

From Policy to Implementation

Challenges in the Years Ahead for Recycling Ambitions in the EU



Lara Dammer, nova-Institute, 17.01.2023



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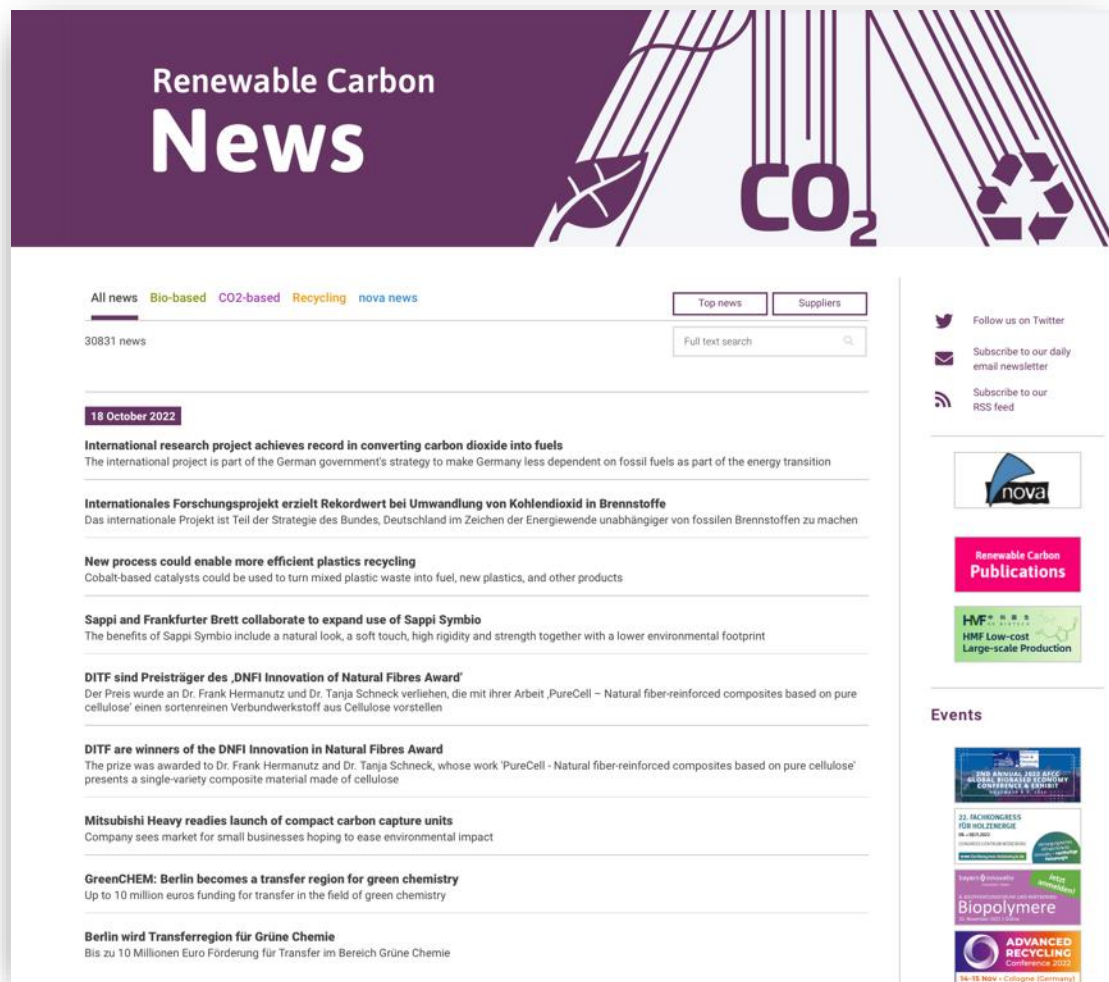
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Renewable Carbon News

All news Bio-based CO2-based Recycling nova news

30831 news

18 October 2022

International research project achieves record in converting carbon dioxide into fuels
The international project is part of the German government's strategy to make Germany less dependent on fossil fuels as part of the energy transition

Internationales Forschungsprojekt erzielt Rekordwert bei Umwandlung von Kohlendioxid in Brennstoffe
Das internationale Projekt ist Teil der Strategie des Bundes, Deutschland im Zeichen der Energiewende unabhängiger von fossilen Brennstoffen zu machen

New process could enable more efficient plastics recycling
Cobalt-based catalysts could be used to turn mixed plastic waste into fuel, new plastics, and other products

Sappi and Frankfurter Brett collaborate to expand use of Sappi Symbio
The benefits of Sappi Symbio include a natural look, a soft touch, high rigidity and strength together with a lower environmental footprint

DITF sind Preisträger des „DNFI Innovation of Natural Fibres Award“
Der Preis wurde an Dr. Frank Hermanutz und Dr. Tanja Schneck verliehen, die mit ihrer Arbeit „PureCell - Natural fiber-reinforced composites based on pure cellulose“ einen sortenreinen Verbundwerkstoff aus Cellulose vorstellen

DITF are winners of the DNFI Innovation in Natural Fibres Award
The prize was awarded to Dr. Frank Hermanutz and Dr. Tanja Schneck, whose work „PureCell - Natural fiber-reinforced composites based on pure cellulose“ presents a single-variety composite material made of cellulose

Mitsubishi Heavy readies launch of compact carbon capture units
Company sees market for small businesses hoping to ease environmental impact

GreenCHEM: Berlin becomes a transfer region for green chemistry
Up to 10 million euros funding for transfer in the field of green chemistry

Berlin wird Transferregion für Grüne Chemie
Bis zu 10 Millionen Euro Förderung für Transfer im Bereich Grüne Chemie

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Biopolymere
23. Oktober 2022
Hof, Deutschland

ADVANCED RECYCLING Conference 2022
14-16 Nov - Cologne (Germany)

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> **30,700** Reports

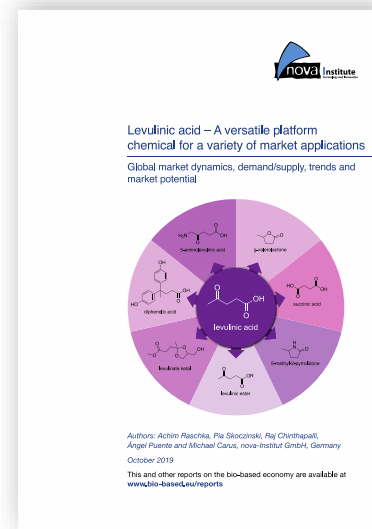
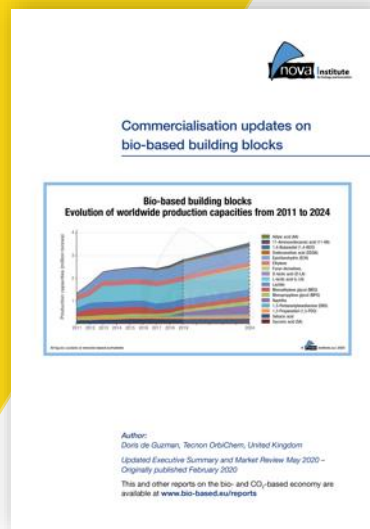
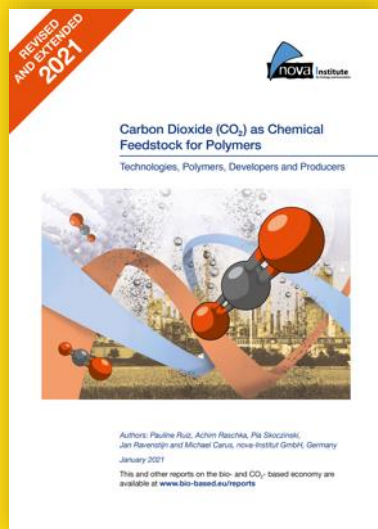
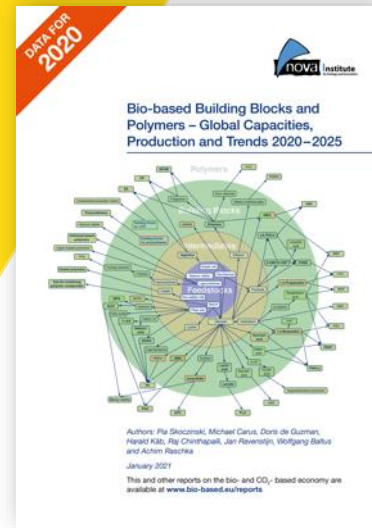
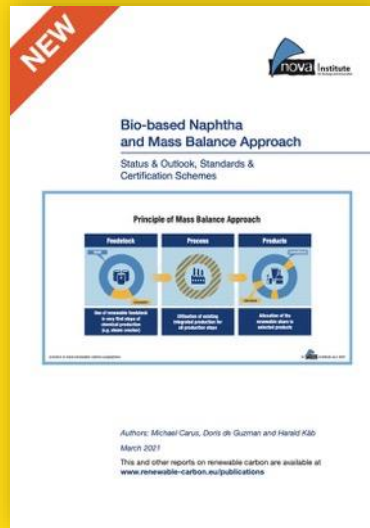
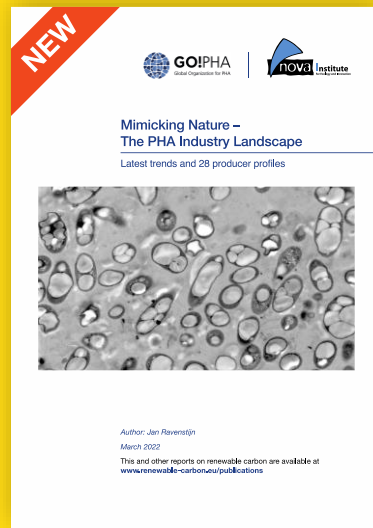
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23–25 May 2023 | Siegburg/Cologne

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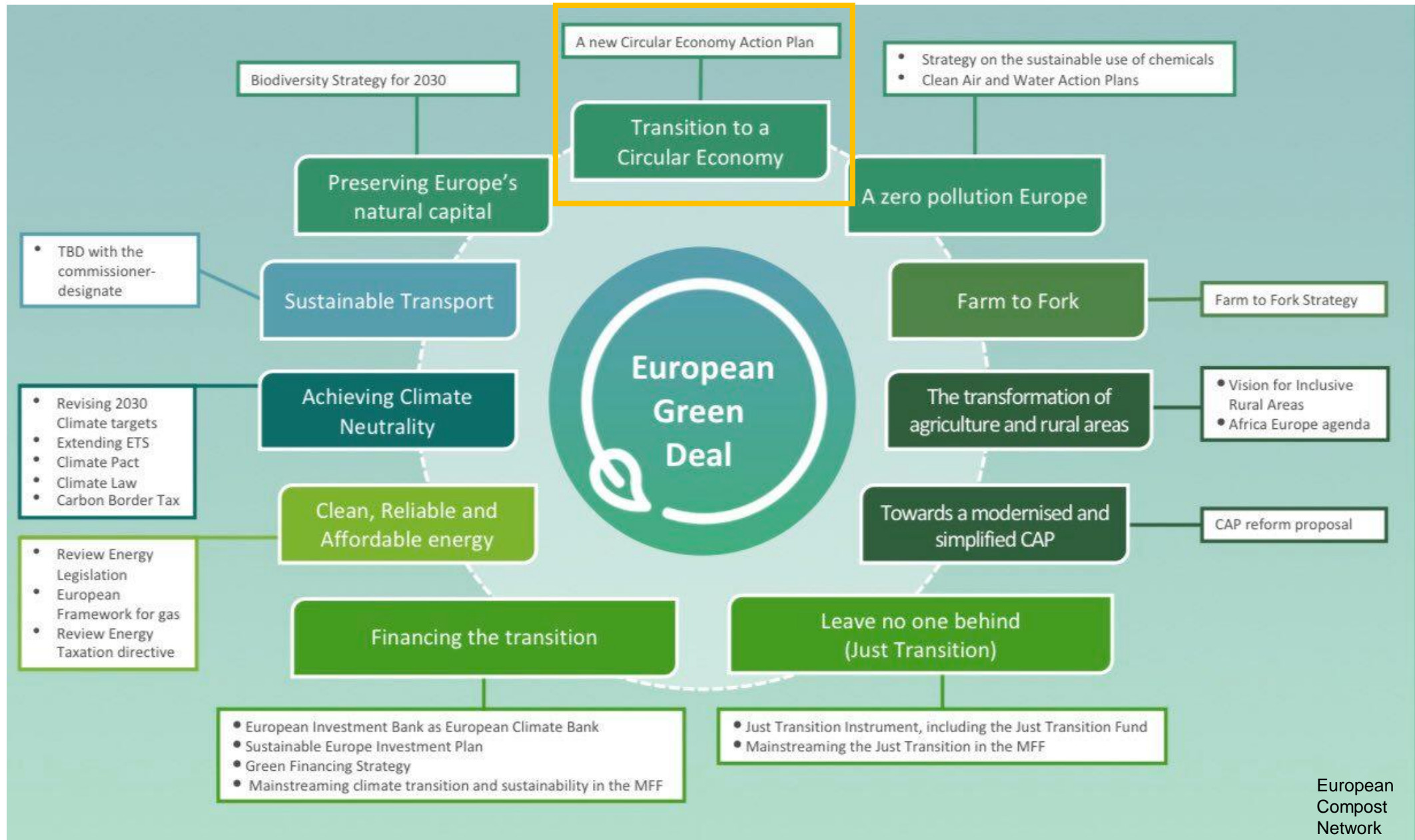
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All conferences at
www.renewable-carbon.eu/events

The Green Deal (2019)



The New Circular Economy Action Plan (2020)

Key value chains

Electro-
nics and
ICT

Batteries
and
vehicles

Packaging

Plastics

Textiles

Construc-
tion and
buildings

Food,
water and
nutrients

The New Circular Economy Action Plan (2020)

Plans to regulate the following aspects...

35 follow-up
legislative measures
in Annex!

durability,
reusability,
upgrad-
ability and
repar-
ability

hazardous
chemicals

energy
and
resource
efficiency

recycled
content in
products

remanu-
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and high-
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carbon
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Spotlight on: PPWR, ELV, SPI

Packaging and Packaging Waste Regulation (PPWR)

- Revision of the PPWD (COM proposal Nov '22)
- Strong reaction by the industry, due to very high recycled content targets, refill and reuse obligations, negative lists on packaging and compostable packaging

End-of-life Vehicles Directive (ELV)

- Revision proposal also exp. for end of 2022, postponed to 2023
- Also expected to contain high recycled content targets, numbers unclear so far

Sustainable Products Initiative (SPI)

- Further development of the Ecodesign Directive – a broader framework for setting harmonised rules on environmental sustainability
- Commission proposal in March 2022, now waiting for action from EP and Council

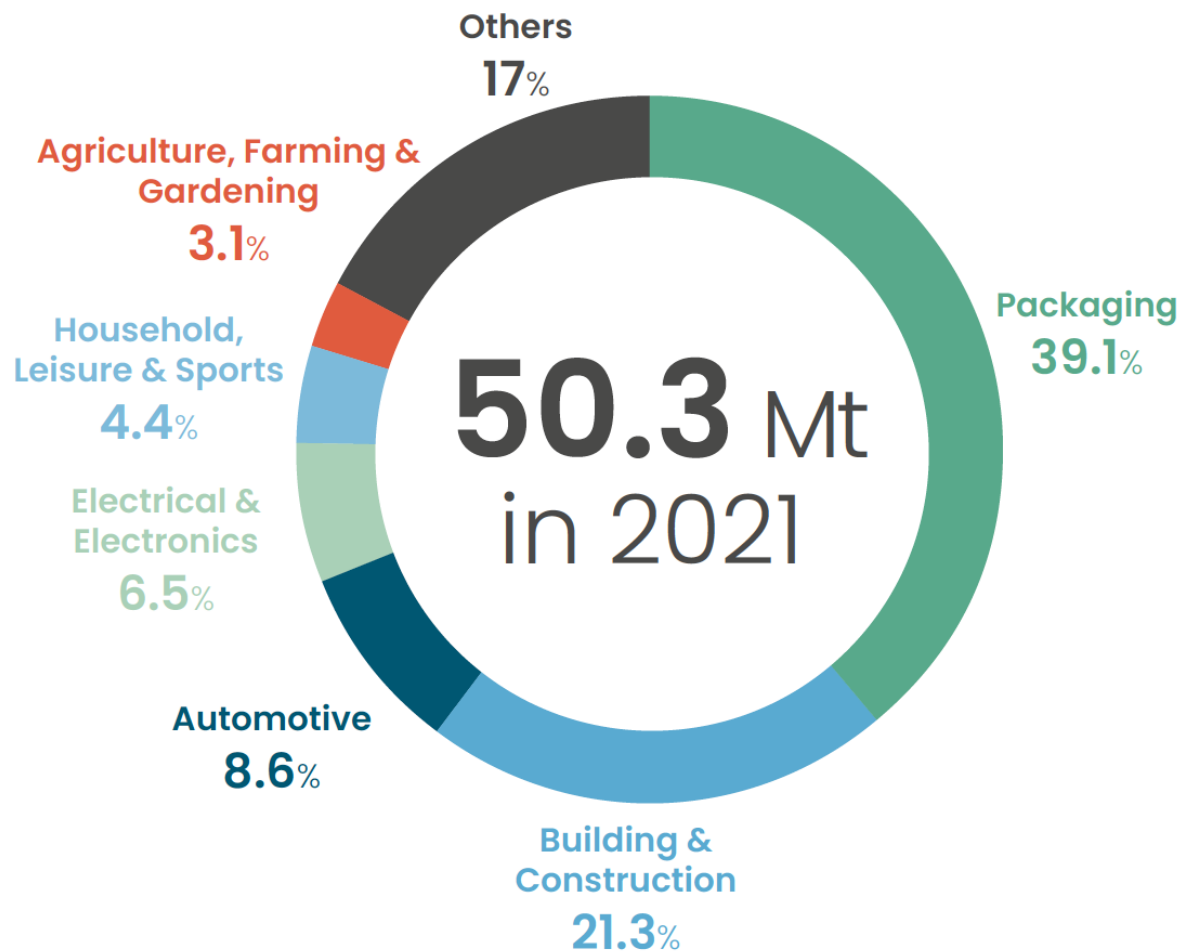
The draft Packaging and Packaging Waste Regulation

1. From **1 January 2030** plastic packaging shall contain the following minimum percentage of recycled content recovered from **post-consumer** plastic waste, per **unit of plastic packaging**:
 - (a) 25 % for contact sensitive plastic packaging;
 - (b) 50 % for single use plastic beverage bottles;
 - (c) 45 % for plastic packaging other than under letters (a) and (b).
2. From **1 January 2040**, plastic packaging shall contain the following minimum percentage of recycled content recovered from **post-consumer** plastic waste, per **unit of plastic packaging**:
 - (a) 50 % for contact sensitive plastic packaging;
 - (b) 65 % for single use plastic beverage bottles;
 - (c) 65% for plastic packaging other than under letters (a) and (b).



Plastic packaging produced in EU27+3, 2021 = 20 Mt

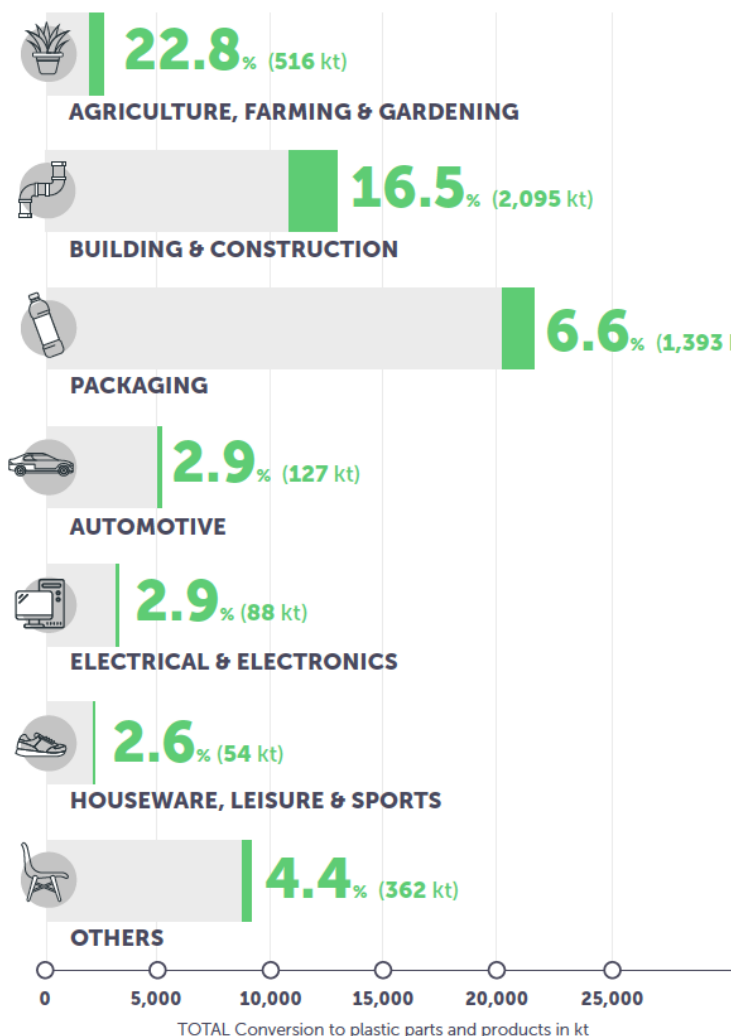
65% recycled content =
13 Mt recycled plastics
needed **just for**
packaging



4.6 Mt PC recycled
feedstock = 8.5%
of total production
(53.9 Mt)



Recycled content per application sector



in the next 17 years, a **x10 increase** in recycled content is necessary!

The Sustainable Products Initiative



- May set rules for all products on the market – food, feed and medicinal products are exempted
- A preliminary assessment by the Commission has identified that **textiles, furniture, mattresses, tyres, detergents, paints, lubricants**, as well as intermediate products like **iron, steel and aluminium**, have high environmental impact and potential for improvement, and may thus be suitable candidates for the first workplan.

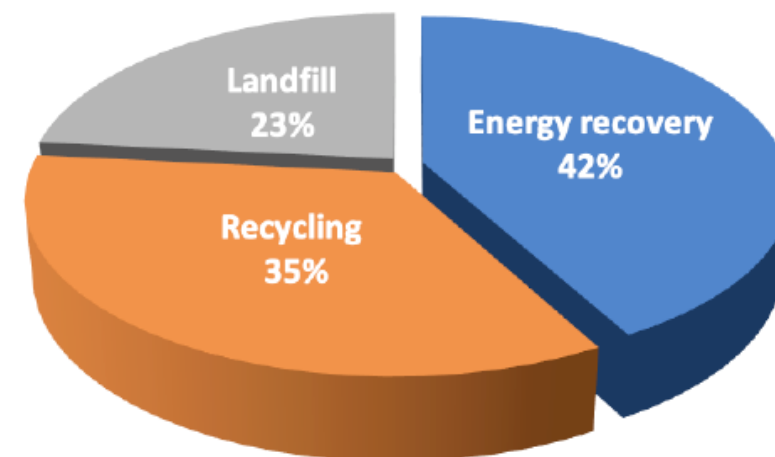
Setting targets for recycled content...

... assumes that recycling capacities will increase due to larger demand.

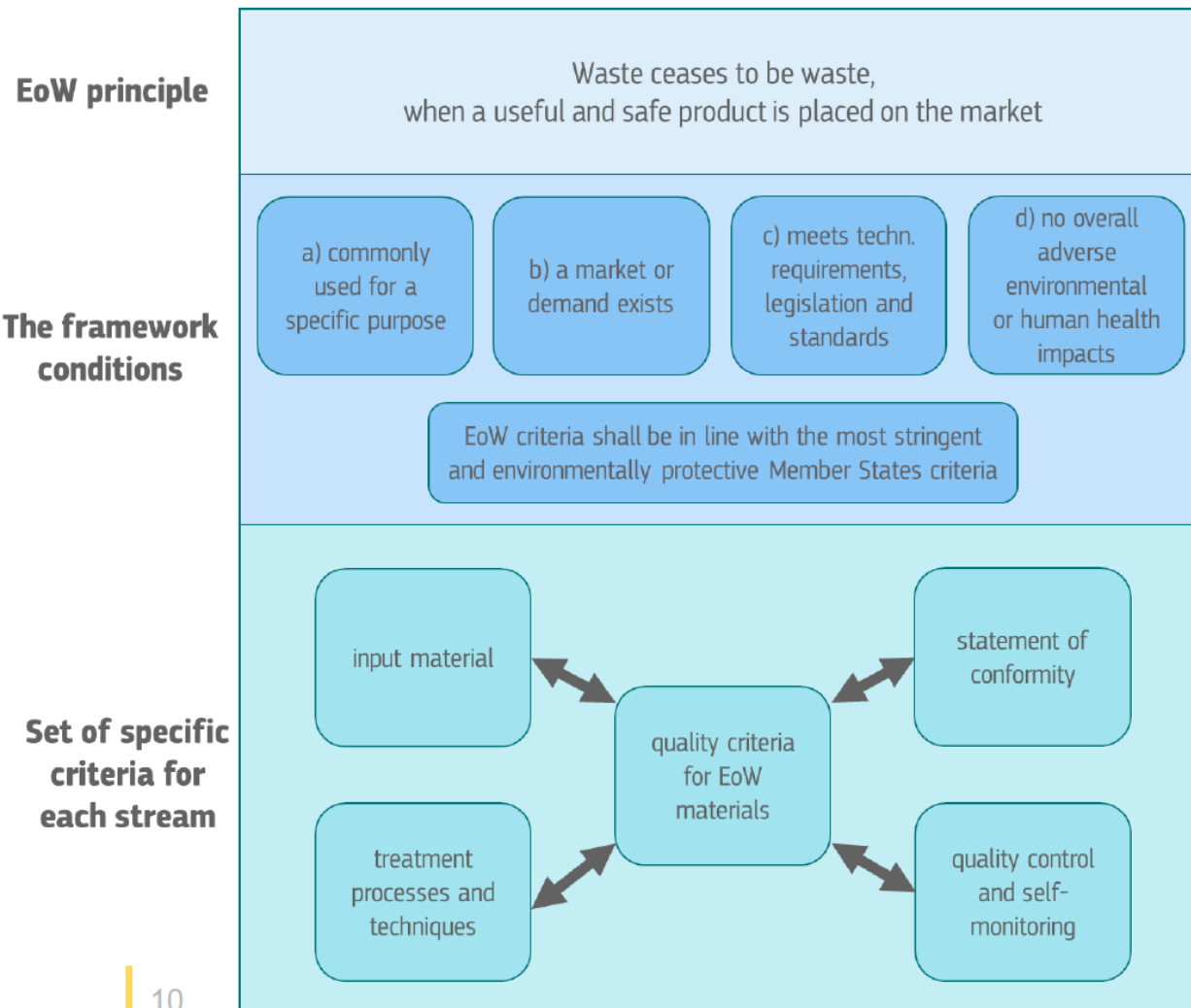
... is an important step towards creating demand and moving the recycling sector from a supply-driven industry towards a demand-driven industry.

How does policy support the increase in recycling capacities?

- WFD: collection obligation, EPR
 - By 2025, 2030, and 2035, the preparation for re-use and recycling of municipal waste needs to be increased to a minimum of 55 %, 60 % and 65 % by weight respectively (2018/851, article 12.c.ii).
 - encouragement to use economic instruments *inter alia* landfill and incineration charges, pay-as-you-throw schemes, extended producer responsibility schemes (minimum criteria for EPR schemes)
- End-of-waste criteria
- 30 Mt plastic waste generated in Europe annually
- 29 Mt plastic waste collected in Europe annually
- Recycling numbers include export for recycling!



EoW framework conditions and methodology



EoW as defined in the WFD

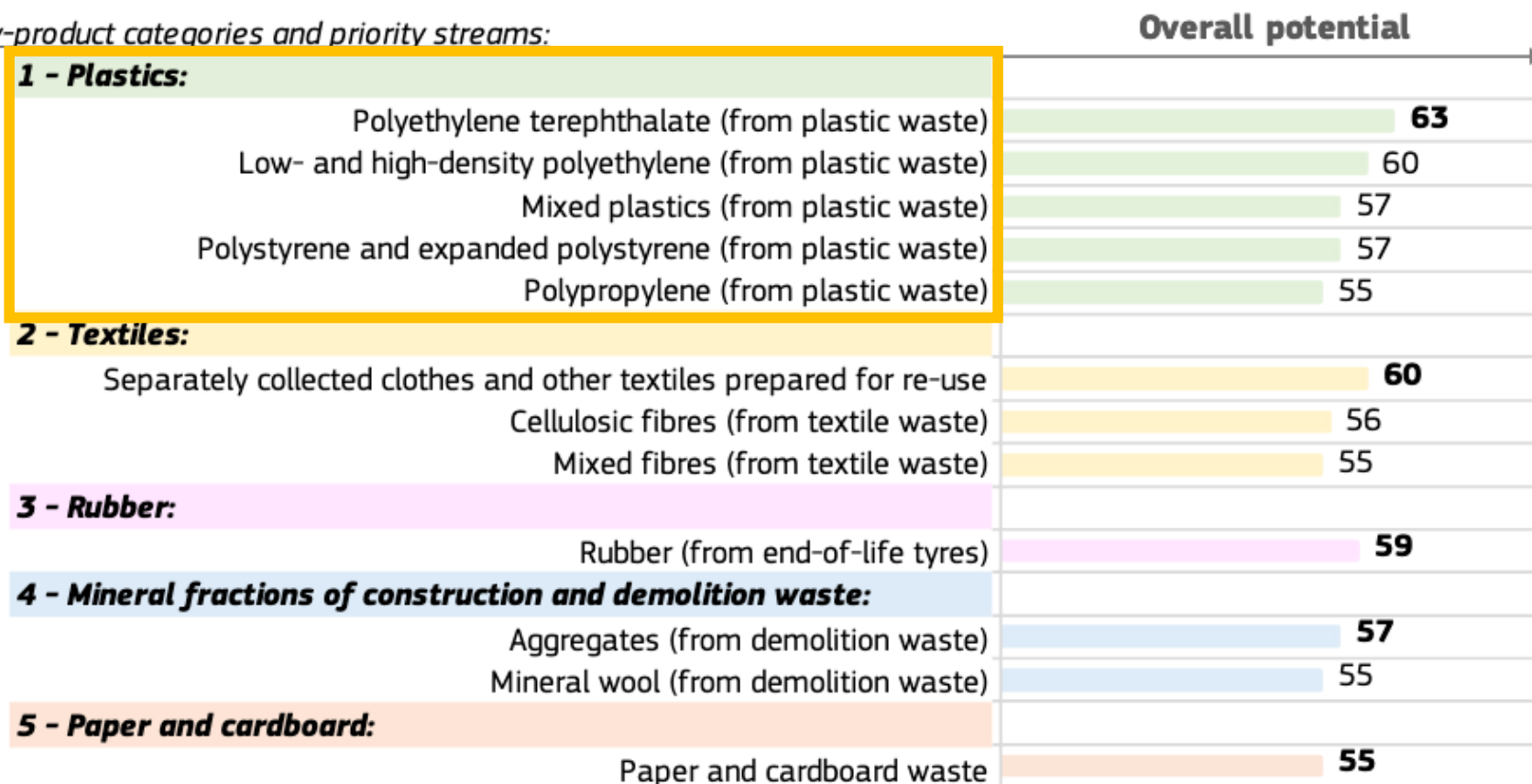
Conditions to be fulfilled for EoW

New requirement (within last WFD revision)

EoW methodology developed by the JRC in **2009**, providing a comprehensive approach for the development of end-of-waste criteria.

Selection of waste streams for EoW criteria development

Waste/by-product categories and priority streams:



<https://publications.jrc.ec.europa.eu/repository/handle/JRC128647>

Project's scope & objectives

- The objective of this project phase is to develop proposals for **EU-wide EoW criteria for plastic waste**
- Polymers currently within scope:
PET, LDPE/HDPE, PP, EP/EPS, mixed plastic waste
- EoW criteria shall be **applicable to all polymers within the scope**.
- The scope is flexible to changes, based on evidence provided.
- **Point of EoW** to be set at a certain point before, between or after sorting or **mechanical recycling**.

**advanced recycling
excluded from scope**

Thank you for your attention



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