

A decorative graphic on the left side of the slide, showing a pile of colorful plastic waste (bottles, bags) with a large grey arrow pointing right and a blue arrow pointing left, both partially overlapping the waste.

An example from the Plastic Pirates investigating plastic pollution of rivers

Presented by Linda Mederake

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Berlin, 6 October 2022

**Global plastic pollution
endangers planetary health,
with devastating impacts
on ecosystems, wildlife,
and human health.**



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Plastic Pirates – Go Europe!

a European Citizen Science campaign, in which school classes and youth groups collect plastic samples from streams and rivers and document their findings

Plastic Pirates litter data included in the study:

- ▶ five sampling campaigns 2019–2021
- ▶ > 8,000 schoolchildren and other participants
- ▶ > 350 schools and youth organisations



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Methodology – Litter data

Data sources for litter at riversides and coastlines

- ▶ Verified Plastics Pirates data for German rivers
- ▶ Data from three sampling protocols of coastlines:



European
Environment
Agency

Marine Litter Watch



International Coastal
Cleanup



OSPAR
COMMISSION

Matching litter categories across sampling protocols

- ▶ Large number of existing categories was condensed to 21 categories, focusing on single-use plastics and further commonly occurring litter items of other materials

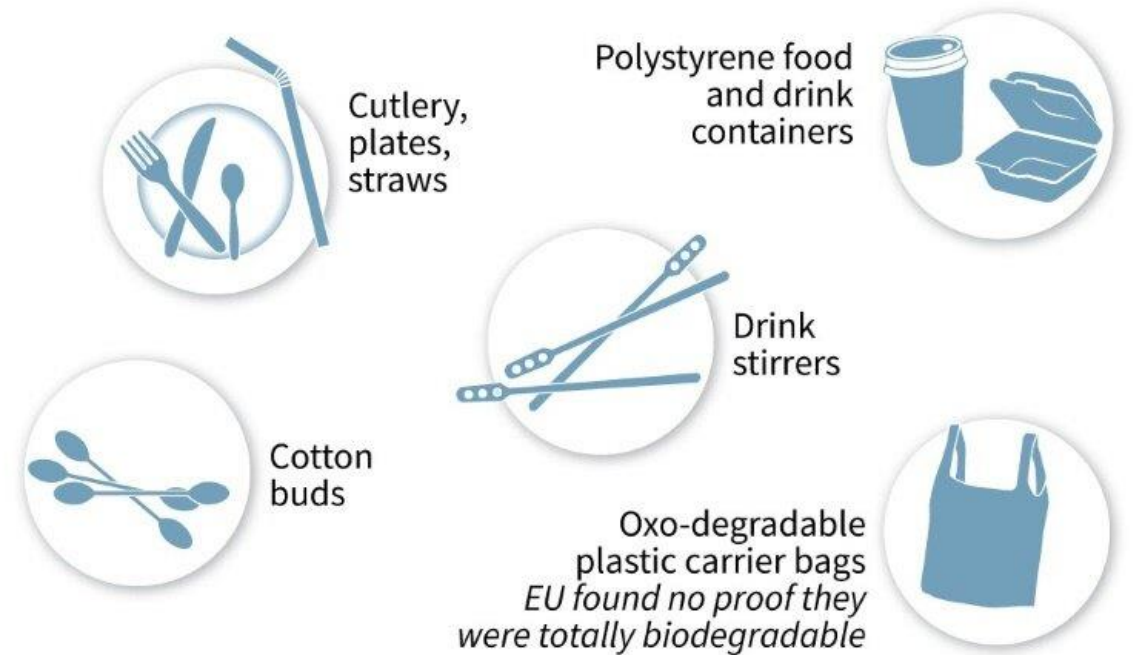
Methodology – Litter reduction scenarios

Three scenarios

- ▶ thought experiment based on litter data
- ▶ evolve around policy measures introduced by the EU Single-Use Plastics (SUP) Directive

EU bans single use-plastics

About ten product categories will be banned, from 2021

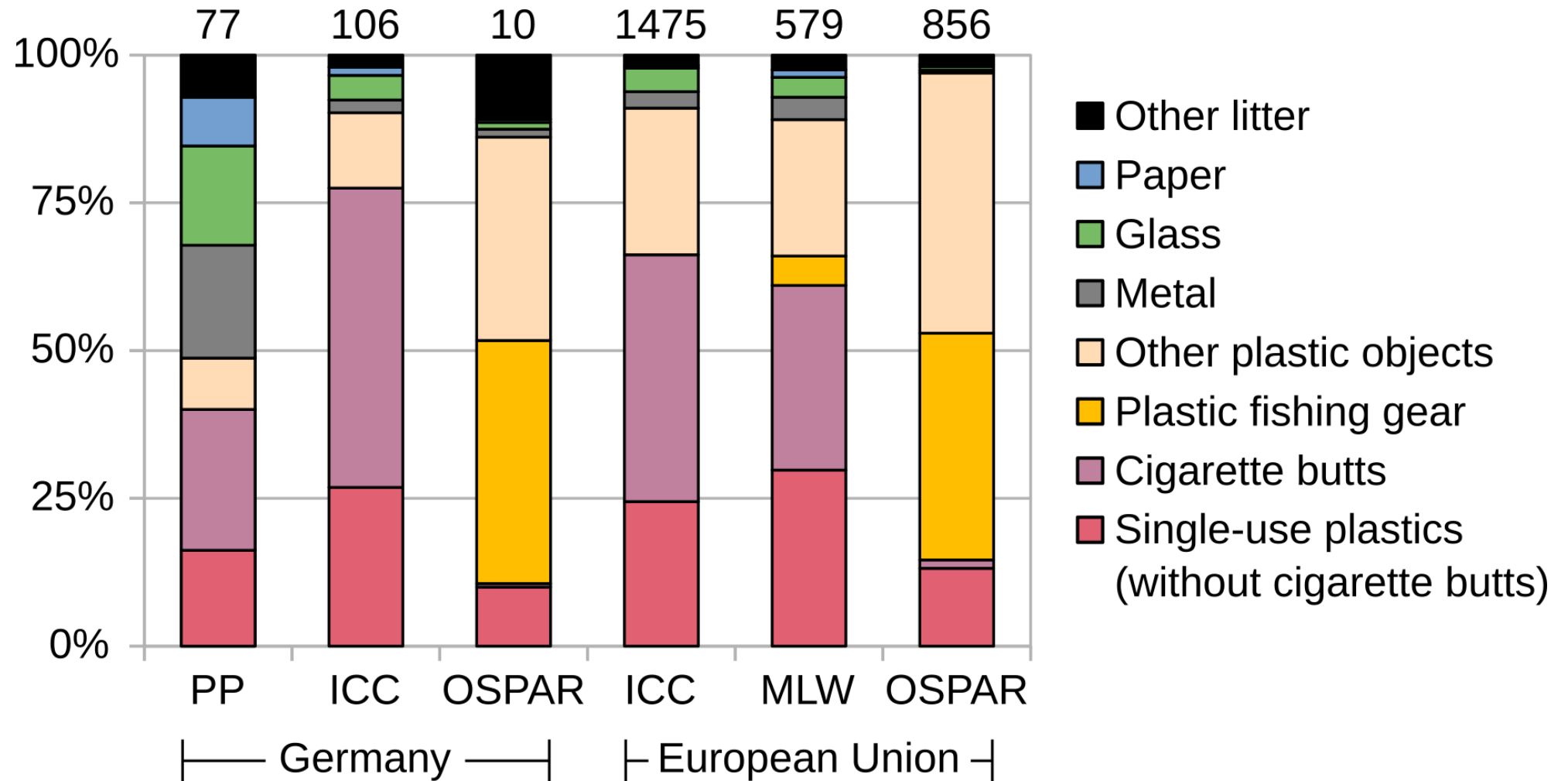


Source: European Commission

Methodology – Litter reduction scenarios

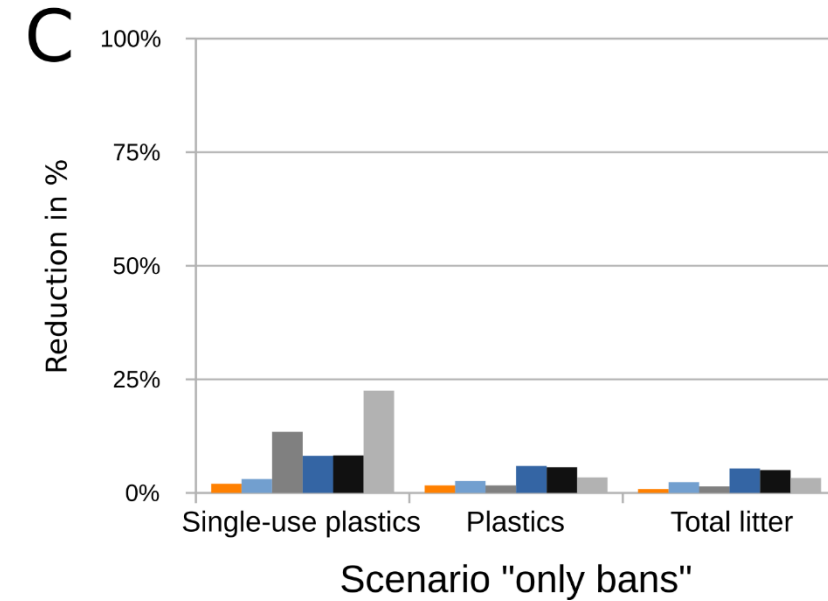
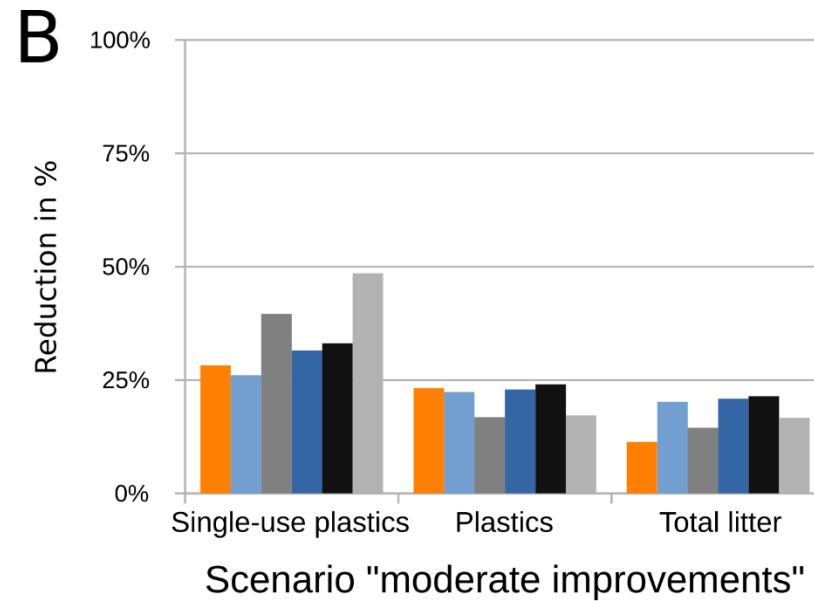
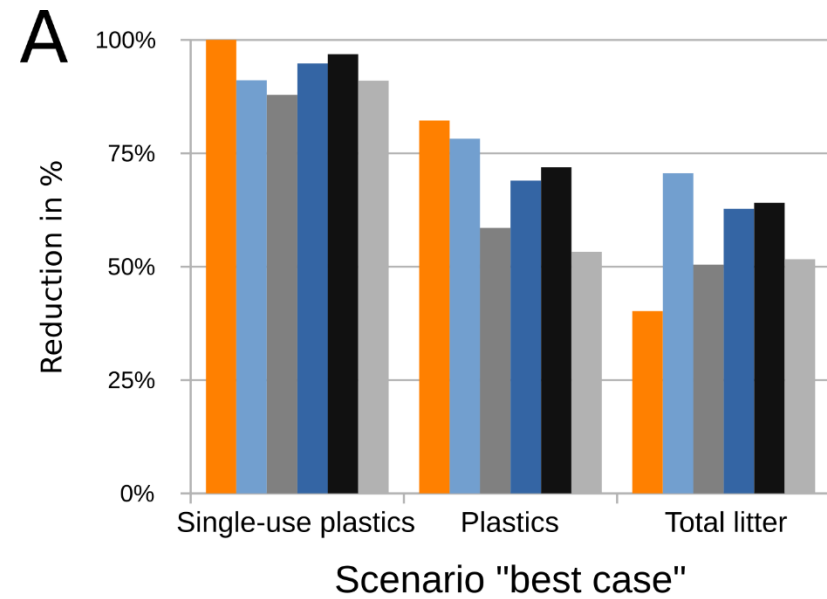
% reduction of litter quantities (2019 to 2021)	Scenario: best case	Scenario: moderate improvements	Scenario: only bans
Plastic bags	100%	25%	0%
Plastic bottles	100%	25%	0%
Plastic lids	100%	50%	0%
Takeaway and fast food packaging (incl. disposable coffee cups and lids)	100%	50%	0%
Plastic cutlery and plastic plates (incl. plastic coffee stirrers and plastic straws)	100%	100%	100%
Plastic packaging for sweets, crisps, etc.	100%	25%	0%
Cotton buds with plastic rod	100%	100%	100%
Wet wipes, tampons and sanitary towels	100%	25%	0%
Cigarette butts	100%	25%	0%
Balloons	100%	25%	0%
Plastic fishing gear	100%	25%	0%

Litter found at riversides and coastlines



Results

Scenario Analysis



Conclusions from Scenario Analysis

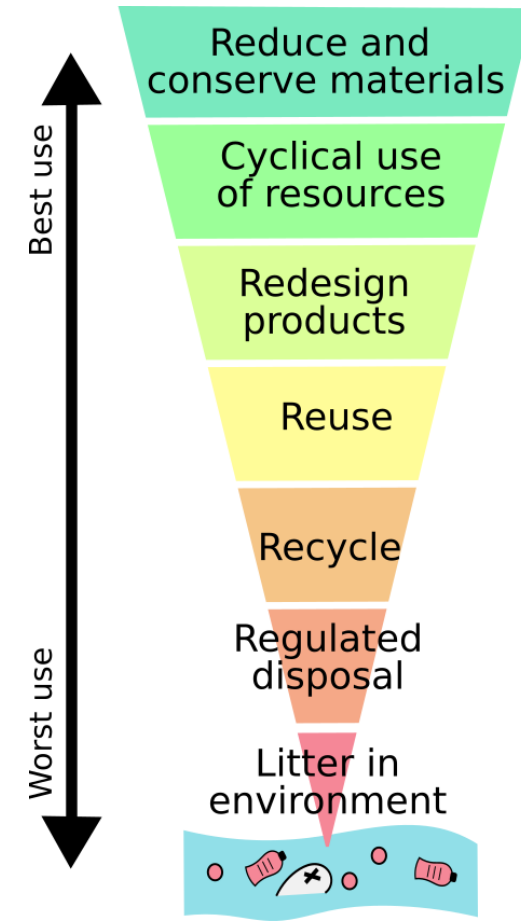
- ▶ the bans included in the SUP Directive are not enough to significantly reduce litter quantities (cf. only bans scenario)
- ▶ instruments addressing litter items that occur in large quantities (e.g. cigarette butts) are crucial, even if they are only partially effective
- ▶ how EU member states implement measures (e.g. regarding EPR and clean-up) is a key element for success

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only data originating from citizen science projects covers the spatio-temporal scale necessary to evaluate a large-scale policy instrument such as the SUP Directive

Outlook

- ▶ current provisions of the SUP Directive alone are not sufficient to solve the litter problem
 - narrow scope on certain SUP items
 - risks to result in the substitution of SUPs by single-use items made from other materials
- ▶ the EU should align its policies more effectively with the waste hierarchy and truly prioritise waste reduction and re-use options





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Science and Policy
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Thanks! Any questions?

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Plastic Pirates
research is
funded by:



Federal Ministry
of Education
and Research

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