



MITIGATING MICROPLASTICS IN MARINE AND FRESHWATERS:

A sectoral focus on textiles and tyres

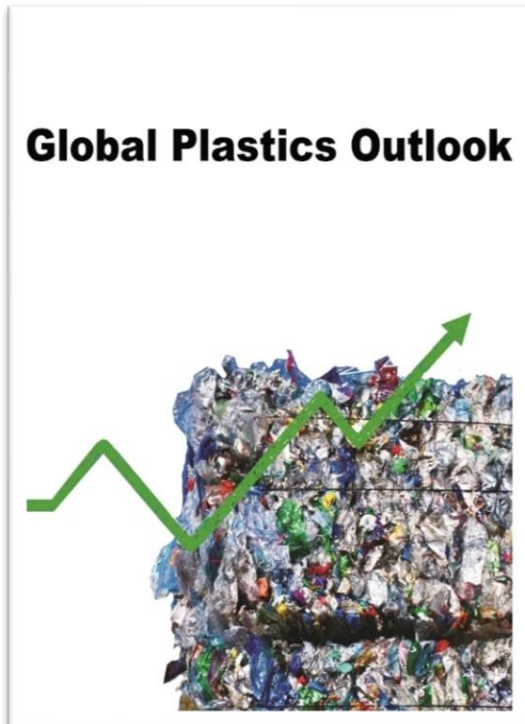
Peter Börkey

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Pacific**

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OECD work on plastics



Stocktake of Global Developments

Current Volumes and impacts on health and environment

Policies

Recycling Markets

Innovation

Projections and Scenario Analysis

Economic Drivers and Environmental Impacts to 2060

Policy impacts



Microplastics (MP)

- Microplastics (< 5mm) have been sampled in **all environmental media** and in **wildlife**, including seafood destined for human consumption
- These originate from a variety of sources :

Primary (manufactured) MP:

- Microbeads in rinse-off personal care products
- Production and handling of plastic pellets

Use-based secondary:

- Washing of synthetic textiles
- Wear of vehicle tyres
- Wear off of paint applied to roads and buildings

Degradation-based secondary:

- Fragmentation of macro plastics leaked into the environment



Key entry pathways into aquatic environments:

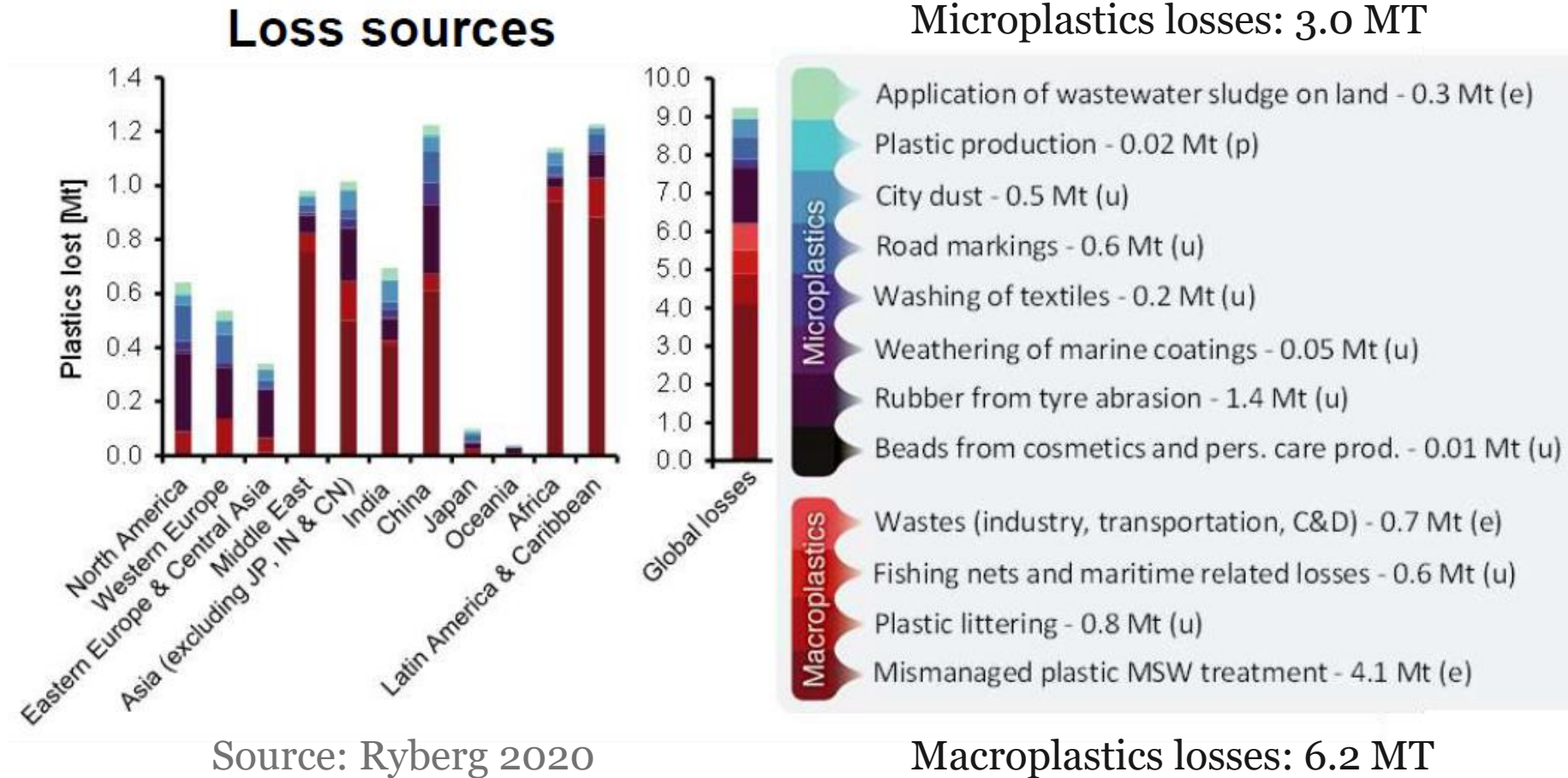
- **Wastewater networks** (e.g. microfibres, microbeads)
- Diffuse entry points: **air transport, road and stormwater runoff** (e.g. airborne microfibres, tyre particles, paint flakes)





Plastics leakage and emissions

Plastics lost to the environment



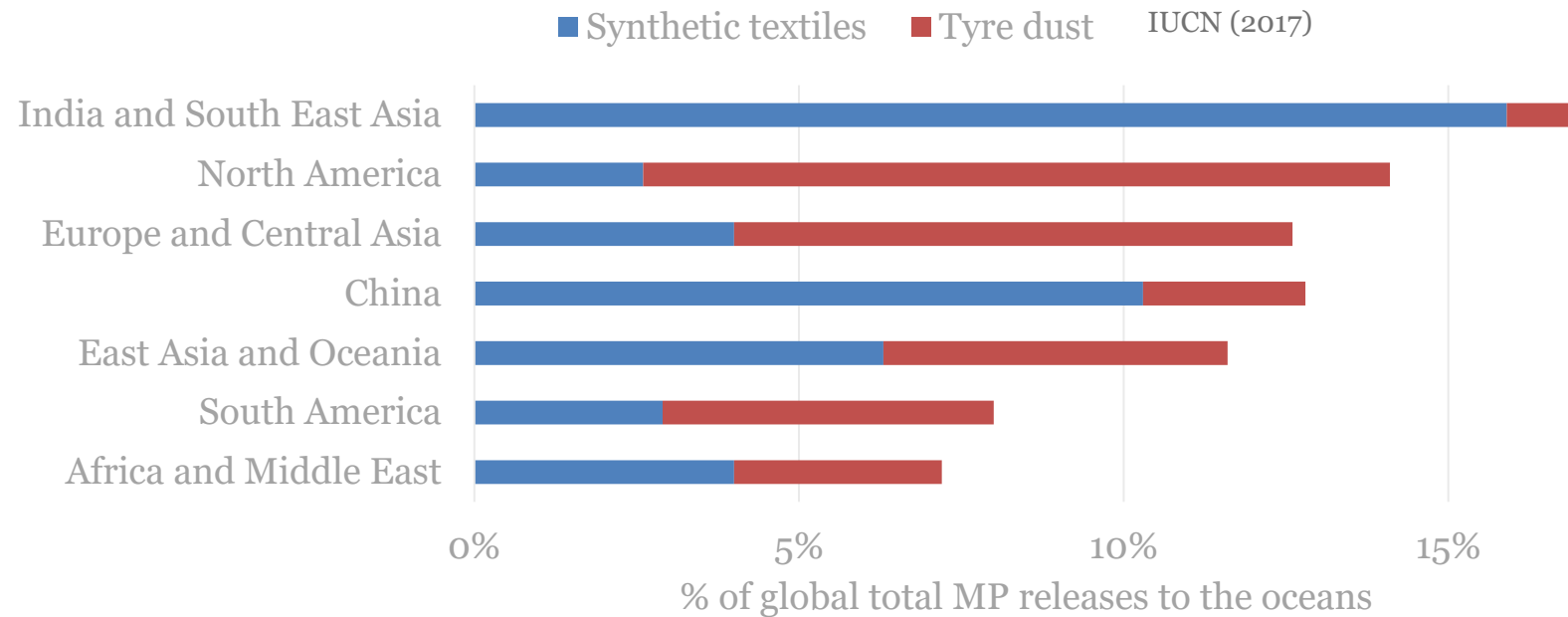
Microplastics losses: 3.0 MT

Macroplastics losses: 6.2 MT

- Mismanaged plastic MSW is a key driver for macroplastics, especially in emerging markets
- In developed economies microplastics are a large contributor to leakage



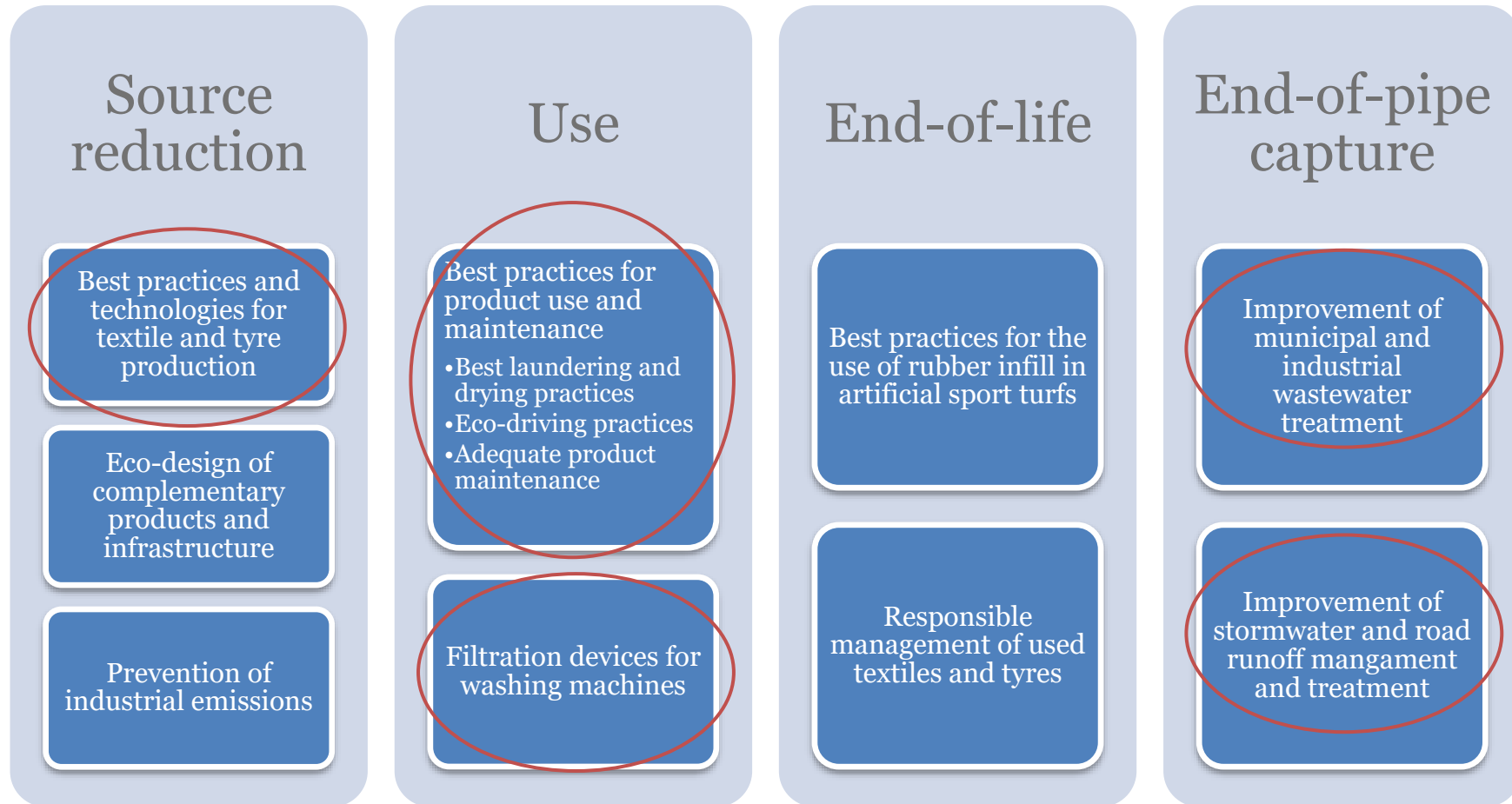
Geographical distribution of releases to the oceans: the role of OECD countries



- In OECD countries, **tyre wear particles** account for a large share of releases to the oceans
 - These are mostly not collected by existing infrastructure and end up directly in the environment
- **Textile-based synthetic microfibres** are generally retained during wastewater treatment
 - Key caveat: in several countries these are being redirected to **agricultural land** via sludge



Mitigation technologies and best practices





Policy insights

Principles to guide policy action:

- **Precautionary principle**
- **Lifecycle approach:** mix of interventions targeting several mitigation entry points along the lifecycle of products

1. Strengthening knowledge to inform intervention

- Encourage **further research** to:
 - understand MP emissions, fate, occurrence, current and future risks
 - identify, develop, and assess mitigation best practices and technologies
- Promote the **standardisation and harmonisation of methods** (e.g. microfibre shedding rate, tyre tread abrasion rate)
- Promote **international and interdisciplinary collaboration** and data sharing

2. Strategic approach to prioritise intervention: “no-regrets” measures to exploit co-benefits and low-cost options

- **Textiles and garments:** promote sustainable production and consumption practices
- **Road transport:** reductions in passenger vehicle use, shifts towards more sustainable transport modes
- Awareness raising and behaviour-oriented interventions to foster the adoption of best use practices
- **End-of-pipe:** implement/improve existing infrastructure to reduce the impact of pollutants of concern, better evaluate effectiveness at removing MPs



THANK YOU FOR YOUR ATTENTION

For questions, please contact:

Elena Buzzi

elena.buzzi@oecd.org

Peter Börkey

peter.borkey@oecd.org



Take-away messages

- Microplastic releases from the use-phase of products are currently not addressed by policy
- Yet, they represent a significant portion of plastic litter releases into the environment (but measurement methods need to be improved and harmonised) and there are concerns about their impacts on human health and ecosystems
- Mitigation measures are available along different life-cycle stages, but require further research to ascertain their effectiveness
- Governments need to invest in research to further inform policy making in this field, as there is a fair amount of uncertainty around microplastics
- But « no-regrets » policies, which generate environmental improvements across several environmental impacts (e.g., climate, air, water, biodiversity), can be implemented immediately