ROVEMA SUSTAINABILITY

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ROVEMA Servicegebiet · Tochtergesellschaften · Vertretung / Servicestandort · Haupsitz

PRODUKTIONSPROGRAMM

DOSIER SYSTEME

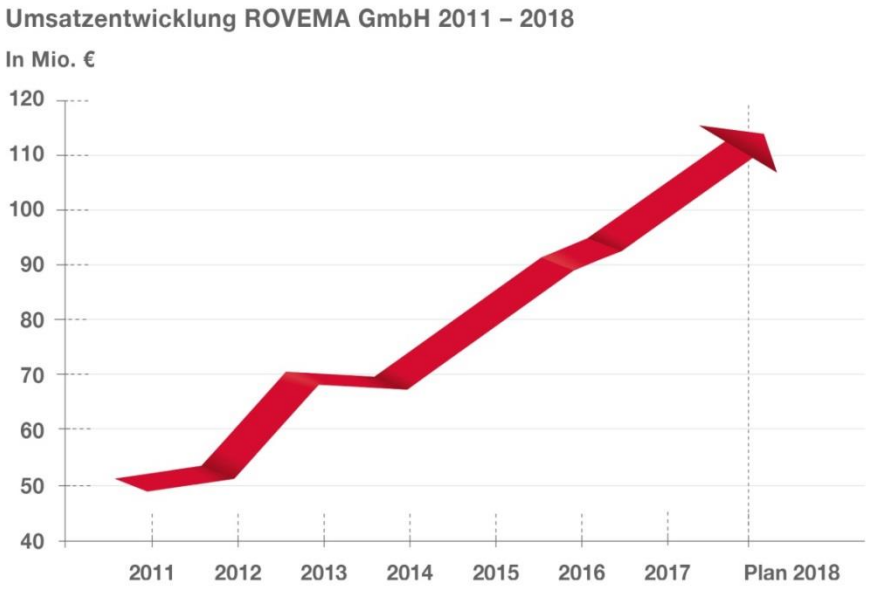
SCHLAUCH BEUTEL MASCHINEN

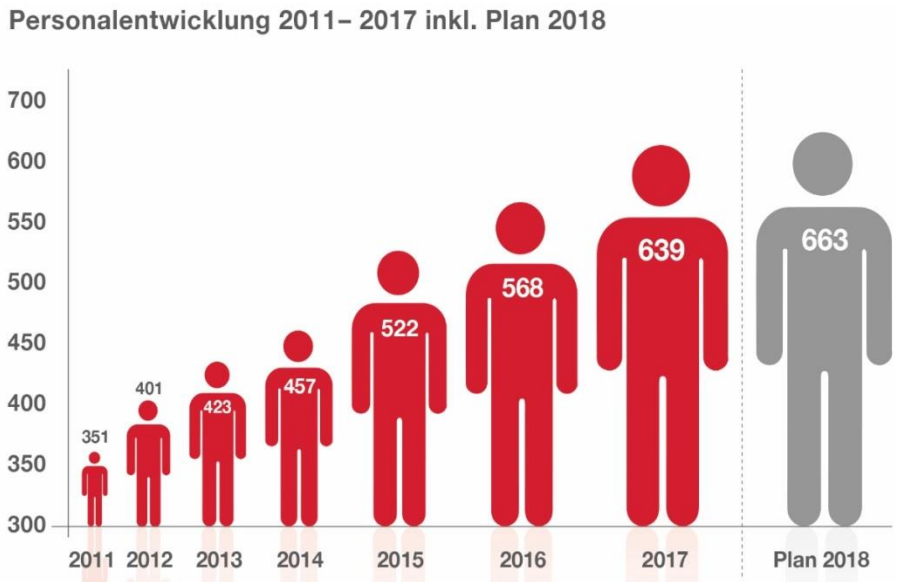
KARTONIER MASCHINEN

END VERPACKUNGS MASCHINEN

KOMPLETTE VERPACKUNGS SYSTEME

ROVEMA UMSATZ- UND PERSONALENTWICKLUNG

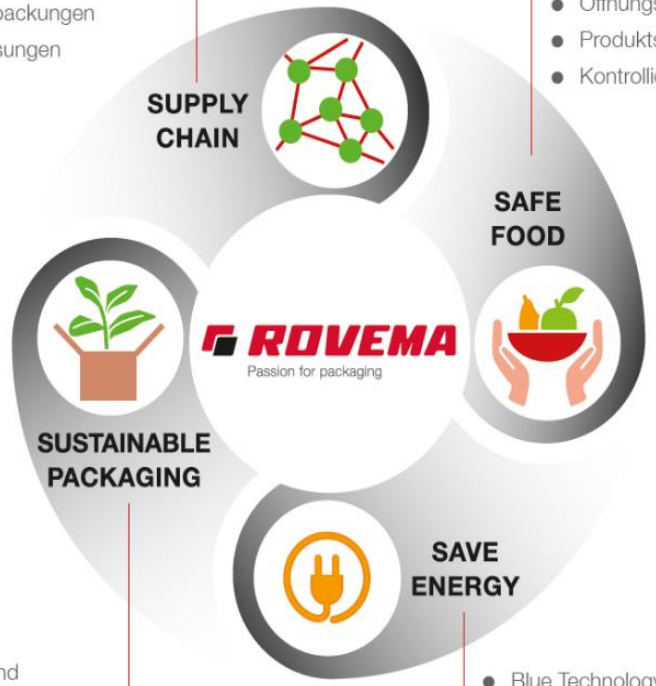




ROVEMA SUSTAINABILITY

- Bis zu 15 % Packstoffeinsparung
- Bis zu 8 % weniger Produkt- und Transportvolumen
- Dichte, staubfreie Verpackungen
- Werbestarke POS-Lösungen

- Haltbarkeitsverlängerung
- Öffnungshilfen und Wiederverschluss
- Produktschonende Verpackungsprozesse
- Kontrollierte Dichtigkeit



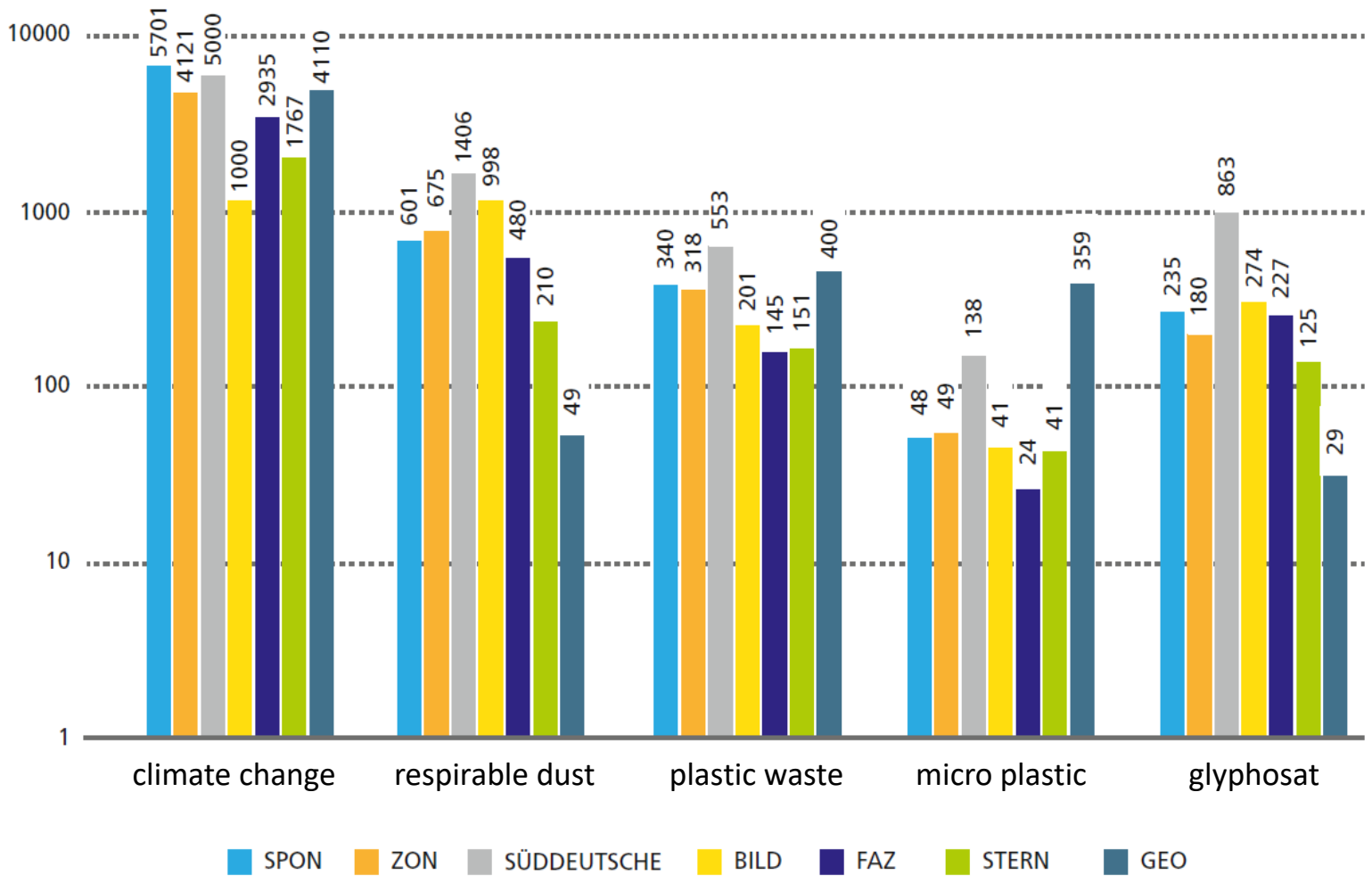
- Biologisch abbaubare und kompostierbare Packstoffe
- Papier als Packstoff aus FSC-Holzwirtschaft
- Packstoffeinsparungen durch schmalere Nähte und dünnere Folien
- Siegelung von Biopolymeren

- Blue Technology:
  - Effiziente Motoren und verlustarme Getriebe
  - Energieoptimierte Bewegungen
  - Reduzierte Massen
  - Energie-Rückgewinnung
- Bis zu 35 % weniger Luft- und Stromverbrauch
- Siegeln mit bis zu 25 % weniger Energie

INTRODUCTION

Why so many people are now interested in questions about packaging and environment ?

Occurrence of actual environmental related topics at german online media platforms (status: 06/2018)



Quelle: Fraunhofer-Institut für Umwelt-, Sicherheits-, Energietechnik UMSICHT, Oberhausen

What we are discussing in actual facts?

...AND SOMEWHERE ELSE.

OUR PROFESSIONAL WASTE MANAGEMENT…

...AND SOMEWHERE ELSE.

OUR PLEASURE AT THE SEASIDE…

...AND SOMEWHERE ELSE.

RECENTLY AT THE VEGETABLE SHOP…

…TOO LATE.

OUR WAY TO OFFER MEAT…

HYGIENIC PREVENTION AGAINST EBOLA…

…OR IF IT FAILS.

OUR MORNING AT THE WATERSIDE…

…AND SOMEWHERE ELSE.

SERVING A REFRESHMENT…

...OR RATHER NOT.

LAWS, RULES AND REGULATIONS (SUMMARY)

LAWS, RULES AND REGULATIONS (SUMMARY)

- Food Law
- German Food, Consumer Articles and Feed Code
- Consumer Protection and Food Safety Act
- Finished Pack Regulations
- Closed Substance Cycle Waste Management Act
- (New) EU-Packaging law (came into effect on January 1st, 2019)

PACKAGING REQUESTS

Quelle: Fraunhofer IVV 2017

INCREASEMENT OF HYGIENE AND EXPECTATION OF LIFE

Without packaging, no hygiene !

Quelle: Stefan Glimm, Flexible Packaging Europe

INTERMEDIATE SUMMARY

- Packages protect:
  - the filling against the environment
  - the environment against the filling

- Furthermore there are a lot of additional complex functions, which have to be fulfilled by packaging

GLOBAL TRENDS AND DEVELOPMENTS

economic developments

social-demografic development

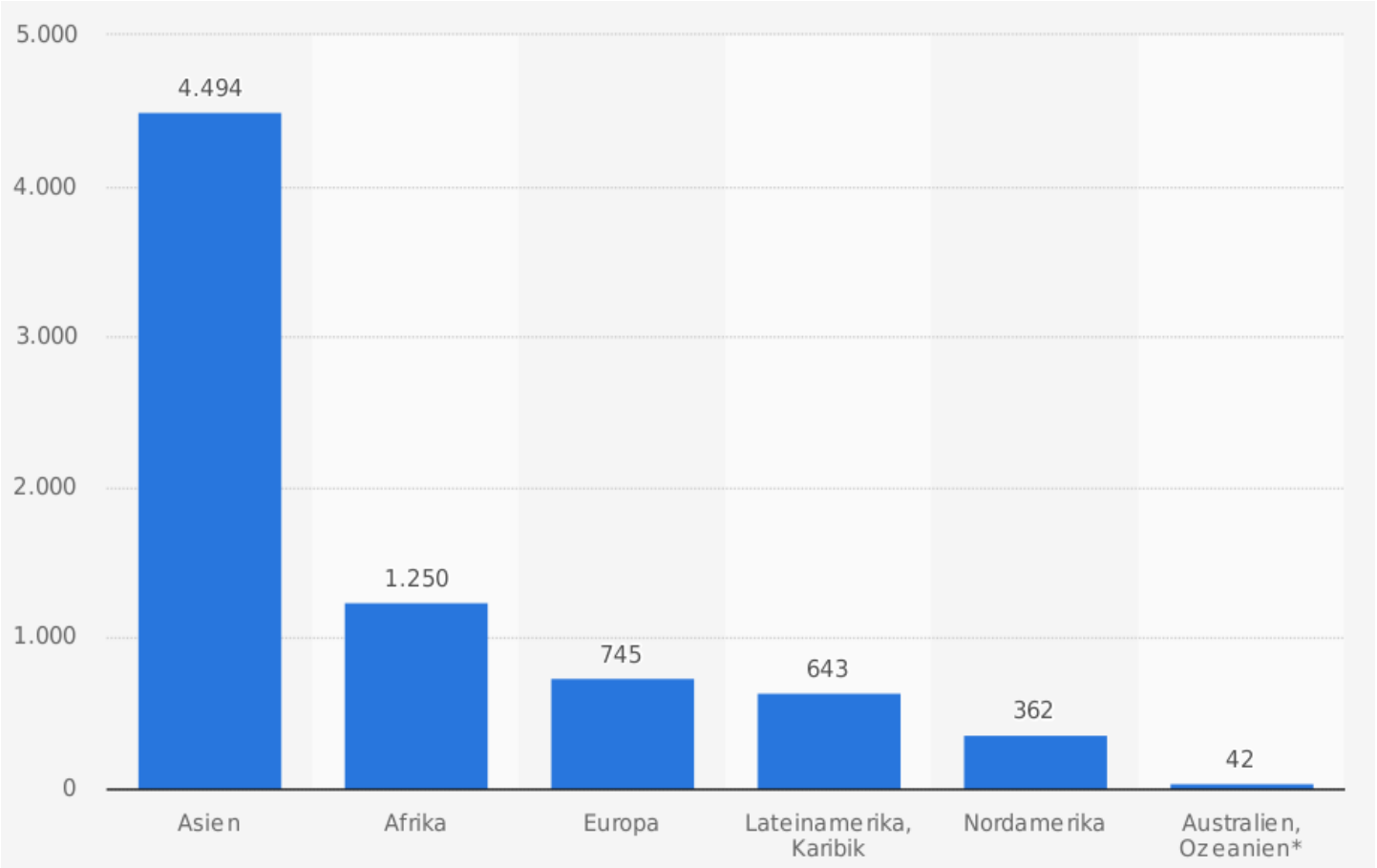
changed consumption/shopping behavior

developments in packaging industry

Quelle: Gesellschaft für Verpackungsmarktforschung GVM, April

SOCIAL-DEMOGRAFIC DEVELOPMENT

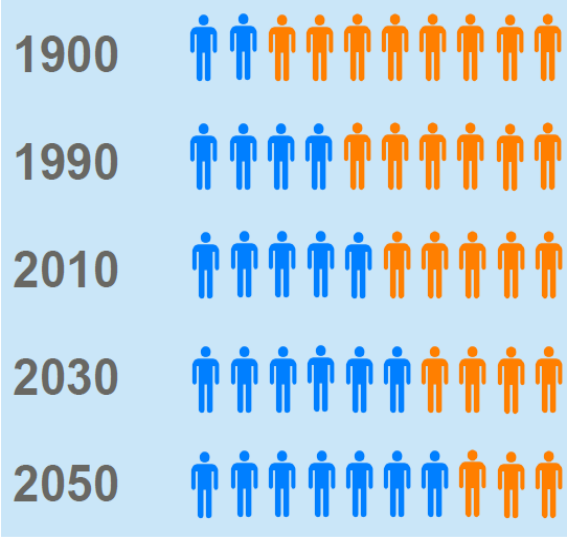
World population per continent mid of 2017 (in mio. people)



Quelle: Deutsche Stiftung Weltbevölkerung (DSW), Statista

SOCIAL-DEMOGRAFIC DEVELOPMENT

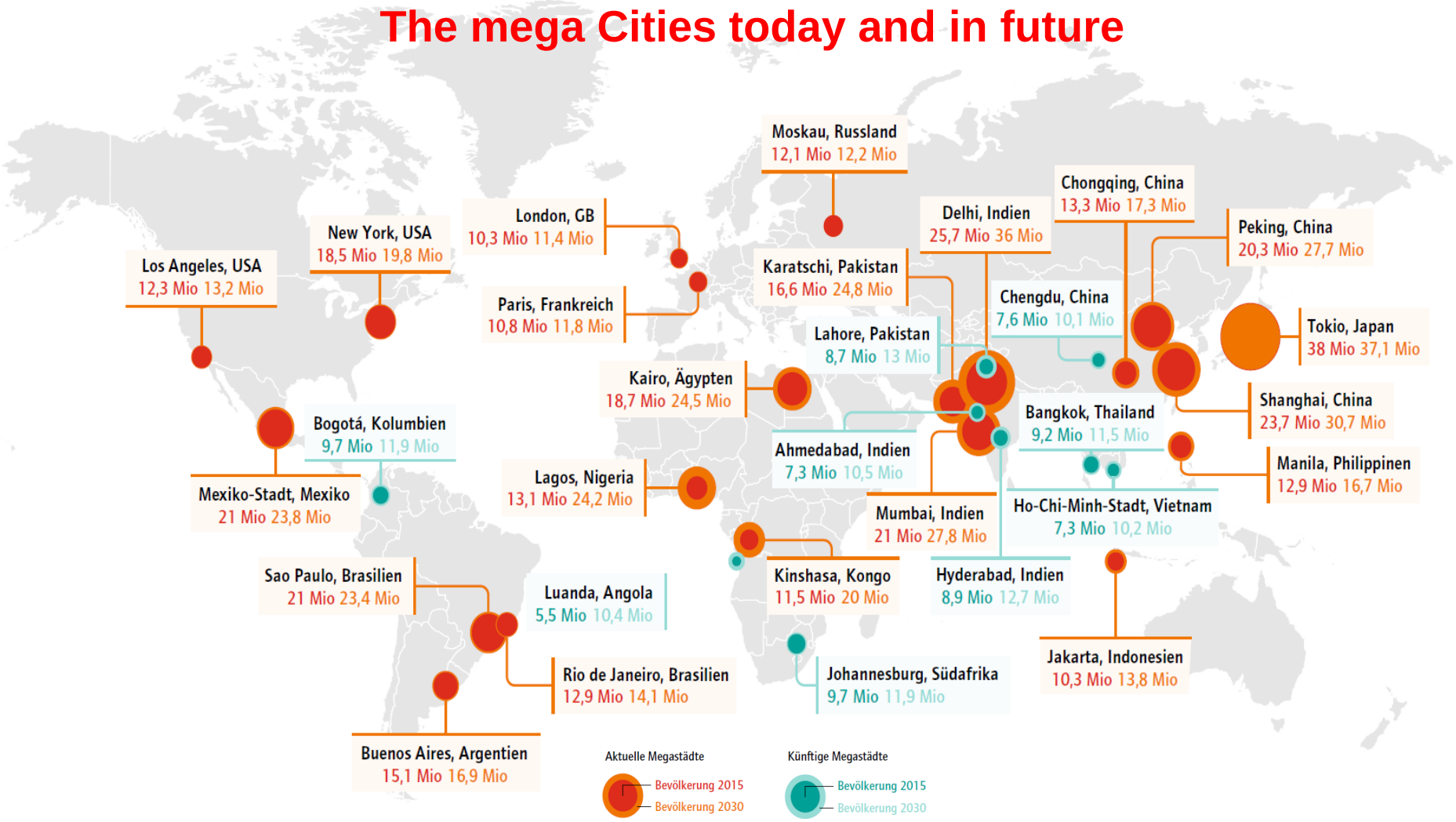
- megatrend urbanization
- more and more people living in cities
- in 2050 approx. 68% of world population will live in cities



Quelle: https://www.forschung-und-lehre.de/zeitfragen/immer-mehr-menschen-leben-in-staedten-630/

SOCIAL-DEMOGRAFIC DEVELOPMENT

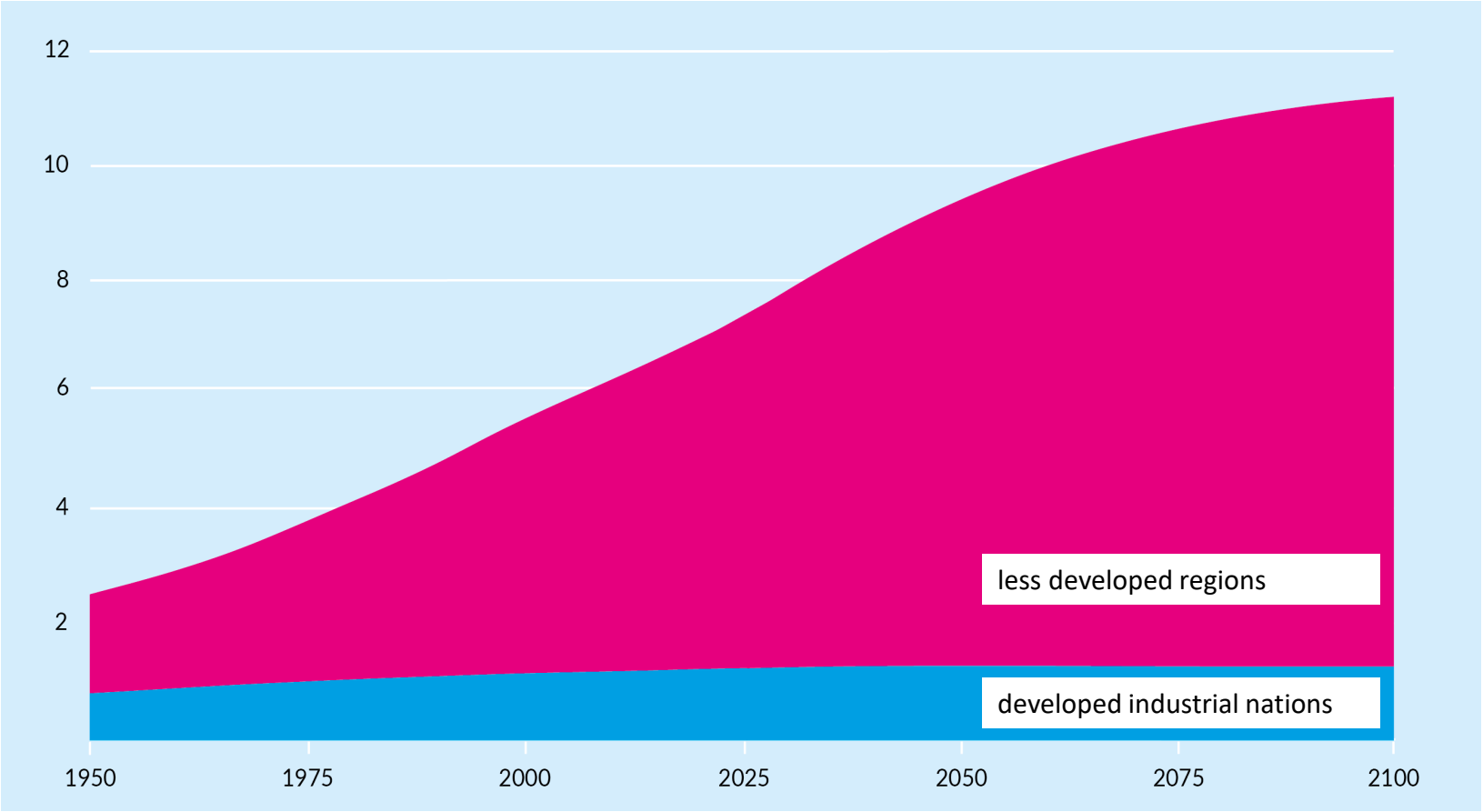
The mega Cities today and in future



Quelle: Allianz Studie „The Mega City State“

SOCIAL-DEMOGRAFIC DEVELOPMENT

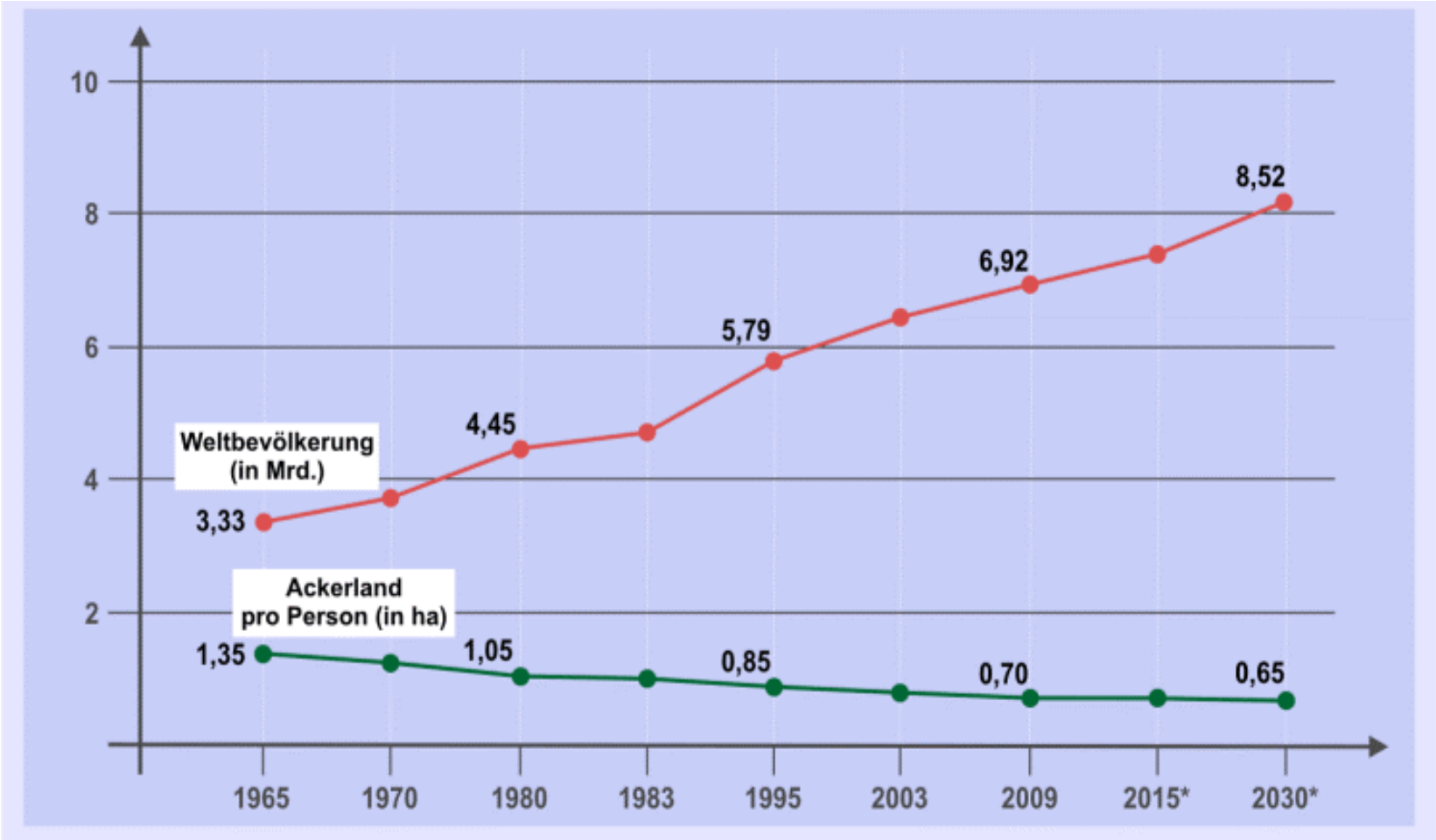
Prediction of world population until 2100 (bill. people)



Quelle: Deutsche Stiftung Weltbevölkerung (DSW), Vereinte

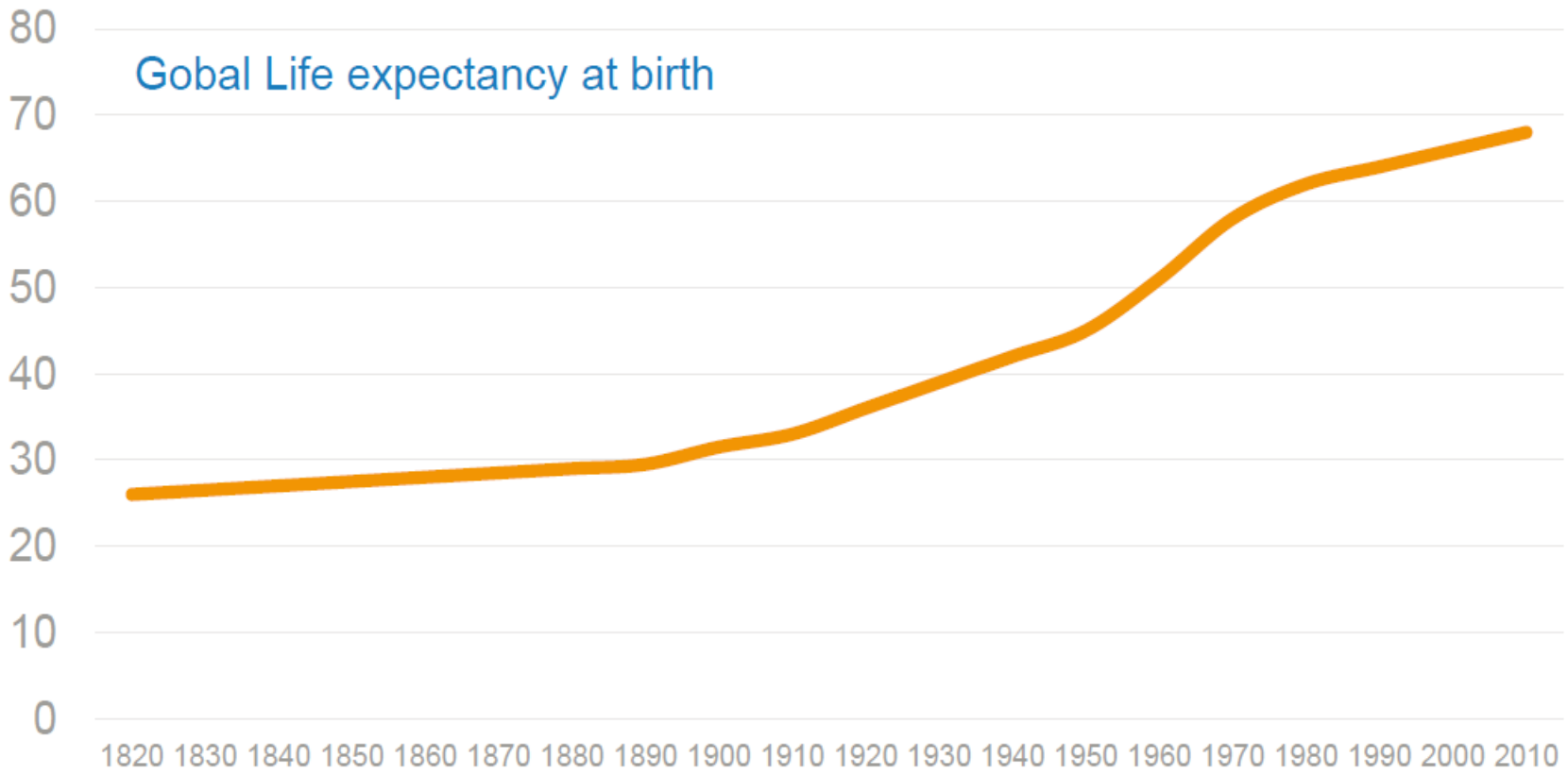
SOZIODEMOGRAPHISCHE ENTWICKLUNG

Weltbevölkerung im Vergleich zum vorhandenen Ackerland



Quelle: Vereinte Nationen (2011)

SOCIAL-DEMOGRAFIC DEVELOPMENT

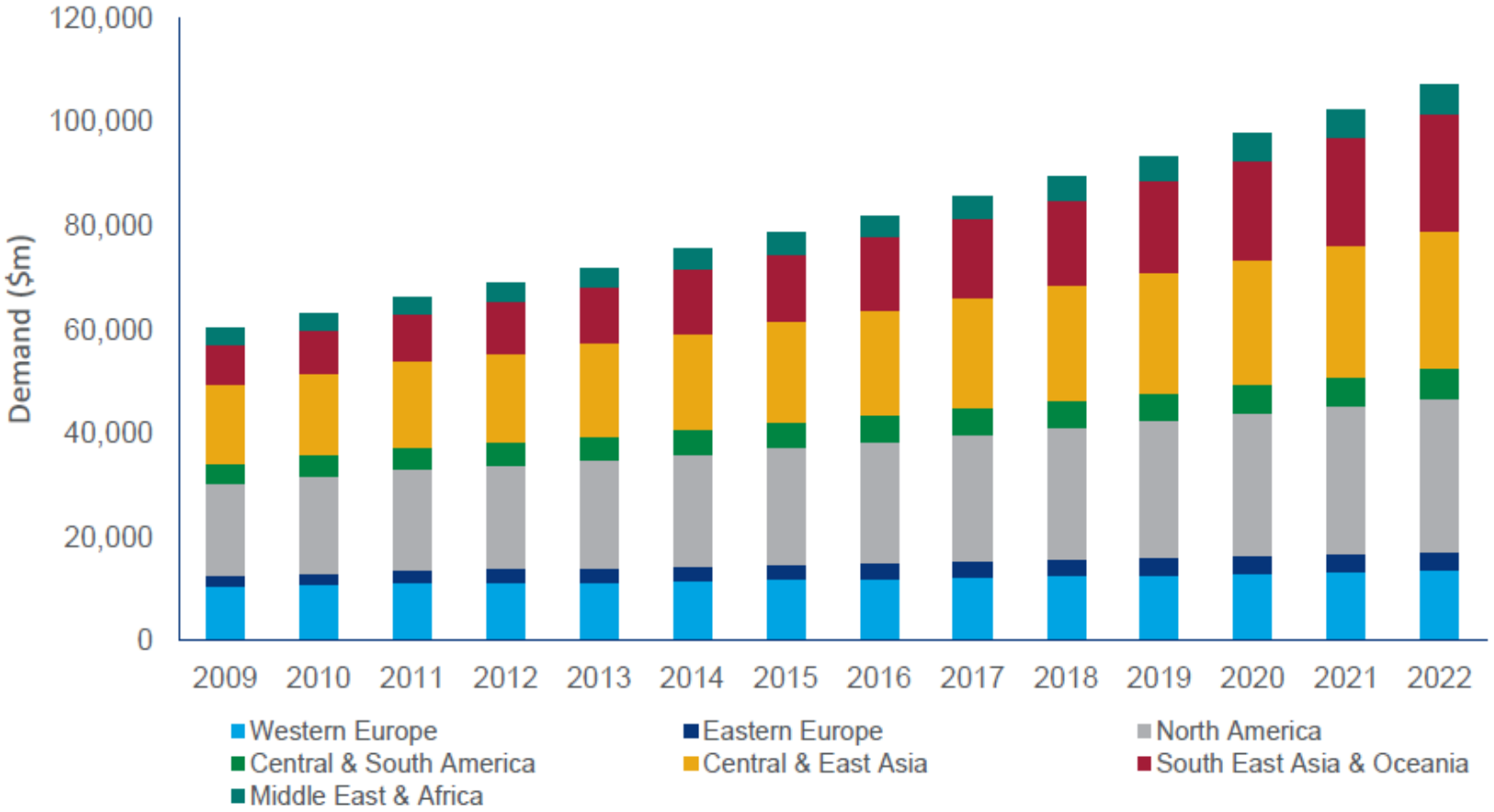


All of us want to live longer and therefore need better hygiene and nutrition.

Quelle: UN und WHO

GLOBAL DEMAND FOR FLEXIBLE PACKAGING

Average increasing rate per year: 4,5 % (2017 - 2022)



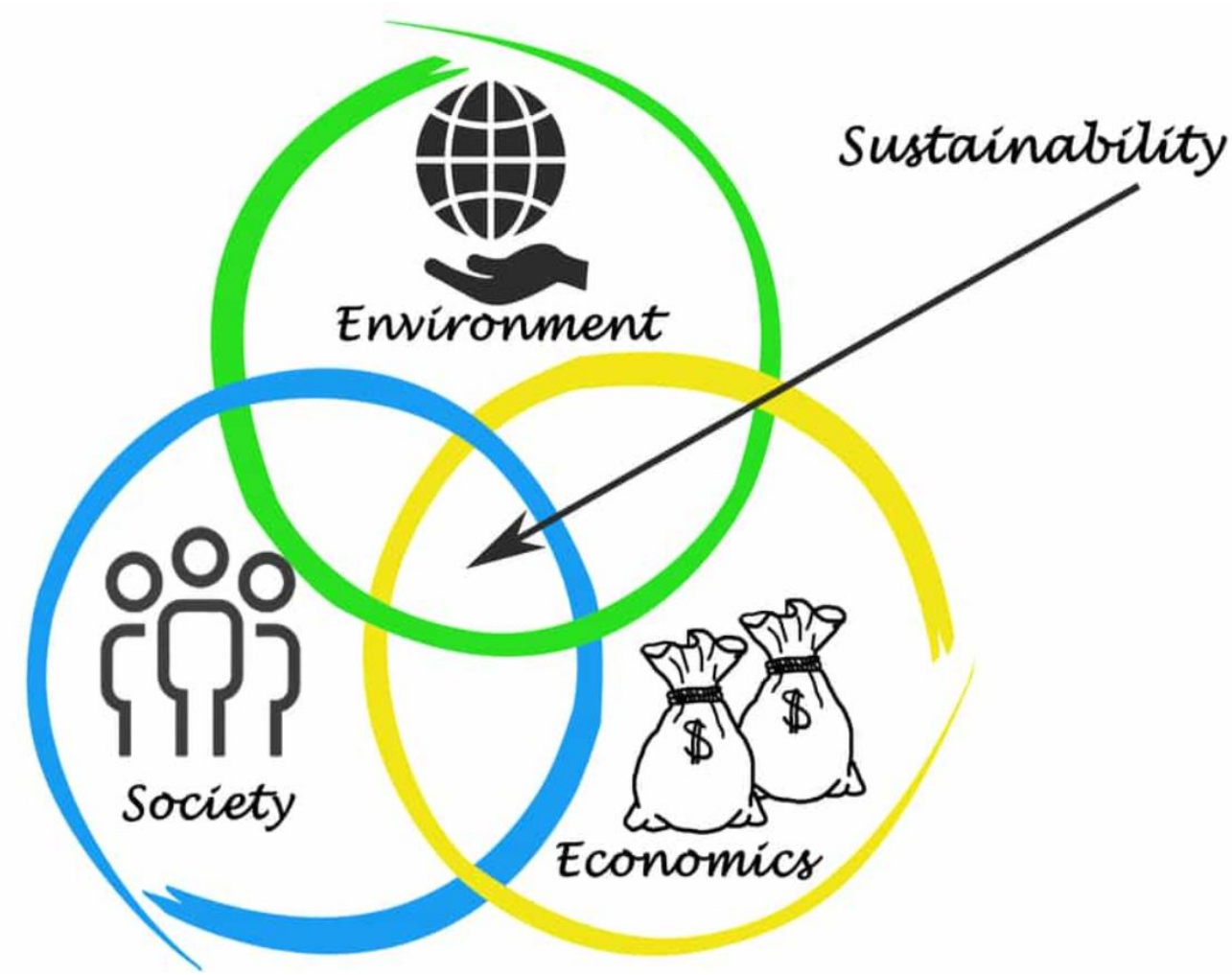
Quelle: Wood Mackenzie Chemicals

INTERMEDIATE SUMMARY

- The consumption of packaging depends mainly to facts, which can not be influenced by the packaging industry:
  - urbanization
  - social-demografic developments and trends
  - „to-go“ products because of increased requests for mobility
  - online-shopping

Quelle: Gesellschaft für Verpackungsmarktforschung GVM, April

VERPACKUNGSFAKTEN



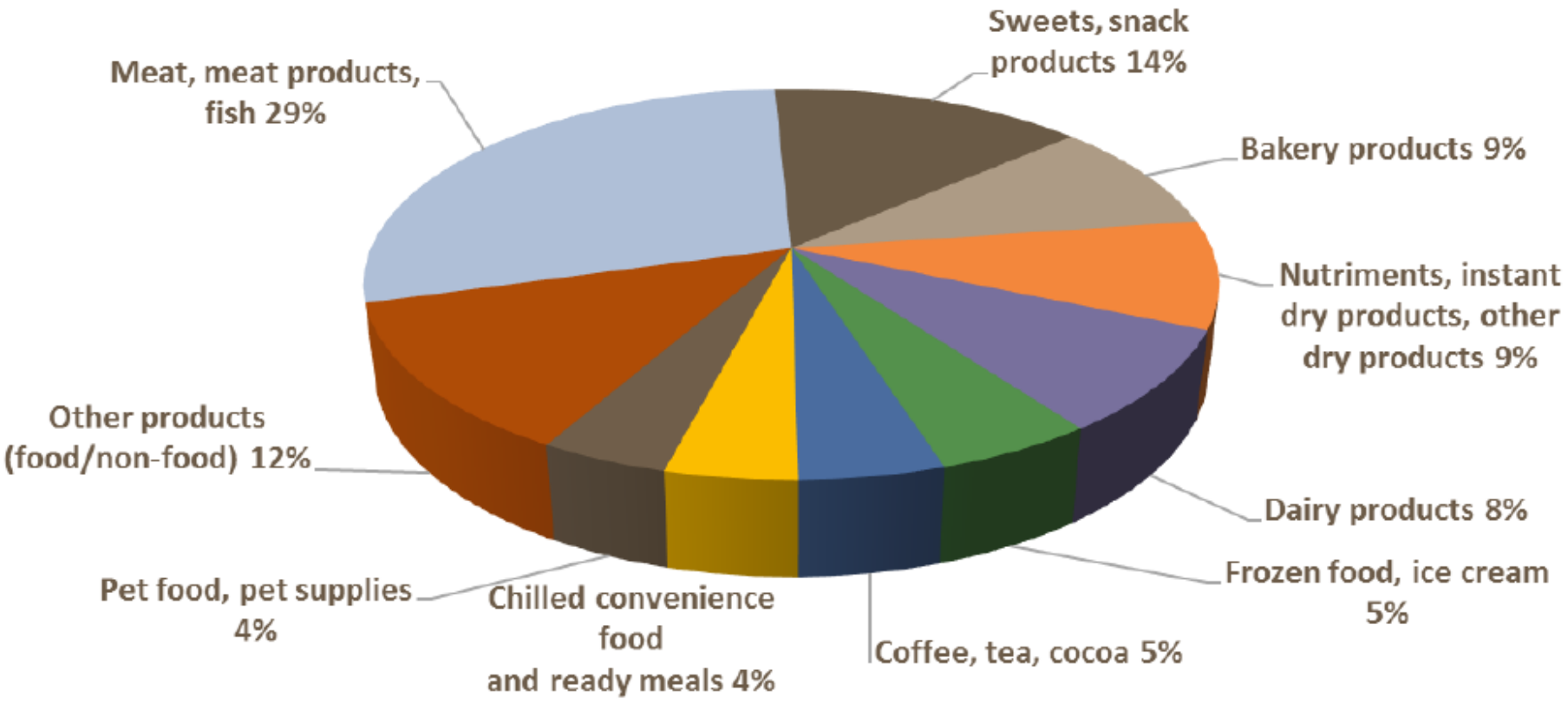
PACKAGING FACTS (GERMANY)

Abbildung 3: Anteile am deutschen Verpackungsmarkt 2015, gemessen am Umsatz (GADV 2016)
Figure 3: Proportion of German packaging market 2015, in terms of sales (GADV 2016)

Quelle: IK Industrievereinigung Kunststoffverpackungen

PACKAGING FACTS (GERMANY, 2016)

In which industries plastic packages are used?



Quelle: IK Industrievereinigung Kunststoffverpackungen

LEBENSMITTELVERSCHWENDUNG

Quelle: Ernährungs- und Landwirtschaftsorganisation der Vereinten Nationen FAO

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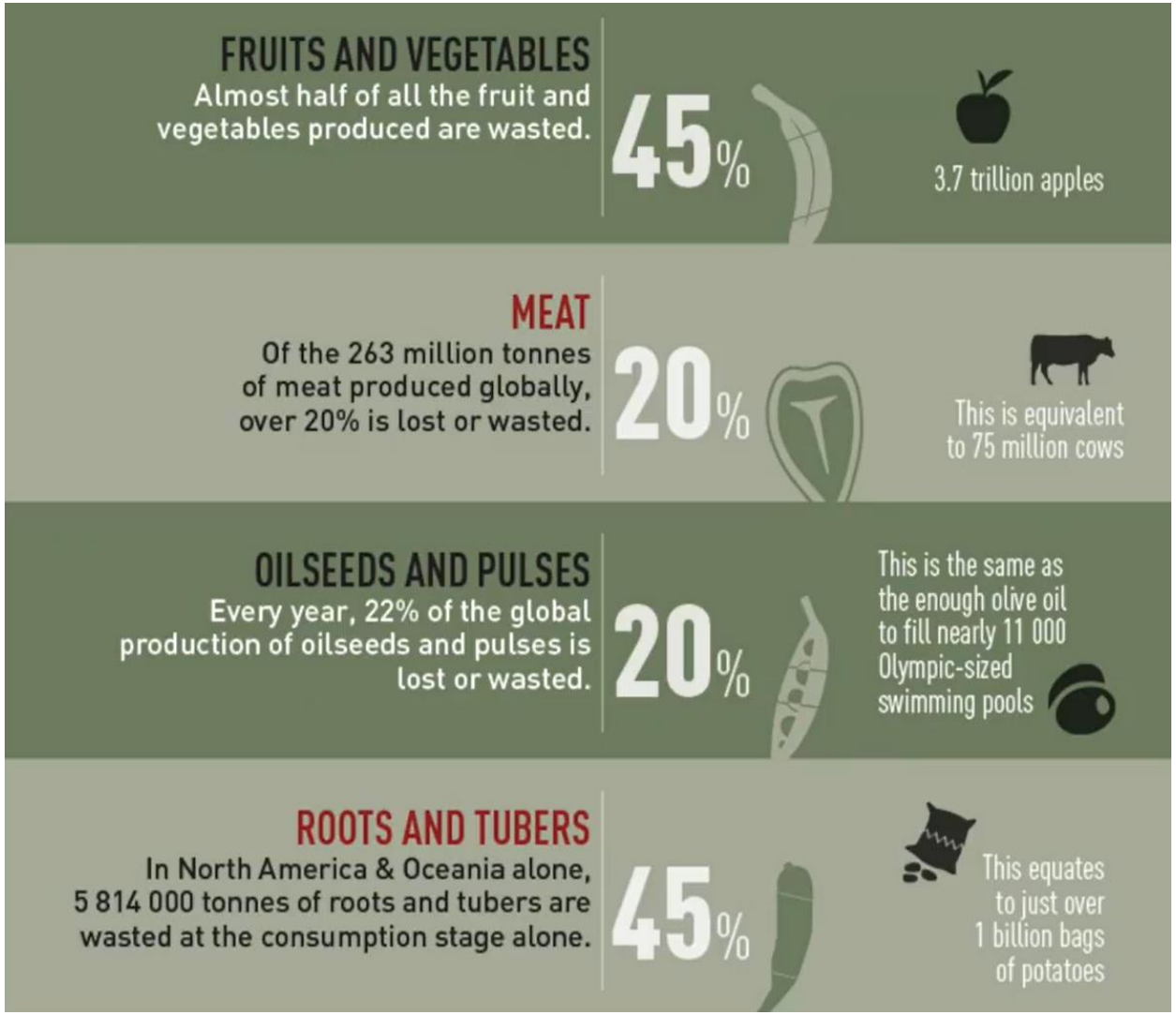
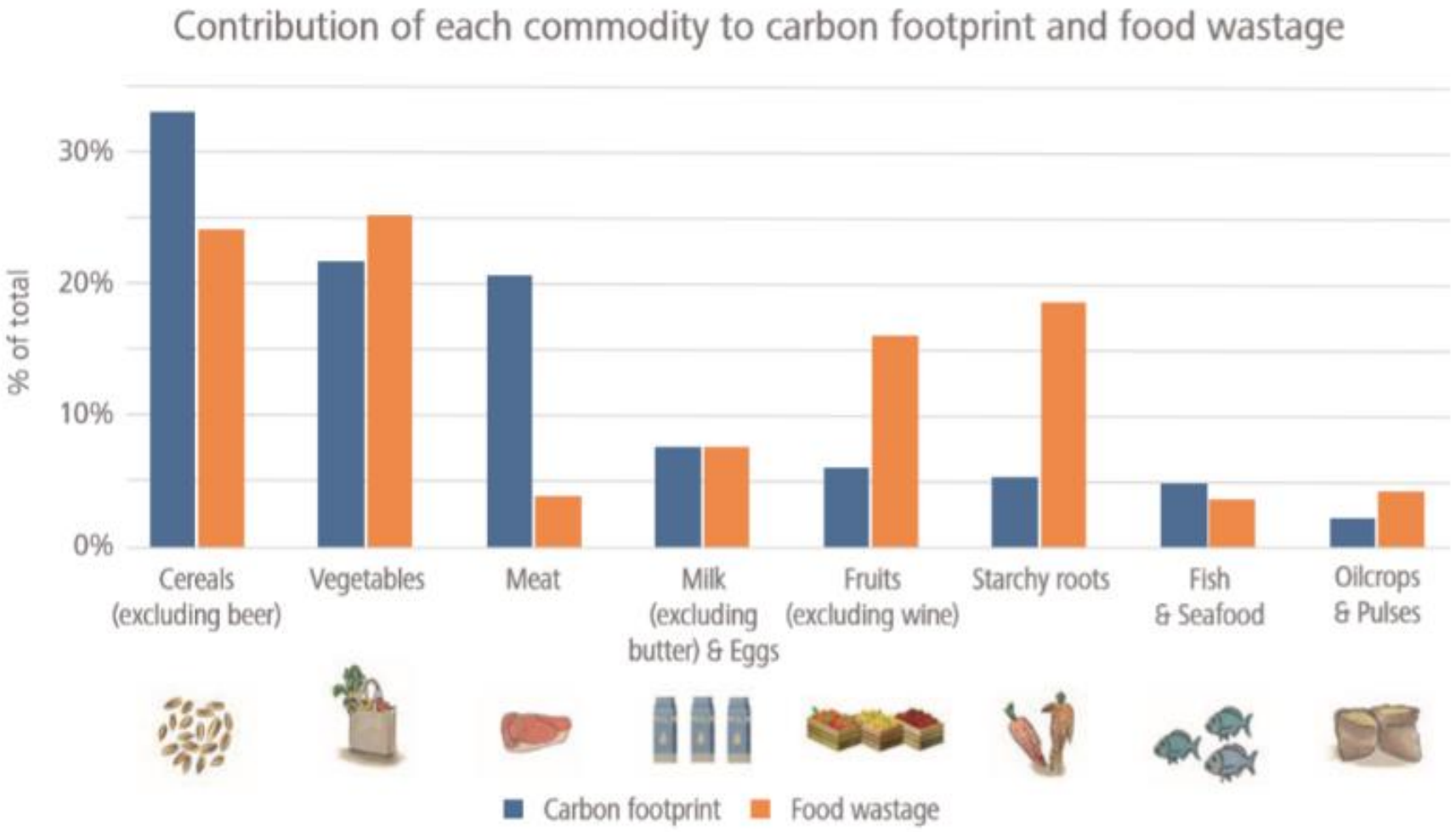


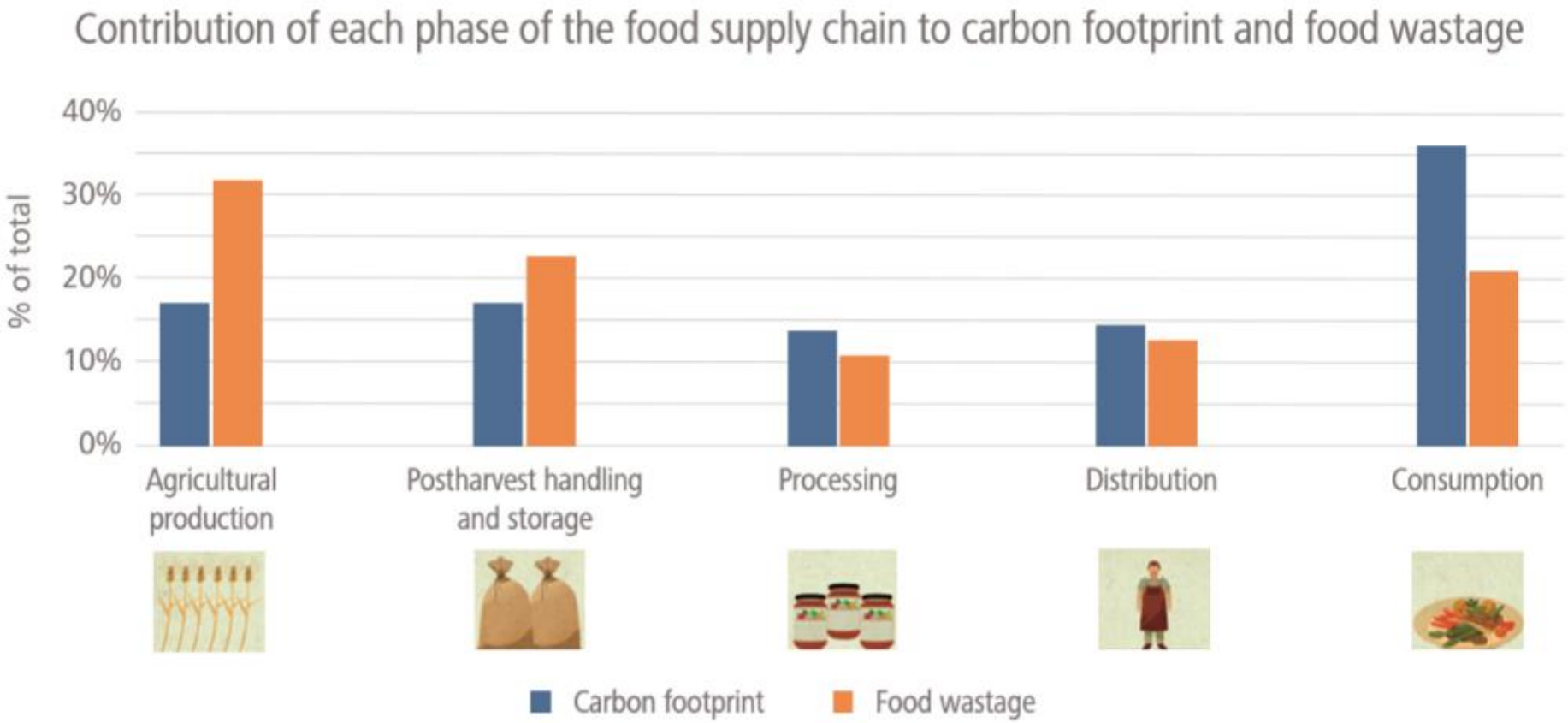
Quelle: Ernährungs- und Landwirtschaftsorganisation der Vereinten Nationen FAO

ANTEILE AN FOOD WASTE UND CARBON FOOTPRINT



Quelle: Ernährungs- und Landwirtschaftsorganisation der Vereinten Nationen FAO

ANTEILE AN LEBENSMITTELVERLUSTEN UND CARBON FOOTPRINT



Quelle: Ernährungs- und Landwirtschaftsorganisation der Vereinten Nationen FAO

INTERMEDIATE SUMMARY

With modern packages made of flexible plastic films a longer shelf life can be achieved and therefore food waste and CO_2-emissions are reduced.

Quelle: denkstatt 2015

ENTSORGUNG UND WIEDERVERWERTUNG

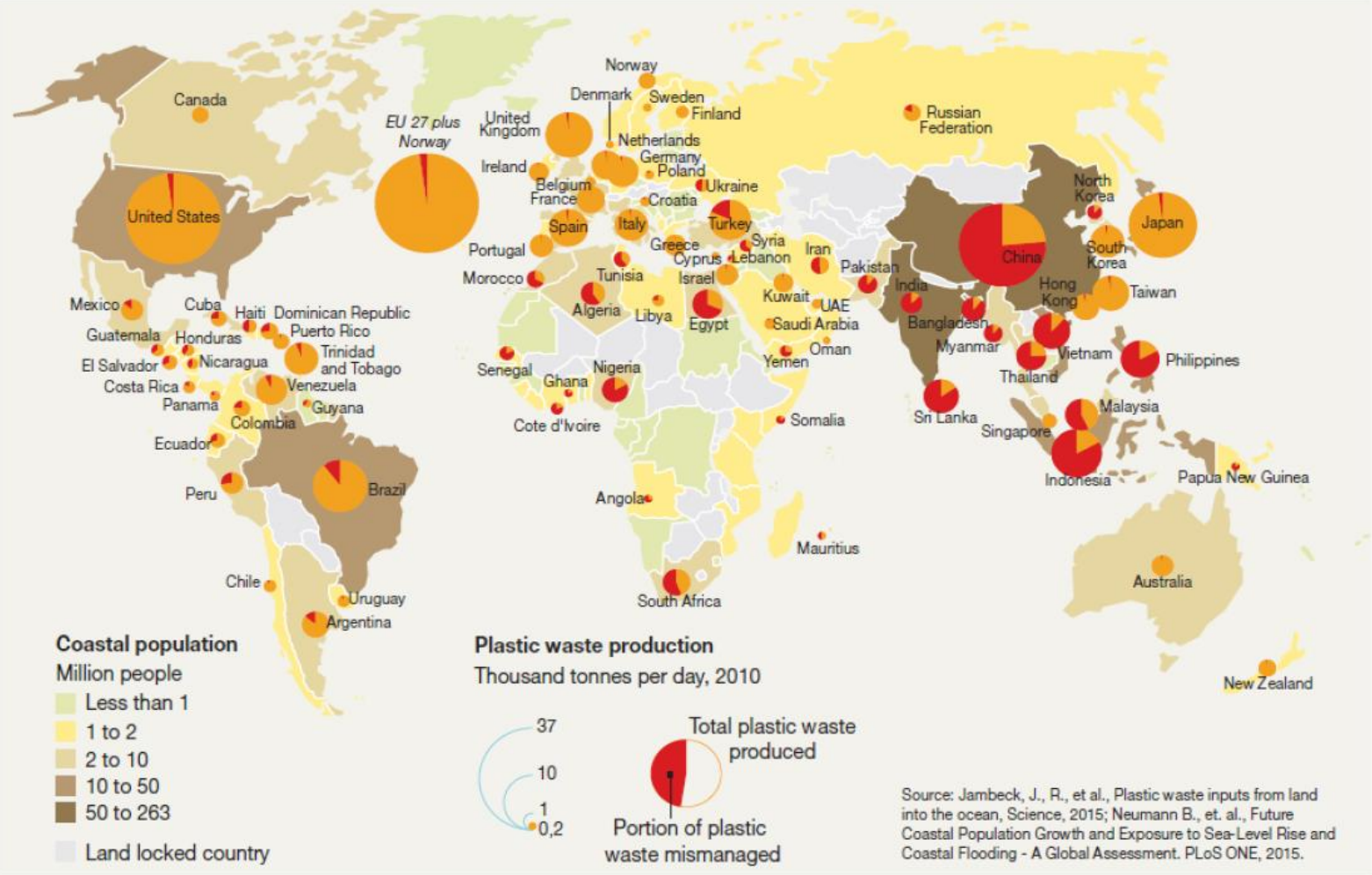
RECYCLING – TERMS AND DEFINITIONS

International recycling symbol

- Recycling is the conversion of waste into other materials and objects.
- Recycling can avoid that usable materials are ending as waste. Recycling therefore reduces
  – energy consumption
  – air pollution
  – marine littering
- With recycling the loss of materials and the green house gases can be reduced.

FORMATION OF WASTE

Amount of waste (size of circles) and share of not regulated waste disposal (red segments)



THE TOP TEN MARINE LITTER ITEMS

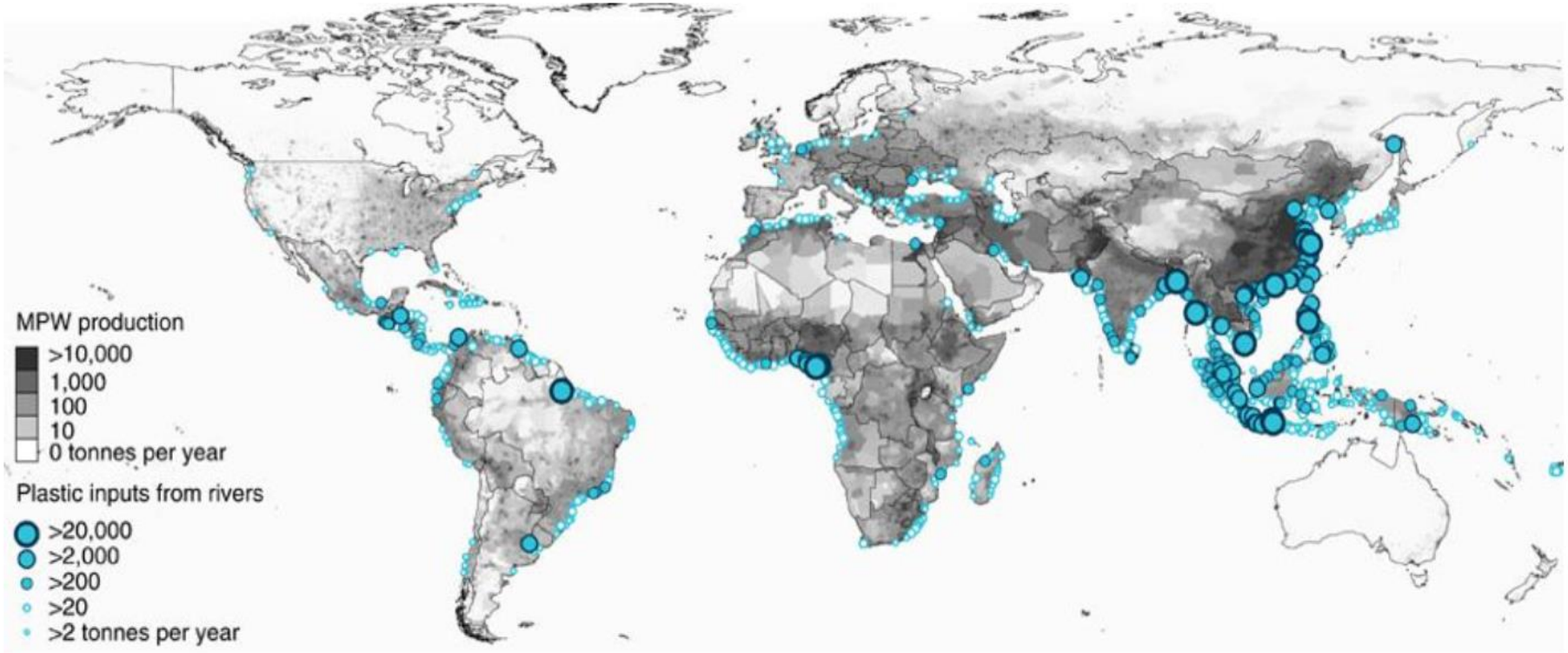
Debris Items	Number of Items	Percent of Total
Cigarettes/cigarette filters	25,407,457	24.6
Bags (paper & plastic)	9,711,238	9.4
Caps/lids	9,398,977	9.1
Food wrappers/containers	9,191,575	8.9
Cups/plates/forks/knives/spoons	7,426,964	7.2
Beverage bottles (plastic) <2 litres	5,684,718	5.5
Beverage Bottles (glass)	4,991,860	4.8
Beverage cans	4,796,554	4.6
Straws, stirrers	4,508,085	4.4
Rope	2,215,329	2.1
Total debris items	103,247,609	80.7

Quelle:UNEP 2009

SOURCES OF MARINE LITTER

Figure 1 : Mass of river plastic flowing into oceans in tonnes per year.

From: River plastic emissions to the world's oceans



Quelle: nature.com

WOHER KOMMT DAS PLASTIK IM MEER?

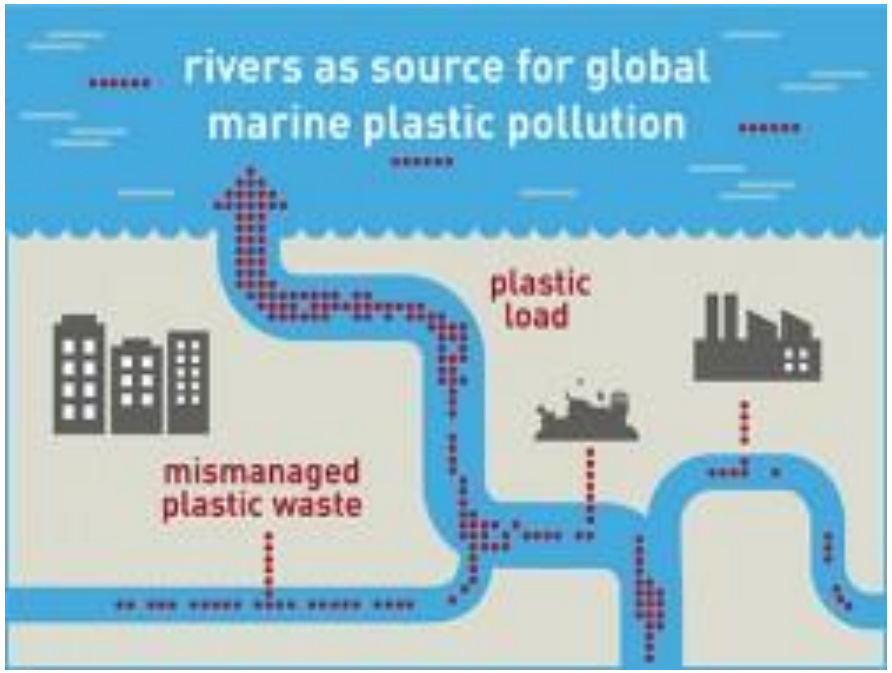
Der **Jangtsekiang** in China ist weltweit am stärksten mit Kunststoffpartikeln belastet.

Quelle: China Daily/Reuters

SOURCES OF MARINE LITTER

River	Receiving Sea	Continent
Chang Jiang (Yangtze River)	East China Sea (Yellow Sea)	Asia
Indus	Arabian Sea	Asia
Huang He (Yellow River)	Yellow Sea	Asia
Hai He	Yellow Sea	Asia
Nile	Mediterranean	Africa
Meghna, Bramaputra, Ganges	Bay of Bengal	Asia
Zhujiang (Pearl River)	South China Sea	Asia
Amur	Sea of Okhotsk	Asia
Niger	Gulf of Guinea	Africa
Mekong	South China Sea	Asia

More than 80% of the global marine plastic pollution is received from 10 rivers, 8 of them are in Asia.



Quelle: acs

WHICH PACKAGING IS SAVING RESOURCES?

rigid package
tin can: weight 50 g recycling rate: 80%

loss of materials: 10 g

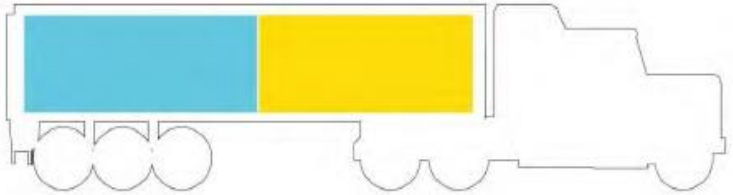
flexible package
plastic bag: weight 5 g
recycling rate: 0%

loss of materials: 5 g

ADVANTAGE OF WEIGHT AND VOLUME REDUCTION

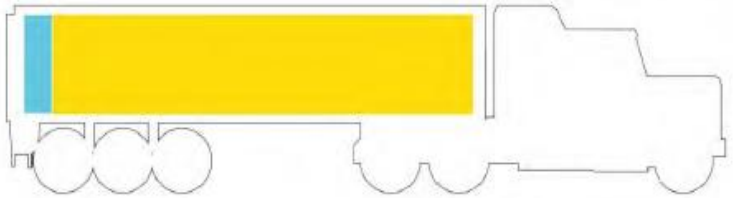
From filler to retailer:

TRANSPORTING BEVERAGES IN GLASS (0.2L IN CRATE OF 12)



PACKAGING 52.3%
BEVERAGE 47.7%

TRANSPORTING BEVERAGE IN A POUCH (0.2L IN 10-PACK CARTONS)



PACKAGING 6.1%
BEVERAGE 93.9%

From packaging supplier to filler:

1 truck for flexibles vs up to 26 trucks for non-flexibles

Quelle: Stefan Glimm, Flexible Packaging Europe

WHAT IS BIO-PLASTIC AND HOW IT IS PRODUCED?

Bio-plastics (bio-based plastic, bio-polymer) are plastics which are made from renewable raw materials.

Today the most important source is grain (corn starch, hydrolyzed wheat) or directly the sugar industry (sugar cane, sugar root, molasse)

Quelle: Wikipedia

EXAMPLES OF BIO-BASED PLASTIC

Quelle: natureplast

WORLDWIDE PRODUCTION CAPACITY OF BIO-PLASTIC

- In 2016 we had worldwide a production of approx. 335 mio. tons of plastic.
- The production capacity of bio-plastic is today approx. 2 mio. tons.
  - This is approx. 0,6 % of the total demand.

Quelle: European Bioplastics

SUMMARY AND CONCLUSIONS

- Questions about sustainability are discussed and judged in public very often superficial and not holistic.
- Consumers are overvalueing the environmental impact of packages. They are only with 1,5 – 2.0 % responsible for the carbon footprint of a consumer.
- Without packaging there is no trade of food and no hygienic nutrition of the still increasing world population possible.
- Packages ensure the world health, reducing the food waste und improve the ecological balance by reducing the CO_2-emissions.
- For ecological reasons it is better to pack food in plastic than to let it early spoil.

SUMMARY AND CONCLUSIONS

- Bio-based plastics will today and in future not solve our global problems.
- In nearly all modern industrial countries the recycling of waste is structural and technically mostly solved.
- Asia and Africa have today no reliable und efficient systems for an environmental friendly waste management. Marine litter is the visible impact.
- The problems there can be only solved with incentive systems for collecting, separating and recycling of waste.

SUMMARY AND CONCLUSIONS

Only with flexible packages and modern packaging machines the nutrition of the world population can be ensured.

This is the core competence and the passion of ROVEMA.

THANK YOU

ROVEMA

Passion for packaging