



Marine Litter

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The WWF in short

+ 100

WWF is active in over 100 countries spanning across 5 continents

1961

WWF was founded in 1961



+ 6.200

WWF has over 6.000 employees throughout the world

+ 5.000.000

WWF has over 5 million supporters



Without significant action, there may be more plastic than fish in the ocean by weight by 2050.*



*Source: Ellen McArthur Foundation (2015): The new Plastics Economy – rethinking the Future of Plastics, p. 29



It is predicted that plastic will be found in the digestive tracts of 99% of all seabird species by 2050.*



*Source: Wilcox, C. et. al (2015): Threat of plastic pollution to seabirds is global, pervasive, and increasing. PNAS Early Edition



More than 190 million
microplastic parts per day
are entering the North
Sea via the Rhine River*



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*Source: Mani, T. et al. : Microplastics Profile along the Rhine River.
Scientific Reports | 5:17988, 2015



Some economic data

- Estimate of damage to shipping companies **279 million** dollars per year in the Asia Pacific region
- Damage to tourism industry in the same region estimated **622 million** dollars per year
- Cost associated to impacts on marine ecosystems could be estimated to be at least **8 billion** dollars per year *

* UNEP (2016): Marine Litter, vital Graphics, p.19

Source of the Problem

32 % „leakage“ of plastic packaging

FIGURE 4: GLOBAL FLOWS OF PLASTIC PACKAGING MATERIALS IN 2013

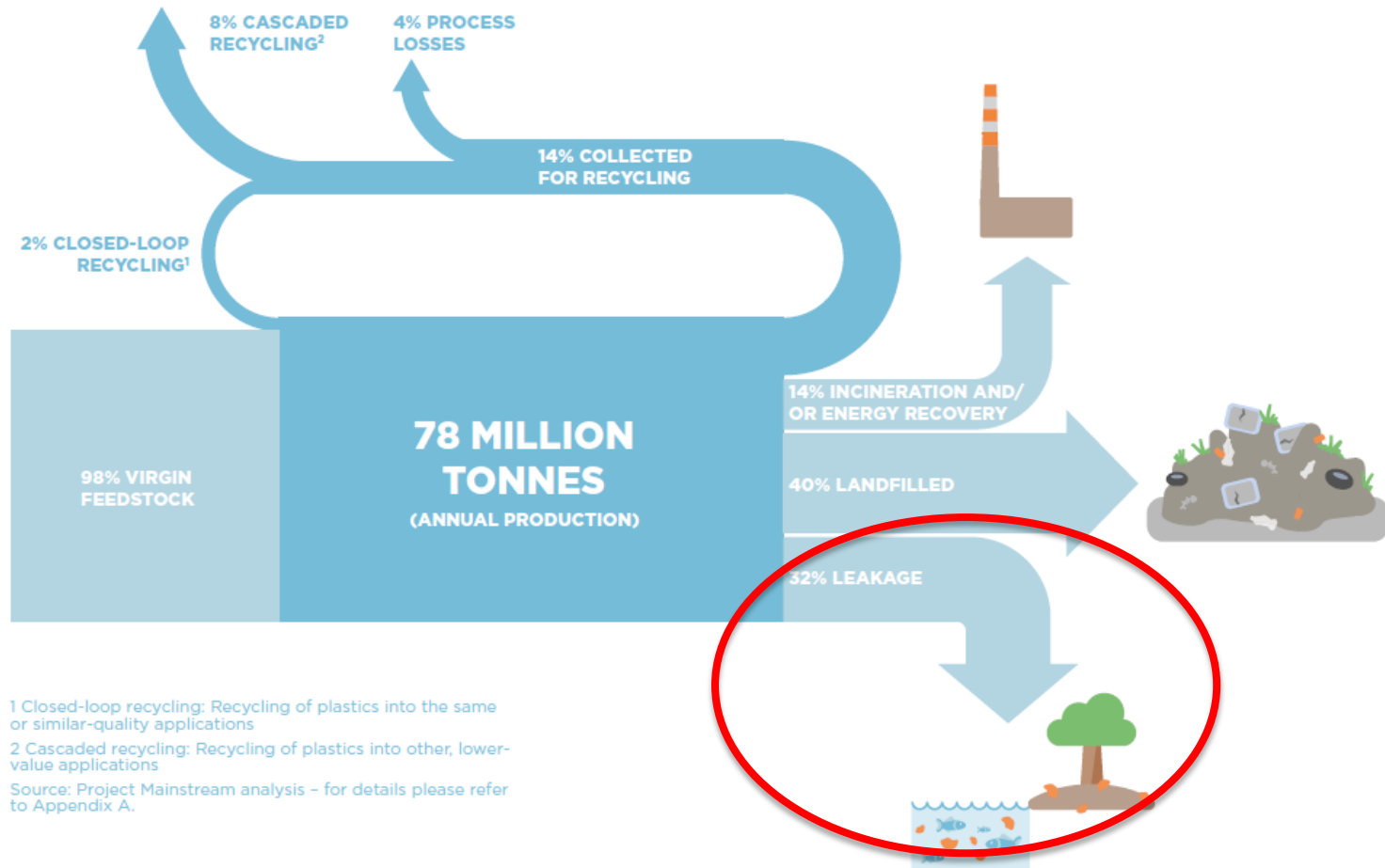
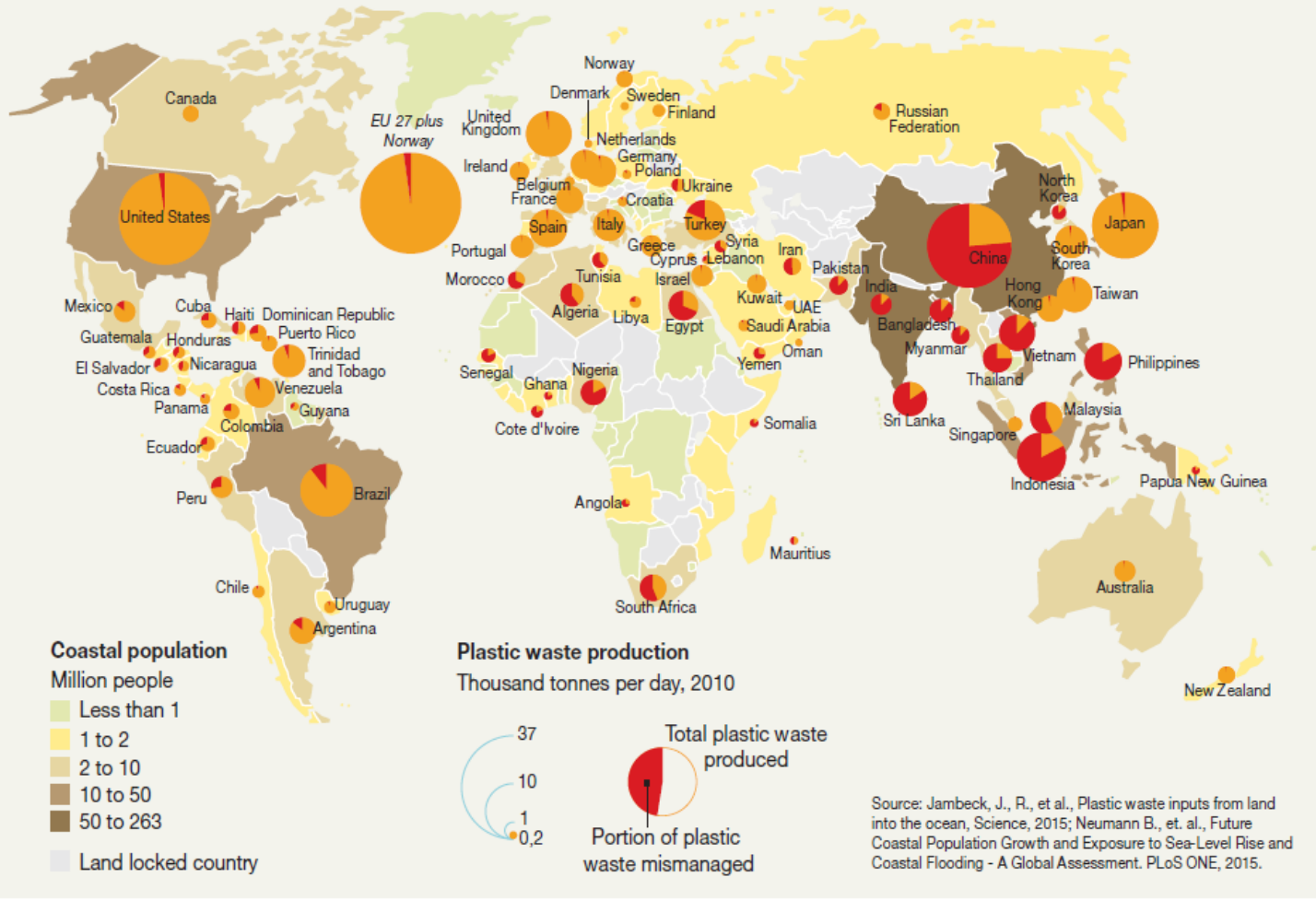


Illustration from: Ellen McArthur Foundation (2015): The new Plastics Economy – rethinking the Future of Plastics, p. 27

Source: UNEP (2016): Marine Litter, Vital Graphics, p. 10

Plastic waste produced and mismanaged



The Coral Triangle and plastic waste



The majority of plastic enters the ocean from a small geographic area: over half comes from just five rapidly growing economies - China, Indonesia, the Philippines, Thailand, and Vietnam.*

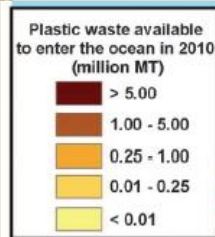
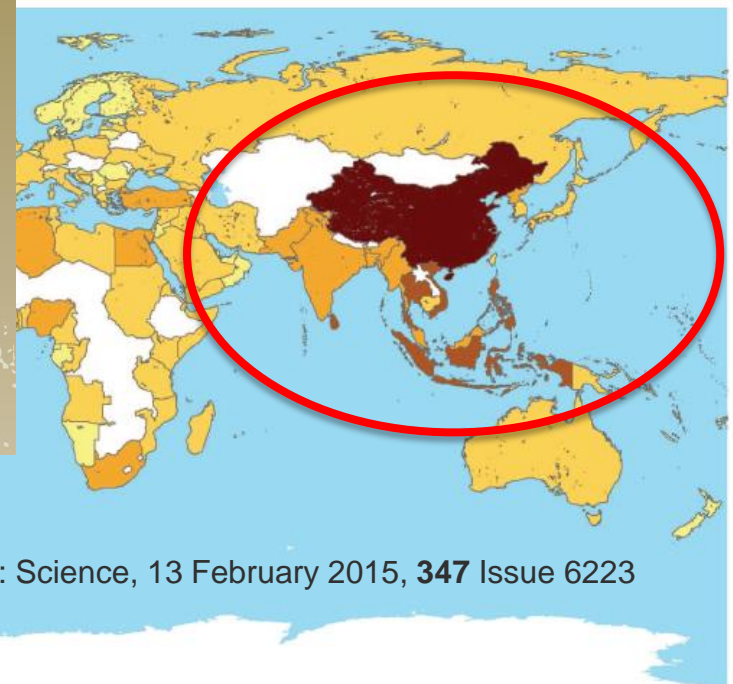


Fig. 1. Global map with each country shaded according to the estimated mass of mismanaged plastic waste [millions of metric tons (MT)] generated in 2010 by populations living within 50 km of the coast. We considered 192 countries. Countries not included in the study are shaded white.

*Source: Ocean Conservancy (2015): Stemming the Tide: Land-based strategies for a plastic - free ocean, p.3

Main sources*:

- Fragmentation of macroplastic parts
- Tyre abrasion
- Plastics production
- Applications in industry
- Abrasion from textiles
- Cosmetics

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* Federal Environment Agency (Germany), 2015: Sources of microplastics relevant to marine protection in Germany

Possible Solutions



Microplastics

- Comprehensive ban on the inclusion of micro plastics in any personal care product sold
- Reduction of input from industry sources
- Improvement of waste water treatment plants to increase retention of microplastics
- Reduction of input of plastic waste



Packaging design

- Some materials have the potential for biodegradability in open environments – still under discussion
- Establish two cycles of the circular economy:
Low value – biodegradable; high value – recycling.

Extended Producer Responsibility

- Costs for waste collection, treatment and recycling are often not covered by financial income from sale of recycling material
- 80% of plastic packaging has no value for recycling
- Packaging mainly from the food, beverage and retail sector



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Extended Producer Responsibility

- Sustainable financing of waste management systems (collection, treatment and recycling) is necessary
- Packaging Ordinance to enforce producer responsibility in Germany („Green Dot Systems“) since the 1990's
- Partly also in other European countries for packaging
- Voluntary initiatives are helpful – but a legal framework for Extended Producer Responsibility will cover all relevant companies



Thank you!

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