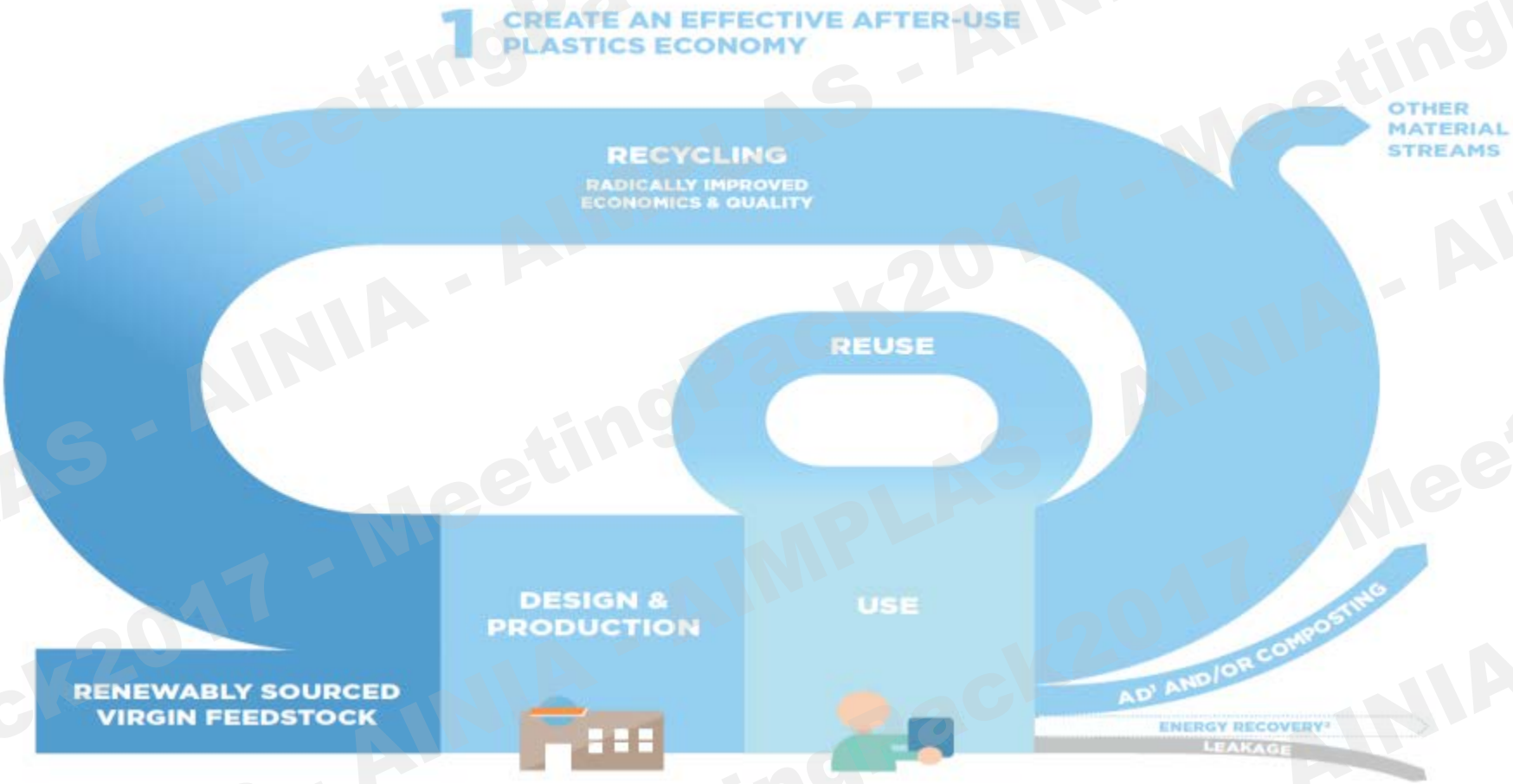
GROWTH IN GLOBAL PLASTICS PRODUCTION (1950-2014)



GLOBAL FLOWS OF PLASTIC PACKAGING MATERIAL IN 2013



AMBITION OF THE NEW PLASTICS ECONOMY



3 DECOUPLE PLASTICS FROM FOSSIL FEEDSTOCKS

2 DRASTICALLY REDUCE THE LEAKAGE OF PLASTICS INTO NATURAL SYSTEMS & OTHER NEGATIVE EXTERNALITIES

DANONE waters

PLASTIC PACKAGING IS KEY TO OUR MISSION AND HAS VALUABLE FUNCTIONS …

… WITH NEGATIVE EXTERNALITIES

Unsustainable
Growing negative externalities

	2014	2050
1. Plastic Share of global Oil consumption	6%	20%
2. Ratio Plastic to fish in the ocean	1:5	>1:1
3. Plastic share of Carbon budget	1%	15%

HOW DO WE INTEGRATE CIRCULAR ECONOMY AT DANONE ?

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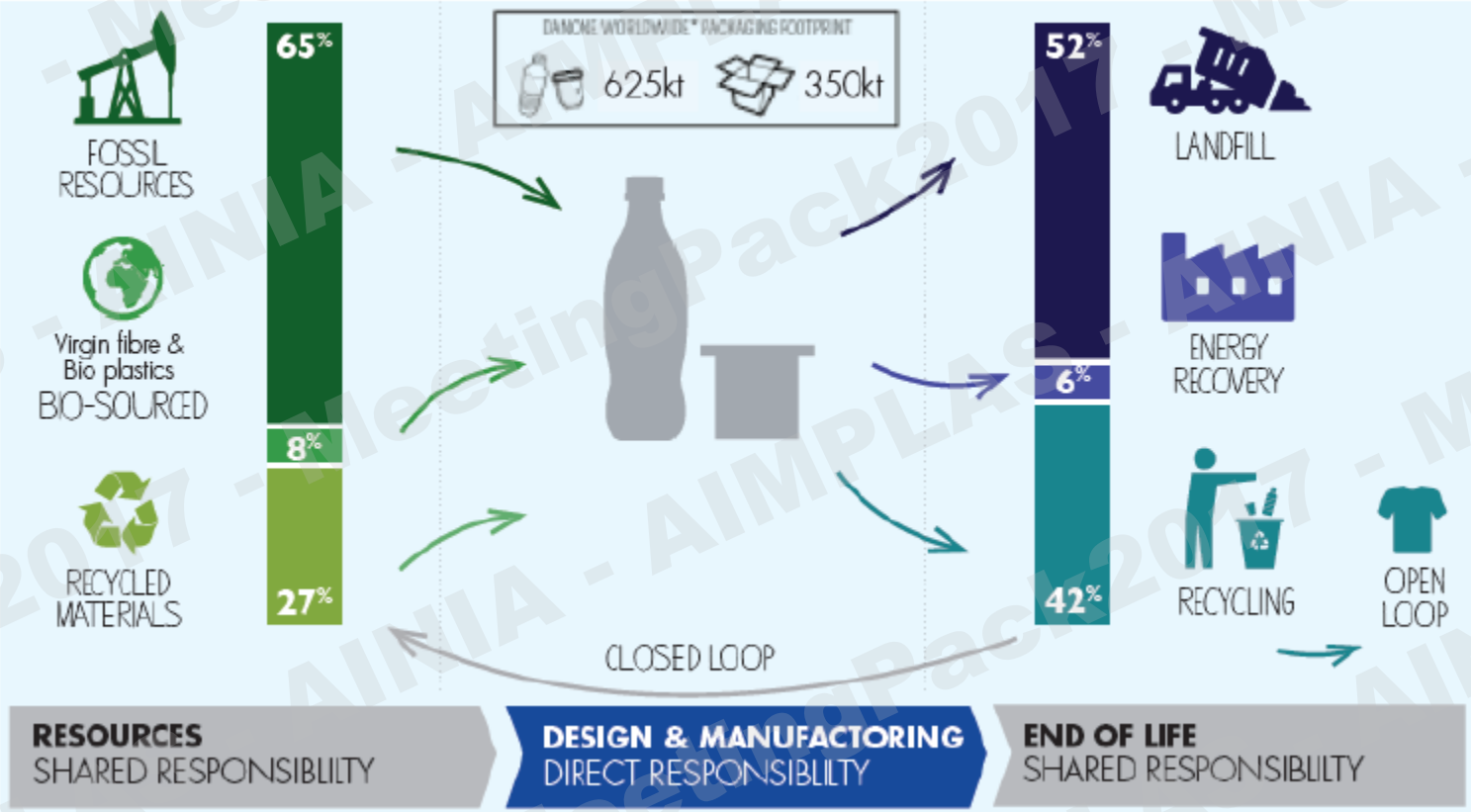
1. DANONE WORLDWIDE ANALYSIS OF PACKAGING PUT ON THE MARKET.

PACKAGING IS A COMPLEX VALUE CHAIN FROM UPSTREAM TO DOWNSTREAM



2. DESIGN FOR CIRCULARITY

RESPECT DESIGN FOR RECYCLING RULES

- Size & shape
- Weight
- Resin grade
- Colorants
- Barrier technologies
- Additives
- Caps & closures
- Liners, seals & valves
- Labels & sleeves
- Adhesives
- Inks
- Other components

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EUROPEAN PET BOTTLE PLATFORM

WWW.PETBOTTLEPLATFORM.EU

- **Main objective :**
  - Evaluate PET bottle manufacturing technologies and products
  - Allow new PET bottle innovations, while minimizing the economic and environmental consequences for the European PET recycling industry.

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DESIGN GUIDELINES

	YES Full compatibility – materials that passed the testing protocols with no negative impact OR materials that have not been tested (yet), but are known to be acceptable in PET recycling	CONDITIONAL Limited compatibility – materials that passed the testing protocols if certain conditions are met OR materials that have not been tested (yet), but pose a low risk of interfering with PET recycling	NO Low compatibility – materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PET recycling
Container	PET		PLA; PVC; PS; PETG
Size			
Colours	transparent clear; transparent light blue	. .	other transparent colours; opaque; metallic
Barrier	SiOx plasma-coating	carbon plasma-coating; PA multilayer with <5 wt% PA and no tie layers; PGA multilayer ; PTN alloy	PA multilayer with >5 wt% PA or tie layers; monolayer PA blend; EVOH

DANONE waters


Un plaisir intense
pour les p'tits
gourmands !
FanLogo
FanLogo
Star
Star
FanIce
FanIce
FAN
FanMilk

FAN de crème STAR !

Nouvel Emballage

Onctueux - Crémeux et Délicieux

fabriqué par FMCI-Abidjan-Côte d'Ivoire

FAN FanMilk's

POLYSTYRENE OF THE YOGHURT CUPS

- Advantages of polystyrene
  - ✓ Not expensive
  - ✓ Easy to transform
  - ✓ Good performance on filling lines
  - ✓ Good adhesion of sealing

- Disadvantages of polystyrene
  - ✓ Poor barrier properties
  - ✓ **Very poor recycling future**

TECHNICAL AND FINANCIAL CHALLENGE

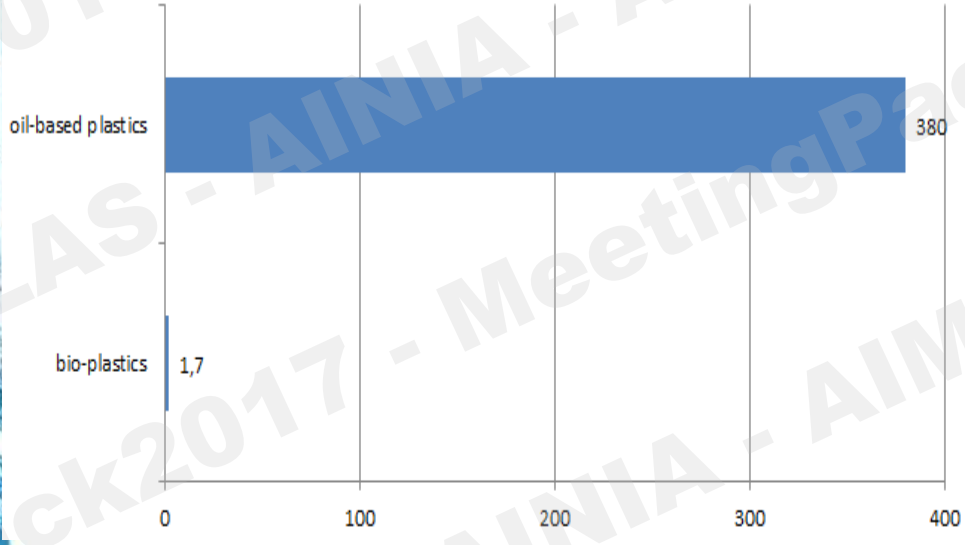
- Choose an alternative packaging material for PS. Worldwide more than 250 filling lines are concerned.

- Possible alternatives :
  - **PET** (Polyethylene terephtalate - same material as for beverage bottles)
  - **PP** (Polypropylène)
  - **Board** (Back to history !)
  - …
  - **PLA** (Polylactic Acid, a biodegradable polymer)

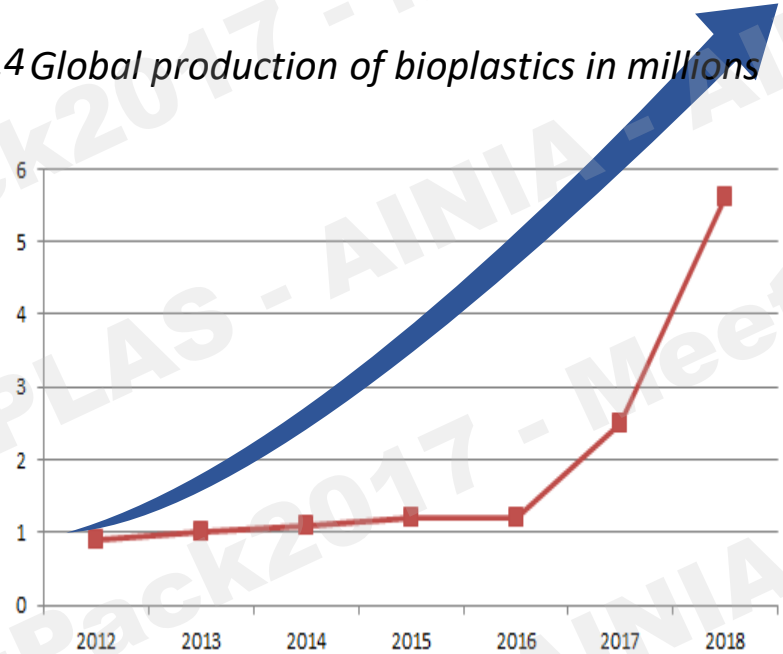
3. DECOUPLE PLASTIC PACKAGING FROM FOSSIL FEEDSTOCK

PART OF THE SOLUTION IS BIOPLASTICS : A SMALL BUT FAST GROWING MARKET

Global production of plastics in millions T in 2014



Global production of bioplastics in millions



Still A Small market
versus oil-based plastics

A clear upward trend !

Source : European Bioplastics 2015

BIOPLASTICS ROADMAP

PLA Test (1998)

PLA (2010)

Bio MEG GEN1 (2010)

BioPE GEN1 (2011)

Development of bioPEF GEN1 (2014)

Develop 100% BioPET bottles (2016)

2020 Bioplastics GEN2

2025 Bioplastics GEN3

BIOPLASTICS : PLASTICS DERIVED FROM DIFFERENT RENEWABLE FEEDSTOCKS

GENERATION I

Today

Cassava, corn starch, sugar cane, beet…

Feedstock potentially suitable for food or feed

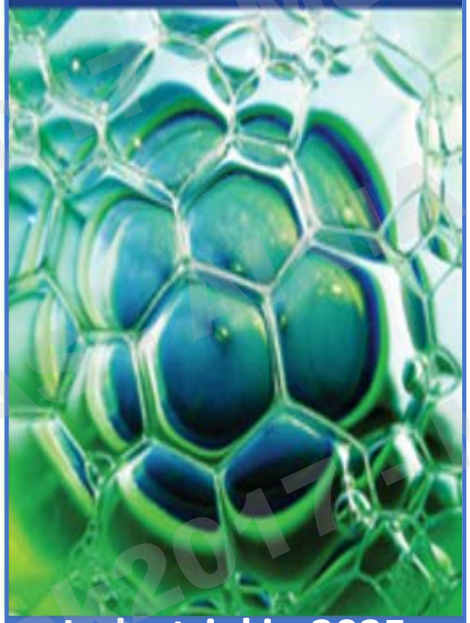
GENERATION II

Industrial in 2020

Bagasse, wood chips, switch grass, straw…

Feedstock not suitable for food or feed

GENERATION NEXT



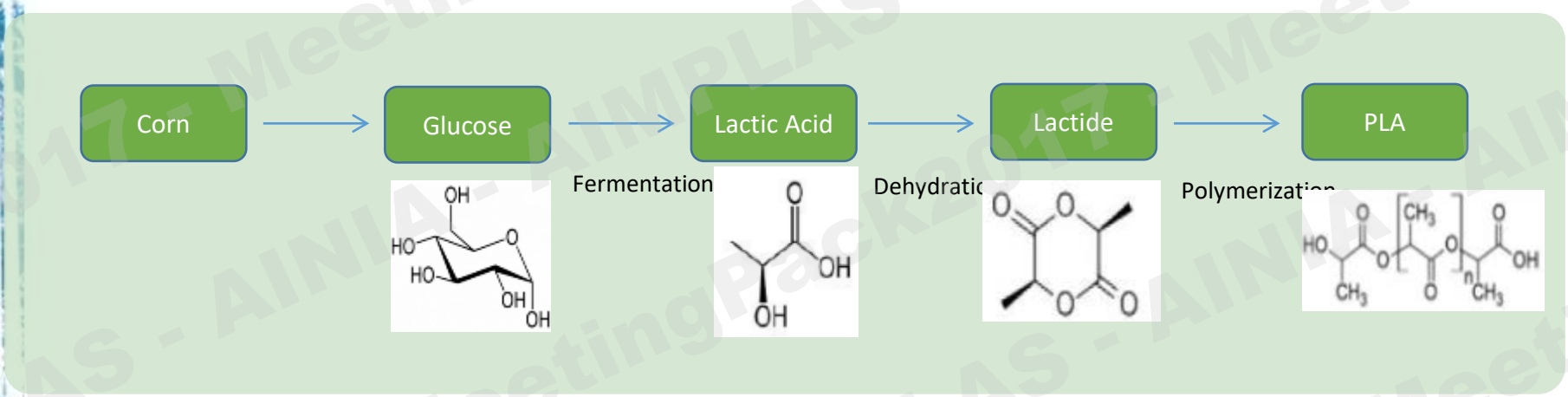
Industrial in 2025

Algae -Syngas (gasified organic matters or ind. off-gases)

Feedstock not suitable for food or feed

FOCUS ON A COMMERCIAL BIOPLASTIC : PLA

- PLA = poly(lactic acid) = a biobased plastic that can replace effectively PS in cups

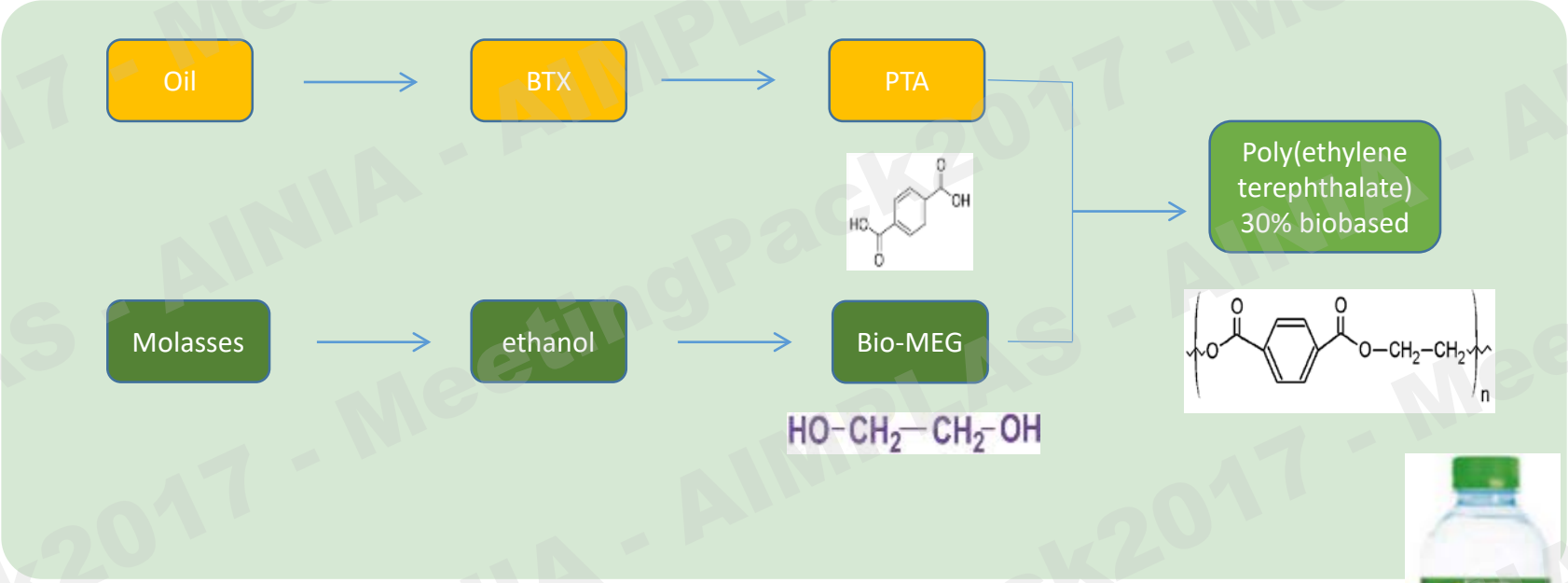


- Opportunity for GEN2 → 2020

DANONE PLA YOGHURT CUPS USED IN GERMANY

FOCUS ON A COMMERCIAL BIOPLASTIC : BIOPET-30%

- BioPET-30% = bio-poly(ethylene terephthalate) = drop-in solution to replace oi based PET



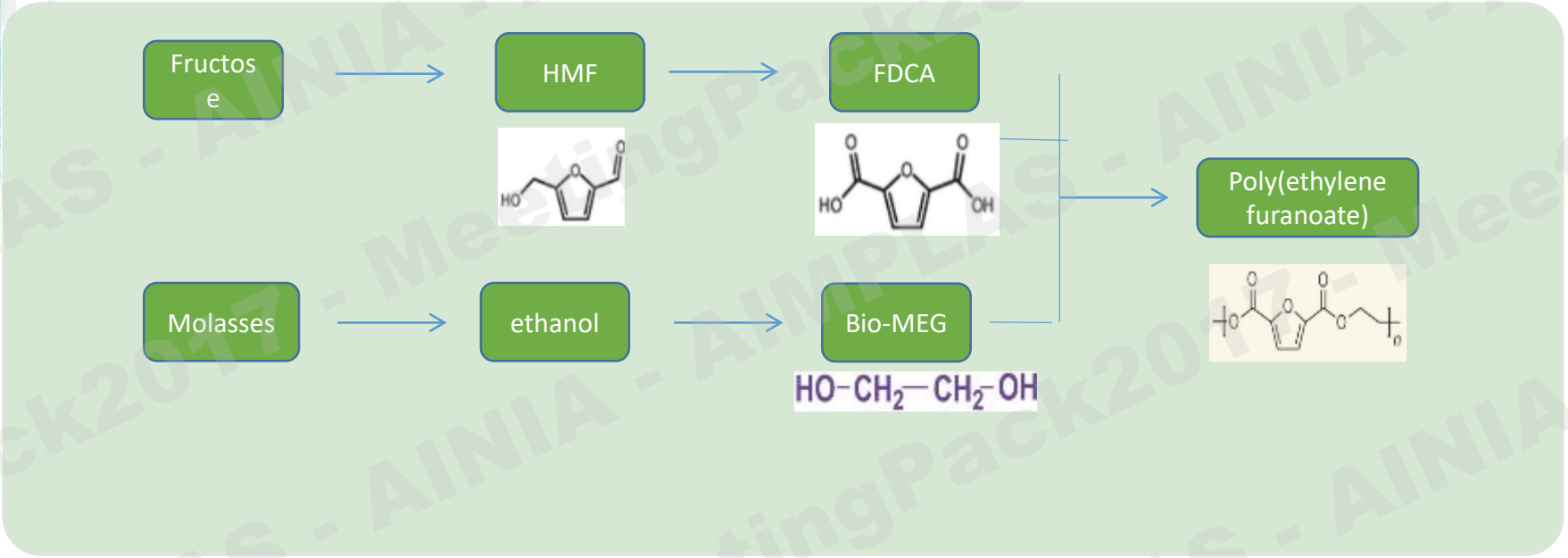
- PET with bioMEG = 30% biobased mass content
- Danone lanched in 2011
- Also used by our competitors = Coca- Nestle etc..

USE BIO-SOURCED MONOMERS … AND OTHER TECHNICAL SOLUTIONS.

Circular economy is frequently the result of a combination of different techniques !

UNDER DEVELOPMENT WITH DANONE : PEF

- can replace PET in bottles application
- with better barrier properties to gas (O2, CO2, water)→ sparkling and oxygen sensitive products



But potential conflict with PET regarding recycling (Max 5% PEF in PET)

BENEFITS OF USING BIOPLASTICS

Benefits	Exemple
Savings of fossil resources	The production of 1kg PLA instead of 1kg PS saves 1,31 kg of oil-equivalent (*)
Reduction of the environmental footprint of our packaging	Carbon footprint PLA = 0,62 kgCO2e/kg vs PS = 3,25 (**)
Using a feedstock with a lower price volatility vs oil	Oil volatility in the last 10 years = 100% vs 6% for wood
Improving the acceptability to many households	Bioplastic bottle is seen by our consumer as the bottle of the future (that will replace the PET one)

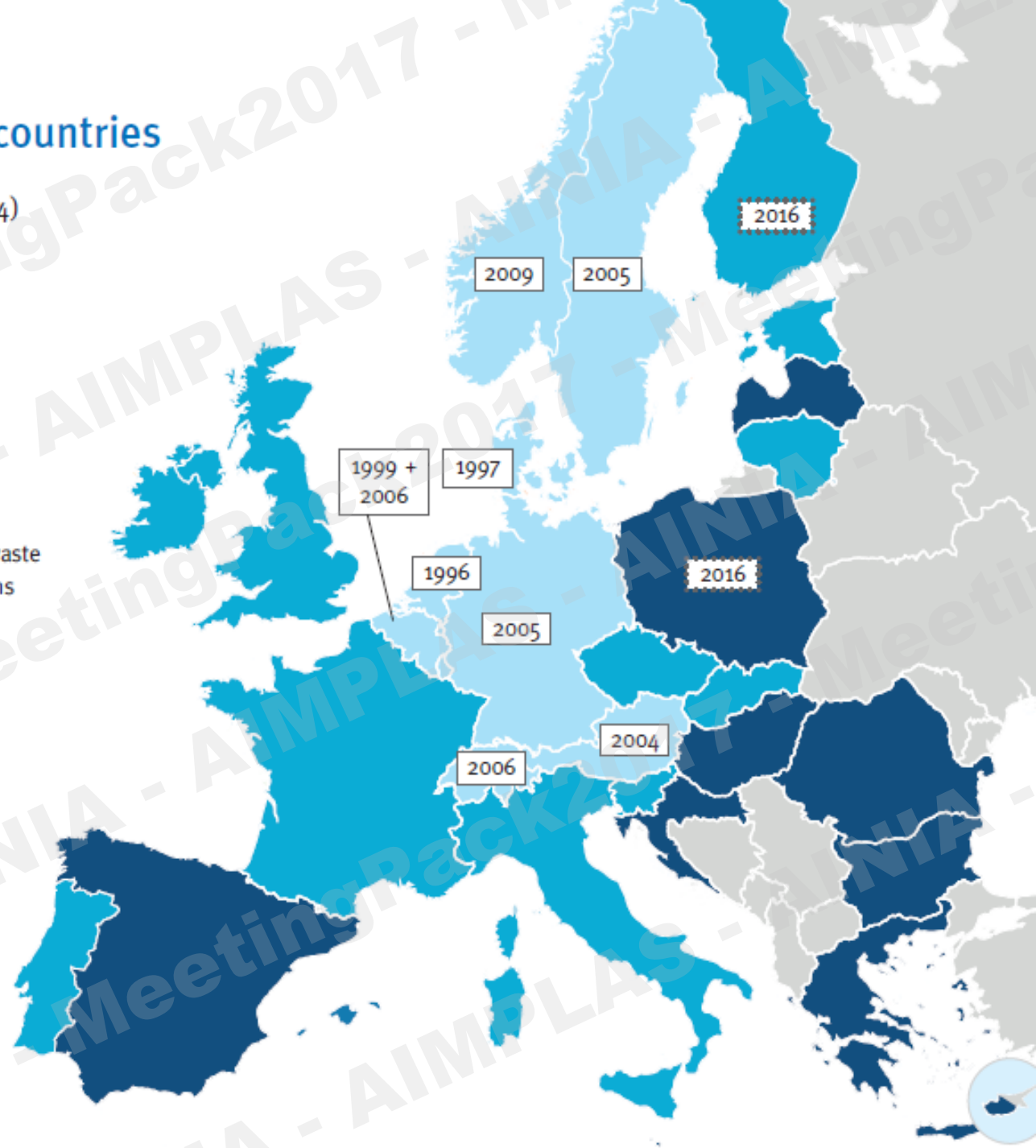
4. AFTER-USE SYSTEMS
WHAT ARE THE CHALLENGE TODAY?

ORGANIZED COUNTRIES

NON ORGANIZED COUNTRIES

Landfilling is still the 1st option in many EU countries

Plastics waste going to landfill (2014)



More than 50% of plastics waste is landfilled

Between 10 and 50% of plastics waste is landfilled

Less than 10% of plastics waste is landfilled. i.e. landfill bans

2006 Date of landfill ban in force

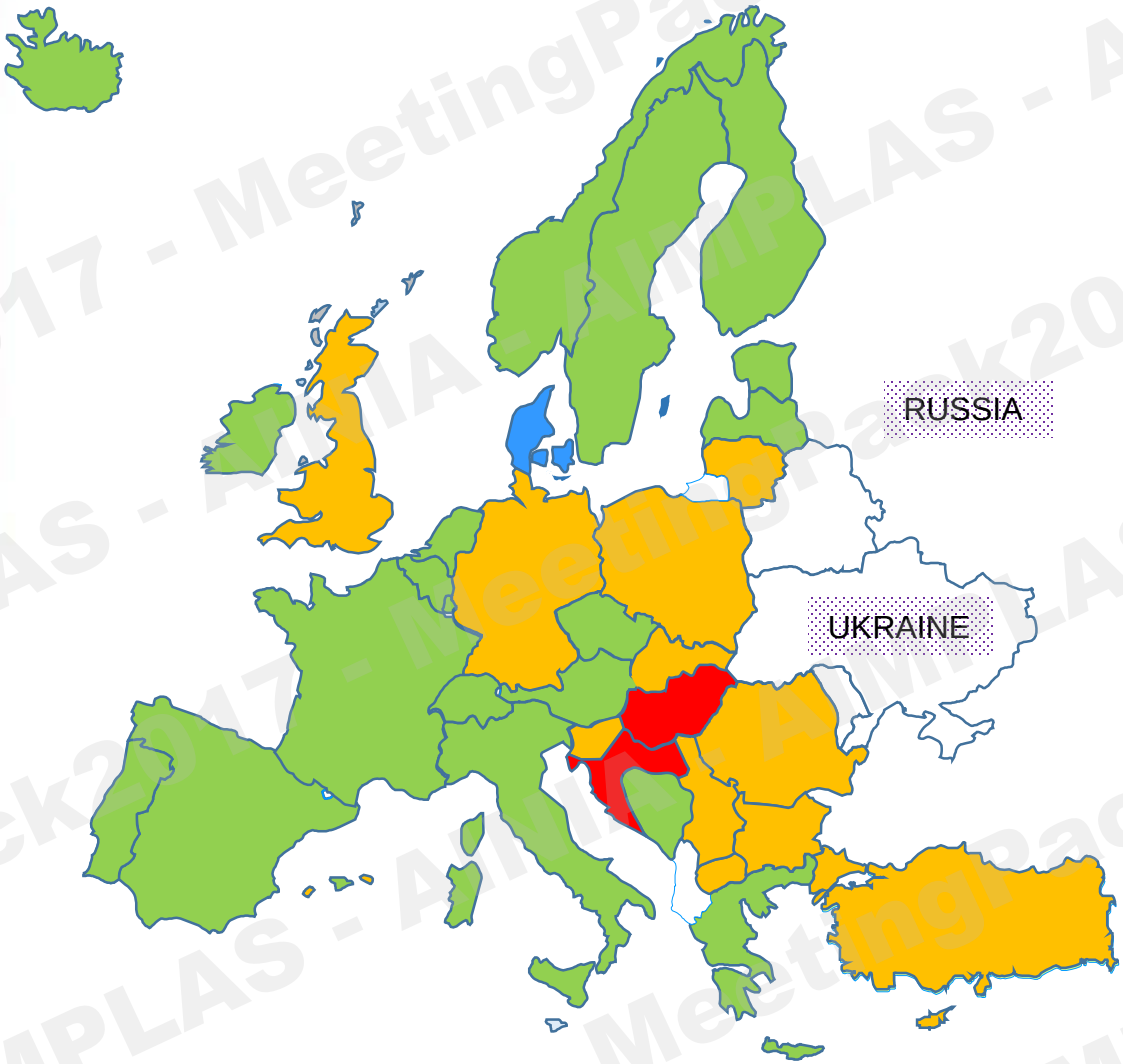
2016 Date of future landfill ban

Source: Consultic

TOO MUCH LITTER !

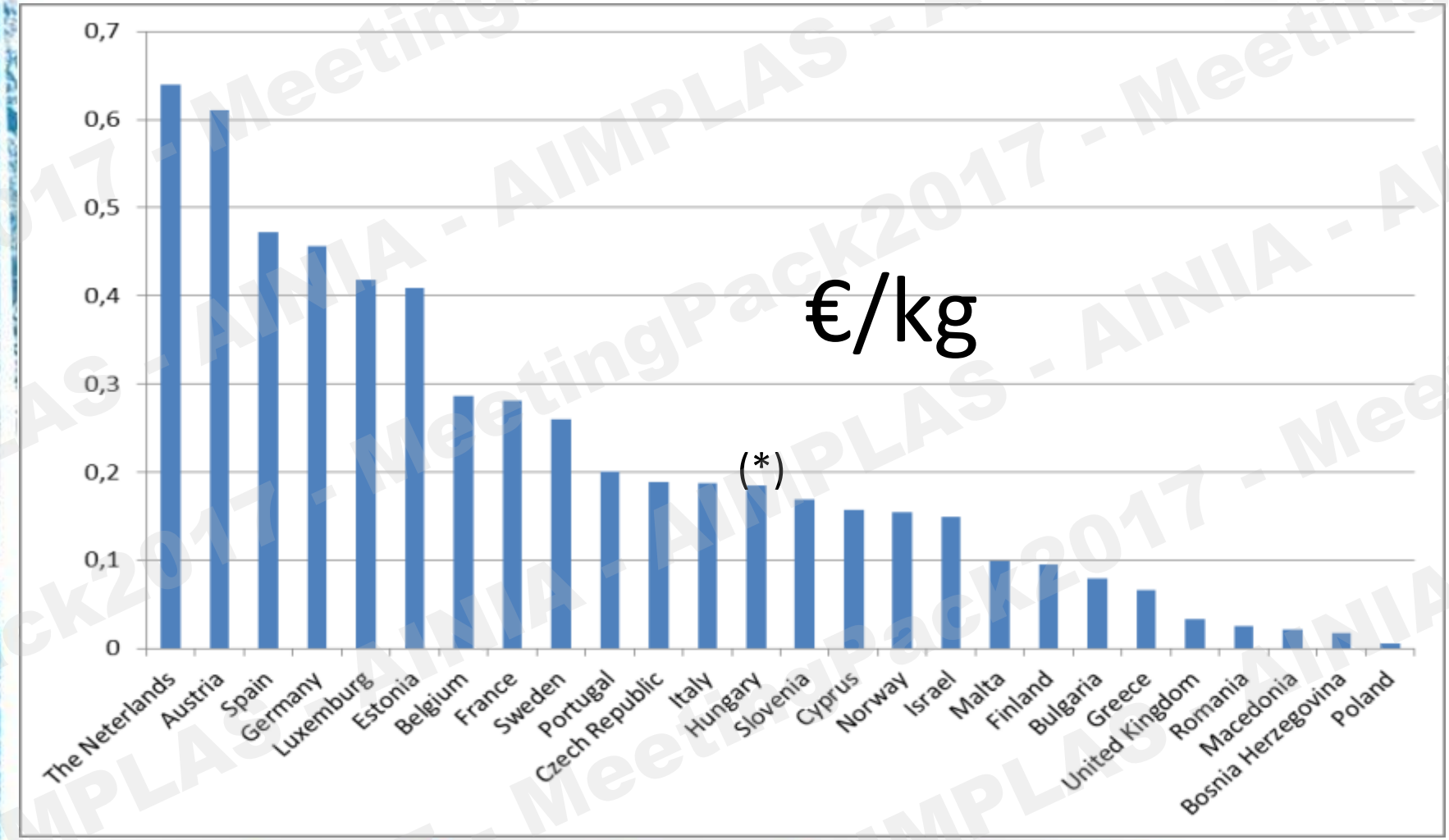

Lipton
Lipton
GREEN ICE TEA
TASTE GREEN FEEL GOOD
THINK GREEN
AFVAL IN DE VUILNISBAK
Waste in the trash bin !
KLEINE DAAD
GROOT RESULTAAT

THE EXTENDED PRODUCER RESPONSIBILITY SCHEMES IN EUROPE (STATUS 2015)



- 19 countries with National EPR scheme
- 11 countries with competition of private and industry-owned systems
- 1 country with deposit system only
- 2 countries with state-owned recovery organization (taxes)
- 2 countries with packaging tax threat to push for EPR

COMPLIANCE COST OVERVIEW.
FEES PAID IN 2015 FOR YOGHURT CUPS IN POLYSTYRENE



HOW THE FEES OF THE SCHEMES DIFFER :

- Scope of activities : household packaging only ➔ up to all packaging
- Share of costs : recycling costs up to total costs
- Recycling quotas : 22,5% up to 60% for plastics
- Collection system : bring system up to kerbside collection
- Time allowed for implementation : 1 year to 10 years
- Need to cover all households
- Acceptable ways of recovery
  - energy recovery & materials recycling
  - no energy recovery
- Number of free-riders
- Labour costs
- Multiple compliance schemes

In general, countries with landfill ban achieve higher recycling rates

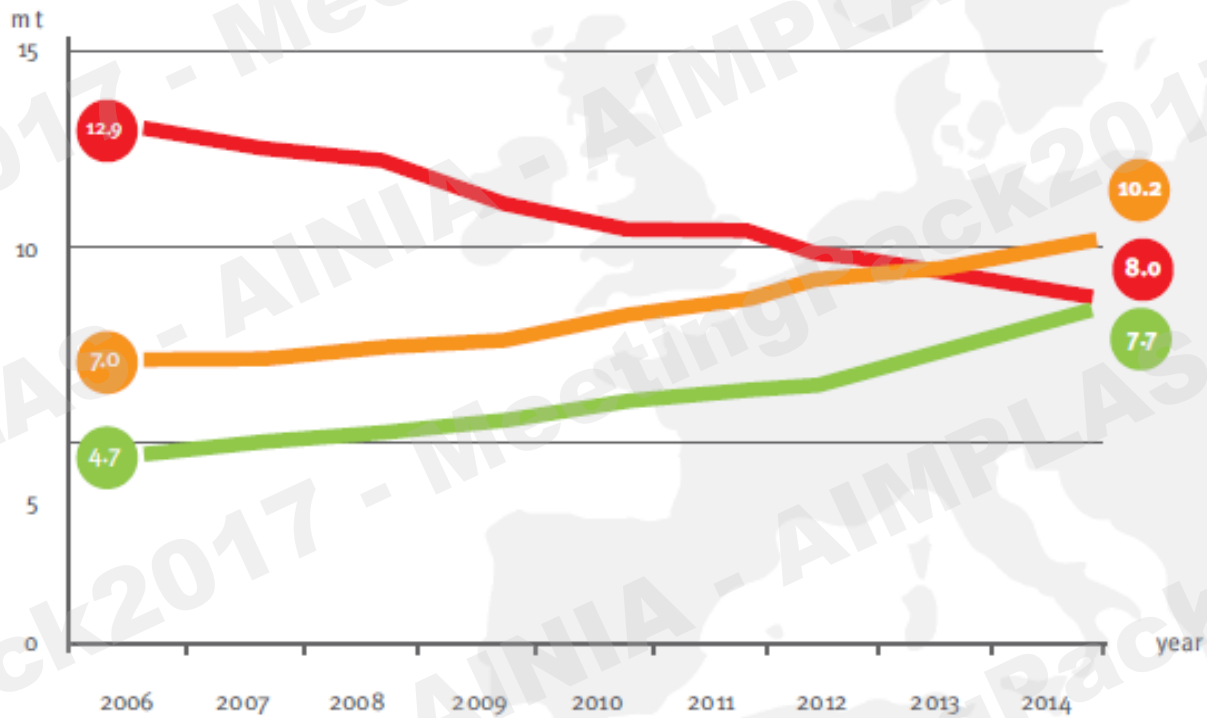
Treatment of post-consumer plastics waste 2014
(EU-28 + CH/NO)
Source: Consultic

Recycling rate
Energy recovery rate
Landfill rate

Too much differences between EU member states

Since 2006 recycling and energy recovery have increased

The annual average of post-consumer plastics waste generation from 2006 to 2014 is 25 million tonnes



Total plastics waste recycling and energy recovery from 2006 to 2014
Source: Consultic

Landfill
-38%

Energy recovery
+46%

Recycling
+64%

But progess has been made !

EASY ACCESS TO THE RIGHT INFRASTRUCTURE FOR CONSUMERS TO SEPARATE WASTE.

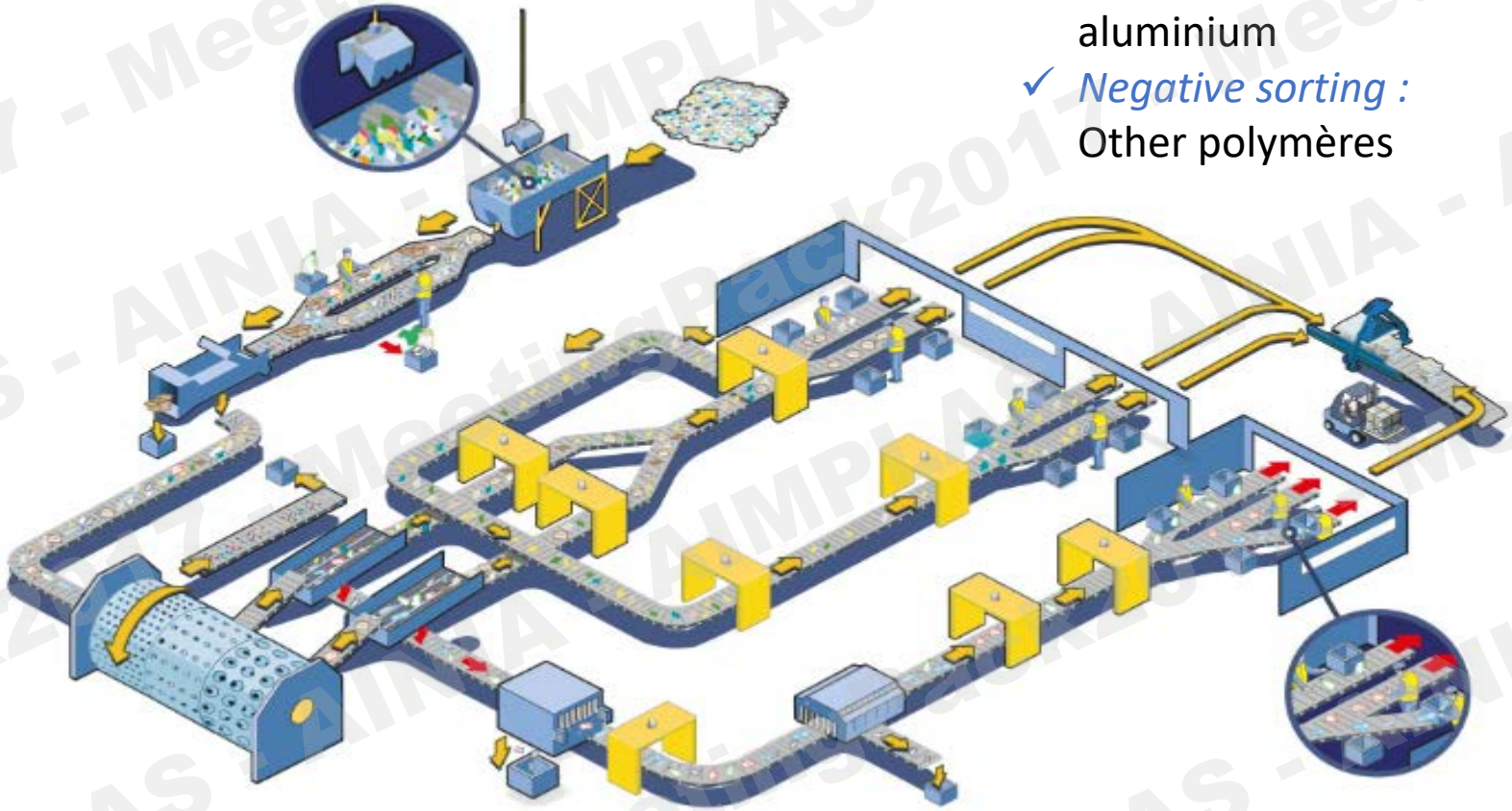
Container parcs

Glas igloos

Curbside collection

MODERN PACKAGING WASTE SORTING PLANTS

- ✓ *Positive sorting :*
  PET, HDPE, LDPE, steel, aluminium
- ✓ *Negative sorting :*
  Other polymères



PRODUCERS PAY FOR ADVERTISING: EXAMPLE IN FRANCE:

PRODUCERS PAY FOR ADVERTISING:

« YOU CAN LEAVE A MORE BEAUTIFUL TRACE ON EARTH »

DANONE waters

CREATE AWARENESS AMONG CONSUMERS
USING ON-PACK COMMUNICATION

In France

Simple, efficace et prêt à l'emploi, la nouvelle signalétique :

INTERPELLE — **MOBILISE**

EXPLIQUE

Les matériaux sont nommés afin de faciliter la consigne de tri.
L'accent est mis sur la finalité du geste et non pas sur le contenant qui peut varier d'une commune à l'autre en fonction du dispositif de collecte.

En option, un levier de personnalisation supplémentaire : le renvoi vers le site et le Numéro Vert d'Eco-Emballages pour répondre aux questions des consommateurs.

ORGANIZED COUNTRIES

NON ORGANIZED COUNTRIES

AIMPLAS - AINIA - AIMPLAS - AINIA - AIMPLAS - AINIA -

THE « NOVO CYCLO » PROJECT IN BRAZIL

- Supported by DANONE ECOSYSTEM FUND
  http://ecosysteme.danone.com/

AIM:

- **Professionalize waste pickers**
  - through creating waste management centers,
  - setting up sale and resale cooperatives,
  - delivering management training to help them manage their own business independently.

IMPACTS:

- **Social** : consolidates existing jobs and creates new ones in a safer working environment. It will also raises awareness of conditions for waste pickers in the country.
- **Business** : Danone Brazil develops its rPET industry through the development of sustainable waste management practices.

PROJECT IDEA:
IMPROVING RECYCLING FLOW

BEFORE

Recollection firm

Landfill

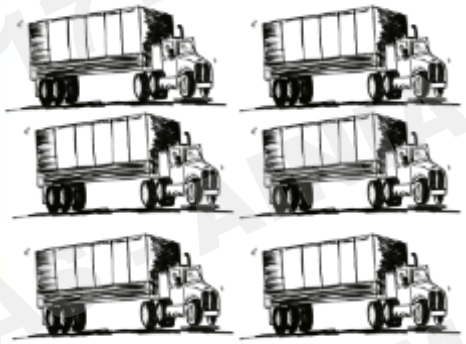
Waste pickers

Intermediate Buyer

Final Buyer

PROJECT IDEA:
IMPROVING RECYCLING FLOW

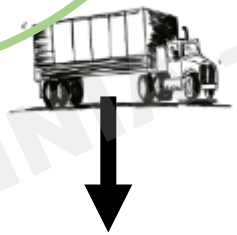
TODAY



Recollection firm

Segregation Plant

Final Buyer



Landfill

AN INNOVATIVE RECYCLING BUSINESS MODEL BASED ON COOPERATIVE ORGANIZATION

DANONE ECOSYSTEME

Improve Work and Life conditions

23 cities of Minas Gerais

27 cooperatives

More than 400 pickers

Increase selective collection on the cities

Municipal Selective Collection

Improve recovery rate in south MG from 5% to 25%

Co-create Pickers Cooperatives Network in South MG

Direct access to the industry

1.3 MM people directly impacted by the project with the Selective Collection Program.

WE ARE HERE!

IMPACTS OF THE PROJECT

QUANTITATIVE

	BASELINE	TO DATE
Income (R$/Picker/Month)	490	818
Efficiency (kg/day/picker)	39	108
Volume of materials collected (%)	5%	23%

- People directly empowered : **505** with 318 women
- Indirect beneficiairies : **1 300 000** people

QUALITATIVE

- Improved working conditions
- Better quality of life and job satisfaction.
- An operational team that checks the weekly progress

AWARDS

Prêmio LIF

- 4th in "Benchmarking Brasil" Award
- 2nd in Chamber of Commerce Brazil-France "LIF Award"

3 Scientific Papers

Reference in the Brazilian Environ-mental Ministry

MARIA AGOSTINA, picker

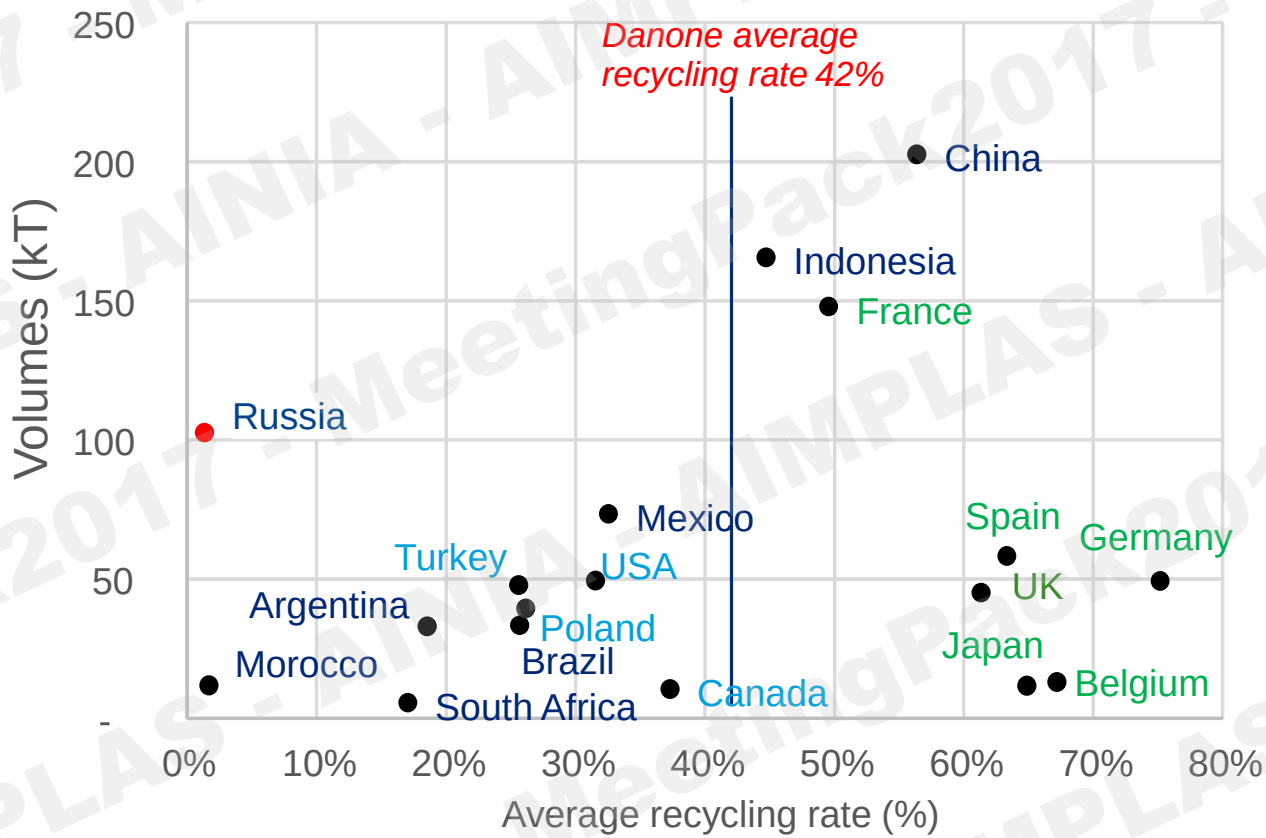
"Comparing with the past, we are now in "heaven" and growing step by step everyday. People come to help us and we are going further. We are living and learning "

In Brazil : 600 cooperatives working with 60.000 “waste-pickers” on a total of 400.000 officially recognized in the country (In reality there are more than 1 million)

RUSSIA

- ✓ 143 million inhabitants
- ✓ 57 million tons solid household waste annually
- ✓ 90% landfilling
- ✓ 1000 lanffills = 40.000 km²
- ✓ 5-7% recycling

DANONE PACKAGING WASTE MANAGEMENT IN RUSSIA AND OTHER COUNTRIES



- EPR in place
- Formal systems or infant EPR
- No formal collection scheme

TO DO …

1. Robust analytical monitoring
   - Confirm the volumes split by material
   - Create a dynamic reporting

2. Understand & confirm End of Life context
   - Through industry association RusPec or other ?
   - Set up collection, sorting, recycling chain
   - Fix regulatory context (= avoid taxes on packaging)
   - Create quickly EPR pilot projects

3. Assess our own waste end of life
   - Post consumer
   - Post industrial

4. Co-create a second-life for all plastics

DANONE new pack policy is now on line !

HTTP://WWW.DANONE.COM/EN/FOR-ALL/SUSTAINABILITY/POSITION-PAPERS-AND-POLICIES/

October 2016

DANONE waters

GOALS OF THE NEW PACK POLICY

- GOAL 1: Use sustainable resources
- GOAL 2: Optimize weight and move towards 100% circular by design.
- GOAL 3: Zero plastics to landfill for our industrial waste.
- GOAL 4: Innovate to ease life of consumers and engage them to sort & recycle.
- GOAL 5: Create a second life for all plastics.

THANK YOU !